STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Inspection Report for B-03-015

USH 53 NB over CARLSON SCHOOL DRIVE

Jun 08,2017

Type	Prior	Frequency (mos)	Performed
Routine	06-25-15	24	X
Interim	02-25-13	0	
SIA Review	06-13-13	48	X

Latitude	45°13'16.59"N	Owner	STATE HIGHWAY DEPT
Longitude	91°34'51.25"W	Maintainer	STATE HIGHWAY DEPT

Time Log

Hours	Minutes
1	15

Team members

wjk

	Name	Number	Signature	Date
Inspector	Kovaleski, William J	8007	William J Kovaleski E-signed by Bill(dotwjk)	09-06-17

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

Identification & Location

Feature On: USH 53 NB	Section Town Range: S26 T32N R10W	Structure Number: **B-03-015**
Feature Under: CARLSON SCHOOL DRIVE	County: BARRON	
Location: 1.5M N JCT CTH M TO E	Municipality: DOVRE	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 40	Bridge Roadway Width: 40.0	Total Length: 147.2
Approach Pavement Width: 24	Deck Width: 43.8	Deck Area (sq ft): 6447

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	2	5550	2014	ONE WAY TRAFFIC
Under	2	3220	1988	TWO WAY TRAFFIC

Capacity

Load Rating

Inventory rating: HS18	Overburden depth (in): 2.0	Last rating date: 06-18-13	Controlling: SLAB Positive Moment
Operating rating: HS31	Deck surface material: LOW SLUMP CONCRETE	Re-rate for capacity (Y/N):	Control location: 0.6 SPAN 1
Posting:	Re-rate notes:		

Hydraulic

Classification

Scour Critical Code(113): (N) NO WATERWAY	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 93.8

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT CONCRETE	HAUNCHED SLAB		39.5	
2	CONT CONCRETE	HAUNCHED SLAB		67.0	Y
3	CONT CONCRETE	HAUNCHED SLAB		38.0	

Expansion joint(s)

Temperature: File: | New:

Clearance

Item	File Measurement (ft)	File Date	New Measurement (ft)
Highway Min Vertical Under Cardinal	14.35	07-Jun-2007	
Highway Min Vertical Under Non-Cardinal			
Horizontal Under Cardinal	55.5		
Horizontal Under Non-Cardinal			
Highway Min Vertical On Cardinal			
Horizontal On Cardinal			

Special Components

Component	Year	Work Performed	Note
DECK - IOWA MIX	1989	OVERLAY - CONCRETE	

Construction History

Year	Work Performed	FOS id
1989	OVERLAY - CONCRETE	0003-84-01
1972	NEW STRUCTURE	1196-06-71

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
Misc - Wash Bridge	Kurtz, William G (8008)	REJECTED	09/01/17	
Power wash structure to remove swallow nests.				
Deck - Patching	Bjorklund, Allan M (8003)	COMPLETE	01/17/13	
Approx. 40 sf mainly at joints.				
Deck - Patching	Harrington, Daniel J (8004)	COMPLETE	01/17/13	
approx 16 sq ft of deck patching				
Deck - Patching	Harrington, Daniel J (8004)	COMPLETE	01/17/13	
approx 20 sf. various spalls.				

Maintenance Items

Item	Priority	Recommended by	Status	Status change
Deck - Surface Repair Spalls	HIGH	Kurtz, William G (8008)	IDENTIFIED	07/02/15
Repair SPL in Wearing Surface (103SF).				
Deck - Patching	HIGH	Kurtz, William G (8008)	IDENTIFIED	07/02/15
Repair SPL in Reinforced Concrete Deck (102SF). Repair CRK in Reinforced Concrete Deck (5SF).				
Deck - Repair Railing	MEDIUM	Kurtz, William G (8008)	IDENTIFIED	07/02/15
Repair SPL in RAILs (22LF).				
Substructure - Other Work	MEDIUM	Kurtz, William G (8008)	IDENTIFIED	07/02/15
Seal Columns.				

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State 1	2	3	4
X	**38**		**Reinforced Concrete Slab**	SF	6,447	6,235	207	5	0
		1080	Delamination - Spall - Patched Area	SF		0	136	5	0
			Faces: few small impact edge spalls w no exposed rebar. CS3 Edge delam w/ rust staining and efflorescence north/adjacent to Pier 2 on west face. Uderside: areas of concrete deterioration w/ lt efflorescence (begin delam) - Span 1 = 8ftx8ft, Span 2 = 2x4ftx8ft areas. East edge west bound no rebar showing west edge eastbound about 4" rebar showing 6/25/2015 SP1 C/L SPL CS3 64SF. 6/25/2015 SP2 SPL CS3 32SF | W IMPACT SPL CS3 2SF | E IMPACT SPL CS3 4SF.					
		1130	Cracking (RC)	SF		0	71	0	0
			Faces: multiple fine to hrline vert crack**s at pier locations and parapet joints some w lt to med efflorescence. Underside: Hrline longitudinal approx. half span of** SP1 **extends into half of** SP2 **btwn Cols 1 & 2. Span 3 full span fine longitudinal crack w/ lt to med efflorescence.**					
	8514		Concrete Overlay	SF	6,447	62	6,282	103	0
			More extensive cracking in overlay. Worse 07 large areas of delam found with chaining approx 16 sq ft of spalls in deck at compression joints 20 SF 2011.						
		3210	Debonding/Spall/Patched Area/Pothole	SF		0	482	103	0
			Delam/debonding from previous inspect. Spot locations of spalling at joint locations w asphalt filling.						
		3220	Crack (Wearing Surface)	SF		0	5,800	0	0
			Fine to hrline map cracking throufhour - approx. 91%.						

X	**205**		**Reinforced Concrete Column**	EA	8	5	1	2	0
			C2 and 3 on P1 and C3 on P2 have a horizontal crack approx 3 inches below haunch. Monitor.						
		1130	Cracking (RC)	EA		0	1	2	0
			Pier 1 - Col 2 & 3 have CS3 horiz cracks at tops half of circum primarily at S and E faces (Col 2 worse). Pier 2 - Col 3 C**S3 horiz on top / Col 2 fine horiz top approx. grter around.**						
X	**215**		**Reinforced Concrete Abutment**	LF	187	173	11	3	0
			1 vertical crack c/l S abut.						
		1080	Delamination - Spall - Patched Area	LF		0	2	2	0
			SOUTH: spalls at ADW edges.						
		1130	Cracking (RC)	LF		0	9	1	0
			SOUTH: CS3 vert at CL / fine to hrlne vert cracks at Brg 2 & 4 and Bay 2. NORTH: fine to hrline vert crack at mid east half.						
X	**300**		**Strip Seal Expansion Joint**	LF	95	95	0	0	0
			Some filled **not all visible - no obvious indications of problems.**						
X	**311**		**Moveable Bearing**	EA	6	0	6	0	0
			South abutment						
		1000	Corrosion	EA		0	6	0	0
			Med rust on btm plates w/ some edge rusting.						
X	**331**		**Reinforced Concrete Bridge Rail**	LF	294	42	230	22	0
		1080	Delamination - Spall - Patched Area	LF		0	0	22	0
			CS3 **horiz cracks and delam spot locations w/ rust staining - NE worse. 8ft top edge spall in NE.**						
		1130	Cracking (RC)	LF		0	230	0	0
			Multiple areas of hrline vert cracks and hrline horiz cracks.						
X	**8400**		**Integral Wingwall**	EA	4	4	0	0	0

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State 1	2	3	4
X	**9001**		**Drainage - Approach**	EA	4	4	0	0	0
			NE drain has hole in back of catch basin. clean and clear Repaired 2010 with paving project. Clear 2013.						
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
			Rocks tightly adhered. Vegetation and bleaching at edges.						
X	**9322**		**Approach Roadway - Concrete (non-structural)**	EA	2	0	2	0	0
			both cracked and broken **and filled w/ asphalt**						
X	**9335**		**Decorative Rail**	EA	2	0	2	0	0
			Type J tubular rail on parapets. Missing section from NE.						

NBI Ratings

	File	New
Deck	4	6
Superstructure	6	6
Substructure	7	7
Culvert	N	N
Channel	N	N
Waterway	N	N

Structure Specific Notes

OLD: Overall, condition of structure is good, the deteriorated element for this structure is the superstructure/deck. This is a three span haunched slab with 7.4% delam - 1995. Approx 10 gals of epoxy was **used to fill the extensive map cracking on this wearing surface. Record shows this as original deck built 1972. Should program for overlay. 359 crack @ CL span 3, approx 20LF.**
(99) Bearings should be wire brushed and painted. Deck extensively cracked with random/spider cracks. Otherwise in good condition.
(01) Structure is in good overall condition. The surface of the deck and parapets being the only areas of concern. Deck has extensive map cracking and is beginning to spall.

Inspection Specific Notes

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Walk-thru

Special Requirements

Chk	Hours	Cost	Comments

Routine

Document Comment/Description

Col 2, Pier 1 - south face

Routine

Document Comment/Description

West face over Pier 2

Routine

Document Comment/Description

NE rail

STRUCTURE INVENTORY AND APPRAISAL FIELD REVIEW FORM

B-03-015
USH 53 NB over CARLSON SCHOOL DRIVE

LOCATION

(3) Municipality:	DOVRE
(16) Latitiude(° ' "):	45°13'16.59"N
(17) Longitude(° ' "):	91°34'51.25"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):	147.2	
(50) Sidewalk Width(ft):	**Left:** 0.0	**Right:** 0.0
(50) Curb Width(ft):	3.8	
(52) Culvert Barrel Length(ft):		
(34) Skew:	**Angle(°):** 30	**Direction:** -RIGHT FORWARD X-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):	55.5	
(55) Minimum Right Lateral(ft):	12.2	
(56) Minimum Left Lateral(ft):	13.2	

RAILING APPRAISAL

(36A) Bridge Rail Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE
(36B) Transition Adequacy:	X-SUB-STANDARD -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)

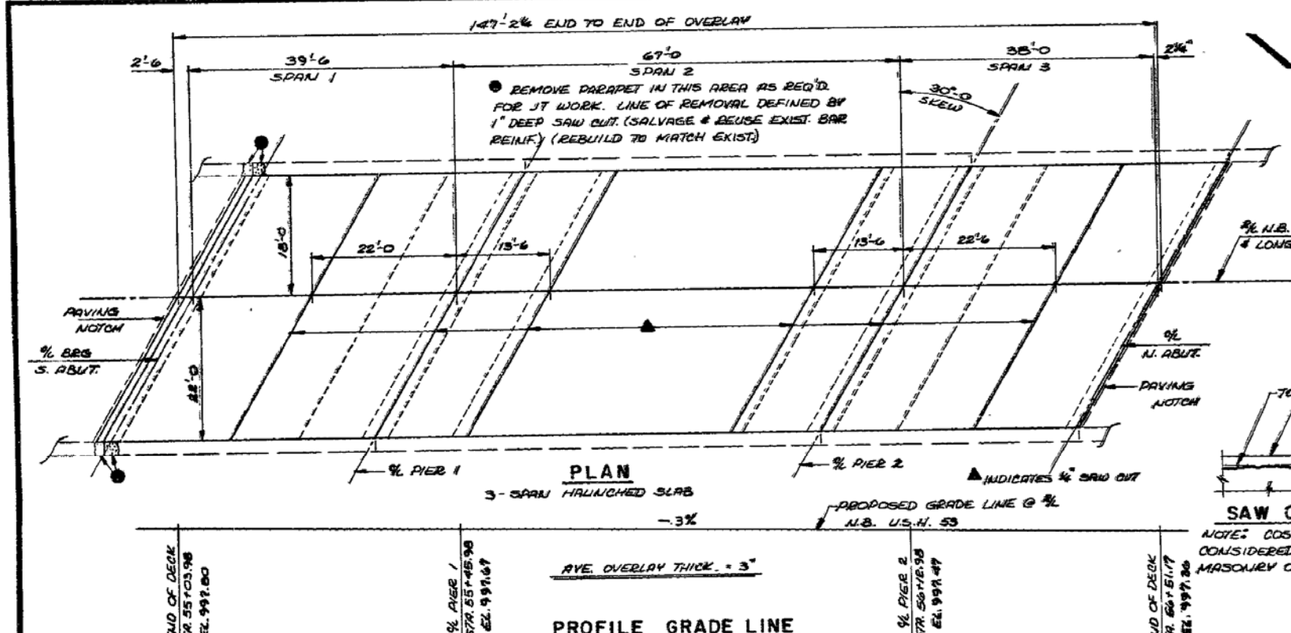
Guardrail Termination Note:

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
0003-84-01	82



PLAN

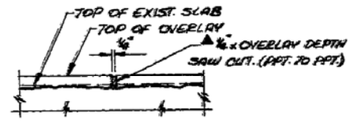
3-SPAN HAUNCHED SLAB

PROFILE GRADE LINE

NOTE: VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED FOR REVIEW BY THE BRIDGE OFFICE

BENCH MARK

BLUE MARK ON SOUTH END OF PARAPET WALL. EL. 1000.00



SAW CUT DETAIL

NOTE: COST OF CUTS & SEALING TO BE CONSIDERED INCIDENTIAL TO "CONC. MASONRY OVERLAY."

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS TO BE VERIFIED IN THE FIELD BY CONTRACTOR.

CONCRETE IN PAVING BLOCK, PARAPETS REPLACEMENT SHALL BE PAID FOR AS "CONCRETE MASONRY OVERLAY."

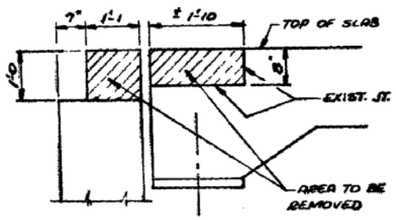
PROTECTIVE SURFACE TREATMENT SHALL BE 150 S.F. PER GAL. OR PER MFG. RECOMMENDATIONS.

DESIGN DATA

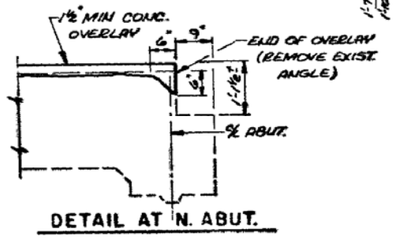
INVENTORY RATING: HS 15
OPERATIONAL RATING: HS 25

TOTAL ESTIMATED QUANTITIES

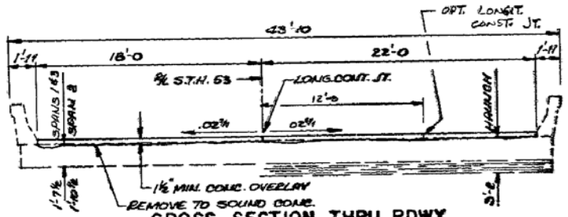
CONCRETE MASONRY, OVERLAY	85	C.Y.
DECK CLEANING	654	S.Y.
DECK PREPARATION	327	S.Y.
EXPANSION DEVICE	1	L.S.
PROTECTIVE SURFACE TREATMENT	40	GALS.
EPOXY CRACK SEALING	150	L.F.



SECTION THRU S. ABUT.



DETAIL AT N. ABUT.



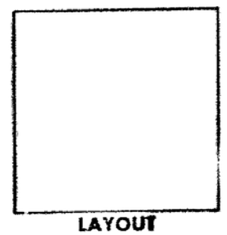
CROSS SECTION THRU RDWY

LOOKING NORTH

LIST OF DRAWINGS

1. CONCRETE OVERLAY	X82318
2. EXPANSION DEVICE	

LAYOUT



BRIDGE OFFICE CONTACT-
R.L. REESE (608) 266-8486

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

U.S.H. 53 S.B. OVER CARLSON SCHOOL DRIVE

County: BARRON — Town: DOVRE

Design Spec: A.A.S.H.T.O. '65 — Load — Const. Spec: 1981

Designed By: D.C.S. — Design Checked: G.B. — Load Drawn By: R.A.B. — Plans Checked: LOY

Approved: [signature] — 2-3-84

CONCRETE OVERLAY — SHEET 1 OF 2 — X82318

I.D. 0072-84-108

B-3-15

"As Builts"

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
0003-84-01	———	—

INDEX OF SHEETS

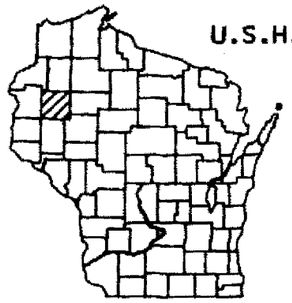
TOTAL SHEETS = 15

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

BRIDGE FLOOR REPAIR

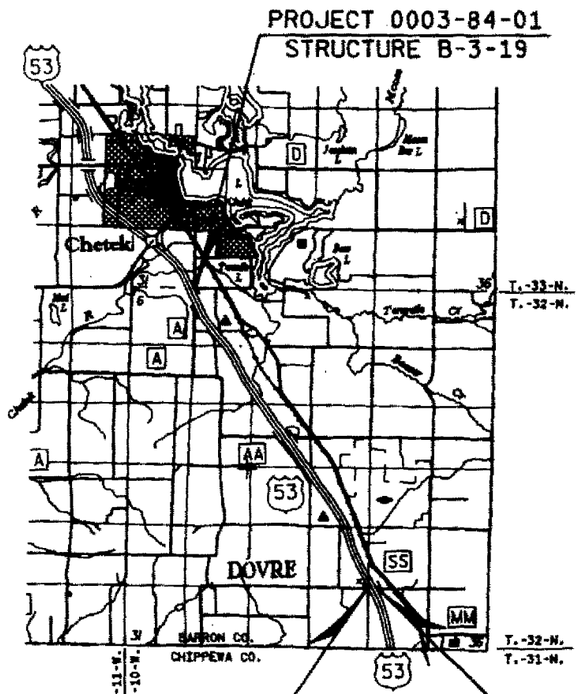
STRUCTURE B-3-15
U.S.H. 53 S.B. OVER CARLSON SCHOOL DRIVE BRIDGE
U.S.H. 53
BARRON COUNTY



STRUCTURE B-3-14
U.S.H. 53 N.B. OVER CARLSON SCHOOL DRIVE BRIDGE
U.S.H. 53
BARRON COUNTY

STATE PROJECT NUMBER
0003-84-01

STRUCTURE B-3-19
U.S.H. 53 N.B. OVER C.T.H. A BRIDGE
U.S.H. 53
BARRON COUNTY



DESIGN DESIGNATION

A.D.T. =
A.D.T. =
D.H.V. =
D. =
T. =
V. =

CONVENTIONAL SIGNS

COUNTY LINE
CORPORATE LIMITS
PROPERTY LINE
LOT LINE
LIMITED HIGHWAY EASEMENT
EXISTING RIGHT OF WAY
NEW RIGHT OF WAY
REFERENCE LINE
SLOPE INTERCEPT
ORIGINAL GROUND
MARSH OR ROCK PROFILE
CULVERT IN PLACE
CULVERT REQUIRED
CULVERT REQUIRED (Profile)

COMBUSTIBLE FLUIDS (UNDER PRESSURE)
UNDERGROUND UTILITIES
GAS — G —
ELECTRIC — E —
TELEPHONE — T —
SERVICE PEDESTAL
CABLE MARKER
POWER POLE
TELEPHONE POLE
RAILROADS
MARSH
WOODED AREA

N

LAYOUT
SCALE 0 MI.

TOTAL NET LENGTH OF CENTERLINE = MI.

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
Surveyor S.S.	District Chaeker
Designer S.C.	C.O. Plan Examiner
District Supervisor M.S.	C.O. Coordinator

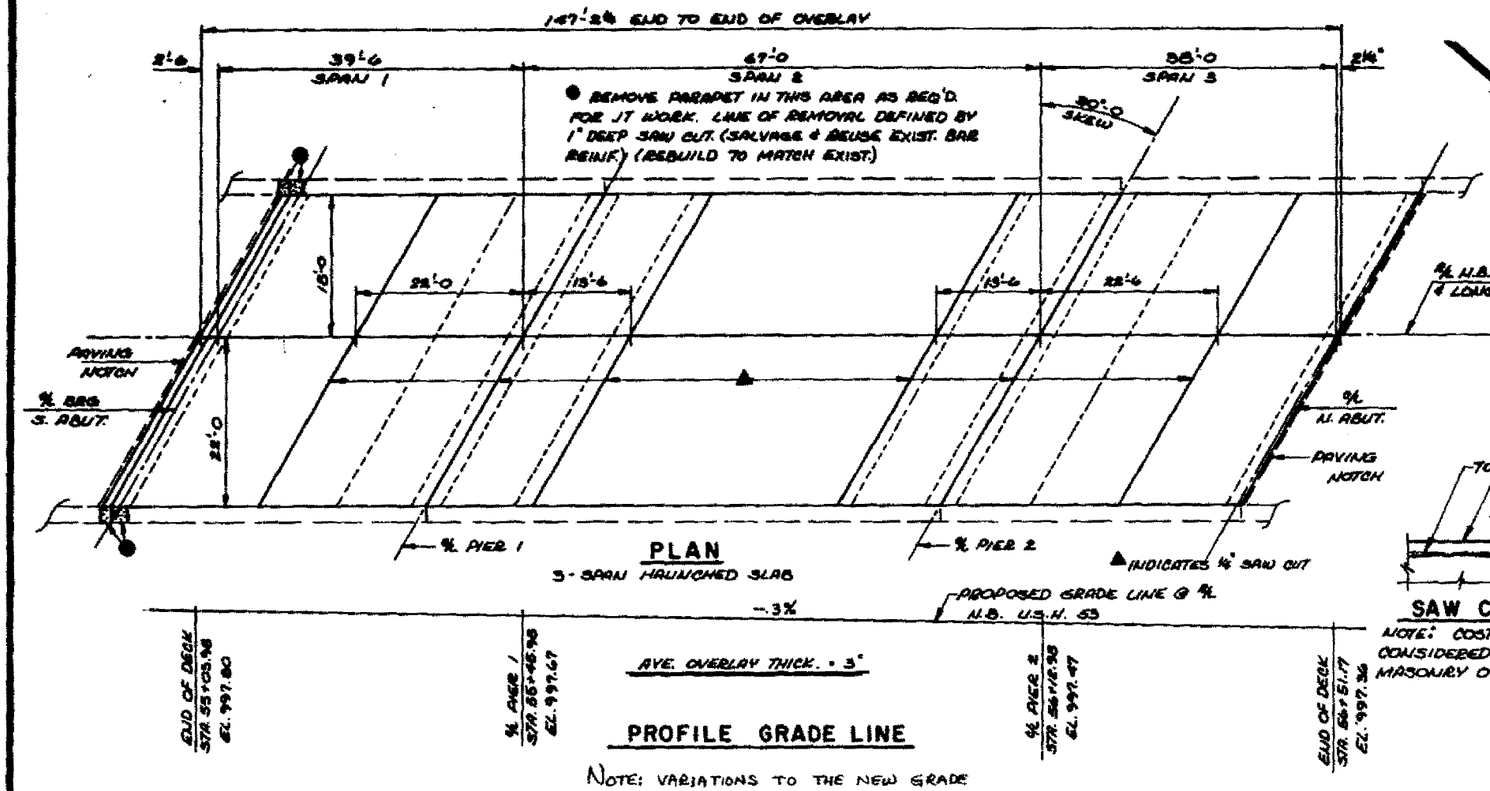
APPROVED:
DATE 2/2/99 E.H. Gunderson
APPROVED: DISTRICT TRANSPORTATION DIRECTOR
DATE 2-19-99 William R. Nichols
for STATE MAINTENANCE ENGINEER FOR HWYS

APPROVED:
DATE:
DIRECTOR OF ENGINEERING OPERATIONS

MICRO/00038401/TITLE.DGN

WISDOT/CADDS SHEET 12

STATE PROJECT NUMBER	SHEET NO.
0003-84-01	82



PLAN

3-SPAN HAUNCHED SLAB

PROFILE GRADE LINE

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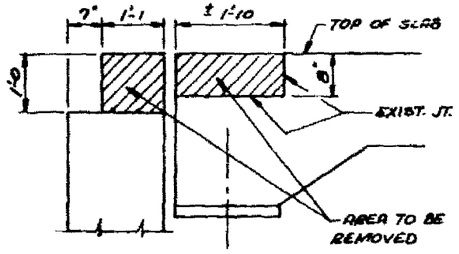
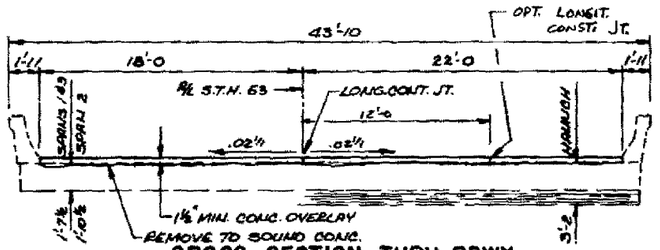
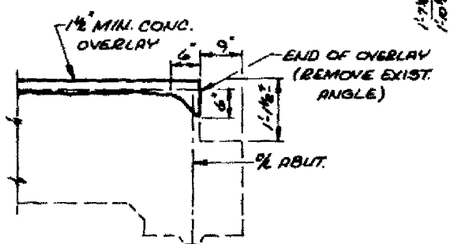


SECTION THRU S. ABUT.



CROSS SECTION THRU RDWY

LOOKING NORTH



DETAIL AT N. ABUT.

BENCH MARK

BLUE MARK ON SOUTH END OF PARAPET WALL. EL. 1000.00

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

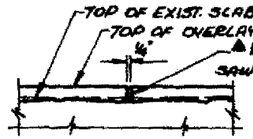
DIMENSIONS TO BE VERIFIED IN THE FIELD BY CONTRACTOR.

CONCRETE IN PAVING BLOCK, PARAPETS REPLACEMENT SHALL BE PAID FOR AS "CONCRETE MASONRY OVERLAY."

PROTECTIVE SURFACE TREATMENT SHALL BE 150 S.F. PER GAL. OR PER MFG. RECOMMENDATIONS.

DESIGN DATA

INVENTORY RATING: HS 15
OPERATIONAL RATING: HS 25



SAW CUT DETAIL

NOTE: COST OF CUTS & SEALING TO BE CONSIDERED INCIDENTIAL TO "CONC. MASONRY OVERLAY."

TOTAL ESTIMATED QUANTITIES

CONCRETE MASONRY, OVERLAY	86	C.Y.
DECK CLEANING	654	S.Y.
DECK PREPARATION	327	S.Y.
EXPANSION DEVICE	1	L.S.
PROTECTIVE SURFACE TREATMENT	40	GALS.
EPOXY CRACK SEALING	150	L.F.

LIST OF DRAWINGS

1. CONCRETE OVERLAY X82318
2. EXPANSION DEVICE

LAYOUT

BRIDGE OFFICE CONTACT-
R.L. REESE (608) 264-8486

No.	Date	Revision	By

STATE OF WISCONSIN
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DIVISION OF HIGHWAYS

STRUCTURE B-3-15

U.S.H. 53 S.B. OVER CARLSON SCHOOL DRIVE

County: BARRON		Town/Range/Village: DOVRE	
Design Spec.: A.A.S.H.T.O. '86		Load: ——	Const. Spec.: 1981
Designed By: D.C.B.	Design Checked: B.D.	Drawn By: R.J.B.	Plans Checked: LOY

Approved: Stanley M. Woods, Chief Bridge Engineer — Date: 2-2-89

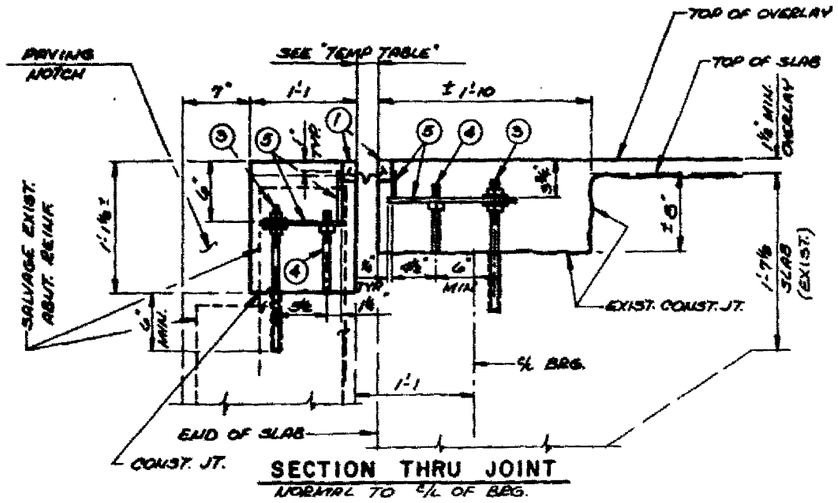
CONCRETE OVERLAY

SHEET 1 OF 2

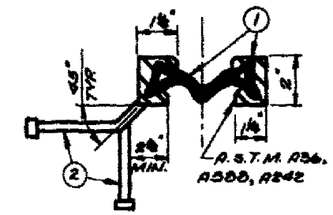
X82318

I.D. 0072-84-08

STATE PROJECT NUMBER	SHEET NO.
0003-84-01	83



SECTION THRU JOINT
NORMAL TO ℄ OF BRG.



STRIP SEAL DETAIL

TEMP	OPENING
90°	1½"
80°	1⅝"
70°	1¾"
60°	1⅞"
50°	1 15/16"
40°	1 15/16"
30°	2"

TEMP. TABLE

TEMP IS THE SHADED UNDER-SIDE DECK TEMP IN FAHRENHEIT DEGREES.

LEGEND

(1) NEOPRENE STRIP SEAL & STEEL EXTRUSIONS BY D.S. INDUSTRIES BS 300 A, D.S. BROWN H3A-300, STRUCTURAL ACCESSORIES SA2-3088, WATSON-BOWMAN & ACME S-300(A).

(2) STUDS ⅞" ϕ x 6⅜" LONG @ 6" ALT. CTRS. WELD TO EXTRUSION & BEND AS SHOWN AFTER WELDING.

(3) SUPPORT ROD ¾" ϕ WITH 2 NUTS AND WASHERS. THR'D. ONE END 4". AT SUPER & ABUT SIDE, GROUT THR'DED ROD INTO FIELD DRILLED HOLES IN BACKWALL & SLAB AS SHOWN. PLACE ONE PER BEARING. (SPACED @ 8'-6)

(4) ¾" ϕ THR'DED ROD WITH NUT. TACK WELD NUT TO #5.

(5) FABRICATE SUPPORT FROM 3"x½" BAR AS SHOWN OR EQUIVALENT, ONE PER BEARING. (8'-6) WELD TO #1. PROVIDE 1⅛" ϕ HOLE FOR #3 & 1" ϕ HOLE FOR #4. (SHOP OR FIELD WELD)

(6) BAR 1"x⅜". BEND AS SHOWN. WELD TO #7.

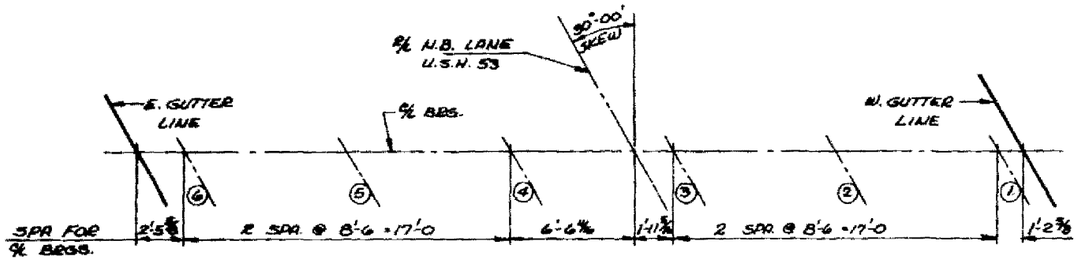
(7) BAR ⅜"x WIDTH REQ'D. BEND AS SHOWN. CUT TO CLEAR BLOCK OUT. (◒)

(8) ANCHOR STUDS ⅝" ϕ x 6⅜" LONG. WELD TO #7 & #9 AS SHOWN. BEND TO CLEAR JOINT OPENINGS.

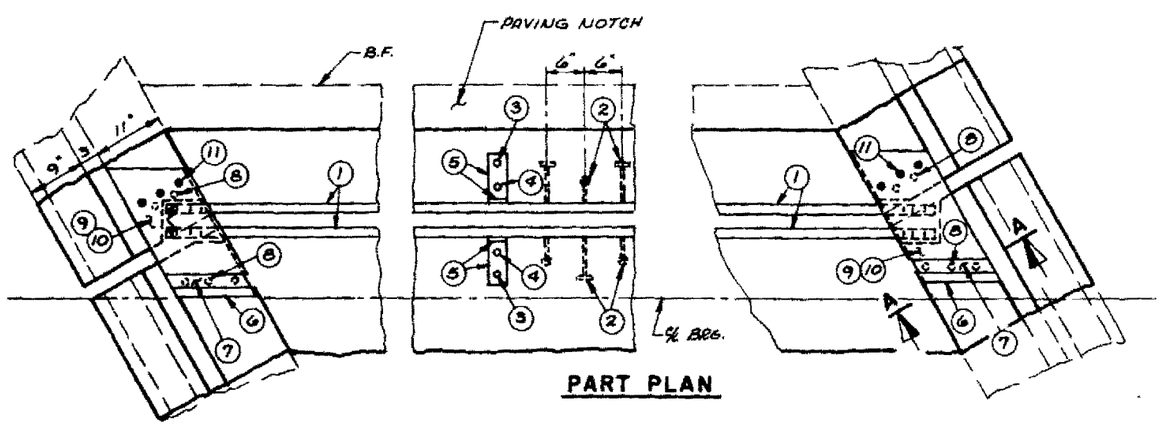
(9) BAR ⅜"x WIDTH REQ'D. BEND AS SHOWN. CUT TO CLEAR BLOCK OUT. PROVIDE HOLES FOR #11.

(10) PLATE ⅜ x WIDTH REQ'D. BEND AS SHOWN. PROVIDE C'SCK HOLES FOR #11.

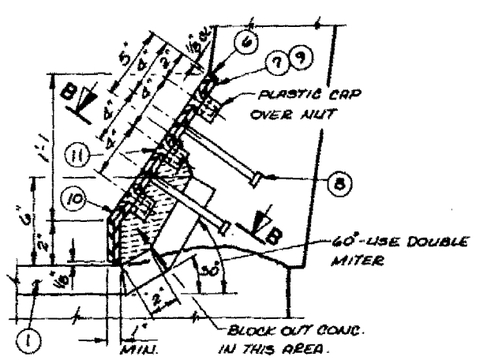
(11) ⅜" ϕ C'SCK. STAINLESS STEEL BOLT & HEX HEAD NUT. WELD NUT TO #9. PROVIDE NUT WITH 1" DEEP PLASTIC CAP OVER NUT TO KEEP CONC. FROM ENTERING BOLT CAVITY.



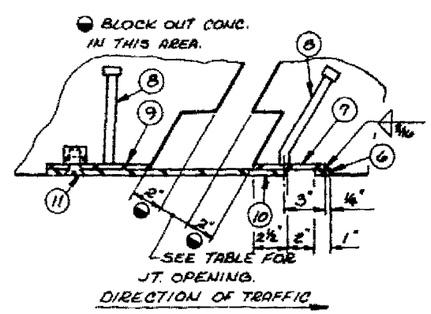
BRG. LAYOUT AT S. ABUT.
(LOOKING SOUTH)



PART PLAN



SECTION AA



SECTION BB

SEAL NOTES

ONE FIELD SPLICE REQ'D. AT LONG. CONST. JT. IN EXTRUSIONS DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING OF NEOPRENE SEAL PERMITTED.

SAND BLAST CLEAN STEEL EXTRUSIONS PRIOR TO COATING WITH LUBRICANT ADHESIVE FOR NEOPRENE SEAL.

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

AFTER FABRICATION BUT BEFORE SHIPMENT STRAIGHTEN EXTRUSIONS SUCH THAT THEY ARE FREE FROM WARP, TWIST OR SWEEP.

MANUF. SHALL FURNISH GLAND WITH TOP SURFACE LABELED.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

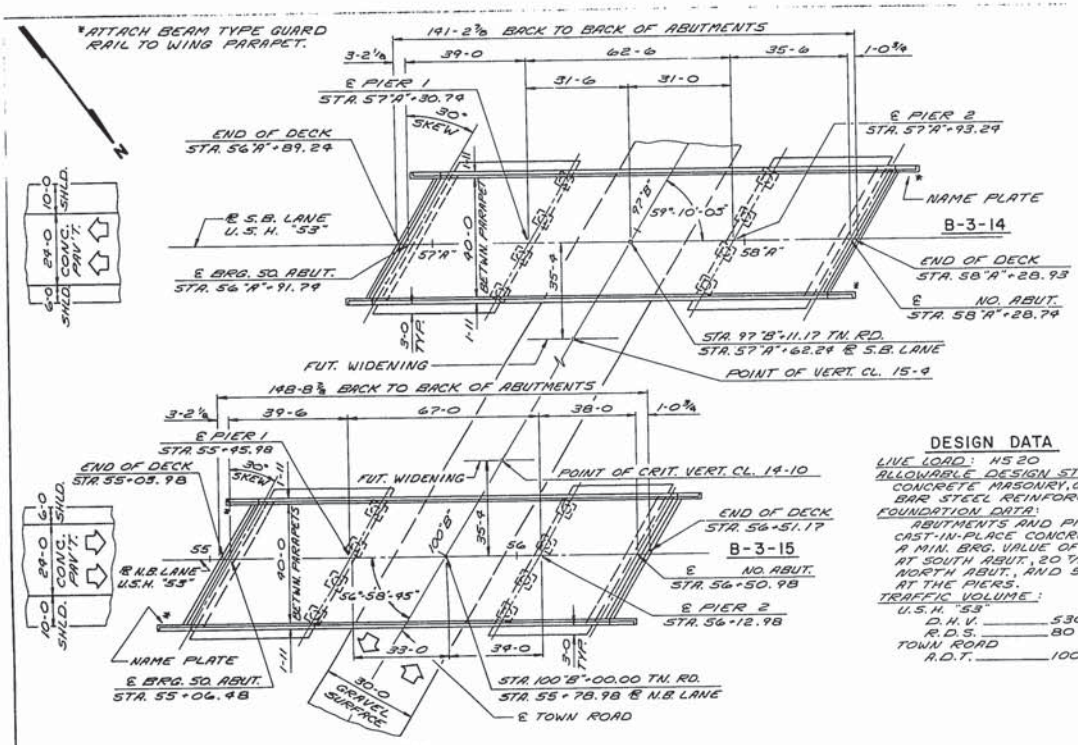
Const. Spec.	1981	Drawn By	R.J.S.	Plans Checked	LOY

EXPANSION DEVICE

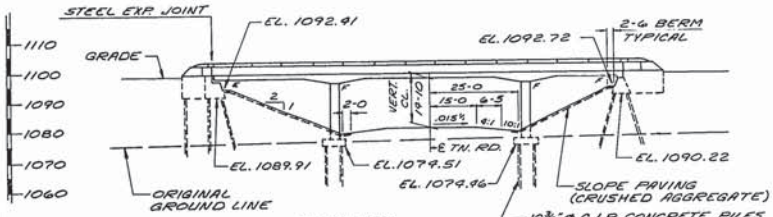
SHEET 2 OF 2

X82318

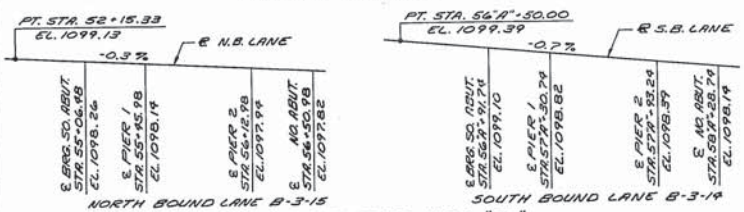
1196-6-71		
EMP FOB-4(36)	38	296



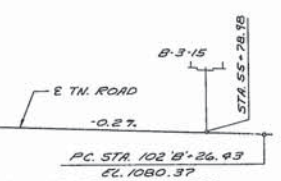
PLAN



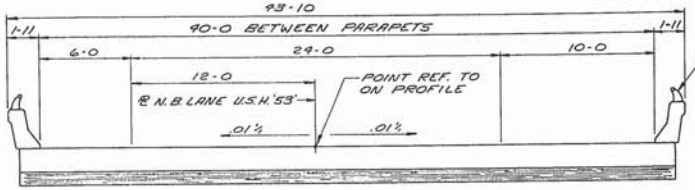
ELEVATION
NORMAL TO ℄ TOWN RD.



PROFILE GRADE U.S.H. "53"



PROFILE GRADE TOWN ROAD



CROSS SECTION THRU ROADWAY
3 SPAN HAUNCHED SLAB (LOOKING NORTH)

DESIGN DATA

LIVE LOAD: HS 20
ALLOWABLE DESIGN STRESSES:
CONCRETE MASONRY, GRADE 'AA' — f_c : 1,900 P.S.I.
BAR STEEL REINFORCEMENT — f_s : 20,000 P.S.I.
FOUNDATION DATA:
ABUTMENTS AND PIERS TO BE SUPPORTED ON CAST-IN-PLACE CONCRETE PILING 10¾"ø. DRIVE TO A MIN. BRG. VALUE OF 20 T/PILE, 55'-0 EST. LENGTH AT SOUTH ABUT., 20 T/PILE, 55'-0 EST. LENGTH AT NORTH ABUT., AND 55 T/PILE, 55'-0 EST. LENGTH AT THE PIERS.
TRAFFIC VOLUME:
U.S.H. "53"
D.H.V. _____ 5300 (1980)
R.D.S. _____ 80 M.P.H.
TOWN ROAD
A.D.T. _____ 100 (2000)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED. BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING, CRUSHED AGGREGATE TO THE EXTENT SHOWN ON THIS SHEET AND IN THE ABUTMENT DETAILS.
THE FINISHED GRADED SECTION WAS USED AS THE UPPER LIMITS OF EXCAVATION FOR COMPUTATION OF EXCAVATION AT THE PIERS. FOR UPPER LIMITS OF EXCAVATION AT THE ABUTMENTS SEE SHEETS NO. 3 & 4.
PILING AT ABUTMENTS SHALL BE PREBORED THRU FILL TO THE ORIGINAL GROUND LINE.

A concrete overlay was placed on the deck from ℄ Sta 55±44 to ℄ Sta 56±11.

LIST OF DRAWINGS

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	S. ABUT.	PIER 1	PIER 2	N. ABUT.	SUPER.	TOTAL
EXCAVATION FOR STRUCTURE	C.Y.	92	150	130	90	——	362
CONCRETE MASONRY	C.Y.	66	63	98	93	495	715
BAR STEEL REINFORCEMENT	LB.	3080	10,015	8885	2180	113,750	137,910
STRUCTURAL CARBON STEEL	LB.	——	——	——	——	3970	3970
STRUCTURAL LOW ALLOY STEEL	LB.	——	——	——	——	1100	1100
LUBRICATED BRONZE PLATES	LB.	——	——	——	——	77	77
BEARING PADS	S.F.	~~52~~ 6	~~1041~~ 1440	~~882~~ 980	~~538~~ 770	7	7
CAST-IN-PLACE CONC. PILING DEL. & DR. 10¾"ø	L.F.	~~880~~	——	——	——	——	~~1040~~
PREBORING, CAST-IN-PLACE CONC. PILING 10¾"ø	L.F.	255	——	——	292	——	997
TUBULAR RAILING, TYPE "J"	L.F.	——	——	——	——	317	317
SLOPE PAVING, CRUSHED AGGREGATE	S.Y.	257	——	——	257	——	514
NON-BID ITEMS							
⅛" ALUMINUM OR ZINC PLATE	S.F.	——	——	——	——	90	90
FILLER	SIZE	——	½"	½"	——	⅛", ½"	⅛", ½"
POLYVINYL CHLORIDE WATERSTOP	L.F.	——	——	——	96	——	96

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

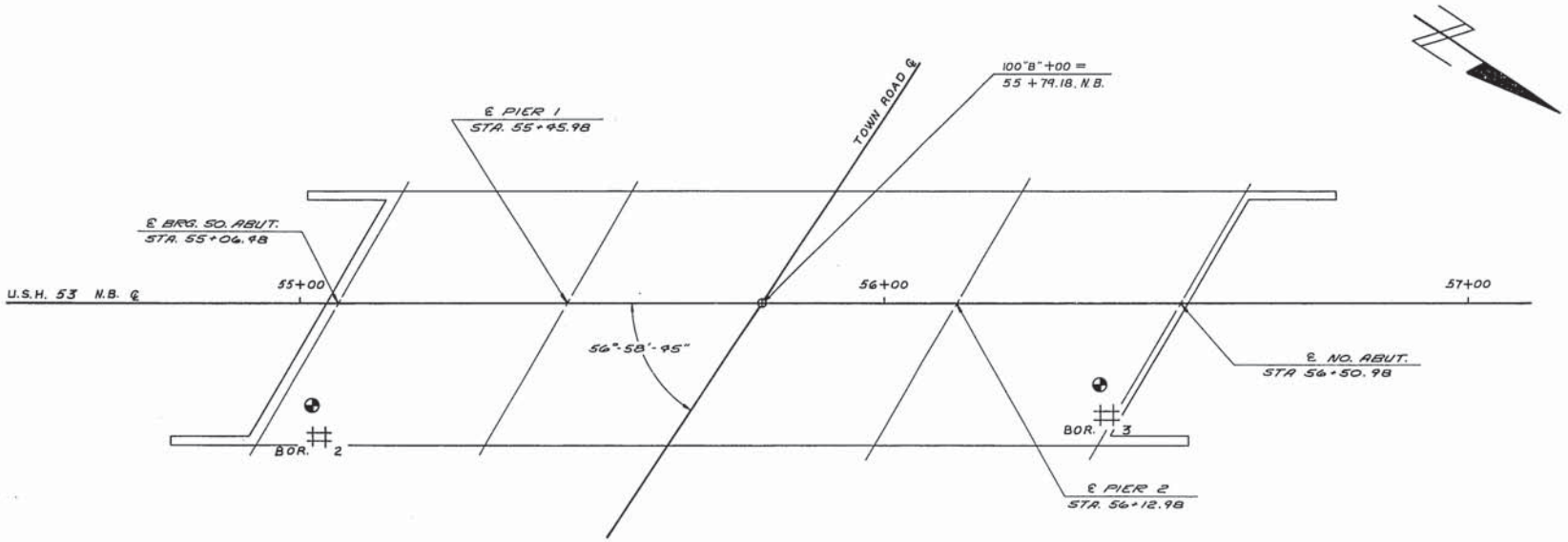
STRUCTURE B-3-15
U.S.H. "53" OVER TOWN ROAD

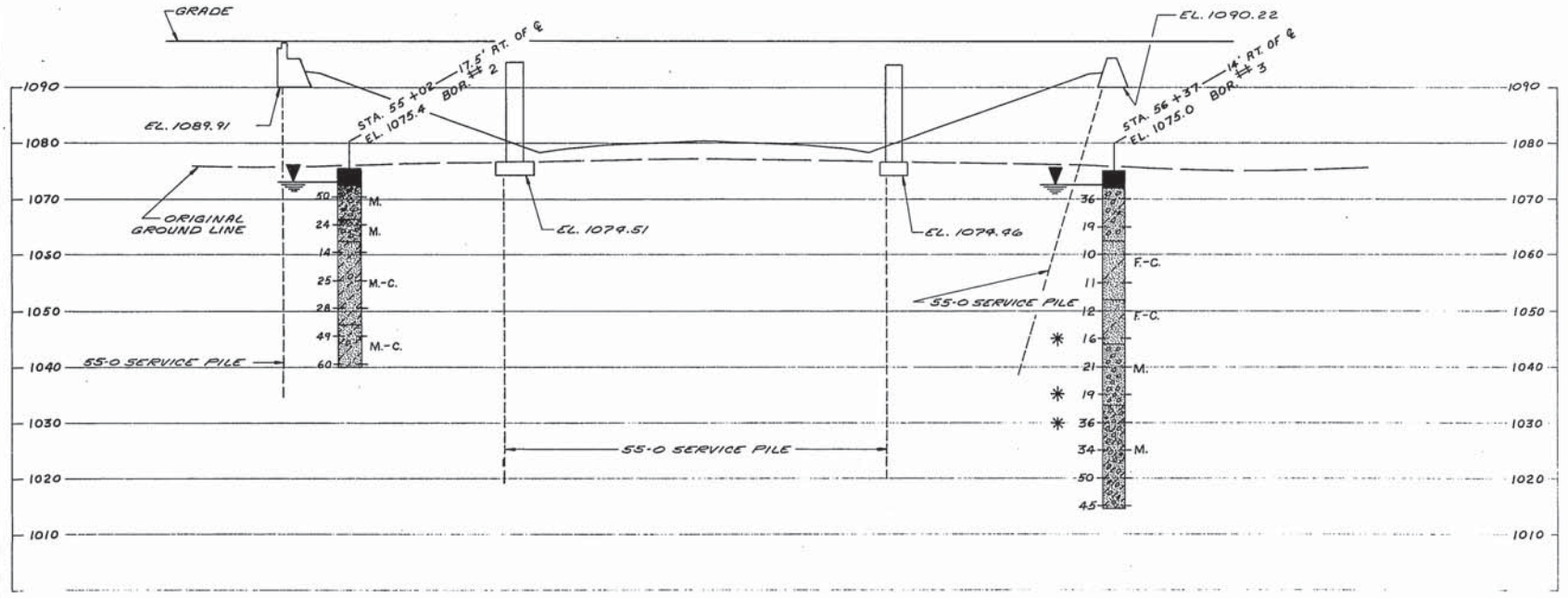
County BARRON
Design Spec A.A.S.H.O. 69
Designed By R.T.B. Design Checked F.P.R.
Approved W.A. Kline Chief Bridge Engineer
Type HS 20 Date 1969
Drawn D.J.A. Traced J.H.G.
Date 11-17-71

GENERAL PLAN

SHEET 1 OF 10
X46270

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-71	39	296
FEDERAL PROJECT DESIGNATION: EMP F08-4(36)		





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

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 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	Revised	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

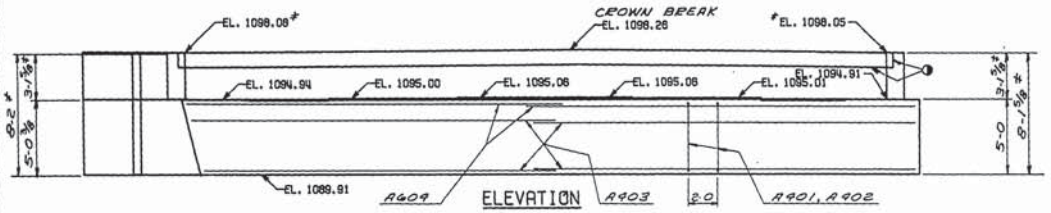
1969	D.O.T.A.	J.H.G.

SUBSURFACE EXPLORATION

SHEET 2 OF 10

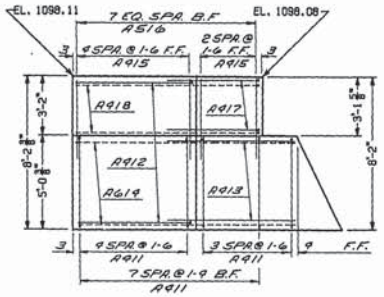
X 46271

PROJECT ID	SHEET NUMBER	FINAL SHEETS
1196-6-71	40	296
FEDERAL PROJECT DESIGNATION: EMPF08-4(36)		

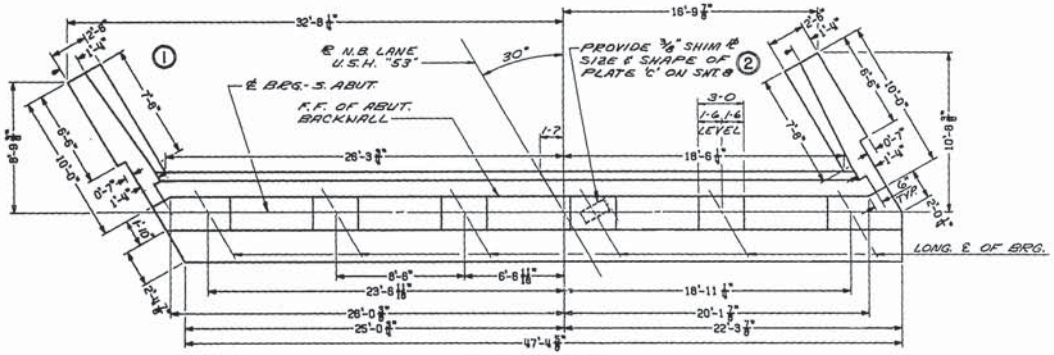


ELEVATION

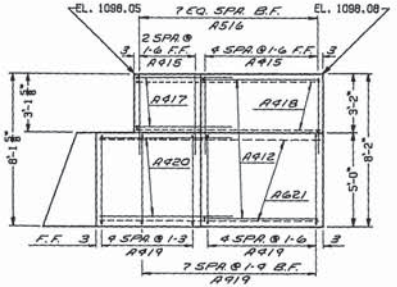
*ELEVATIONS AND DIMENSIONS ARE MEASURED AT F.F. BACKWALL.



WING 1 ELEVATION

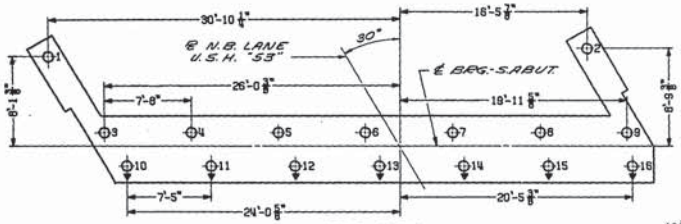


ABUTMENT PLAN



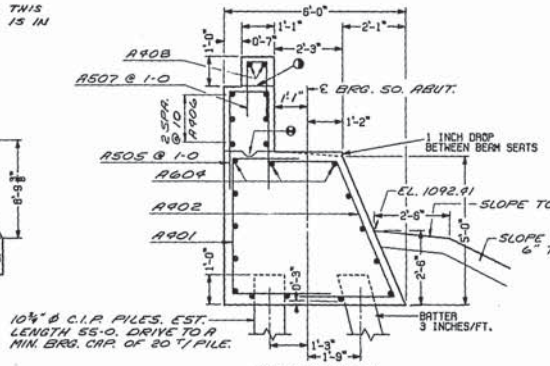
WING 2 ELEVATION

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



PILE PLAN

⊕ INDICATES BATTERED PILING - BATTER PILING 3" PER FOOT IN DIRECTION SHOWN



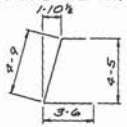
BODY SECTION

ALL HORIZONTAL BARS IN ABUTMENT BODY ARE A403 BARS UNLESS SHOWN OR NOTED OTHERWISE. FILL TO EL. 1091.91 BEFORE DRIVING PILING. UPPER LIMIT FOR "EXCAVATION FOR STRUCTURES" SHALL NOT EXCEED THIS ELEVATION.

BILL OF BARS

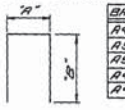
BAR NO.	NO. REQ'D.	LENGTH	BENT	2,720# LOCATION
A901	24	10-9	X	BODY - VERTICAL
A902	24	10-8	X	" - "
A903	22	25-2		" - HORIZONTAL
A604	6	25-7		" - TOP
A505	97	8-1	X	BACKWALL - STIRRUP
A906	12	29-9		" - HORIZONTAL
A507	97	5-2	X	PAVING BLOCK - STIRRUP
# A908	12	7-7		" " - HORIZONTAL
A509	36	4-5	X	SEATS - GRID DETAIL
A510	24	2-6		" - " "
A911	17	7-5	X	WING 1 - STIRRUP
A912	19	7-6	X	" 1 & 2 - HORIZONTAL F.F.
A913	4	6-10		" 1 - " F.F.
A614	5	11-6		" 1 - " B.F.
A915	16	9-2		" 1 & 2 - VERTICAL F.F.
A516	16	9-5		" 1 & 2 - " B.F.
A917	6	5-11	X	" 1 & 2 - HORIZONTAL F.F.
A918	6	10-8	X	" 1 & 2 - " B.F.
A919	18	7-5	X	" 2 - STIRRUP
A920	9	6-10		" 2 - HORIZONTAL F.F.
A621	5	11-10		" 2 - " B.F.

A908 - NO LAP

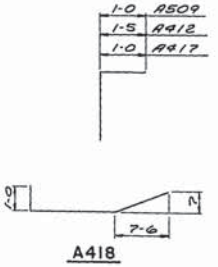


A402

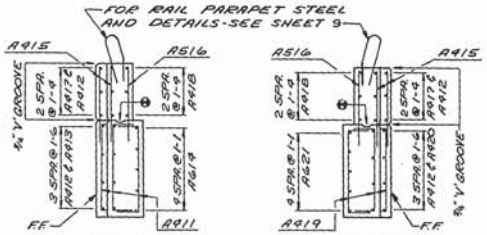
FOR RAIL PARAPET BARS, SEE SHEET 9.



BAR #	DIM. 'A'	DIM. 'B'
A901	4-5	3-6
A505	1-9	3-5
A507	9	2-3
A911	9-7	1-6
A919	9-7	1-6



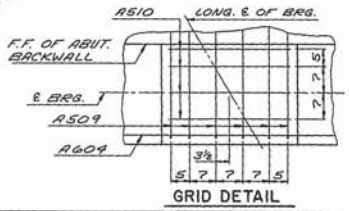
A418



SECTION THRU WINGS

◑ OPTIONAL KEYED CONST. JOINT FORMED BY A SURFACED BEVELED 2"ø.

FOR PILE SPLICE DETAIL SEE SHT. 4.



GRID DETAIL

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

Const. Spec.	1969	Drawn By	D.J.A.	Plans Checked	J.H.G.

SOUTH ABUTMENT

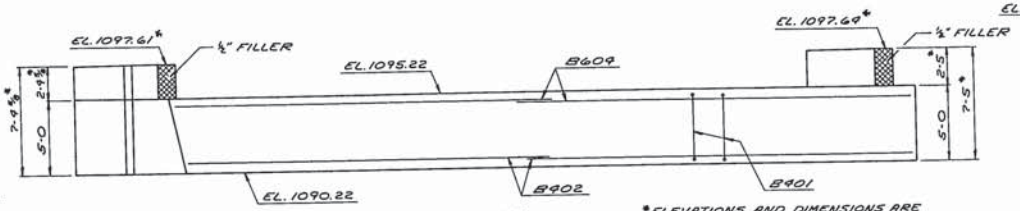
SHEET 3 OF 10

X 46272

Form C B 12-69

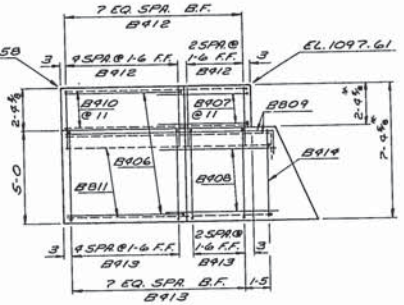
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-71	41	296
FEDERAL PROJECT DESIGNATION: EMP F08-4(36)		

NOTE: SEAL ALL EXPOSED HORIZONTAL & VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. PLACE SEALER 1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE

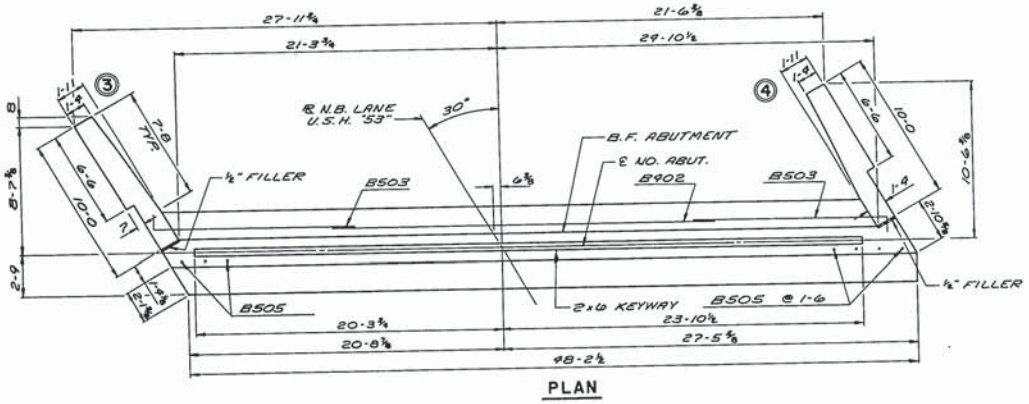


ELEVATION

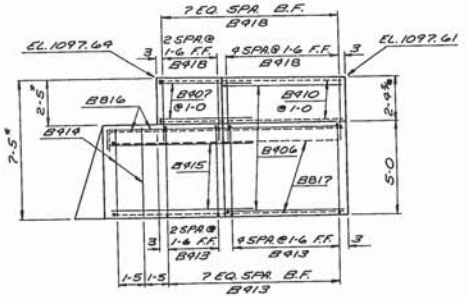
*ELEVATIONS AND DIMENSIONS ARE TAKEN AT B.F. ABUTMENT.



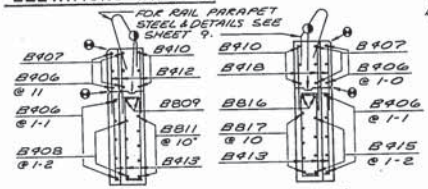
ELEVATION WING 3



PLAN



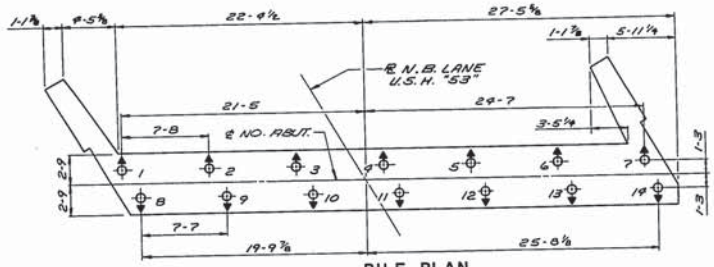
ELEVATIONS WING 4



SECTION THRU WINGS

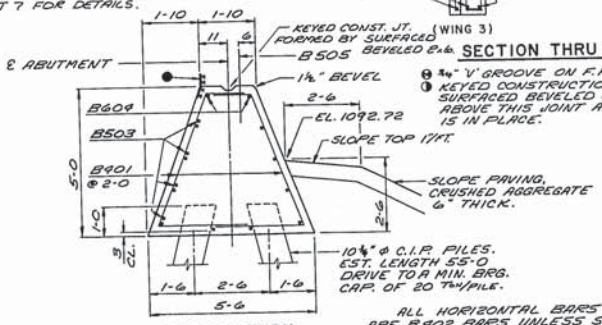
B505 BARS MAY BE PLACED AFTER CONCRETE IS POURED. IMBED 1-3 IN CONCRETE, BEFORE INITIAL SET HAS TAKEN PLACE.

● POLYVINYL CHLORIDE WATERSTOP. PLACE BETWEEN WINGS. SEE SHEET 7 FOR DETAILS.



PILE PLAN

⊕ INDICATES BATTERED PILING - BATTER PILING 3" PER FOOT IN DIRECTION SHOWN.



SECTION THRU ABUTMENT

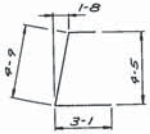
ALL HORIZONTAL BARS IN ABUTMENT BODY ARE B402 BARS UNLESS SHOWN OR NOTED OTHERWISE.
FILL TO EL. 1092.22 BEFORE DRIVING PILING.
UPPER LIMIT FOR "EXCAVATION FOR STRUCTURES" SHALL NOT EXCEED THIS ELEVATION.

BILL OF BARS

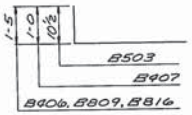
1820#

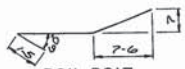
BAR NO.	NO. REQ'D	LENGTH	BENT	LOCATION
B401	50	9-0	X	BODY - VERTICAL
B402	16	25-6		" - HORIZONTAL
B503	8	19-0	X	" - "
B604	9	25-11		" - " TOP
B505	33	2-6		" - DOWEL
B406	16	7-6	X	WINGS 3 & 4 - HORIZONTAL F.F.
B407	6	5-11	X	" 3 & 4 - " F.F.
B408	9	6-9		" 3 - " F.F.
B809	2	12-2	X	" 3 - " BF & F.F.
B410	6	10-8	X	" 3 & 4 - " B.F.
B811	5	13-0	X	" 3 - " B.F.
B812	16	3-9		" 3 - VERTICAL F.F. & B.F.
B813	32	6-5	X	" 3 & 4 - " F.F. & B.F.
B814	3	9-7		" 3 & 4 - " F.F.
B815	9	7-8		" 4 - HORIZONTAL F.F.
B816	2	13-8	X	" 4 - " B.F & F.F.
B817	5	13-0	X	" 4 - " B.F.
B818	16	3-5		" 4 - VERTICAL F.F. & B.F.

FOR RAIL PARAPET BARS, SEE SHEET 9.

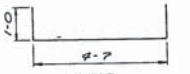


B401





B811, B817



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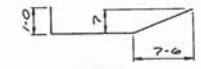
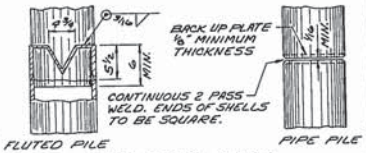


B410



FLUTED PILE PIPE PILE

PILE SPLICE DETAIL

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

Const. Spec	1969	Drawn By	D.J.R.	Plans Checked	J.H.G.

NORTH ABUTMENT

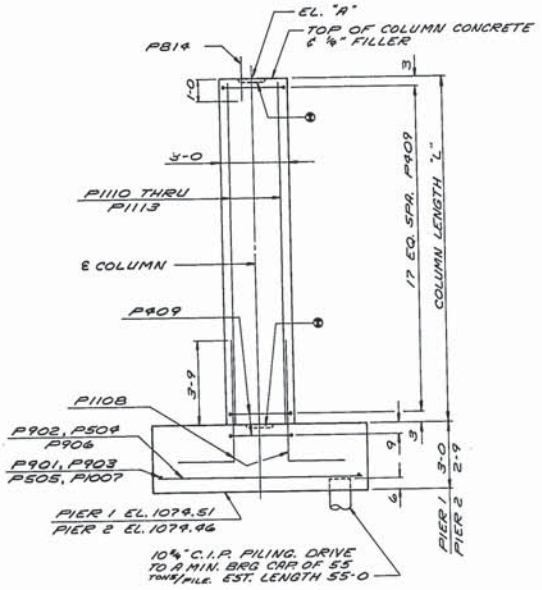
SHEET 4 OF 10

X 46273

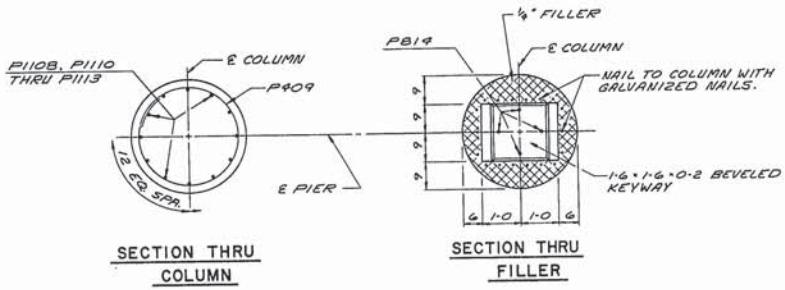
PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-71	42	296
FEDERAL PROJECT DESIGNATION EMP F08-4(36)		

BILL OF BARS

BAR NO.	NO. REQ'D.	LENGTH	BENT	18,900# LOCATION
P901	32	10-6		EXTERIOR FOOTINGS - PIER 1
P902	20	9-6		" " " " 1
P903	32	11-0		INTERIOR " " " 1
P504	29	7-6		" " " " 1
P505	18	7-0		EXTERIOR " " " 2
P906	38	8-0		EXT. & INT. " " " 2
P1007	22	9-0		INTERIOR " " " 2
P1108	96	7-6	X	FOOTING & COLUMN - DOWELS
P409	152	9-5	X	COLUMN - TIES
P1110	24	17-1		PIER 1, COLUMN 1 & 4 - VERTICAL
P1111	48	17-2		PIER 1, COL. 2 & 3, PIER 2, COL. 1 & 4 - VERT.
P1112	12	17-9		PIER 2, COLUMN 2 - VERTICAL
P1113	12	17-3		" 2, " 3 - "
P814	32	2-0		COLUMN & SLAB - DOWELS

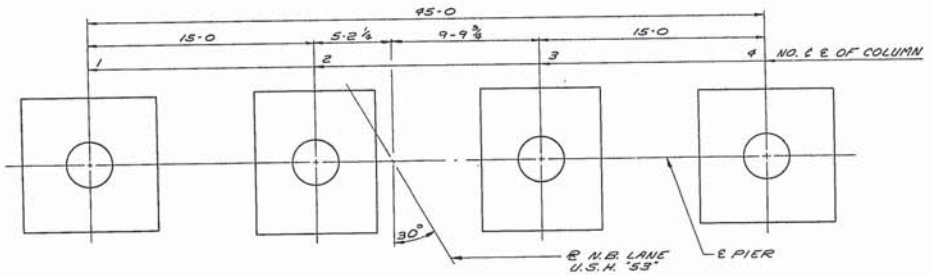


TYPICAL COLUMN ELEVATION



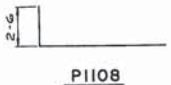
SECTION THRU COLUMN

SECTION THRU FILLER



PIER PLAN

P409

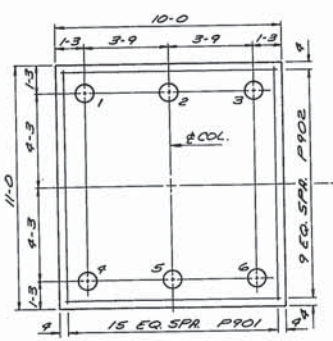


P1108

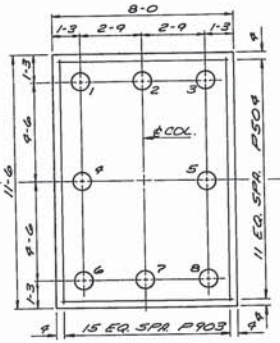
ELEVATION AND COLUMN LENGTH

		ELEV. "A"	LENGTH "L"
PIER 1	COLUMN 1	1094.76	17-3
	" 2	1094.92	17-4⅜
	" 3	1094.90	17-4⅝
	" 4	1094.79	17-3⅜
PIER 2	" 1	1094.56	17-4¼
	" 2	1094.71	17-6
	" 3	1094.70	17-5⅜
	" 4	1094.59	17-4½

NOTES:
TOP OF COLUMN ELEVATIONS (EL. "A") AND COLUMN LENGTH "L" ARE MEASURED AT ℄ PIER AND ℄ COLUMN. SLOPE TOP OF COLUMN TO MATCH SLOPE OF SUPERSTRUCTURE.
① CONSTRUCTION JOINT KEY FORMED BY A SURFACED BEVELED 1-6 x 1-6 x 0-2.
P814 BARS MAY BE PLACED AFTER COLUMN CONCRETE IS POURED BUT BEFORE BEFORE INITIAL SET HAS TAKEN PLACE.
FOR PILE SPLICE DETAIL SEE SHEET 4.

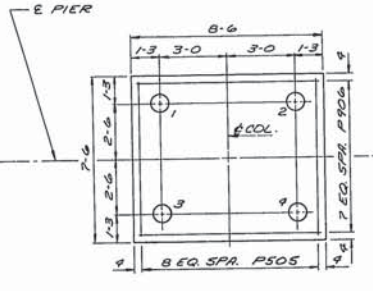


EXTERIOR FOOTING

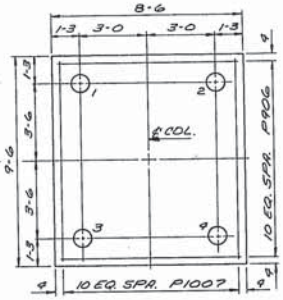


INTERIOR FOOTING

TYPICAL FOOTING PLAN - PIER 1



EXTERIOR FOOTING



INTERIOR FOOTING

TYPICAL FOOTING PLAN - PIER 2

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

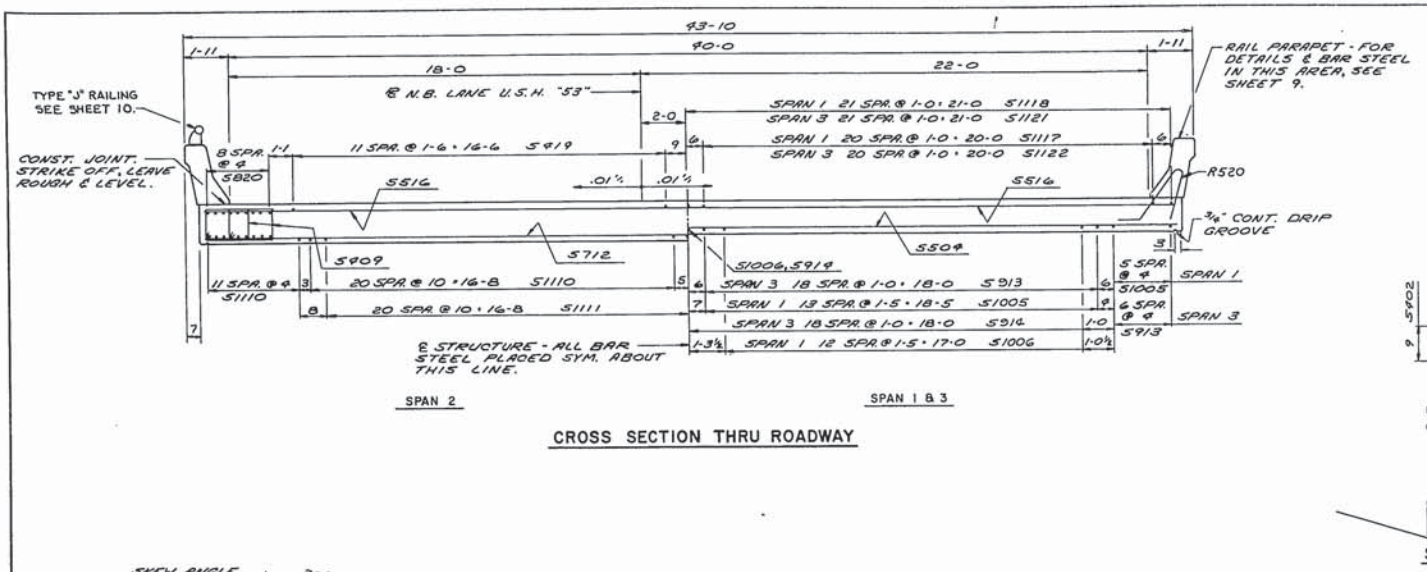
STRUCTURE B-3-15

Const. Spec. 1969	Drawn By D.J.A.	Plans Checked J.H.G.

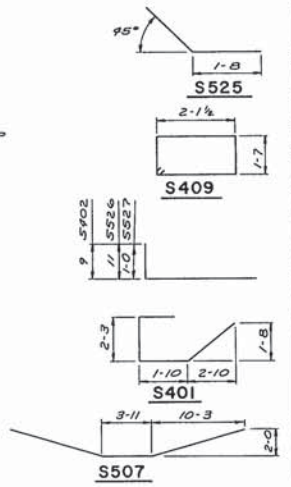
PIERS

SHEET 5 OF 10

X46274



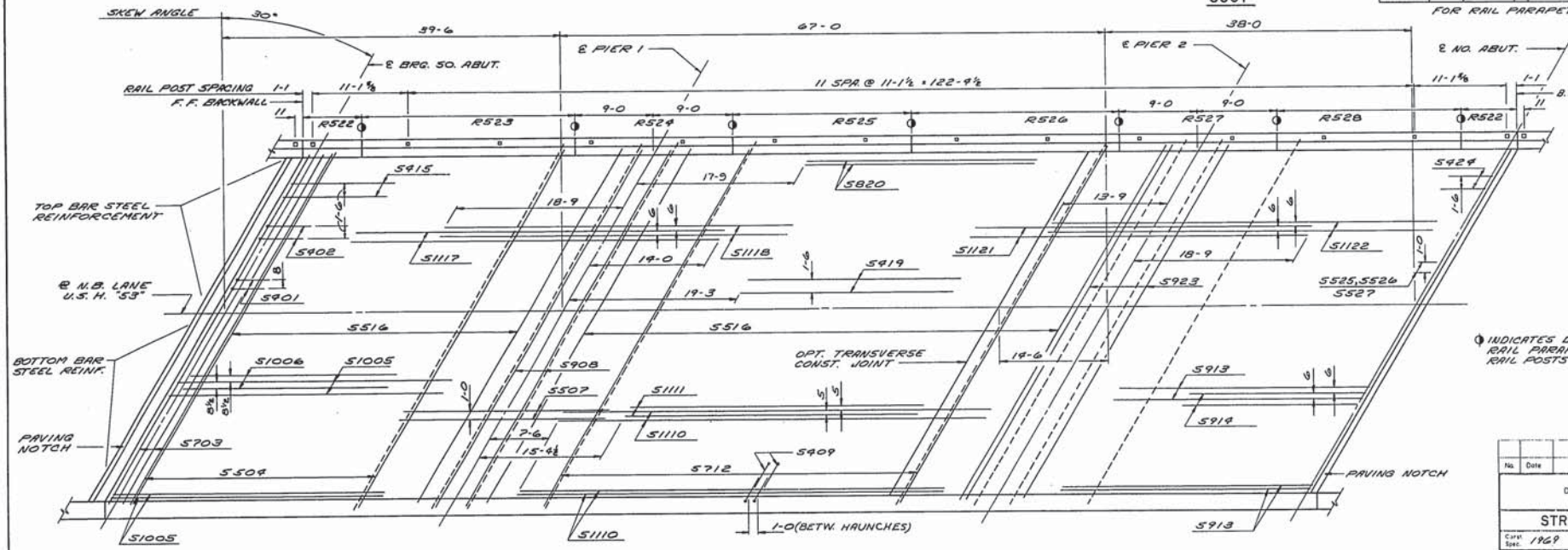
CROSS SECTION THRU ROADWAY



BILL OF BARS

BAR NO.	NO. REQ'D.	LENGTH	BENT	109,280# LOCATION
S401	44	8-8	X	SLAB & SO. ABUT. HAUNCH
S402	29	6-8	X	" @ " " "
S703	3	98-10		" @ " " " -TRANS.
S504	69	98-10		" SPAN 1 & 3 - TRANS.
S1005	40	32-0		" " 1 - LONG.
S1006	27	23-6		" " 1 " "
S507	64	29-8	X	" @ PIER HAUNCH
S908	20	98-10		" @ " " - TRANS.
S909	189	7-11	X	" STIRRUP - SPAN 2
S1110	66	52-0		" SPAN 2 - LONG.
S1111	91	36-3		" " 2 " "
S712	98	98-10		" " 2 - TRANS.
S913	52	30-3		" " 3 - LONG.
S919	37	21-3		" " 3 "
S915	29	9-6		" " 1 "
S516	98	98-10		" " 1, 2, & 3 - TRANS.
S1117	42	46-3		" OVER PIER 1 - LONG.
S1118	43	39-6		" " " 1 " "
S419	29	28-6		" SPAN 2 - LONG.
S820	18	31-6		" EDGE SPAN 2 - LONG.
S1121	43	39-6		" OVER PIER 2 - LONG
S1122	42	47-3		" " " 2 " "
S923	28	98-10		" @ PIER HAUNCH - TRANS.
S924	29	6-6		" SPAN 3 - LONG.
S525	93	9-1	X	" @ NO. ABUT. HAUNCH
S526	93	3-0	X	" @ " " "
S527	93	2-11	X	" @ " " "

FOR RAIL PARAPET BARS, SEE SHEET 9.



PLAN

RAIL POST AND DEFL. JOINT SPACING SAME FOR BOTH SIDES.

◑ INDICATES DEFLECTION JOINT IN RAIL PARAPET. PLACE MIDWAY BETWEEN RAIL POSTS OR AS SHOWN.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

Const. Spec. 1969 | Drawn By D.J.A. | Plans Checked J.H.G.

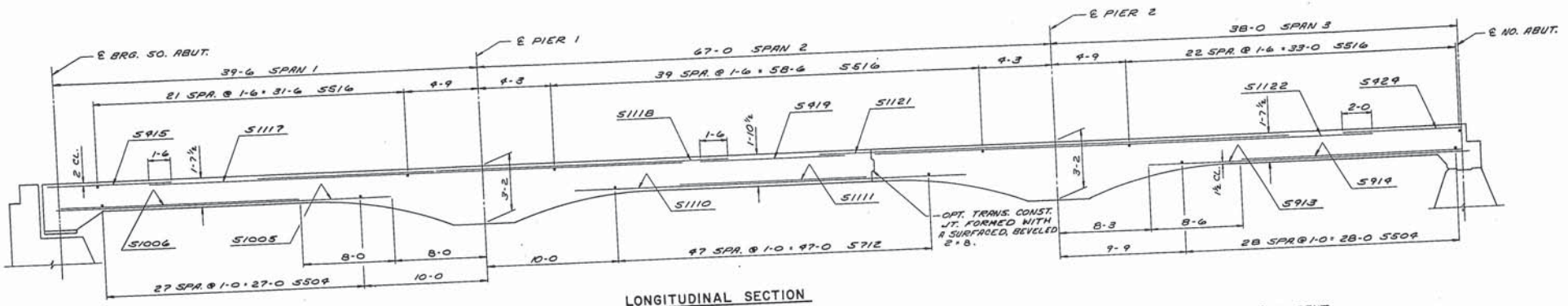
SUPERSTRUCTURE

SHEET 6 OF 10

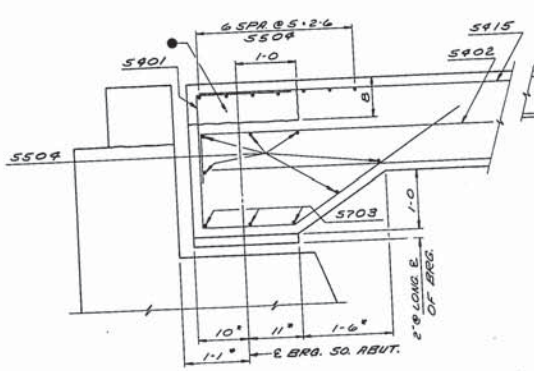
X46275

Project ID 1196-6-71 | Sheet Number 43 | Total Sheets 296
Federal Project Designation EMP F08-4(36)

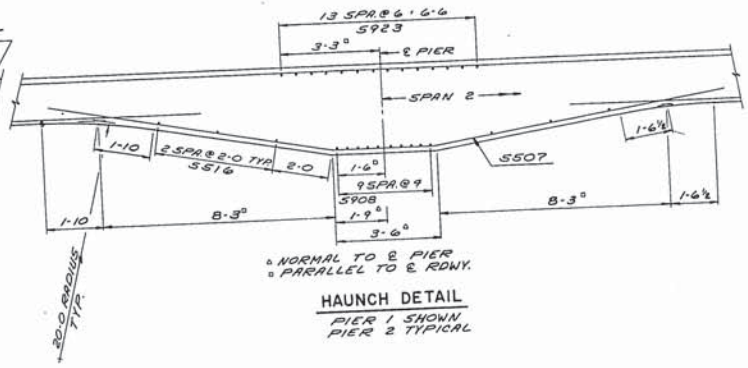
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-71	44	296
FEDERAL PROJECT DESIGNATION EMP F08-4(36)		



LONGITUDINAL SECTION

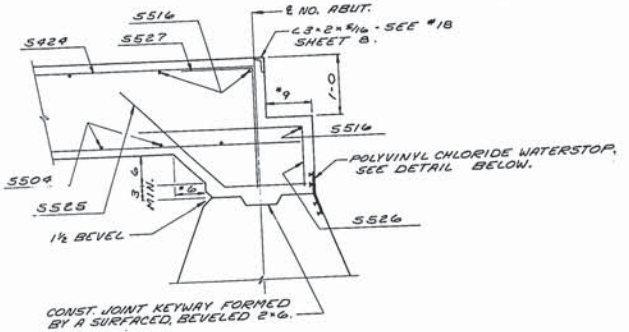


DETAIL AT SOUTH ABUT.
*NORMAL TO ℄ ABUT.

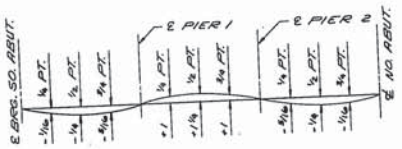


* NORMAL TO ℄ PIER
▫ PARALLEL TO ℄ RDWY.

HAUNCH DETAIL
PIER 1 SHOWN
PIER 2 TYPICAL



DETAIL AT NORTH ABUT.



CAMBER DIAGRAM

DEAD LOAD DEFLECTION IS 0.9 * CAMBER SHOWN. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

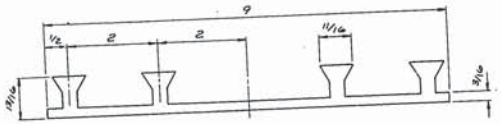
NOTES

ALTERNATE TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROX. 3-0 CENTERS. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROX. 4-0 CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MIN. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

PARAPETS ARE TO BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

● CONCRETE IN THIS AREA SHALL BE PLACED AFTER SUPERSTRUCTURE IS POURED & EXP. JOINT HAS BEEN SET. REMOVE FORMS FROM END OF SLAB BEFORE MAKING THE DECK. JOINT MAY BE OMITTED WITH THE APPROVAL OF THE ENGINEER. REMOVE FALSEWORK WHICH IS SUPPORTING THE ENGINEER.



POLYVINYL CHLORIDE WATERSTOP

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

Const. Spec. 1969	Drawn By D.J.A.	Plans Checked J.H.G.

SUPERSTRUCTURE

SHEET 7 OF 10

X46276

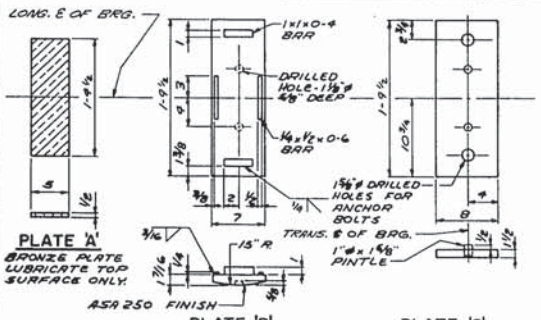
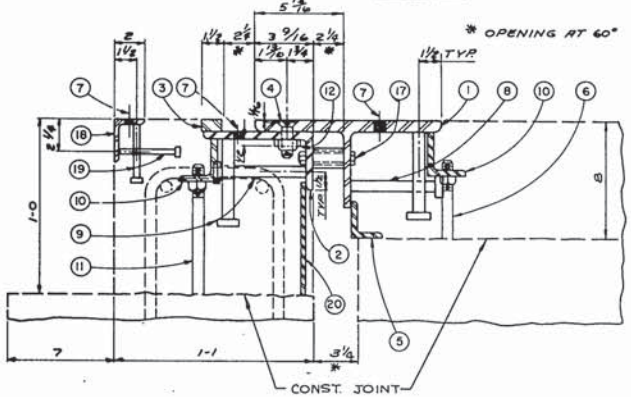


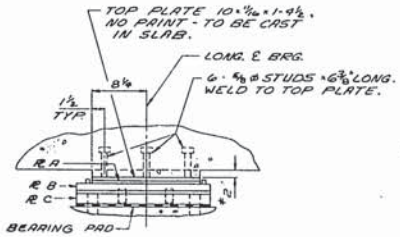
PLATE 'A'
BRONZE PLATE LUBRICATE TOP SURFACE ONLY.

PLATE 'B'

PLATE 'C'

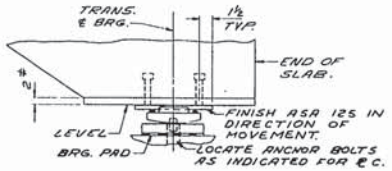


TRANSVERSE SECTION THRU JOINT



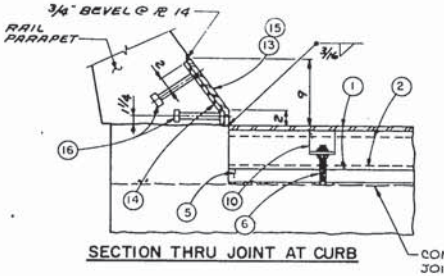
BEARING ELEVATION

BEARING DETAILS

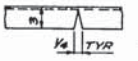


BEARING ASSEMBLY

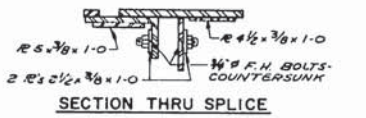
*@ LONG. ℄ OF BRG.



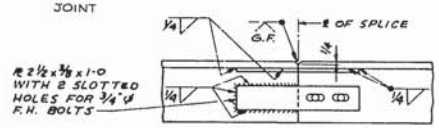
SECTION THRU JOINT AT CURB



DETAIL 19

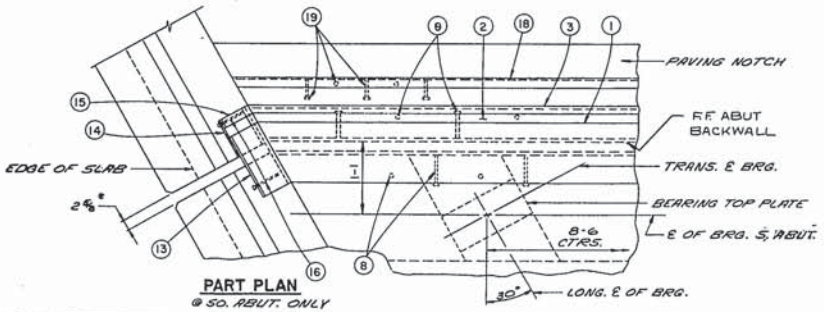


SECTION THRU SPLICE



OPTIONAL FIELD SPLICE DETAIL

ONE SPLICE SHALL BE PERMITTED IN JOINT.



PART PLAN

@ SO. ABUT. ONLY

BEARING NOTES

ALL MATERIAL EXCLUDING ANCHOR BOLTS, PINTLES, NUTS, STUDS & 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 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

LEGEND

1. WT G x 39.5 x ROADWAY WIDTH. WELDMENT MAY BE USED. SEE DETAIL "A".
2. ℄ 7 x 4 x 7/16 x ROWY. WIDTH. LONG DIMENSION OF 13/16" x 1½" SLOTTED HOLE TO BE PARALLEL TO DIRECTION OF MOVEMENT.
3. BAR 1½ x ⅜ x ROWY. WIDTH. WELD TO ℄ #2 WITH 2 LINES OF ¼ FILLET WELD. 2@ ℄.
4. ¾"ø FLAT HEAD CAP SCREW x 2⅜" LONG WITH SQ. NUT AT 4'-0 CENTERS. GREASE FOR EASY REMOVAL. 13/16 x 1½ SLOTTED HOLE IN ℄ #2. 13/16ø HOLE C'SK ⅞ DEEP IN WT #1.
5. ℄ 2½ x 2 x ⅛ x ROWY. WIDTH. 3/16 CONTINUOUS FIELD WELD TO WT #1. 2½" LEG VERT.
6. ¾"ø x 6 LONG ROD & NUT. THREAD 3". TACK WELD NUT TO ℄ #10.
7. VENT HOLES, 13/16ø AT 2'-0 CTRS. IN WT #1 AND ℄ #2 AND 3'-0 CTRS. IN 18.
8. ⅝"ø STUDS x 6⅜" LONG. WELD TO WT #1 AT 6" ALTERNATE CENTERS.
9. ⅝"ø STUDS x 6⅜" LONG. WELD TO ℄ #2 AT 9 ALTERNATE CENTERS.
10. ℄ 3 x 2½ x ⅜ x 3" LONG AT 3'-0 CENTERS. WELD TO ℄ #2 AND WT #1 PROVIDE 15/16ø HOLES IN 2½" LEG FOR RODS #6 AND #11.
11. ¾ø ROD x 9 LONG & NUT. THREAD 3". TACK WELD NUT TO ℄ #10.
12. ¼ x ½ x 1'-4" LONG KEEPER BAR. ONE PER #4 BOLT PLACE BAR WITH LONG DIMENSION PARALLEL TO ℄ OF ROWY. ⅛" CLEAR FROM #6 SQUARE NUT AND WELD BAR AT SIDE FACING AWAY FROM NUT WITH 5/16 FILLET WELD 1¼" LONG TO ℄ #2.
13. R 1-1¾ x 3/16 - FIELD WELD TO WT #1.
14. R 8½ x 3/8 - WELD TO R 15 WITH ONE LINE OF ¼ MAX. FILLET WELD, N.S. & F.S.
15. R 1'-3½ x 3/8 - FIELD WELD TO BAR #3.
16. ⅝"ø STUDS x 6⅜" LONG. WELD TO R 15 & 13 AND R 14.
17. BLOCK AND BOLT FOR SHIPMENT WITH PIPE SLEEVE AND ½"ø BOLT. PROVIDE 7/16 ø HOLES AT 3'-0 CENTERS IN WT #1 AND ℄ #2 FOR BOLT.
18. ℄ 3 x 2 - 5/16 x ROWY. WIDTH. ONE WELDED FIELD SPLICE WILL BE PERMITTED. SEE DETAIL # 19. ONE ℄ REQ'D @ EACH ABUT.
19. ⅜"ø STUDS x 4" LONG. WELD TO ℄ 18 AT 6" ALTERNATE CENTERS.
20. R 7½ x ⅛ x ROWY. WIDTH. 5/16 CONTINUOUS FIELD WELD TO ℄ #2.

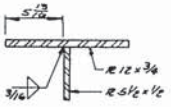
EXPANSION JOINT NOTES

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 ± ⅛" 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

1196-6-71	SHEET NUMBER 45	TOTAL SHEETS 296
FEDERAL PROJECT DESIGNATION EMP F08-4(36)		

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

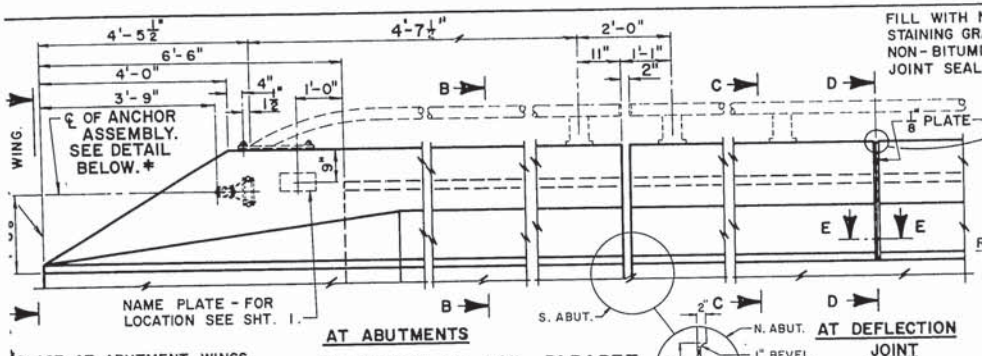
Const. Spec	Drawn By	Plans Checked
1969	D.J.A.	J.H.G.

EXPANSION JOINT & BEARING DETAILS

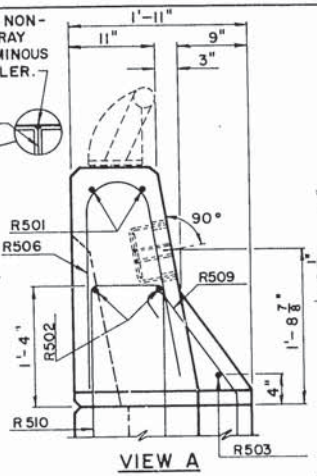
SHEET 8 OF 10

X46277

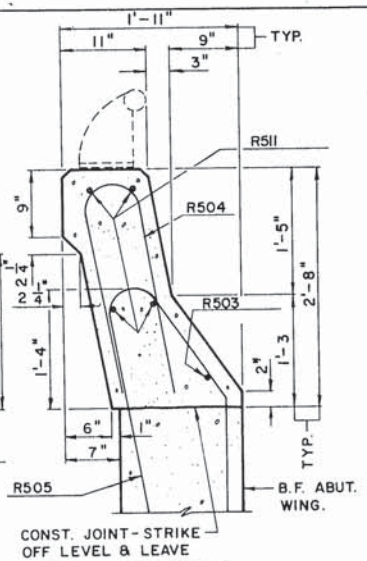
PROJECT I.D. 1196-6-71 | SHEET NUMBER 46 | TOTAL SHEETS 296
FEDERAL PROJECT DESIGNATION EMP FOB-4(36)



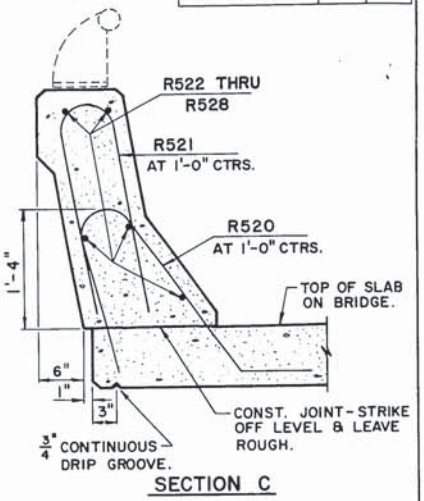
AT ABUTMENTS
ELEVATION OF RAIL PARAPET
AT DEFLECTION JOINT



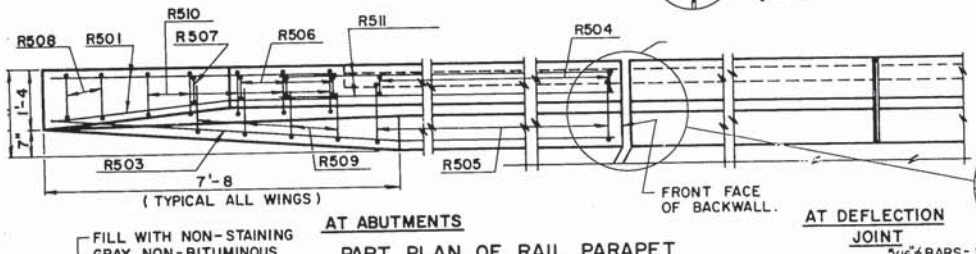
VIEW A



SECTION B



SECTION C



AT ABUTMENTS
PART PLAN OF RAIL PARAPET
AT DEFLECTION JOINT

NOTE: BENDING DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

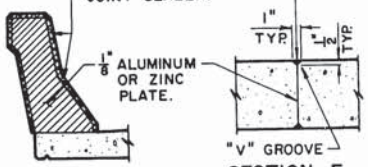
RAIL PARAPET BILL OF BARS

	MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
AT ABUTS. - 710#	R501	8	6-10	X	WINGS 1 THRU 4
	R502	8	4-5		" 1 " 4
	R503	4	9-8	X	" 1 " 4
	R504	16	5-0	X	" 1 " 4
	R505	16	5-10	X	" 1 " 4
	R506	12	5-2	X	" 1 THRU 4
	R507	4	4-2	X	" 1 " 4
	R508	8	4-10	X	" 1 " 4
	R509	16	3-3	X	" 1 " 4
	R510	20	5-10	X	" 1 " 4
	R511	16	5-6		" 1 " 4
AT SUPER. - 4670#	R520	292	4-9	X	SLAB & RAIL PARAP.
	R521	292	5-0	X	RAIL PARAPET
	R522	20	6-2		" "
	R523	10	24-9		" "
	R524	10	17-8		" "
	R525	10	23-4		" "
	R526	10	25-0		" "
	R527	10	17-8		" "
	R528	10	23-0		" "

NOTES

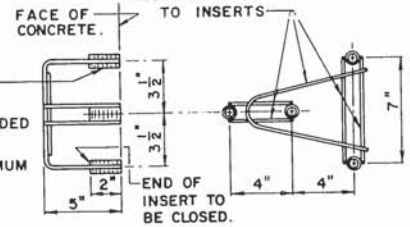
WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF ⅛" ZINC OR ALUMINUM PLATE CUT AS SHOWN IN SECTION "D" BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH BITUMINOUS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

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



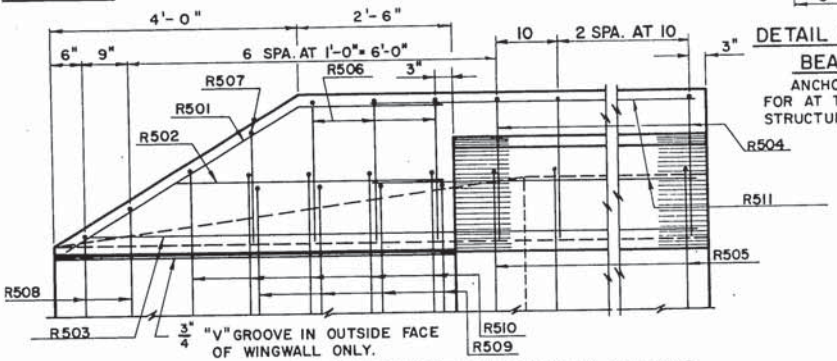
SECTION D

SECTION E

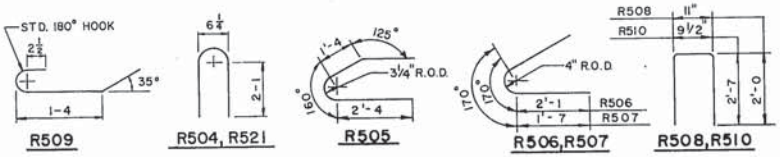


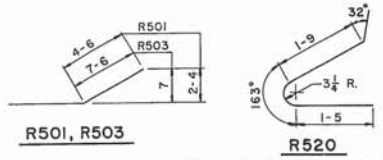
DETAIL OF ANCHOR ASSEMBLY FOR BEAM TYPE GUARD RAIL

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



VIEW SHOWING OUTSIDE FACE OF PARAPET & REINF.





No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

Const. Spec. 1969	Drawn By D.J.A.	Plans Checked J.H.G.

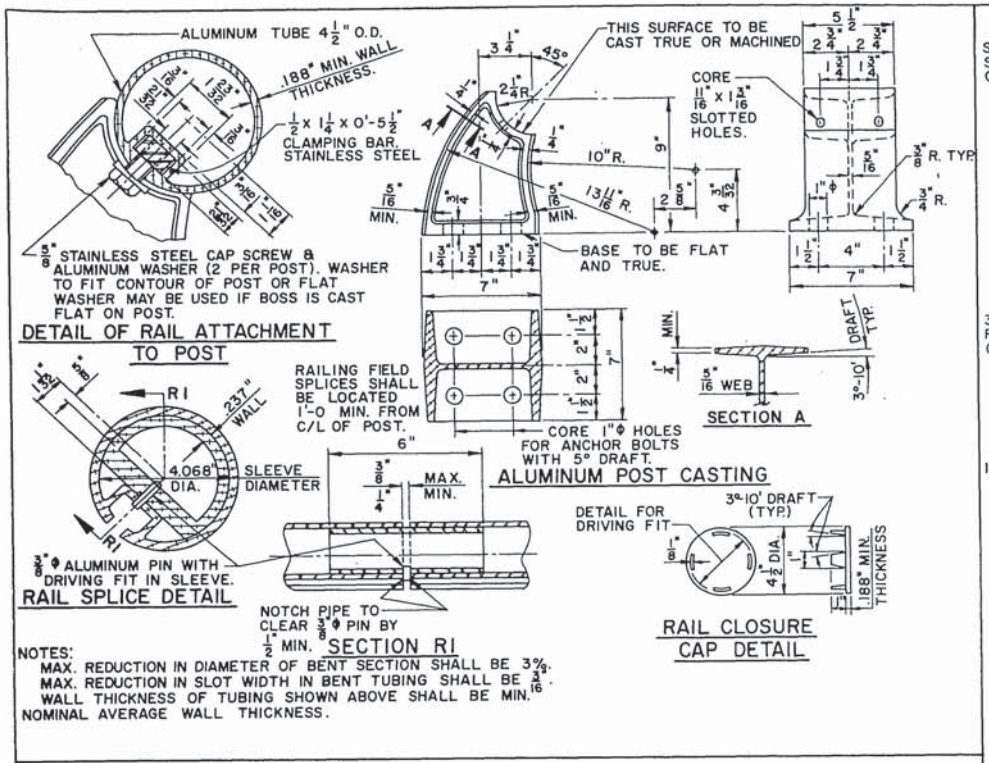
SLOPED FACE PARAPET "A"

SHEET 9 OF 10

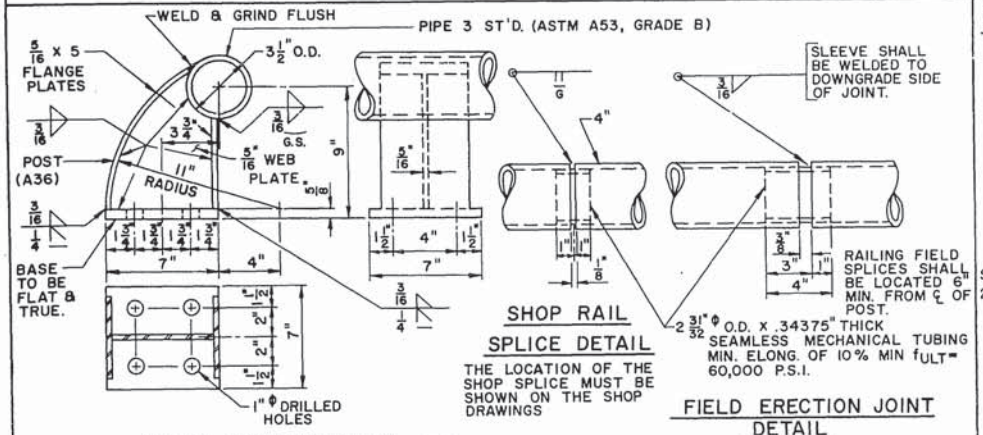
X 46278

Form C B 12 69

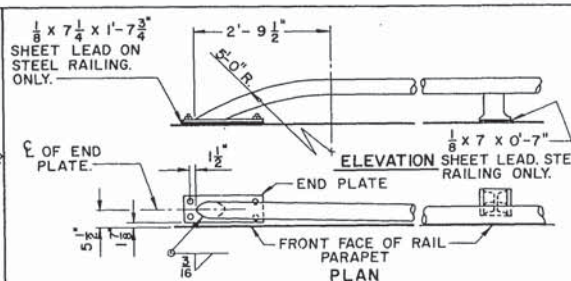
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-71		
FEDERAL PROJECT DESIGNATION	47	296
EMP FOB-4(36)		

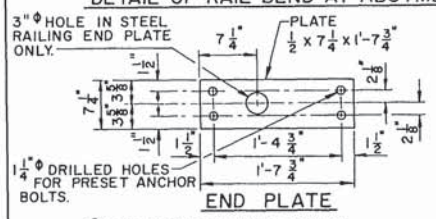


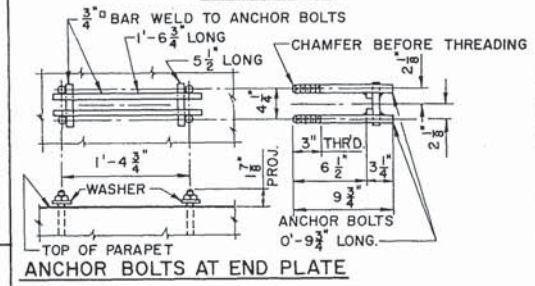
NOTES:
MAX. REDUCTION IN DIAMETER OF BENT SECTION SHALL BE 3%.
MAX. REDUCTION IN SLOT WIDTH IN BENT TUBING SHALL BE 3/16.
WALL THICKNESS OF TUBING SHOWN ABOVE SHALL BE MIN. NOMINAL AVERAGE WALL THICKNESS.

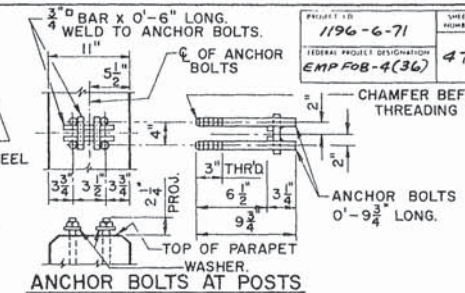


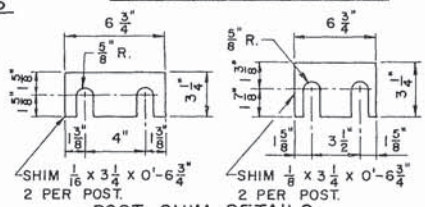
NOTE:
GALVANIZE ENTIRE RAILING AFTER FABRICATION INCLUDING SHIMS.











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.

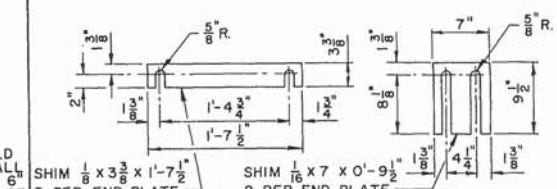
RAIL POSTS SHALL BE SET NORMAL TO GRADE.

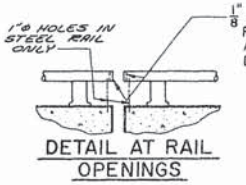
THE SHANK AND ROOT OF THREAD DIAMETER FOR ANCHOR BOLTS SHALL BE A MIN. OF 0.62 INCHES.

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.





No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

Const. Spec. 1969	Drawn By D.J.R.	Plans Checked J.H.G.

TUBULAR RAILING TYPE 'J'

SHEET 10 OF 10

X 46279

AS BUILT

Sheet Number	Total Sheets
1	296

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED

NEW AUBURN - U.S.H. 8 ROAD

So. Co. LINE - C.T.H. "A"

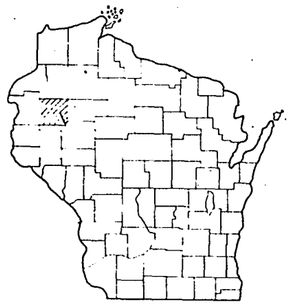
U.S.H. 53

BARRON COUNTY

FEDERAL IDENTIFICATION NUMBER	FEDERAL PROJECT DESIGNATION
1196-6-[redacted]72,[redacted]	EMP F08-4(36)

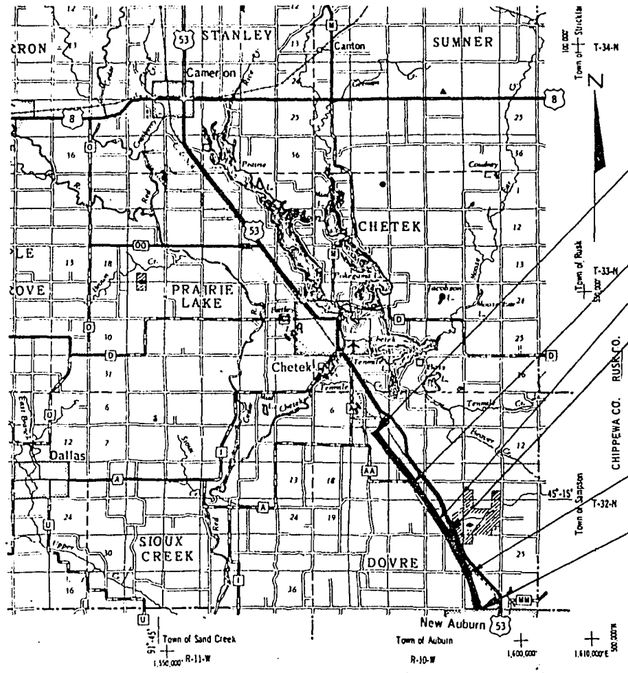
Scales { Plan 1 in. = 100 ft. / Profile Hor. 1 in. = 100 ft. Vert. 1 in. = 10 ft. / Cross Sections Hor. 1 in. = 10 FT. Vert. 1 in. = 10 FT.

Index of Sheets



Design Designation

CONTROL OF ACCESS = FULL
A.D.T. 1980 = 5300
A.D.T. 2000 = 8400
D.H.V. = 1260
D. = 50-50
TRUCKS = 11.3% ADT
V. = 80 M.P.H.



Layout

Scale MILES 0 1 2

Net Length of Centerline = 2.278 Mi. Contract 1
" " " " = 3.211 " " 3
TOTAL " " " " = 5.489 "

END PROJECT 1196-6-76 / EMP F08-4(36)
STA. 290+00 N.B. ℄
* N = 40,942.678
* E = 2,066,583.314
APPROX. 1200' S. & 1430' W. OF N.E. COR., SEC. 8, T-32-N, R-10-W

B-3-16 AND B-3-17
PROJECT 1196-6-72

B-3-32 AND B-3-33
PROJECT 1196-6-72

END PROJECT 1196-6-71 (CONTRACT 1) BEGIN PROJECT 1196-6-76 (CONTRACT 3)
STA. 120+50 N.B. ℄
* N = 26,859.460
* E = 2,075,115.519
APPROX 400' S. & 3175 W. OF THE S.W. 1/4 SEC. 27
T 33 N, R 10 W

B-3-14 AND B-3-15
PROJECT 1196-6-72

BEGIN PROJECT 1196-6-71 / EMP F08-4(36)
STA. 0+18.72 N.B. ℄
* N = 20,432.168
* E = 2,079,997.887
428.12' W. OF THE S. 1/4 COR., SEC. 35,
T 32 N, R 10 W

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

* CENTRAL ZONE COORDINATES

Conventional Signs

State Line		Culverts in Place	
County Line		Culverts Required	
Township or Range Line		Drop Inlet	
Section Line		Power Pole	
New Right of Way Line		Telephone or Telegraph Pole	
Present Right of Way Line		Right of Way Markers	
Wire Fence: Woven		Reference Stake for Hubs Only	
Wire Fence: Barbed		Marsh	
Lot Line		Hedge	
Corporate or City Limits		Trees	
Property Line	PL 332.6		
Traveled Way or P.E.		Ground Elevation	Datum Line 73.0
Railroads			
Base or Survey Line		Grade Elevation	Datum Line 76.16

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Surveyor DIST. # 8 Note Book
District Computer N.B. M.O. Checker I. L. J.
District Checker B.J.F. Correct

Correct:

Date 11/29/71 T.R. Kinsey
Recommended for Approval: District Engineer

Date 12/6/71 J.C. Hemmel
Approved: Chief Design Engineer

Date 12/7/71 W.J. Burmeister
State Highway Engineer

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

Approved:

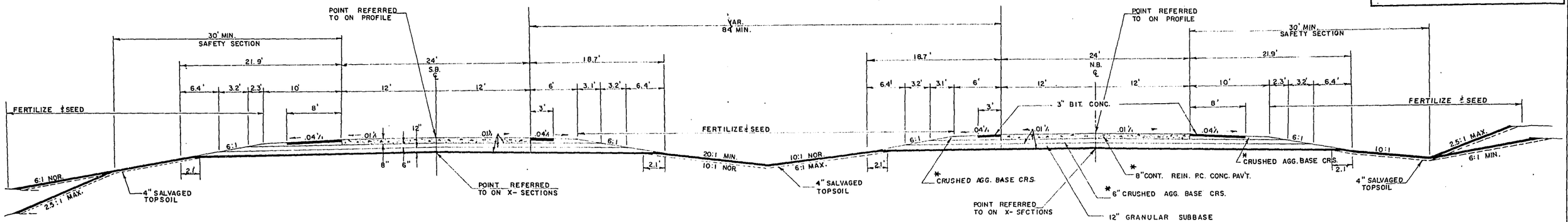
Date

Division Engineer

EMP F08-4(36)

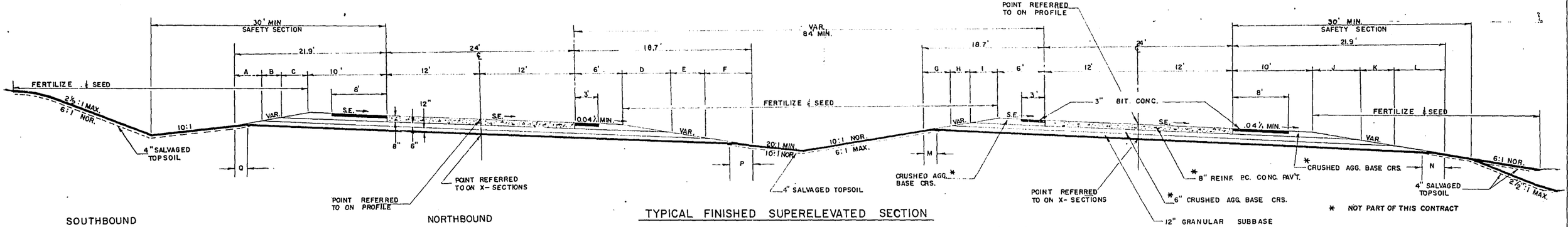
PROJECT I.D	SHEET NUMBER	TOTAL SHEETS
1196-6-71,72,76	2	296
FEDERAL PROJECT DESIGNATION EMPF08-4(36)		

TYPICAL SECTIONS



* NOT PART OF THIS CONTRACT

U.S.H. 53
TYPICAL FINISHED TANGENT SECTION



* NOT PART OF THIS CONTRACT

SOUTHBOUND

CURVE	S.E.	TRANS.	A	B	C	D	E	F	Q	P
0°-15' RT.	.01	240	6.4	3.2	2.3	3.1	3.2	6.4	2.1	2.1
0°-15' LT.	.01	240	6.4	3.2	2.3	3.1	3.2	6.4	2.1	2.1
0°-30' LT.	.024	240	5.9	3.0	3.0	3.9	2.9	5.9	2.3	1.8
0°-40' RT.	.032	240	5.5	2.7	3.7	3.7	3.0	6.0	1.7	2.5
0°-45' RT.	.036	240	5.5	2.7	3.7	3.8	3.0	5.9	1.7	2.5
1°-00' RT.	.047	240	5.5	2.7	3.7	3.9	2.9	5.9	1.6	2.8
1°-00' LT.	.047	240	5.5	2.7	3.7	3.9	2.9	5.9	2.8	1.6
1°-15' RT.	.056	280	5.5	2.7	3.7	3.9	2.9	5.9	1.5	3.0
1°-15' LT.	.056	280	5.5	2.7	3.7	3.9	2.9	5.9	3.0	1.5
1°-30' LT.	.065	320	5.5	2.7	3.7	3.9	2.9	5.9	3.3	1.5

NORTHBOUND

CURVE	S. E.	TRANS	G	H	I	J	K	L	M	N
0°-15' RT.	.01	240	6.4	3.2	3.1	2.3	3.2	6.4	2.1	2.1
0°-20' RT.	.01	240	6.4	3.2	3.1	2.3	3.2	6.4	2.1	2.1
0°-30' RT.	.024	240	5.9	2.9	3.9	3.0	3.0	5.9	1.8	1.3
0°-40' RT.	.032	240	5.9	2.9	3.9	3.4	2.8	5.7	1.7	2.5
0°-45' RT.	.036	240	5.9	2.9	3.9	3.5	2.8	5.6	1.7	2.5
0°-45' LT.	.036	240	5.9	3.0	3.8	3.7	2.7	5.5	2.5	1.7
1°-00' RT.	.047	240	5.9	2.9	3.9	3.7	2.7	5.5	1.6	2.8
1°-00' LT.	.047	240	5.9	2.9	3.9	3.7	2.7	5.5	2.8	1.6
1°-15' RT.	.056	280	5.9	2.9	3.9	3.7	2.7	5.5	1.5	3.0
1°-30' LT.	.065	320	5.9	2.9	3.9	3.7	2.7	5.5	3.3	1.5

TYPICAL FINISHED SUPERELEVATED SECTION

STANDARD ABBREVIATIONS

ABND.	ABANDON	C	CUT	MAX.	MAXIMUM
A.D.T.	AVERAGE DAILY TRAFFIC	D	DEGREE OF CURVE	MIN.	MINIMUM
AH.	AHEAD	D.H.W.	DAILY HOURLY VOLUME	MI.	MILE
BEG. CONST.	BEGIN CONSTRUCTION	ELEV.	ELEVATION	N.	NORTH
BEG. TAPER	BEGIN TAPER	ENC.	ENCASED	N.B.	NORTH BOUND
BEG. PROJ.	BEGIN PROJECT	END CONST.	END CONSTRUCTION	N.E.	NORTH EAST
BK.	BACK	EX.	EXISTING	N.W.	NORTH WEST
BIT. CONC.	BITUMINOUS CONCRETE	E	EXTERNAL DISTANCE	NOR.	NORMAL
BOX CULV.	BOX CULVERT	F.E.	FIELD ENTRANCE	ORIG.	ORIGINAL
℄	CENTERLINE	F.L.	FLOW LINE	ORIG. GRD.	ORIGINAL GROUND
	CENTRAL ANGLE OR DELTA	FT.	FEET	PAV'T.	PAVEMENT
CH.	CHANNEL	FUTURE CONST.	FUTURE CONSTRUCTION	P.C.	POINT OF CURVATURE
CH. CH.	CHANNEL CHANGE	Δ OR I	INTERSECTION ANGLE	P.I.	POINT OF INTERSECTION
C. & N.W. RY.	CHICAGO & NORTH WESTERN RAILROAD	LT.	LEFT	P.L.	PROPERTY LINE
CONC.	CONCRETE	L.	LENGTH OF CURVE	P.T.	POINT OF TANGENCY
C.T.H.	COUNTY TRUNK HIGHWAY	L.H.F.	LEFT HAND FORWARD	P.O.S.T.	POINT OF SEMI-TANGENT
CULV. OR C.	CULVERT PIPE	LIN. FT.	LINEAR FEET	P.P.	POWER POLE
C.M.C.P.	CORRUGATED METAL CULVERT PIPE	L.H.E.	LIMITED HIGHWAY EASEMENT	PROJ.	PROJECT
CO.	COUNTY	M.H.	MANHOLE	R.	RADIUS OR RANGE
				R.R.	RAILROAD
				REL.	RELOCATED
				R.L.	REFERENCE LINE
				R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
				REQ'D.	REQUIRED
				R.H.F.	RIGHT HAND FORWARD
				RT.	RIGHT
				R/W	RIGHT OF WAY
				SHR.	SHRINKAGE
				S.B.	SOUTH BOUND
				S.S.D.	STOPPING SIGHT DISTANCE
				S.E.	SUPERELEVATION
				T.	TANGENT LENGTH OF CURVE
				T.P.	TELEPHONE POLE
				TN. RD.	TOWN ROAD
				TRANS.	TRANSITION
				U.S.H.	UNITED STATES HIGHWAY
				V.	VELOCITY
				VAR.	VARIABLE
				V.C.	VERTICAL CURVE
				X-SEC'S.	CROSS-SECTIONS

GENERAL NOTES (CONT.)

UNLESS OTHERWISE SHOWN ON THE PLANS, ALL INTERSECTIONS SHALL BE TYPE "C" AS SHOWN ON THE STANDARD DETAIL DRAWING.

UTILITIES:

BARRON COUNTY ELEC. CO-OP., BARRON CITIZEN'S TELEPHONE CO-OP., INC., NEW AUBURN NORTHERN NATURAL GAS CO.

GENERAL NOTES

WHEN THE QUANTITY OF THE ITEMS OF SUBBASE, BASE OR SURFACE COURSE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

STRAW MULCH ALL SLOPES STEEPER THAN 4:1 EXCEPT ROCK CUTS.

SALVAGED TOPSOIL TO BE PLACED AS SHOWN ON TYPICAL SECTIONS AT AN APPROXIMATE DEPTH OF 4" AT THE TIME OF PLACING.

ITEMS SHOWN ON PLANS BUT NOT ON ESTIMATE OF QUANTITIES SHEETS ARE NOT A PART OF THIS CONTRACT.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS UNCLASSIFIED EXCAVATION. THE LOCATION FOR EBS WILL BE DETERMINED BY THE ENGINEER.

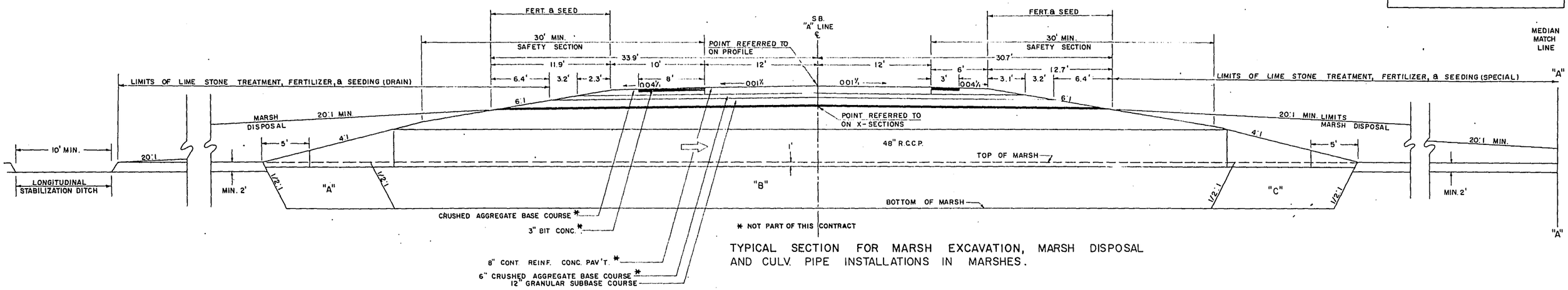
CURVE DATA IS BASED ON THE ARC DEFINITION.

NO TREES ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

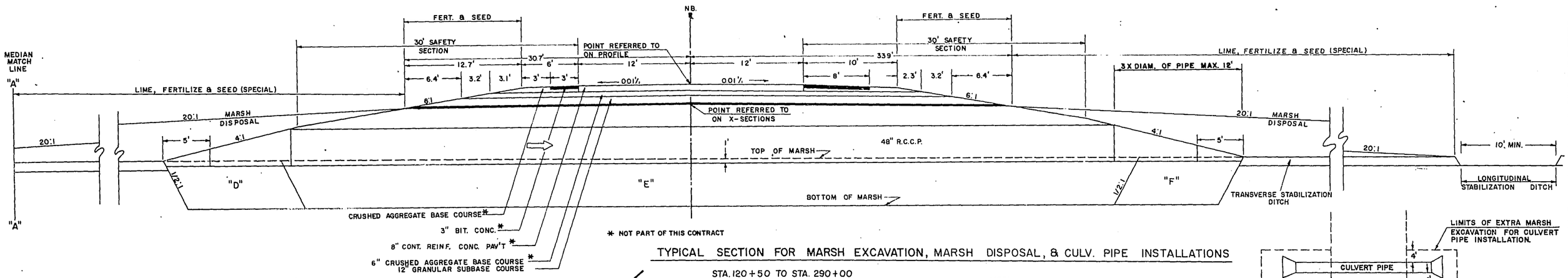
DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREA WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE FERTILIZED AND SEEDED AS DIRECTED BY THE ENGINEER.

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-71,72,76	2.1	296
FEDERAL PROJECT DESIGNATION EMPF08-4(36)		

TYPICAL SECTIONS

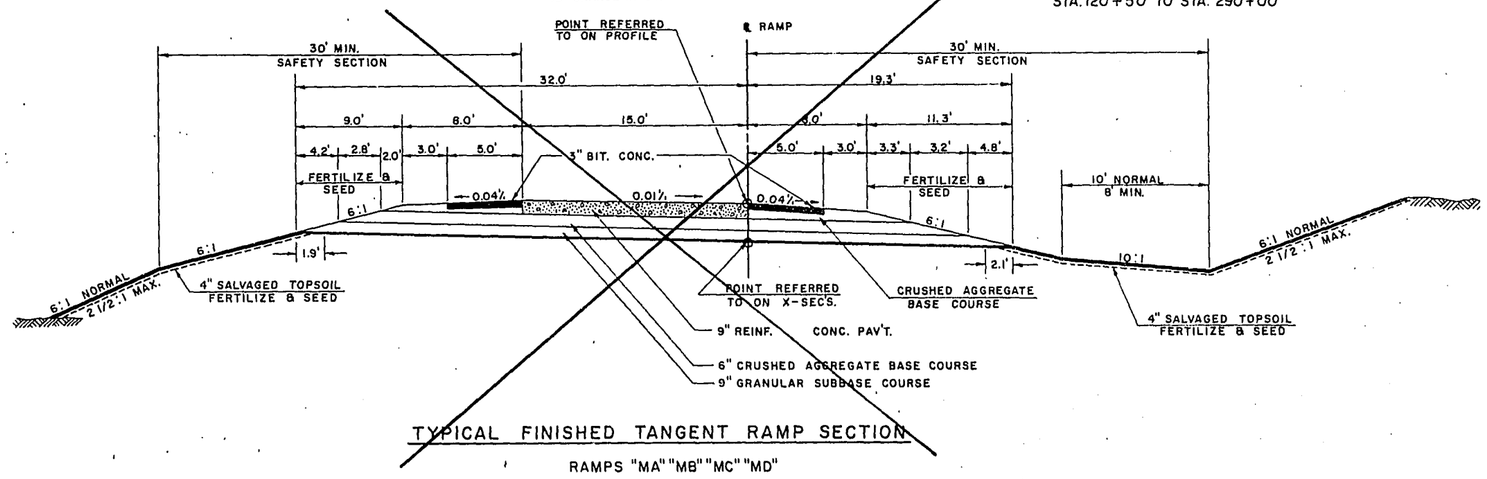


TYPICAL SECTION FOR MARSH EXCAVATION, MARSH DISPOSAL AND CULV. PIPE INSTALLATIONS IN MARSHES.



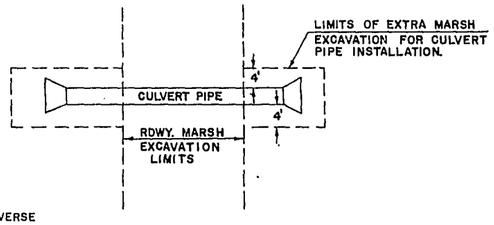
TYPICAL SECTION FOR MARSH EXCAVATION, MARSH DISPOSAL, & CULV. PIPE INSTALLATIONS

STA. 120+50 TO STA. 290+00



TYPICAL FINISHED TANGENT RAMP SECTION

RAMPS "MA" "MB" "MC" "MD"



NOTE:
AREAS "B" & "E" ARE STANDARD MARSH EXCAVATION AREAS.

AREAS "A" "C" "D" & "F" ARE ADDITIONAL MARSH EXCAVATION AREAS REQ'D. AT CULVERT PIPE LOCATIONS.

REFER TO CROSS-SECTION SHEETS FOR MARSH DISPOSAL TREATMENT, LOCATIONS AND DIMENSIONS OF LONGITUDINAL & TRANSVERSE MARSH EQUALIZATION DITCHES LT.

STANDARD DETAIL DRAWING

23A1-1	MARSH EXCAVATION
8D3-1	SURFACE DRAIN DROP INLET TYPE
8C1-1	INLETS TYPE 1 & 2 AND INLET COVERS
8C3-1	INLETS TYPE 8 & 9 AND INLET COVERS
8F1-1	APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH
14B2-1	A&B CLASS "A" STEEL PLATE BEAM GUARD & STEEL PLATE BEAM MEDIAN GUARD (TWO SHEETS)
14B3-1	STEEL PLATE BEAM GUARD CLASS B
15C1-1	CONSTRUCTION BARRICADE
8E5-1	SODDED BACKSLOPE FLUME & INTERCEPTING EMBANKMENT
9B2-1	METAL CONDUIT & FIBER CONDUIT
9A1-1	DESIGN AND LAYOUT DETAILS FOR SIDE ROAD AT GRADE INTERSECTIONS
15B1-1	WOVEN WIRE FENCE
11A1-1	MAINTENANCE CROSSOVER FOR FREEWAYS
16A1-1	LANDMARK REFERENCE MONUMENTS
12A2-1	SLOPE PAVING, CRUSHED STONE

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 PROVISONS APPROVED NOVEMBER 15, 1968; AND SPECIAL PROVISION. AS ATTACHED TO PROPOSALS.

CONTRACT NO. 2
STRUCTURES NO. B-3-14
B-3-15, B-3-16, B-3-17

B.P.R. REGION	PROJECT	SHEET NO.	TOTAL SHEETS
4	1196-6-72 EMPF08-4(36)	3.1	296

ESTIMATE OF QUANTITIES

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	STRUCTUAL CARBON STEEL	STRUCTUAL LOW ALLOY STEEL	LUBRICATED BRONZE PLATES	BEARING PADS	BEARING PADS, ELASTOMERIC	SLOPE PAVING, CRUSHED AGGREGATE	FIELD OFFICE, TYPE A	STEEL PILING DELIVERED AND DRIVEN HP 10"X 42LB.	TUBULAR RAILING, TYPE J	CAST IN PLACE CONCRETE PILING, DELIVERED & DRIVEN 10 3/4-INCH	PREBORING, CAST-IN-PLACE CONCRETE PILING.	ON THE JOB TRAINING
		20601	50201	50305	50501	50601	50605	50614	50621	50625	60405	64201	90001	90002	90003	51020	90004
		CU.YD.	CU.YD.	LIN. FT.	POUND	POUND	POUND	POUND	SQ.FT.	SQ.FT.	SQ.YD.	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	HRS.
	B-3-14	312	664		127,320	3,970	1,100	77	7		476			302	4,070	497	
	B-3-15	362	715		137,910	3,970	1,100	77	7		514			317	4,070	497	
	B-3-16	395	557	590	121,870	3,780	2,070	190	17	19	511		800	332			
	B-3-17	395	556	590	121,900	3,720	2,070	190	17	19	508		800	332			
	TOTALS	1464	2,492	1,180	509,000	15,440	6,340	534	48	38	2,009	1	1,600	1,283	8,140	994	1,000

SEC. NO.

3.1-8.4-23.33

REVISION DATE	
OCT. 21, 1970	
JAN. 21, 1971	
APR. 26, 1971	
JULY 20, 1971	

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-21	4.1	

FEDERAL PROJECT DESIGNATION

NEW AUBURN – U.S.H. 8 ROAD
SOUTH COUNTY LINE – C.T.H. 'A' SECTION
STH. 53 BARRON CO.

AUG. 14, 1970

1196-6-71,72,76 EMPF08-4(36) 4-296

OFFICIAL PLAT ON FILE WITH THE REGISTER OF DEEDS OFFICE

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.R.	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.		

SCHEDULE OF LANDS AND INTERESTS REQUIRED

	PARCEL NUMBER	SHEET NUMBER	OWNER	INTEREST REQUIRED	ACRES	OPERATIONS PROJECT I.D.
	1(3)	4.3	ROBERT BUCHANAN	FEE & ACCESS RIGHTS	19.80	1196-6-21
	2(3)	4.3	LEROY H. JOHNSON, ET AL	FEE & ACCESS RIGHTS	14.95	1196-6-21
	3(3)	4.3	DUFFEK SAND & GRAVEL, INC.	FEE & ACCESS RIGHTS	31.98	1196-6-21
	4(3)	4.3	JAMES K. PLUMMER	FEE	0.57	1196-6-21
	5(3)	4.4	LELAND P. HURLEY	FEE & ACCESS RIGHTS	9.75	1196-6-21
	6(3)	4.4	LOYAL L. PEDERSON	FEE & ACCESS RIGHTS	28.33	1196-6-21
	7	4.4	BARRON COUNTY	FEE, L.H.E. & ACCESS RIGHTS	5.35	1196-6-21
	8	4.4	DONALD E. SCHROEDER	FEE & ACCESS RIGHTS	11.24	1196-6-21
	9	4.4 & 4.5	DUFFEK SAND & GRAVEL, INC., ET AL	FEE & ACCESS RIGHTS	77.01	1196-6-21
	10	4.5	ORVILLE MOE	FEE & ACCESS RIGHTS	30.28	1196-6-21
	11	4.5 & 4.6	ARTHUR J. HANSEN	FEE & ACCESS RIGHTS	46.53	1196-6-21
	12	4.5	CARL PINNERUD, ET AL	FEE	0.44	1196-6-21
	13	4.6	CARLSON FRYERS, INC.	FEE & ACCESS RIGHTS	19.88	1196-6-21
	14	4.6	CHRISTIAN C. CARLSON	FEE	0.08	1196-6-21
	15	4.6	KENNETH J. JACOBSON	FEE & ACCESS RIGHTS	13.35	1196-6-21
	16	4.6 & 4.7	HERMAN GOODMANSON	FEE & ACCESS RIGHTS	46.63	1196-6-21
	17	4.7	WILLIAM NOVAK	FEE & ACCESS RIGHTS	1.65	1196-6-21
	18	4.7	RAYMOND KARSHBAUM	FEE & ACCESS RIGHTS	1.63	1196-6-21
	20	4.7	MELVIN L. DEVOSS	FEE & ACCESS RIGHTS	16.14	1196-6-21
*	21	4.6 & 4.7	HERMAN GOODMANSON	FEE	37.38	1196-6-21
*	22	4.7	WILLIAM NOVAK	FEE	10.42	1196-6-21
	23	4.7	DUFFEK SAND & GRAVEL, INC., ET AL	FEE & ACCESS RIGHTS	19.76	1196-6-21
	24(3)	4.3	NORTHERN NATURAL GAS COM.	RELEASE OF RIGHTS	—	1196-6-40

* TO BE ACQUIRED FOR SCENIC PURPOSES

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 L.H.E.

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

3.1-8.4-23.33

SCHEDULE OF LANDS AND INTERESTS REQUIRED

PARCEL NUMBER	SHEET NUMBER	OWNER	INTEREST REQUIRED	ACRES
1(3)	4.3	ROBERT BUCHANAN	FEE & ACCESS RIGHTS	19.80
2(3)	4.3	LEROY H. JOHNSON, ET AL	FEE & ACCESS RIGHTS	14.95
3(3)	4.3	DUFFEK SAND & GRAVEL, INC	FEE & ACCESS RIGHTS	31.98
4(3)	4.3	JAMES K. PLUMMER	FEE	0.57
24(3)	4.3	NORTHERN NATURAL GAS COM.	RELEASE OF RIGHTS	—

REVISION DATE		PROJECT ID	SHEET NUMBER	TOTAL SHEETS
APR. 26, 1971		1196-6-21		
JULY 20, 1971	N.C.	FEDERAL PROJECT DESIGNATION	4.3	

NEW AUBURN - U.S.H. 8 ROAD
SOUTH COUNTY LINE - C.T.H. 'A' SEC.
U.S.H. 53 BARRON CO

SCALE 0 ±100 ±200 ±400 Ft.

DATE JAN. 21, 1971

CONST. PROJECT
1196-6-71, 72 EMP F08-4(36) 4.2-296

LEGEND
DENOTES NO ACCESS

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

CURVE DATA
S.B. U.S.H. 53
P.I. 40+21.17'
AZ. 166° 28' 46"
Δ 13° 31' 14"
D 0° 30'
T 1358.36'
L 2704.11'
R 11459.15'(ARC)

CURVE DATA
N.B. U.S.H. 53
P.I. 39+14.61
AZ. 161° 50' 52"
Δ 18° 09' 08"
D 0° 45'
T 1220.36
L 2420.28'
R 7639.44'(ARC)

VILLAGE OF NEW AUBURN
CHIPPEWA COUNTY
BARRON COUNTY
DOVRE TOWN
LEROY H. JOHNSON ET AL 42.13 AC. REMAINING
ROBERT BUCHANAN 12.32 AC. SEVERED
ROBERT BUCHANAN 262.37 AC. REMAINING
LEROY H. JOHNSON ET AL 22.92 AC. LANDLOCKED
DUFFEK SAND & GRAVEL, INC. 78.58 AC. REMAINING
DUFFEK SAND & GRAVEL, INC. 9.44 AC. SEVERED
JAMES K. PLUMMER 119.43 AC. REMAINING
NATURAL GAS LINE (U.G.) NORTHERN NATURAL GAS COM.
BEGIN RELOCATION ORDER PROJ. 1196-6-21 STA. 0+18.72 N.B. 428.12' W. OF THE S.1/4 COR. OF SEC. 33, T 32 N, R 10 W
S.1/4 COR. I.P. IN CONC.
POT. 25+47.89 N.B.
POT. 53+51.12 N.B.
POT. 57+62.24 S.B. U.S.H. 53
P.O.T. 57+11.17 TOWN RD.
POT. 55+78.98 N.B. U.S.H. 53
POT. 100+00.00 TOWN RD.
PT. 53+66.92 S.B.
95+31.00 E-W TN. RD.
10+00.00 N-S TN. RD.
PC. 26+62.81 S.B.
PC. 26+94.25 N.B.
P.I. 51+53 N.B.
CHIC. & N.W. RY. COM.
PRESENT U.S.H. 53
SLOPE INTERCEPTS
REF. LINE S.B. U.S.H. 53
REF. LINE N.B. U.S.H. 53

REVISION DATE		PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
OCT. 21, 1970		1196-6-21		
JAN. 21 1971		FEDERAL PROJECT DESIGNATION	4.4	
APR. 26, 1971				
JULY 20, 1971		NEW AUBURN - U.S.H. 8 ROAD SOUTH COUNTY LINE-C.T.H. 'A' SEC. U.S.H. 53 BARRON CO.		
		SCALE 0 ±100 ±200 ±400 ft.		
		DATE AUG. 14, 1970		
CONST PROJECT 1196-6-11, 12, 16 EMP F08-4(36) 4.3-296				

3.1-8.4-23.33

LEGEND
DENOTES NO ACCESS

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

95+31.00 E-W TN. RD. = 10+00.00 N-S TN. RD.

P.O.T. 57+62.24 S.B. U.S.H. 53 = P.O.T. 97+11.17 TOWN RD.

P.O.T. 55+78.98 N.B. U.S.H. 53 = P.O.T. 100+00.00 TOWN RD.

CURVE DATA
S.B. U.S.H. 53
P.I. 93+95.4'
AZ. 192° 42' 13"
Δ 12° 42' 13"
D 0° 45'
T 850.39'
L 1693.81'
R 7639.44'(ARC)

CURVE DATA
N.B. U.S.H. 53
P.I. 85+08.40
AZ. 192° 57' 39"
Δ 12° 57' 39"
D 0° 20'
T 1952.44'
L 3888.21'
R 17188.73'(ARC)

LOYAL L. PEDERSON 115.29 ACRES REMAINING

DONALD E. SCHROEDER 107.33 ACRES REMAINING

DUFFEK SAND & GRAVEL, INC. ET AL 10.07 ACRES SEVERED

LOYAL L. PEDERSON 16.38 ACRES LANDLOCKED

LELAND P. HURLEY 184.09 ACRES REMAINING

L.H.E. - DRAINAGE 0.64 AC (TEMP)

BARRON COUNTY 29.65 ACRES REMAINING

DONALD E. SCHROEDER 0.40 ACRES LANDLOCKED

DUFFEK SAND & GRAVEL INC. ET AL FOR LANDLOCKED ACREAGE - SEE NEXT PLAT 4.5

N 1/4 COR. I.P. IN CONC.

POST 118+28.03 S.B.

POST 117+57.34 N.B.

P.O.C. 101+59.46 N.B.

P.O.T. 109+33.22 N.B.

P.O.C. 84+93.51 N.B.

REF. LINE S.B. U.S.H. 53

REF. LINE N.B. U.S.H. 53

SLOPE INTERCEPTS

PRESENT U.S.H. 53

C B NW RY

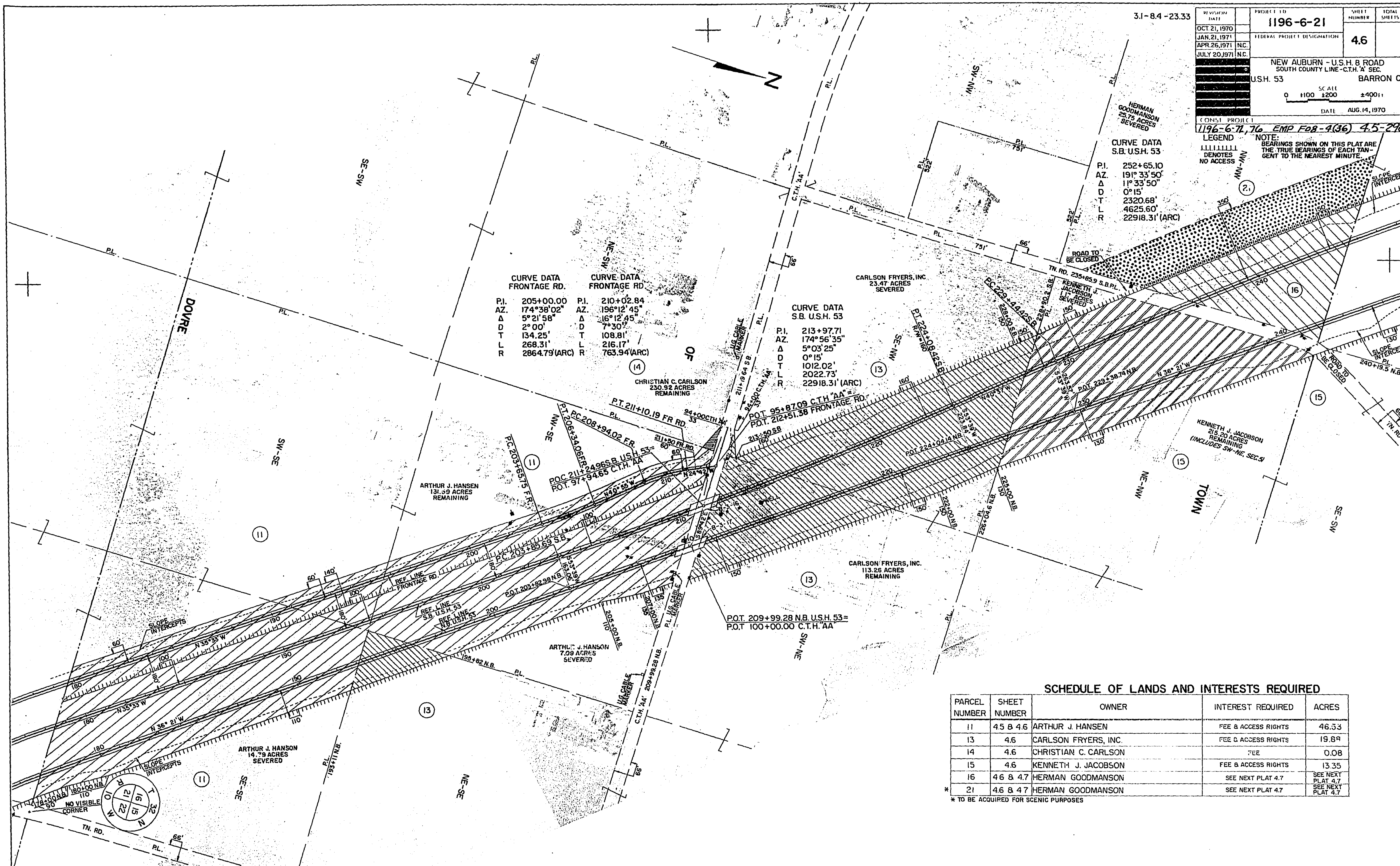
TN. RD.

DOVRE

TOWN

SCHEDULE OF LANDS AND INTERESTS REQUIRED

PARCEL NUMBER	SHEET NUMBER	OWNER	INTEREST REQUIRED	ACRES
5(3)	4.4	LELAND P. HURLEY	FEE & ACCESS RIGHTS	9.75
6(3)	4.4	LOYAL L. PEDERSON	FEE & ACCESS RIGHTS	28.33
7	4.4	BARRON COUNTY	FEE, L.H.E. & ACCESS RIGHTS	5.35
8	4.4	DONALD E. SCHROEDER	FEE & ACCESS RIGHTS	11.24
9	4.4 & 4.5	DUFFEK SAND & GRAVEL INC., ET AL	SEE NEXT PLAT 4.5	SEE NEXT PLAT 4.5



CURVE DATA FRONTAGE RD.
P.I. 205+00.00
AZ. 174°38'02"
Δ 5°21'58"
D 2°00'
T 134.25'
L 268.31'
R 2864.79'(ARC)
CURVE DATA FRONTAGE RD.
P.I. 210+02.84
AZ. 196°12'45"
Δ 16°12'45"
D 7°30'
T 108.81'
L 216.17'
R 763.94'(ARC)
CURVE DATA S.B. U.S.H. 53
P.I. 213+97.71
AZ. 174°56'35"
Δ 5°03'25"
D 0°15'
T 1012.02'
L 2022.73'
R 22918.31'(ARC)
CURVE DATA S.B. U.S.H. 53
P.I. 252+65.10
AZ. 191°33'50"
Δ 11°33'50"
D 0°15'
T 2320.68'
L 4625.60'
R 22918.31'(ARC)
LEGEND
DENOTES NO ACCESS
NOTE:
BEARINGS SHOWN ON THIS PLAT ARE THE TRUE BEARINGS OF EACH TANGENT TO THE NEAREST MINUTE.
3.1-8.4-23.33
N
DOVRE
OF
TOWN
HERMAN GOODMANSON 25.75 ACRES SEVERED
CHRISTIAN C. CARLSON 230.92 ACRES REMAINING
CARLSON FRYERS, INC. 23.47 ACRES SEVERED
CARLSON FRYERS, INC. 113.26 ACRES REMAINING
KENNETH J. JACOBSON SEVERED
KENNETH J. JACOBSON 215.20 ACRES REMAINING (INCLUDES SW-NE, SEC.5)
ARTHUR J. HANSEN 131.59 ACRES REMAINING
ARTHUR J. HANSON 7.09 ACRES SEVERED
ARTHUR J. HANSON 14.79 ACRES SEVERED
ROAD TO BE CLOSED
TN. RD. 235+85.9 S.B.P.L.
P.C. 229+44.42 S.B.
P.T. 224+08.42 S.B.
P.O.T. 229+38.74 N.B.
P.O.T. 224+04.14 N.B.
P.T. 211+10.19 FR RD.
94+00 C.T.H. AA
P.O.T. 95+87.09 C.T.H. "AA"=
P.O.T. 212+51.38 FRONTAGE RD.
P.C. 208+94.02 F.R.
P.T. 206+34.06 F.R.
P.C. 203+65.75 F.R.
P.O.C. 211+24.96 S.B. U.S.H. 53=
P.O.T. 97+94.65 C.T.H. AA
P.C. 203+85.69 S.B.
P.O.T. 203+82.98 N.B.
P.O.T. 209+99.28 N.B. U.S.H. 53=
P.O.T 100+00.00 C.T.H. "AA"
REF. LINE FRONTAGE RD.
REF. LINE S.B. U.S.H. 53
REF. LINE N.B. U.S.H. 53
SLOPE INTERCEPTS
NO VISIBLE CORNER
U.G. CABLE MARKER
C.T.H. 'AA'
TN. RD.
N 36° 21' W
N 35° 33' W
240+19.5 N.B.
226+04.6 N.B.
195+82 N.B.
193+11 N.B.
180+00 N.B.
178+00 N.B.
T 32 N R 10 W
16 15 21 22

REVISION DATE	
OCT. 21, 1970	
JAN. 21, 1971	
APR. 26, 1971	N.C.
JULY 20, 1971	N.C.
[redacted]	

PROJECT I.D. 1196-6-21

FEDERAL PROJECT DESIGNATION

SHEET NUMBER 4.6

TOTAL SHEETS

NEW AUBURN - U.S.H. 8 ROAD
SOUTH COUNTY LINE - C.T.H. 'A' SEC.

U.S.H. 53 BARRON CO.

SCALE 0 ±100 ±200 ±400 FT.

DATE AUG. 14, 1970

CONST. PROJECT
1196-6-71, 76 EMP F08-4(36) 4.5-296

SCHEDULE OF LANDS AND INTERESTS REQUIRED

	PARCEL NUMBER	SHEET NUMBER	OWNER	INTEREST REQUIRED	ACRES
	11	4.5 & 4.6	ARTHUR J. HANSEN	FEE & ACCESS RIGHTS	46.53
	13	4.6	CARLSON FRYERS, INC.	FEE & ACCESS RIGHTS	19.89
	14	4.6	CHRISTIAN C. CARLSON	FEE	0.08
	15	4.6	KENNETH J. JACOBSON	FEE & ACCESS RIGHTS	13.35
	16	4.6 & 4.7	HERMAN GOODMANSON	SEE NEXT PLAT 4.7	SEE NEXT PLAT 4.7
*	21	4.6 & 4.7	HERMAN GOODMANSON	SEE NEXT PLAT 4.7	SEE NEXT PLAT 4.7

* TO BE ACQUIRED FOR SCENIC PURPOSES

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-71,72	8	296
FEDERAL PROJECT DESIGNATION EMPF 08-4(36)		

N

CURVE DATA
"A" LINE
P.I. 40"A"+21.17
N. 19,354.748
E. 2,078,097.398
Δ 13° 31' 14"
D 0° 30'
T 1358.36'
L 2704.11'
R 11459.15'
E. 80.23'

CURVE DATA
P.I. 39+14.61
N. 19,429.176
E. 2,078,411.137
Δ 18° 09' 08"
D 0° 45'
T 1220.36'
L 2420.28'
R 7639.44'
E. 96.66'

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
6" WEST	52 ± 30	7" ELM 65' RT. OF SB. LANE	1083.32
T.B.M.		S.W. COR. INTERSECTION BOLT. IN POWER POLE	1079.79.

NET LENGTH OF CENTERLINE STA. 30+00 TO STA. 60+00 = 3,000 LIN. FT.

S.B. U.S.H. 53

N.B. U.S.H. 53

P.C. 26+94.25

P.T. 53"A"+66.92

P.T. 51+14.53

56"A"+18.84
140'
8+00
93.71'

57"A"+62.24 =
97"B"+11.17

95"B"+31.00=
10"C"+00.0

87° 45' 20"

59° 10' 05"

56° 58' 45"

N. 27° 29' 39" W.

N. 29° 41' 04" W.

CULVERT
C-3-10

STRUCTURE
B-3-14

CULVERT
C-3-9

STRUCTURE
B-3-15

55+78.98=
100"B"+00

94+00
80'

8+00
33'

5"C"

60

225'

42+00
140'

51+14.53
140'

"A" S.B.

N.B.

P.C. 32+15.33
EL. 1132.13

P.C. 36"A"+50
EL. 1131.39

-2.5%

-3.0%

FINISHED GRADE
"A" LINE

FINISHED GRADE

2000' V.C.

P.I. 42+15.33
EL. 1102.13

P.I. 46"A"+50
EL. 1106.39

"A" LINE
2000' V.C.

P.T. 52+15.33
EL. 1099.13

P.T. 56"A"+50.0
EL. 1099.39

P.C. 61+00
EL. 1096.48

-0.3%

-0.7%

50"A"+56.41

57"A"+62.24

40+31

B-3-15

55+10

STA. 59"A"+60 C-3-10 REQ'D.
TWIN 6'X5'X CONC. BOX CULV. REQ'D.
SKEW 30°L.H.F.
SEE DRAWINGS X46404-X46407

SOUTHBOUND
FILL
MARSH FILL - 333 C.Y.
MAINLINE FILL- 57,607 C.Y. (AIR)
MARSH EXC.
MAINLINE MARSH - 333 C.Y. (WASTE)
BORROW 75,322 C.Y.
SHR. 30%

STA. 57"A"+62.24 B-3-14 REQ'D.
3-SPAN-141' CONT. REINF. CONC. SLAB REQ'D.
40' ROADWAY
SKEW 30° L.H.F.
SEE DRAWINGS X46260-X46269

STA. 42+65
1-30"X150' R.C.C.P., CLASS III, REQ'D.
2 APRON ENDWALLS REQ'D.

NORTHBOUND
UNCL.
MAINLINE UNCL.- 1,367 C.Y.
FILL
MAINLINE FILL- 91,794 C.Y. (AIR)
BORROW
MAINLINE BORROW - 117,963 C.Y. SHR. 30%

STA. 55"A"+78.98 B-3-15 REQ'D.
3-SPAN-149' CONT. REINF. CONC. SLAB REQ'D.
40' ROADWAY
SKEW 30° L.H.F.
SEE DRAWINGS X46270-X46279

EXIST. GROUND

EXIST. GROUND "A" LINE

STA. 57+99.90 C-3-9 REQ'D.
TWIN 6'X5' CONC. BOX CULV. REQ'D.
SKEW 30° L.H.F.
SEE DRAWINGS X46336-X46339

"A" S.B.	1147.64	1145.14	1142.64	1140.14	1137.64	1135.14	1132.64	1130.15	1127.74	1125.42	1123.19	1121.05	1119.00	1117.04	1115.17	1113.39	1111.70	1110.10	1108.59	1107.17	1105.84	1104.60	1103.45	1102.40	1101.42	1100.54	1099.75	1099.04	1098.35	1097.64	1096.94	1096.24	1095.54
	30	1	2	3	4	35	6	7	8	9	40	1	2	3	4	45	6	7	8	9	50	1	2	3	4	55	6	7	8	9	60	1	2
N.B.	1138.59	1135.59	1132.59	1129.64	1126.82	1124.14	1121.59	1119.18	1116.90	1114.75	1112.75	1110.87	1109.13	1107.53	1106.06	1104.73	1103.53	1102.47	1101.54	1100.75	1100.09	1099.57	1099.18	1098.86	1098.58	1098.28	1097.98	1097.68	1097.38	1097.08	1096.78	1096.48	1096.17

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-72,76	19	296
FEDERAL PROJECT DESIGNATION EMPF08-4(36)		

CURVE DATA
FRONTAGE ROAD
P.I. 205+00.00
AZ. 174° 38' 02
Δ 5° 21' 58"
D 2° 00'
T 134.25'
L 268.31'
R 2864.79 (ARC.)

180"D" 185"D" 190"D" 195"D" 200"D" 205"D" 210"D"
N. 34° 23' 14" W. FRONTAGE RD.
60' 140' 100' 180'
P.C. 203+65.75
P.T. 206+34.06 N. 39° 45' 12" W.
P.C. 208+94.02

180"A" ⇦ N 34° 23' 14" W 185"A" 190"A" 195"A" 200"A" 205"A" 210"A"
P.C. 203+85.69 SB.

180 N 35° 11' 36" W ⇨ 185 190 195 200 205 -210-
STRUCTURE B-3-17
110' 110' 135' 150'

178+00 N.B. 90'
180+00 N.B. 110'
205+00 N.B. 110'
207+00 N.B. 135'

CURVE DATA
"A" LINE
P.I. 213+97.71
N. 34,472.858
E. 2,069,648.779
AZ. 174° 57' 35"
Δ 5° 03' 25"
D 0° 15'
T 1012.02'
L 2022.73'
R 22,918.31'

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
19	185±00	10"ELM 140' LT. OF S.B. LANE	1078.69
20	192±00	8"CHEERY 135' RT. OF N.B. LANE	1093.19
21	201±00	CONC. MONUMENT BRASS CAP 225' LT. OF S.B. LANE	1106.27
22	210±00	24" ELM 400' RT. OF N.B. LANE	1098.48

NET LENGTH OF CENTERLINE STA. 180+00 TO STA. 210+00 = 3,000 LIN. FT.

"A" S.B. 1082.82 1083.41 1084.09 1084.84 1085.68 1086.60 1087.59 1088.67 1089.82 1091.06 1092.37 1093.77 1095.24 1096.80 1098.40 1100.00 1101.60 1103.20 1104.80 1106.40 1108.00 1109.60 1111.20 1112.80 1114.40 1116.00 1117.59 1118.99 1120.15 1121.06 1121.72 1121.95 1122.30 "A" S.B.

MAINLINE RELOC. TN. RD. ("D" LINE STA. 185 TO STA. 212)
UNCL. 2364 C.Y. 6891 C.Y. 9255 C.Y.
(WASTE) MARSH EXC. 2945 C.Y. 2945 C.Y.
FILL 174,214 C.Y. (AIR) 2,945 (MARSH) 2,749 C.Y. 176,963 C.Y.
BORROW 224,625 C.Y. SHR. 30%
SOUTHBOUND

STA. 189 "A"+50
1-36" X 112' R.C.C.P., CLASS III, REQ'D.
2 APRON ENDWALLS REQ'D.
SKEW 17° R.H.F.

185"A"+00
2000' V.C. BOTH RD. WAYS
FINISHED GRADE BOTH RD. WAYS
+1.8%
P.T. 193+05.69 EL. 1096.89
P.T. 193+19.77 1096.89
P.I. 183+05.69 1080.89
P.I. 183+19.77 1080.89
185+00

STA. 190+00
1-36" X 110' R.C.C.P., CLASS III, REQ'D.
2 APRON ENDWALLS REQ'D.
SKEW 17° R.H.F.

MAINLINE C.T.H. "AA"
NORTHBOUND
UNCL. 3329 C.Y. 2,632 C.Y. 5,961 C.Y.
MARSH EXC. (WASTE) 6,134 C.Y. 6,134 C.Y.
FILL 190,566 C.Y. (AIR) 6134 (MARSH) 190,566 C.Y.
BORROW 249,749 C.Y. SHR. 30%

STA. 204"A"+00
1-30" X 140' R.C.C.P., CLASS III, REQ'D.
2 APRON ENDWALLS REQ'D.

P.C. 205+16.30 EL. 1116.03
P.C. 205"A"+70.79 EL. 1117.13

STA. 211"A"+24.96 B-3-16 REQ'D.
3-SPAN-152' PRESTR. GIR. STRUC.
45" GIRDER
40' ROADWAY
SKEW 37°35' L.H.F.
SEE DRAWINGS X46161-X46176
P.I. 210+09.15 1123.92
P.I. 210"A"+55.07 1124.88
B-3-17
985.70' V.C. N.B.
968.56' V.C. "A"

STA. 209+99.28 B-3-17 REQ'D.
3-SPAN-152' PRESTRESS. GIR. STRUC.
45" GIRDER
40' ROADWAY
SKEW 36°32' L.H.F.
SEE DRAWINGS X46177-X46192

STA. 204+00
1-30" X 146' R.C.C.P., CLASS III, REQ'D.
2 APRON ENDWALLS REQ'D.

1110 1100 1090 1080 1070

N.B. 1082.74 1083.33 1083.99 1084.73 1085.56 1086.46 1087.45 1088.51 1089.65 1090.88 1092.18 1093.57 1095.03 1096.58 1098.17 1099.77 1101.37 1102.97 1104.57 1106.17 1107.77 1109.37 1110.97 1112.57 1114.17 1115.77 1117.28 1118.56 1119.59 1120.38 1120.93 1121.22 1121.28 N.B.

180 1 2 3 4 185 6 7 8 9 190 1 2 3 4 195 6 7 8 9 200 1 2 3 4 205 6 7 8 9 210 1 2

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-72,76	20	296
FEDERAL PROJECT DESIGNATION: EMPF08-4(36)		

TO BE ACQUIRED FOR SCENIC PURPOSES (SEE R/W PLAT 4.7)

CURVE DATA
FRONTAGE ROAD
P.I. 210+02.84
AZ. 196° 12' 45"
Δ 16° 12' 45"
D 7° 30'
T 108.81'
L 216.17'
R 763.94 (ARC.)

CURVE DATA
"A" LINE
P.I. 213+97.71
N. 34,472.858
E. 2,069,648.779
AZ 174°57' 35"
Δ 5°03' 25"
D 0°15'
T 1012.02'
L 2022.73'
R 22,918.31

CURVE DATA
"A" LINE
P.I. 252+65.10
N. 37,470.554
E. 2,067,193.959
AZ. 191°33' 50"
Δ 11° 33' 50"
D 0° 15'
T 2320.68'
L 4625.60'
R 22918.31'

P.C. 208+94.02
P.T. 211+10.19
211+50 FR. RD. 60'
94+00 33'
213+50 S.B. 160'
224+08.41 S.B. 160'
228+00 S.B. 150'
FRONTAGE RD.
210
N. 23° 32' 27" W.
ROAD CLOSED
CLASS "B" PLATE BEAM GUARD
OBLITERATE OLD ROAD
P.T. 224+08.41
P.C. 229+44.42
N 39° 26' 38" W
N 35° 11' 36" W
95 "F" + 87.09
212 "D" + 51.38
97 "F" + 94.65
211 "A" + 24.96
98 "F" + 09.33
211 "A" + 16.26
209 + 99.28
P.I. 100 "F" + 00
STRUCTURE B-3-16
STRUCTURE B-3-17
S.B. U.S.H. 53
N.B. USH. 53
210"A" 215"A" 220"A" 225"A" 230"A" 235"A" 240"A"
100' 135' 150' 160' 350'

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
22	210±00	24" ELM 400' RT. OF N.B. LANE	1098.48
23	220±00	30" MAPLE 135' LT. OF S.B. LANE	1104.14
24	230±00	6" W. BIRCH 110' LT. OF S.B. LANE	1105.02
25	240±00	14" MAPLE BETWEEN LANES (R.R. SPIKE)	1119.52

NET LENGTH OF CENTERLINE STA. 210+00 TO STA. 240+00 = 3,000 LIN. FT.

"A" S.B.: 1121.72 1122.13 1122.30 1122.21 1121.88 1121.31 1120.52 1119.72 1118.95 1118.24 1117.60 1117.01 1116.49 1116.02 1115.62 1115.28 1115.00 1114.78 1114.62 1114.53 1114.49 1114.52 1114.61 1114.75 1114.96 1115.22 1115.52 1115.82 1116.12 1116.42 1116.61 1116.59 1116.35 "A" S.B.

N.B.: 1120.93 1121.22 1121.28 1121.09 1120.66 1119.99 1119.19 1118.40 1117.66 1116.99 1116.39 1115.86 1115.41 1115.02 1114.71 1114.47 1114.31 1114.21 1114.19 1114.24 1114.36 1114.56 1114.83 1115.16 1115.58 1116.07 1116.55 1116.87 1116.99 1116.91 1116.63 1116.16 1115.49 N.B.

210 1 2 3 4 215 6 7 8 9 220 1 2 3 4 225 6 7 8 9 230 1 2 3 4 235 6 7 8 9 240 1 2

STA. 221"A"+00
2-36" X 162' R.C.C.P., CLASS IV, REQ'D.
4 APRON ENDWALLS REQ'D.

STA. 221+00
2-36" X 140' R.C.C.P., CLASS IV, REQ'D.
4 APRON ENDWALLS REQ'D.

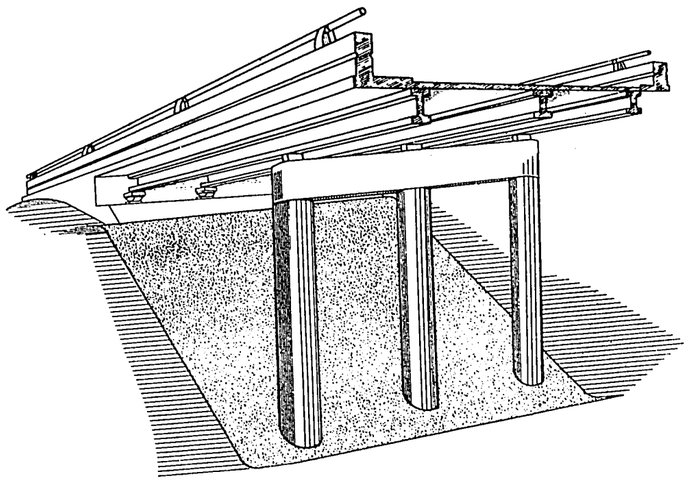
222"A"+52.26

SOUTHBOUND
UNCL.
MAINLINE UNCL. - 73,885 C.Y.
FILL
MAINLINE FILL - 56,118 C.Y. (AIR) 718 C.Y. (MARSH)
MARSH EXC.
MAINLINE MARSH - 718 C.Y. (WASTE)
SHR. 30 %

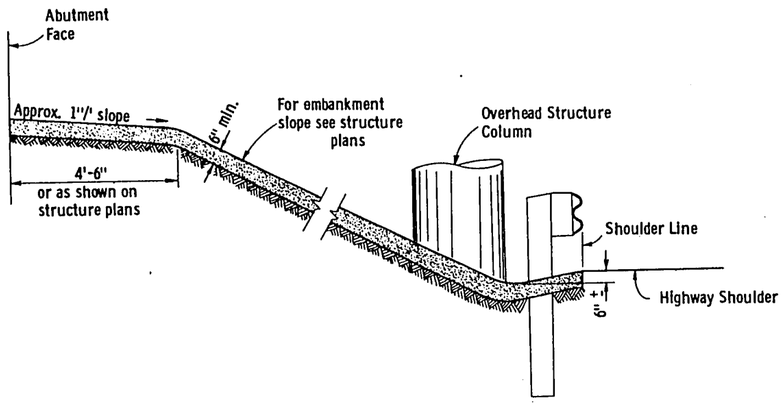
NORTHBOUND
UNCL.
MAINLINE UNCL. - 33,788 C.Y.
FILL
MAINLINE FILL - 25,717 C.Y. (AIR) 274 C.Y. (MARSH)
MARSH EXC.
MAINLINE MARSH - 274 C.Y. (WASTE)
SHR. 30 %

P.I. 210+09.15 EL. 1123.92
P.C. 216+72.31 1118.62
P.C. 217"A"+00 1119.72
P.T. 215+02 N.B. 1119.98
P.T. 215"A"+33.35 EL. 1121.01
-0.8% "A" LINE
-0.8%
FINISHED GRADE
1800' V.C. "A" LINE 1800' V.C.
P.I. 225+72.31 1111.42
P.I. 228 "A"+00 1112.52
225+00
EXIST. GROUND
EXISTING GROUND "A" LINE
FINISHED GRADE "A" LINE
+0.5%
+0.3%
P.T. 234+72.31 1115.92
P.T. 235"A"+00 1115.22
P.C. 235+55 1116.34
P.I. 241+27.5 1119.20
P.C. 239 "A"+00 1116.
241+87.63
1130 1120 1110 1100

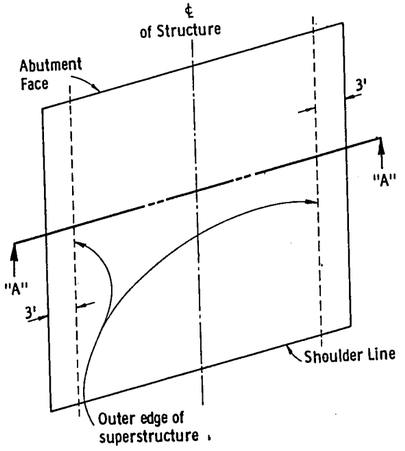
27,15.296



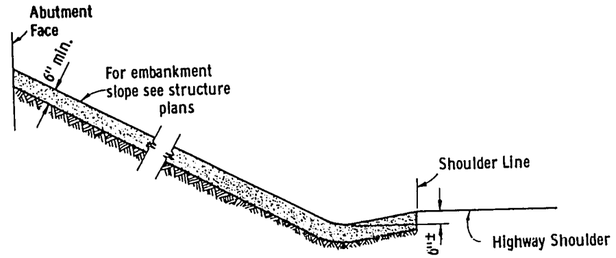
TYPICAL LOCATION DIAGRAM FOR SLOPE PAVING UNDER STRUCTURES



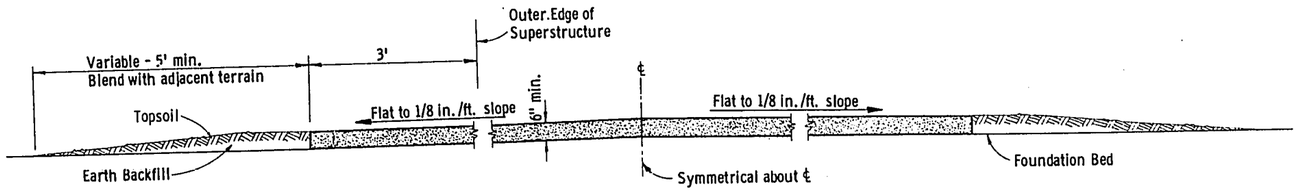
TYPICAL RURAL SECTION HIGHWAY GRADE SEPARATION SILL TYPE ABUTMENT



PLAN VIEW



TYPICAL RURAL SECTION HIGHWAY GRADE SEPARATION SEMI-RETAINING TYPE ABUTMENT



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. Barkit CHIEF DESIGN ENGINEER

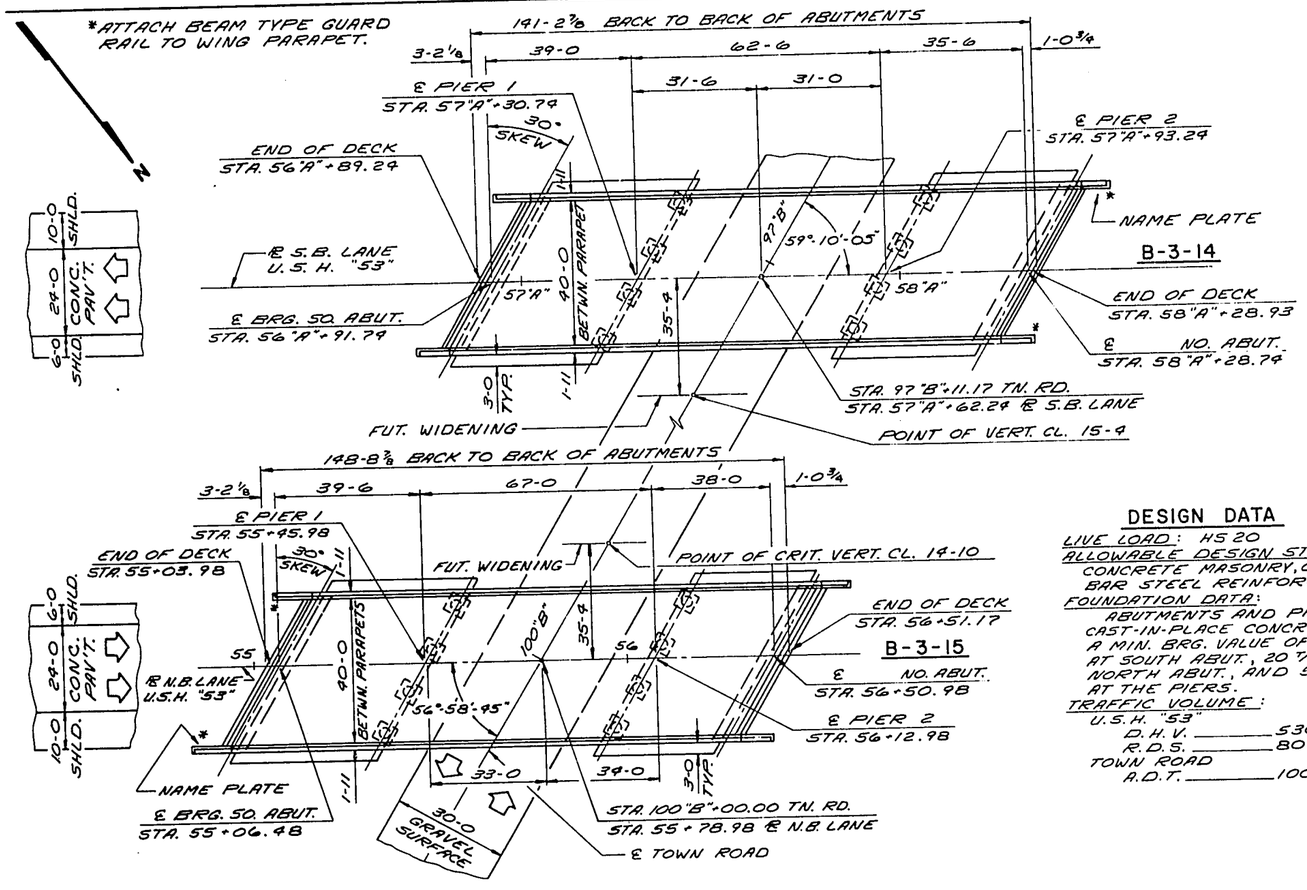
APPROVED
2/8/68 DATE — A. J. Lawmaster STATE HIGHWAY ENGINEER

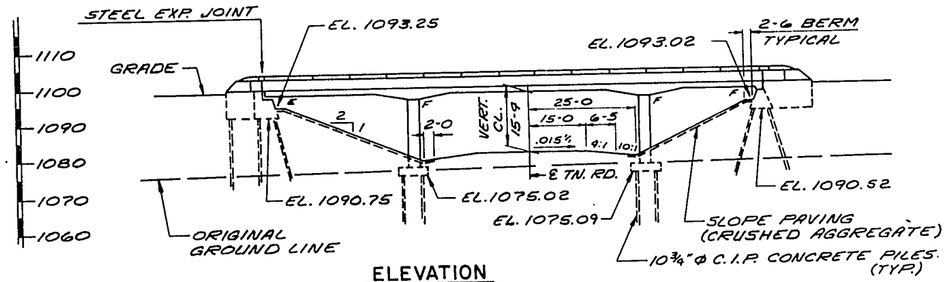
S.D.D. 12A2-1

S.D.D. 12A2-1

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-71		
FEDERAL PROJECT DESIGNATION	28	296
EMP F08-4(36)		

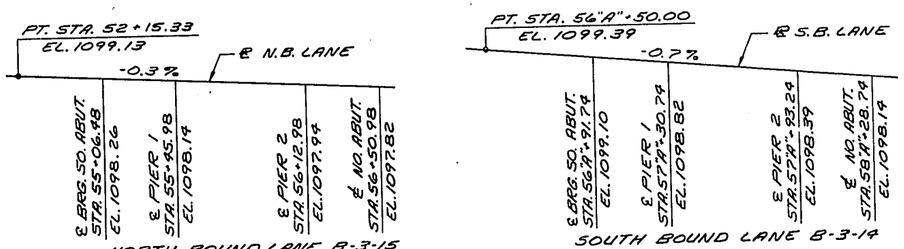
*ATTACH BEAM TYPE GUARD RAIL TO WING PARAPET.



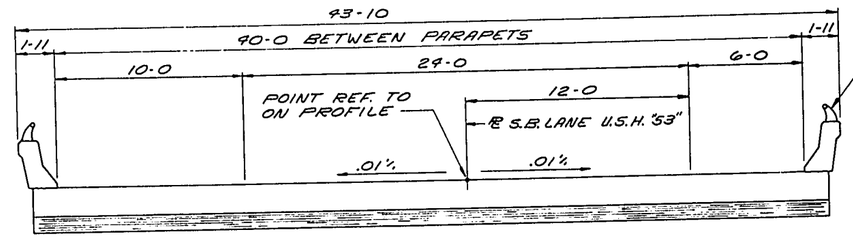


PLAN

ELEVATION
NORMAL TO ℄ TOWN RD.



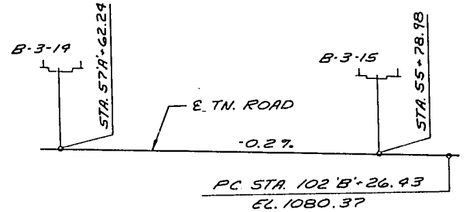
PROFILE GRADE U.S.H. "53"



CROSS SECTION THRU ROADWAY
3 SPAN HAUNCHED SLAB (LOOKING NORTH)

DESIGN DATA

LIVE LOAD: HS 20
ALLOWABLE DESIGN STRESSES:
CONCRETE MASONRY, GRADE "AA" ——— f_c : 1,900 P.S.I.
BAR STEEL REINFORCEMENT ——— f_s : 20,000 P.S.I.
FOUNDATION DATA:
ABUTMENTS AND PIERS TO BE SUPPORTED ON CAST-IN-PLACE CONCRETE PILING 10¾"Ø. DRIVE TO A MIN. BRG. VALUE OF 20 T/PILE, 55'-0 EST. LENGTH AT SOUTH ABUT., 20 T/PILE, 55'-0 EST. LENGTH AT NORTH ABUT., AND 55 T/PILE, 55'-0 EST. LENGTH AT THE PIERS.
TRAFFIC VOLUME:
U.S.H. "53"
D.H.V. ——— 5300 (1980)
R.D.S. ——— 80 M.P.H.
TOWN ROAD
A.D.T. ——— 100 (2000)



PROFILE GRADE TOWN ROAD

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED. BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING, CRUSHED AGGREGATE TO THE EXTENT SHOWN ON THIS SHEET AND IN THE ABUTMENT DETAILS.
THE FINISHED GRADED SECTION WAS USED AS THE UPPER LIMITS OF EXCAVATION FOR COMPUTATION OF EXCAVATION AT THE PIERS.
FOR UPPER LIMITS OF EXCAVATION AT THE ABUTMENTS SEE SHEETS NO. 3 & 4.
PILING AT ABUTMENTS SHALL BE PREBORED THRU FILL TO THE ORIGINAL GROUND LINE.

LIST OF DRAWINGS

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	S. ABUT.	PIER 1	PIER 2	N. ABUT.	SUPER.	TOTAL
EXCAVATION FOR STRUCTURE	C.Y.	90	132	100	90	—	312
CONCRETE MASONRY	C.Y.	66	63	97	93	445	664
BAR STEEL REINFORCEMENT	LB.	3060	10,105	8885	2180	103,090	127,320
STRUCTURAL CARBON STEEL	LB.	—	—	—	—	3970	3970
STRUCTURAL LOW ALLOY STEEL	LB.	—	—	—	—	1100	1100
LUBRICATED BRONZE PLATES	LB.	—	—	—	—	77	77
BEARING PADS	S.F.	604	1411	765	573	7	7
CAST-IN-PLACE CONC. PILING DEL. & DR. 10¾"Ø	L.F.	~~880~~	~~1540~~	~~880~~	~~770~~	—	~~4070~~
PREBORING, CAST-IN-PLACE CONC. PILING 10¾"Ø	L.F.	252	—	—	295	—	997
TUBULAR RAILING, TYPE "J"	L.F.	—	—	—	—	302	302
SLOPE PAVING, CRUSHED AGGREGATE	S.Y.	247	—	—	229	—	476
NON-BID ITEMS							
⅛" ALUMINUM OR ZINC PLATE	S.F.	—	—	—	—	90	90
FILLER	SIZE	—	¼"	¼"	—	½"	¼" ⅛"
POLYVINYL CHLORIDE WATERSTOP	L.F.	—	—	—	96	—	96

3353
B-3-14
B-3-15
RELOCATED U.S.H. '53'
T-32-N
R-10-W
NEW AUBURN
N

LAYOUT

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-14

U.S.H. "53" OVER TOWN ROAD

County BARRON		City Village	
Design Spec A.A.S.H.O. 69		Load HS 20	Const Spec 1969
Designed By R.T.B.	Design Checked F.P.R.	Drawn By D.J.A.	Plans Checked J.H.G.

Approved W.A. Kleine — Chief Bridge Engineer — 11-17-71 — Date

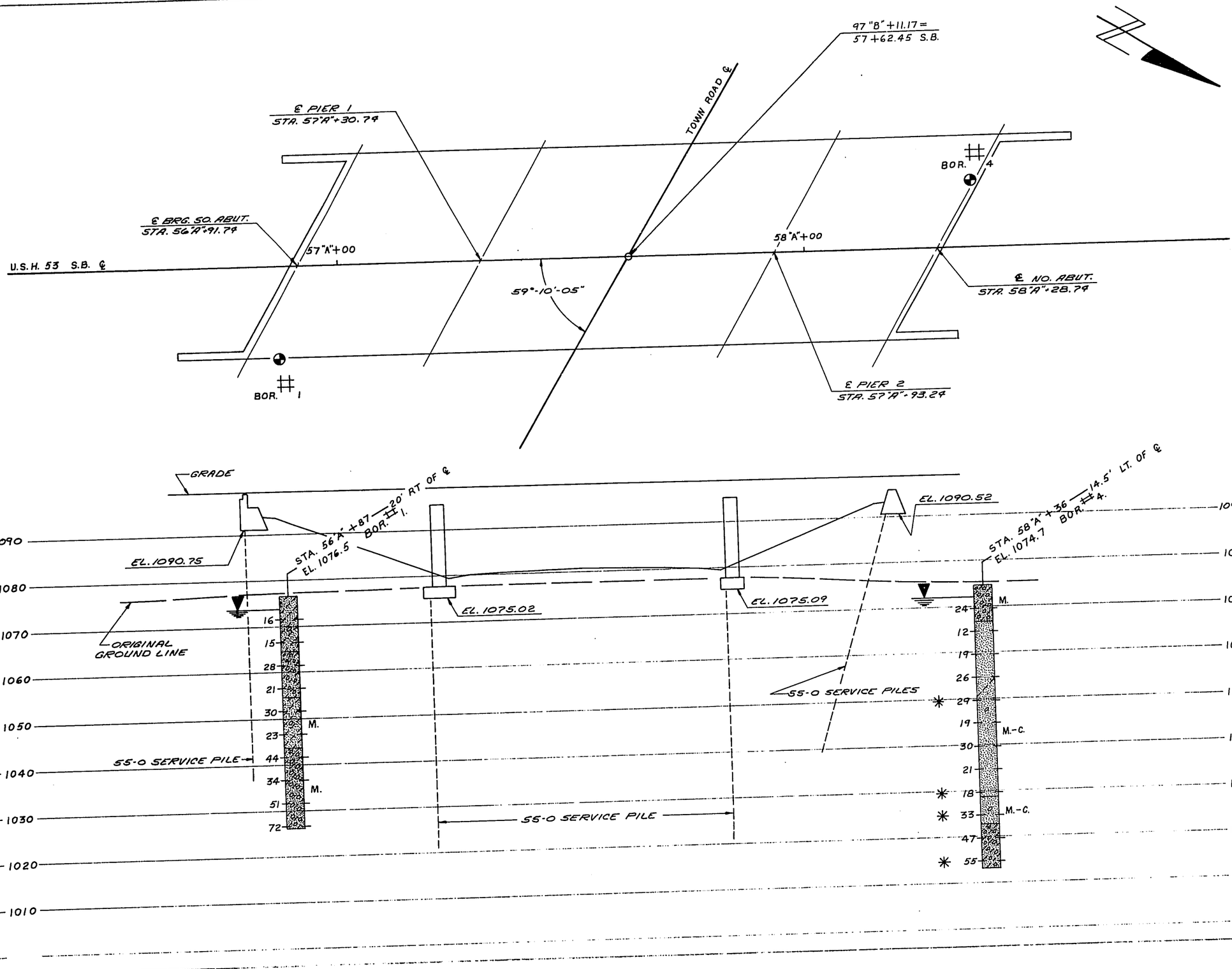
GENERAL PLAN

SHEET 1 OF 10

X46260

Form C B 45 69

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-71	29	296
FEDERAL PROJECT DESIGNATION: EMP FOB-4(36)		



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		By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-14

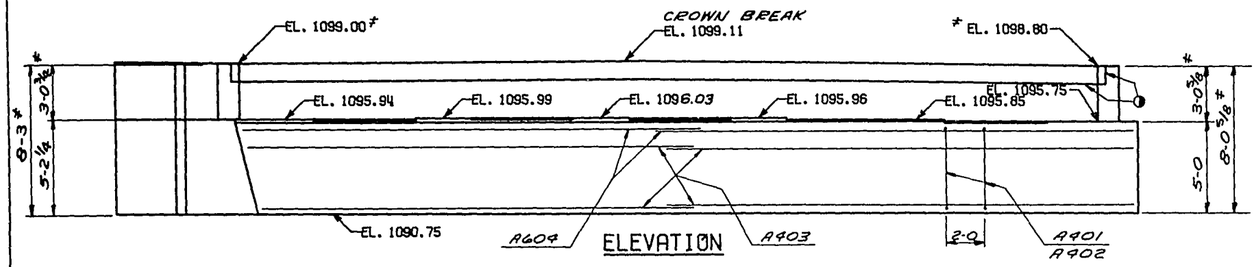
Date 1969	Drawn D.J.A.	Checked J.H.G.

SUBSURFACE EXPLORATION

SHEET 2 OF 10

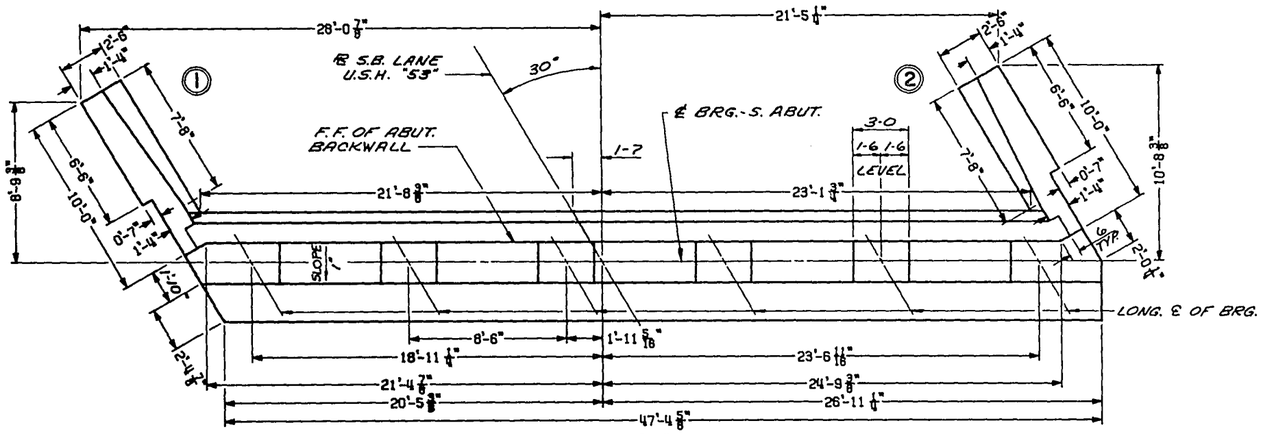
X46261

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-71	30	296
FEDERAL PROJECT DESIGNATION: EMP FDB-4(36)		



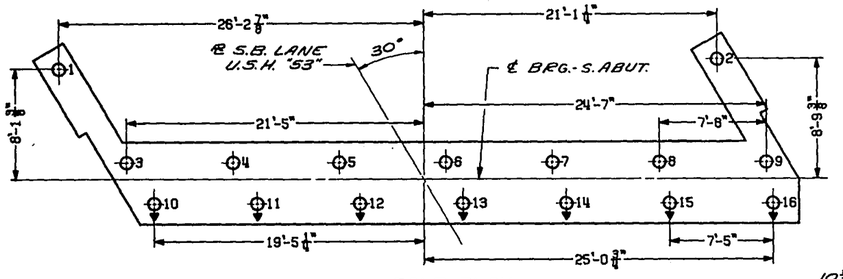
ELEVATION

#-ELEVATIONS AND DIMENSIONS ARE MEASURED AT F.F. BACKWALL.



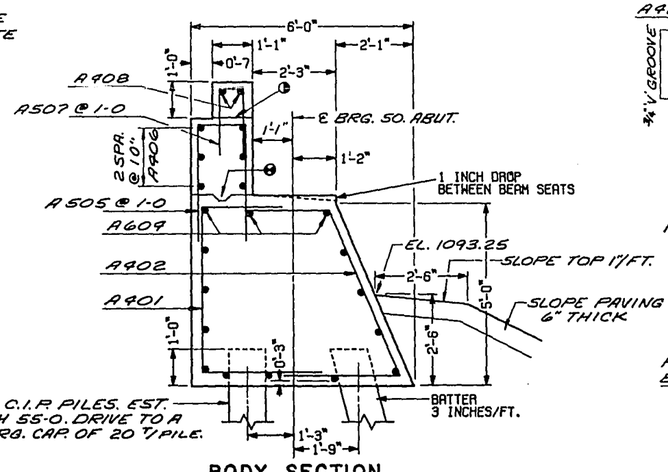
ABUTMENT PLAN

● CONSTRUCTION JOINT- POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF LEVEL AND LEAVE ROUGH.



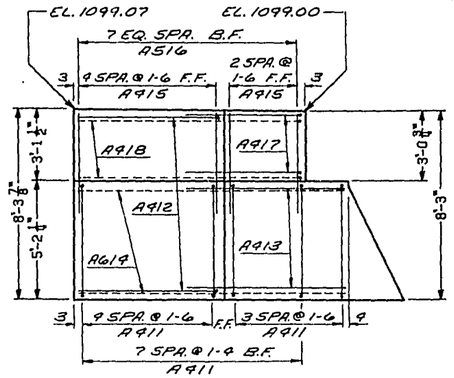
PILE PLAN

⊕ INDICATES BATTERED PILING - BATTER PILING 3" PER FOOT IN DIRECTION SHOWN.

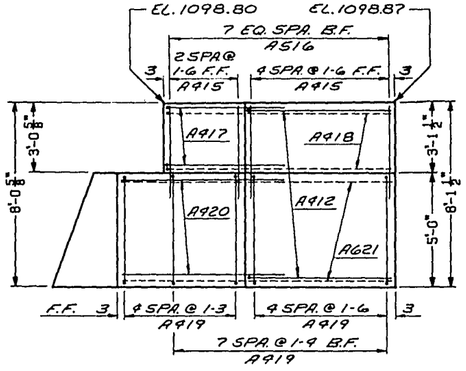


BODY SECTION

ALL HORIZONTAL BARS IN ABUTMENT BODY ARE A403 BARS UNLESS SHOWN OR NOTED OTHERWISE. FILL TO EL. 1092.75 BEFORE DRIVING PILING. UPPER LIMIT FOR "EXCAVATION FOR STRUCTURES" SHALL NOT EXCEED THIS ELEVATION.



WING 1 ELEVATION



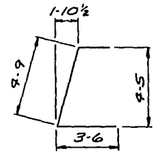
WING 2 ELEVATION

BILL OF BARS

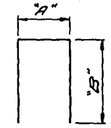
2,710 #

	BAR NO.	NO. REQ'D.	LENGTH	BENT	LOCATION
	A401	29	10-9	X	BODY - VERTICAL
	A402	29	10-8	X	" - "
	A403	22	25-2		" - HORIZONTAL
	A404	6	25-7		" - TOP
	A505	97	7-10	X	BACKWALL - STIRRUP
	A406	12	29-9		" - HORIZONTAL
	A507	97	5-2	X	PAVING BLOCK - STIRRUP
*	A408	12	7-7		" " - HORIZONTAL
	A509	36	9-5	X	SEATS - GRID DETAIL
	A510	29	2-8		" - " "
	A911	17	7-7	X	WING 1 - STIRRUP
	A912	19	7-6	X	" 1 & 2 - HORIZONTAL F.F.
	A913	9	6-10		" 1 - " F.F.
	A619	5	11-6		" 1 - " B.F.
	A915	16	9-2		" 1 & 2 - VERTICAL F.F.
	A516	16	9-5		" 1 & 2 - " B.F.
	A917	6	5-11	X	" 1 & 2 - HORIZONTAL F.F.
	A918	6	10-8	X	" 1 & 2 - " B.F.
	A919	18	7-5	X	" 2 - STIRRUP
	A920	9	6-10		" 2 - HORIZONTAL - F.F.
	A621	5	11-10		" 2 - " - B.F.

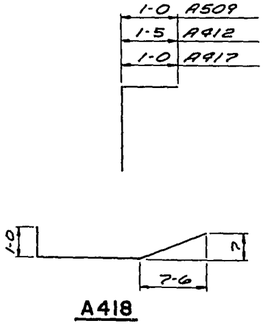
* A408 - NO LAP FOR RAIL PARAPET BARS, SEE SHEET 9.



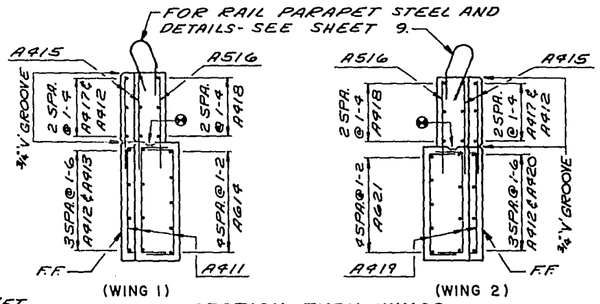
A402



BAR #	DIM. "A"	DIM. "B"
A401	9-5	3-6
A505	1-9	3-9
A507	9	2-3
A911	9-9	1-6
A919	9-7	1-6



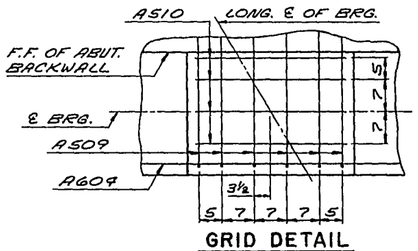
A418



SECTION THRU WINGS

● OPTIONAL KEYED CONST. JOINT FORMED BY A SURFACED BEVELED 2×6.

FOR PILE SPLICE DETAIL SEE SHEET 4.



GRID DETAIL

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-14

Const. Spec.	Drawn By	Plans Checked
1969	D.J.A.	J.H.G.

SOUTH ABUTMENT

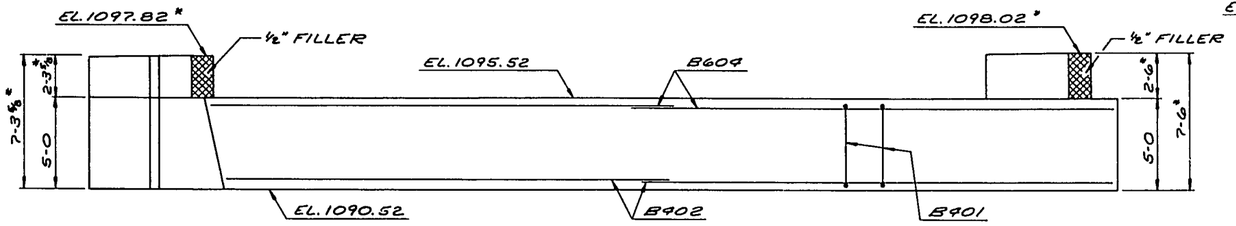
SHEET 3 OF 10

X46262

Form C B 12 69

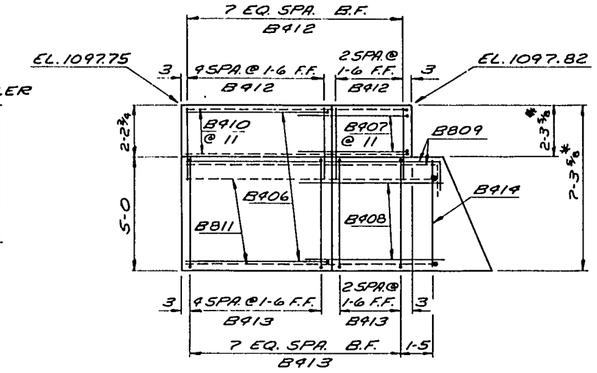
PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-71	31	296
FEDERAL PROJECT DESIGNATION EMP F08-4(36)		

NOTE: SEAL ALL EXPOSED HORIZONTAL & VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. PLACE SEALER 1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.

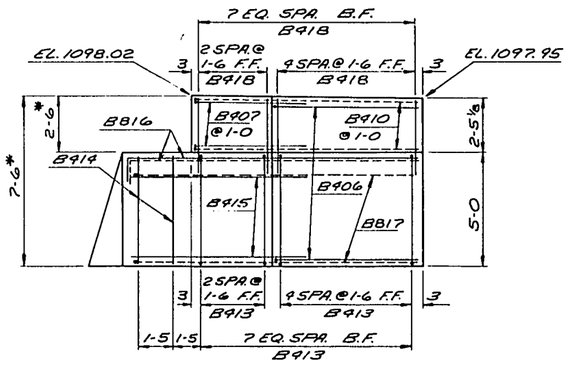


ELEVATION

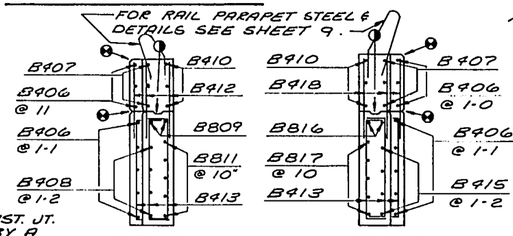
*ELEVATIONS AND DIMENSIONS ARE TAKEN AT B.F. ABUTMENT.



ELEVATION WING 3



ELEVATIONS WING 4



(WING 3) (WING 4)

SECTION THRU WINGS

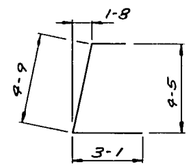
❶ ¾" 'V' GROOVE ON F.F. WINGWALL.

◑ KEYED CONSTRUCTION JOINT FORMED BY A SURFACED BEVELED 2×6. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE.

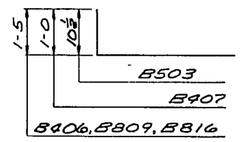
BILL OF BARS

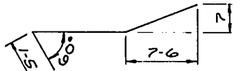
BAR NO.	NO. REQ'D.	LENGTH	BENT	1820 # LOCATION
B401	50	9-0	X	BODY - VERTICAL
B402	16	25-6		" - HORIZONTAL
B503	8	19-0	X	" - "
B604	4	25-11		" - " TOP
B505	33	2-6		" - DOWEL
B406	16	7-6	X	WINGS 3 & 4 - HORIZONTAL F.F.
B407	6	6-11	X	" 3 & 4 - " F.F.
B408	4	6-9		" 3 - " F.F.
B809	2	12-2	X	" 3 - " B.F. & F.F.
B410	6	10-8	X	" 3 & 4 - " B.F.
B811	5	13-0	X	" 3 - " B.F.
B412	16	3-3		" 3 - VERTICAL F.F. & B.F.
B413	32	6-5	X	" 3 & 4 - " F.F. & B.F.
B414	3	9-7		" 3 & 4 - " F.F.
B415	4	7-8		" 4 - HORIZONTAL F.F.
B816	2	13-8	X	" 4 - " B.F. & F.F.
B817	5	13-0	X	" 4 - " B.F.
B418	16	3-6		" 4 - VERTICAL F.F. & B.F.

FOR RAIL PARAPET BARS, SEE SHEET 9.

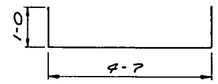


B401

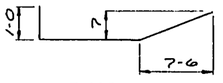




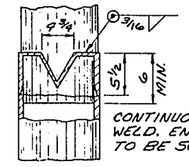
B811, B817



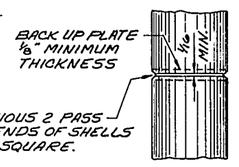
B413



B410



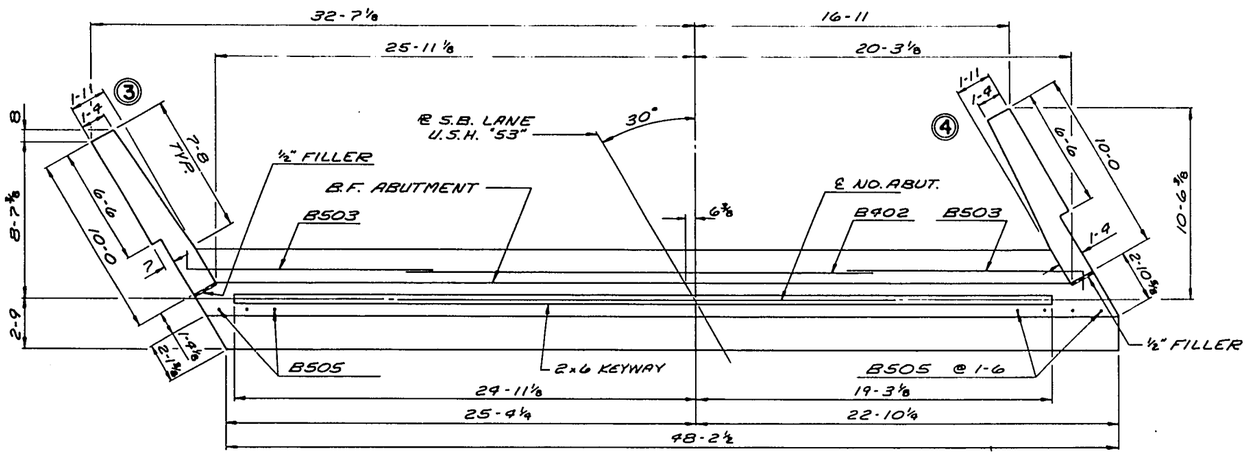
FLUTED PILE



CONTINUOUS 2 PASS WELD. ENDS OF SHELLS TO BE SQUARE.

PIPE PILE

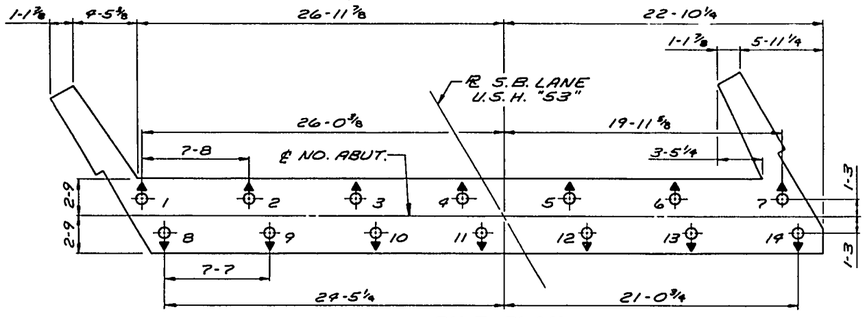
PILE SPLICE DETAIL



PLAN

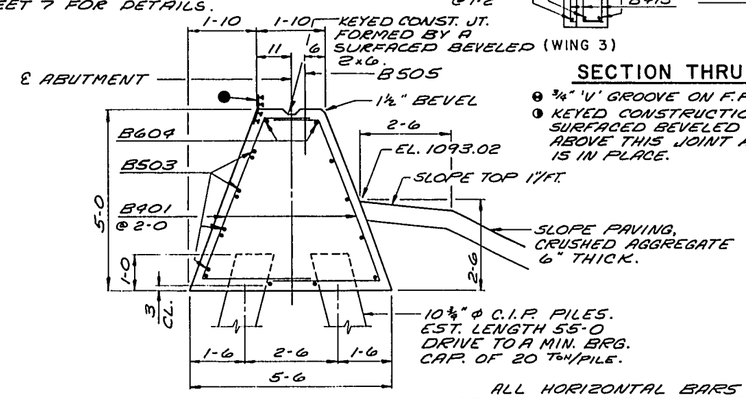
B505 BARS MAY BE PLACED AFTER CONCRETE IS POURED. IMBED 1-3 IN CONCRETE, BEFORE INITIAL SET HAS TAKEN PLACE.

● POLYVINYL CHLORIDE WATERSTOP. PLACE BETWEEN WINGS. SEE SHEET 7 FOR DETAILS.



PILE PLAN

INDICATES BATTERED PILING - BATTER PILING 3" PER FOOT IN DIRECTION SHOWN.



SECTION THRU ABUTMENT

ALL HORIZONTAL BARS IN ABUTMENT BODY ARE B402 BARS UNLESS SHOWN OR NOTED OTHERWISE. FILL TO EL. 1092.52 BEFORE DRIVING PILING. UPPER LIMIT FOR "EXCAVATION FOR STRUCTURES" SHALL NOT EXCEED THIS ELEVATION.

No	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-14

Const Spec 1969	Drawn By D.J.A.	Plans Checked J.H.G.

NORTH ABUTMENT

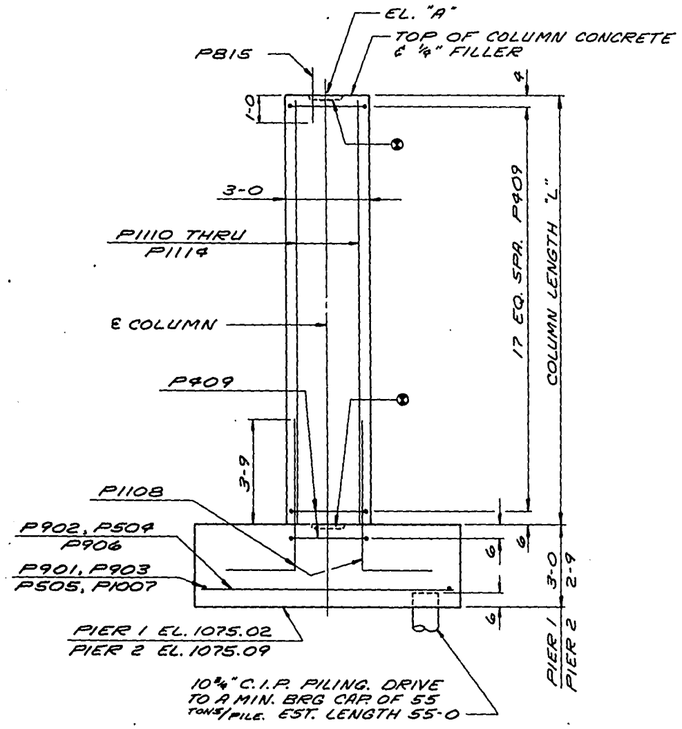
SHEET 4 OF 10

X46263

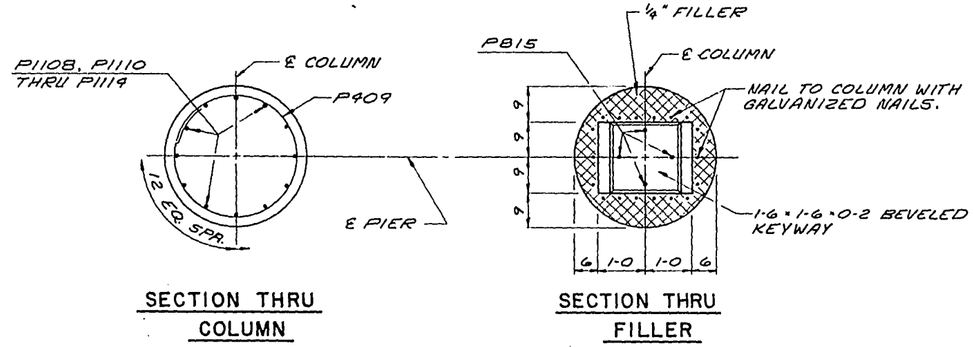
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-71	32	296
FEDERAL PROJECT DESIGNATION: EMP.FOB-4(36)		

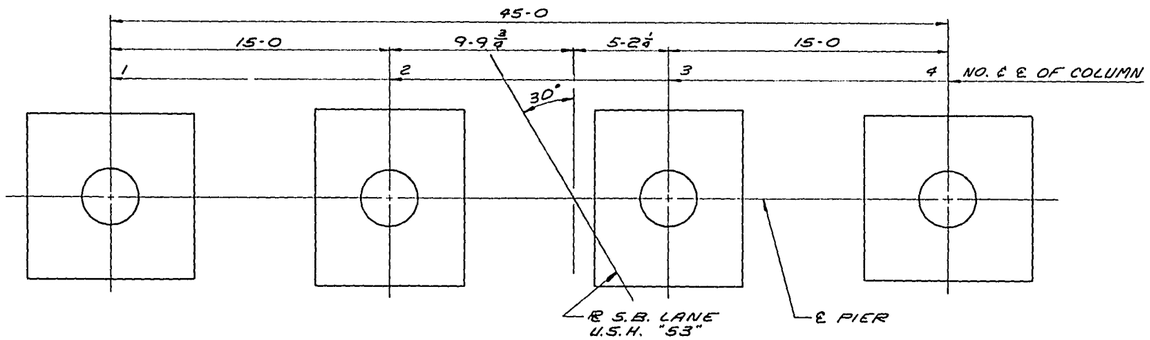
BILL OF BARS

BAR NO.	NO. REQ'D	LENGTH	BENT	18,990# LOCATION
P901	32	10-6		EXTERIOR FOOTINGS - PIER 1
P902	20	9-6		" " " - " 1
P903	32	11-0		INTERIOR " " - " 1
P504	24	7-6		" " " - " 1
P505	18	7-0		EXTERIOR " " - " 2
P906	38	8-0		EXT. & INT. " " - " 2
P1007	22	9-0		INTERIOR " " - " 2
P1108	96	7-6	X	FOOTING & COLUMN - DOWELS
P409	152	9-5	X	COLUMN - TIES
P1110	24	17-9		PIER 1, COL. 1 & PIER 2, COL. 3 - VERT.
P1111	24	17-6		" 1, " 2 & " 1, " 4 - "
P1112	24	17-3		" 2, " 2 & " 2, " 4 - "
P1113	12	17-7		" 1, " 3 - VERTICAL
P1114	12	17-1		" 2, " 1 - "
P815	32	2-0		COLUMN & SLAB - DOWELS

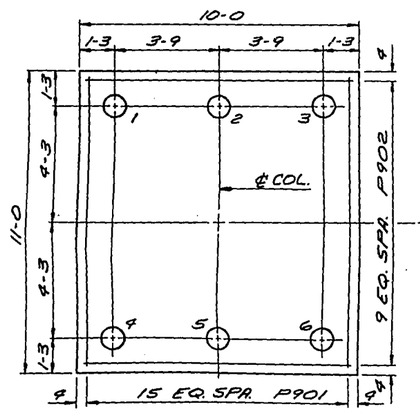


TYPICAL COLUMN ELEVATION

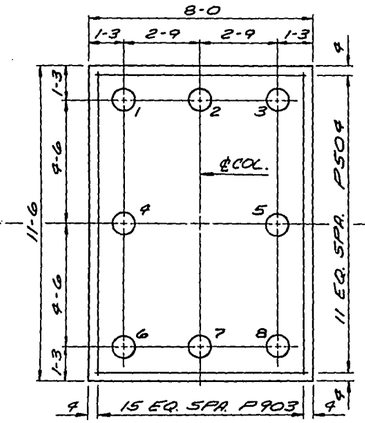




PIER PLAN

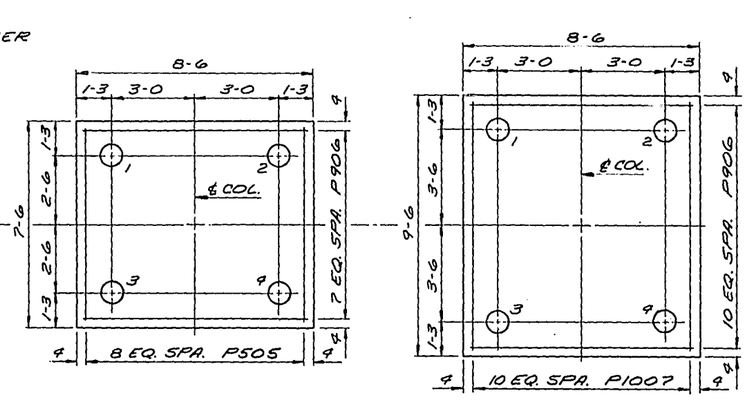


EXTERIOR FOOTING



INTERIOR FOOTING

TYPICAL FOOTING PLAN - PIER 1

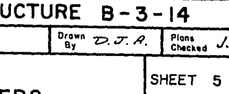


EXTERIOR FOOTING

INTERIOR FOOTING

TYPICAL FOOTING PLAN - PIER 2

P409



P1108

ELEVATION AND COLUMN LENGTH

		ELEV. "A"	LENGTH "L"
PIER 1	COLUMN 1	1095.52	17-6
	" 2	1095.71	17-8 1/4
	" 3	1095.80	17-9 3/8
	" 4	1095.72	17-8 3/8
PIER 2	" 1	1095.09	17-3
	" 2	1095.27	17-5 1/8
	" 3	1096.36	17-6 1/4
	" 4	1095.28	17-5 1/4

NOTES:
TOP OF COLUMN ELEVATIONS (EL. "A") AND COLUMN LENGTH "L" ARE MEASURED AT ℄ PIER AND ℄ COLUMN.
SLOPE TOP OF COLUMN TO MATCH SLOPE OF SUPERSTRUCTURE.
⊠ CONSTRUCTION JOINT KEY FORMED BY A SURFACED BEVELED 1-6 x 1-6 x 0-2.
P815 BARS MAY BE PLACED AFTER COLUMN CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
FOR PILE SPLICE DETAIL SEE SHEET 4.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-14

Const. Spec. 1969	Drawn By D.J.A.	Plans Checked J.H.G.

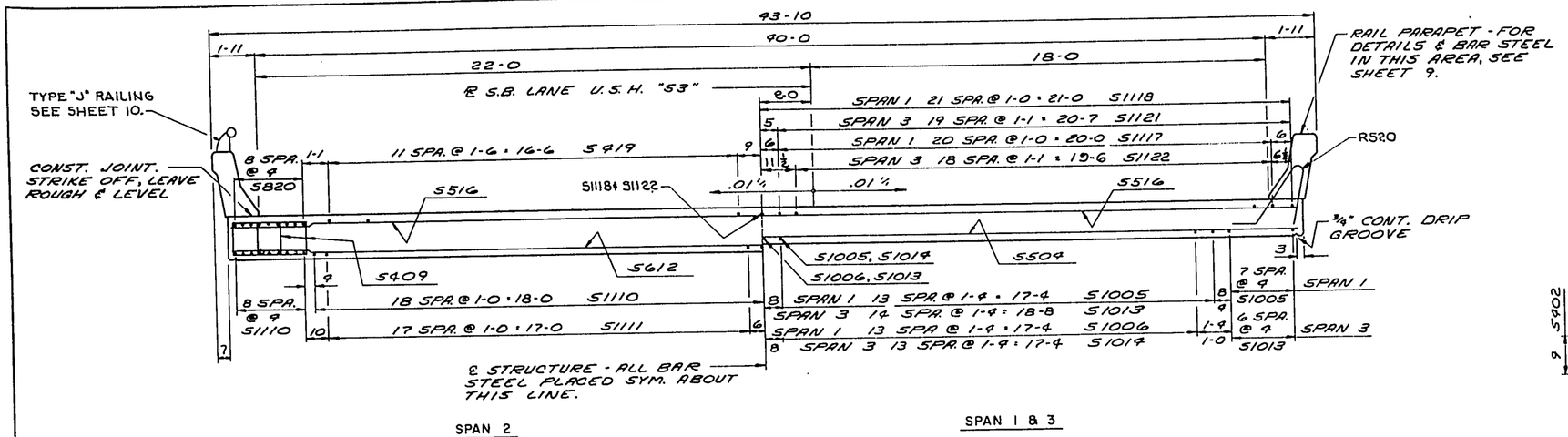
PIERS

SHEET 5 OF 10

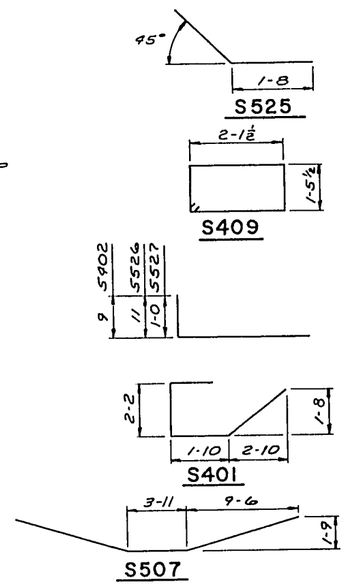
X46264

Form C B 12-69

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-71	33	296
FEDERAL PROJECT DESIGNATION: EMP F08-4(36)		



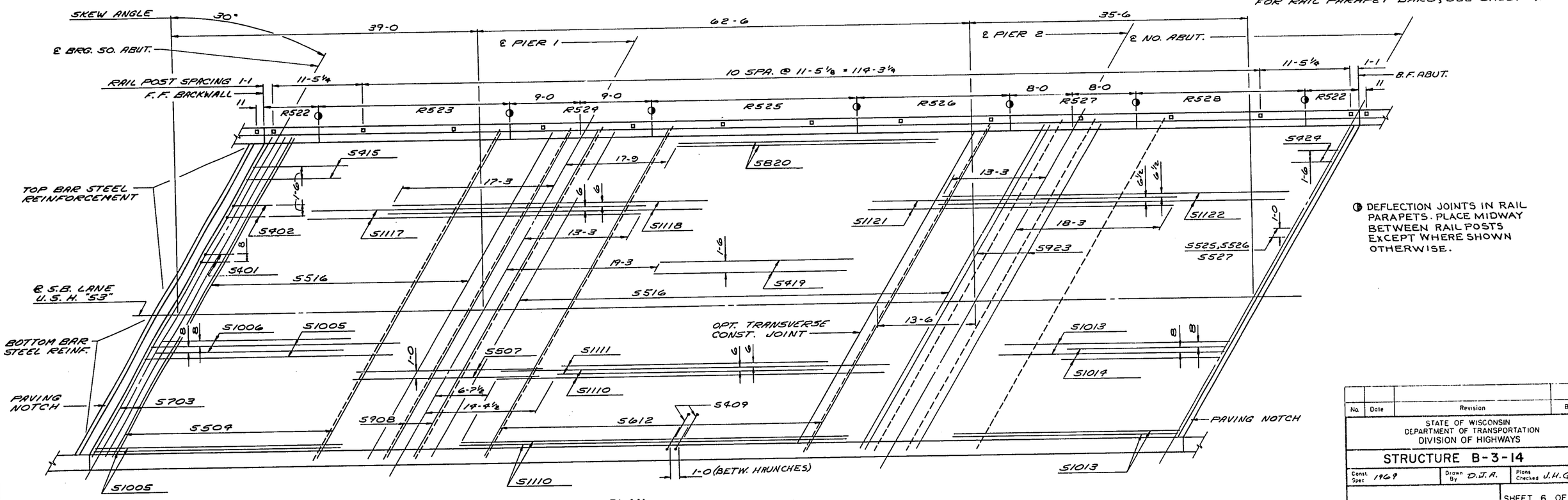
CROSS SECTION THRU ROADWAY



BILL OF BARS

BAR NO.	NO. REQ'D.	LENGTH	BENT	98,850# LOCATION
S401	44	8-7	X	SLAB @ SO. ABUT. HAUNCH
S402	29	6-8	X	" @ " " "
S703	3	98-10		" @ " " " -TRANS.
S504	67	98-10		" SPAN 1 & 3 - TRANS.
S1005	44	32-0		" " 1 - LONG.
S1006	27	23-9		" " 1 - "
S507	86	23-2	X	" @ PIER HAUNCH
S908	20	98-10		" @ " " - TRANS.
S409	180	7-8	X	" STIRRUP - SPAN 2
S1110	55	99-3		" SPAN 2 - LONG.
S1111	36	33-9		" " 2 - "
S612	45	98-10		" " 2 - TRANS.
S1013	43	28-6		" " 3 - LONG.
S1019	28	19-9		" " 3 - LONG.
S415	29	12-3		" " 1 - "
S516	99	98-10		" " 1, 2, & 3 - TRANS.
S1117	42	92-6		" OVER PIER 1 - LONG.
S1118	93	38-0		" " " 1 - "
S919	24	24-6		" SPAN 2 - LONG.
S820	18	27-6		" EDGE SPAN 2 - LONG.
S1121	40	38-6		" OVER PIER 2 - LONG
S1122	39	95-6		" " " 2 - "
S923	28	98-10		" @ PIER HAUNCH - TRANS.
S924	29	5-0		" SPAN 3 - LONG.
S525	93	4-1	X	" @ NO. ABUT. HAUNCH
S526	93	3-0	X	" @ " " "
S527	93	2-10	X	" @ " " "

FOR RAIL PARAPET BARS, SEE SHEET 9.



PLAN

RAIL POST AND DEFL. JOINT SPACING SAME FOR BOTH SIDES.

① DEFLECTION JOINTS IN RAIL PARAPETS. PLACE MIDWAY BETWEEN RAIL POSTS EXCEPT WHERE SHOWN OTHERWISE.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-14

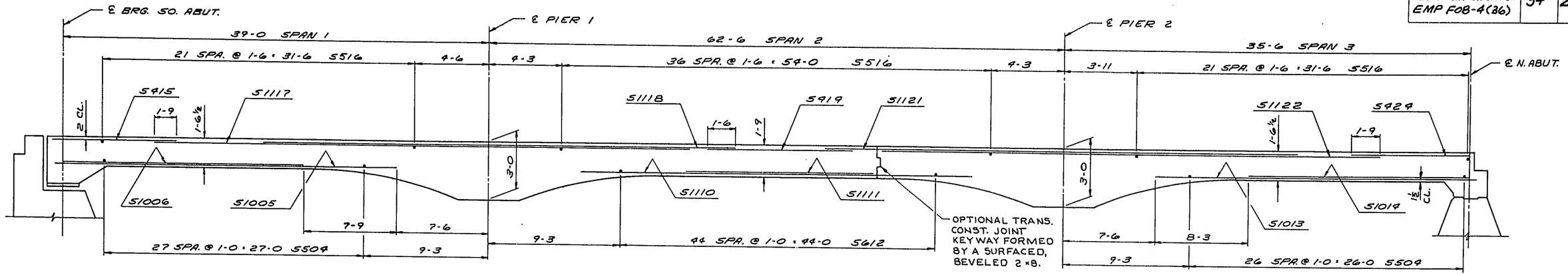
Const. Spec 1969	Drawn By D.J.A.	Plans Checked J.H.G.

SUPERSTRUCTURE

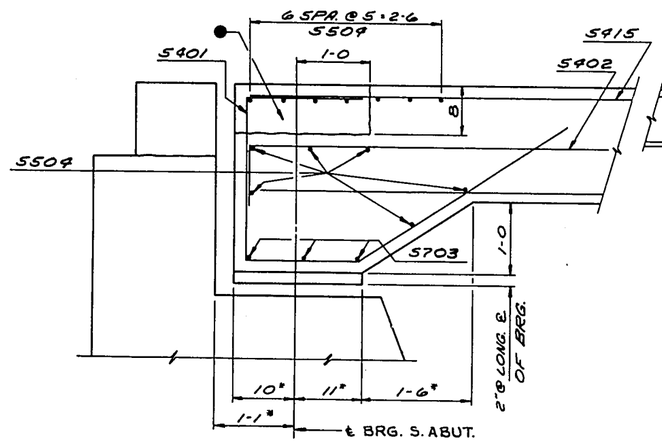
SHEET 6 OF 10

X46265

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-71	34	296
*FEDERAL PROJECT DESIGNATION: EMP F08-4(86)		

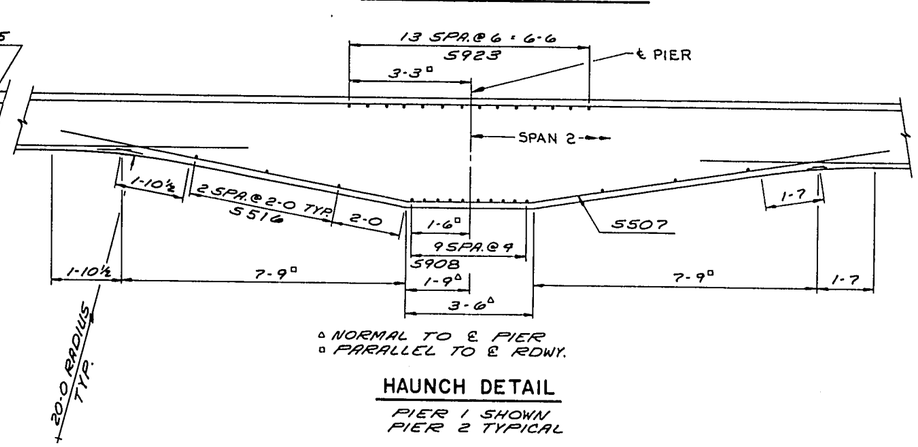


LONGITUDINAL SECTION



DETAIL AT SOUTH ABUT.

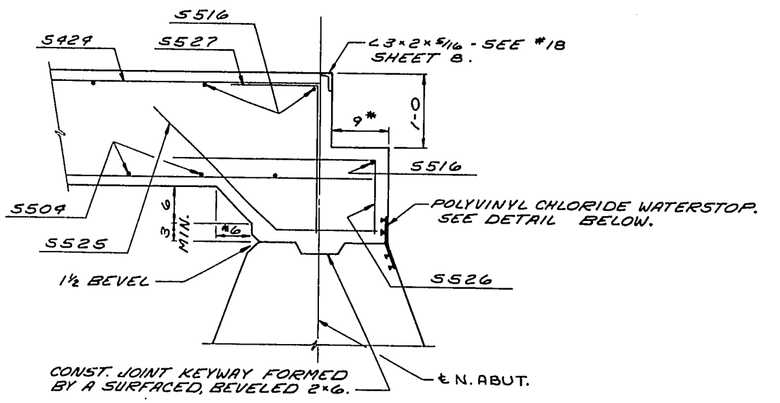
*NORMAL TO ℄ ABUT.



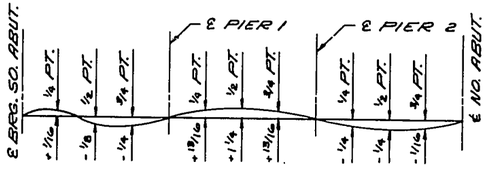
△ NORMAL TO ℄ PIER
□ PARALLEL TO ℄ RDWY.

HAUNCH DETAIL

PIER 1 SHOWN
PIER 2 TYPICAL



DETAIL AT NORTH ABUT.



CAMBER DIAGRAM

DEADLOAD DEFLECTION IS 0.4 × CAMBER SHOWN. CAMBER DOES NOT INCLUDE AN ALLOWANCE FOR FORM SETTLEMENT.

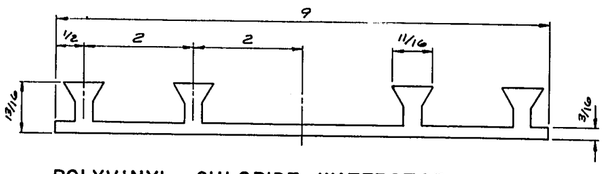
NOTES

ALTERNATE TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROX. 3-0 CENTERS. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROX. 4-0 CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MIN. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

PARAPETS ARE TO BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

● CONCRETE IN THIS AREA SHALL BE PLACED AFTER SUPERSTRUCTURE IS POURED & EXP. JOINT HAS BEEN SET. REMOVE FORMS FROM END OF SLAB BEFORE MAKING THIS POUR. DO NOT REMOVE FALSEWORK WHICH IS SUPPORTING THE DECK. JOINT MAY BE OMITTED WITH THE APPROVAL OF THE ENGINEER.



POLYVINYL CHLORIDE WATERSTOP

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-14

Const. Spec. 1969	Drawn By D.J.A.	Plans Checked J.H.G.

SUPERSTRUCTURE

SHEET 7 OF 10

X 46266

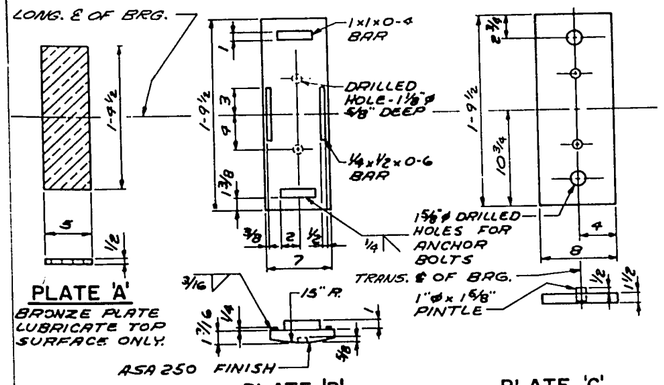
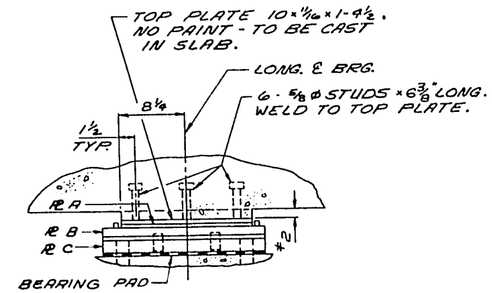


PLATE 'A'
BRONZE PLATE LUBRICATE TOP SURFACE ONLY.

PLATE 'B'

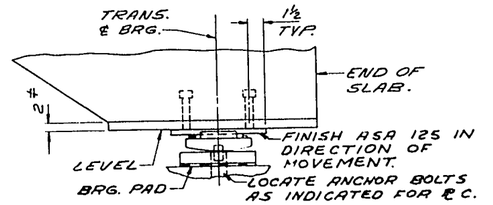
PLATE 'C'



BEARING ELEVATION

BEARING DETAILS

* @ LONG. ℄ OF BRG.



BEARING ASSEMBLY

BEARING NOTES

ALL MATERIAL EXCLUDING ANCHOR BOLTS, PINTLES, NUTS, STUDS WASHERS SHALL BE MADE OF A588 STEEL. PINTLES SHALL BE MADE OF A449 STEEL.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FRO 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.

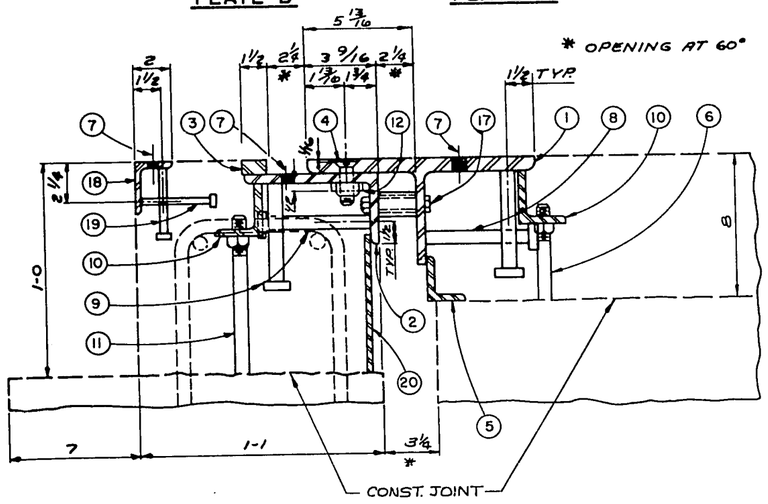
ALL MATERIAL EXCLUDING BRONZE PLATES & BEARING PADS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL LOW ALLOY STEEL."

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.

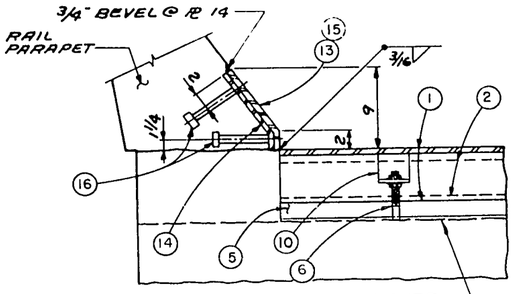
CHAMFER TOP OF PINTLES ⅛". DRILL HOLES FOR PINTLES IN PLATE 'C' FOR DRIVING FIT.

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

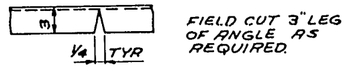
ALL BEARINGS ARE SYMMETRICAL



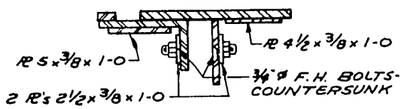
TRANSVERSE SECTION THRU JOINT



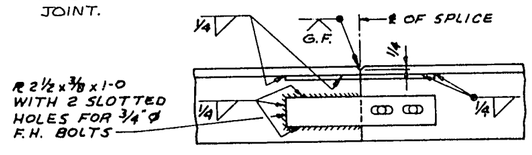
SECTION THRU JOINT AT CURB



DETAIL 19

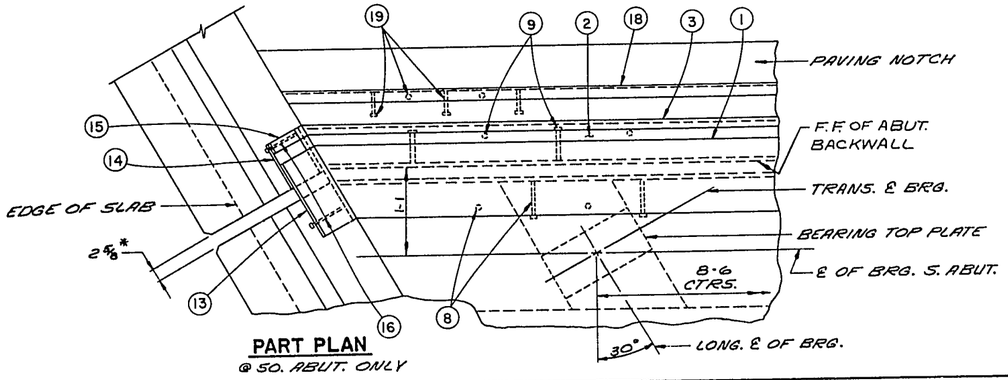


SECTION THRU SPLICE



OPTIONAL FIELD SPLICE DETAIL

ONE SPLICE SHALL BE PERMITTED IN JOINT.



PART PLAN
@ S0. ABUT. ONLY

LEGEND

1. WT ⌀ x 39.5 x ROADWAY WIDTH. WELDMENT MAY BE USED. SEE DETAIL 'A'.
2. ∠ 7x4x 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 ∠ #2 WITH 2 LINES OF ¼ FILLET WELD, 2 ⌀G.
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 ∠ 13/16ø HOLE C'SK 7/16 DEEP IN WT #1.
5. ∠ 2½ x 2 x ⅛ x RDWY. WIDTH. 3/16 CONTINUOUS FIELD WELD TO WT #1. 2½" LEG VERT.
6. ¾"ø x G LG. ROD & NUT. THREAD 3". TACK WELD NUT TO ∠ #10.
7. VENT HOLES, 13/16ø AT 2-0 CTRS. IN WT #1 AND ∠ #2 AND 3-0 CTRS. IN 18.
8. ⅝"ø STUDS x 6⅜" LONG. WELD TO WT #1 AT 6" ALTERNATE CENTERS.
9. ⅝"ø STUDS x 6⅜" LONG. WELD TO ∠ #2 AT 9 ALTERNATE CENTERS.
10. ∠ 3x2½x⅜ x 3" LONG AT 3-0 CENTERS. WELD TO ∠ #2 AND WT #1 PROVIDE 15/16ø HOLES IN 2½" LEG FOR RODS #6 AND #11.
11. ¾ø ROD x 9 LONG & NUT. THREAD 3". TACK WELD NUT TO ∠ #10.
12. ⅛ x ½ x 1¼ LONG KEEPER BAR. ONE PER #4 BOLT PLACE BAR WITH LONG DIMENSION PARALLEL TO ℄ OF RDWY. ⅛" CLEAR FROM #4 SQUAR. NUT AND WELD BAR AT SIDE FACING AWAY FROM NUT WITH 3/16 FILLET WELD 1¼" LONG TO ∠ #2.
13. ℞ 1-1⅜ x ⅜ - FIELD WELD TO WT #1.
14. ℞ 8½ x ⅜ - WELD TO ℞ #15 WITH ONE LINE OF ¼ MAX. FILLET WELD, N.S. & F.S.
15. ℞ 1⅜ x ⅜ - FIELD WELD TO BAR #3.
16. ⅝ø STUDS x 6⅜ 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 ∠ #2 FOR BOLT.
18. ∠ 3 x 2 x 5/16 x RDWY. WIDTH. ONE WELDED FIELD SPLICE WILL BE PERMITTED. SEE DETAIL #19. ONE #L REQ'D @ EACH ABUT.
19. ⅜ ø STUDS x 4" LONG. WELD TO ∠ 18 AT 6" ALTERNATE CENTERS.
20. ℞ 7¾ x ¼ x RDWY. WIDTH. 5/16 CONTINUOUS FIELD WELD TO ∠ #2.

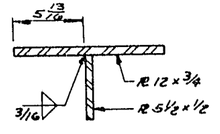
EXPANSION JOINT NOTES

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 HOLE 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

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-71	35	296
FEDERAL PROJECT DESIGNATION		
EMP FOB-4(36)		

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-14

Const Spec 1969	Drawn By D.J.A.	Plans Checked J.H.G

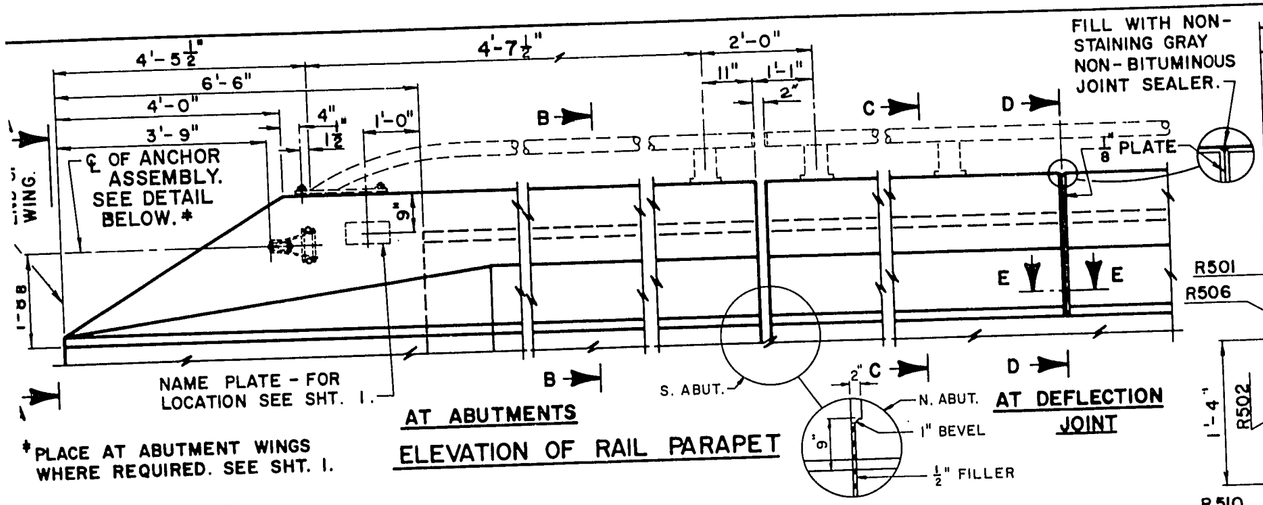
EXPANSION JOINT & BEARING DETAILS

SHEET 8 OF

X46267

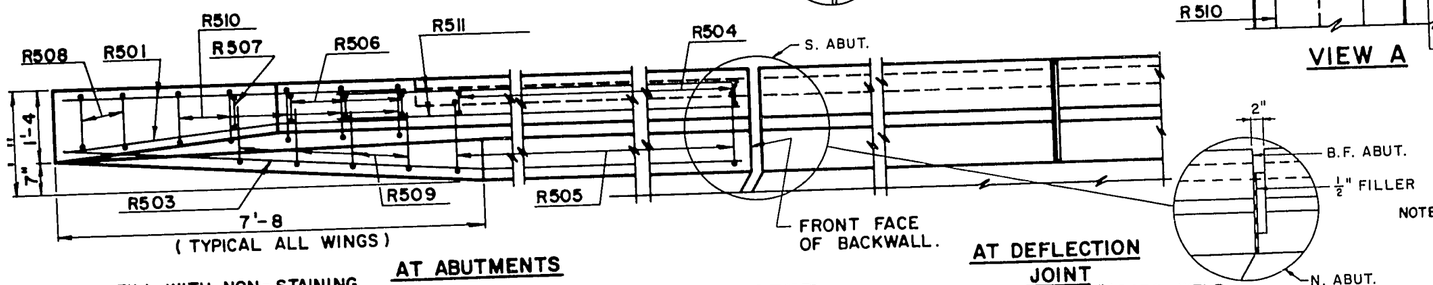
Form C B 12-6-

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-71	36	296
FEDERAL PROJECT DESIGNATION EMP F08-4(36)		

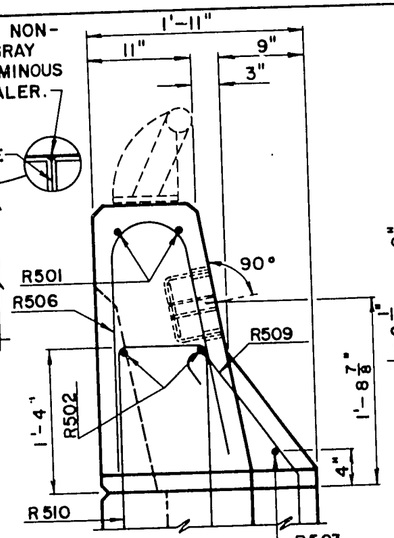


ELEVATION OF RAIL PARAPET

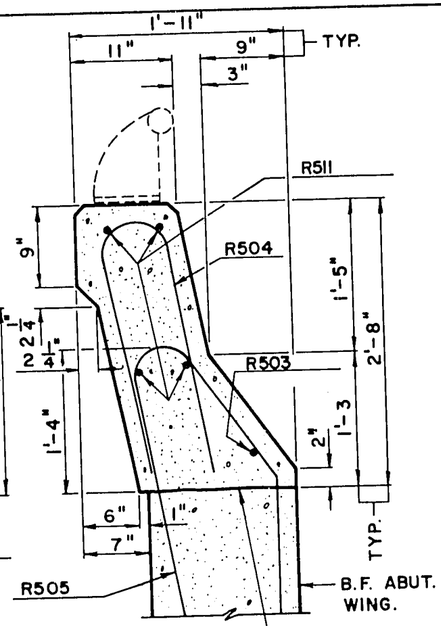
*PLACE AT ABUTMENT WINGS WHERE REQUIRED. SEE SHT. 1.



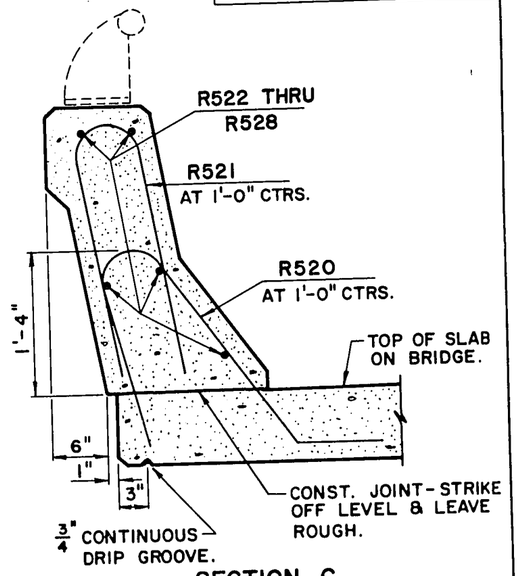
PART PLAN OF RAIL PARAPET



VIEW A



SECTION B



SECTION C

NOTE: BENDING DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

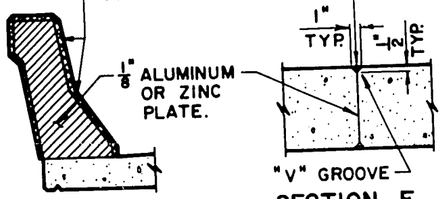
RAIL PARAPET
BILL OF BARS

	MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
AT ABUTS. - 710 #	R501	8	6-10	X	WINGS 1 THRU 4
	R502	8	4-5		" 1 " 4
	R503	4	9-8	X	" 1 " 4
	R504	16	5-0	X	" 1 " 4
	R505	16	5-10	X	" 1 " 4
	R506	12	5-2	X	" 1 THRU 4
	R507	4	4-2	X	" 1 " 4
	R508	8	4-10	X	" 1 " 4
	R509	16	3-3	X	" 1 " 4
	R510	20	5-10	X	" 1 " 4
	R511	16	5-6		" 1 " 4
AT SUPER. - 4240#	R520	278	4-9	X	SLAB & RAIL PARAP.
	R521	278	5-0	X	RAIL PARAPET
	R522	20	6-3		" "
	R523	10	24-0		" "
	R524	10	17-8		" "
	R525	10	25-8		" "
	R526	10	19-1		" "
	R527	10	15-8		" "
	R528	10	21-2		" "

NOTES

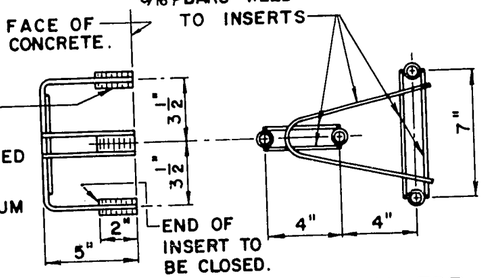
WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF ⅛" ZINC OR ALUMINUM PLATE CUT AS SHOWN IN SECTION "D" BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH BITUMINOUS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

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



SECTION D

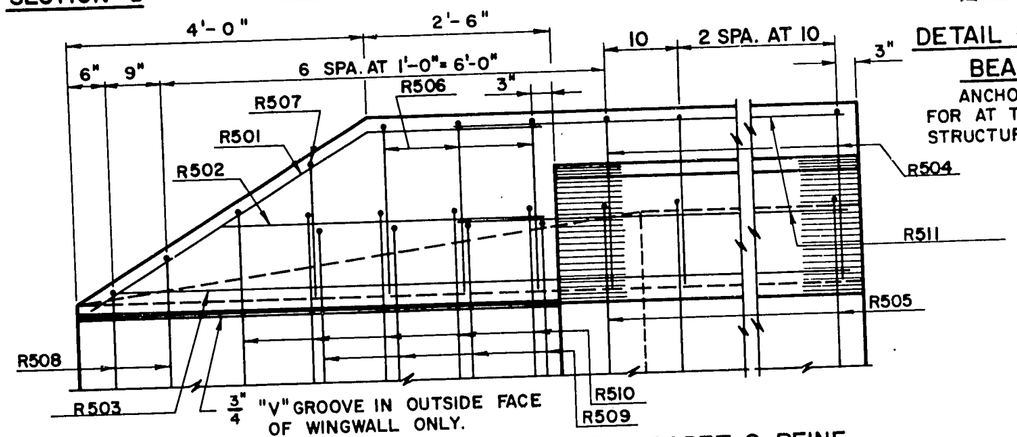
SECTION E



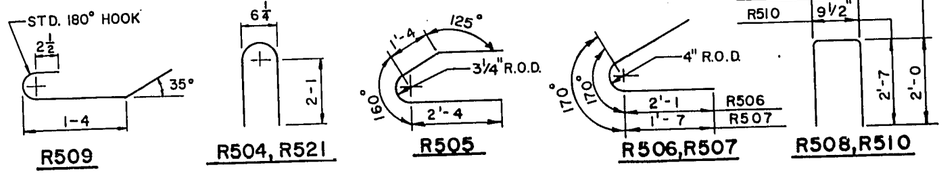
THREADED INSERTS FOR ⅞"ϕ x 0'-2" LONG GALVANIZED HEX. HEAD CAP SCREWS. CAP SCREWS TO BE THREADED A MINIMUM OF 1⅞". INSERTS TO BE THREADED A MINIMUM OF 1¾".

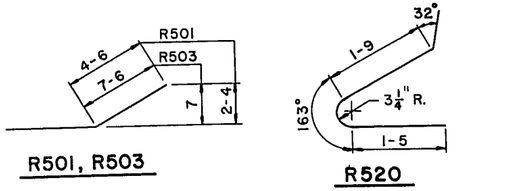
DETAIL OF ANCHOR ASSEMBLY FOR BEAM TYPE GUARD RAIL

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



VIEW SHOWING OUTSIDE FACE OF PARAPET & REINF.





No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-14

Const. Spec. 1969	Drawn By D.J.R.	Plans Checked J.H.G.

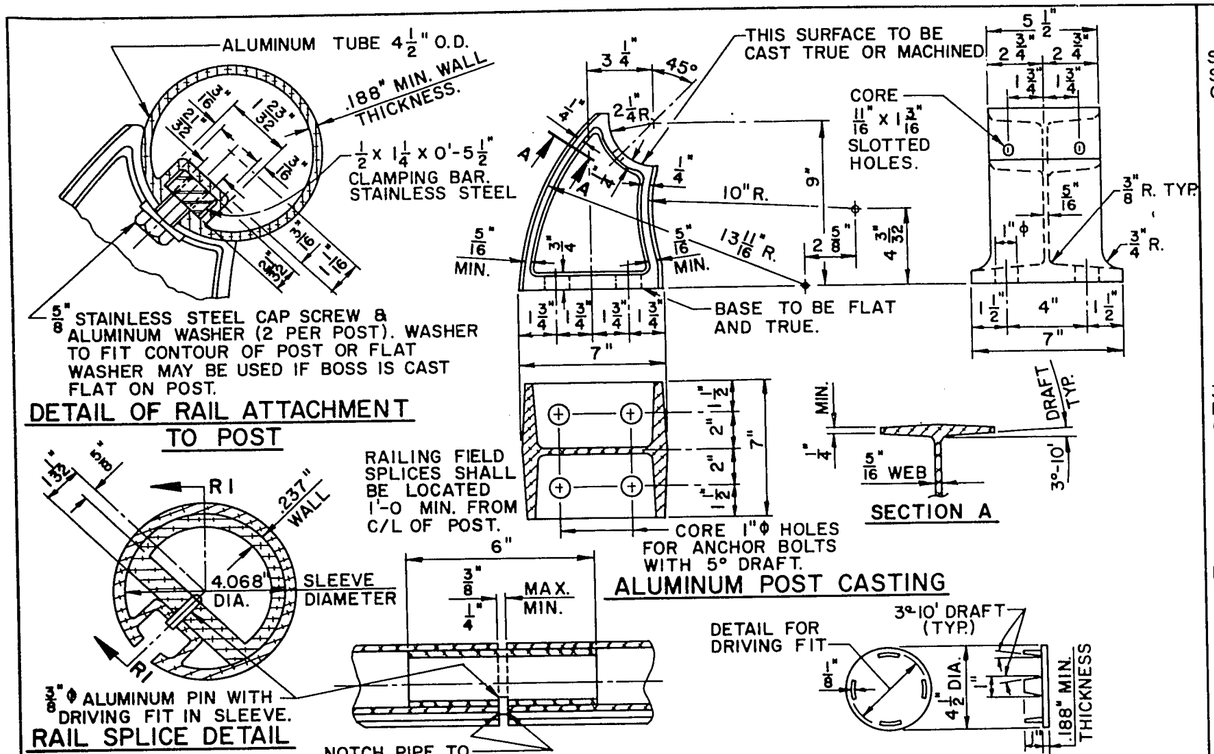
SLOPED FACE PARAPET "A"

SHEET 9 OF 10

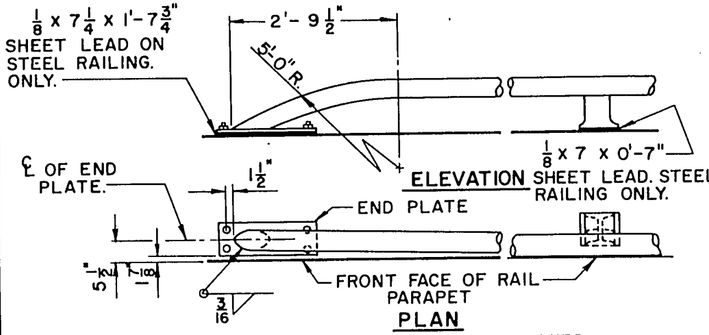
X 46268

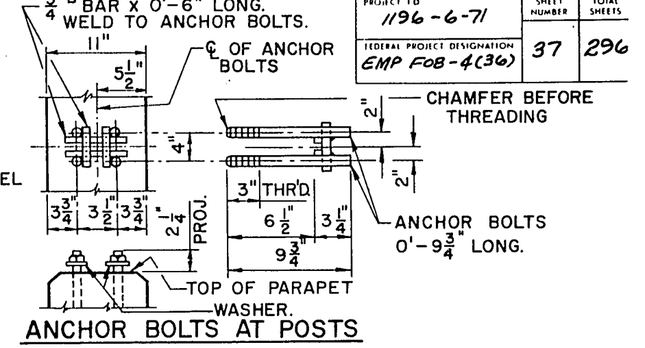
Form E B 12 6

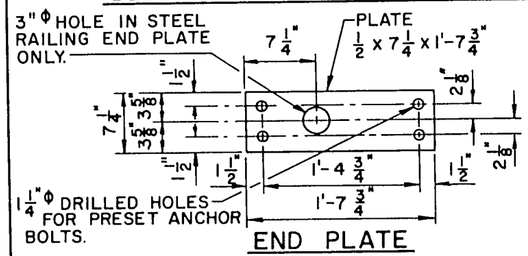
PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-71	37	296
FEDERAL PROJECT DESIGNATION: EMP FOB-4(36)		

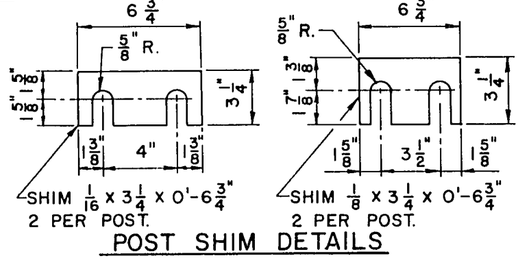


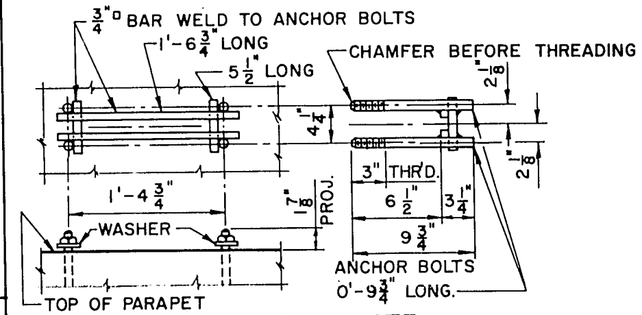
NOTES:
MAX. REDUCTION IN DIAMETER OF BENT SECTION SHALL BE 3%.
MAX. REDUCTION IN SLOT WIDTH IN BENT TUBING SHALL BE 3/16.
WALL THICKNESS OF TUBING SHOWN ABOVE SHALL BE MIN. NOMINAL AVERAGE WALL THICKNESS.











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.

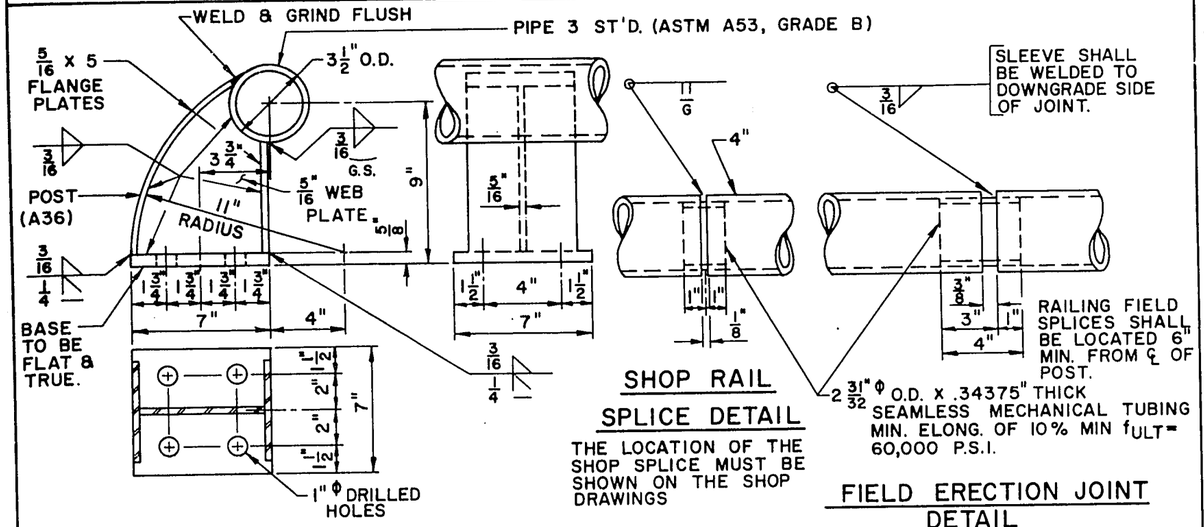
RAIL POSTS SHALL BE SET NORMAL TO GRADE.

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

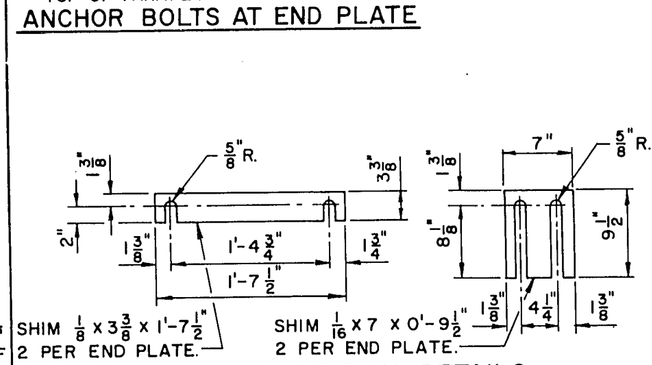
ANCHOR BOLTS, NUTS & WASHERS FOR ALUMINUM RAILING SHALL BE STAINLESS STEEL.

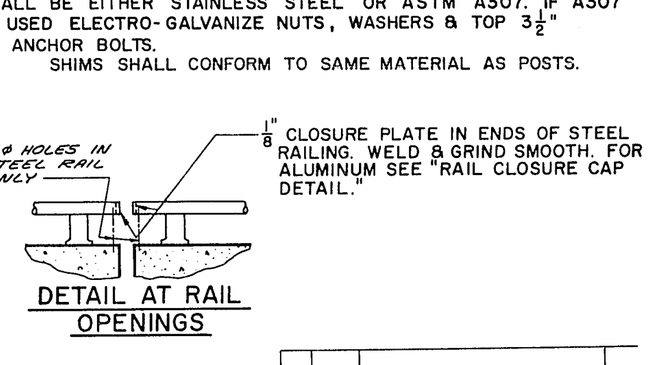
ANCHOR BOLTS, NUTS & WASHERS FOR STEEL RAILING SHALL BE EITHER STAINLESS STEEL OR ASTM A307. IF A307 IS USED ELECTRO-GALVANIZE NUTS, WASHERS & TOP 3 1/2" OF ANCHOR BOLTS.

SHIMS SHALL CONFORM TO SAME MATERIAL AS POSTS.



NOTE: GALVANIZE ENTIRE RAILING AFTER FABRICATION INCLUDING SHIMS.





No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-14

Const. Spec 1969	Drawn By D.J.A.	Plans Checked J.H.G.

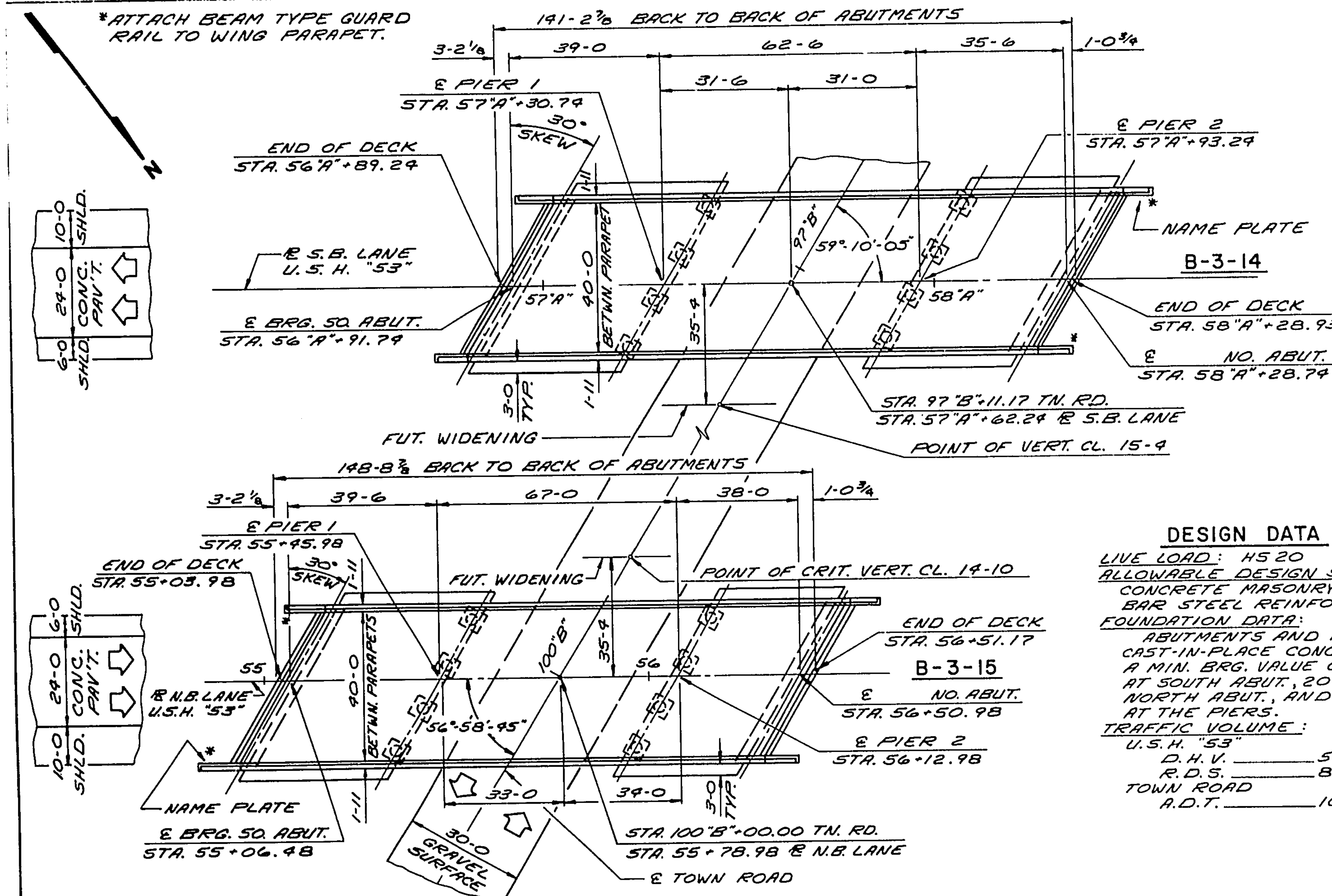
TUBULAR RAILING TYPE 'J'

SHEET 10 OF 1

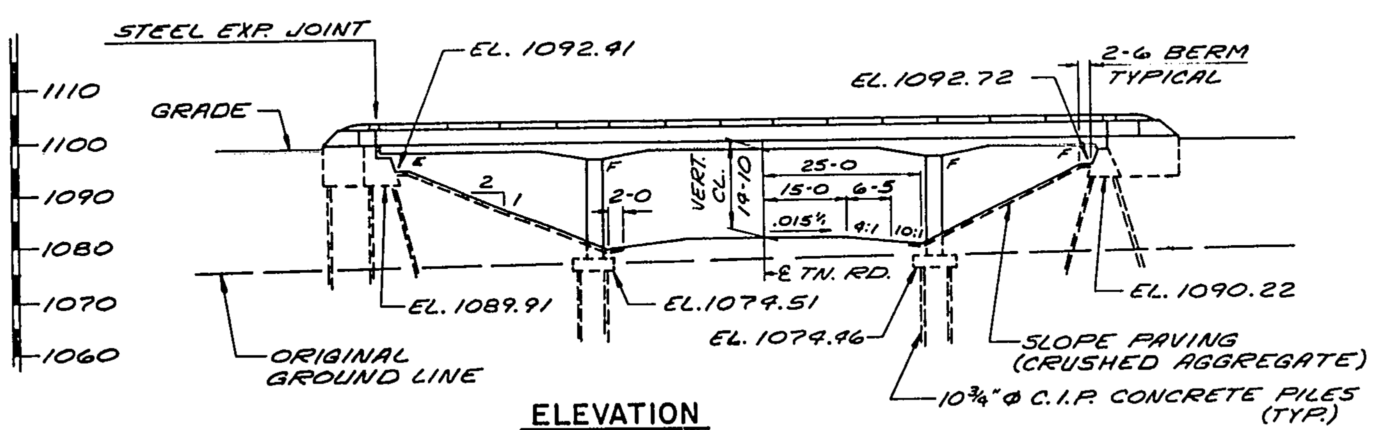
X 46269

Project ID	Sheet Number	Total Sheets
1196-6-71 / EMP F08-4(36)	38	296

*ATTACH BEAM TYPE GUARD RAIL TO WING PARAPET.

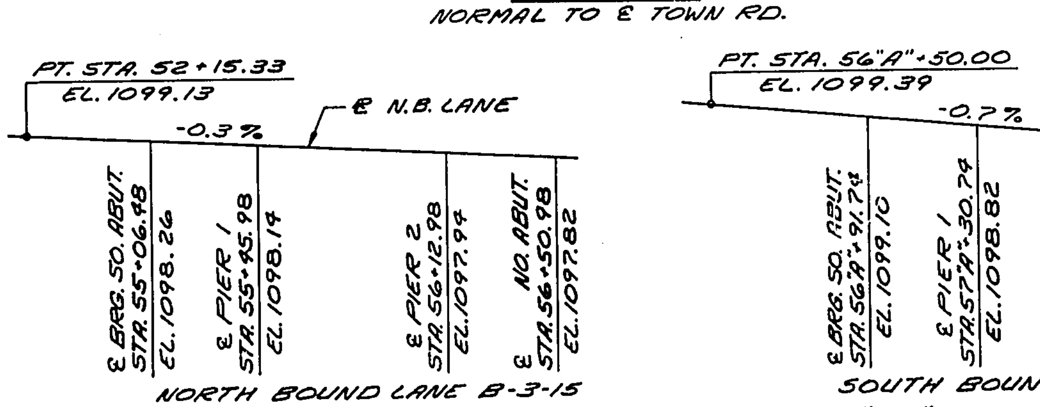


PLAN

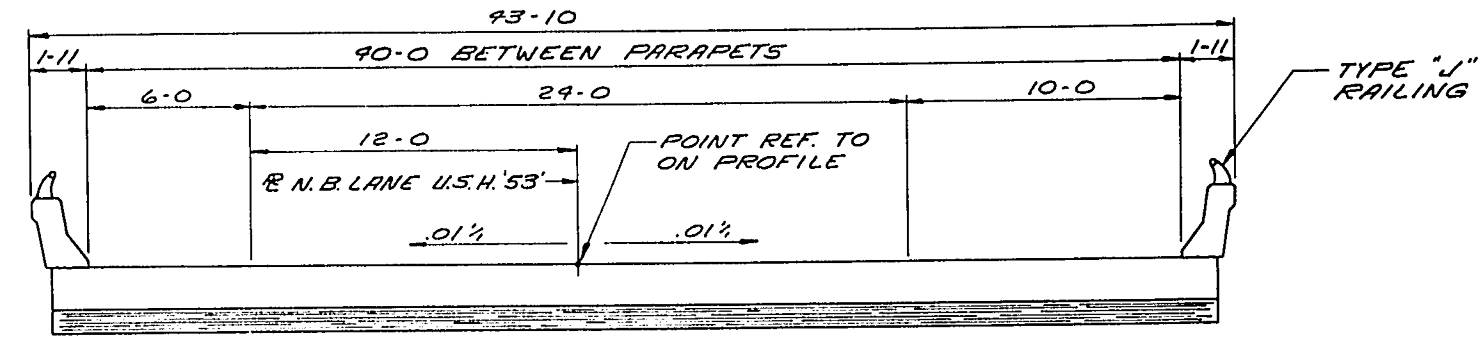


ELEVATION

NORMAL TO ℄ TOWN RD.



PROFILE GRADE U.S.H. "53"



CROSS SECTION THRU ROADWAY

3 SPAN HAUNCHED SLAB (LOOKING NORTH)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED. BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

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

THE FINISHED GRADED SECTION WAS USED AS THE UPPER LIMITS OF EXCAVATION FOR COMPUTATION OF EXCAVATION AT THE PIERS.

FOR UPPER LIMITS OF EXCAVATION AT THE ABUTMENTS SEE SHEETS NO. 3 & 4.

PILING AT ABUTMENTS SHALL BE PREBORED THRU FILL TO THE ORIGINAL GROUND LINE.

A concrete overlay was placed on the deck from ℄ Sta 55±44 to ℄ Sta 56±11.

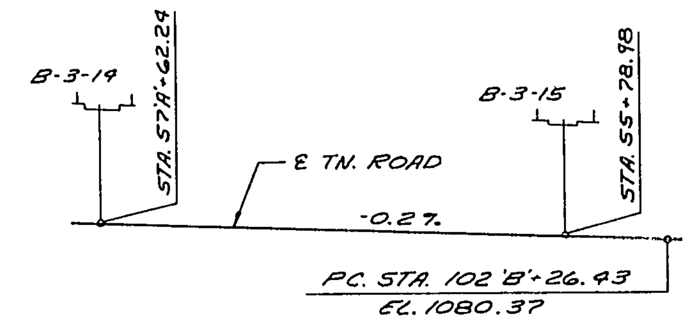
DESIGN DATA

LIVE LOAD: HS 20

ALLOWABLE DESIGN STRESSES:
CONCRETE MASONRY, GRADE "AA" — f'c : 1,900 P.S.I.
BAR STEEL REINFORCEMENT — fs : 20,000 P.S.I.

FOUNDATION DATA:
ABUTMENTS AND PIERS TO BE SUPPORTED ON CAST-IN-PLACE CONCRETE PILING 10¾"Φ. DRIVE TO A MIN. BRG. VALUE OF 20 T/PILE, 55-0 EST. LENGTH AT SOUTH ABUT., 20 T/PILE, 55-0 EST. LENGTH AT NORTH ABUT., AND 55 T/PILE, 55-0 EST. LENGTH AT THE PIERS.

TRAFFIC VOLUME:
U.S.H. "53"
D.H.V. ______ 5300 (1980)
R.D.S. ______ 80 M.P.H.
TOWN ROAD
A.D.T. ______ 100 (2000)



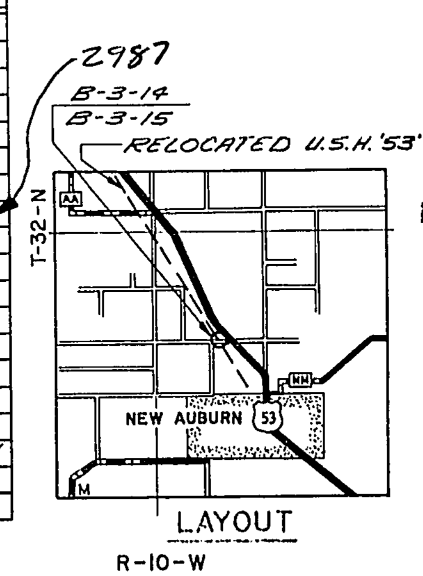
PROFILE GRADE TOWN ROAD

LIST OF DRAWINGS

1. GENERAL PLAN ______ X46270
2. SUBSURFACE EXPLORATION ______ X46271
3. SOUTH ABUTMENT ______ X46272
4. NORTH ABUTMENT ______ X46273
5. PIERS ______ X46274
6. SUPERSTRUCTURE ______ X46275
7. SUPERSTRUCTURE ______ X46276
8. EXPANSION JOINT & BEARING DETAILS ______ X46277
9. SLOPED FACE PARAPET "A" ______ X46278
10. TUBULAR RAILING TYPE "J" ______ X46279

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	S. ABUT.	PIER 1	PIER 2	N. ABUT.	SUPER.	TOTAL
EXCAVATION FOR STRUCTURE	C.Y.	92	150	130	90	—	362
CONCRETE MASONRY	C.Y.	66	63	48	43	495	715
BAR STEEL REINFORCEMENT	LB.	3080	10,015	8885	2180	113,750	137,910
STRUCTURAL CARBON STEEL	LB.	—	—	—	—	3970	3970
STRUCTURAL LOW ALLOY STEEL	LB.	—	—	—	—	1100	1100
LUBRICATED BRONZE PLATES	LB.	—	—	—	—	77	77
BEARING PADS	S.F.	526	1041	882	538	7	7
CAST-IN-PLACE CONC. PILING DEL. & DR. 10¾"Φ	L.F.	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible] (struck through; 2987)
PREBORING, CAST-IN-PLACE CONC. PILING 10¾"Φ	L.F.	255	—	—	242	—	497
TUBULAR RAILING, TYPE "J"	L.F.	—	—	—	—	317	317
SLOPE PAVING, CRUSHED AGGREGATE	S.Y.	257	—	—	257	—	514
NON-BID ITEMS							
1/8" ALUMINUM OR ZINC PLATE	S.F.	—	—	—	—	90	90
FILLER	SIZE	—	1/4"	1/4"	—	1/2"	1/4", 1/2"
POLYVINYL CHLORIDE WATERSTOP	L.F.	—	—	—	96	—	96



LAYOUT

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

U.S.H. "53" OVER TOWN ROAD

County BARRON
Design Spec. A.A.S.H.O. 69 — Load HS 20 — Const. 1969
Designed By R.T.B. — Design Checked F.P.R. — Drawn By D.J.A. — Checked By J.H.G.
Approved W.A. Kline, Chief Bridge Engineer — Date 11-17-71

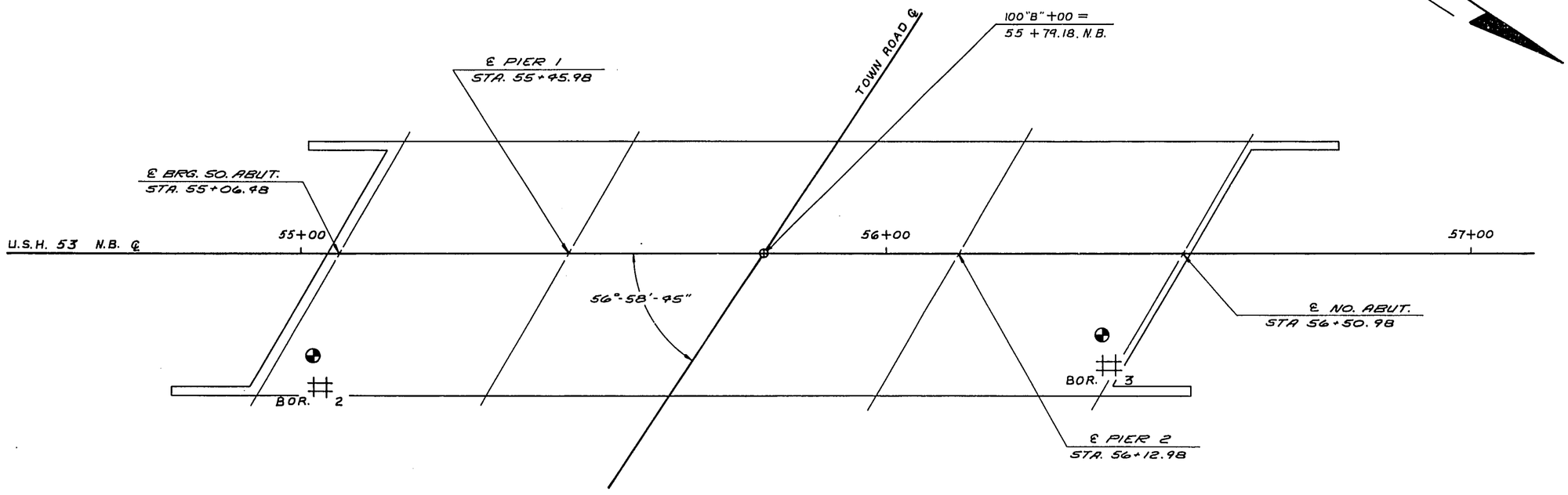
GENERAL PLAN

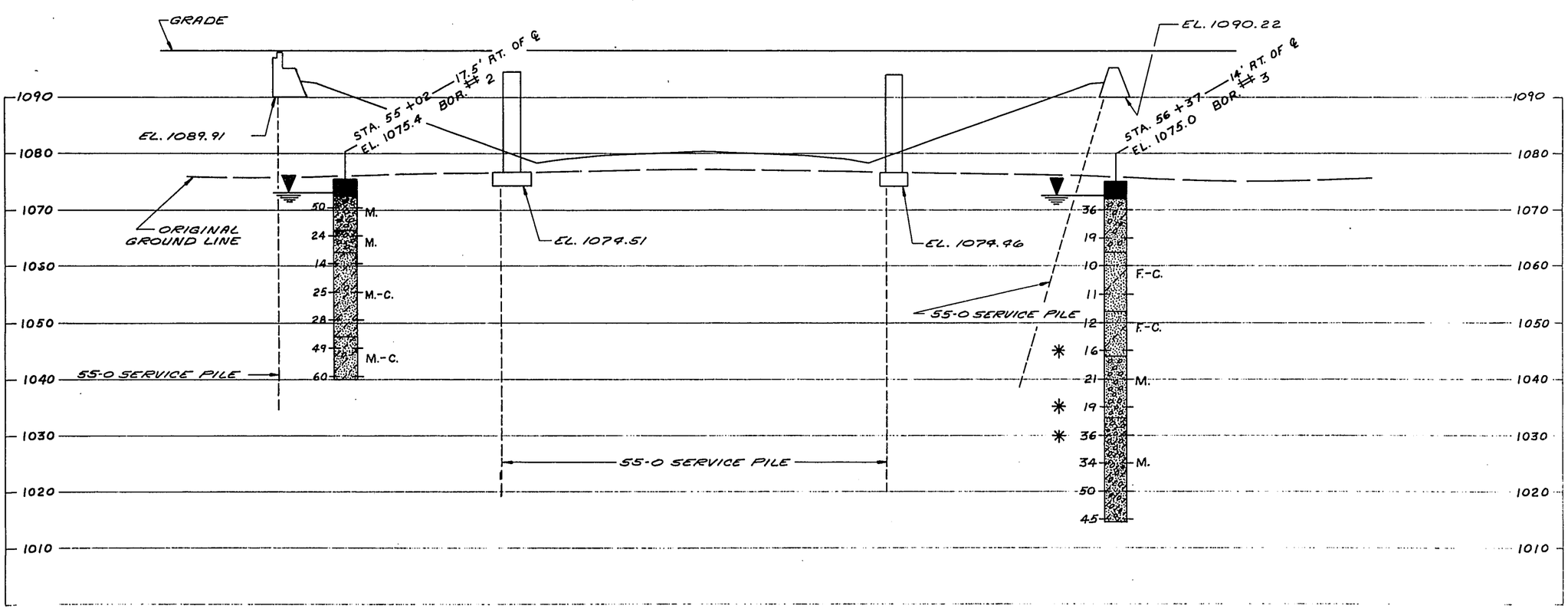
SHEET 1 OF 10

X46270

Form C B 4-69

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-71	39	296
FEDERAL PROJECT DESIGNATION: EMP F08-4(36)		





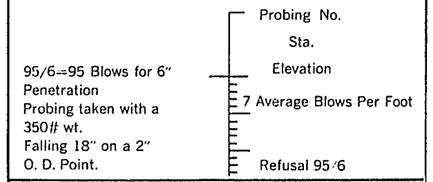
ABBREVIATIONS

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

MATERIAL SYMBOLS

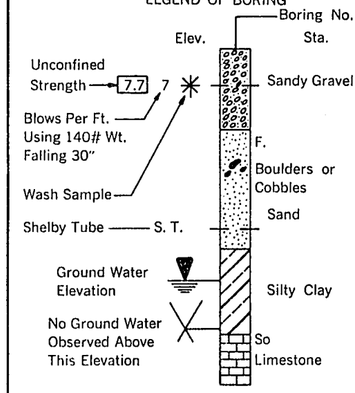
Topsoil, Silt, Sandstone, Sand, Peat, Limestone, Gravel, Clay, Igneous Rock

LEGEND OF PROBING



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

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	Revised	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

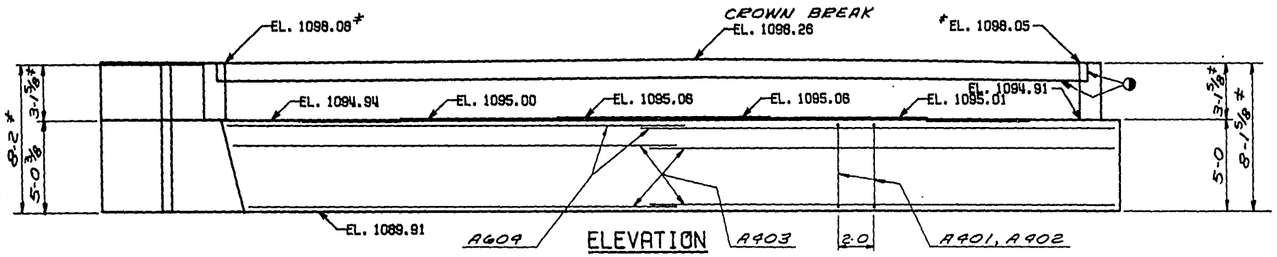
DATE	DRAWN	CHECKED
1969	D.J.A.	J.H.G.

SUBSURFACE EXPLORATION

SHEET 2 OF 10

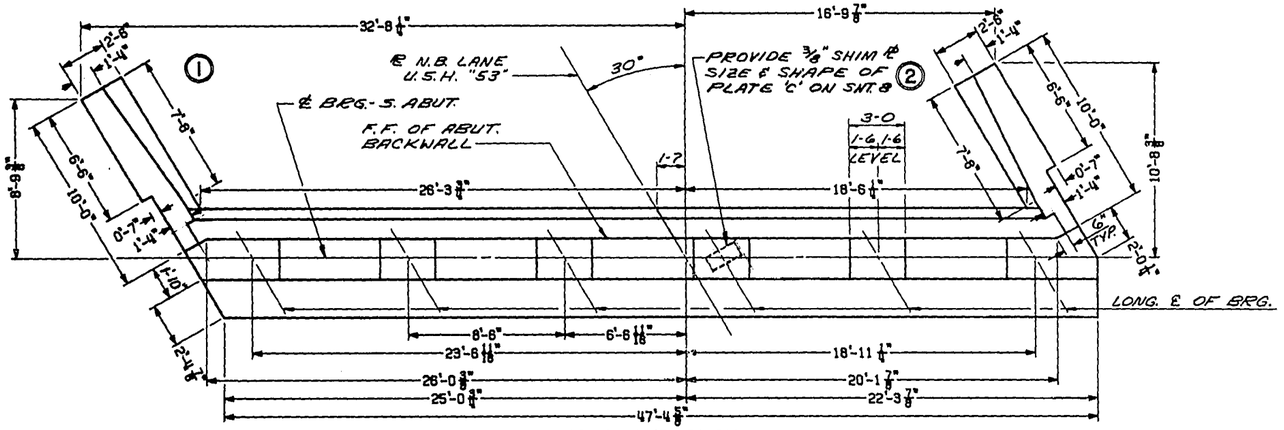
X 46271

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-71		
FEDERAL PROJECT DESIGNATION	40	296
EMPF08-4(36)		



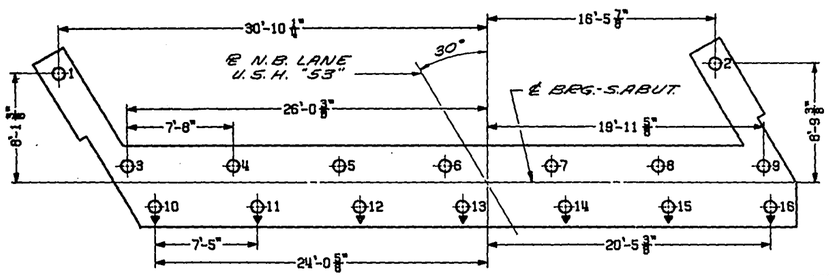
ELEVATION

*ELEVATIONS AND DIMENSIONS ARE MEASURED AT F.F. BACKWALL.



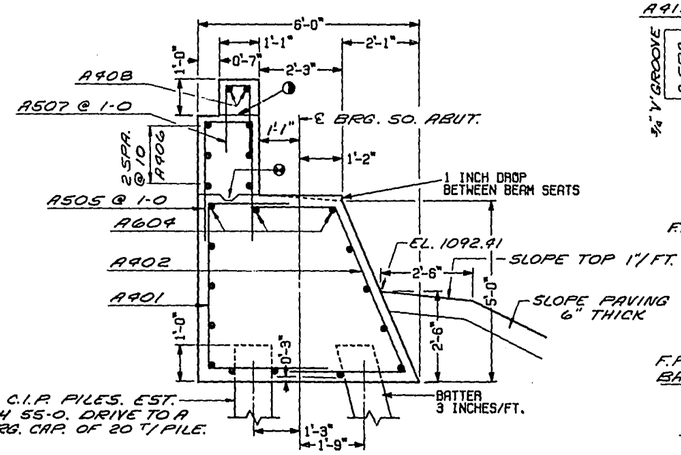
ABUTMENT PLAN

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



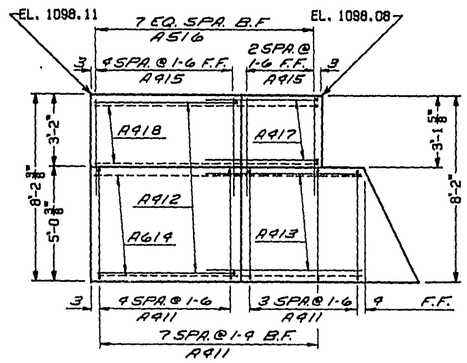
PILE PLAN

⊕ INDICATES BATTERED PILING - BATTER PILING 3" PER FOOT IN DIRECTION SHOWN

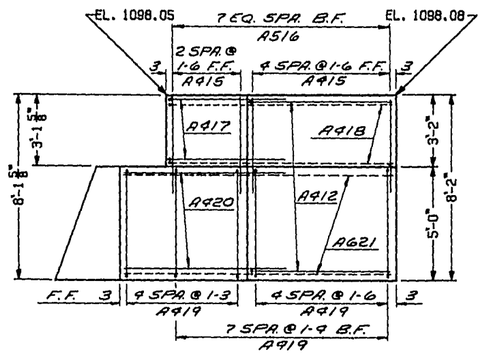


BODY SECTION

ALL HORIZONTAL BARS IN ABUTMENT BODY ARE A403 BARS UNLESS SHOWN OR NOTED OTHERWISE. FILL TO EL. 1091.91 BEFORE DRIVING PILING. UPPER LIMIT FOR "EXCAVATION FOR STRUCTURES" SHALL NOT EXCEED THIS ELEVATION.



WING 1 ELEVATION



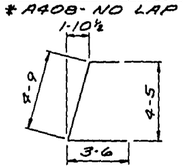
WING 2 ELEVATION

BILL OF BARS

2,720#

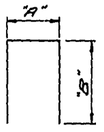
BAR NO.	NO. REQ'D.	LENGTH	BENT	LOCATION
A401	29	10-9	X	BODY - VERTICAL
A402	29	10-8	X	" - "
A403	22	25-2		" - HORIZONTAL
A609	6	25-7		" - TOP
A505	47	8-1	X	BACKWALL - STIRRUP
A406	12	29-9		" - HORIZONTAL
A507	47	5-2	X	PAVING BLOCK - STIRRUP
* A408	12	7-7		" " - HORIZONTAL
A509	36	4-5	X	SEATS - GRID DETAIL
A510	29	2-8		" - " "
A911	17	7-5	X	WING 1 - STIRRUP
A912	19	7-6	X	" 1 & 2 - HORIZONTAL F.F.
A913	9	6-10		" 1 - " F.F.
A614	5	11-6		" 1 - " B.F.
A915	16	9-2		" 1 & 2 - VERTICAL F.F.
A516	16	9-5		" 1 & 2 - " B.F.
A917	6	5-11	X	" 1 & 2 - HORIZONTAL F.F.
A918	6	10-8	X	" 1 & 2 - " B.F.
A919	18	7-5	X	" 2 - STIRRUP
A920	9	6-10		" 2 - HORIZONTAL F.F.
A621	5	11-10		" 2 - " B.F.

* A408 - NO LAP

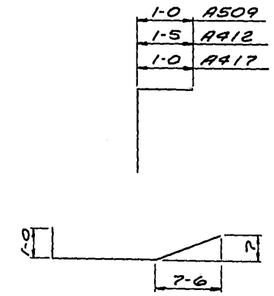


A402

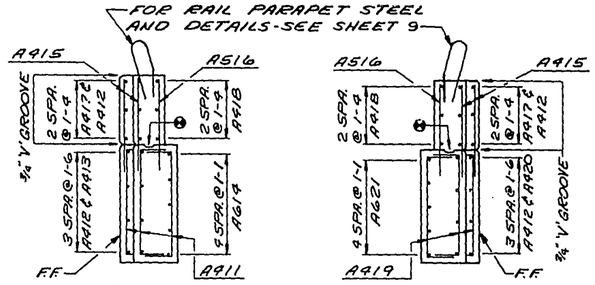
FOR RAIL PARAPET BARS, SEE SHEET 9.



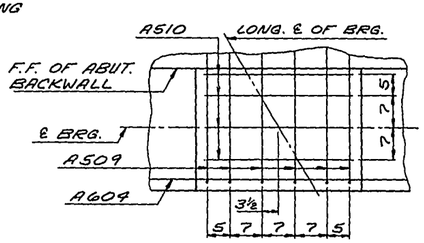
BAR #	DIM. "A"	DIM. "B"
A401	4-5	3-6
A505	1-9	3-5
A507	9	2-3
A911	9-7	1-6
A919	9-7	1-6



A418



SECTION THRU WINGS



GRID DETAIL

❽ OPTIONAL KEYED CONST. JOINT FORMED BY A SURFACED BEVELED 2×6.

FOR PILE SPLICE DETAIL SEE SHT. 4.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

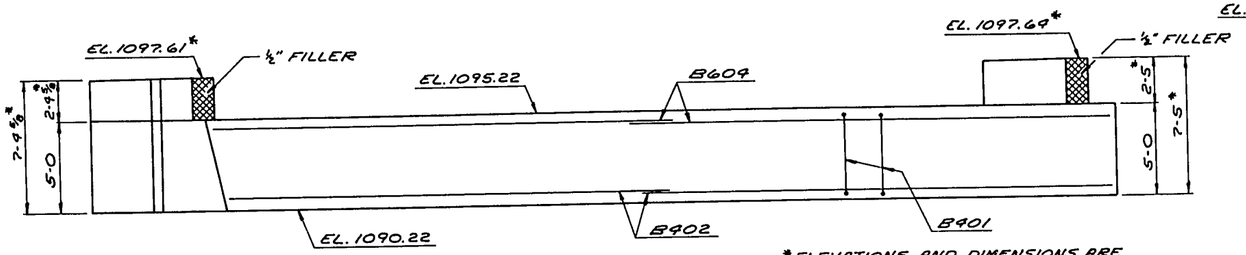
STRUCTURE B-3-15

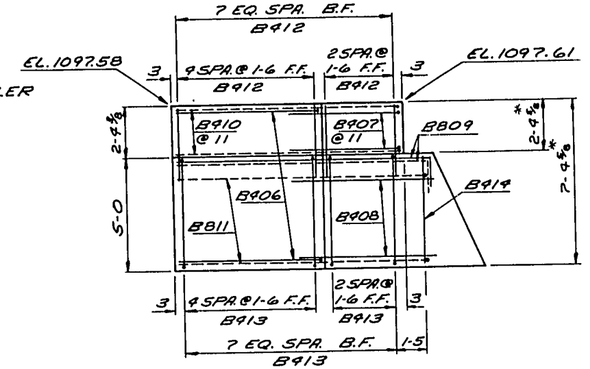
Const. Spec.	1969	Drawn By	D.J.A.	Plans Checked	J.H.G.

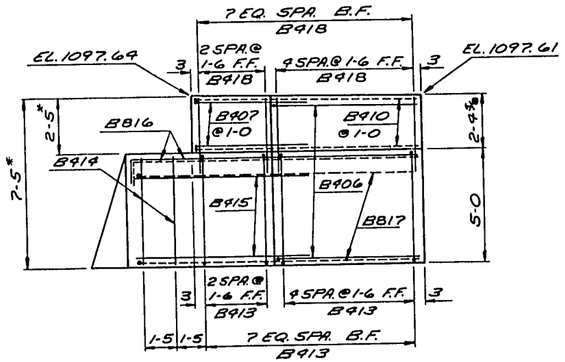
SOUTH ABUTMENT

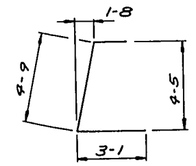
SHEET 3 OF 10

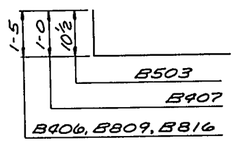
X 46272

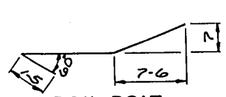












PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-71	41	296
FEDERAL PROJECT DESIGNATION EMP F08-4(36)		

NOTE: SEAL ALL EXPOSED HORIZONTAL & VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. PLACE SEALER 1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE

ELEVATION

*ELEVATIONS AND DIMENSIONS ARE TAKEN AT B.F. ABUTMENT.

ELEVATION WING 3

BILL OF BARS

BAR NO.	NO. REQ'D.	LENGTH	BENT	1,820# LOCATION
B401	50	9-0	X	BODY - VERTICAL
B402	16	25-6		" - HORIZONTAL
B503	8	14-0	X	" - "
B604	4	25-11		" - " TOP
B505	33	2-6		" - DOWEL
B406	16	7-6	X	WINGS 3 & 4 - HORIZONTAL F.F.
B407	6	5-11	X	" 3 & 4 - " F.F.
B408	4	6-4		" 3 - " F.F.
B809	2	12-2	X	" 3 - " BF & F.F.
B410	6	10-8	X	" 3 & 4 - " B.F.
B811	5	13-0	X	" 3 - " B.F.
B412	16	3-4		" 3 - VERTICAL F.F. & B.F.
B413	32	6-5	X	" 3 & 4 - " F.F. & B.F.
B414	3	4-7		" 3 & 4 - " F.F.
B415	4	7-8		" 4 - HORIZONTAL F.F.
B816	2	13-8	X	" 4 - " B.F & F.F.
B817	5	13-0	X	" 4 - " B.F.
B418	16	3-5		" 4 - VERTICAL F.F. & B.F.

FOR RAIL PARAPET BARS, SEE SHEET 9.

PLAN

ELEVATIONS WING 4

B401

B811, B817

B413

B410

B505 BARS MAY BE PLACED AFTER CONCRETE IS POURED. IMBED 1-3 IN CONCRETE, BEFORE INITIAL SET HAS TAKEN PLACE.

● POLYVINYL CHLORIDE WATERSTOP. PLACE BETWEEN WINGS. SEE SHEET 7 FOR DETAILS.

(WING 3) (WING 4)

SECTION THRU WINGS

⊗ ¾" 'V' GROOVE ON F.F. WINGWALL.

◑ KEYED CONSTRUCTION JOINT FORMED BY A SURFACED BEVELED 2x6. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE.

PILE PLAN

⊕ INDICATES BATTERED PILING - BATTER PILING 3" PER FOOT IN DIRECTION SHOWN.

SECTION THRU ABUTMENT

ALL HORIZONTAL BARS IN ABUTMENT BODY ARE B402 BARS UNLESS SHOWN OR NOTED OTHERWISE.

FILL TO EL. 1092.22 BEFORE DRIVING PILING. UPPER LIMIT FOR "EXCAVATION FOR STRUCTURES" SHALL NOT EXCEED THIS ELEVATION.

PILE SPLICE DETAIL

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

Const. Spec. 1969	Drawn By D.J.A.	Plans Checked J.H.G.

NORTH ABUTMENT

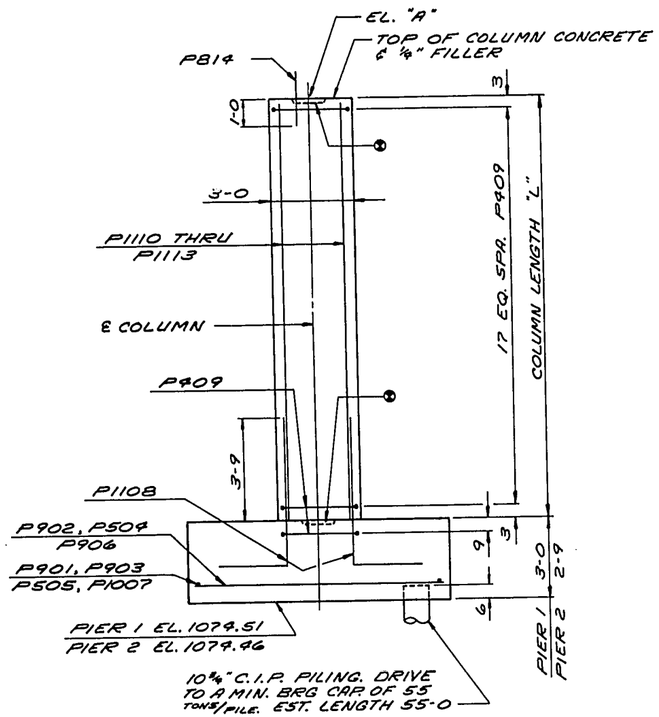
SHEET 4 OF 10

X 46273

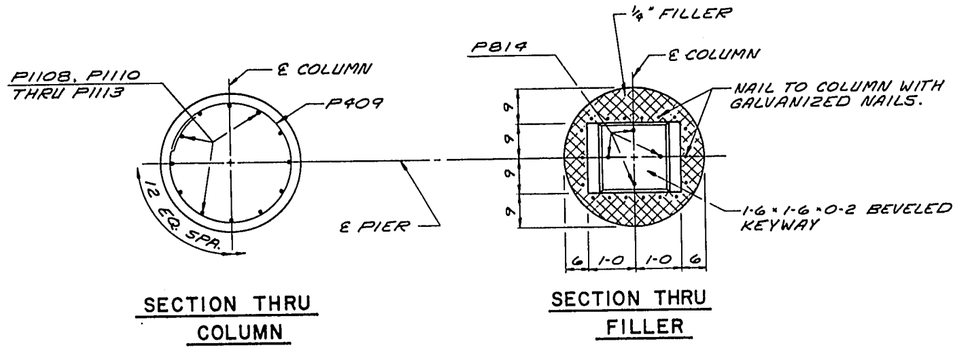
PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-71	42	296
FEDERAL PROJECT DESIGNATION: EMP F08-4(36)		

BILL OF BARS

BAR NO.	NO. REQ'D.	LENGTH	BENT	18,900# LOCATION
P901	32	10-6		EXTERIOR FOOTINGS - PIER 1
P902	20	9-6		" " - " 1
P903	32	11-0		INTERIOR " - " 1
P904	24	7-6		" " - " 1
P505	18	7-0		EXTERIOR " - " 2
P906	38	8-0		EXT. & INT. " - " 2
P1007	22	9-0		INTERIOR " - " 2
P1108	96	7-6	X	FOOTING & COLUMN - DOWELS
P409	152	9-5	X	COLUMN - TIES
P1110	24	17-1		PIER 1, COLUMN 1 & 4 - VERTICAL
P1111	48	17-2		PIER 1, COL. 2 & 3, PIER 2, COL. 1 & 4 - VERT.
P1112	12	17-9		PIER 2, COLUMN 2 - VERTICAL
P1113	12	17-3		" 2, " 3 - "
P814	32	2-0		COLUMN & SLAB - DOWELS

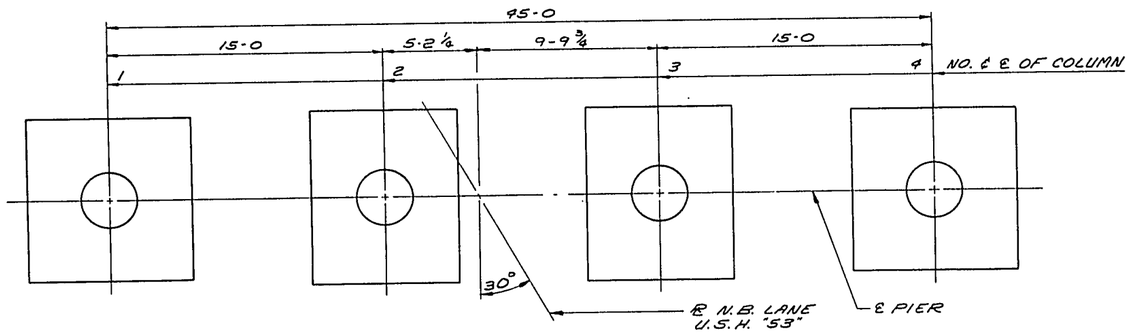


TYPICAL COLUMN ELEVATION

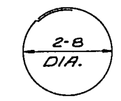


SECTION THRU COLUMN

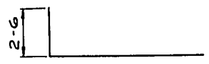
SECTION THRU FILLER



PIER PLAN



P409

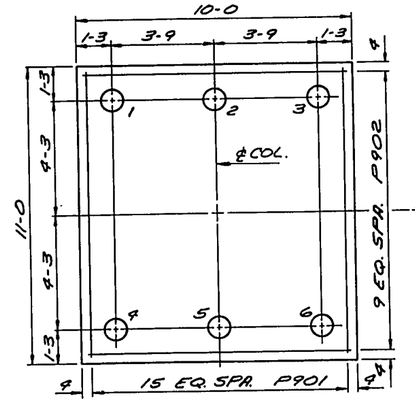


P1108

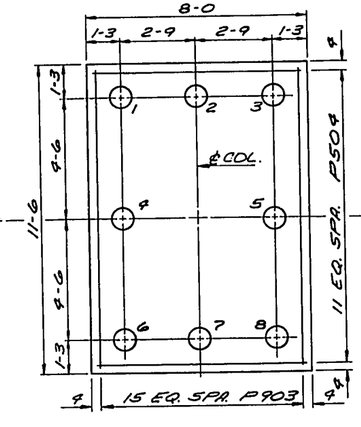
ELEVATION AND COLUMN LENGTH

		ELEV. "A"	LENGTH "L"
PIER 1	COLUMN 1	1094.76	17-3
	" 2	1094.92	17-4⅞
	" 3	1094.90	17-4⅝
	" 4	1094.79	17-3⅜
PIER 2	" 1	1094.56	17-4¼
	" 2	1094.71	17-6
	" 3	1094.70	17-5⅞
	" 4	1094.59	17-4½

NOTES:
TOP OF COLUMN ELEVATIONS (EL. "A") AND COLUMN LENGTH "L" ARE MEASURED AT ℄ PIER AND ℄ COLUMN.
SLOPE TOP OF COLUMN TO MATCH SLOPE OF SUPERSTRUCTURE.
① CONSTRUCTION JOINT KEY FORMED BY A SURFACED BEVELED 1-6 x 1-6 x 0-2.
P814 BARS MAY BE PLACED AFTER COLUMN CONCRETE IS POURED BUT BEFORE BEFORE INITIAL SET HAS TAKEN PLACE.
FOR PILE SPLICE DETAIL SEE SHEET 4.

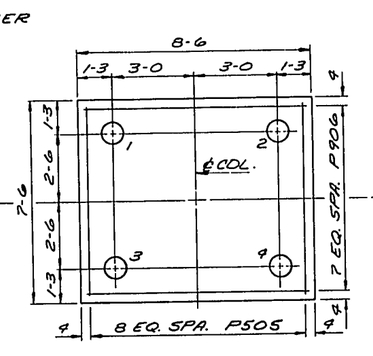


EXTERIOR FOOTING

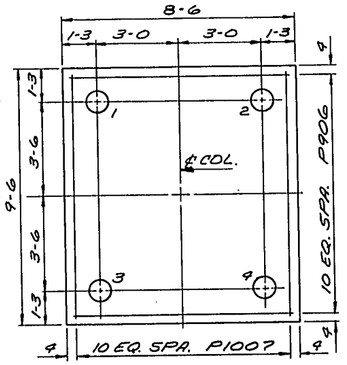


INTERIOR FOOTING

TYPICAL FOOTING PLAN - PIER 1



EXTERIOR FOOTING



INTERIOR FOOTING

TYPICAL FOOTING PLAN - PIER 2

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

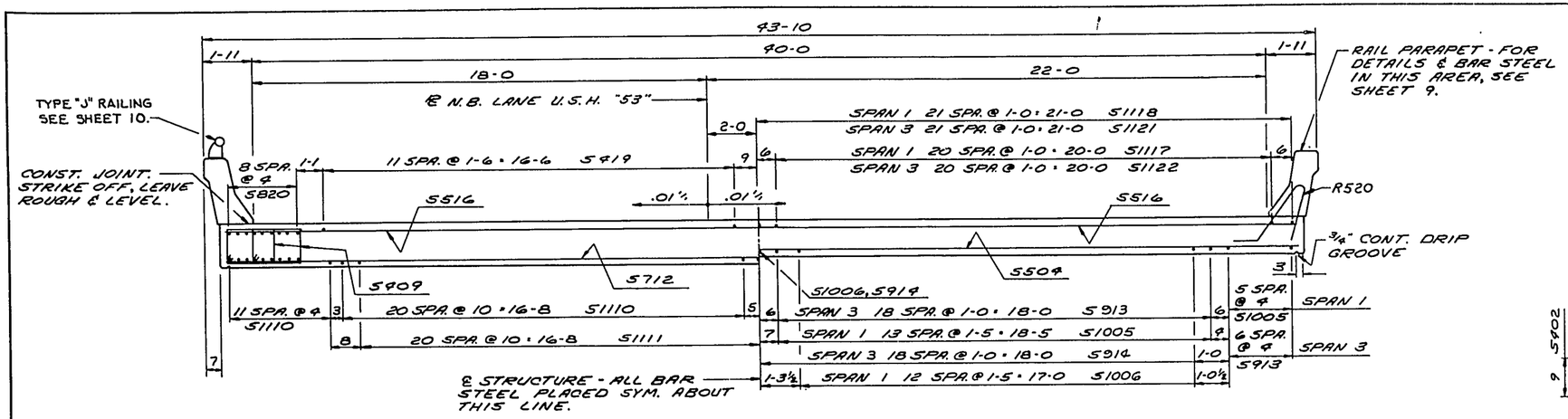
Const. Spec. 1969	Drawn By D.J.A.	Plans Checked J.H.G.

PIERS

SHEET 5 OF 10

X46274

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-71	43	296
FEDERAL PROJECT DESIGNATION: EMP F08-4(36)		

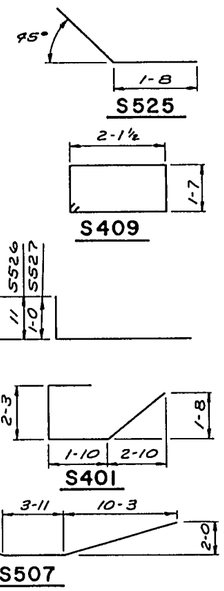


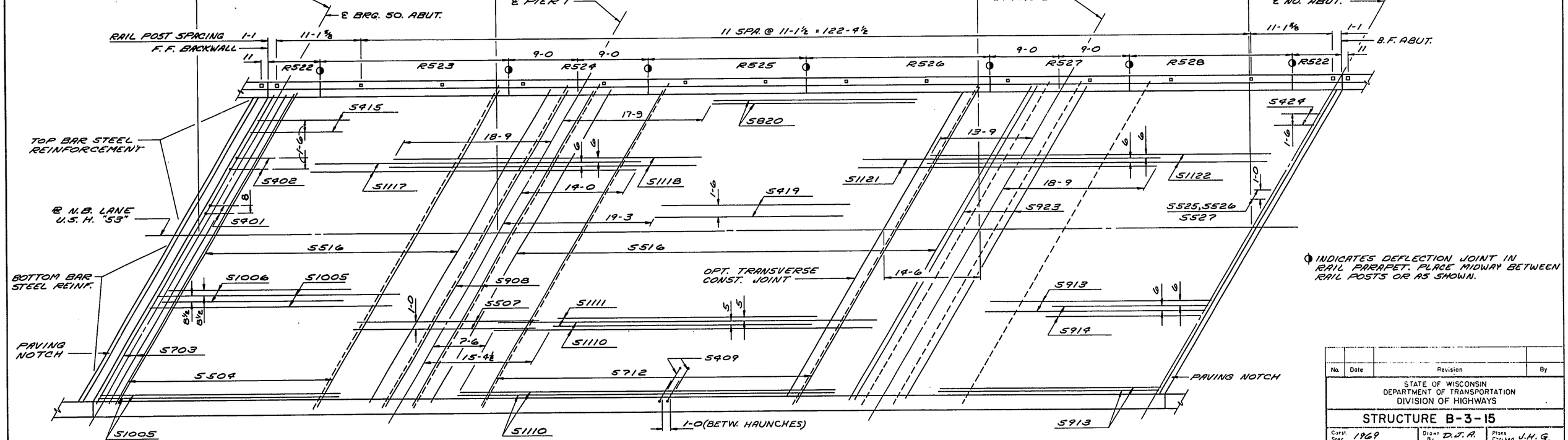
CROSS SECTION THRU ROADWAY

BILL OF BARS

BAR NO.	NO. REQ'D.	LENGTH	BENT	109,280 # LOCATION
S901	64	8-8	X	SLAB @ SO. ABUT. HAUNCH
S902	29	6-8	X	" @ " " "
S703	3	98-10		" @ " " " -TRANS.
S504	69	98-10		" SPAN 1 & 3 - TRANS.
S1005	40	32-0		" " 1 - LONG.
S1006	27	23-6		" " 1 - "
S507	86	29-8	X	" @ PIER HAUNCH
S908	20	98-10		" @ " " - TRANS.
S909	189	7-11	X	" STIRRUP - SPAN 2
S1110	66	52-0		" SPAN 2 - LONG.
S1111	91	36-3		" " 2 - "
S712	98	98-10		" " 2 - TRANS.
S913	52	30-3		" " 3 - LONG.
S914	37	21-3		" " 3 - "
S915	29	9-6		" " 1 - "
S516	98	98-10		" " 1, 2, & 3 - TRANS.
S1117	92	96-3		" OVER PIER 1 - LONG.
S1118	93	39-6		" " " 1 - "
S919	29	28-6		" SPAN 2 - LONG.
S820	18	31-6		" EDGE SPAN 2 - LONG.
S1121	93	39-6		" OVER PIER 2 - LONG
S1122	92	97-3		" " " 2 - "
S923	28	98-10		" @ PIER HAUNCH - TRANS.
S924	29	6-6		" SPAN 3 - LONG.
S525	93	9-1	X	" @ NO. ABUT. HAUNCH
S526	93	3-0	X	" @ " " "
S527	93	2-11	X	" @ " " "

FOR RAIL PARAPET BARS, SEE SHEET 9.





PLAN

RAIL POST AND DEFL. JOINT SPACING SAME FOR BOTH SIDES.

◐ INDICATES DEFLECTION JOINT IN RAIL PARAPET. PLACE MIDWAY BETWEEN RAIL POSTS OR AS SHOWN.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

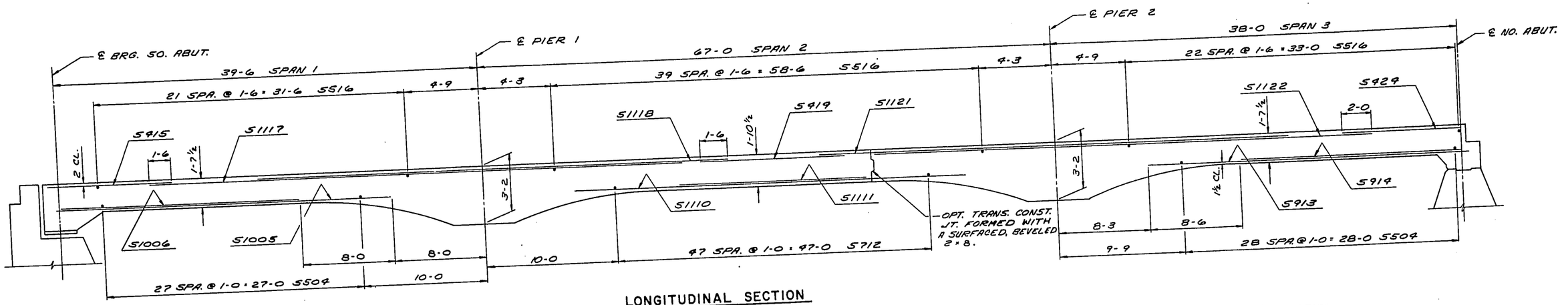
Const. Spec. 1969	Drawn By D.J.A.	Plans Checked J.H.G.

SUPERSTRUCTURE

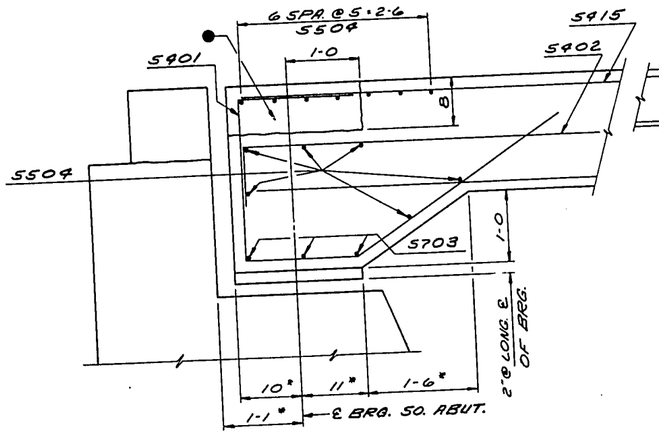
SHEET 6 OF 10

X46275

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-71	44	296
FEDERAL PROJECT DESIGNATION EMP F08-4(36)		

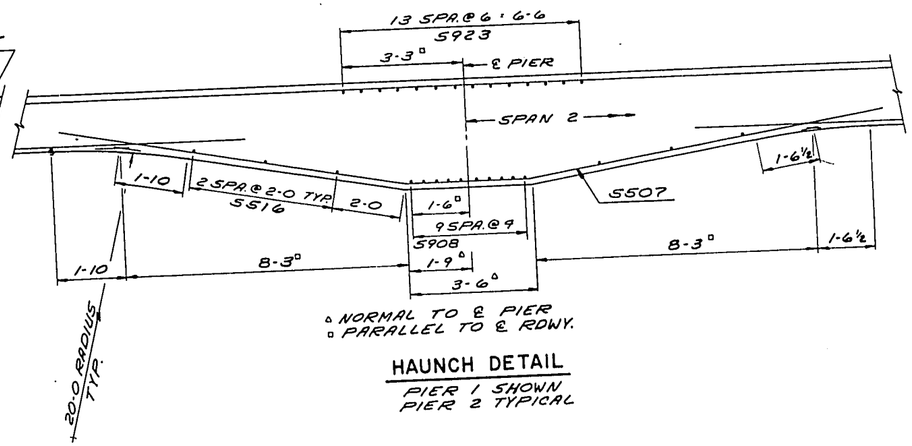


LONGITUDINAL SECTION



DETAIL AT SOUTH ABUT.

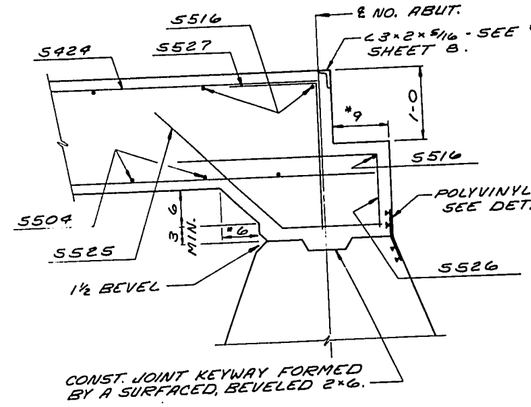
*NORMAL TO ℄ ABUT.



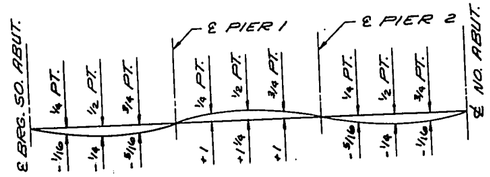
△ NORMAL TO ℄ PIER
□ PARALLEL TO ℄ RDWY.

HAUNCH DETAIL

PIER 1 SHOWN
PIER 2 TYPICAL



DETAIL AT NORTH ABUT.



CAMBER DIAGRAM

DEAD LOAD DEFLECTION IS 0.9 × CAMBER SHOWN. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

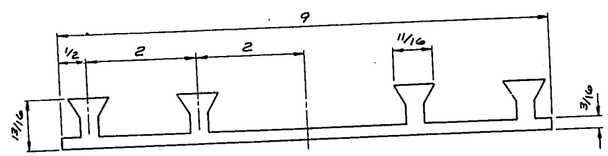
NOTES

ALTERNATE TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROX. 3-0 CENTERS. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROX. 4·0 CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MIN. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

PARAPETS ARE TO BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

● CONCRETE IN THIS AREA SHALL BE PLACED AFTER SUPERSTRUCTURE IS POURED & EXP. JOINT HAS BEEN SET. REMOVE FORMS FROM END OF SLAB BEFORE MAKING THIS POUR. DO NOT REMOVE FALSEWORK WHICH IS SUPPORTING THE DECK. JOINT MAY BE OMITTED WITH THE APPROVAL OF THE ENGINEER.



POLYVINYL CHLORIDE WATERSTOP

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

Const. Spec. 1969	Drawn By D.J.A.	Plans Checked J.H.G.

SUPERSTRUCTURE

SHEET 7 OF 10

X46276

	SHEET NUMBER	TOTAL SHEETS
1196-6-71		
FEDERAL PROJECT DESIGNATION EMP F08-4(36)	45	296

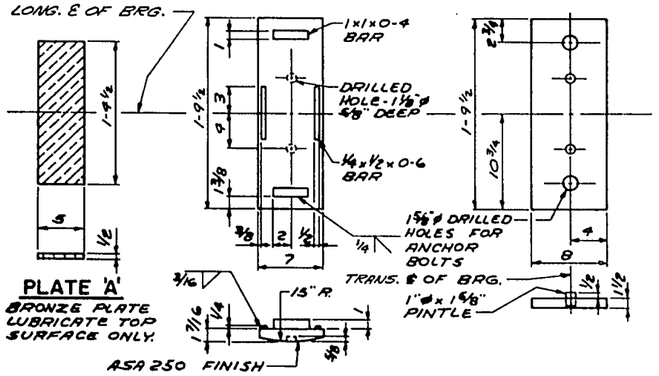
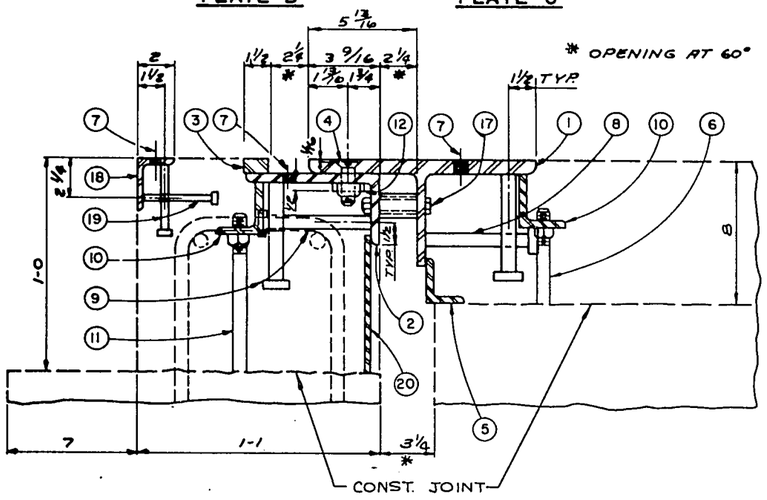


PLATE 'A'

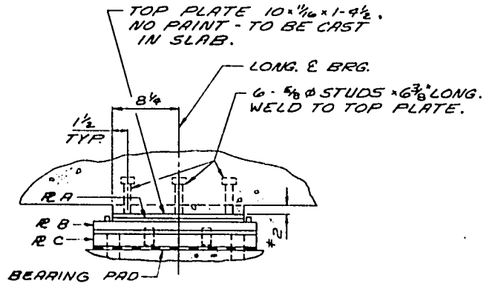
BRONZE PLATE LUBRICATE TOP SURFACE ONLY.

PLATE 'B'

PLATE 'C'

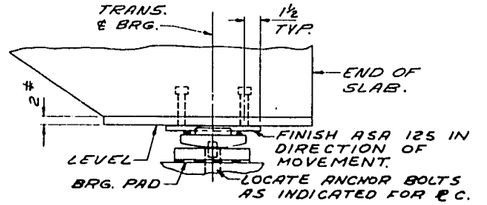


TRANSVERSE SECTION THRU JOINT



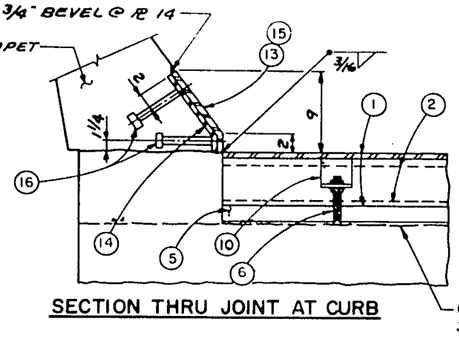
BEARING ELEVATION

BEARING DETAILS

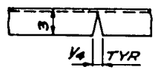


BEARING ASSEMBLY

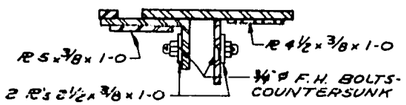
*@ LONG. ℄ OF BRG.



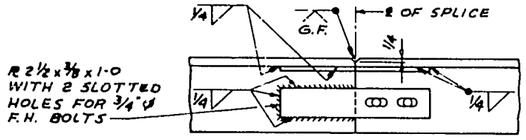
SECTION THRU JOINT AT CURB



DETAIL 19

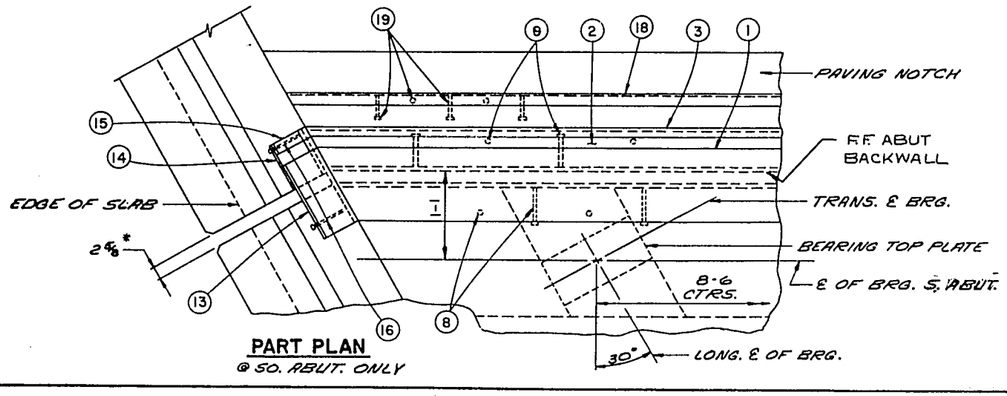


SECTION THRU SPLICE



OPTIONAL FIELD SPLICE DETAIL

ONE SPLICE SHALL BE PERMITTED IN JOINT.



PART PLAN

@ SO. ABUT. ONLY

BEARING NOTES

ALL MATERIAL EXCLUDING ANCHOR BOLTS, PINTLES, NUTS, STUDS & WASHERS SHALL BE MADE OF A588 STEEL. PINTLES SHALL BE MADE OF A449 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 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

LEGEND

1. WT 6 x 39.5 x ROADWAY WIDTH. WELDMENT MAY BE USED. SEE DETAIL 'A'.
2. ℄ 7 x 9 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 ROWY. WIDTH. WELD TO ℄ #2 WITH 2 LINES OF ¼ FILLET WELD. 2 @ ℄.
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 ℄ #2. 13/16"ø HOLE C'SK 7/16 DEEP IN WT #1.
5. ℄ 2½ x 2 x ⅛ x RDWY. WIDTH. 3/16 CONTINUOUS FIELD WELD TO WT #1. 2½" LEG VERT.
6. ¾"ø x 6 LONG ROD & NUT. THREAD 3." TACK WELD NUT TO ℄ #10.
7. VENT HOLES, 13/16 ø AT 2-0 CTRS. IN WT #1 AND ℄ #2 AND 3-0 CTRS. IN 18.
8. ⅝"ø STUDS x 6 ⅜" LONG. WELD TO WT #1 AT 6" ALTERNATE CENTERS.
9. ⅝"ø STUDS x 6 ⅜" LONG. WELD TO ℄ #2 AT 9 ALTERNATE CENTERS.
10. ℄ 3 x 2½ x ⅜ x 3" LONG AT 3-0 CENTERS. WELD TO ℄ #2 AND WT #1 PROVIDE 15/16 ø HOLES IN 2½" LEG FOR RODS #6 AND #11.
11. ¾ ø ROD x 9 LONG & NUT. THREAD 3." TACK WELD NUT TO ℄ #10.
12. ¼ 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 ℄ #2.
13. R 1¼ x 3/8 - FIELD WELD TO WT. #1.
14. R ⅛ x ⅜ - WELD TO R'S WITH ONE LINE OF ¼ MAX. FILLET WELD, N.S. & F.S.
15. R 1¾ x ⅜ - FIELD WELD TO BAR #3.
16. ⅝"ø STUDS x 6 ⅜" LONG. WELD TO R'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 ℄ #2 FOR BOLT.
18. ℄ 3 x 2 x 5/16 x RDWY. WIDTH. ONE WELDED FIELD SPLICE WILL BE PERMITTED. SEE DETAIL #19. ONE ℄ REQ'D @ EACH ABUT.
19. ⅜"ø STUDS x 4" LONG. WELD TO ℄ 18 AT 6" ALTERNATE CENTERS.
20. R 7½ x ¼ x RDWY. WIDTH. 5/16 CONTINUOUS FIELD WELD TO ℄ #2.

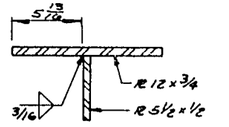
EXPANSION JOINT NOTES

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-3-15

Const Spec 1969	Drawn By D.J.A.	Plans Checked J.H.G.

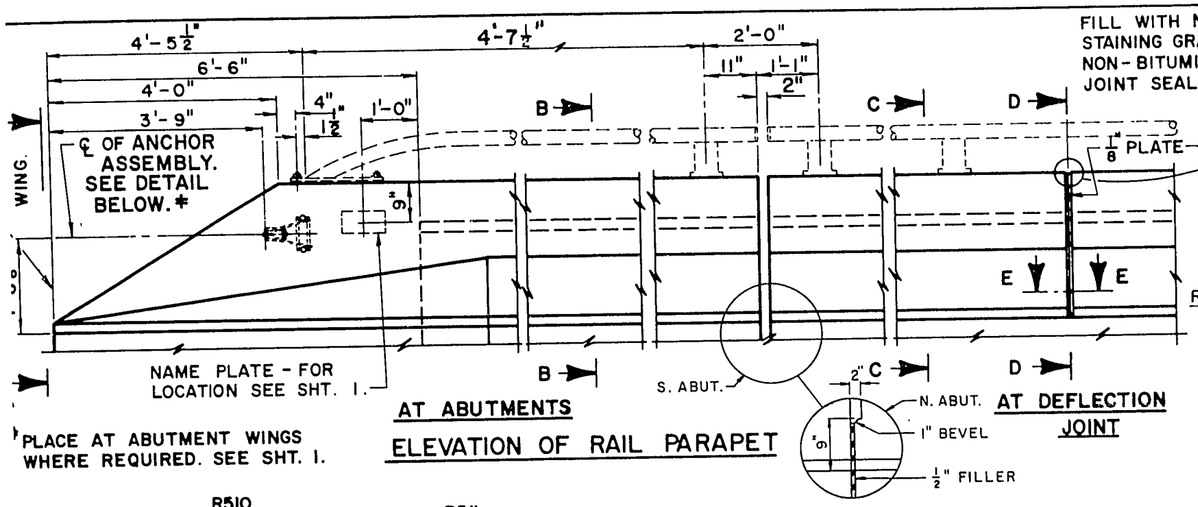
EXPANSION JOINT & BEARING DETAILS

SHEET 8 OF 10

X46277

Form C B 12 0-

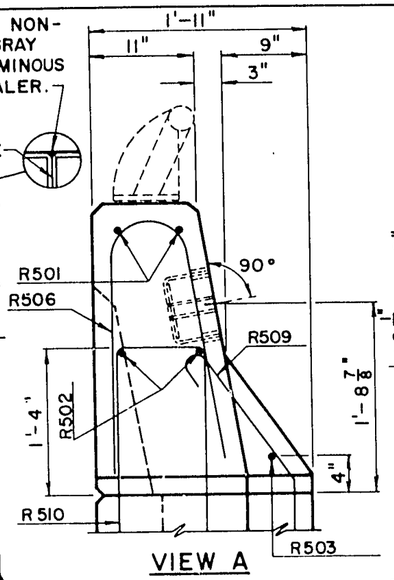
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-71	46	296
FEDERAL PROJECT DESIGNATION EMP F08-4(36)		



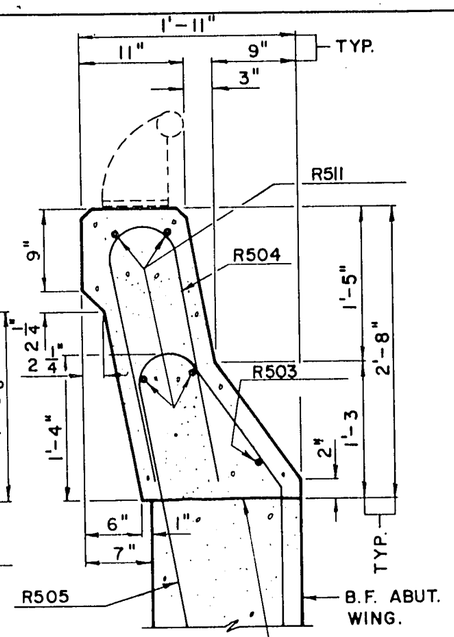
AT ABUTMENTS

ELEVATION OF RAIL PARAPET

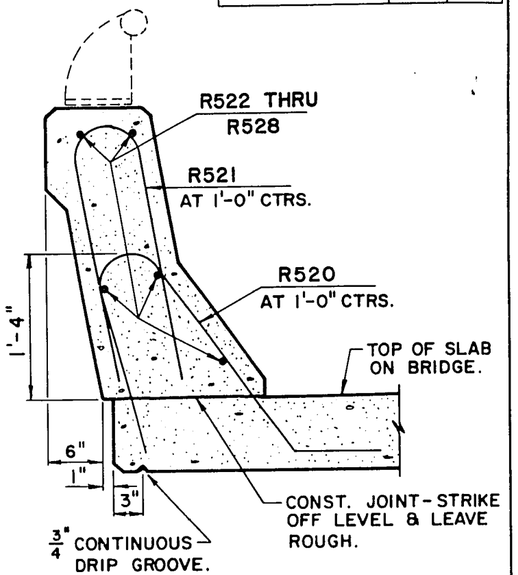
AT DEFLECTION JOINT



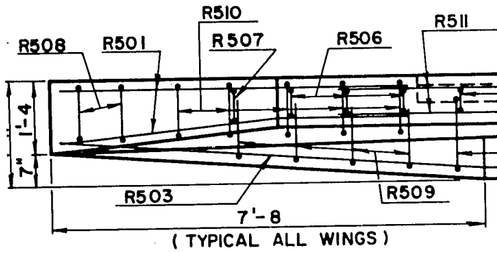
VIEW A

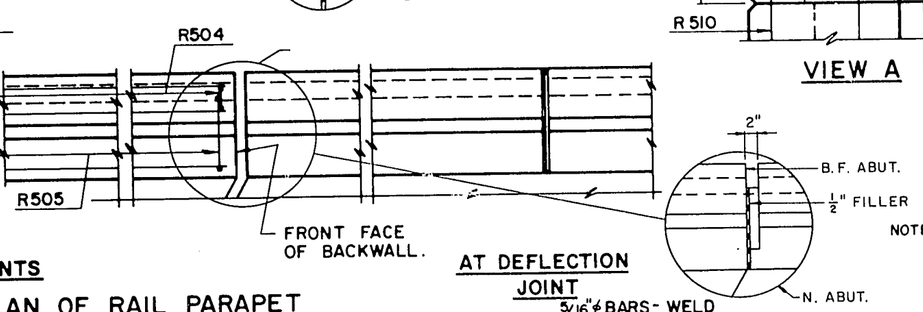


SECTION B



SECTION C



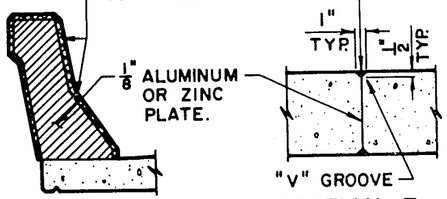


AT ABUTMENTS

PART PLAN OF RAIL PARAPET

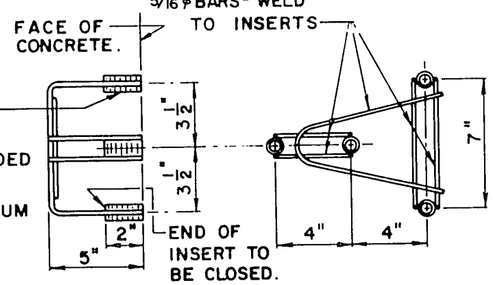
AT DEFLECTION JOINT

NOTE: BENDING DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.



SECTION D

SECTION E



DETAIL OF ANCHOR ASSEMBLY FOR BEAM TYPE GUARD RAIL

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

RAIL PARAPET

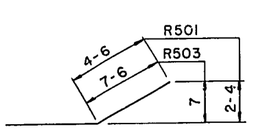
BILL OF BARS

	MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
AT ABUTS. - 710#	R501	8	6-10	X	WINGS 1 THRU 4
	R502	8	4-5		" 1 " 4
	R503	4	9-8	X	" 1 " 4
	R504	16	5-0	X	" 1 " 4
	R505	16	5-10	X	" 1 " 4
	R506	12	5-2	X	" 1 THRU 4
	R507	4	4-2	X	" 1 " 4
	R508	8	4-10	X	" 1 " 4
	R509	16	3-3	X	" 1 " 4
	R510	20	5-10	X	" 1 " 4
	R511	16	5-6		" 1 " 4
AT SUPER. - 4670#	R520	292	4-9	X	SLAB & RAIL PARAP.
	R521	292	5-0	X	RAIL PARAPET
	R522	20	6-2		" "
	R523	10	24-9		" "
	R524	10	17-8		" "
	R525	10	23-4		" "
	R526	10	25-0		" "
	R527	10	17-8		" "
	R528	10	23-0		" "

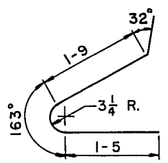
NOTES

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.

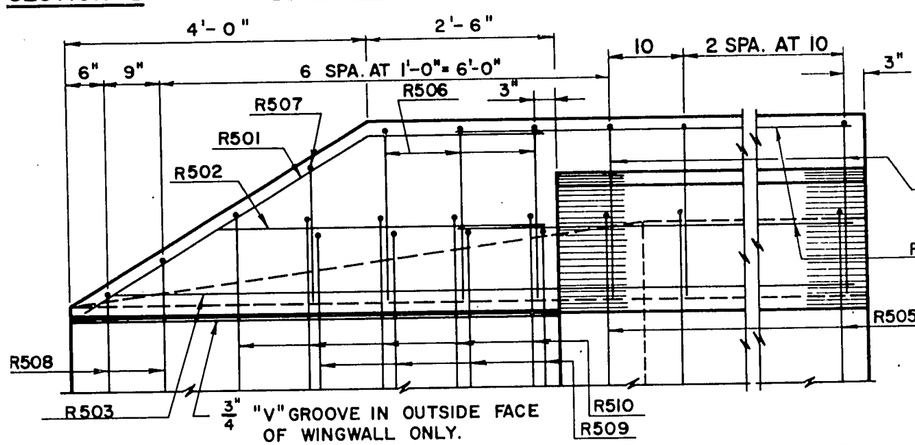
WORK THIS SHEET WITH SHEET TITLED "TUBULAR RAILING, TYPE 'J'".



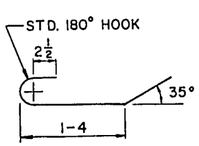
R501, R503



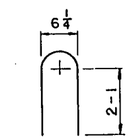
R520



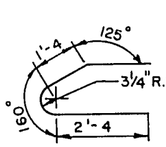
VIEW SHOWING OUTSIDE FACE OF PARAPET & REINF.



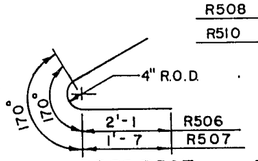
R509



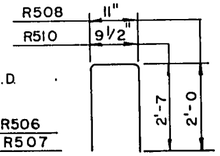
R504, R521



R505



R506, R507



R508, R510

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

Const. Spec. 1969	Drawn By D.J.A.	Plans Checked J.H.G.

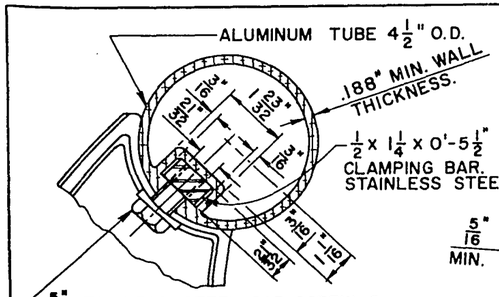
SLOPED FACE PARAPET "A"

SHEET 9 OF 10

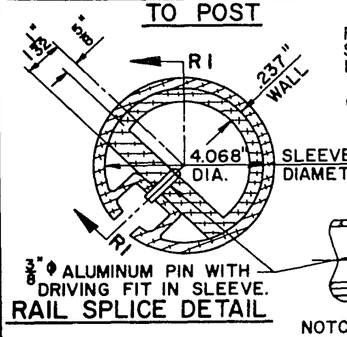
X 46278

Form E B 12 69

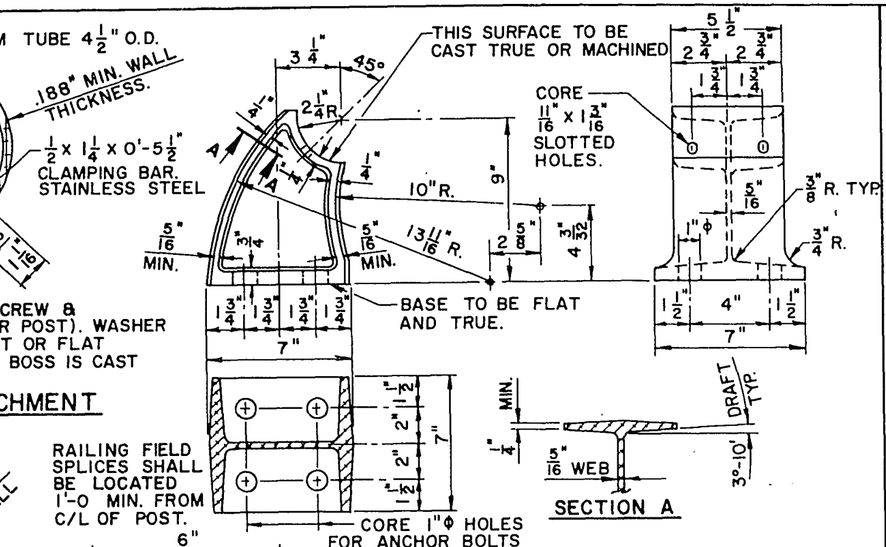
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-71		
FEDERAL PROJECT DESIGNATION	47	296
EMPF08-4(36)		



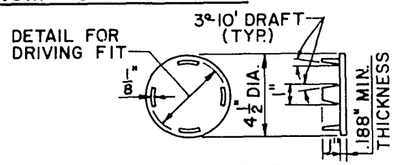
DETAIL OF RAIL ATTACHMENT TO POST



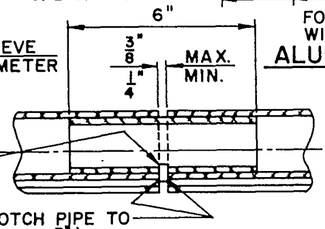
RAIL SPLICE DETAIL



ALUMINUM POST CASTING

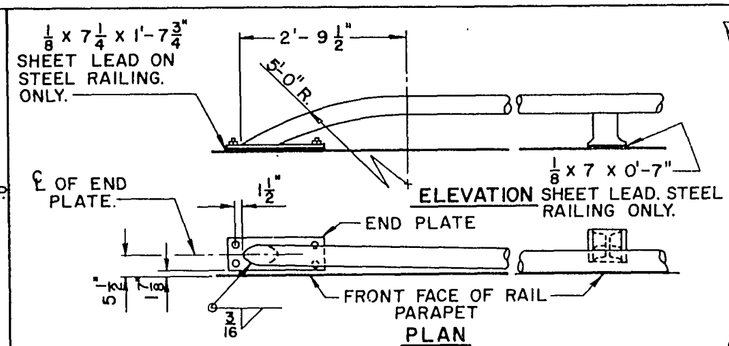


RAIL CLOSURE CAP DETAIL

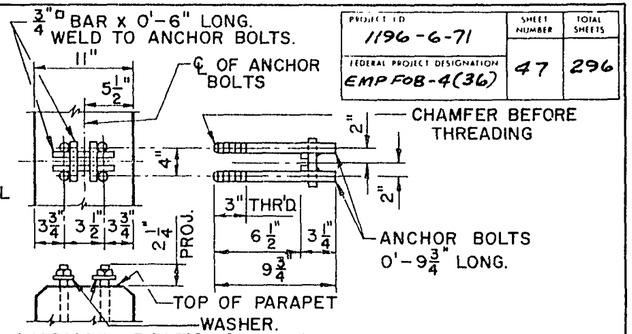


SECTION R1

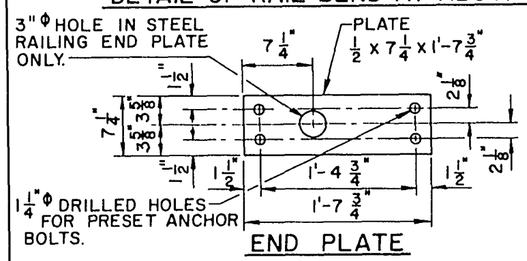
NOTES:
MAX. REDUCTION IN DIAMETER OF BENT SECTION SHALL BE 3%.
MAX. REDUCTION IN SLOT WIDTH IN BENT TUBING SHALL BE 3/16".
WALL THICKNESS OF TUBING SHOWN ABOVE SHALL BE MIN. NOMINAL AVERAGE WALL THICKNESS.



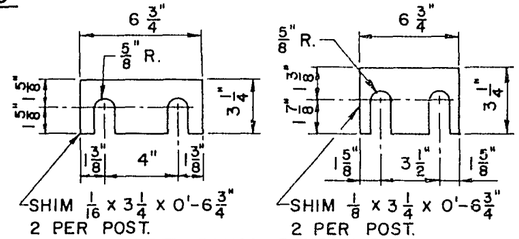
DETAIL OF RAIL BEND AT ABUTMENTS



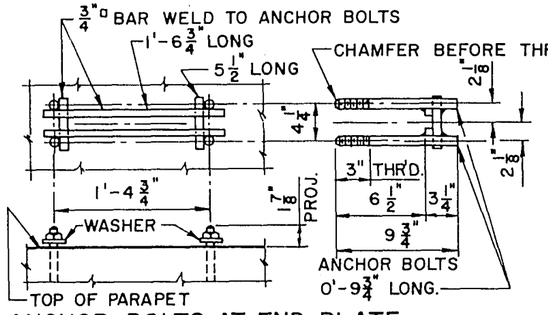
ANCHOR BOLTS AT POSTS



END PLATE



POST SHIM DETAILS



ANCHOR BOLTS AT END PLATE

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.

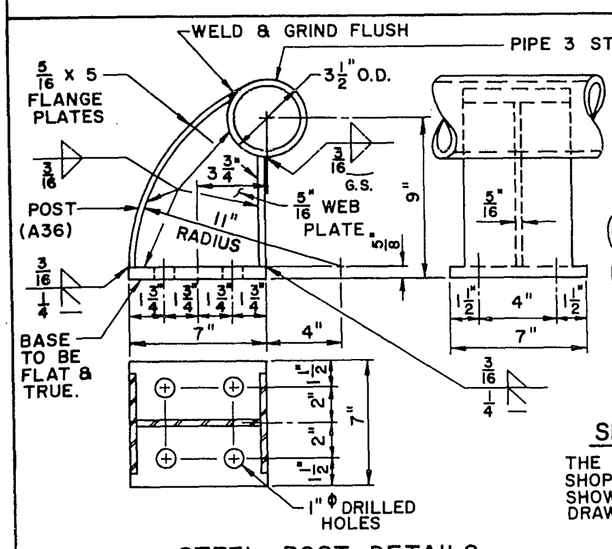
RAIL POSTS SHALL BE SET NORMAL TO GRADE.

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.

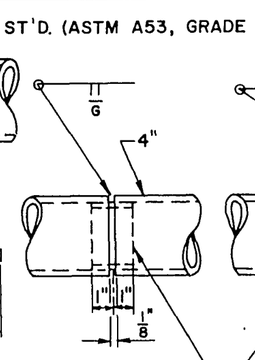
ANCHOR BOLTS, NUTS & WASHERS FOR STEEL RAILING SHALL BE EITHER STAINLESS STEEL OR ASTM A307. IF A307 IS USED ELECTRO-GALVANIZE NUTS, WASHERS & TOP 3½" OF ANCHOR BOLTS.

SHIMS SHALL CONFORM TO SAME MATERIAL AS POSTS.



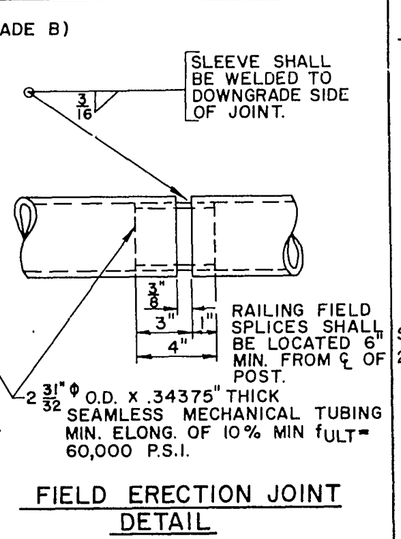
STEEL POST DETAILS

NOTE: GALVANIZE ENTIRE RAILING AFTER FABRICATION INCLUDING SHIMS.

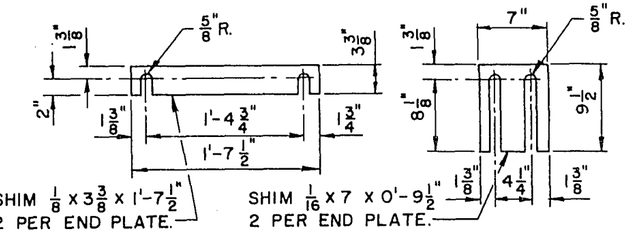


SHOP RAIL SPLICE DETAIL

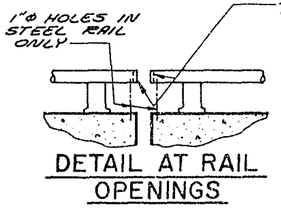
THE LOCATION OF THE SHOP SPLICE MUST BE SHOWN ON THE SHOP DRAWINGS



FIELD ERECTION JOINT DETAIL



END PLATE SHIM DETAILS



DETAIL AT RAIL OPENINGS

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-15

Const Spec 1969	Drawn By D.J.A.	Plans Checked J.H.G.

TUBULAR RAILING TYPE 'J'

SHEET 10 OF 10

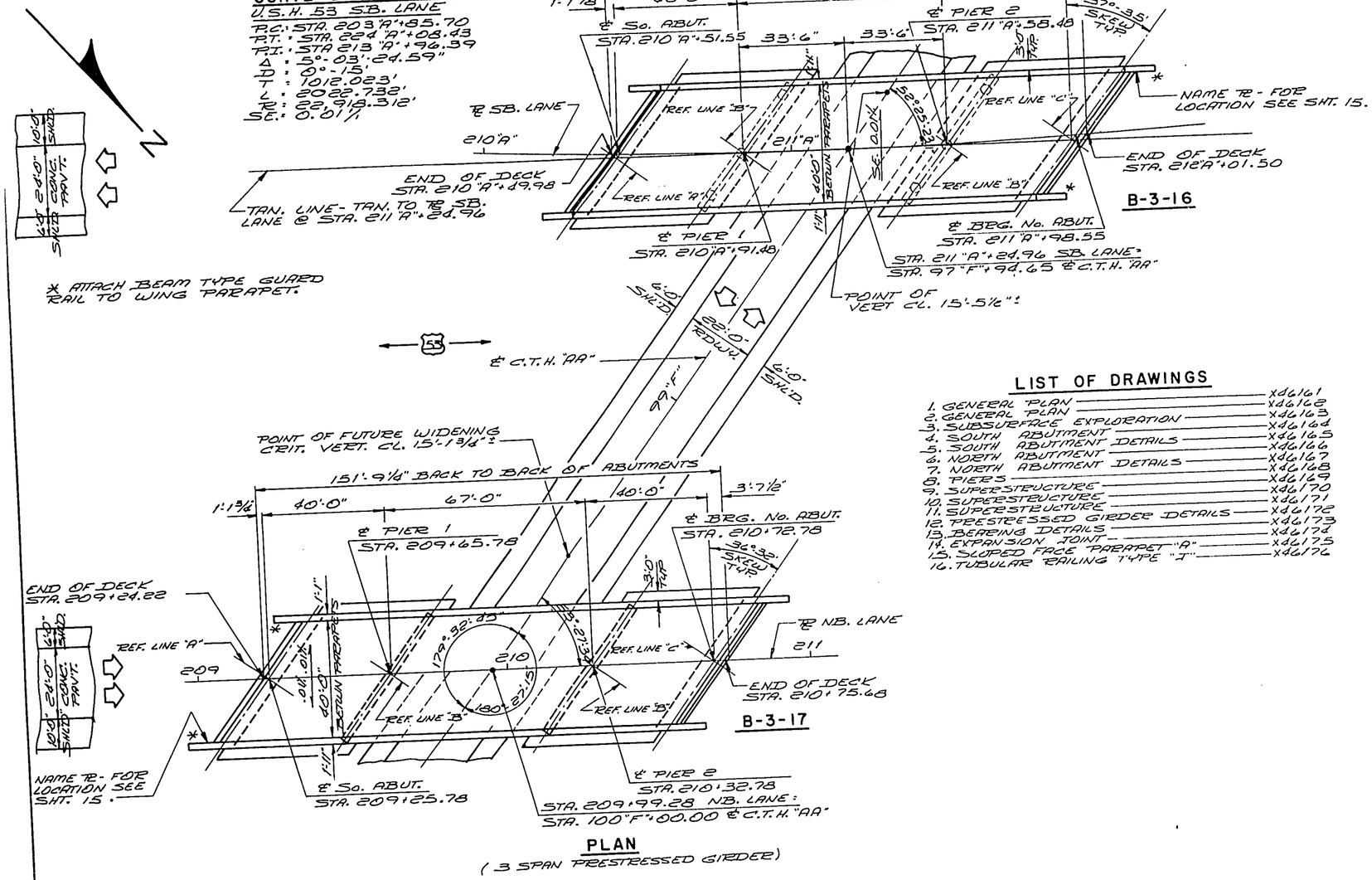
X 46279

Project I.D.	Sheet Number	Total Sheets
1196-6-76	48	296
Federal Project Designation		
EMP FOB-4(36)		

CURVE DATA B-3-16

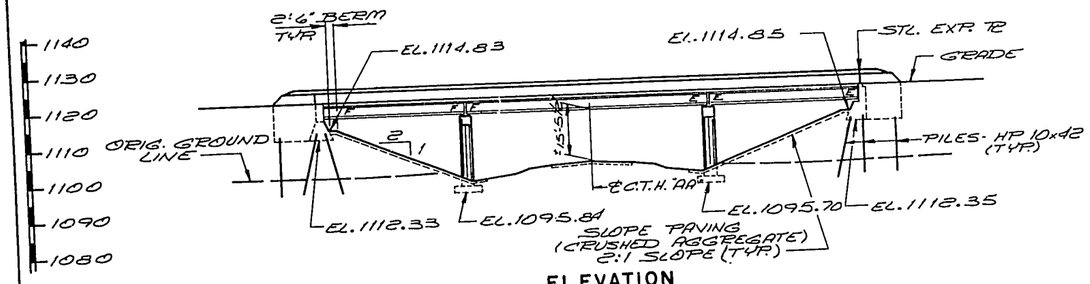
U.S.H. 53 S.B. LANE

P.C.: STA. 203 "A"+85.70
P.T.: STA. 224 "A"+08.68
P.I.: STA 213 "A"+96.39
Δ : 5°-03'-24.59"
D : 0°-15'
T : 1012.023'
L : 2022.732'
R : 22,918.312'
S.E.: 0.01 /'



* ATTACH BEAM TYPE GUARD RAIL TO WING PARAPET.

PLAN
(3 SPAN PRESTRESSED GIRDER)



ELEVATION
(NORMAL TO ℄ C.T.H. "AA")

DESIGN DATA

LIVE LOAD: HS-20
ALLOWABLE DESIGN STRESSES:

CONCRETE MASONRY - GRADE "AA"	SLAB	f_c: 1,200 P.S.I.
	ALL OTHER	f_c: 1,400 P.S.I.
BAR STEEL REINFORCEMENT		f_s: 20,000 P.S.I. n: 10
STRUCTURAL CARBON STEEL		F_s: 20,000 P.S.I.
PRESTRESSED GIRDERS		f_c' 6,000 P.S.I.
CONCRETE MASONRY		
STRANDS- ½" DIA. WITH ULTIMATE TENSILE STRENGTH OF		270,000 P.S.I.

FOUNDATION DATA:
SUPPORT ABUTMENTS ON HP 10x42 STEEL "H" PILES. EST. 25'-0" LONG, ℄ DRIVEN TO A MIN. BEG. VALUE OF 55T / PILE. SUPPORT PIERS ON SPREAD FOOTINGS WITH A MINIMUM ALLOWABLE BEG. PRESSURE OF 2½ T / SQ. FT.

GENERAL NOTES

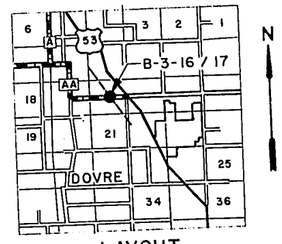
DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH & TRUE.
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING, CRUSHED AGGREGATE, TO THE EXTENT SHOWN ON THIS SHT. & 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 THE SLOPE PROTECTION & THE QUANTITIES WERE COMPUTED FROM THIS LINE.
FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.O. DESIGNATION M153 OR M213.

LIST OF DRAWINGS

TRAFFIC VOLUME

U.S.H. 53
A.D.T. = 5300 (1980)

C.T.H. "AA"
A.D.T. = 250 (1980)



LAYOUT

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-16

U.S.H. 53 OVER C.T.H. "AA"

County BARRON		City / Village TN. DOVRE	
Design Spec. A.A.S.H.O. 1969		Load HS-20	Const. Spec. 1969
Designed By G.H.A.	Design Checked R.L.P.	Drawn By BUDD	Plans Checked G.H.A.

Approved W. A. Kleiser, Chief Bridge Engineer — Date 11-17-71

GENERAL PLAN

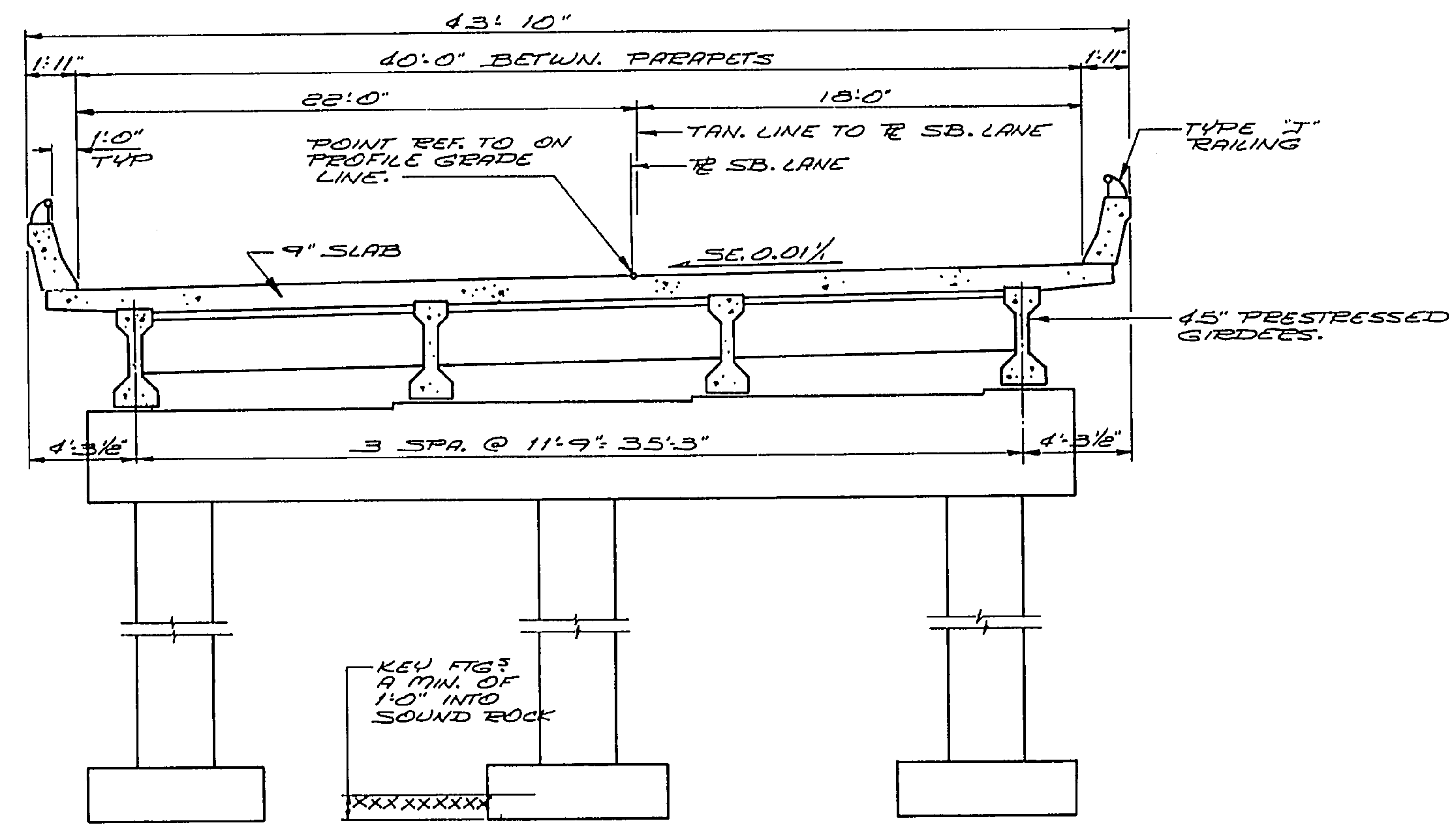
SHEET 1 OF 16

X46161

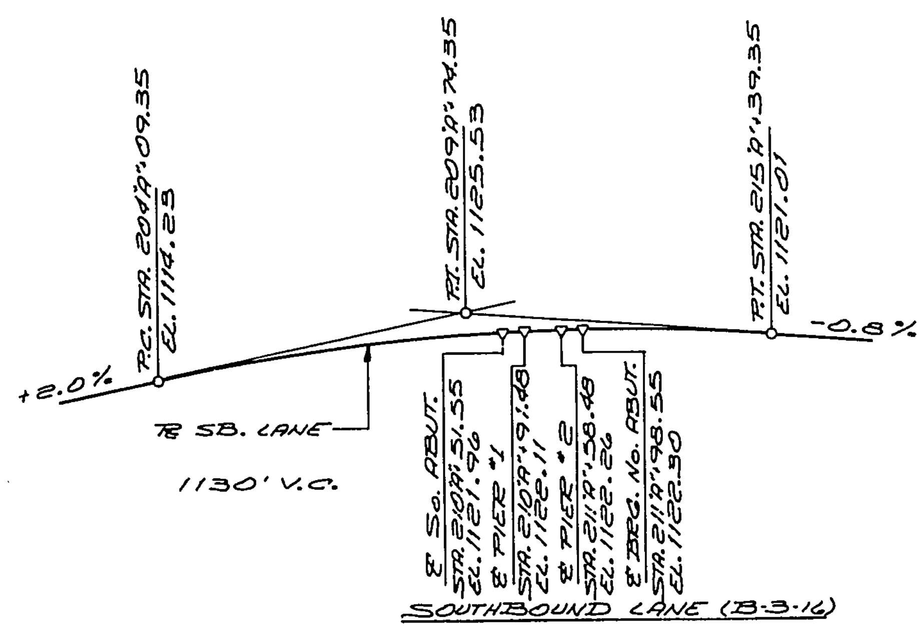
TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	SUPER.	So. ABUT.	PIER 1	PIER 2	No. ABUT.	TOTAL
EXCAVATION FOR STRUCTURES	C.Y.	—	45	150	150	50	395
CONCRETE MASONRY	C.Y.	266.4	60.0	69.3	69.3	92.0	557.0
PRESTRESSED GIRDERS, I TYPE 45"	L.F.	590	—	13,590	13,590	—	590
BAR STEEL REINFORCEMENT	LBS.	61,090	2,700	~~[illegible]~~	~~[illegible]~~	3,730	~~[illegible]~~ 94,700
STRUCTURAL CARBON STEEL	LBS.	3,780	—	—	—	—	3,780
STRUCTURAL LOW ALLOY STEEL	LBS.	2,070	—	—	—	—	2,070
LUBRICATED BRONZE PLATES	LBS.	190	—	—	—	—	190
BEARING PADS	S.F.	17	—	—	—	—	17
BEARING PADS, ELASTOMERIC	S.F.	19	—	—	—	—	19
STEEL PILING, DELIVERED & DRIVEN HP 10 x 42	L.F.	—	403 ~~400~~	—	—	391 ~~400~~	794 ~~800~~
TUBULAR RAILING, TYPE "J"	L.F.	332	—	—	—	—	332
SLOPE PAVING, CRUSHED AGGREGATE	S.Y.	—	255	—	—	256	511
NON-BID ITEMS							
ALUMINUM or ZINC PLATE	S.F.	35	—	—	—	—	35
POLYVINYL CHLORIDE WATERSTOP	L.F.	—	55	—	—	59	114
FILLER	SIZE	—	—	—	—	—	1/4"-1/2"-5/8" & 3/4"

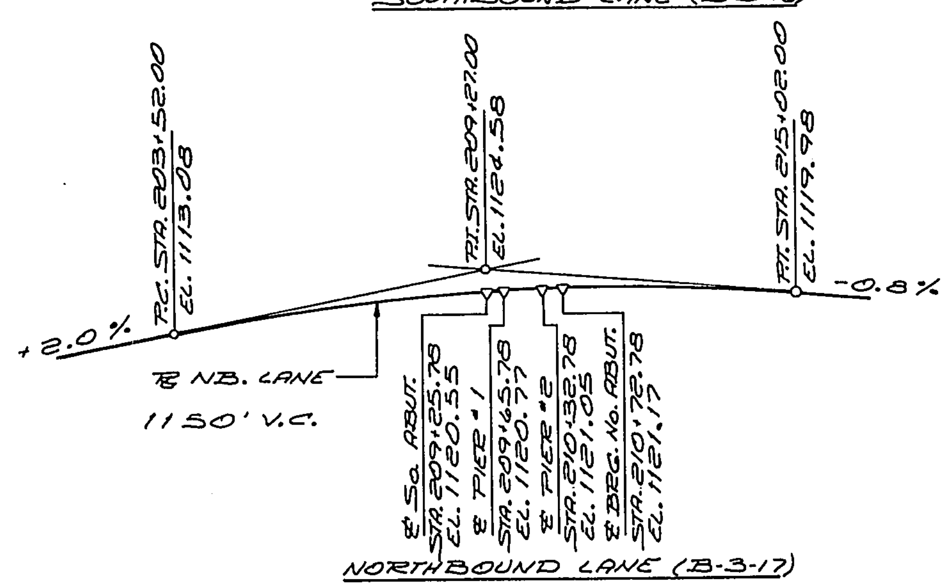
BAR STEEL QUANTITY WAS DOUBLED ON THE PLAN



CROSS SECTION THRU ROADWAY LOOKING NORTHWEST

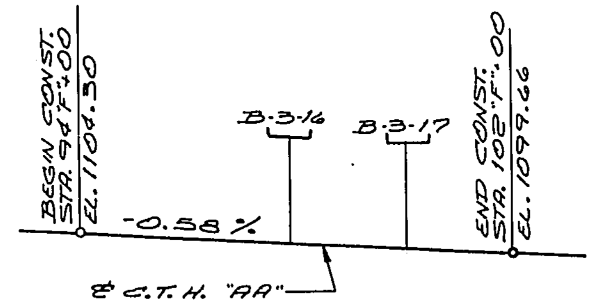


SOUTHBOUND LANE (B-3-16)



NORTHBOUND LANE (B-3-17)

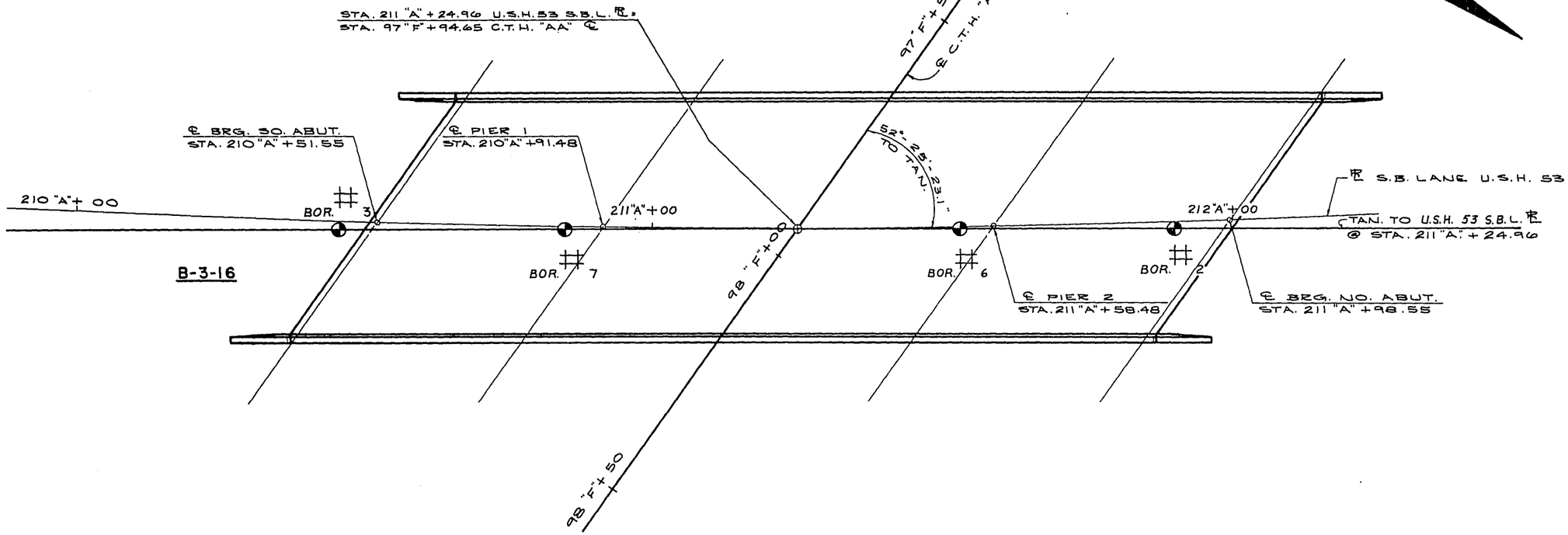
PROFILE GRADES U.S.H. 53

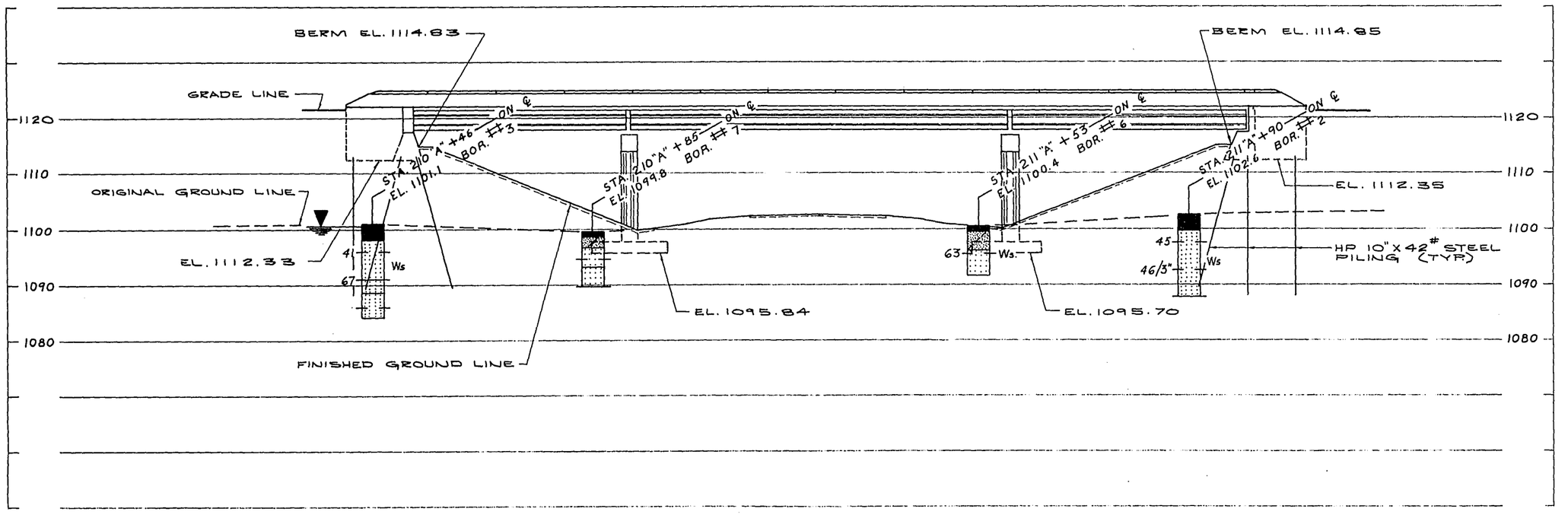


PROFILE GRADE C.T.H. "AA"

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-3-16			
Const. Spec. 1969	Drawn By BUDD	Plans Checked G.H.A.	
GENERAL PLAN		SHEET 2 OF 16	
		X 46162	

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76	50	296
FEDERAL PROJECT DESIGNATION: EMP FOB-4(36)		





ABBREVIATIONS

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

MATERIAL SYMBOLS

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

LEGEND OF PROBING

Probing No.
Sta.
Elevation
7 Average Blows Per Foot
Refusal 95.6

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

LEGEND OF BORING

Boring No.
Sta.
Elev.
Unconfined Strength — 7.7
7
Sandy Gravel
Blows Per Ft. Using 140# Wt. Falling 30"
F.
Boulders or Cobbles
Wash Sample
Sand
Shelby Tube — S. T.
Ground Water Elevation
Silty Clay
No Ground Water Observed Above This Elevation
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-3-16

Const. Spec. 1969 | Drawn By D.C.M.TLA | Plans Checked G H A

SUBSURFACE EXPLORATION

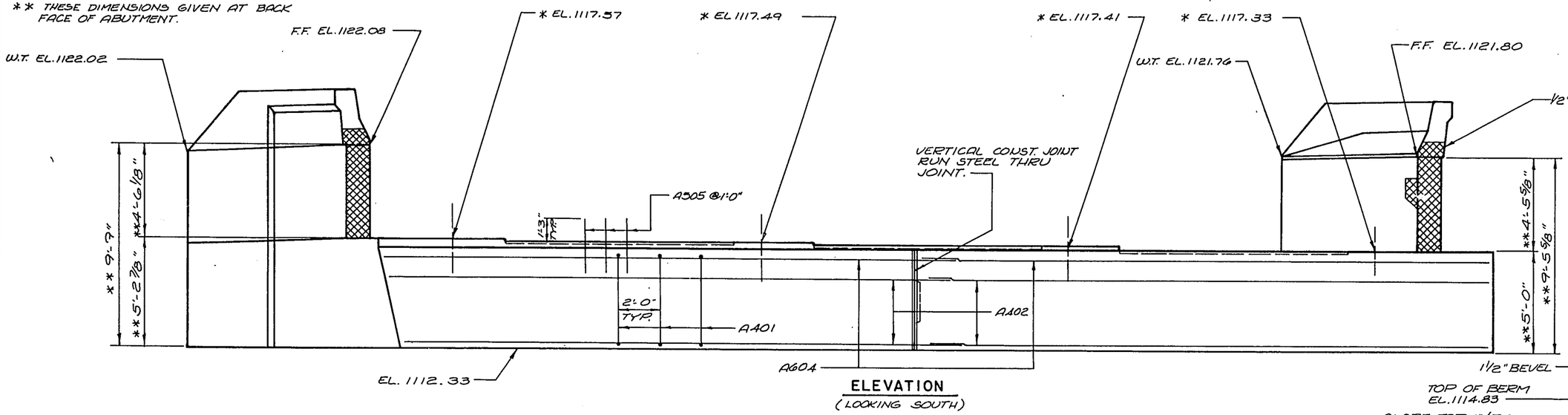
SHEET 3 OF 16

X 46163

Form F. B 12-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76		
FEDERAL PROJECT DESIGNATION	51	296
EMPF08-4(86)		

* THESE ELEVATIONS GIVEN AT ℄ OF ABUTMENT
** THESE DIMENSIONS GIVEN AT BACK FACE OF ABUTMENT.



ELEVATION
(LOOKING SOUTH)

NOTE : FOR RAIL PARAPET DETAILS SEE SHEET 15
FOR PILE SPLICE DETAILS SEE SHEET 5

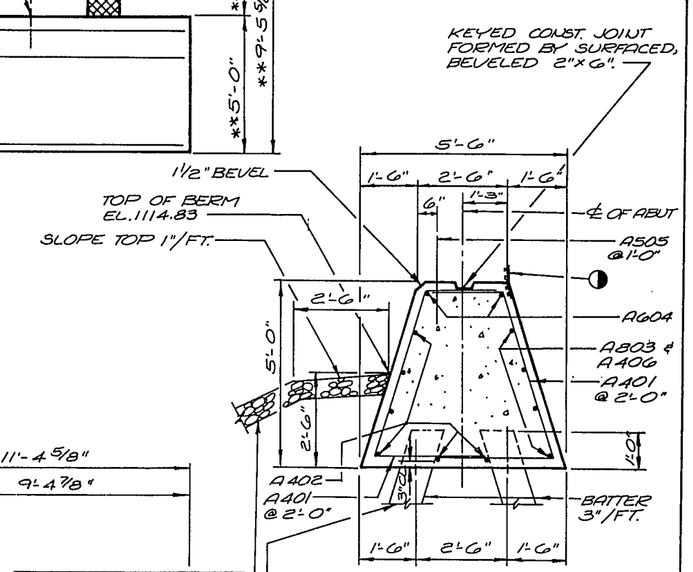
◓ SEAL JOINT WITH CONTRACTION TYPE POLYVINYL CHLORIDE WATERSTOP- TO EXTEND FROM BOTTOM TO TOP OF ABUT. FLUSH WITH FACE OF CONCRETE. FOR DETAIL SEE SHEET 5

NOTE : HORIZ. WATERSTOP TO BE RUN FULL LENGTH. VERTICAL WATERSTOP TO BE CUT.

◑ SEAL JOINT WITH CONRACTION TYPE POLYVINYL CHLORIDE WATERSTOP- TO EXTEND FULL LENGTH BETWEEN WINGS. FOR DETAIL SEE SHEET 5

NOTE : SPACE A401 BARS TO MISS PILING.

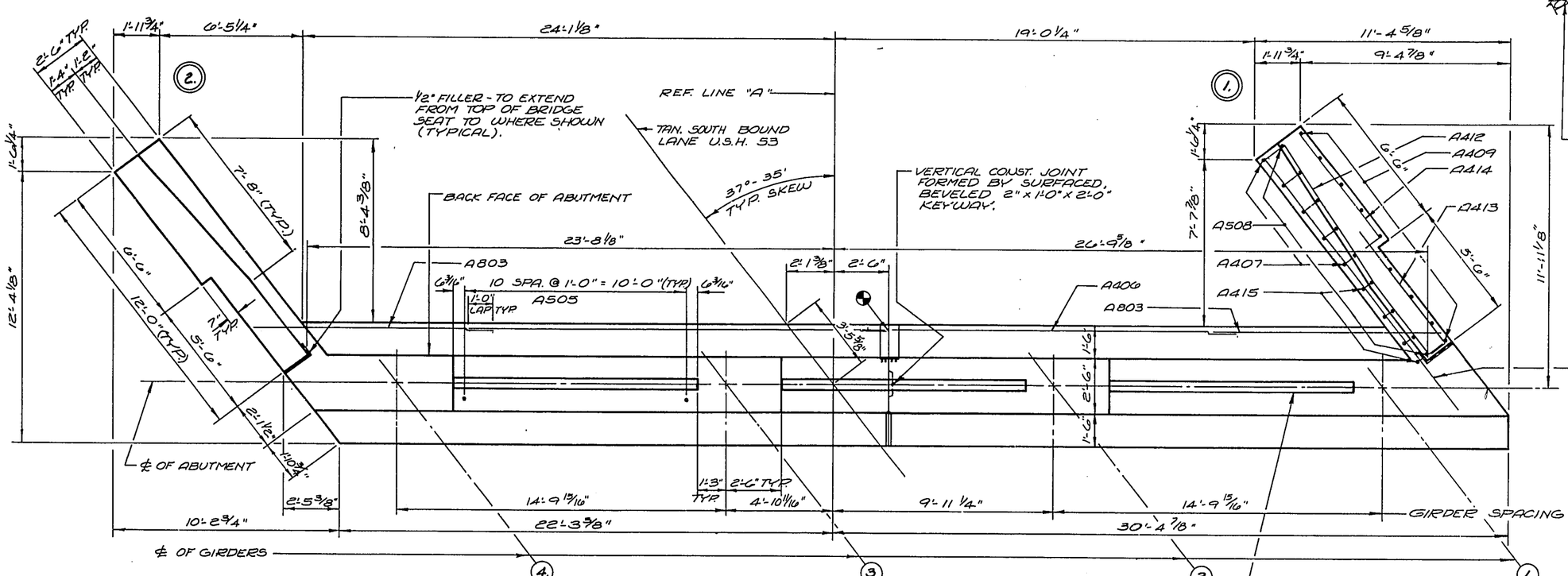
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.



SLOPE PAVING, CRUSHED AGGREGATE 2:1 SLOPE (TYPICAL).

SECTION THRU BODY

H.P. 10 X 42 STEEL PILES EST. 25'-0" LONG AND DRIVEN TO A MIN. BEARING CAPACITY OF 55 TONS PER PILE.



ABUTMENT PLAN

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-16

Const. Spec.	Drawn By	Plans Checked
1969	A.G.	G.H.A.

SOUTH ABUTMENT

SHEET 4 OF 16

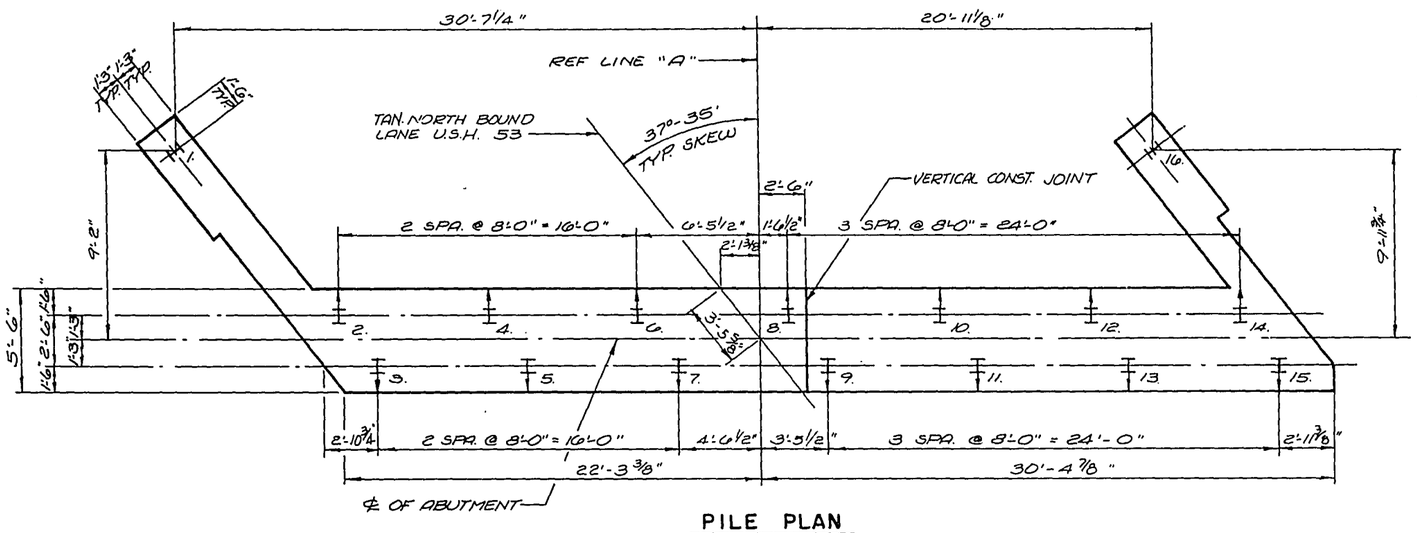
X 46164

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76	52	296
FEDERAL PROJECT DESIGNATION: EMP F08-4(36)		

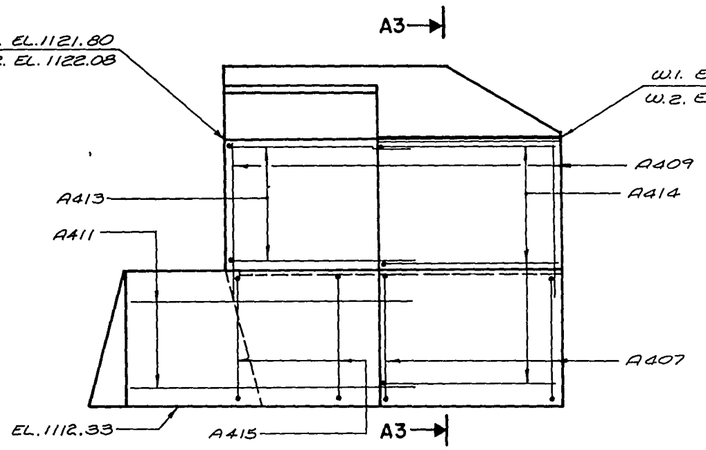
NOTE : DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.
THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

BILL OF BARS

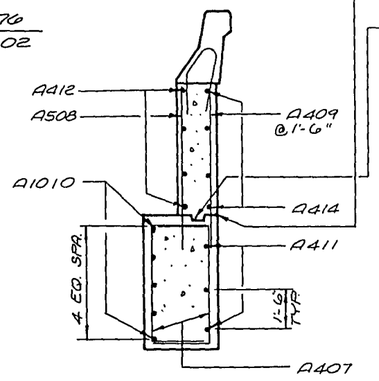
MARK	NO. REQD.	LENGTH	BENT	LOCATION
A401	54	9-6	X	BODY STIRRUPS
A402	12	27-3		" HORIZ.
A803	8	10-0		" "
A604	4	27-6		" "
A505	33	2-6		" VERT.
A406	8	18-6		" HORIZ.
A407	20	8-9	X	WING STIRRUPS F.F. & B.F.
A508	18	5-9		" VERT. B.F.
A409	18	5-6		" " F.F.
A1010	10	14-3		" HORIZ. B.F.
A411	6	8-9		" " F.F.
A412	8	12-5	X	" " B.F.
A413	8	7-6	X	" " F.F.
A414	8	6-7	X	" " "
A415	16	7-7	X	" STIRRUPS F.F. & B.F.



PILE PLAN



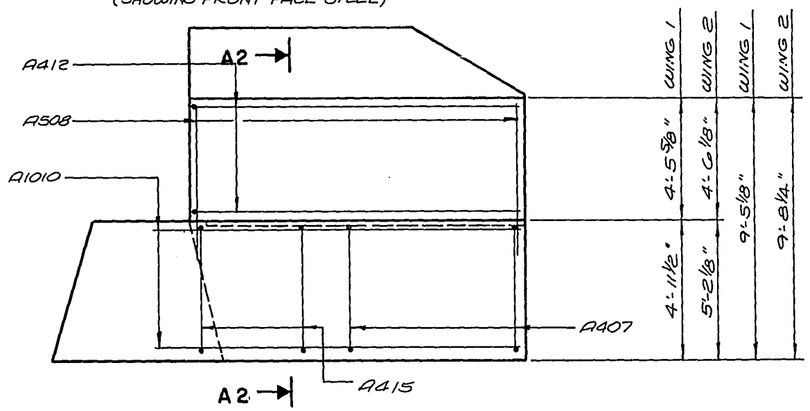
TYPICAL WING ELEVATION
(SHOWING FRONT FACE STEEL)



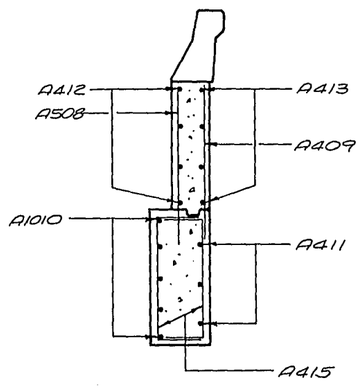
SECTION A3

3/4" "V" GROOVE IN FRONT FACE ONLY.

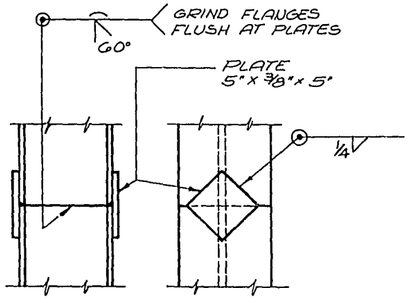
KEYED CONST. JOINT FORMED BY SURFACED, BEVELED 2"x6" POUR CONC. ABOVE THIS JOINT AFTER SUPER. CONC. IS IN PLACE.



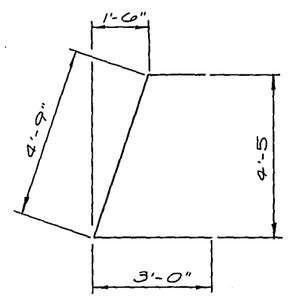
TYPICAL WING ELEVATIONS
(SHOWING BACK FACE STEEL)



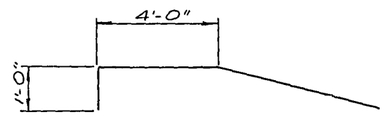
SECTION A2



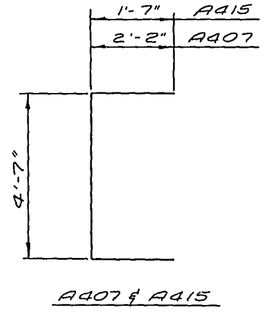
PILE SPLICE DETAIL



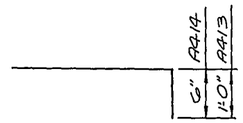
A401



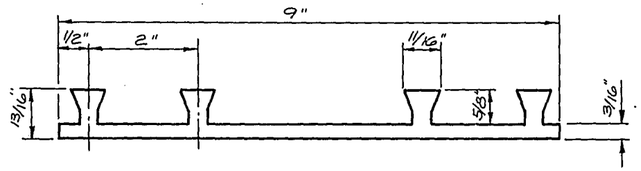
A412



A407 & A415



A413 & A414



POLYVINYL CHLORIDE WATERSTOP DETAIL

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-16

Const. Spec. 1969	Drawn By A.G.	Plans Checked G.H.A.

SOUTH ABUTMENT DETAILS

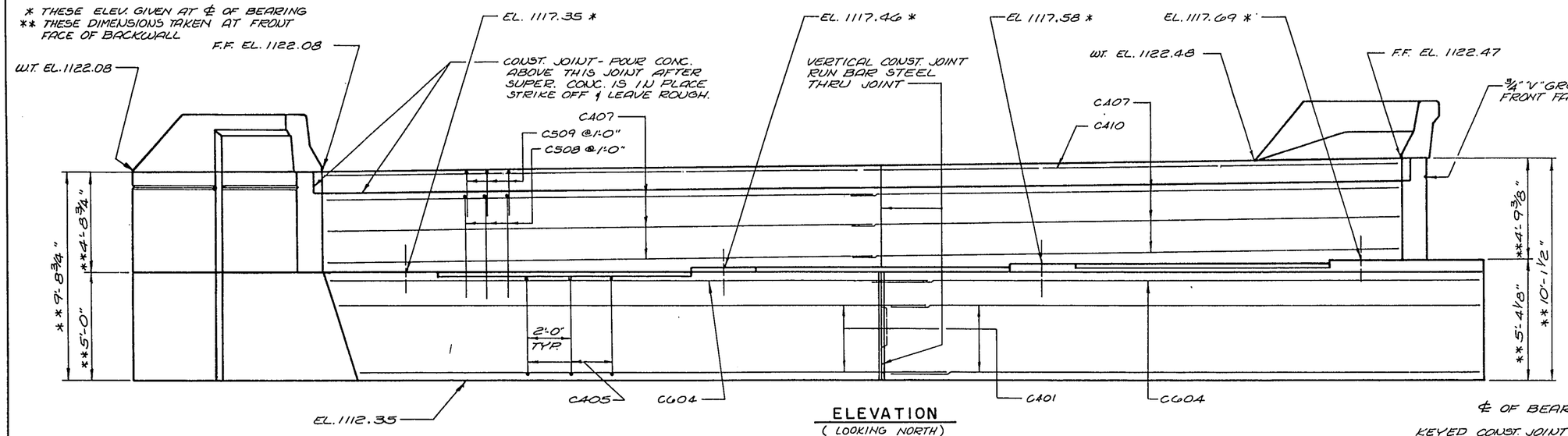
SHEET 5 OF 16

X 46165

Form E B 12 69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76		
FEDERAL PROJECT DESIGNATION	53	296
EMPF08-4(36)		

* THESE ELEV. GIVEN AT ℄ OF BEARING
** THESE DIMENSIONS TAKEN AT FRONT FACE OF BACKWALL



ELEVATION
(LOOKING NORTH)

NOTE : FOR RAIL PARAPET DETAILS SEE SHEET 15
FOR PILE SPLICE DETAILS SEE SHEET 5

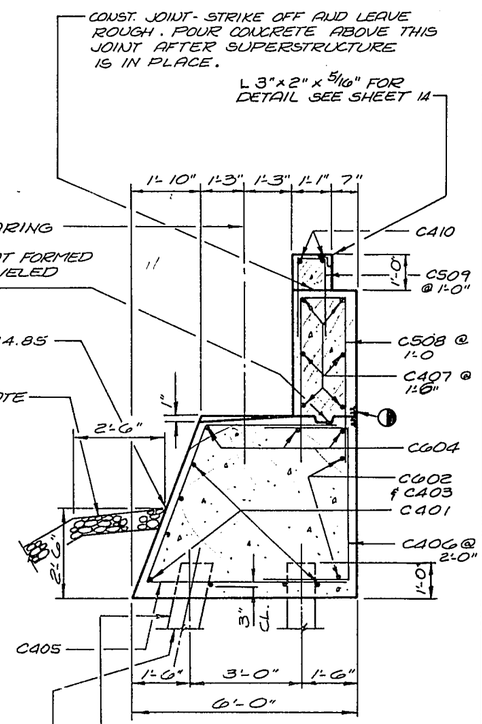
◓ SEAL JOINT WITH CONTRACTION TYPE POLYVINYL CHLORIDE WATERSTOP - TO EXTEND FROM BOTTOM TO TOP OF ABUT. FLUSH WITH FACE OF CONCRETE. FOR DETAIL SEE SHEET 5

NOTE : HORIZ. WATERSTOP TO BE RUN FULL LENGTH. VERTICAL WATERSTOP TO BE CUT.

◑ SEAL JOINT WITH CONTRACTION TYPE POLYVINYL CHLORIDE WATERSTOP. TO EXTEND FULL LENGTH BETWEEN WINGS. FOR DETAIL SEE SHEET 5

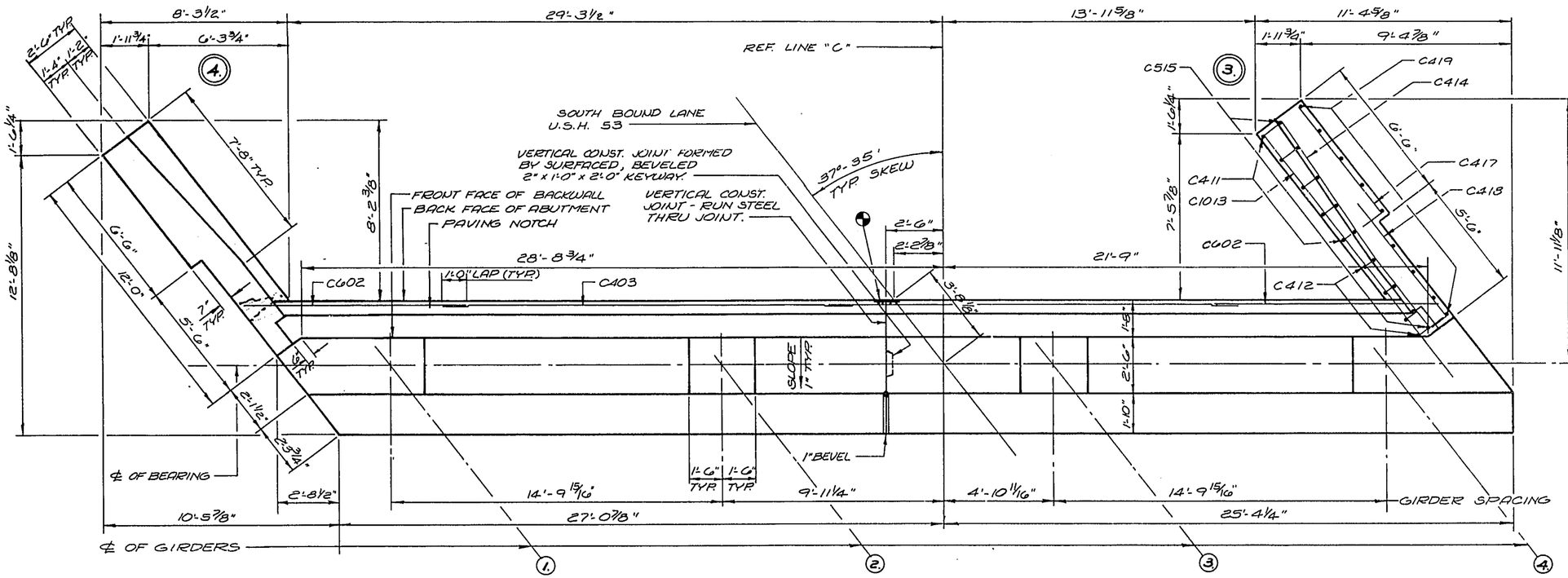
NOTE : SPACE C406 & C405 BARS TO MISS PILING.

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



SECTION THRU BODY

H.P. 10X42 STEEL PILES EST. 25'-0" LONG AND DRIVEN TO A MIN. BEARING CAPACITY OF 55 TONS PER PILE.



ABUTMENT PLAN

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B - 3 - 16

Const. Spec.	Drawn By	Plans Checked
1969	A. G.	G.H.A.

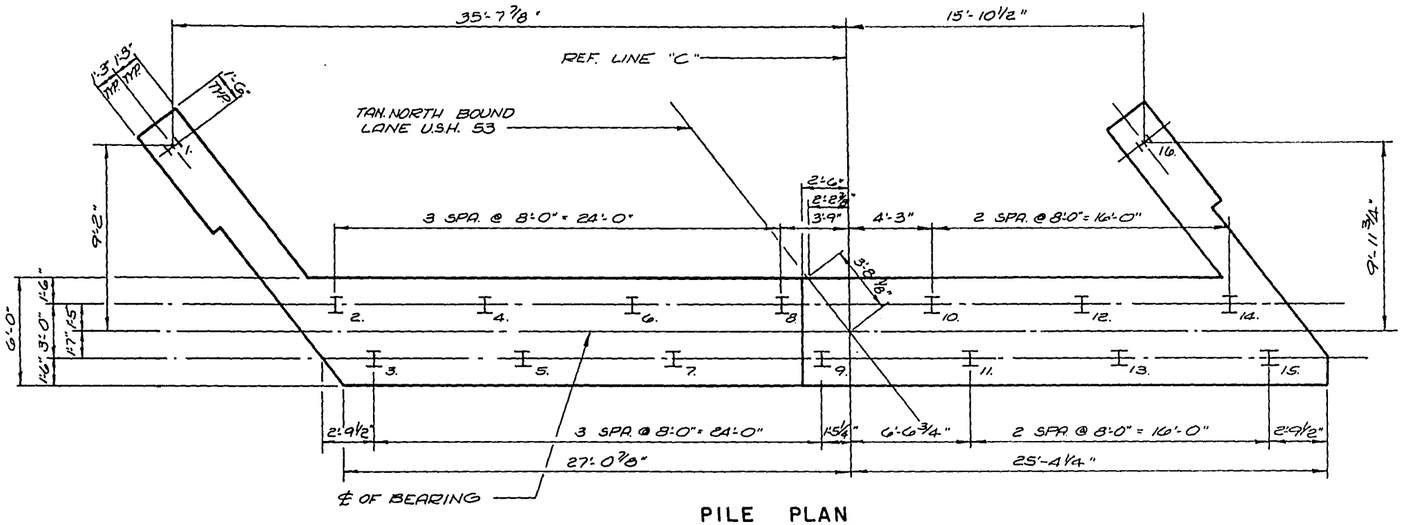
NORTH ABUTMENT

SHEET 6 OF 16

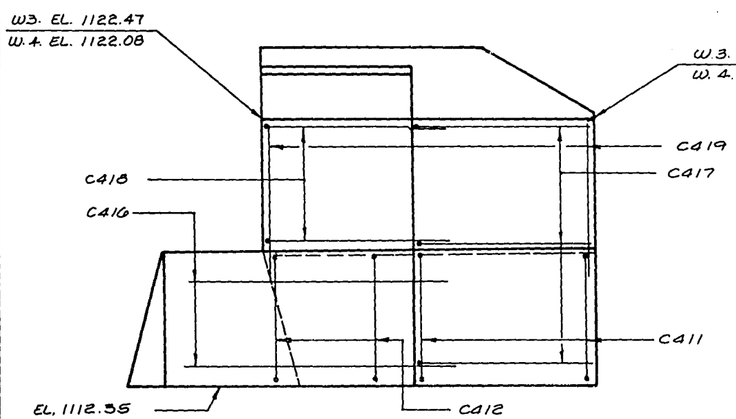
X 46166

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76	54	296
FEDERAL PROJECT DESIGNATION: EMP F08-4(36)		

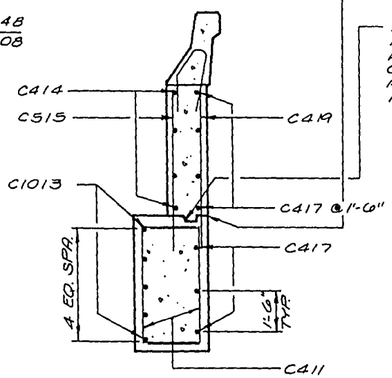
NOTE : DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.
THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.



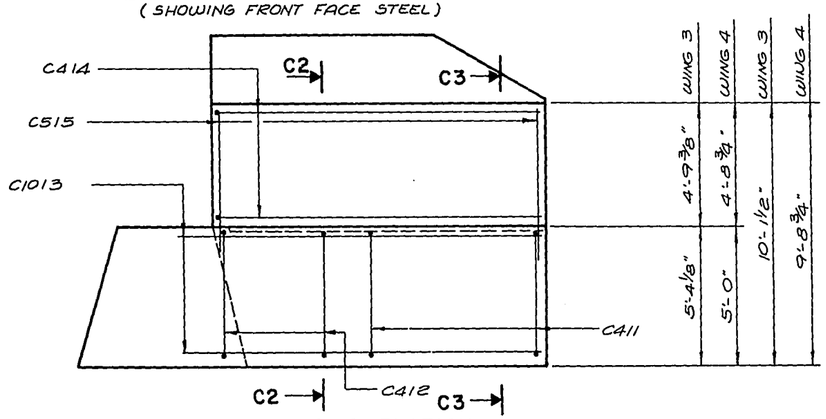
PILE PLAN



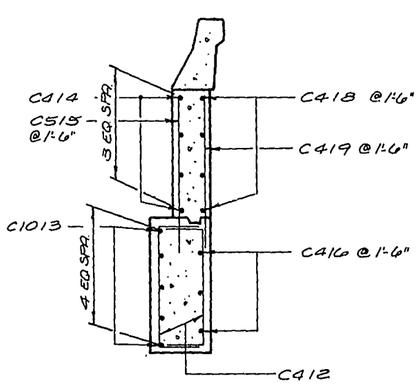
TYPICAL WING ELEVATION
(SHOWING FRONT FACE STEEL)



SECTION C3



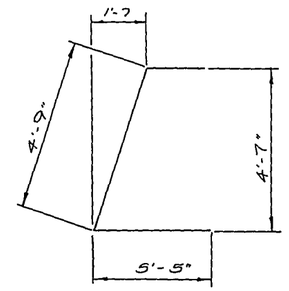
TYPICAL WING ELEVATION
(SHOWING BACK FACE STEEL)



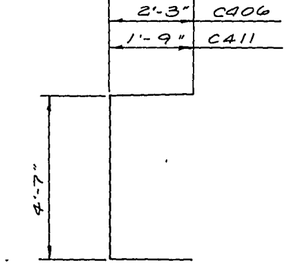
SECTION C2

BILL OF BARS

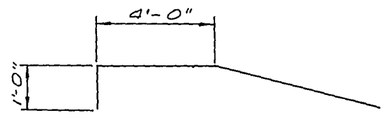
MARK	NO REQD.	LENGTH	BENT	LOCATION
C401	14	27-6		BODY HORIZ.
C602	4	10-0		" " B.F.
C403	4	19-0		" " "
C604	6	27-6		" " "
C405	27	13-6	X	" STIRRUPS
C406	27	9-0	X	" "
C407	12	28-0		BACKWALL HORIZ.
C508	51	10-10	X	" VERT.
C509	51	4-8	X	PAVING NOTCH
C410	12	8-3		" " HORIZ.
C411	20	7-11	X	WING STIRRUPS
C412	16	6-11		" "
C1013	10	14-3		WING HORIZ. B.F.
C414	8	12-5	X	" " "
C515	18	5-10		" VERT "
C416	6	8-6		" HORIZ. F.F.
C417	14	6-9	X	" " "
C418	8	7-5	X	" " "
C419	18	5-7		" VERT. "



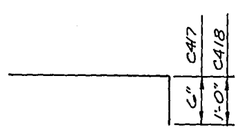
C405



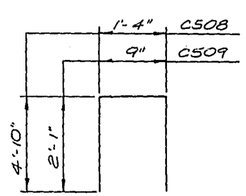
C412, C406 & C411



C414



C417 & C418



C508 & C509

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-16

Const. Spec.	1969	Drawn By	A.G.	Plans Checked	G.H.A.

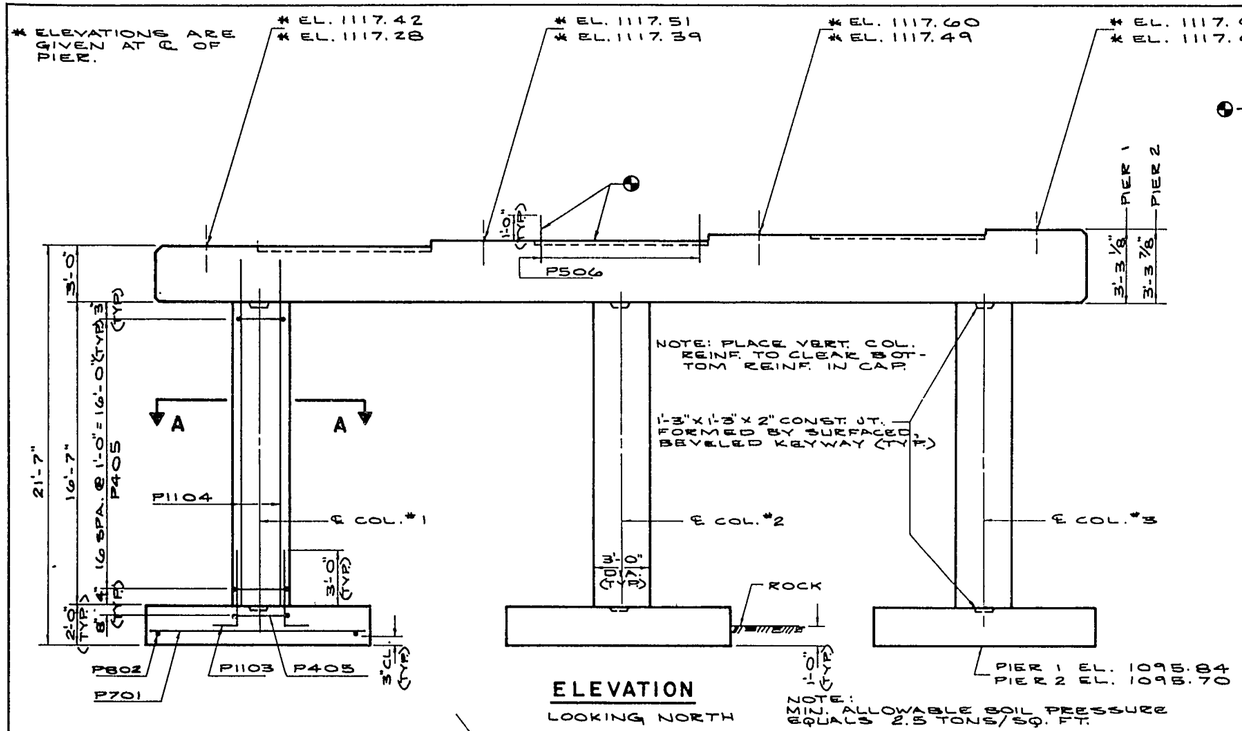
NORTH ABUTMENT DETAILS

SHEET 7 OF 16

X 46167

Form L B 12 69

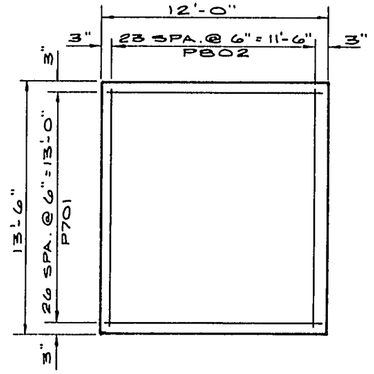
* ELEVATIONS ARE GIVEN AT ℄ OF PIER.



ELEVATION
LOOKING NORTH

NOTE:
MIN. ALLOWABLE SOIL PRESSURE EQUALS 2.5 TONS/SQ. FT.

● - KEYWAY & DOWELS SHOWN FOR PIER 1 ONLY. BAR MAY BE PLACED IMMEDIATELY AFTER CONCRETE IS POURED.



TYP. FOOTING PLAN

NOTE: BARS LISTED ARE COMBINED TOTAL FOR PIER 1 & PIER 2.

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-76	55	296
FEDERAL PROJECT DESIGNATION: EMP FOB-4(36)		

BILL OF BARS

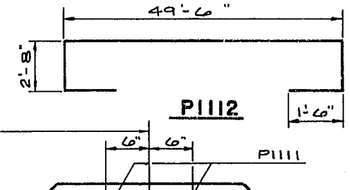
MARK	NO. REQ'D	LENGTH	BENT	BUND.	LOCATION
P701	162	11-6			FOOTING
P802	144	13-0			"
P1103	72	6-5	X		" & COLUMN - DOWEL
P1104	72	19-1			COLUMN
P405	108	9-5	X		" - HOOPS
P506	27	2-6			CAP - TOP - VERT. ●
P407	16	4-9			" - BOTTOM - ENDS
P1008	8	38-0			" - "
P1009	16	18-6			" - "
P510	8	25-6			" - CENTER
P1111	4	12-0		X	" - TOP
P1112	12	56-2	X	X	" - "
P513	32	10-7	X		" - STIRRUP - DOUBLE
P514	64	12-5	X		" - " - SINGLE

ALL BENDING DIMENSIONS ARE OUT TO OUT OF BAR.
THE FIRST DIGIT OF A THREE DIGIT BAR MARK & THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

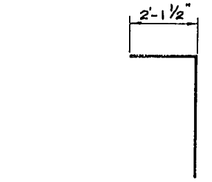
WIRE BARS TOGETHER @ 2'-0" CTRS.

BUNDLING DETAIL

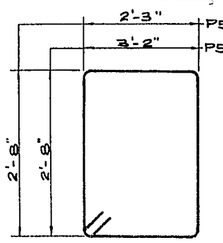
P 405



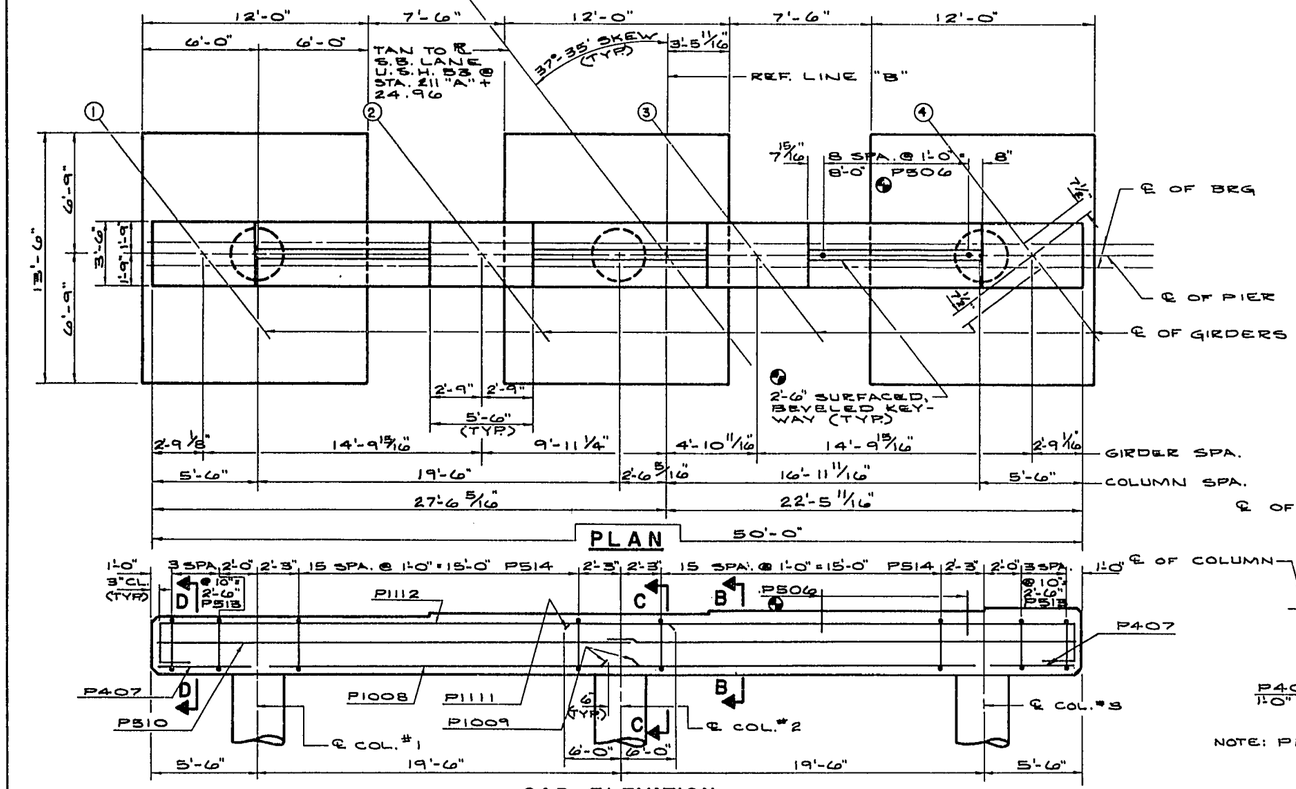
P1112



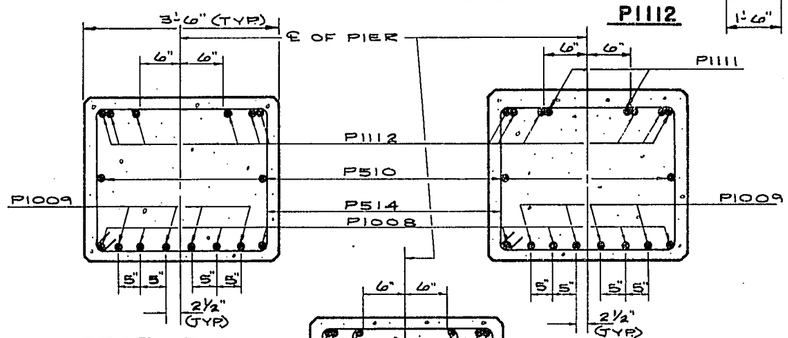
P1103

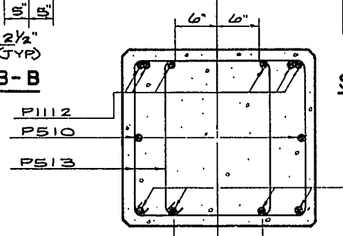


P513 & P514

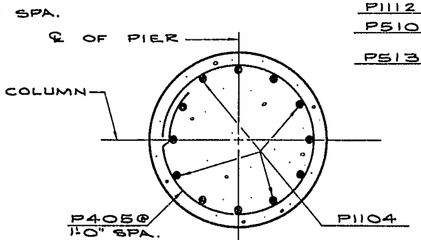


CAP ELEVATION
SHOWING BAR STEEL REINF.





SECT. D-D



NOTE: P1104 BARS ARE EQUALLY SPACED.

SECT. A-A

ESTIMATED CONCRETE MASONRY

	PIER 1	PIER 2
FOOTINGS	36.0 C.Y.	36.0 C.Y.
COLUMS	13.1 C.Y.	13.1 C.Y.
PIER CAP	20.2 C.Y.	20.2 C.Y.
TOTAL	69.3 C.Y.	69.3 C.Y.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-16

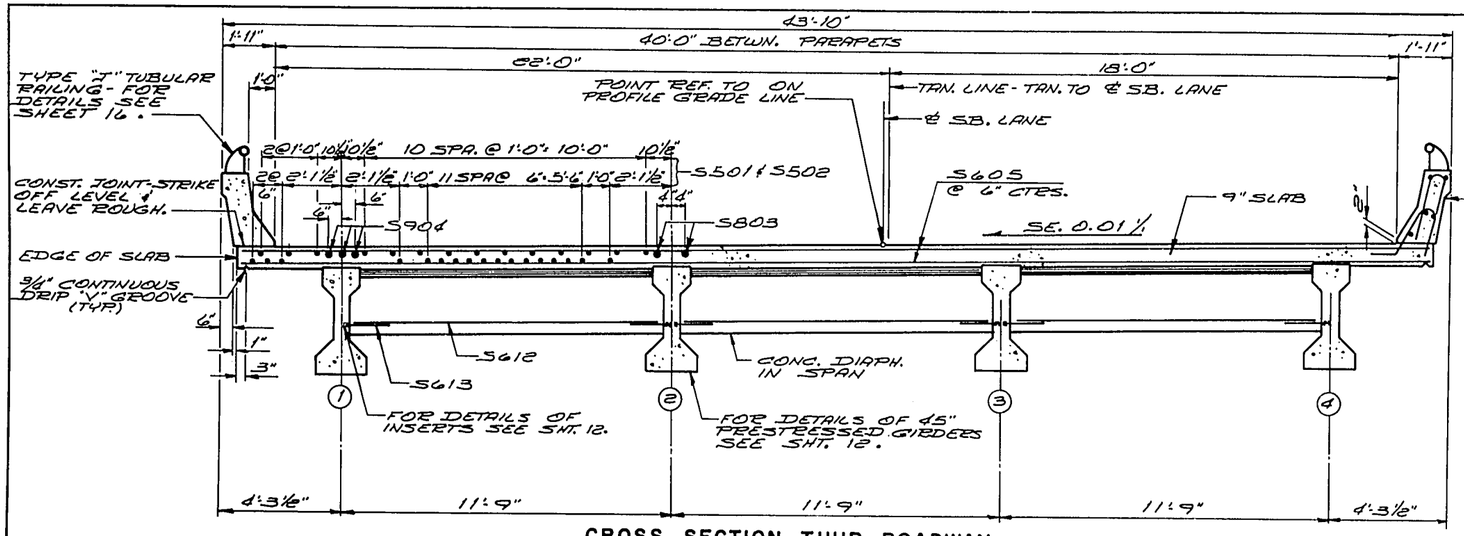
Const. Spec. 1969	Drawn By T L A	Plans Checked G H A

PIERS

SHEET 8 OF 16

X46168

PROJECT I D	SHEET NUMBER	TOTAL SHEETS
1196-6-76	56	296
FEDERAL PROJECT DESIGNATION		
EMP F08-4(36)		



CROSS SECTION THUR ROADWAY

(AT RT L³ TO TANGENT LINE LOOKING NORTHWEST)

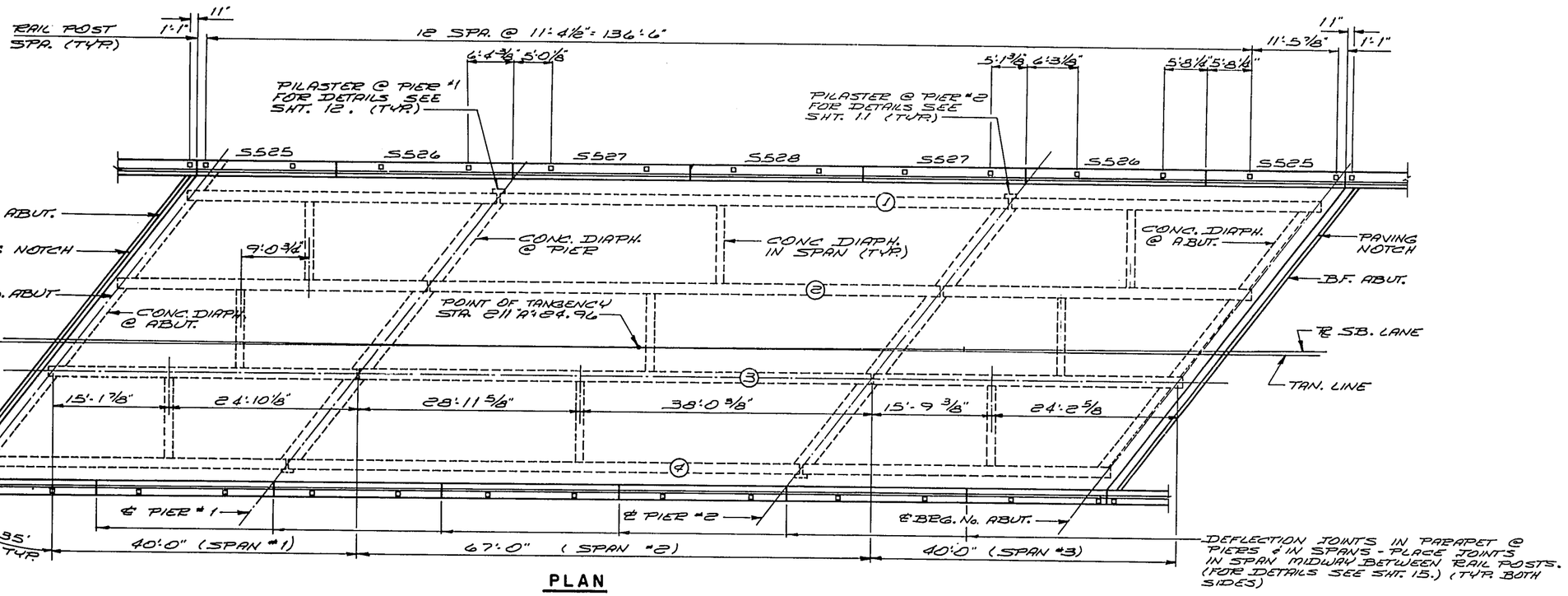
PLAN

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" CTES. APPROX. THE ⅓ PT.S BETWEEN GIRDERS.

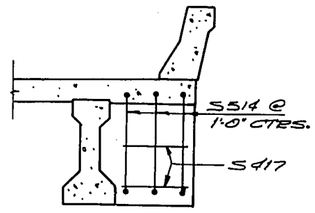
TOP LONGITUDINAL BAR STEEL SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROX. 4'-0" CTES.

THE 2" HEIGHT OF RAIL PARAPET IS TO BE MAINTAINED AT ALL POINTS OF BEARING.

THE CONC. IN ANY SPAN SHALL BE PLACED WITHIN 4 HR³ OF THE TIME THAT CONC. WAS PLACED OVER AN ADJACENT PIER.



PLAN



CONC. DIAPH. AT SO. ABUT.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-16

Const. Spec. 1969	Drawn By BUDD	Plans Checked G.H.A.

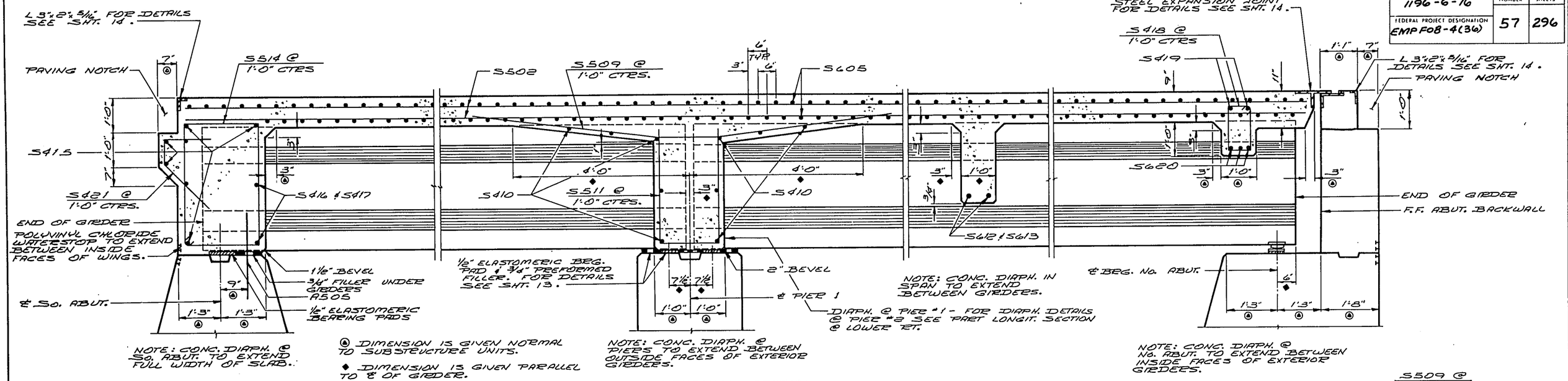
SUPERSTRUCTURE

SHEET 9 OF 16

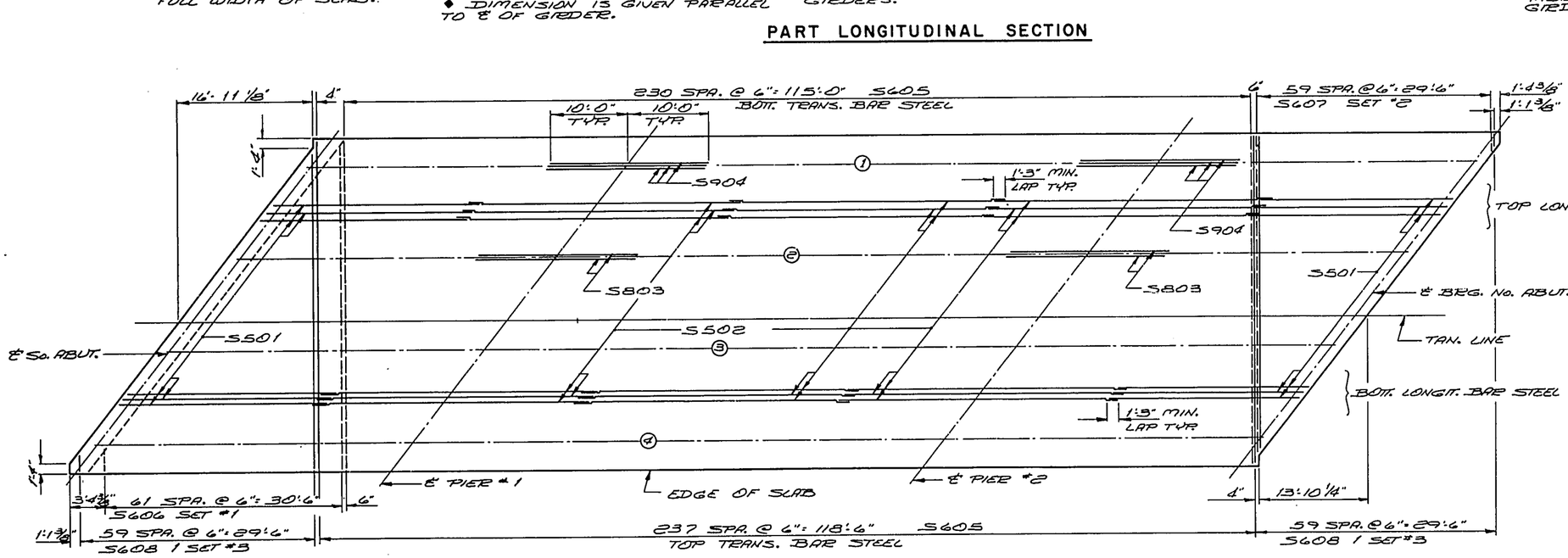
X 46169

Form E B 12 69

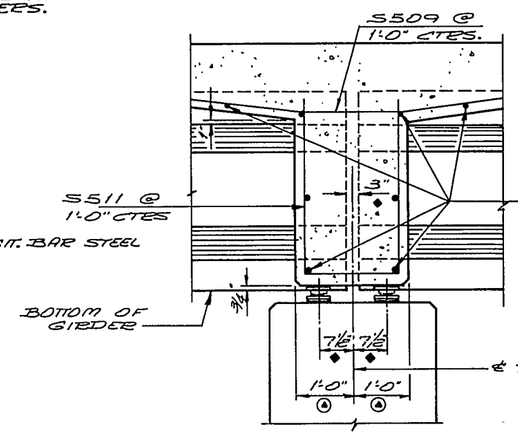
PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-76	57	296
FEDERAL PROJECT DESIGNATION EMP F08-4(36)		



PART LONGITUDINAL SECTION



PLAN SHOWING BAR STEEL REINFORCEMENT



PART LONGITUDINAL SECTION AT PIER 2

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-16

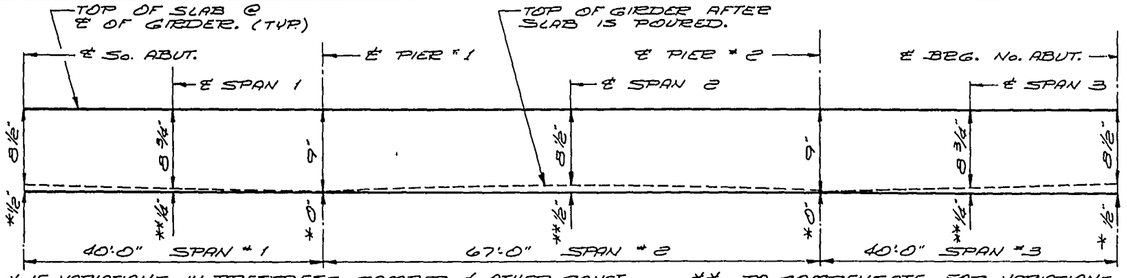
Const. Spec. 1969	Drawn By BUDD	Plans Checked G. H. A.

SUPERSTRUCTURE

SHEET 10 OF 16

X 46170

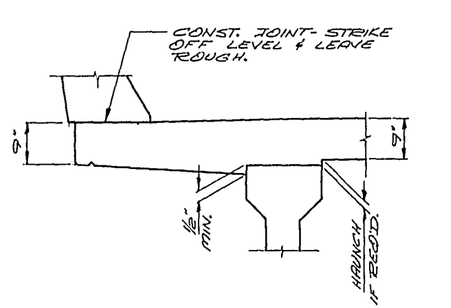
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76	58	296
FEDERAL PROJECT DESIGNATION EMPF08-4(36)		



* IF VARIATIONS IN PRESTRESS CAMBER & OTHER CONST. 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 & THE PLAN SLAB THICKNESS SHALL BE HELD WHILE THE GRADE LINE WILL BE REVISED.

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

SLAB FORMING DIAGRAM



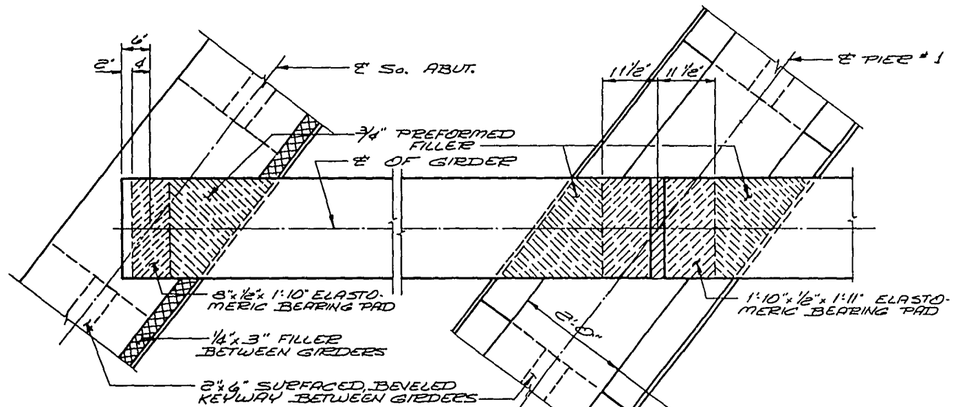
SLAB DETAIL AT EXTERIOR GIRDER

BILL OF BARS

DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A 3 DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

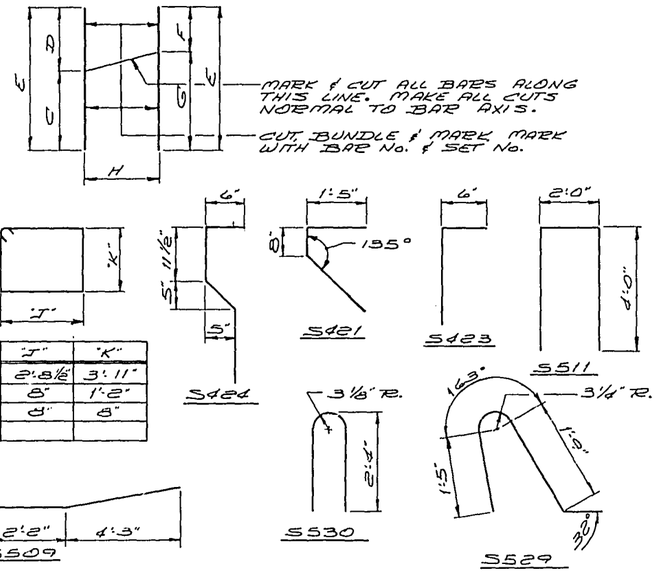
MARK	No. REQ'D.	LENGTH	BENT	CUT DIA.	LOCATION	
S501	174	24-9			SLAB TOP & BOT.	LONGIT.
S502	261	35-0			" " " "	"
S803	8	20-0			" - @ PIER GIRD.S 2#3	"
S904	12	20-0			" " " " 1#4	"
S605	469	12-4			" " & BOT.	TRANS.
S606	31	43-9		X	" BOT. SET 1	"
S607	30	42-10		X	" " " 2	"
S608	60	42-3		X	" TOP " 3	"
S509	66	10-10	X		" HAUNCH @ PIER	LONGIT.
S410	60	12-3			" " " "	TRANS.
S511	66	9-9	X		" " " "	
S612	18	10-10			DIAPH. @ MID SPAN	"
S613	36	2-0			" " " " THREAD ONE END 3"	"
S514	36	14-0	X		" " So. ABUT.	
S415	14	27-3			" " " "	"
S416	6	12-2			" " " "	"
S417	4	3-1			" " " "	"
S418	35	4-2	X		" " No. "	
S419	6	14-9			" " " "	"
S620	9	13-3			" " " "	"
S421	51	3-11	X		PAVING NOTCH	
S322	12	3-2	X		PILASTER @ PIER	
S423	8	4-4	X		" " "	VERT.
S424	8	3-4	X		" " "	"
S525	20	17-6			RAIL PARAPET	HORIZ.
S526	20	23-0			" "	"
S527	20	21-9			" "	"
S528	10	22-5			" "	"
S529	298	5-0	X		" "	VERT.
S530	298	4-9	X		" "	"

ELASTOMERIC BEARING PAD DETAILS



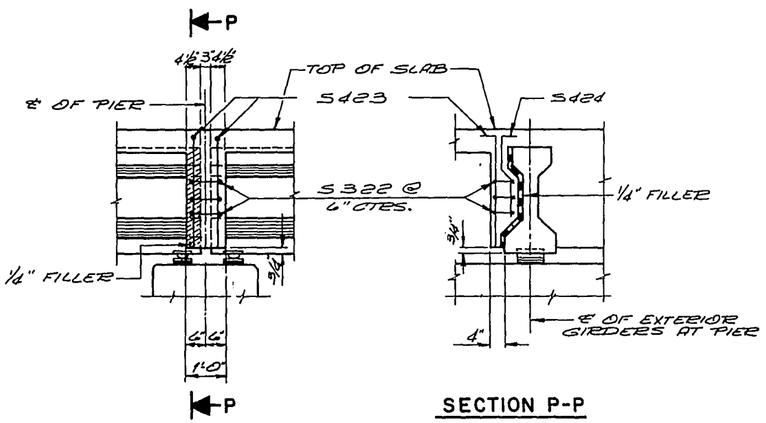
"H" IS NUMBER OF BARS REQ'D BEFORE CUTTING

MARK	SET No.	C	D	E	F	G	H	SETS REQ'D.
S606	SET 1	21-11	21-6	43-9	2-0	41-9	31	1 SET 1
S607	" 2	21-1	21-9	42-10	2-3	40-7	30	1 " 2
S608	" 3	20-10	21-5	42-3	1-11	40-4	30	2 " 3



MARK	"J"	"K"
S514	2'-8½"	3'-11"
S418	8"	1'-2"
S322	4"	8"

PILASTER DETAILS AT PIER



No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-16

Const. Spec.	Drawn By	Plans Checked
1969	BUDD	G. H. A.

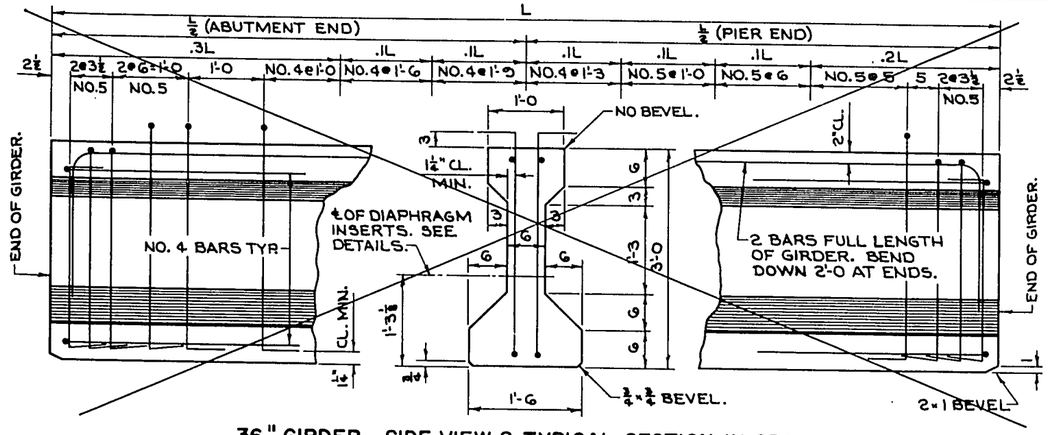
SUPERSTRUCTURE

SHEET 11 OF 16

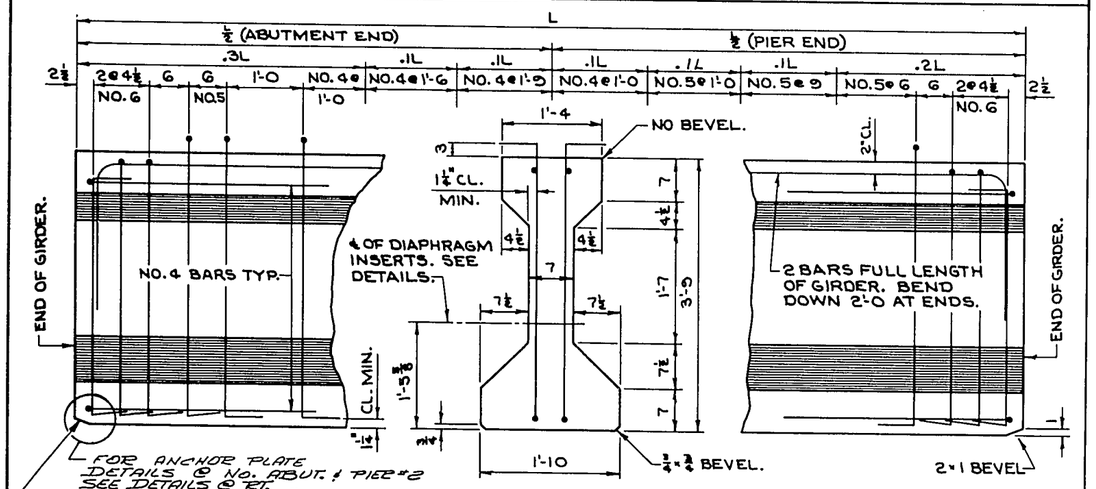
X 46171

Form E-8-12-67

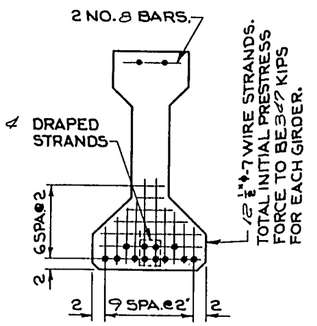
B.P.R. Division	Project	Sheet Number	Total Sheets
4	1196-6-76 EMP F08-4(34)	59	296



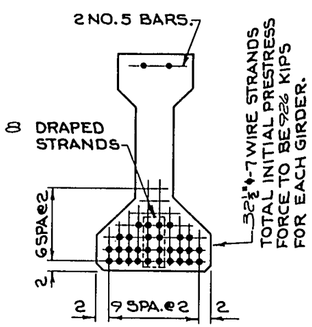
36" GIRDER - SIDE VIEW & TYPICAL SECTION IN SPAN



45" GIRDER - SIDE VIEW & TYPICAL SECTION IN SPAN

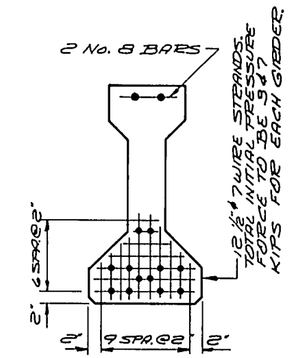


SECTION THRU GIRDER
AT ℄ OF SPANS #1 & #3



SECTION THRU GIRDER
AT ℄ OF SPAN #2

TYP. GIRDER SECTIONS



SECTION THRU GIRDER
AT ℄ OF SPAN #1 & #3

ALTERNATE GIRDER SECTIONS

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.

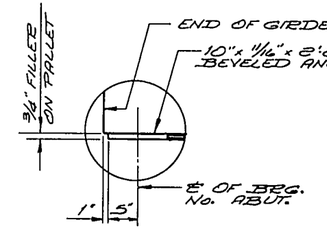
INSERTS SHALL BE PLACED ON 6" CENTERS SYMMETRICALLY ABOUT THE ℄ OF DIAPHRAGMS IN SPANS.

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".

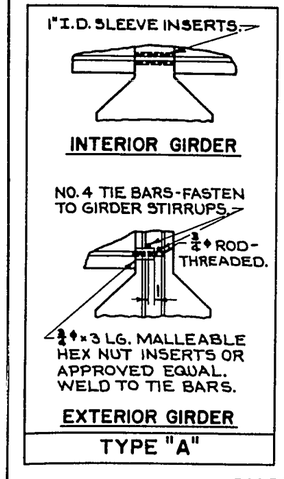
ENDS OF STRANDS SHALL BE PAINTED WITH NON-STAINING GRAY NON BITUMINOUS JOINT SEALER. (THIS APPLIES ONLY TO THOSE ENDS OF GIRDERS THAT ARE FINALLY EXPOSED.)

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.

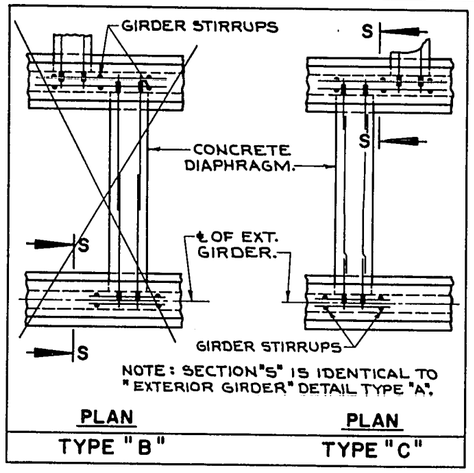


ANCHOR PLATE AT NO. ABUT. & PIER 2

		"A"	"B" MAX.	"B" MIN.	"C"
SPANS	1 & 3	29"	16"	13"	3"
	2	32"	14 3/4"	11 3/4"	5"
	ALT. 2	35"	14 3/4"	11 3/4"	6"

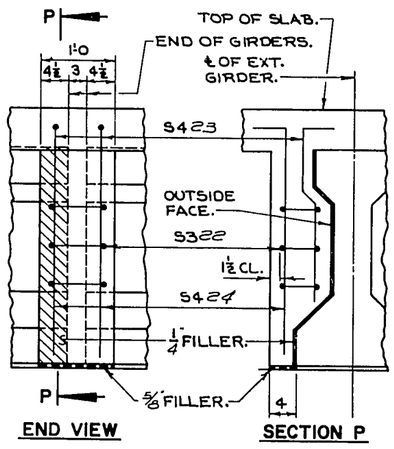


TYPE "A"



TYPE "B" TYPE "C"

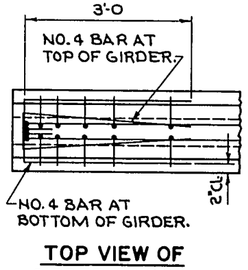
DIAPHRAGM INSERT DETAILS



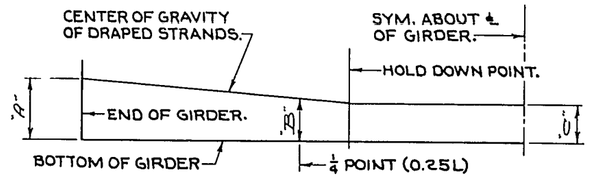
END VIEW SECTION P

PILASTER DETAIL AT PIERS

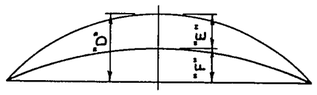
* MINIMUM CYLINDER STRENGTH OF CONCRETE AT TIME OF TRANSFER OF PRESTRESS FORCE.



TOP VIEW OF GIRDER ENDS



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

SPANS		1 & 3	2	ALTERNATE 1 & 3
GIRDER LENGTH "L" REQUIRED		40'-4½"	66'-9"	40'-4½"
f'ci (psi)*	DRAPED PATTERN	4,800	5,000	4,800
	SPREAD PATTERN	4,800	5,000	4,800
DEFLECTION DATA**	PRESTRESS CAMBER "D"	1¼"	1 5/8"	1¼"
	DEAD LOAD DEFLECTION "E"	⅛"	1"	⅛"
	RESIDUAL CAMBER "F"	⅛"	5/8"	⅛"

USE DIAPHRAGM INSERT DETAIL TYPE "C"

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-16

Const. Spec. 1969	Drawn By BUDD	Plans Checked G.H.A.

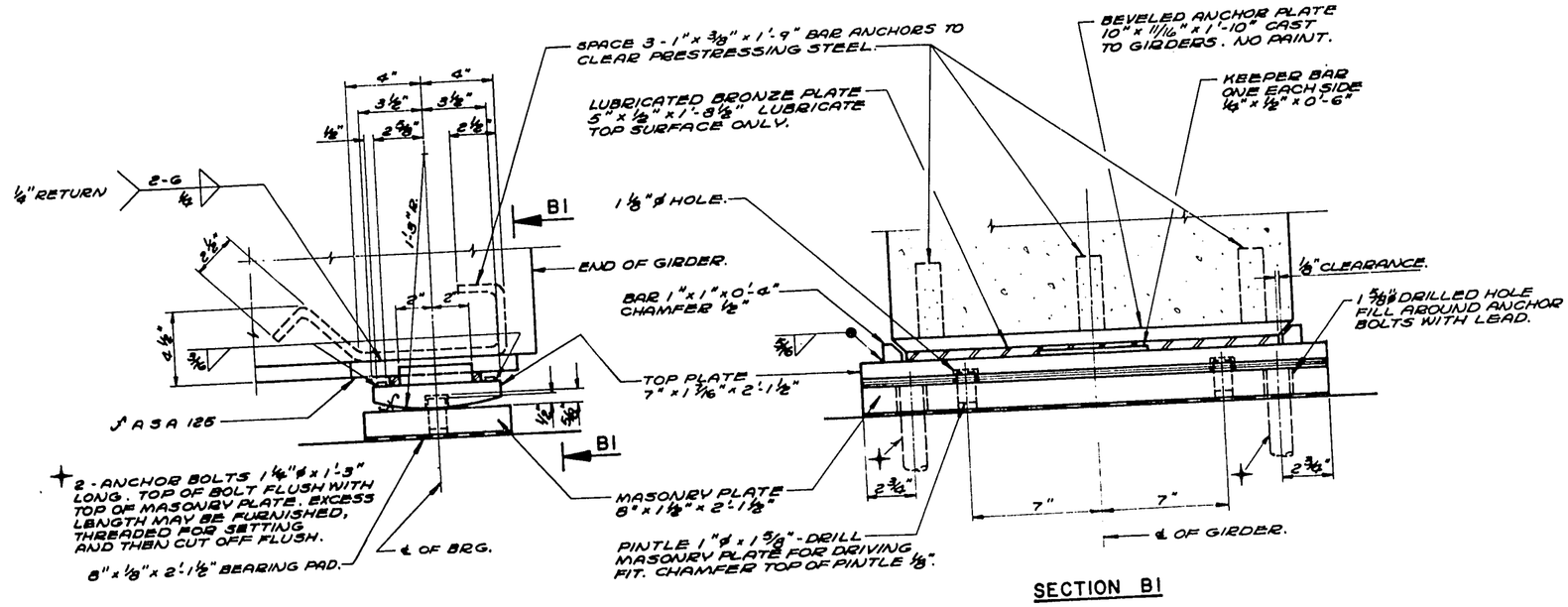
PRESTRESSED GIRDER DETAILS

SHEET 12 OF 16

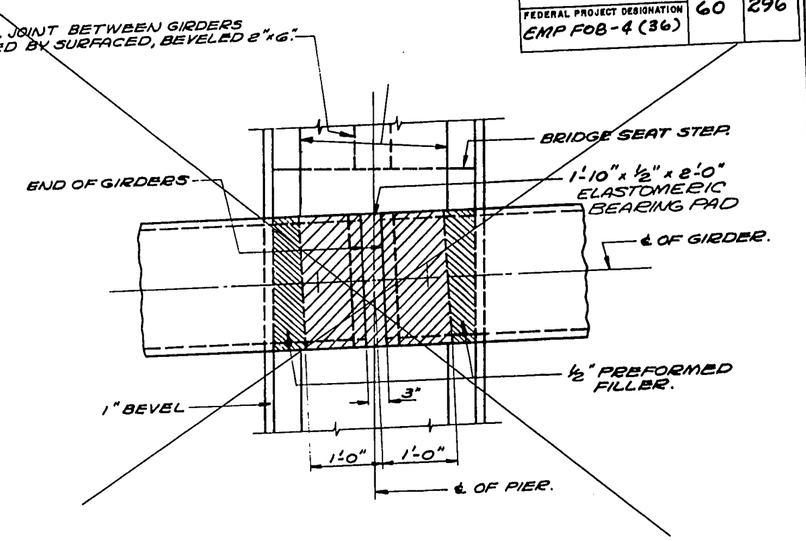
X 46172

FORM E-8-12-62

PROJECT I. D.	SHEET NO.	TOTAL SHEETS
1196-6-76	60	296
FEDERAL PROJECT DESIGNATION: EMP F08-4 (36)		

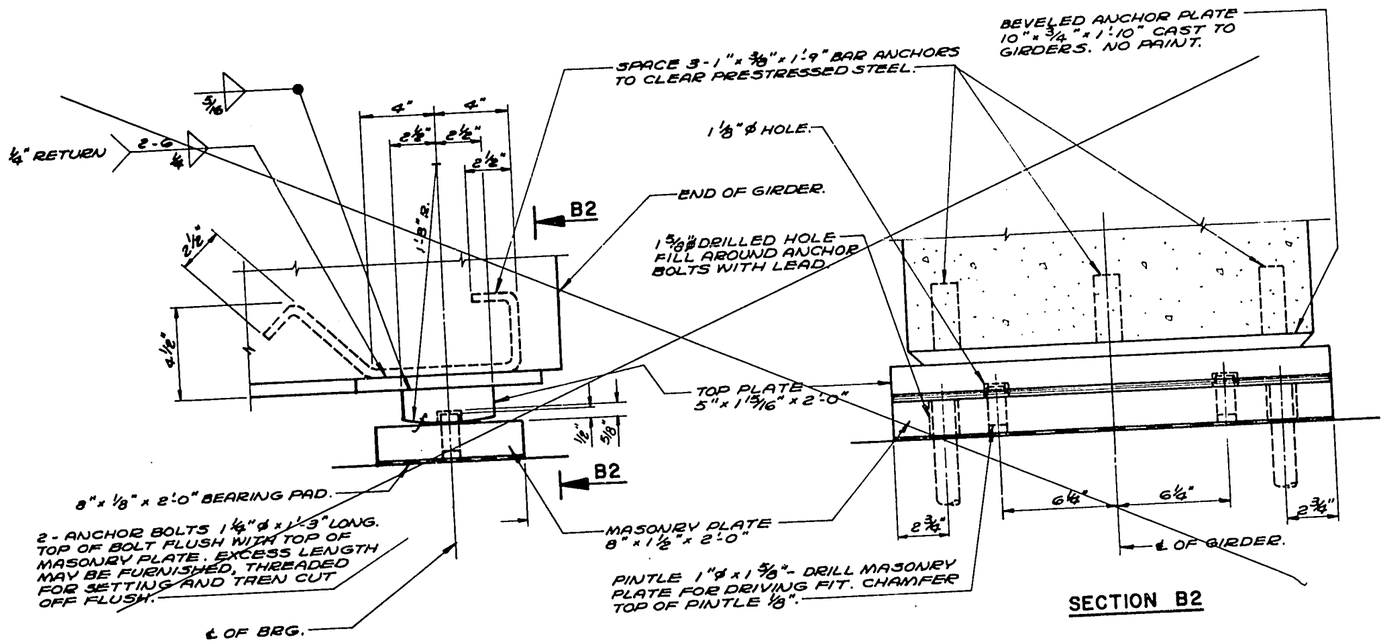


SECTION B1



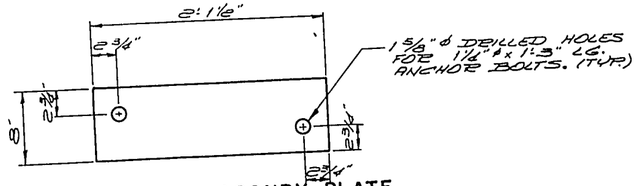
BEARING PAD DETAIL AT PIER

EXPANSION BEARING
4 REQ'D. AT NORTH ABUT.
8 " " PIER #2



SECTION B2

FIXED BEARING
6 REQ'D. AT NORTH ABUT.



PLAN VIEW OF MASONRY PLATE
(SHOWING ANCHOR BOLT HOLES)

NOTES

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS. ALL SURFACES MARKED ℄ SHALL BE MACHINE FINISHED, BY AN AUTOMATIC PROCESS. ALL MATERIAL EXCEPT ANCHOR BOLTS SHALL BE MADE OF A242 STEEL WITH A CORROSIVE RESISTANCE OF 4 OR MORE TIMES THAT OF A36 STEEL. ALL BEARING MATERIAL EXCEPT BRONZE PLATES, BEARING PADS, AND ANCHOR PLATES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL LOW ALLOY STEEL." ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-16

Const. Spec. 1969	Drawn By BUDD	Plans Checked G.H.A.

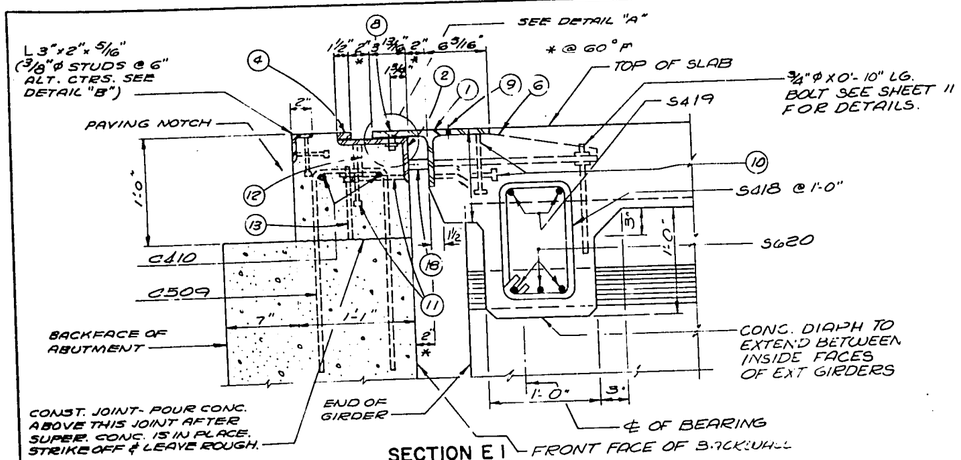
BEARING DETAILS

SHEET 13 OF 16

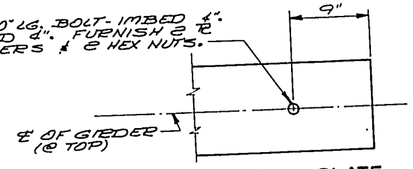
X 46173

Form L B 12 65

PROJECT I D	SHEET NUMBER	TOTAL SHEETS
1196-6-76	61	296
FEDERAL PROJECT DESIGNATION EMP F08-4(36)		



SECTION E I



EXPANSION PLATE ANCHOR BOLT LAYOUT

LEGEND

1 WT 6 x 31.5 x RDWY. WIDTH. WELDMENT MAY BE USED. SEE DETAIL.
2. L 7"x4"x 7/16" x RDWY WIDTH. LONG DIM. OF 15/16"x1 1/2" SLOTTED HOLE TO BE PARALLEL TO DIRECTION OF MOVEMENT

4. BAR 1 1/2"x 3/4"x RDWY. WIDTH WELD TO L #2 WITH 2 LINES OF 1/2" FILLET WELD, 2@6.

6. L 3 1/2"x 3"x 3/8" PROVIDE 1 3/8"ø HOLE IN 3 1/2" LEG FOR 3/4ø x 0'-10" BOLT. FILLET WELD TO FLANGE & WEB OF WT #1 NEAR SIDE & FAR SIDE.

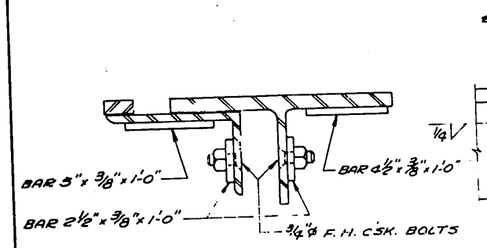
8 3/4"ø FLAT HEAD CAP SCREW x 0'-2" LONG WITH SQ. NUT AT 4'-0 CTRS. GREASE FOR EASY REMOVAL. 1/4"x 1 1/2"x 1'-0" KEEPER BAR. WELD TO L #2 TO KEEP SQ. NUT FROM TURNING. 13/16"ø HOLE C'SK 7/8" DEEP IN WT #1 MAKE SLOT IN L #2 PARALLEL TO DIRECTION OF MOVEMENT.

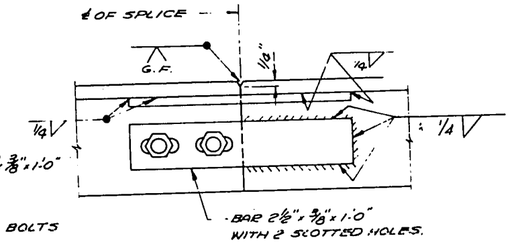
9. 13/16"ø VENT HOLES AT 2'-0" CENTERS ON WT #1 AND L #2.
10. 3/8"ø STUDS x 0'-6 3/8" LONG AT 6" ALTERNATE CTRS. BETWEEN GIRDERS. WELD TO WT #1.
11. 3/8"ø STUDS x 0'-6 3/8" LONG AT 9" ALT CTRS. WELD TO L #2.
12. L 3"x 2 1/2"x 3/8" x 0'-3" LONG AT 3'-0" CTRS. WELD TO L #2. PROVIDE 15/16"ø HOLE IN 2 1/2" LEG FOR ROD #13.
13. 3/4"ø ROD x 0'-9" LONG AND NUT. TACK WELD NUT TO L #12. THREAD 3".
14. PLATE 3/8 x 6" x 8 3/8".
15. PLATE 3/8" x 6" x 15 5/16" FIELD WELD TO WT #1.
16. BAR 1 5/8" x 3/8" x 6". WELD TO BAR # 14 WITH TWO LINES OF 3/16" FILLET WELD. FIELD WELD TO BAR #4.
17. 3/8"ø STUDS x 0'-6 3/8" LONG. WELD TO WT #14 AND 12 #15
18. BLOCK AND BOLT FOR SHIPMENT WITH PIPE SLEEVE AND 1/2"ø BOLT. PROVIDE 9/16"ø HOLES @ 3'-0" CTRS. IN WT #1 AND L #2 FOR 1/2"ø BOLT.

NOTES

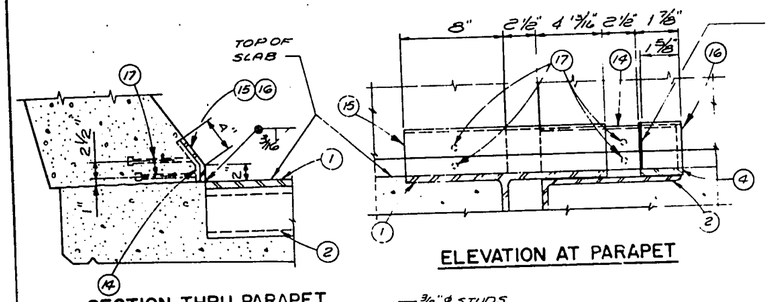
EXPANSION JOINT SHALL BE BUILT TO CONFORM TO ROADWAY CROWN AND GRADE.
ALL MATERIAL IN EXPANSION JOINT SHALL BE PAID FOR AS STRUCTURAL CARBON STEEL.
AFTER CONCRETE HAS SET:
1. THE JOINT OPENING SHALL BE THOROUGHLY CLEANED.
2. REMOVE BOLTS NO 8.
3 APPLY 1/16" OF BITUMASTIC TO VERTICAL METAL SURFACES FORMING THE JOINT.
4. FILL OPENING AND HOLES FOR BOLT NO. 8 WITH HOT POURED ELASTIC TYPE JOINT SEALER CONFORMING TO A.S.T.M. D1190.

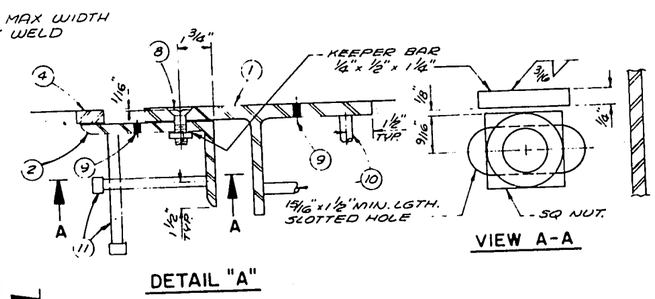
ONE FIELD SPLICE SHALL BE PERMITTED.

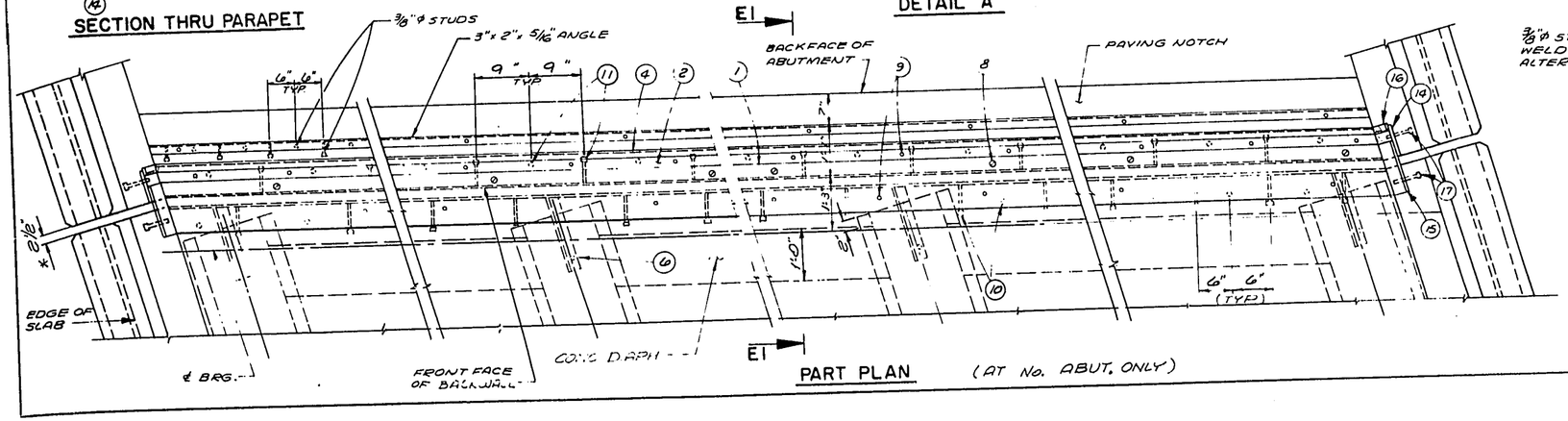


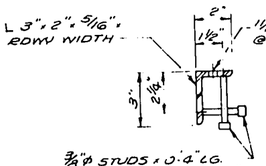


FIELD SPLICE DETAILS

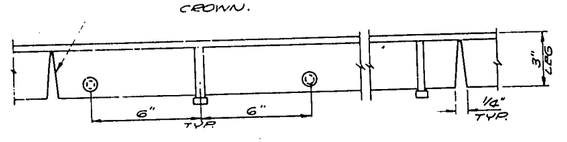


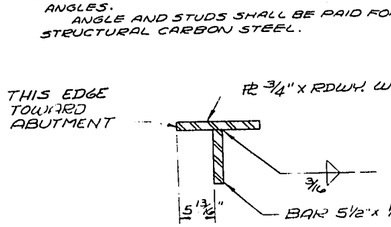






NOTE: ONE FIELD SPLICE SHALL BE PERMITTED IN ANGLES.
ANGLE AND STUDS SHALL BE PAID FOR AS STRUCTURAL CARBON STEEL.





WELDMENT OPTION FOR WT NO. 1

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-16

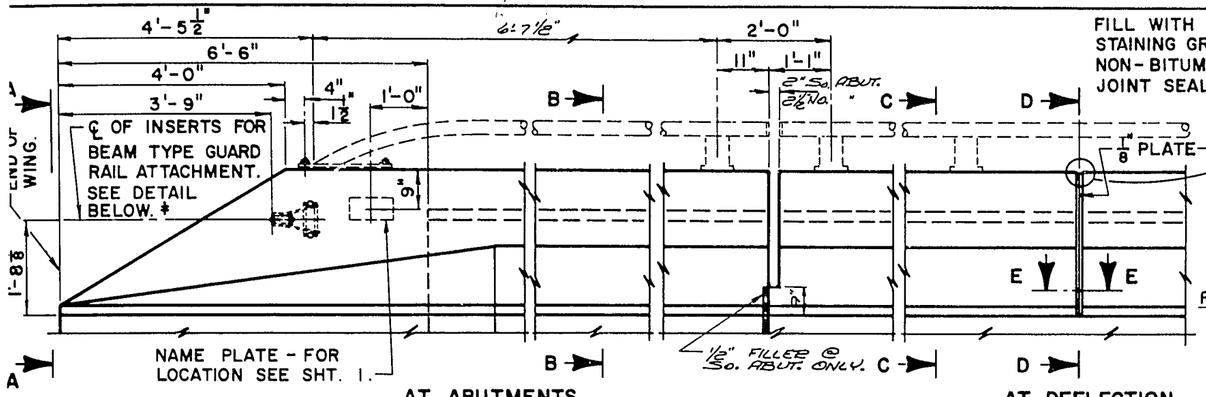
Const Spec 1969	Drawn By BUDD	Plans Checked G. H. A.

EXPANSION JOINT

SHEET 14 OF 11

X 46174

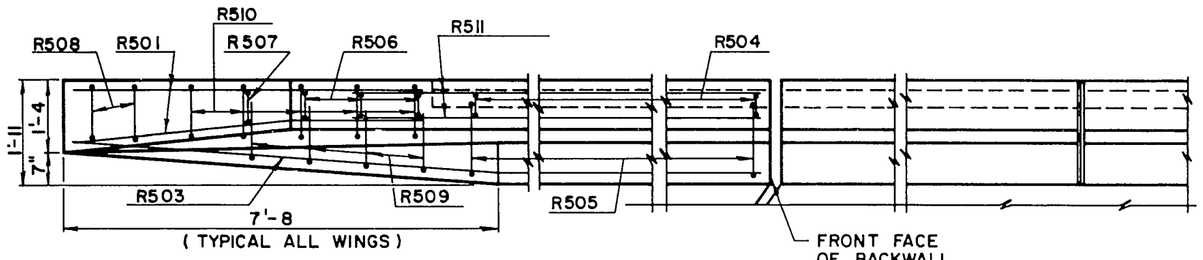
PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-76		
FEDERAL PROJECT DESIGNATION	62	296
EMP F08-4(36)		



AT ABUTMENTS — AT DEFLECTION JOINT

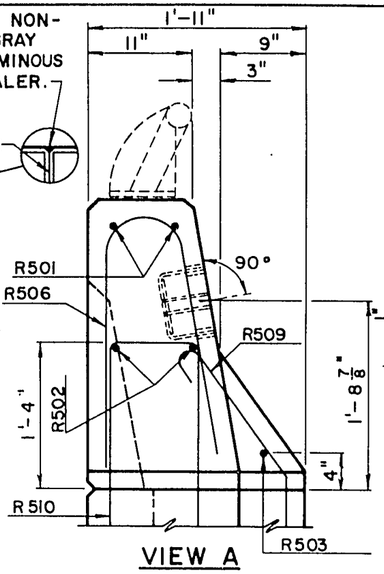
*PLACE AT ABUTMENT WINGS WHERE REQUIRED. SEE SHT. 1.

ELEVATION OF RAIL PARAPET

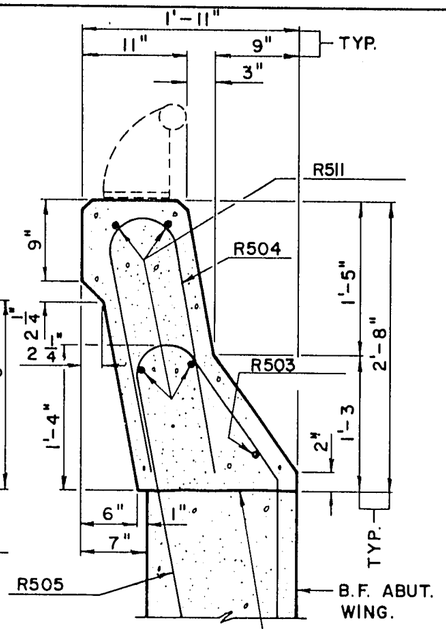


AT ABUTMENTS — AT DEFLECTION JOINT

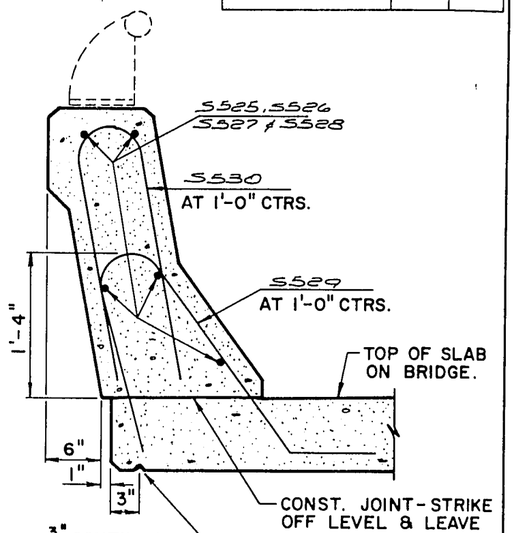
PART PLAN OF RAIL PARAPET



VIEW A



SECTION B



SECTION C

NOTE: BENDING DIMENSIONS ARE OUT TO OUT OF BAR.
THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

RAIL PARAPET BILL OF BARS @ ABUTS. LBS.**

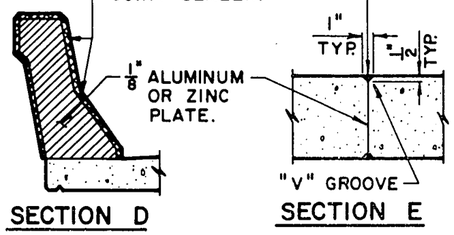
MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
R501	8	6-10	X	WINGS 1 THRU 4
R502	8	4-5		" 1 " 4
R503	4	11-8	X	" 1 " 4
R504	2d	5-0	X	" 1 " 4
R505	2d	5-10	X	" 1 " 4
R506	12	5-2	X	" 1 THRU 4
R507	4	4-2	X	" 1 " 4
R508	8	4-10	X	" 1 " 4
R509	16	3-3	X	" 1 " 4
R510	20	5-10	X	" 1 " 4
R511	16	7-0		" 1 " 4

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

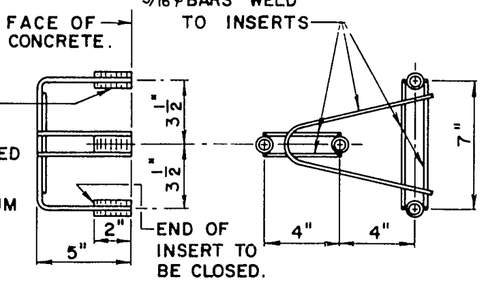
NOTES

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 "DETAILS FOR TYPE 'J' TUBULAR ALUMINUM OR STEEL RAILING."



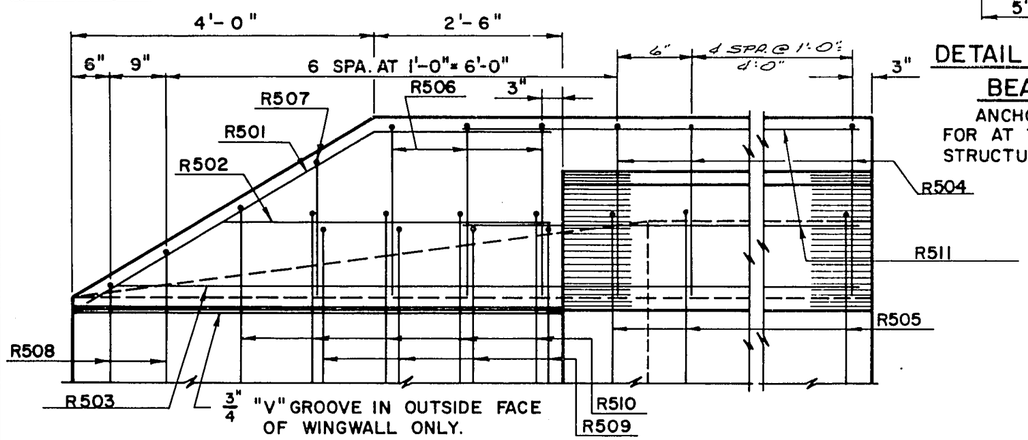
SECTION D — SECTION E



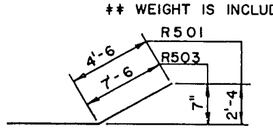
THREADED INSERTS FOR ⅞"ϕ X 0'-2" LONG GALVANIZED HEX. HEAD CAP SCREWS. CAP SCREWS TO BE THREADED A MINIMUM OF 1⅞". INSERTS TO BE THREADED A MINIMUM OF 1¾".

DETAIL OF ANCHOR ASSEMBLY FOR BEAM TYPE GUARD RAIL

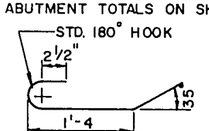
ANCHOR ASSEMBLY SHALL BE PAID FOR AT THE UNIT PRICE BID FOR STRUCTURAL CARBON STEEL.



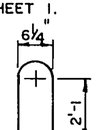
VIEW SHOWING OUTSIDE FACE OF PARAPET & REINF.



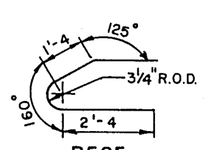
R501, R503



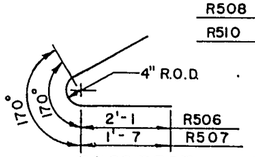
R509



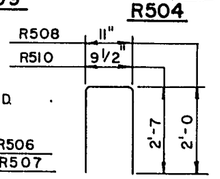
R504



R505



R506, R507



R508, R510

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-16

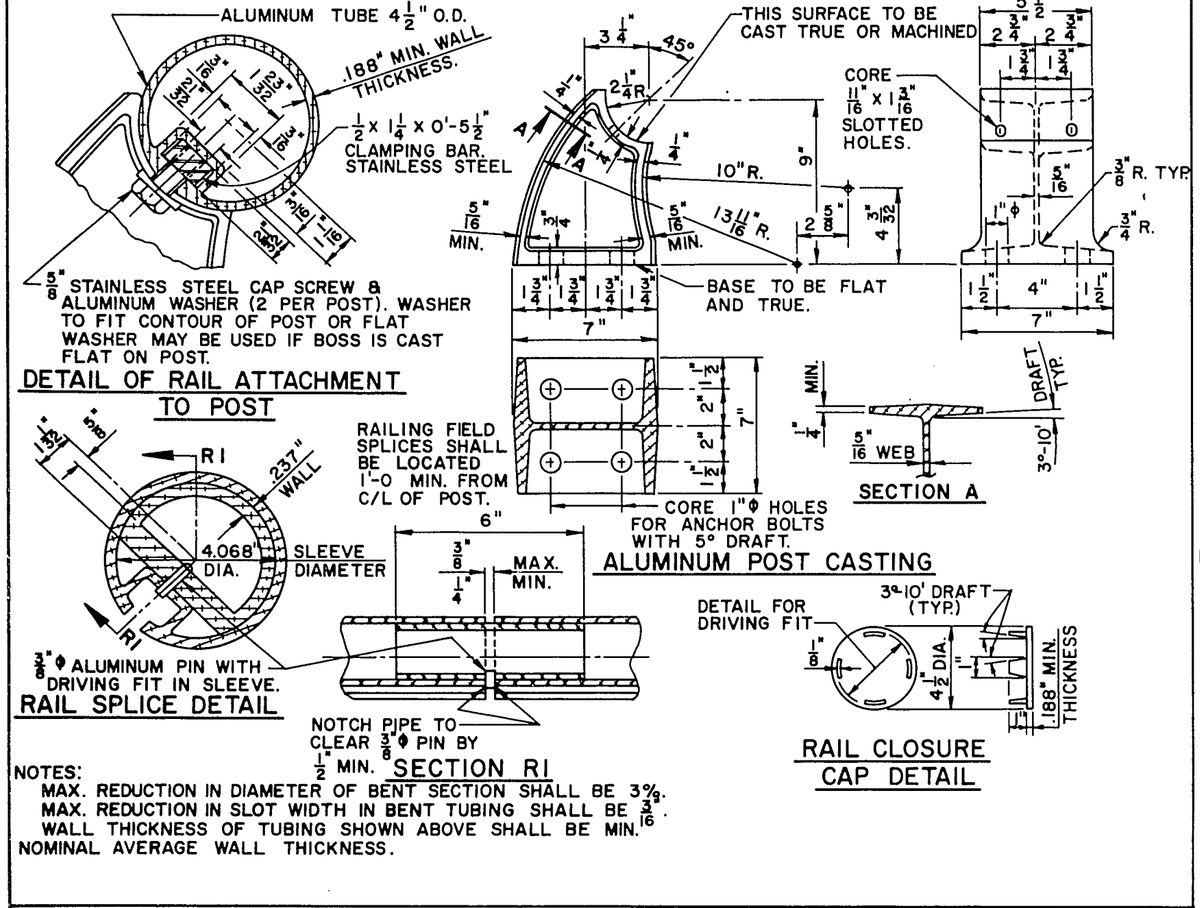
Const. Spec. 1969	Drawn By BUDD	Plans Checked G. H. A.

SLOPED FACE PARAPET "A"

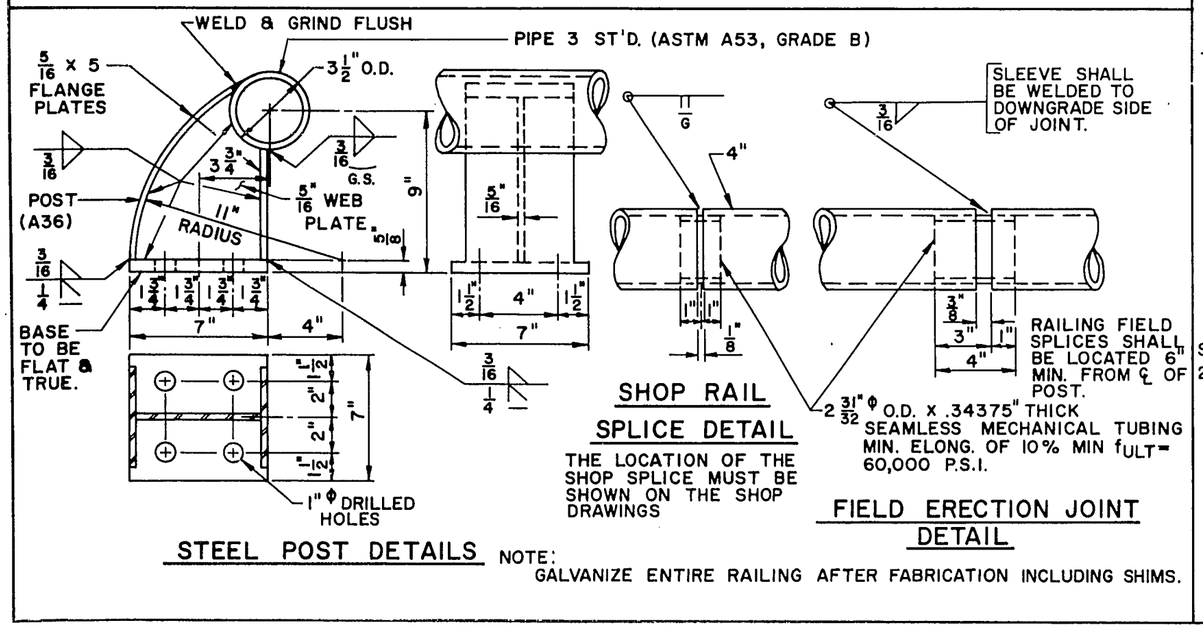
SHEET 15 OF 16

X 46175

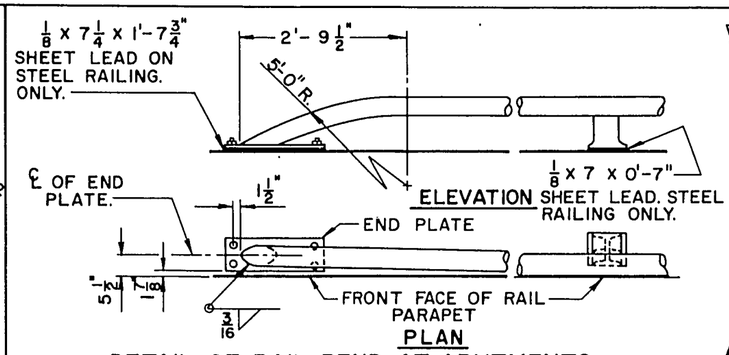
Form E B-12 69

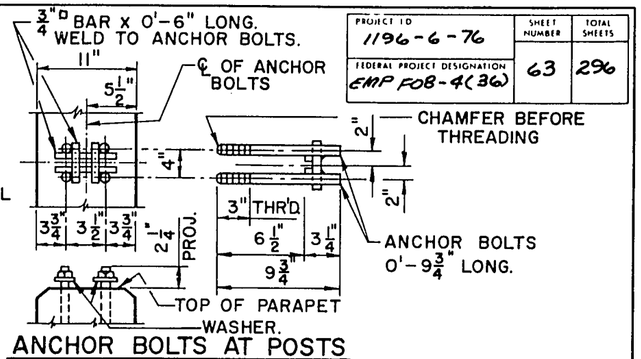


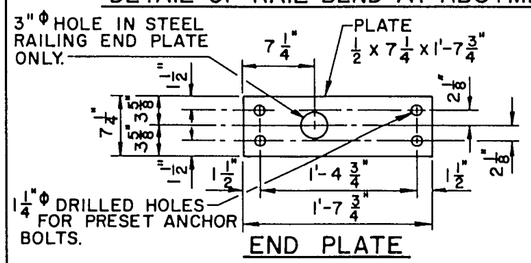
NOTES:
MAX. REDUCTION IN DIAMETER OF BENT SECTION SHALL BE 3%.
MAX. REDUCTION IN SLOT WIDTH IN BENT TUBING SHALL BE 3/16.
WALL THICKNESS OF TUBING SHOWN ABOVE SHALL BE MIN. NOMINAL AVERAGE WALL THICKNESS.

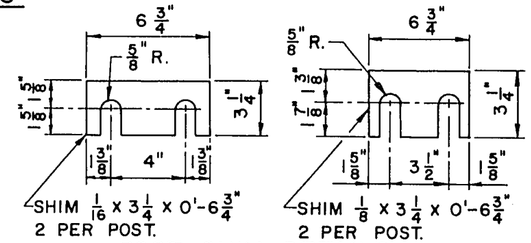


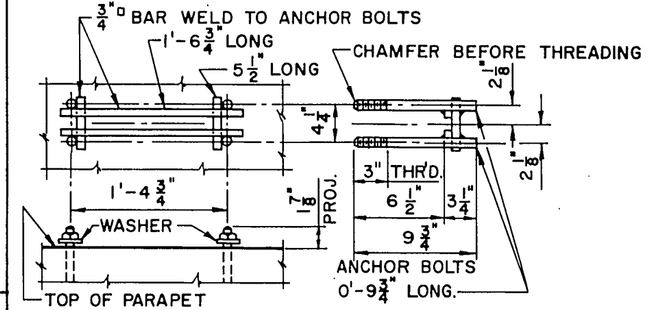
NOTE:
GALVANIZE ENTIRE RAILING AFTER FABRICATION INCLUDING SHIMS.

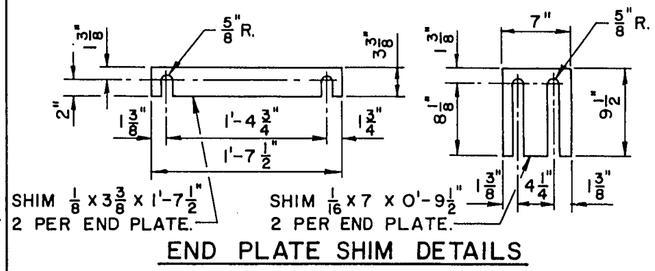












GENERAL NOTES

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.

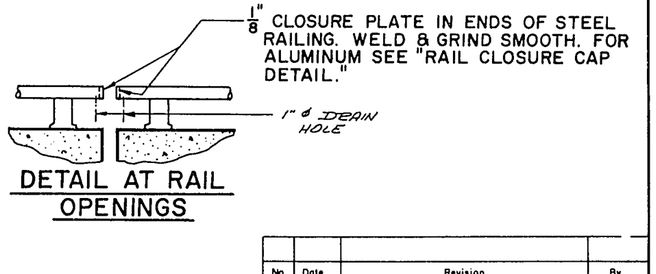
RAIL POSTS SHALL BE SET NORMAL TO GRADE.

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 3 1/2" OF ANCHOR BOLTS.

SHIMS SHALL CONFORM TO SAME MATERIAL AS POSTS.



PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-76	63	296
FEDERAL PROJECT DESIGNATION: EMP FOB-9(36)		

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-16

Const. Spec. 1969	Drawn By BUDD	Plans Checked G.H.A.

TUBULAR RAILING TYPE 'J'

SHEET 16 OF 16

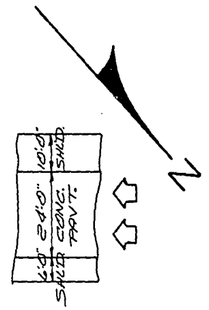
X46176

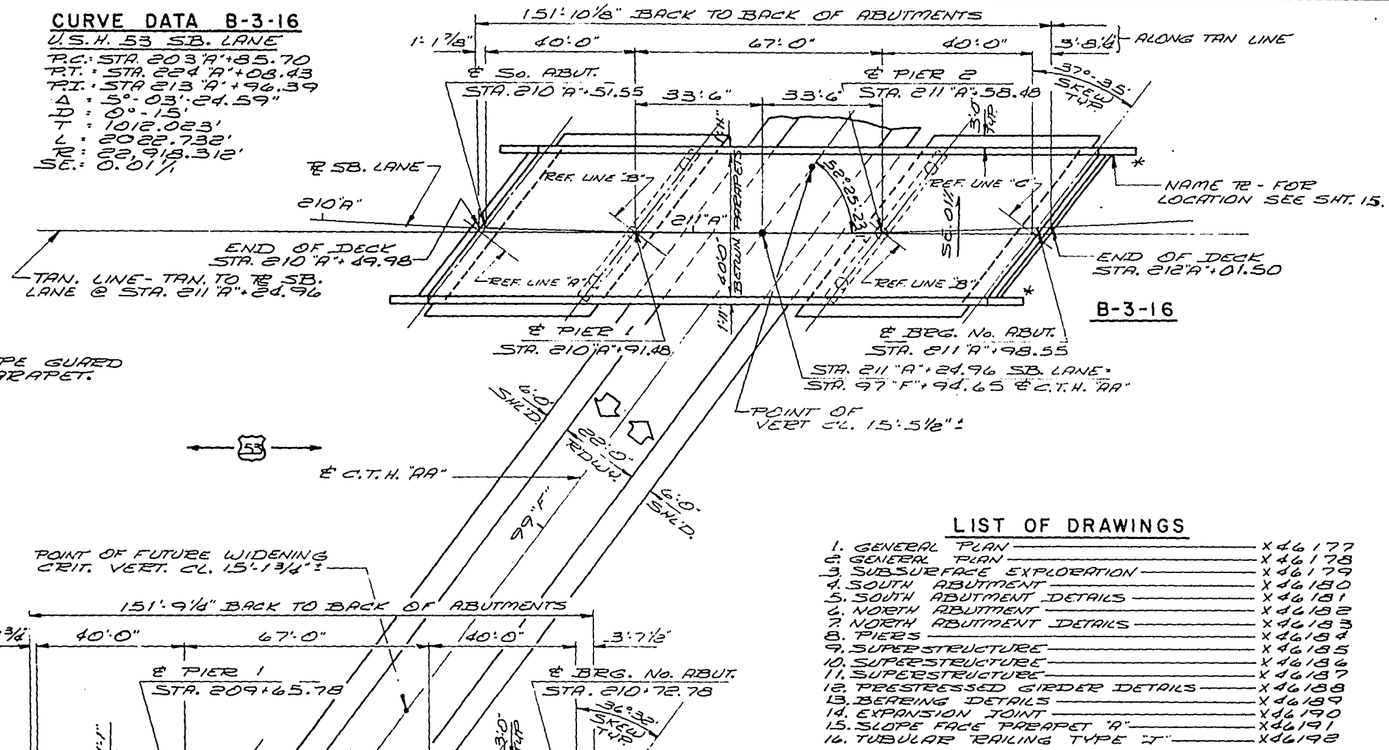
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76	64	296
FEDERAL PROJECT DESIGNATION: EMP F08-4(36)		

CURVE DATA B-3-16

U.S.H. 53 SB. LANE

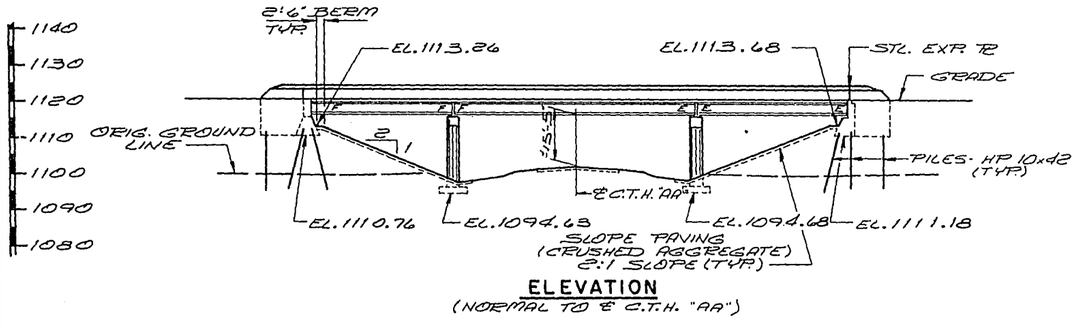
P.C.: STA. 203 "A"+85.70
P.T.: STA. 224 "A"+08.43
P.I.: STA 213 "A"+96.39
Δ = 5°-03'-24.59"
D = 0°-15'
T = 1012.023'
L = 2022.732'
R = 22,918.312'
Sc.: 0.01'/'





* ATTACH BEAM TYPE GUARD RAIL TO WING PARAPET.

PLAN
(3 SPAN PRESTRESSED GIRDER)



ELEVATION
(NORMAL TO ℄ C.T.H. "AA")

LIST OF DRAWINGS

DESIGN DATA

LIVE LOAD: HS-20

ALLOWABLE DESIGN STRESSES:

CONCRETE MASONRY - GRADE "AA" — SLAB — f_c: 1,200 P.S.I.; ALL OTHER — f_c: 1,400 P.S.I.
BAR STEEL REINFORCEMENT — f_s: 20,000 P.S.I.
STRUCTURAL CARBON STEEL — f_s: 20,000 P.S.I.
PRESTRESSED GIRDERS — n = 10
CONCRETE MASONRY — f_c' 6,000 P.S.I.
STRANDS - ½" DIA. WITH ULTIMATE TENSILE STRENGTH OF — 270,000 P.S.I.

FOUNDATION DATA:

SUPPORT ABUTMENTS ON HP 10.42 STEEL "H" PILES. EST. 25'-0" LONG, ℄ DRIVEN TO A MIN. BRG. VALUE OF 55T/PILE. SUPPORT PIERS ON SPREAD FOOTINGS WITH A MINIMUM ALLOWABLE BRG. PRESSURE OF 2½T/SQ. FT.

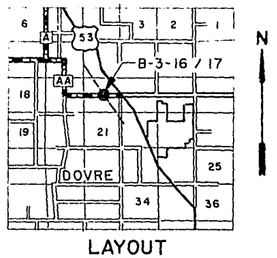
GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH & TRUE.
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING, CRUSHED AGGREGATE, TO THE EXTENT SHOWN ON THIS SHT. & 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 THE SLOPE PROTECTION & THE QUANTITIES WERE COMPUTED FROM THIS LINE.
FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.O. DESIGNATION M153 OR M213.

TRAFFIC VOLUME

U.S.H. 53
A.D.T. = 3300 (1980)

C.T.H. "AA"
A.D.T. = 250 (1980)



LAYOUT

No	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-17

U.S.H. 53 OVER C.T.H. "AA"

County: BARRON — City/Village: TN. DOVRE
Design Spec.: A.A.S.H.O. 1969 — Load: HS-20 — Const. Spec.: 1969
Designed By: G.H.A. — Design Checked: R.L.P. — Drawn By: BUDD — Plans Checked: G.H.A.
Approved: W.A. Kline, Chief Bridge Engineer — Date: 11-17-71

GENERAL PLAN

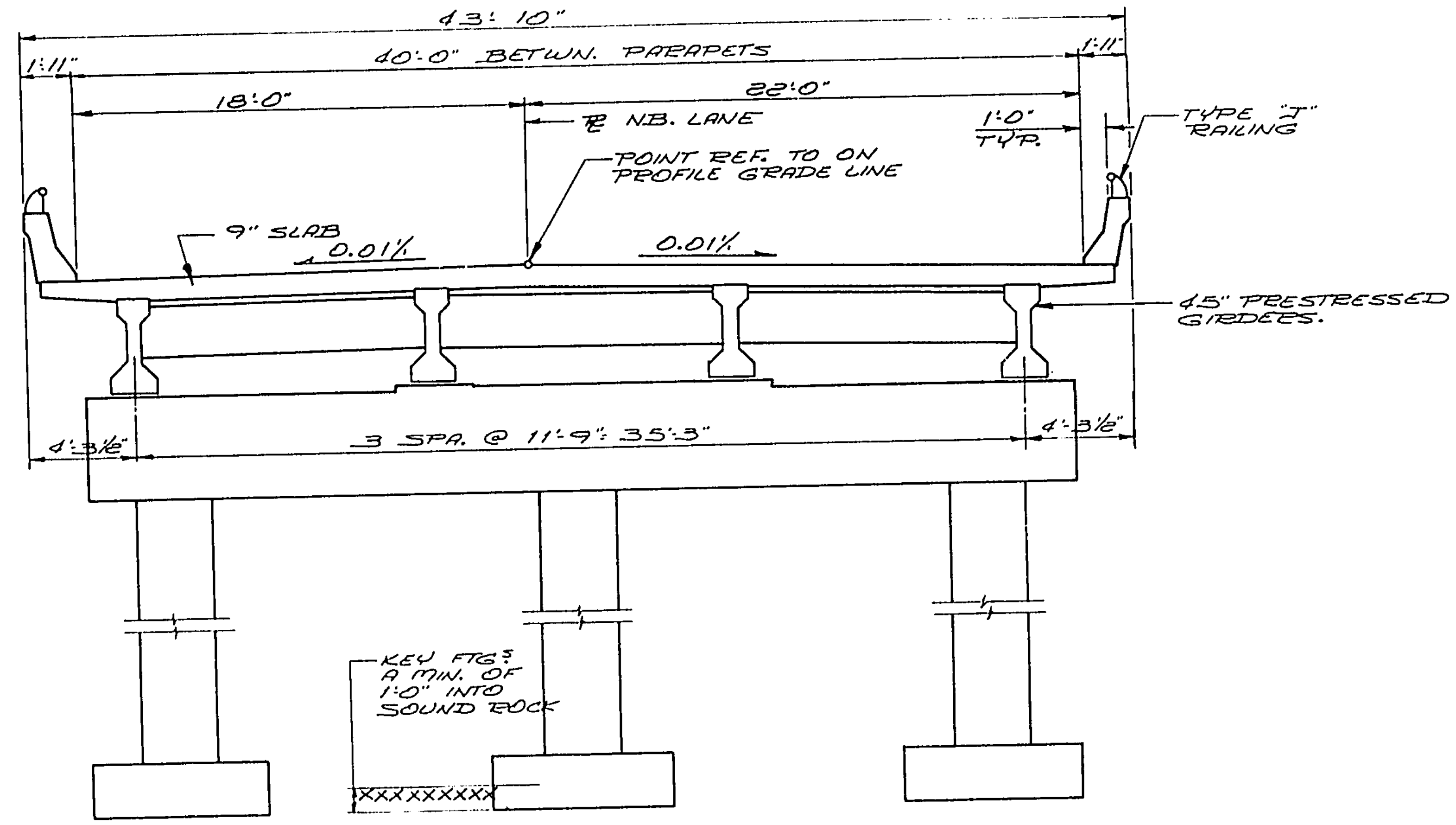
SHEET 1 OF 16

X46177

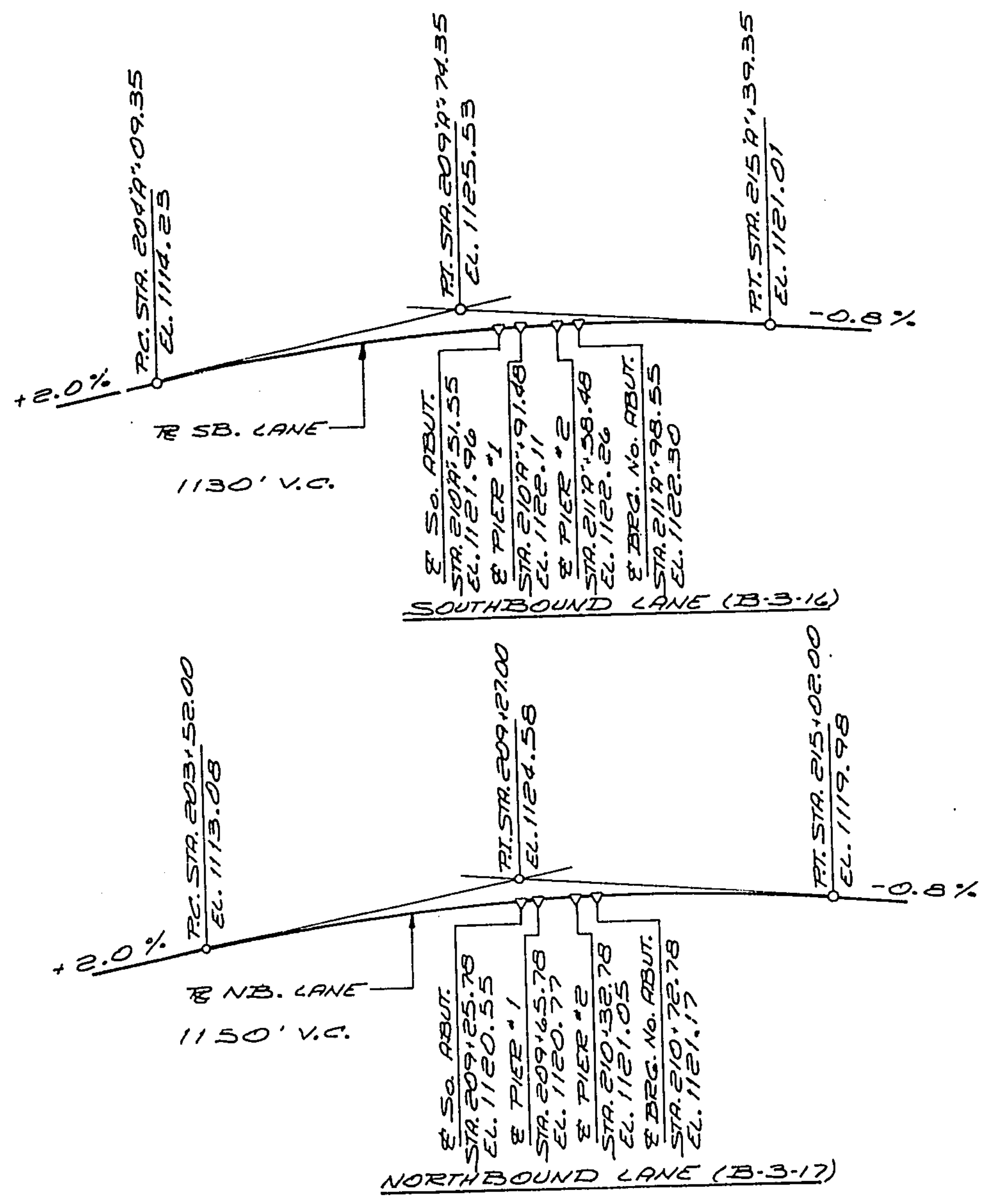
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76	65	296
FEDERAL PROJECT DESIGNATION EMP F08-4(36)		

TOTAL ESTIMATED QUANTITIES

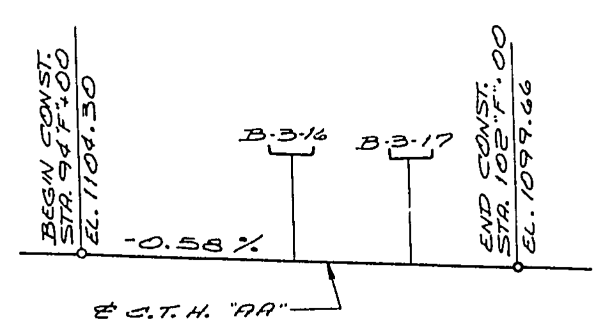
BID ITEMS	UNIT	SUPER.	So. ABUT.	PIER 1	PIER 2	No. ABUT.	TOTAL
EXCAVATION FOR STRUCTURES	C.Y.	—	45	150	150	50	395
CONCRETE MASONRY	C.Y.	265.8	60.0	69.1	69.1	92.0	556.0
PRESTRESSED GIRDERS, I TYPE 45"	L.F.	590	—			—	590
BAR STEEL REINFORCEMENT	LBS.	61,120	2,700	13,590 ~~[illegible]~~	13,590 ~~[illegible]~~	3,730	~~[illegible]~~ 94,730
STRUCTURAL CARBON STEEL	LBS.	3,720	—	—	—	—	3,720
STRUCTURAL LOW ALLOY STEEL	LBS.	2,070	—	—	—	—	2,070
LUBRICATED BRONZE PLATES	LBS.	190	—	—	—	—	190
BEARING PADS	S.F.	17	—	—	—	—	17
BEARING PADS, ELASTOMERIC	S.F.	19	—	—	—	—	19
STEEL PILING, DELIVERED & DRIVEN HP 10 x 42	L.F.	—	410 ~~400~~	—	—	395 ~~400~~	805 ~~800~~
TUBULAR RAILING, TYPE "J"	L.F.	332	—	—	—	—	332
SLOPE PAVING, CRUSHED AGGREGATE	S.Y.	—	253	—	—	255	508
NON-BID ITEMS							
ALUMINUM OR ZINC PLATE	S.F.	35	—	—	—	—	35
POLYVINYL CHLORIDE WATERSTOP	L.F.	—	55	—	—	59	114
FILLER	SIZE	—	—	—	—	—	1/4", 1/2", 5/8" & 3/4"



CROSS SECTION THRU ROADWAY LOOKING NORTHWEST



PROFILE GRADES U.S.H. 53



PROFILE GRADE C.T.H. "AA"

No	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-17

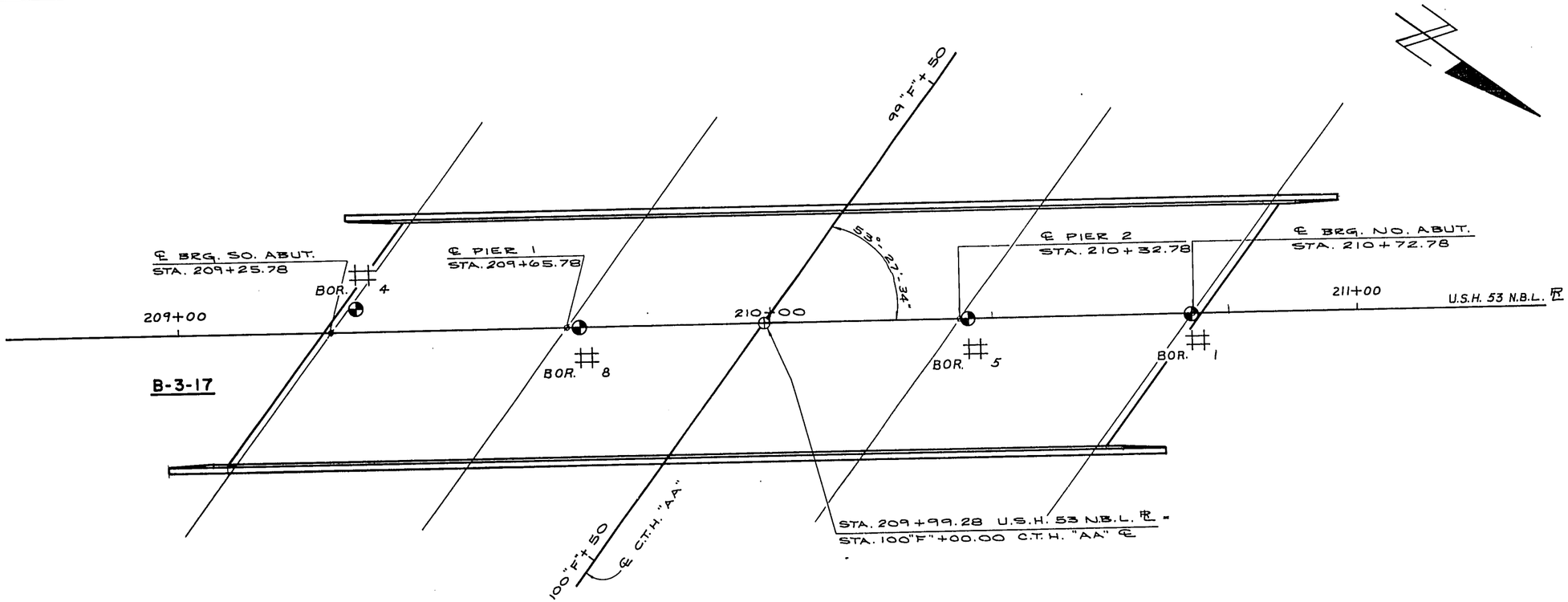
Const Spec 1969	Drawn By BUDD	Plans Checked G.H.A.

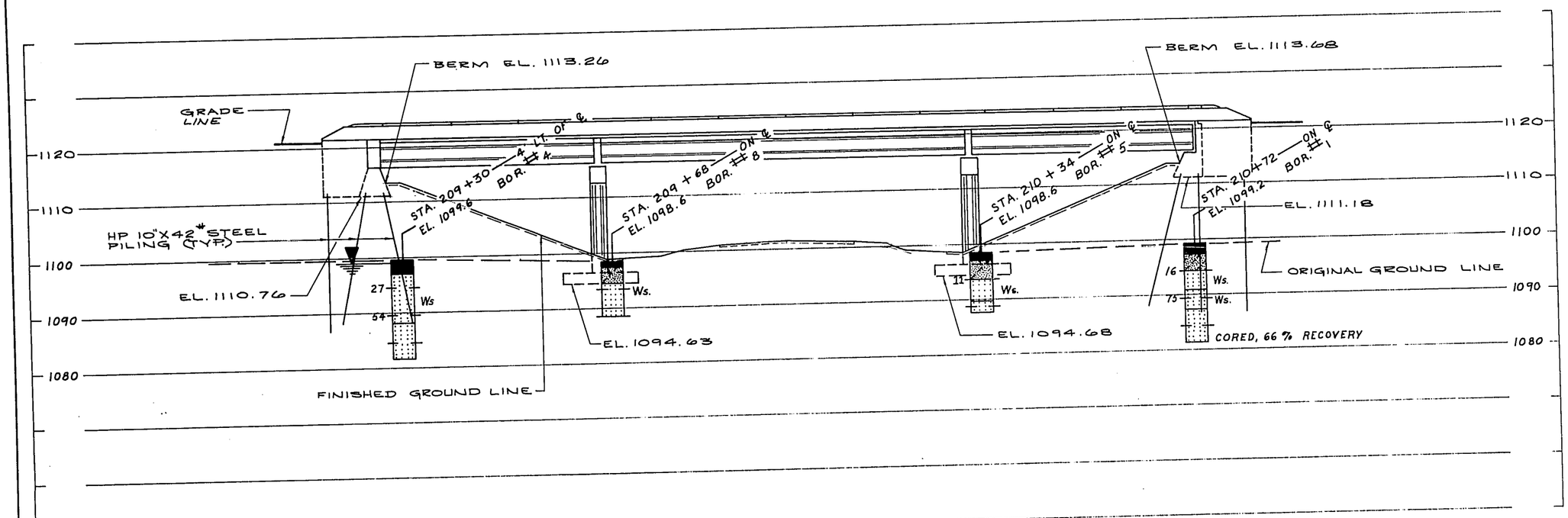
GENERAL PLAN

SHEET 2 OF 16

X46178

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-76	66	296
FEDERAL PROJECT DESIGNATION: EMP F08-4(36)		





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" → 7
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-3-17

Const. Spec. 1969	Drawn By D.C.M. TLA	Plans Checked GHA

SUBSURFACE EXPLORATION

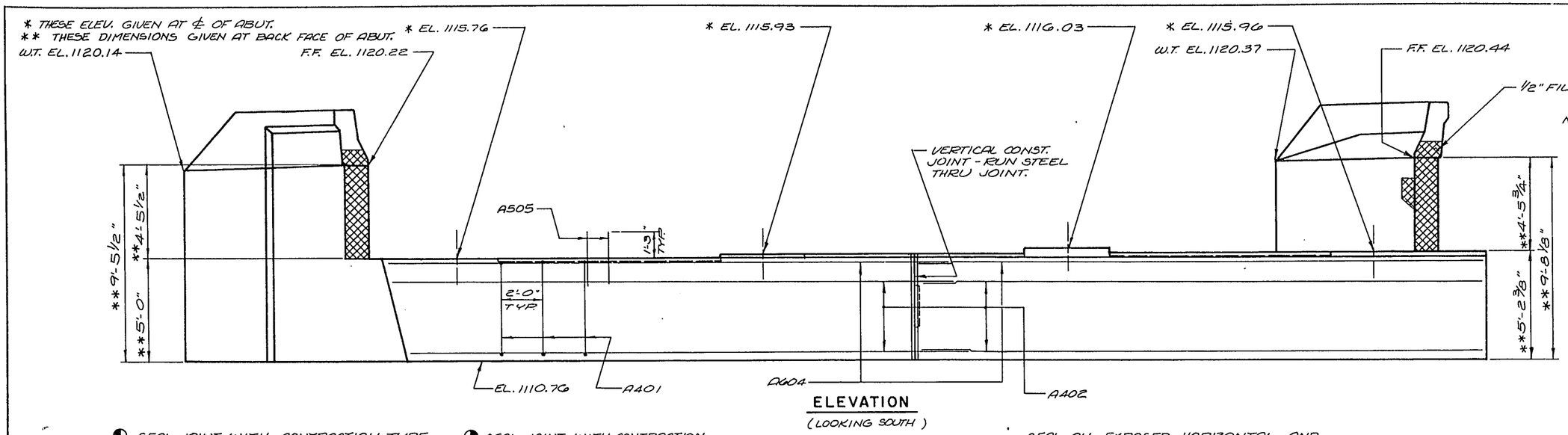
SHEET 3 OF 16

X 46179

Form L 15 12 69

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-76		
FEDERAL PROJECT DESIGNATION	67	296
EMP F08-4(36)		

* THESE ELEV. GIVEN AT ℄ OF ABUT.
** THESE DIMENSIONS GIVEN AT BACK FACE OF ABUT.



ELEVATION
(LOOKING SOUTH)

NOTE: FOR RAIL PARAPET DETAILS SEE SHEET 15
FOR PILE SPLICE DETAILS SEE SHEET 5

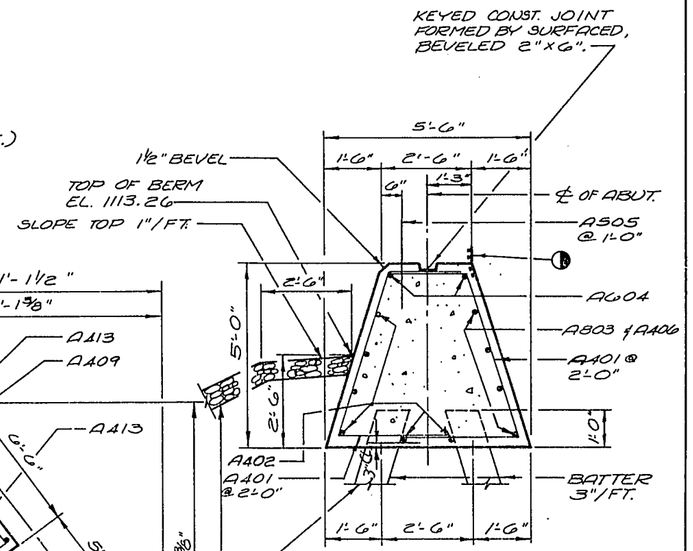
◔ SEAL JOINT WITH CONTRACTION TYPE POLYVINYL CHLORIDE WATERSTOP - TO EXTEND FROM BOTTOM TO TOP OF ABUT. FLUSH WITH FACE OF CONCRETE. FOR DETAIL SEE SHEET 5

NOTE: HORIZ. WATERSTOP TO BE RUN FULL LENGTH. VERTICAL WATERSTOP TO BE CUT.

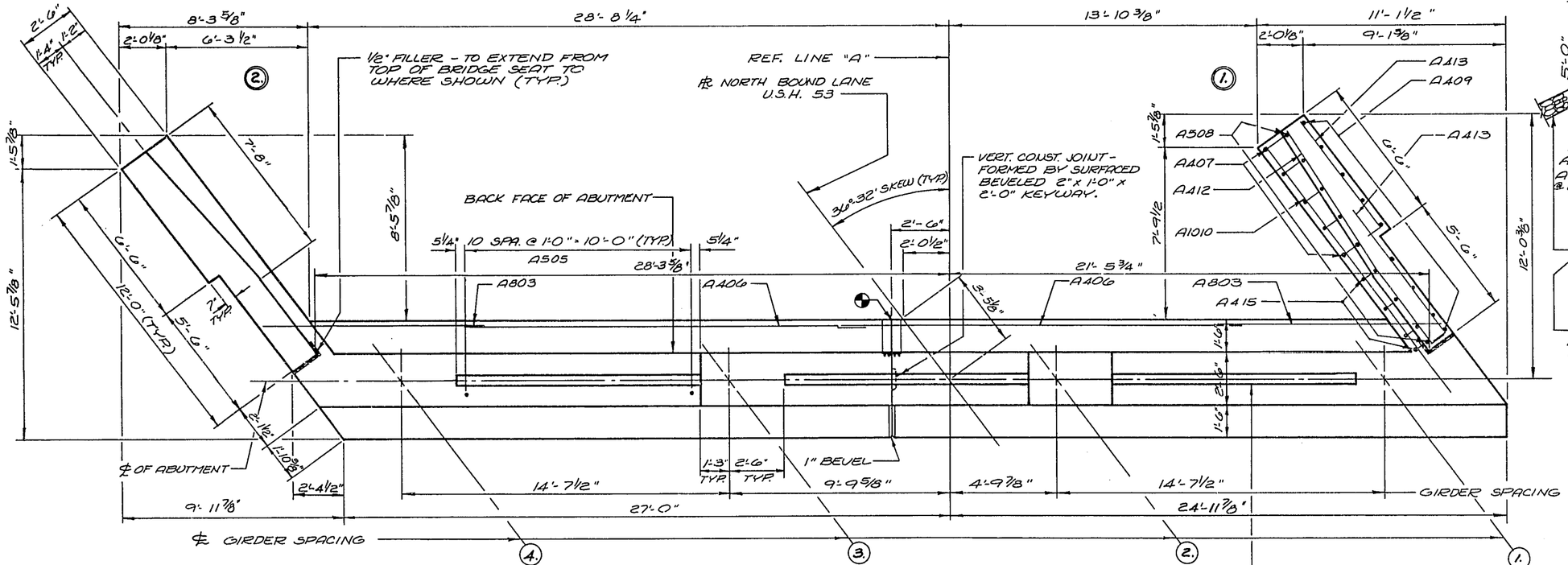
◑ SEAL JOINT WITH CONTRACTION TYPE POLYVINYL CHLORIDE WATERSTOP - TO EXTEND FULL LENGTH BETWEEN WINGS. FOR DETAIL SEE SHEET 5

NOTE: SPACE A401 BARS TO MISS PILING.

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



SECTION THRU BODY



ABUTMENT PLAN

KEYED CONST. JOINT FORMED BY SURFACED, BEVELED 2"x6"

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-17

Const. Spec.	1969	Drawn By	A.G.	Plans Checked	G.H.A.

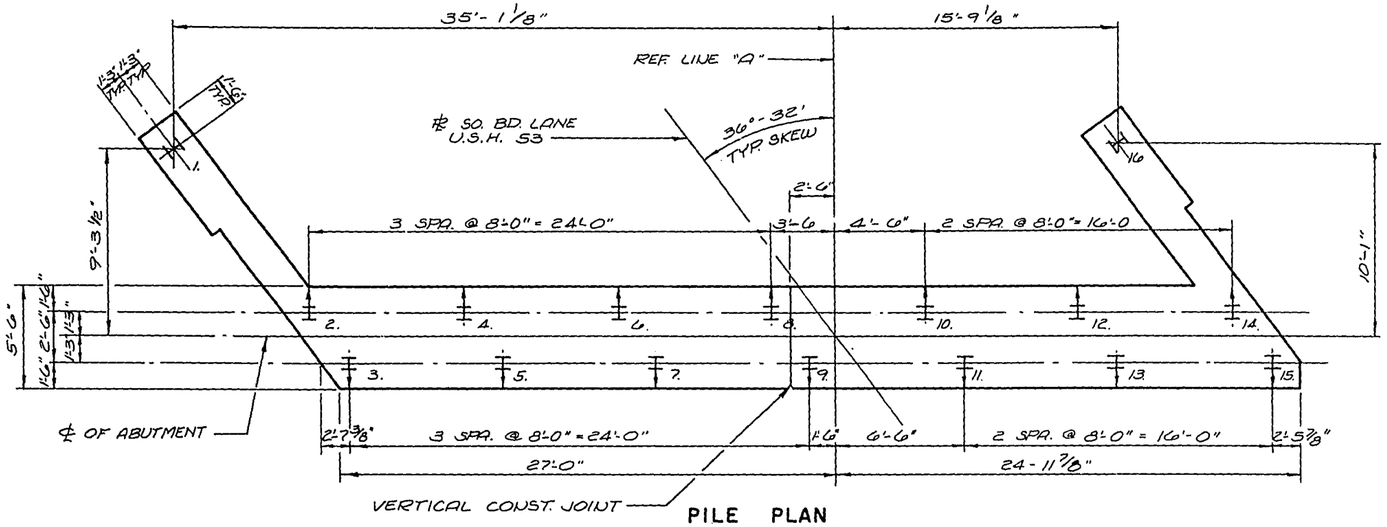
SOUTH ABUTMENT

SHEET 4 OF 16

X 46180

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76	68	296
FEDERAL PROJECT DESIGNATION: EMP F08-4(36)		

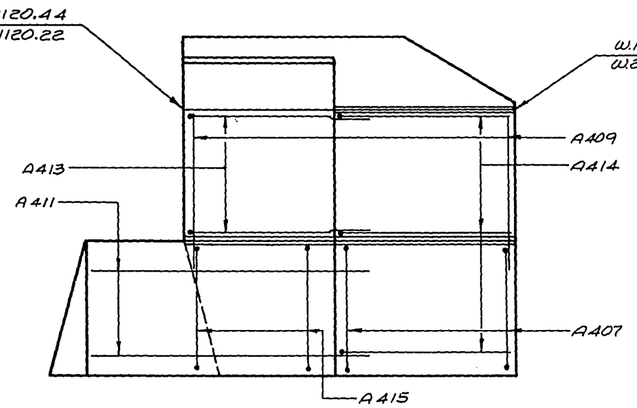
NOTE : DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.
THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.



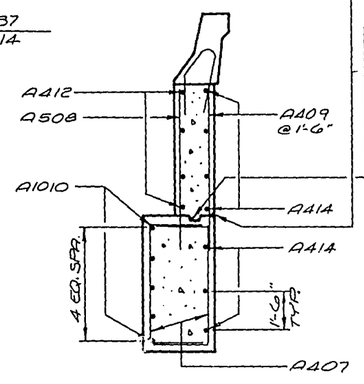
PILE PLAN

BILL OF BARS

MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
A401	54	9-6	X	ABUT. BODY STIRRUPS
A402	12	27-3		" " HORIZ.
A803	8	10-0		" " "
A604	4	27-6		" " "
A505	33	2-6		" VERT.
A406	8	18-6		" HORIZ.
A407	20	8-9	X	WING STIRRUPS F.F. & B.F.
A508	18	5-9		" VERT.
A409	18	5-6		" " F.F.
A1010	10	14-3		" HORIZ. B.F.
A411	6	8-9		" " F.F.
A412	8	12-5	X	" " B.F.
A413	8	7-6	X	" " F.F.
A414	8	6-7	X	" " "
A415	16	7-7	X	" STIRRUPS F.F. & B.F.



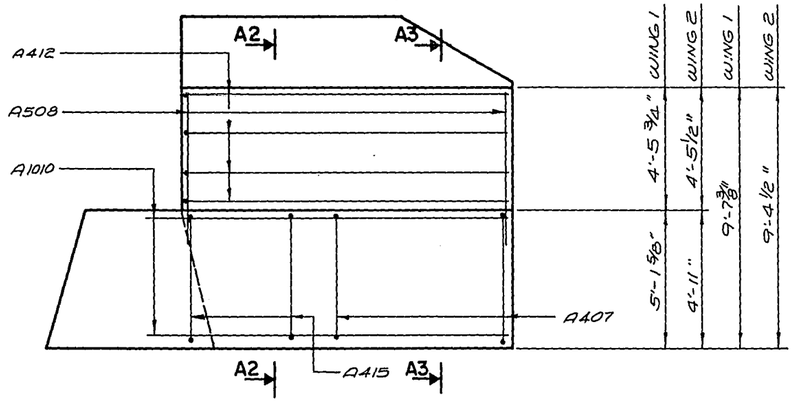
TYPICAL WING ELEVATION
(SHOWING FRONT FACE STEEL)



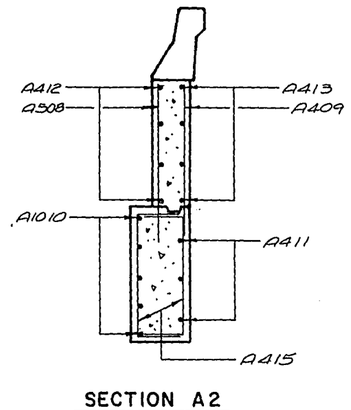
SECTION A3

3/4" "V" GROOVE IN FRONT FACE ONLY.

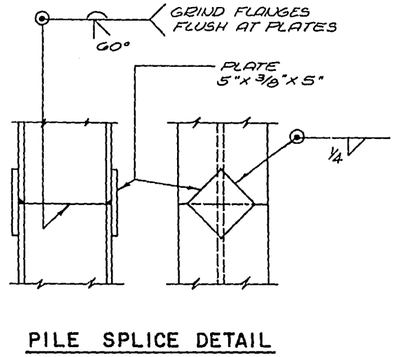
KEYED CONST. JOINT FORMED BY SURFACED, BEVELED 2"x6". POUR CONC. ABOVE THIS JOINT AFTER SUPER. CONC. IS IN PLACE.



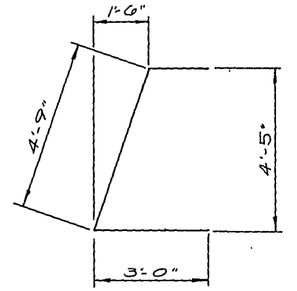
TYPICAL WING ELEVATION
(SHOWING BACK FACE STEEL)



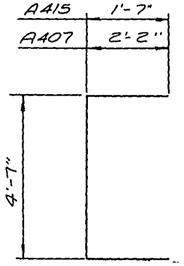
SECTION A2

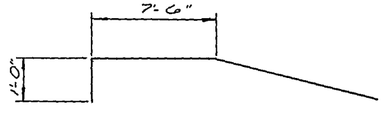


PILE SPLICE DETAIL



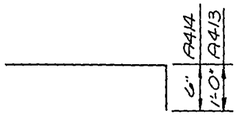
A401



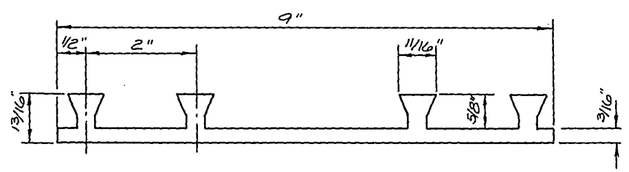


A412

A407 & A415



A413 & A414



POLYVINYL CHLORIDE WATERSTOP DETAIL

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-17

Const. Spec.	Drawn By	Plans Checked
1969.	A.G.	G.H.A.

SOUTH ABUTMENT DETAILS

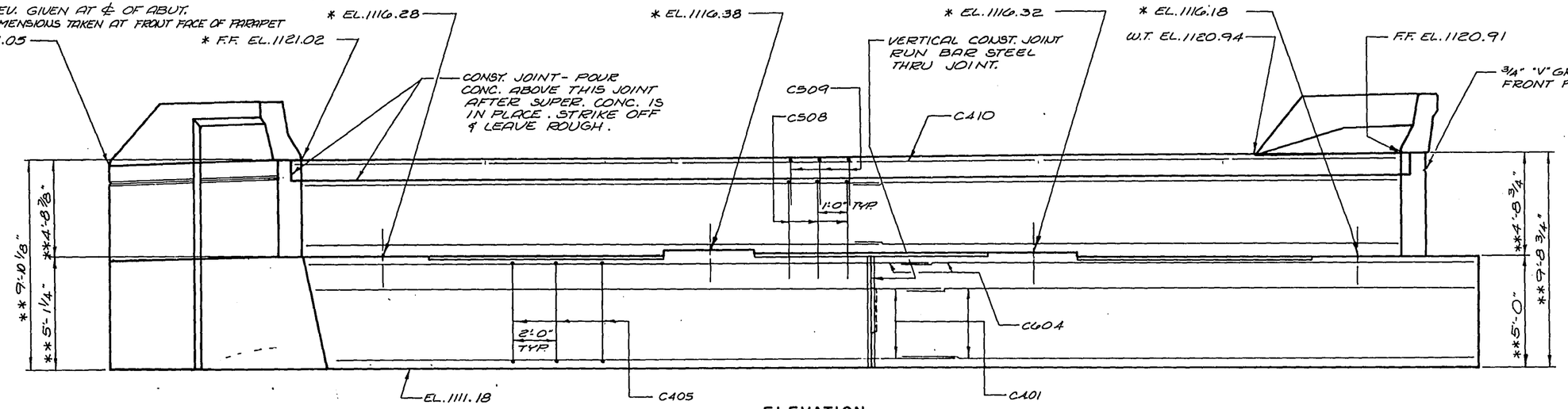
SHEET 5 OF 16

X 46181

Form E-B-12-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76		
FEDERAL PROJECT DESIGNATION	69	296
EMP F08-4(36)		

* THESE ELEV. GIVEN AT ℄ OF ABUT.
* * THESE DIMENSIONS TAKEN AT FRONT FACE OF PARAPET



NOTE : FOR RAIL PARAPET DETAILS SEE SHEET 15
FOR PILE SPLICE DETAIL SEE SHEET 5

ELEVATION
(LOOKING NORTH)

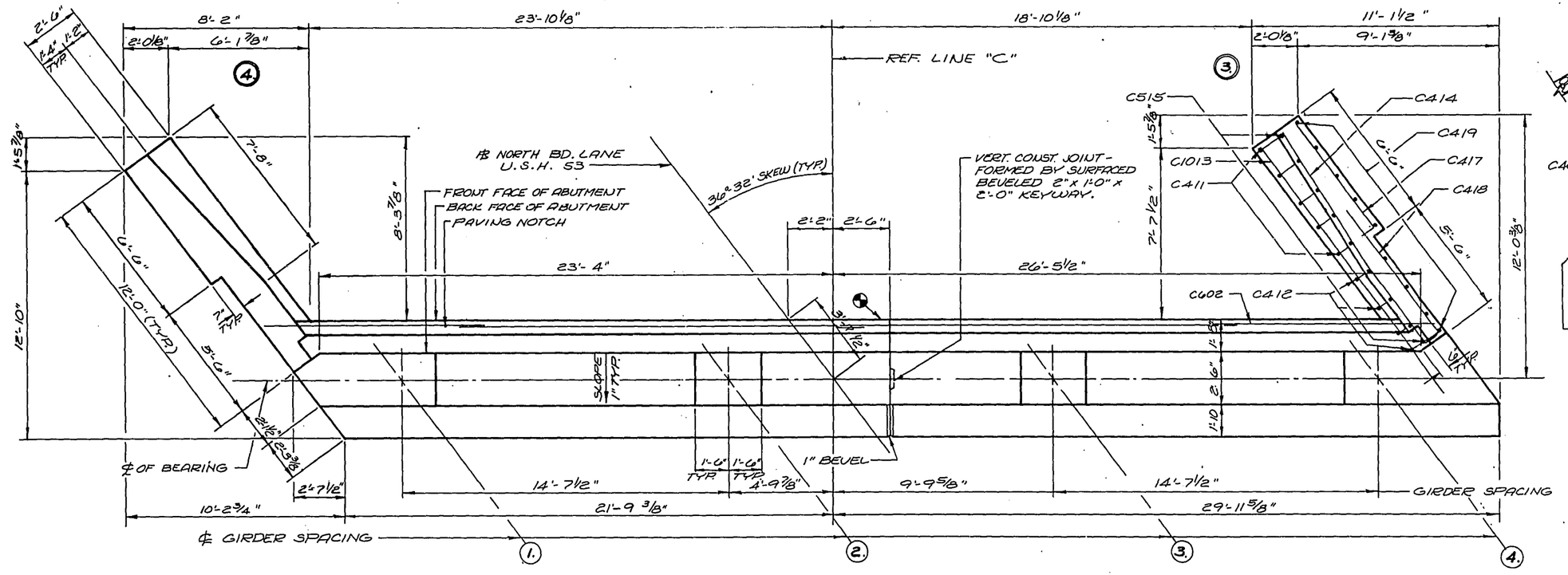
◓ SEAL JOINT WITH CONTRACTION TYPE POLYVINYL CHLORIDE WATERSTOP - TO EXTEND FROM BOTTOM TO TOP OF ABUT. FLUSH WITH FACE OF CONCRETE. FOR DETAIL SEE SHEET 5

NOTE : HORIZ. WATERSTOP TO BE RUN FULL LENGTH. VERTICAL WATERSTOP TO BE CUT.

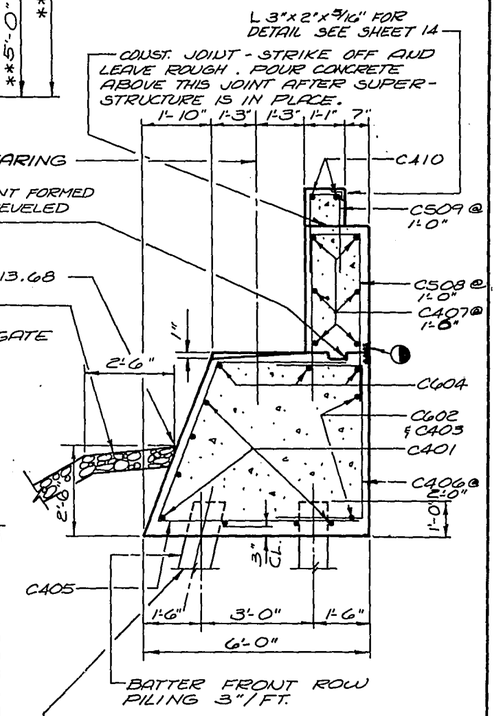
◑ SEAL JOINT WITH CONTRACTION TYPE POLYVINYL CHLORIDE WATERSTOP. TO EXTEND FULL LENGTH BETWEEN WINGS. FOR DETAIL SEE SHEET 5

NOTE : SPACE C405 & C406 BARS TO MISS PILING.

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



ABUTMENT PLAN



SECTION THRU BODY

H.P. 10X42 STEEL PILES EST. 25'-0" LONG AND DRIVEN TO A MIN. BEARING CAPACITY OF 55 TONS PER PILE.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B - 3 - 17

Const. Spec.	Drawn By	Plans Checked
1969	A.G.	G.H.A.

NORTH ABUTMENT

SHEET 6 OF 16

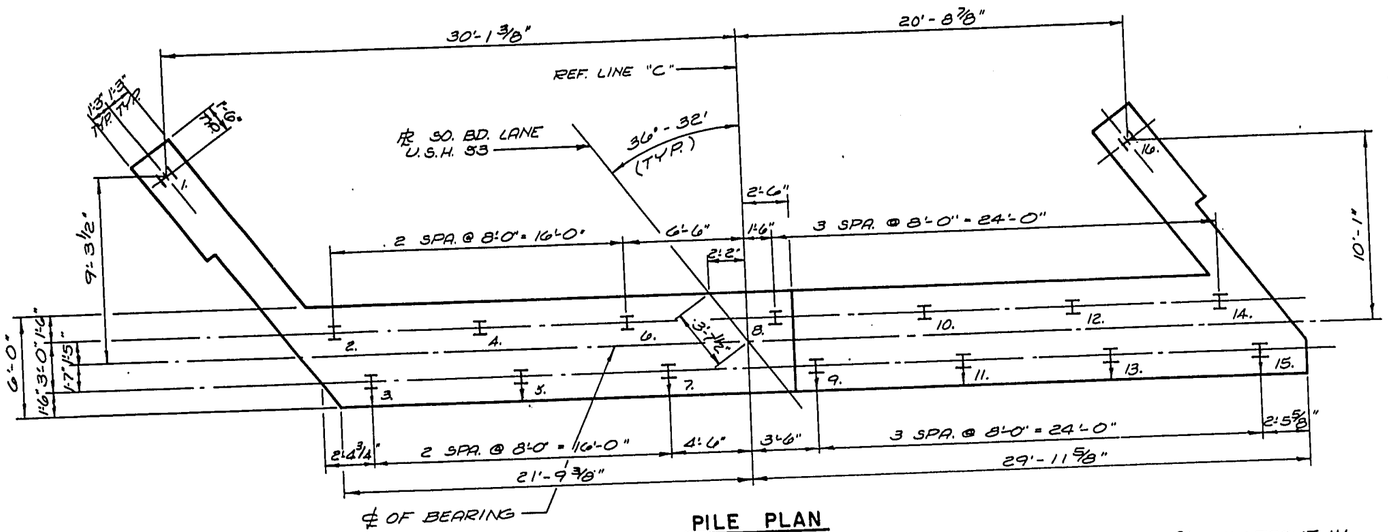
X 46182

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-6-76	70	296
FEDERAL PROJECT DESIGNATION: EMP FOB-4(36)		

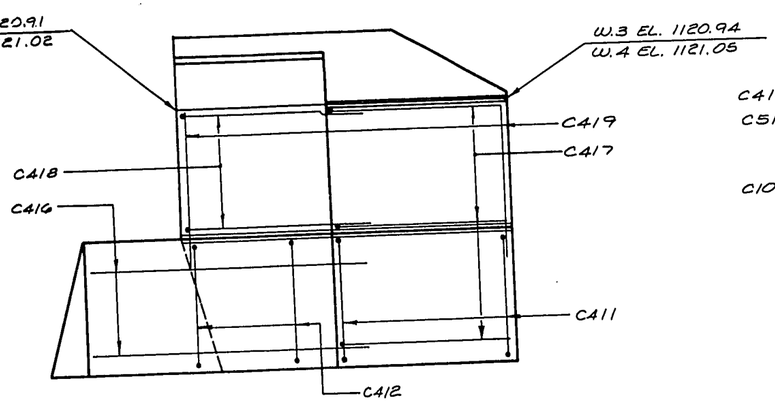
NOTE : DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT
THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

BILL OF BARS

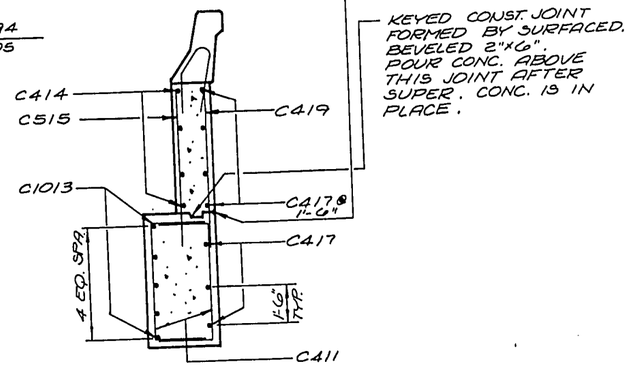
MARK	NO. REQ'D	LENGTH	BENT	LOCATION
C401	14	27-6		BODY HORIZ.
C602	4	10-0		" "
C403	4	19-0		" "
C604	6	27-6		" "
C405	27	13-6	X	" STIRRUPS
C406	27	9-0	X	" "
C407	12	28-0		BACKWALL HORIZ.
C508	51	10-10	X	" STIRRUPS
C509	51	4-8	X	PAVING BLOCK
C410	12	8-3		" "
C411	20	7-11	X	WING STIRRUPS
C412	16	6-11	X	" "
C1013	10	14-3		" HORIZ. B.F.
C414	8	12-5	X	" " "
C515	18	5-10		" VERT. "
C416	6	8-6		" HORIZ. F.F.
C417	14	6-9	X	" " "
C418	8	7-5	X	" " "
C419	18	5-7		" VERT. "



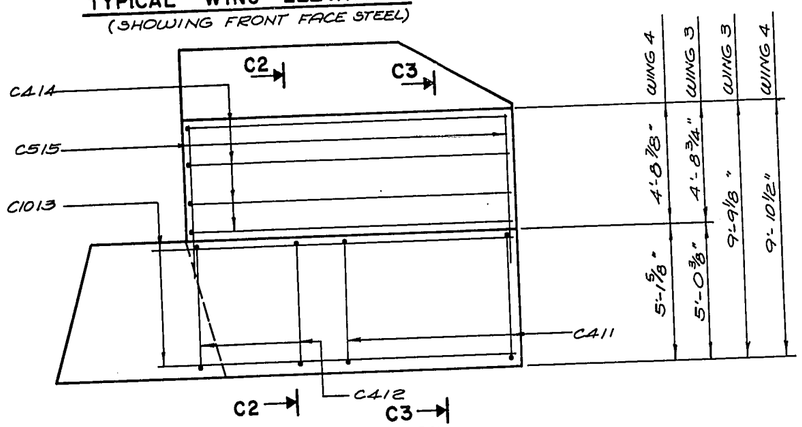
PILE PLAN



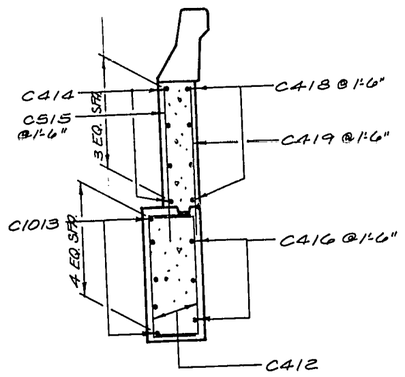
TYPICAL WING ELEVATION
(SHOWING FRONT FACE STEEL)



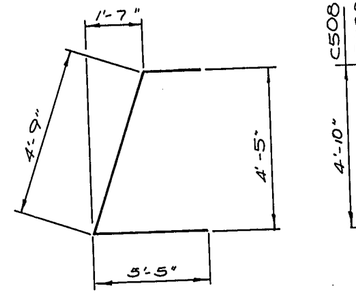
SECTION C3



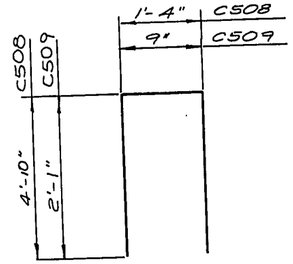
TYPICAL WING ELEVATION
(SHOWING BACK FACE STEEL)



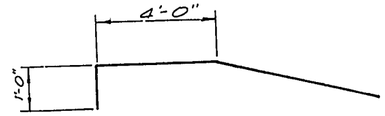
SECTION C2



C405

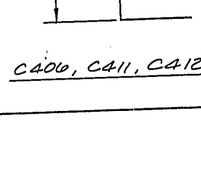


C508 , C509

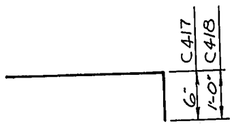


C412	1'-3"
C406	2'-3"
C411	1'-9"

C414



C406, C411, C412



C417 & C418

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

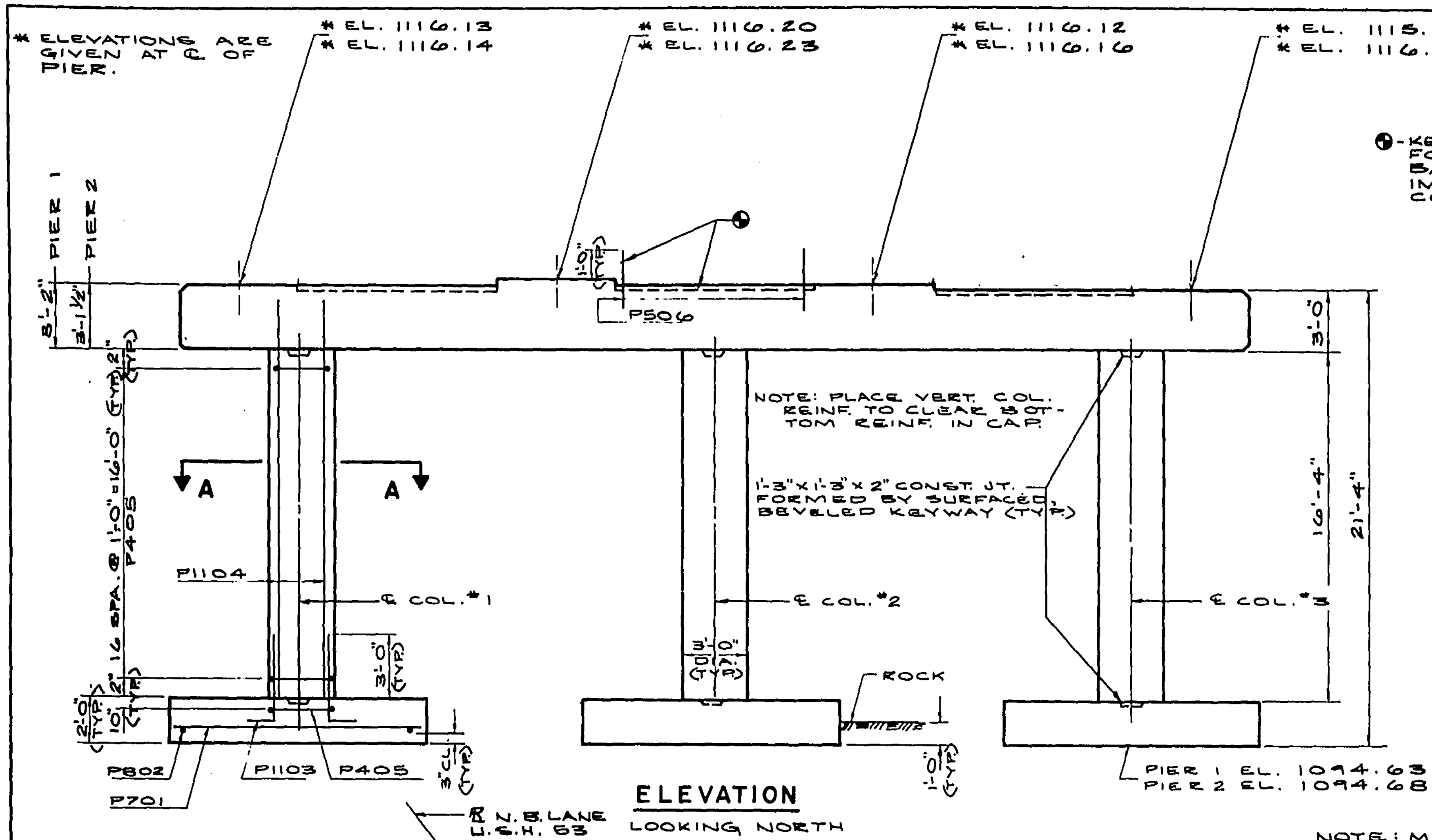
STRUCTURE B-3-17

Const. Spec.	Drawn By	Plans Checked
1969	A. G.	G.H.A.

NORTH ABUTMENT DETAILS

SHEET 7 OF 16

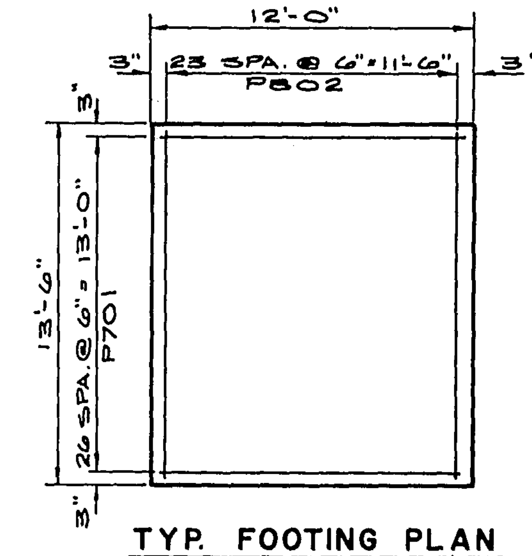
X 46183



ELEVATION
LOOKING NORTH

⊕-KEYWAY & DOWELS SHOWN FOR PIER 1 ONLY. P506 BARS MAY BE PLACED IMMEDIATELY AFTER CONCRETE IS POURED.

NOTE: MIN. ALLOWABLE SOIL PRESSURE EQUALS 2.5 TONS/SQ. FT.



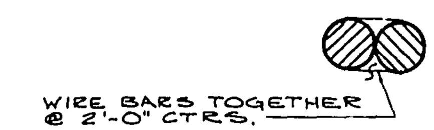
TYP. FOOTING PLAN

NOTE: BARS LISTED ARE COMBINED TOTAL FOR PIER 1 & PIER 2.

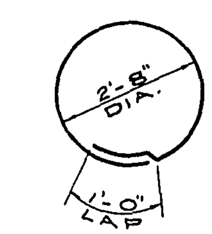
BILL OF BARS

MARK	NO. REQ'D	LENGTH	BENT	BUND.	LOCATION
P701	162	11-6			FOOTING
P802	144	13-0			"
P1103	72	6-5	X		" & COLUMN-DOWEL
P1104	72	19-1			COLUMN
P405	108	9-5	X		" - HOOPS
P506	27	2-6			CAP - TOP - VERT. ⊕
P407	16	4-9			" - BOTTOM - ENDS
P1008	8	38-0			" - "
P1009	16	18-6			" - "
P510	8	25-6			" - CENTER
P1111	4	12-0		X	" - TOP
P1112	12	56-2	X	X	" - "
P513	32	10-7	X		" - STIRRUP - DOUBLE
P514	64	12-5	X		" - " - SINGLE

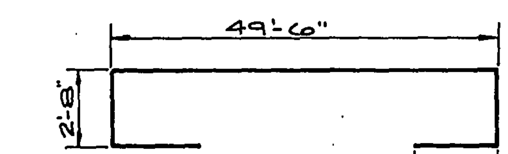
ALL BENDING DIMENSIONS ARE OUT TO OUT OF BAR.
THE FIRST DIGIT OF A THREE DIGIT BAR MARK & THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.



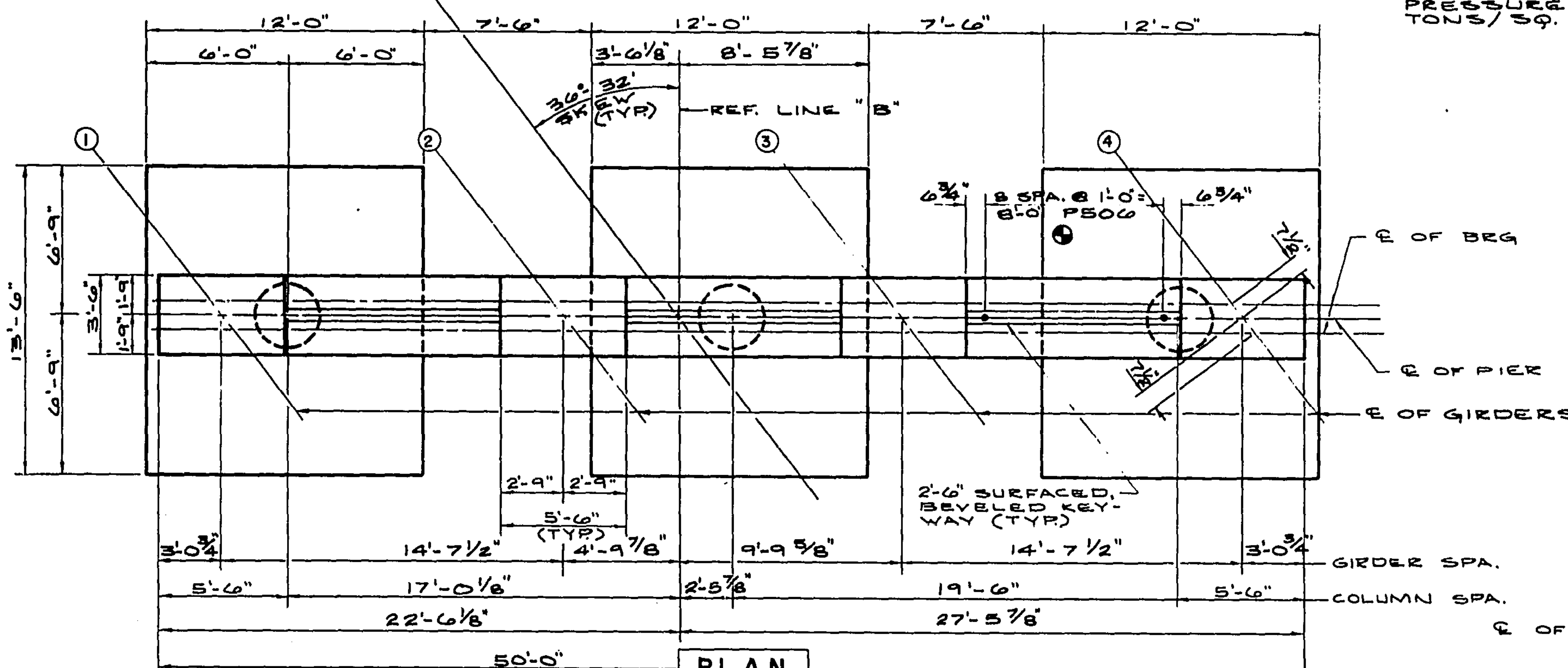
BUNDLING DETAIL



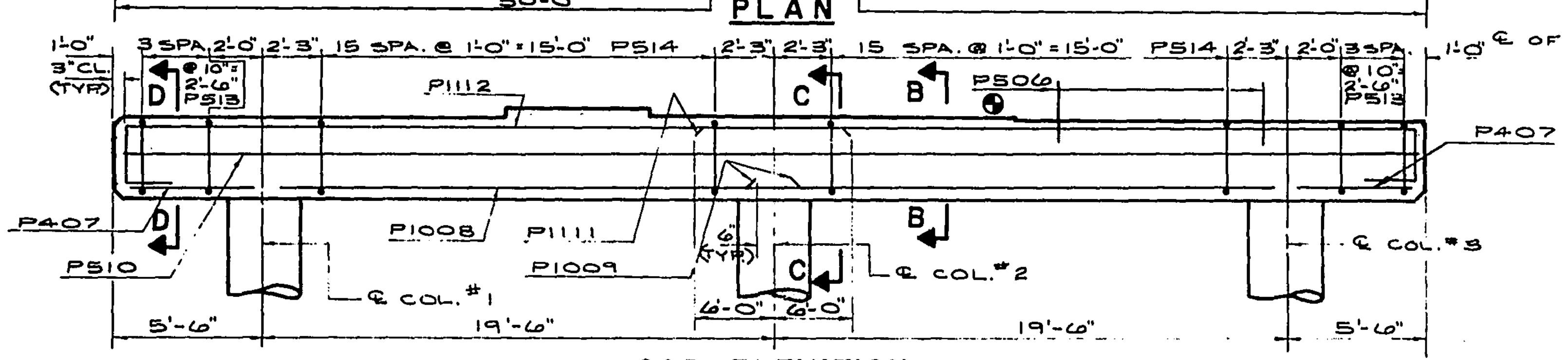
P 405



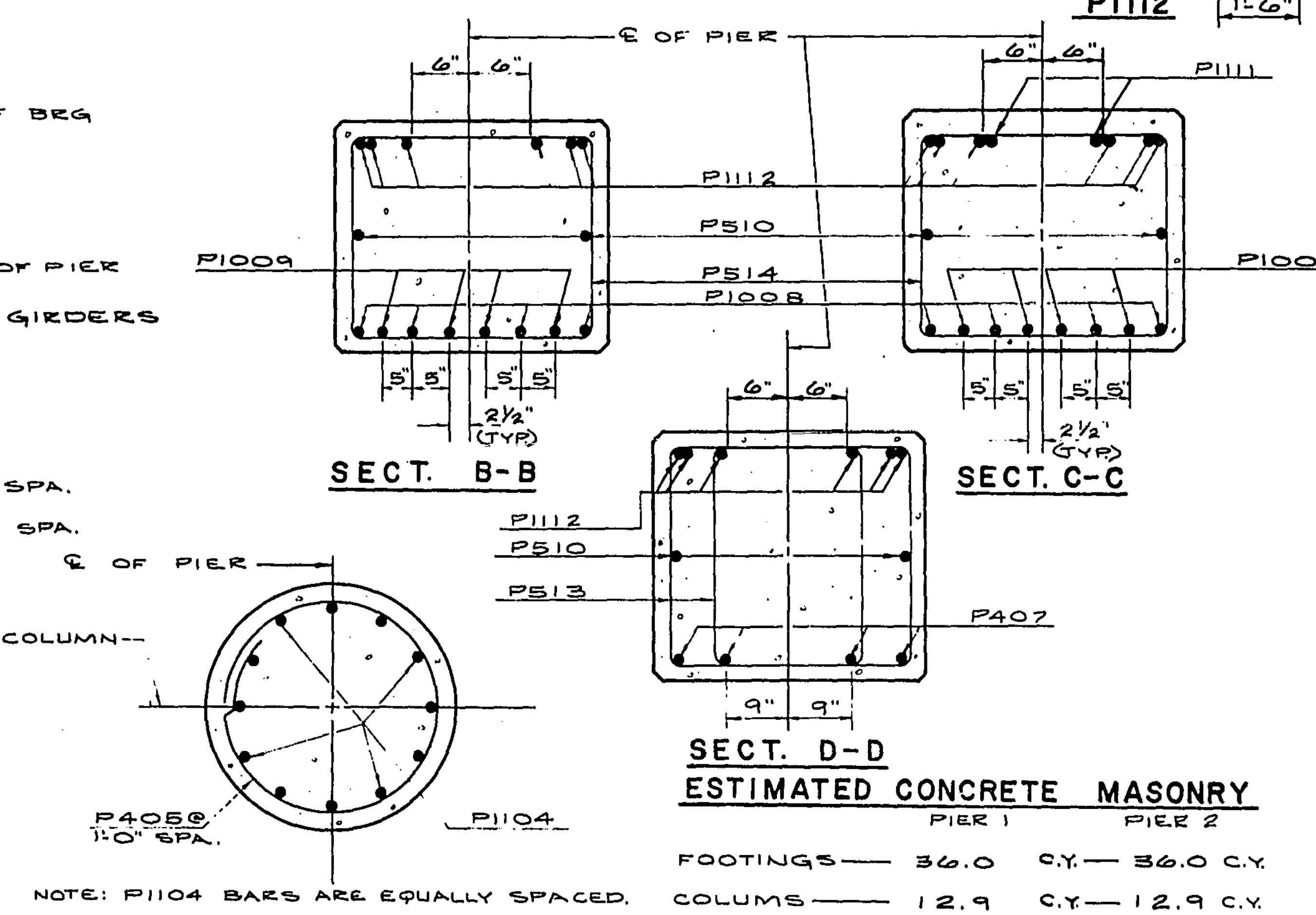
P1112



PLAN



CAP ELEVATION
SHOWING BAR STEEL REINF.



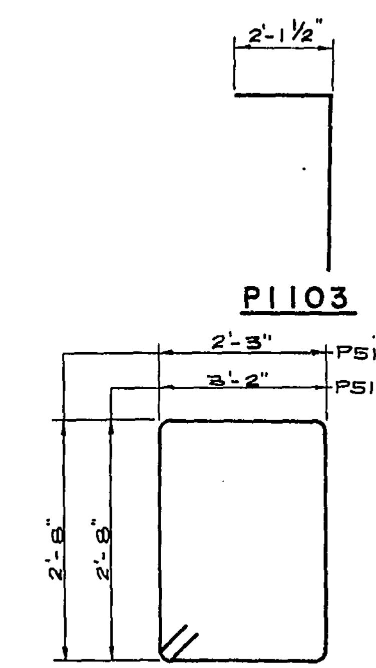
SECT. B-B

SECT. C-C

SECT. D-D

SECT. A-A

NOTE: P1104 BARS ARE EQUALLY SPACED.



P1103

P513 & P514

ESTIMATED CONCRETE MASONRY

	PIER 1	PIER 2
FOOTINGS	36.0 C.Y.	36.0 C.Y.
COLUMS	12.9 C.Y.	12.9 C.Y.
PIER CAP	20.2 C.Y.	20.2 C.Y.
TOTAL	69.1 C.Y.	69.1 C.Y.

No	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-17

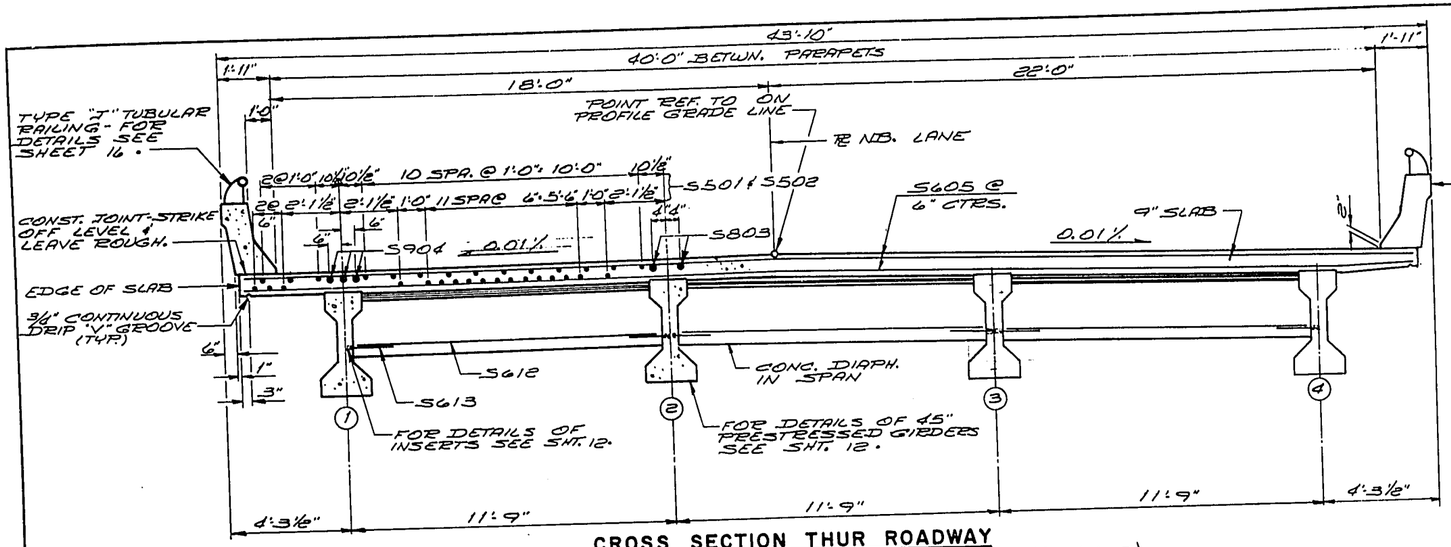
Const Spec 1969	Drawn By TLA	Plans Checked GHA

PIERS

SHEET 8 OF 16

X 46184

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76	72	296
FEDERAL PROJECT DESIGNATION EMP F08-4(36)		



CROSS SECTION THUR ROADWAY

(AT RT L³ TO REFERENCELINE LOOKING NORTHWEST)

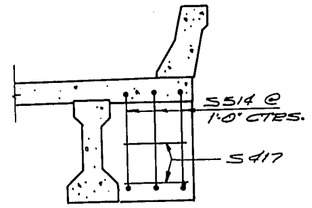
PLAN

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. APPROX. THE 1/3 PT.³ BETWEEN GIRDERS.

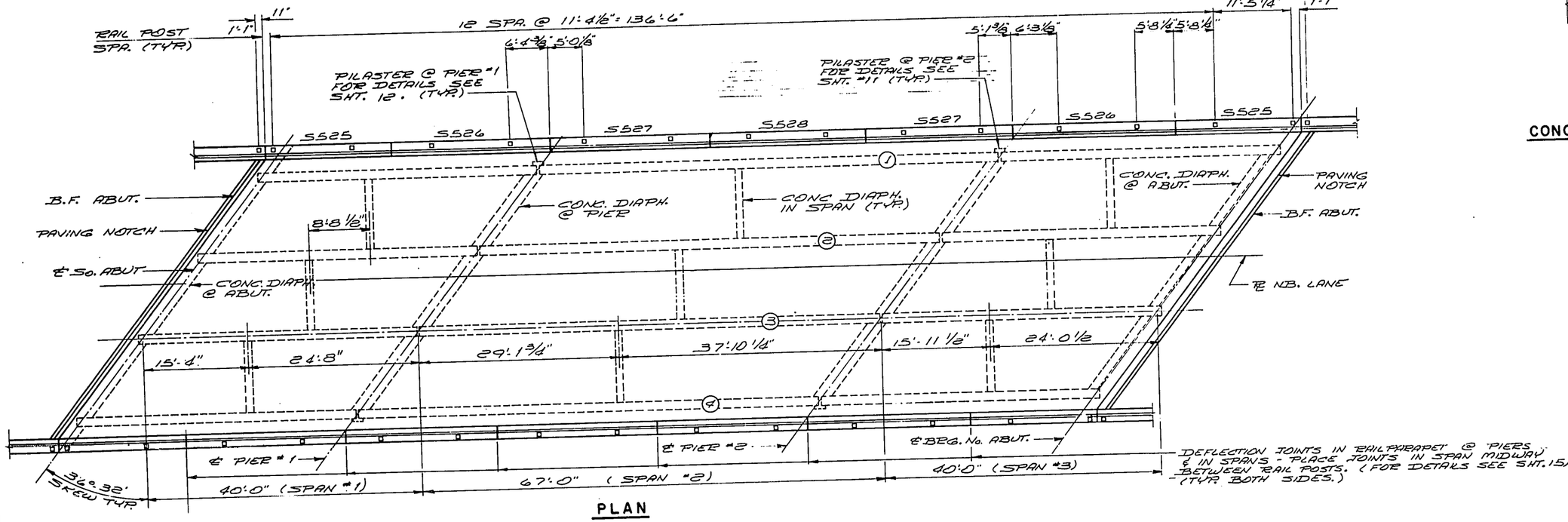
TOP LONGITUDINAL BAR STEEL SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROX. 4'-0" CTRS.

THE 2" HEIGHT OF RAIL PARAPET IS TO BE MAINTAINED AT ALL POINTS OF BEARING.

THE CONC. IN ANY SPAN SHALL BE PLACED WITHIN 4 HRS OF THE TIME THAT CONC. WAS PLACED OVER AN ADJACENT PIER.



CONC. DIAPH. AT SO. ABUT.



PLAN

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-17

Const. Spec. 1969	Drawn By BUDD	Plans Checked G.H.A.

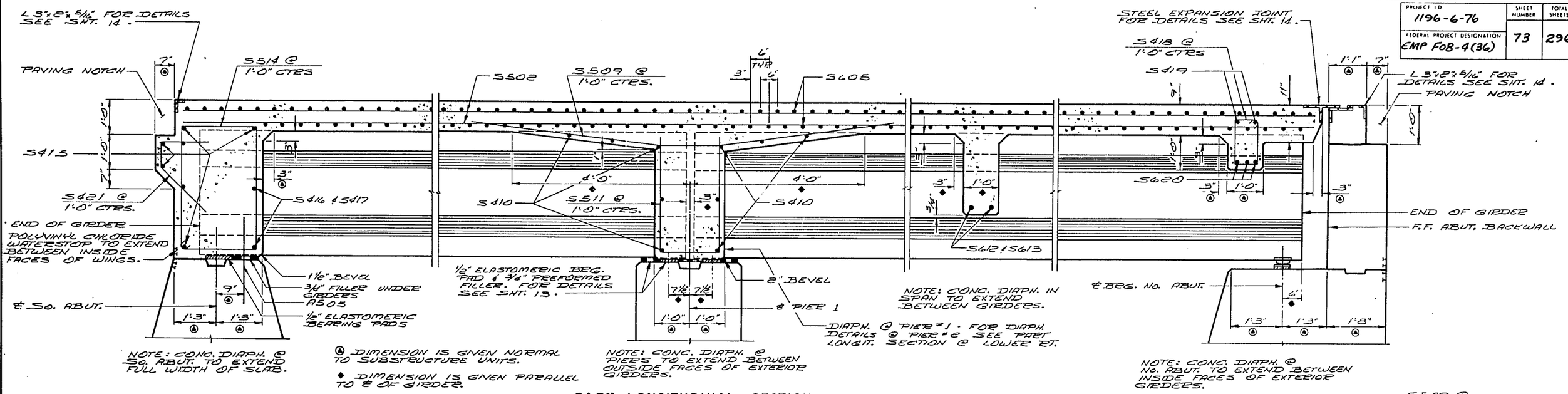
SUPERSTRUCTURE

SHEET 9 OF 16

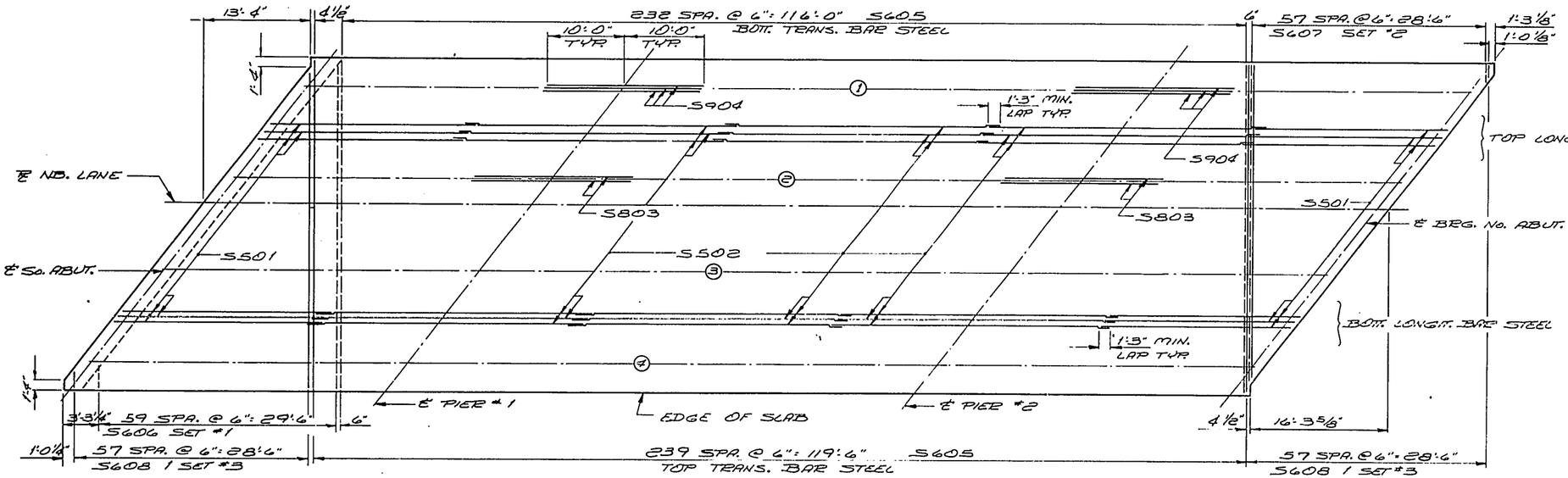
X 46184

Form E-B 12 69

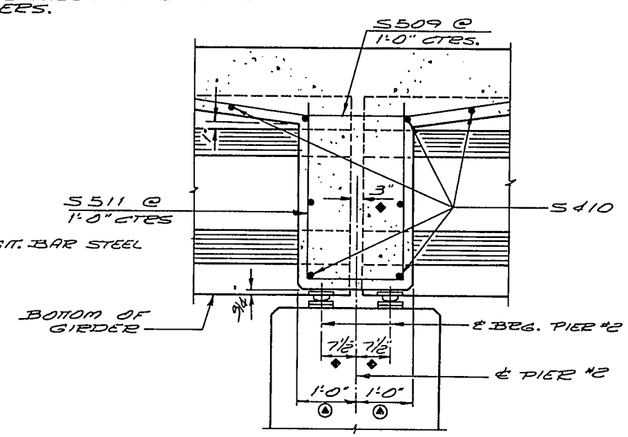
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76		
FEDERAL PROJECT DESIGNATION	73	296
EMP F08-4(36)		



PART LONGITUDINAL SECTION



PLAN SHOWING BAR STEEL REINFORCEMENT



PART LONGITUDINAL SECTION AT PIER 2

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-17

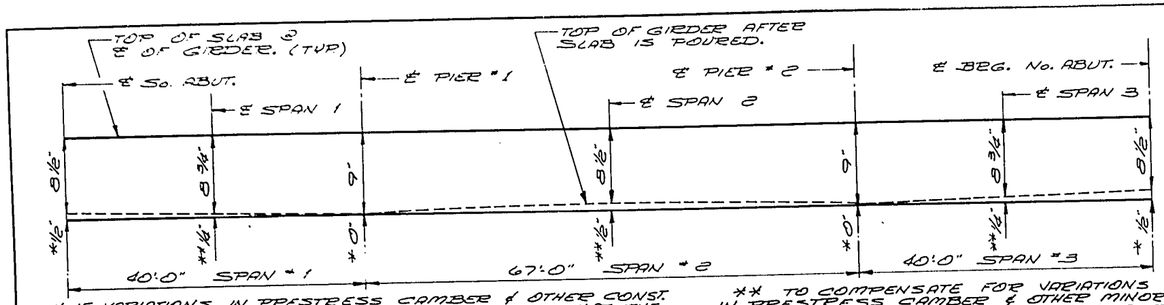
Const Spec 1969	Drawn By BUDD	Plans Checked G.H.A.

SUPERSTRUCTURE

SHEET 10 OF 16

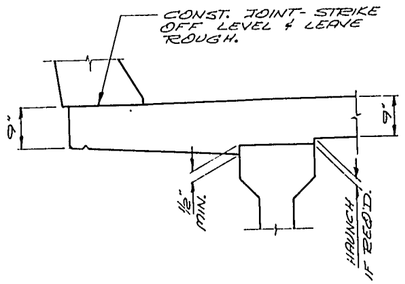
X 46185

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76	74	296
FEDERAL PROJECT DESIGNATION: EMP F08-4(36)		



* IF VARIATIONS IN PRESTRESS CAMBER & OTHER CONST. 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 & THE PLAN SLAB THICKNESS SHALL BE HELD WHILE THE GRADE LINE WILL BE REVISED.

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

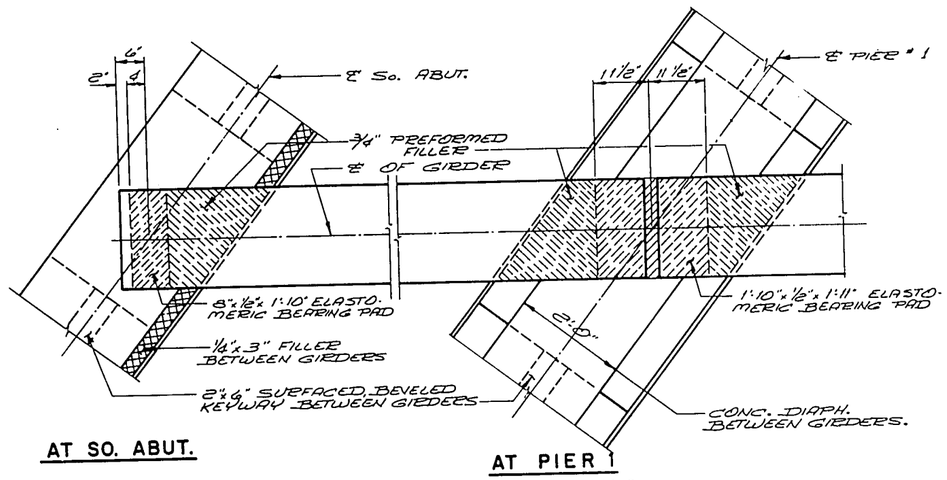


SLAB DETAIL AT EXTERIOR GIRDER

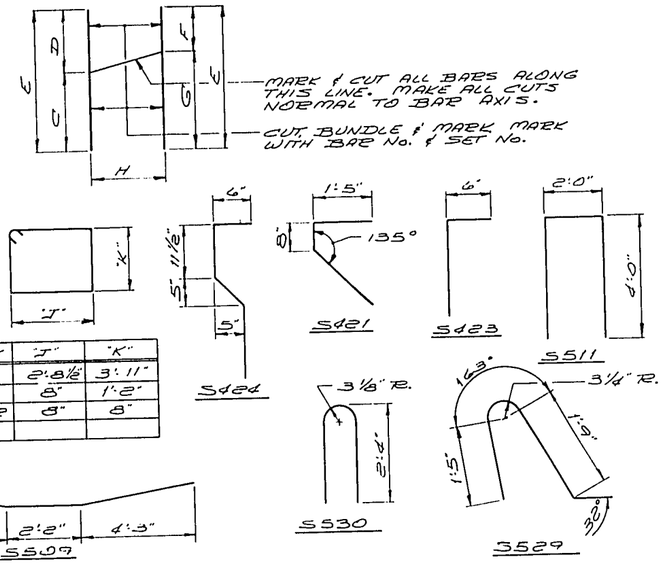
SLAB FORMING DIAGRAM

"H" IS NUMBER OF BARS REQ'D BEFORE CUTTING

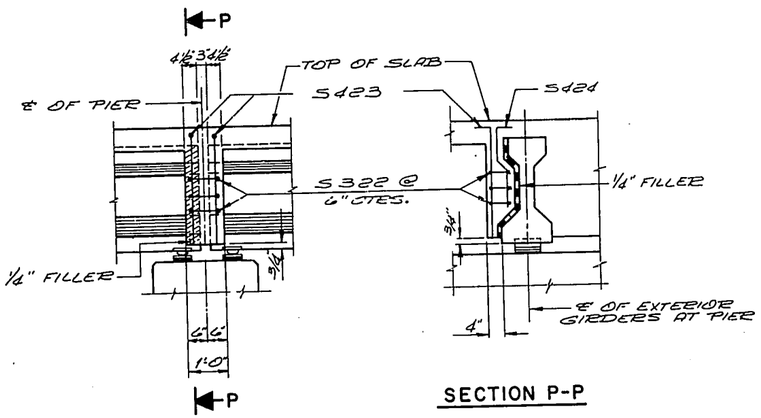
MARK	SET No.	C	D	E	F	G	H	SETS REQD.
S606	SET 1	21-11	21-6	43-9	2-0	41-9	30	1 SET 1
S607	" 2	21-11	21-6	43-3	2-6	40-11	29	1 " 2
S608	" 3	21-8	20-11	42-7	2-0	40-7	29	2 " 3



ELASTOMERIC BEARING PAD DETAILS



MARK	"J"	"K"
S511	2'-8½"	3'-11"
S418	8"	1'-2"
S322	8"	8"



SECTION P-P

PILASTER DETAILS AT PIER

BILL OF BARS

DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A 3 DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

MARK	No. REQD.	LENGTH	BENT	CUT DIA.	LOCATION	
S501	174	24-9			SLAB TOP & BOT.	LONGIT.
S502	261	35-0			" " "	"
S803	8	20-0			" " @ PIER GIRD.S 2 & 3	"
S904	12	20-0			" " " " 1 & 4	"
S605	473	42-1			" " & BOT.	TRANS.
S606	30	43-9		X	" BOT. SET 1	"
S607	29	43-3		X	" " " 2	"
S608	58	42-7		X	" TOP " 3	"
S509	66	10-10	X		" HAUNCH @ PIER	LONGIT.
S610	60	12-3			" " " "	TRANS.
S511	66	9-9	X		" " " "	"
S612	18	10-10			DIAPH. @ MID SPAN	"
S613	36	2-0			" " " TYBERD, ONE END 3"	"
S514	36	14-0	X		" " So. ABUT.	"
S415	14	26-10			" " " "	"
S416	6	12-8			" " " "	"
S417	4	3-0			" " " "	"
S418	35	4-2	X		" " No. "	"
S419	6	14-7			" " " "	"
S620	9	13-3			" " " "	"
S421	50	3-11	X		PAYING NOTCH	
S322	12	3-0	X		PILASTER @ PIER	
S423	8	4-4	X		" " "	VERT.
S424	8	3-4	X		" " "	"
S525	20	17-6			RAIL PARAPET	HORIZ.
S526	20	23-0			" "	"
S527	20	21-9			" "	"
S528	10	22-5			" "	"
S529	298	5-0	X		" "	VERT.
S530	298	4-9	X		" "	"

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-17

Const. Spec. 1969	Drawn By BUDD	Plans Checked G.H.M.

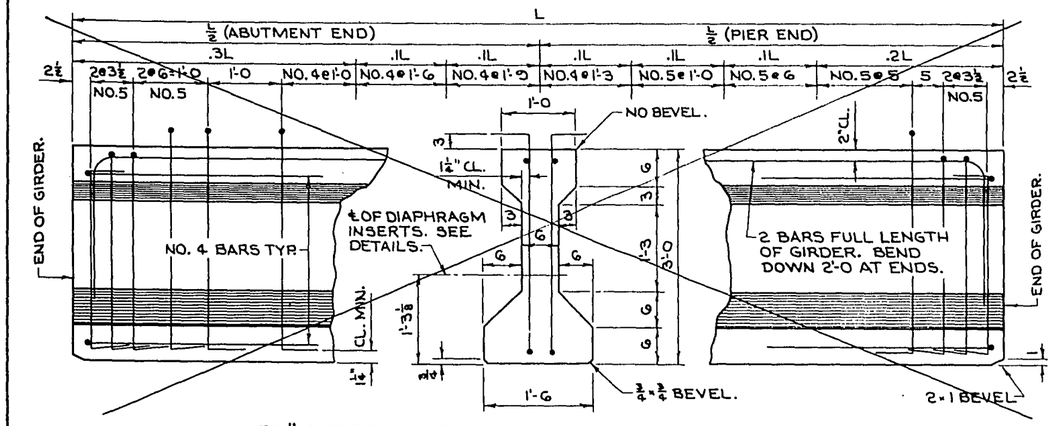
SUPERSTRUCTURE

SHEET 11 OF 16

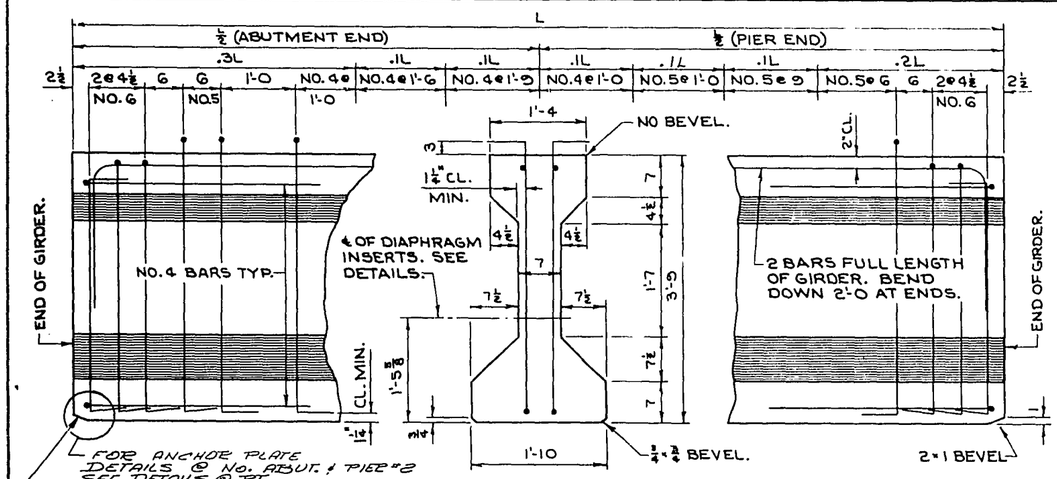
X46187

Form E-8-12-67

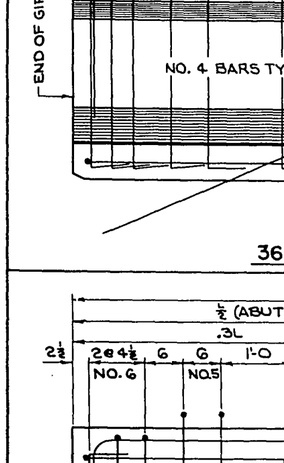
B.P.R. Division	Project	Sheet Number	Total Sheets
4	1196-6-76 EMP F08-4(36)	75	296

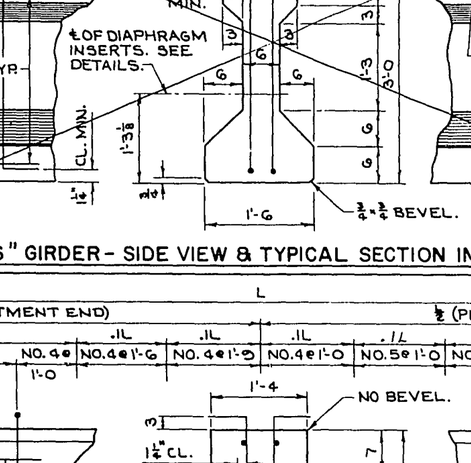


36" GIRDER - SIDE VIEW & TYPICAL SECTION IN SPAN

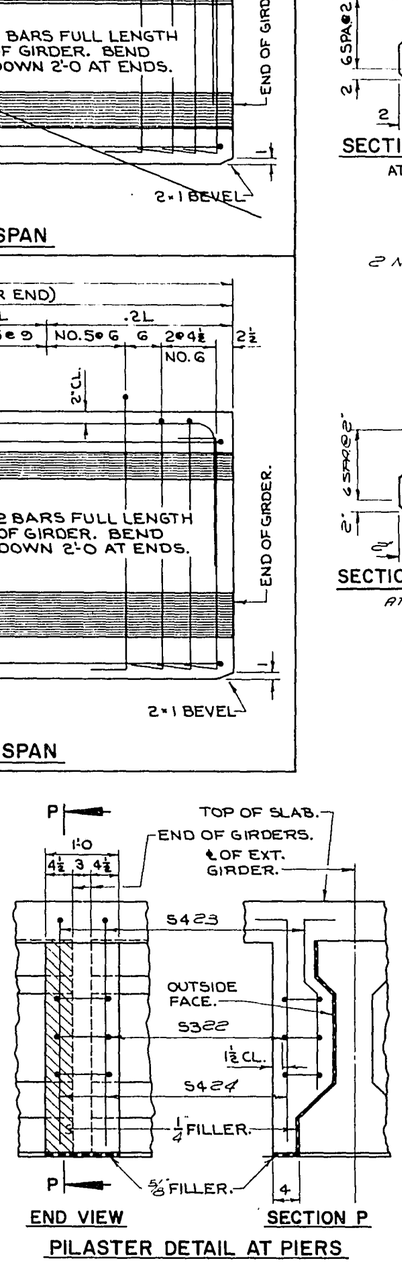


45" GIRDER - SIDE VIEW & TYPICAL SECTION IN SPAN



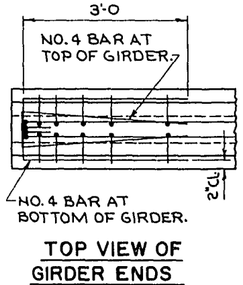


DIAPHRAGM INSERT DETAILS

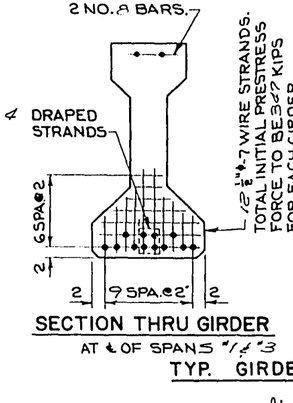


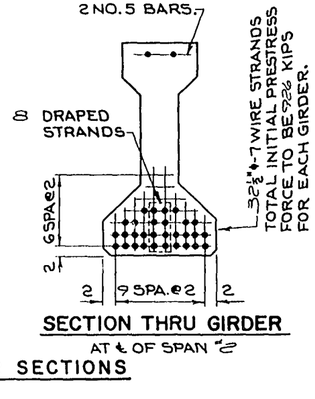
PILASTER DETAIL AT PIERS

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

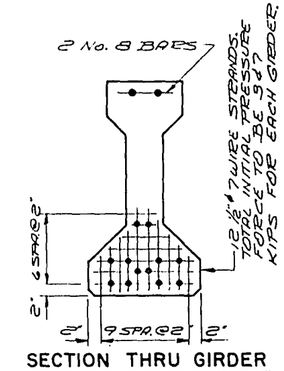


TOP VIEW OF GIRDER ENDS





TYP. GIRDER SECTIONS



ALTERNATE GIRDER SECTIONS

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.

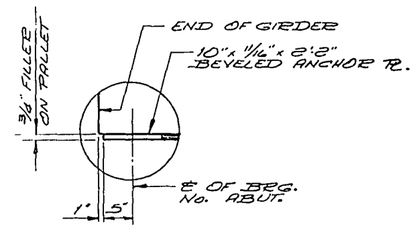
INSERTS SHALL BE PLACED ON 6" CENTERS SYMMETRICALLY ABOUT THE ℄ OF DIAPHRAGMS IN SPANS.

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".

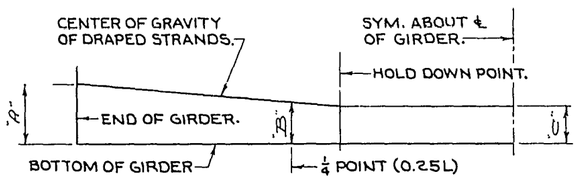
ENDS OF STRANDS SHALL BE PAINTED WITH NON-STAINING GRAY NON BITUMINOUS JOINT SEALER. (THIS APPLIES ONLY TO THOSE ENDS OF GIRDERS THAT ARE FINALLY EXPOSED.)

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.

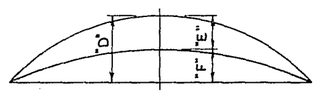


ANCHOR PLATE AT NO. ABUT. & PIER 2

		"A"	"B" MAX.	"B" MIN.	"C"
SPANS	1 & 3	29"	16"	13"	3"
	2	32"	1'-3¾"	11¾"	5"
	ALT. 2	35"	1'-3¾"	11¾"	6"



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"		SPANS	1 & 3	2	ALTERNATE 1 & 3
GIRDER LENGTH "L" REQUIRED			40'-4½"	66'-9"	40'-4½"
f'ci (psi)*	DRAPED PATTERN		4,800	5,000	4,800
	SPREAD PATTERN		4,800	5,000	4,800
DEFLECTION DATA**	PRESTRESS CAMBER "D"		¼"	1 5/8"	¼"
	DEAD LOAD DEFLECTION "E"		1/8"	1"	1/8"
	RESIDUAL CAMBER "F"		1/8"	5/8"	1/8"
USE DIAPHRAGM INSERT DETAIL TYPE "C"					

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-17

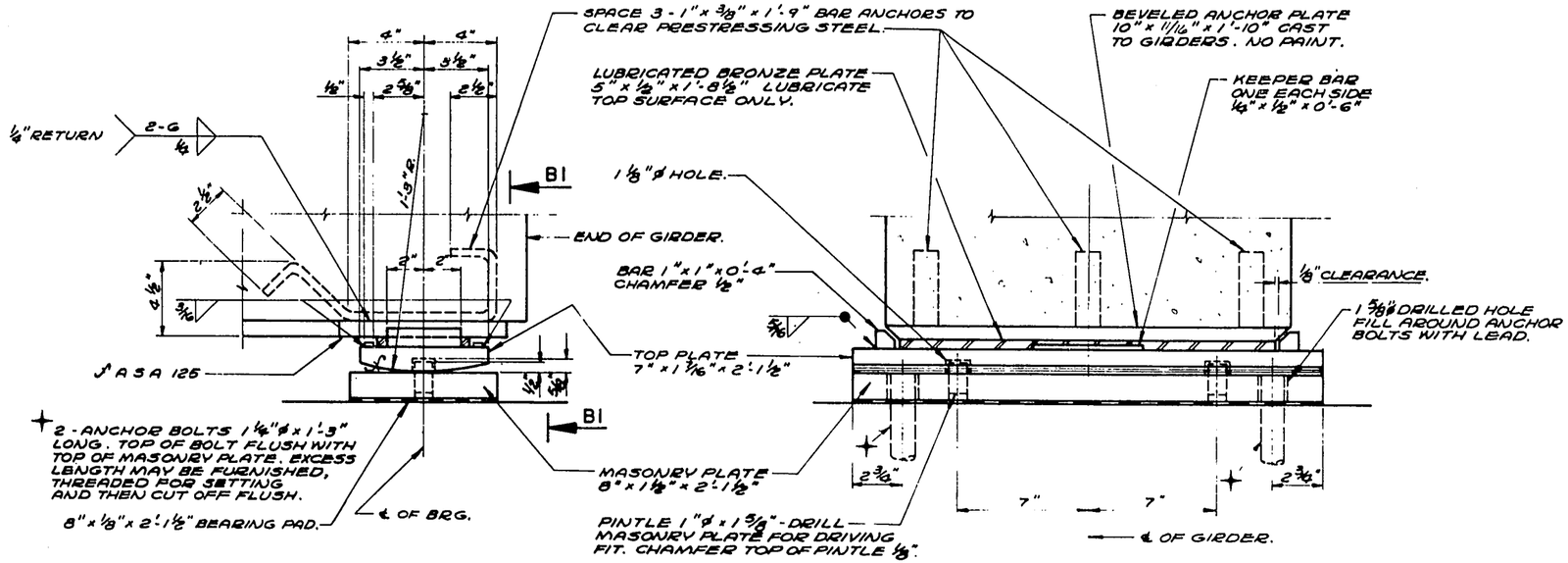
Const. Spec. 1969	Drawn By BUDD	Plans Checked G.H.A

PRESTRESSED GIRDER DETAILS

SHEET 12 OF 16

X 46188

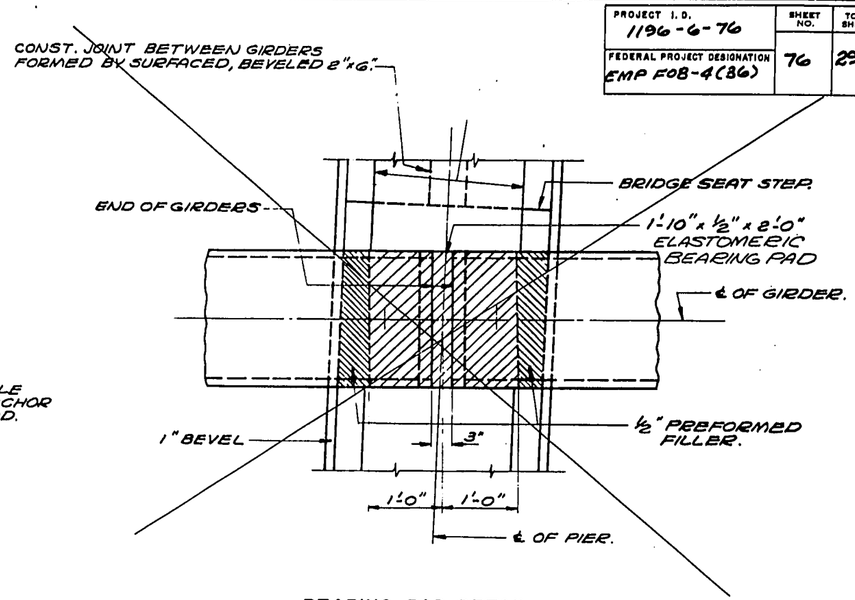
PROJECT I. D.	SHEET NO.	TOTAL SHEETS
1196-6-76		
FEDERAL PROJECT DESIGNATION	76	296
EMP F08-4(86)		



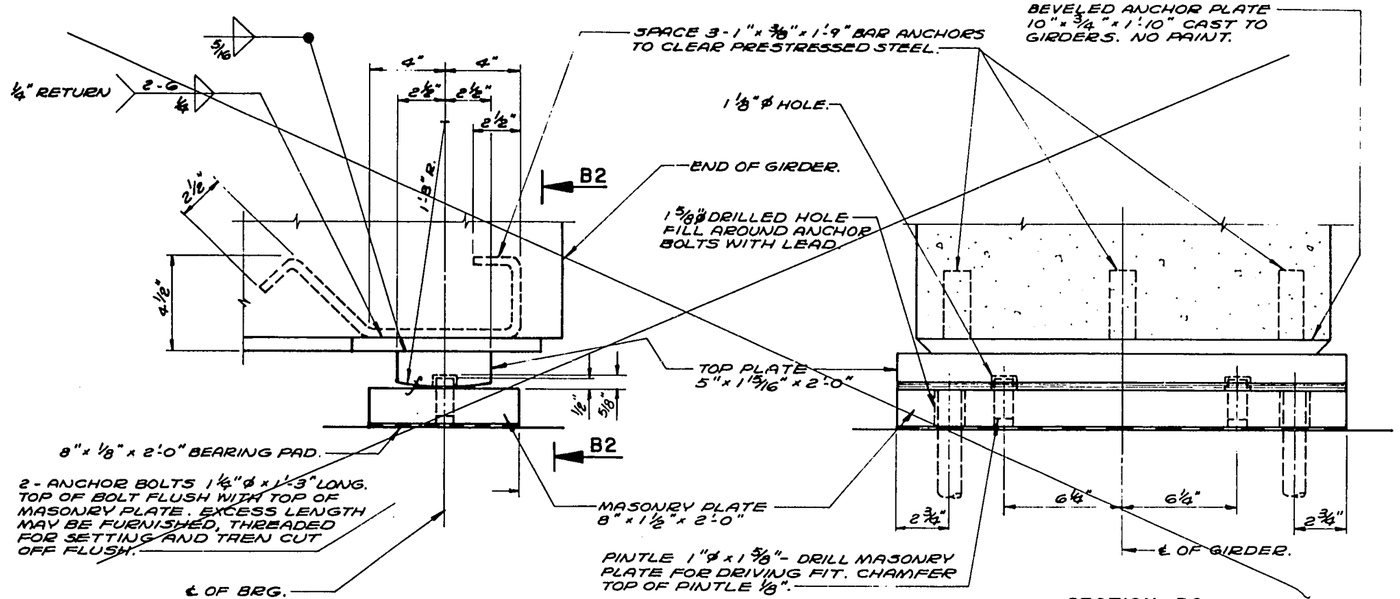
SECTION B1

EXPANSION BEARING

4 REQ'D. AT NORTH ABUT.
8 " " PIER #2



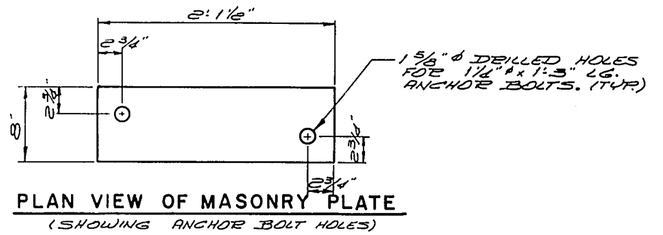
BEARING PAD DETAIL AT PIER



FIXED BEARING

4 REQ'D. AT NORTH ABUT.

SECTION B2



PLAN VIEW OF MASONRY PLATE

(SHOWING ANCHOR BOLT HOLES)

NOTES

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL SURFACES MARKED ℄ SHALL BE MACHINE FINISHED, BY AN AUTOMATIC PROCESS.

ALL MATERIAL EXCEPT ANCHOR BOLTS SHALL BE MADE OF A242 STEEL WITH A CORROSIVE RESISTANCE OF 4 OR MORE TIMES THAT OF A36 STEEL.

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

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

No.	Date	Revision	By

STATE OF WISCONSIN
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STRUCTURE B-3-17

Const. Spec. 1969	Drawn By BUDD	Plans Checked G.H.R.

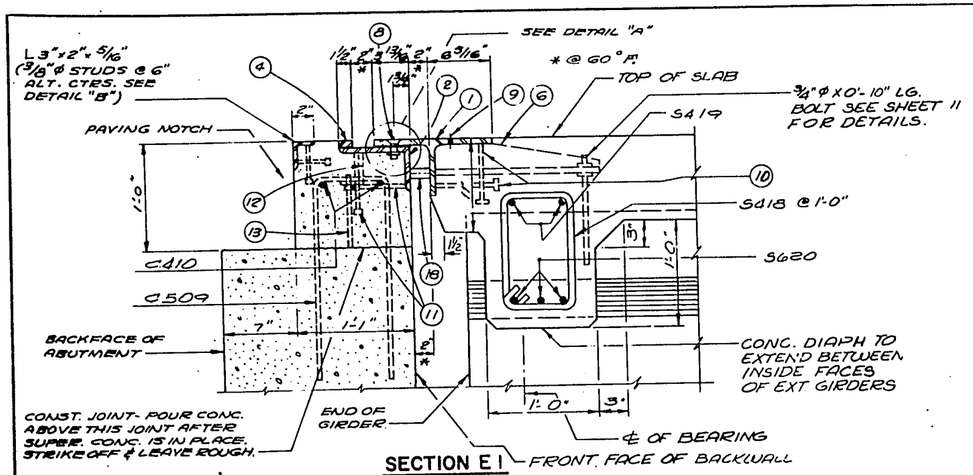
BEARING DETAILS

SHEET 13 OF 16

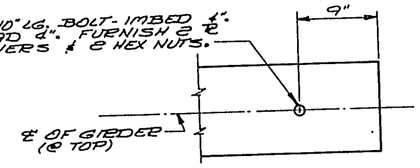
X46189

Form C B 12-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76		
FEDERAL PROJECT DESIGNATION	77	296
EMP FOB-4(36)		



SECTION E I



EXPANSION PLATE ANCHOR BOLT LAYOUT

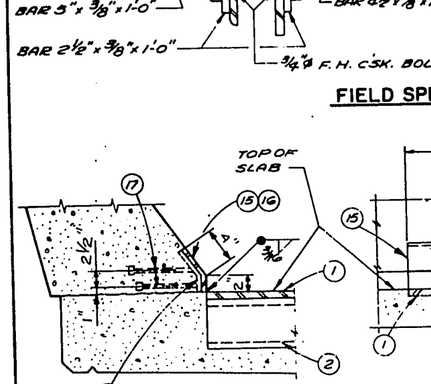
LEGEND

1. WT 6 x 39.5 x RDWY. WIDTH. WELDMENT MAY BE USED. SEE DETAIL.
2. L 7"x4"x 7/16" x RDWY WIDTH. LONG DIM. OF 13/16" x 1 1/2" SLOTTED HOLE TO BE PARALLEL TO DIRECTION OF MOVEMENT.
4. BAR 1 1/2" x 3/4" x RDWY. WIDTH. WELD TO L #2 WITH 2 LINES OF 1/4" FILLET WELD, 2@6.
6. L 3 1/2"x 3"x 3/8" PROVIDE 1 3/8" ϕ HOLE IN 3 1/2" LEG FOR 3/4 ϕ x 0'-10" BOLT. FILLET WELD TO FLANGE & WEB OF WT #1 NEAR SIDE & FAR SIDE.
8. 3/8" ϕ FLAT HEAD CAP SCREW x 0'-2" LONG WITH SQ. NUT - AT 4'-0 CTRS. GREASE FOR EASY REMOVAL. 1/4" x 1/2" x 1 1/8" KEEPER BAR - WELD TO L #2 TO KEEP SQ. NUT FROM TURNING. 13/16" x 1 1/2" SLOTTED HOLE IN L #2. 13/16" ϕ HOLE C'SK. 1/2 DEEP IN WT #1. MAKE SLOT IN L #2 PARALLEL TO DIRECTION OF MOVEMENT.
9. 13/16 ϕ VENT HOLES AT 2'-0" CENTERS ON WT #1 AND L #2.
10. 5/8" ϕ STUDS x 0'-6 3/8" LONG AT 6" ALTERNATE CTRS. BETWEEN GIRDERS. WELD TO WT #1.
11. 5/8" ϕ STUDS x 0'-6 3/8" LONG AT 9" ALT. CTRS. WELD TO L #2.
12. L 3"x 2 1/2" x 3/8" x 0'-3" LONG AT 3'-0" CTRS. WELD TO L #2. PROVIDE 15/16" ϕ HOLE IN 2 1/2" LEG FOR ROD #13.
13. 3/4" ϕ ROD x 0'-9" LONG AND NUT. TACK WELD NUT TO L #12. THREAD 3".
14. PLATE 3/8 x 6" x 8 3/4"
15. PLATE 3/8" x 6" x 15 1/8" FIELD WELD TO WT #1.
16. BAR 1 5/8" x 3/8" x 6". WELD TO BAR #14 WITH TWO LINES OF 3/16" FILLET WELD. FIELD WELD TO BAR #4.
17. 5/8" ϕ STUDS x 0'-6 3/8" LONG. WELD TO WT #14 AND PL #15
18. BLOCK AND BOLT FOR SHIPMENT WITH PIPE SLEEVE AND 1/2" ϕ BOLT. PROVIDE 9/16" ϕ HOLES @ 3'-0" CTRS. IN WT #1 AND L #2 FOR 1/2" ϕ BOLT.

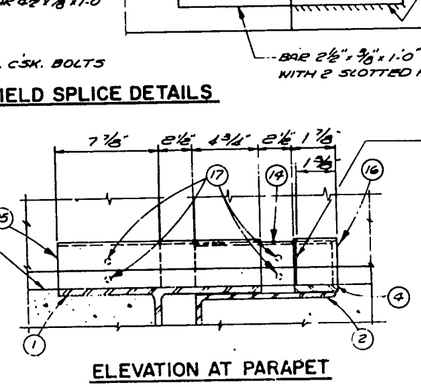
NOTES

EXPANSION JOINT SHALL BE BUILT TO CONFORM TO ROADWAY CROWN AND GRADE.
ALL MATERIAL IN EXPANSION JOINT SHALL BE PAID FOR AS STRUCTURAL CARBON STEEL.
AFTER CONCRETE HAS SET:
1. THE JOINT OPENING SHALL BE THOROUGHLY CLEANED.
2. REMOVE BOLTS NO 8.
3. APPLY ± 1/16" OF BITUMASTIC TO VERTICAL METAL SURFACES FORMING THE JOINT.
4. FILL OPENING AND HOLES FOR BOLT NO. 8 WITH HOT POURED ELASTIC TYPE JOINT SEALER CONFORMING TO A.S.T.M. D1190.

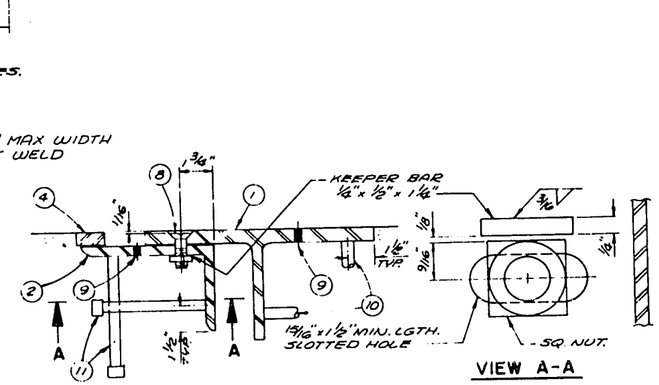
ONE FIELD SPLICE SHALL BE PERMITTED.



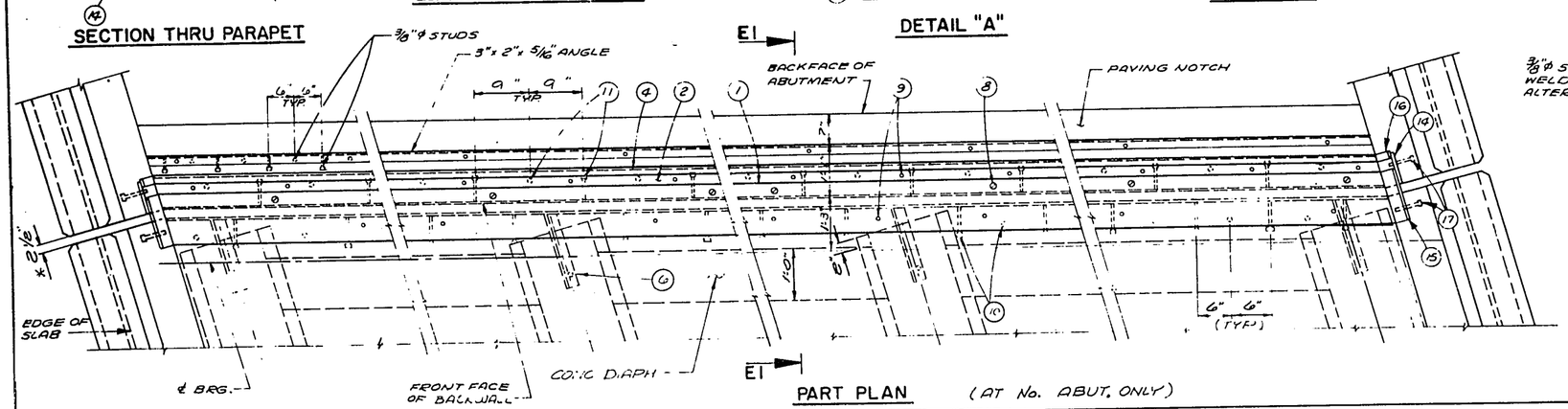
SECTION THRU PARAPET



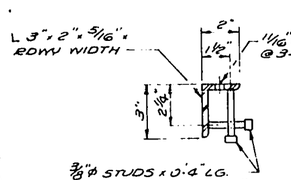
ELEVATION AT PARAPET



DETAIL "A" VIEW A-A

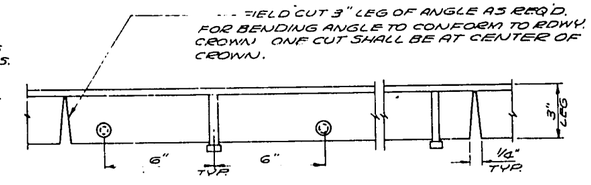


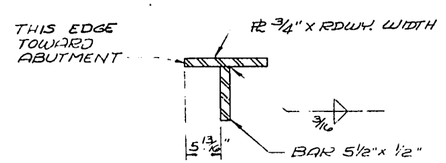
PART PLAN (AT No. ABUT. ONLY)



DETAIL "B"

NOTE: ONE FIELD SPLICE SHALL BE PERMITTED IN ANGLES. ANGLE AND STUDS SHALL BE PAID FOR AS STRUCTURAL CARBON STEEL.





WELDMENT OPTION FOR WT NO. 1

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Const. Spec. 1969	Drawn By RUDD	Plans Checked G.H.A.

EXPANSION JOINT

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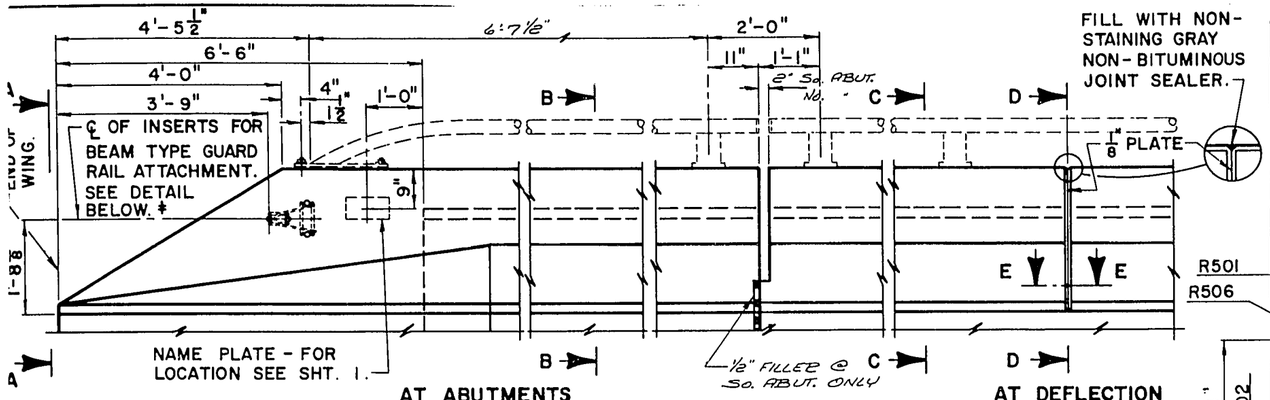
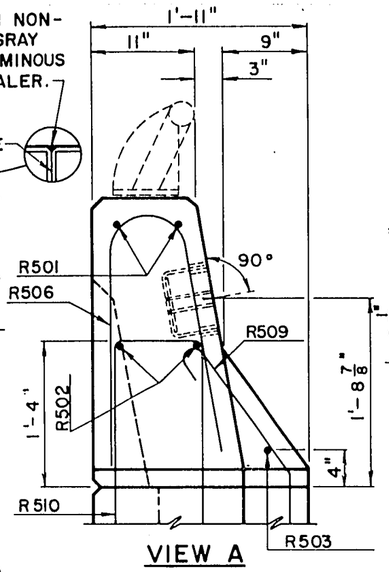
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76	78	296
FEDERAL PROJECT DESIGNATION EMP F08-4(36)		

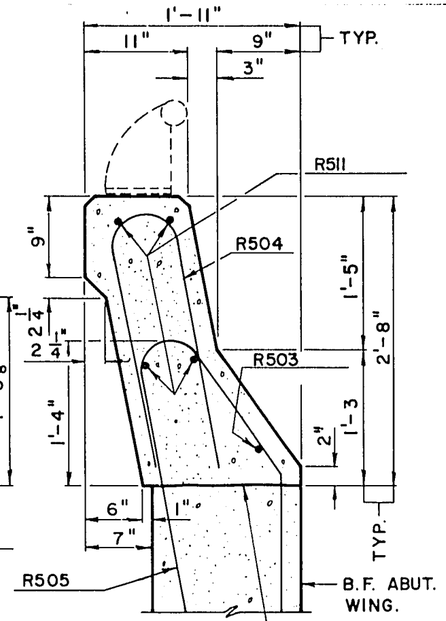


* PLACE AT ABUTMENT WINGS WHERE REQUIRED. SEE SHT. 1.

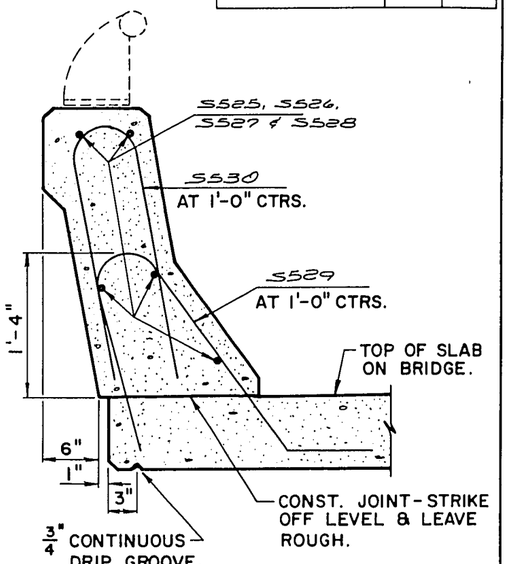
ELEVATION OF RAIL PARAPET



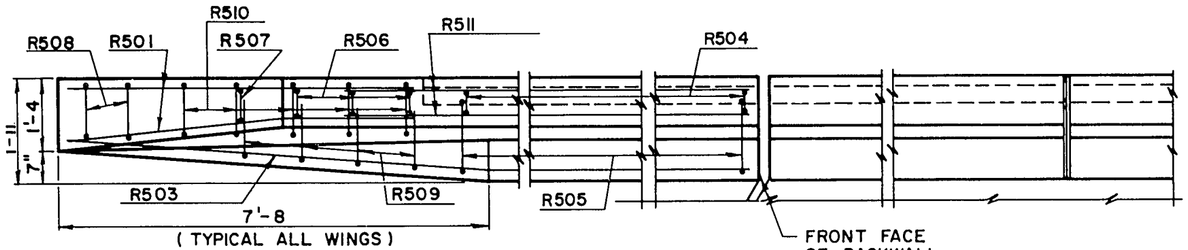
VIEW A



SECTION B



SECTION C



PART PLAN OF RAIL PARAPET

NOTE: BENDING DIMENSIONS ARE OUT TO OUT OF BAR.
THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

RAIL PARAPET
BILL OF BARS @ ABUTS. LBS.**

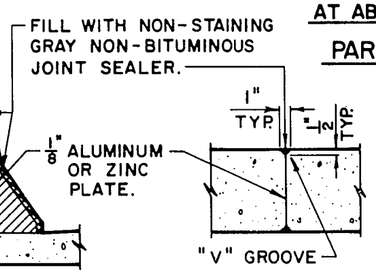
MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
R501	8	6-10	X	WINGS 1 THRU 4
R502	8	4-5		" 1 " 4
R503	4	11-8	X	" 1 " 4
R504	24	5-0	X	" 1 " 4
R505	24	5-10	X	" 1 " 4
R506	12	5-2	X	" 1 THRU 4
R507	4	4-2	X	" 1 " 4
R508	8	4-10	X	" 1 " 4
R509	16	3-3	X	" 1 " 4
R510	20	5-10	X	" 1 " 4
R511	16	7-0		" 1 " 4

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

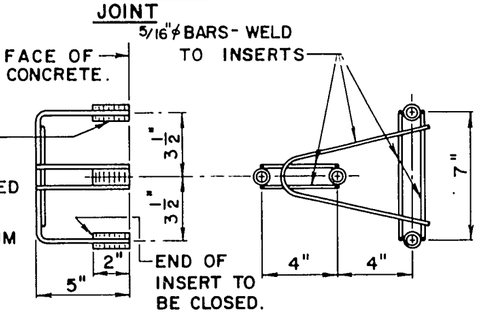
NOTES

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 "DETAILS FOR TYPE 'J' TUBULAR ALUMINUM OR STEEL RAILING."



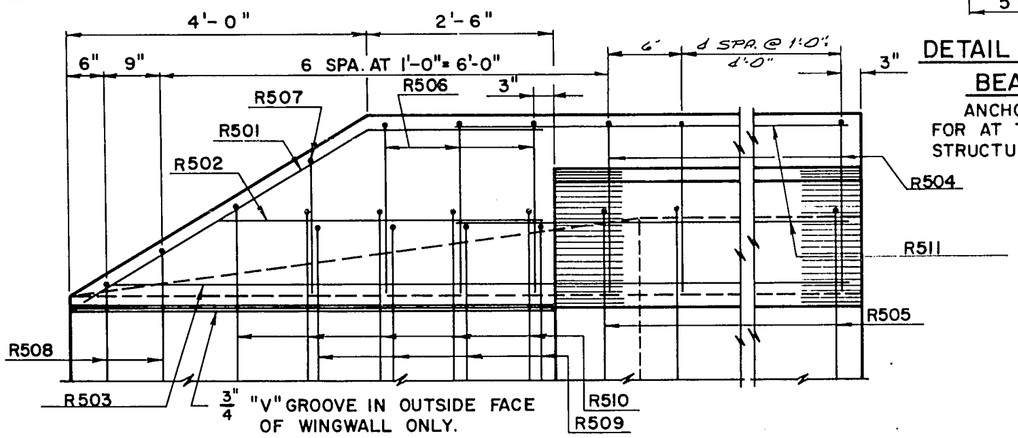
SECTION D SECTION E



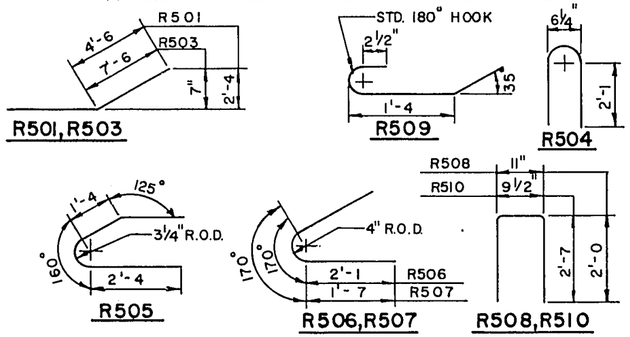
THREADED INSERTS FOR $\frac{7}{8}$"ϕ x 0'-2" LONG GALVANIZED HEX. HEAD CAP SCREWS. CAP SCREWS TO BE THREADED A MINIMUM OF $1\frac{7}{8}$". INSERTS TO BE THREADED A MINIMUM OF $1\frac{3}{4}$".

DETAIL OF ANCHOR ASSEMBLY FOR BEAM TYPE GUARD RAIL

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



VIEW SHOWING OUTSIDE FACE OF PARAPET & REINF.



No.	Date	Revision	By

STATE OF WISCONSIN
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STRUCTURE B-3-17

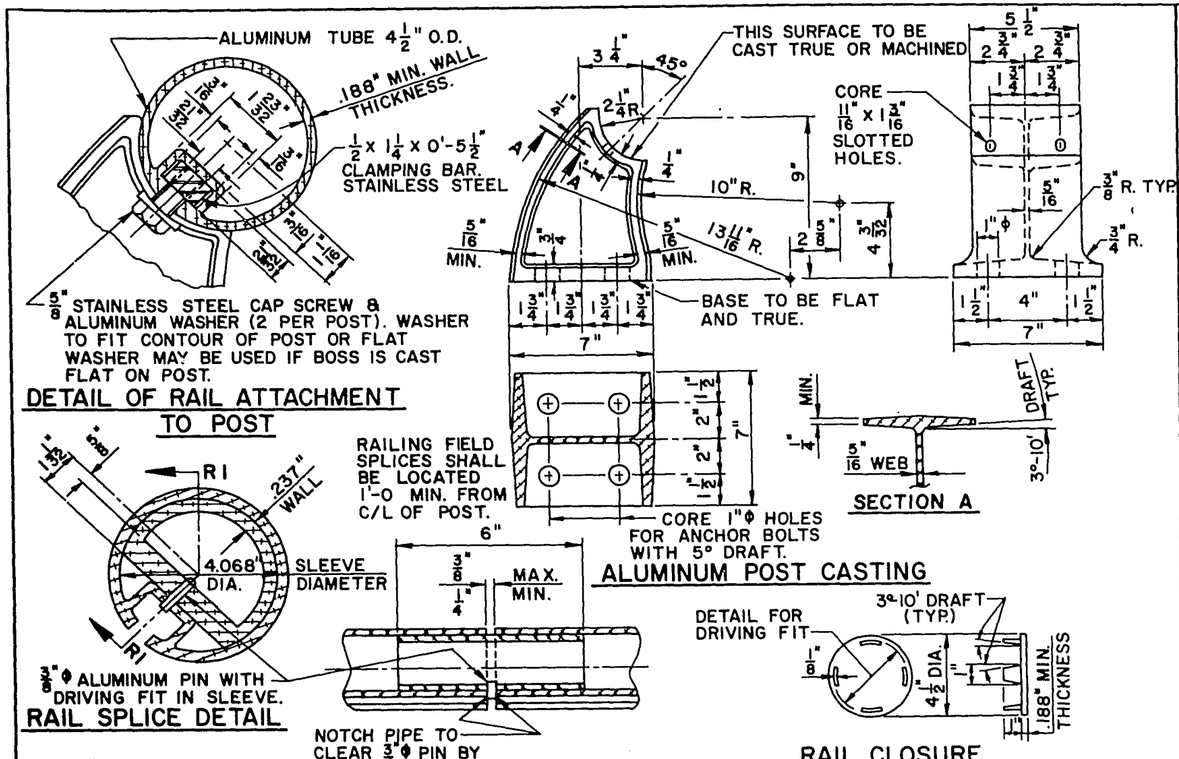
Const. Spec. 1969	Drawn By BUDD	Plans Checked G.H.P.

SLOPED FACE PARAPET "A"

SHEET 15 OF 16

X 46191

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-6-76	79	296
FEDERAL PROJECT DESIGNATION EMP F08-4(36)		



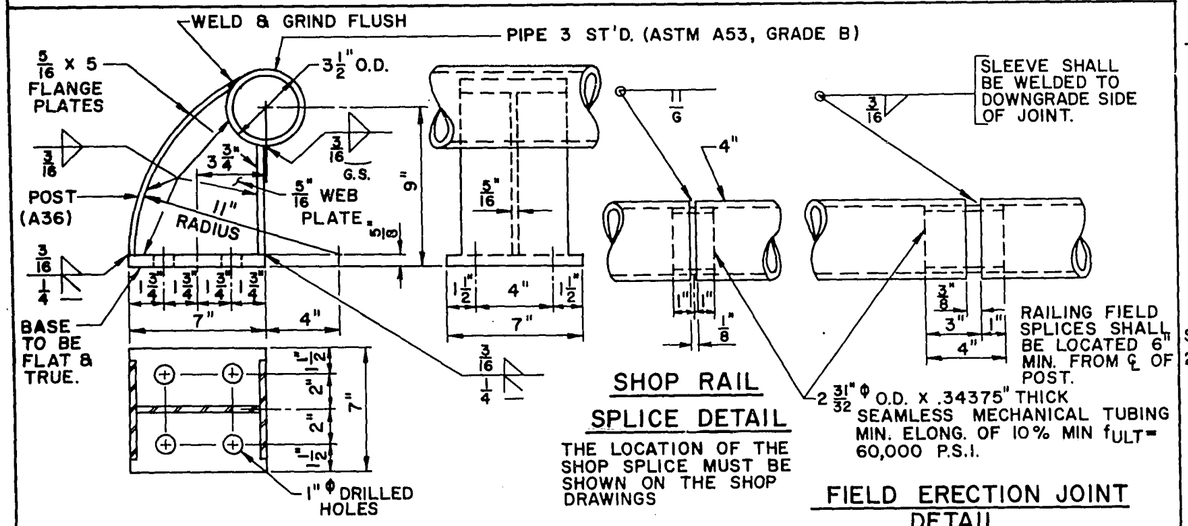
DETAIL OF RAIL ATTACHMENT TO POST

ALUMINUM POST CASTING

RAIL SPLICE DETAIL

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.



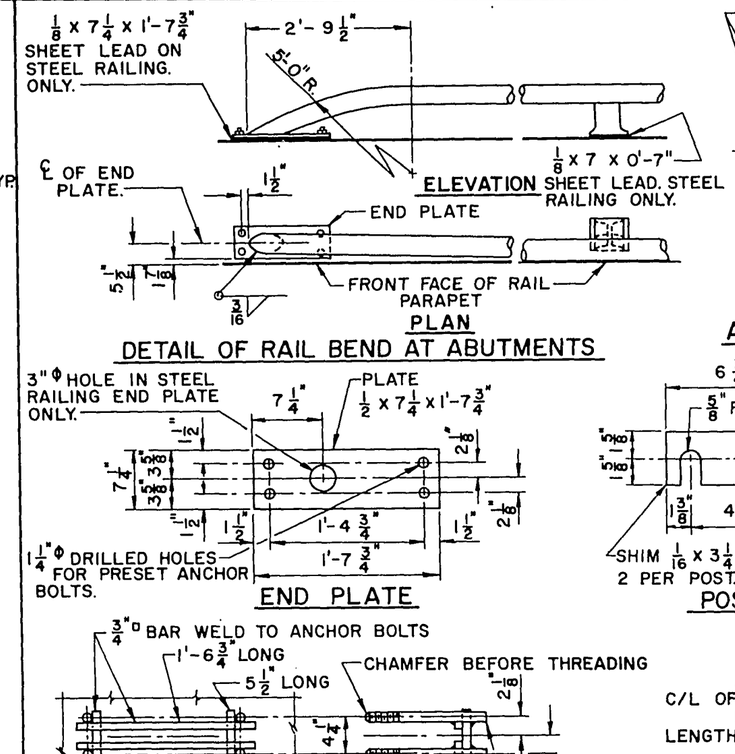
STEEL POST DETAILS

NOTE: GALVANIZE ENTIRE RAILING AFTER FABRICATION INCLUDING SHIMS.

SHOP RAIL SPLICE DETAIL

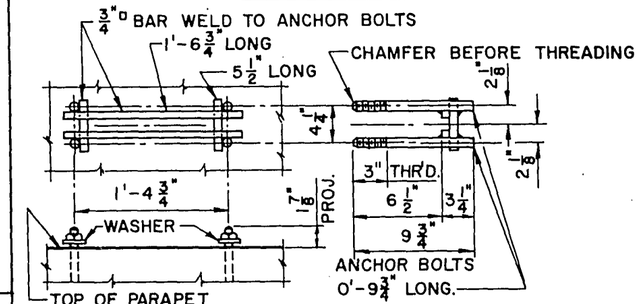
THE LOCATION OF THE SHOP SPLICE MUST BE SHOWN ON THE SHOP DRAWINGS

FIELD ERECTION JOINT DETAIL

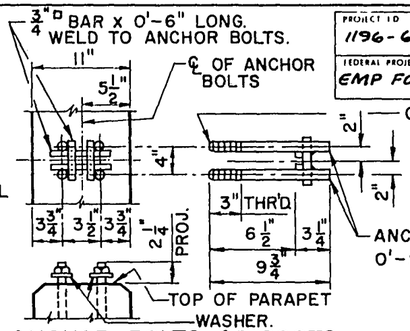


DETAIL OF RAIL BEND AT ABUTMENTS

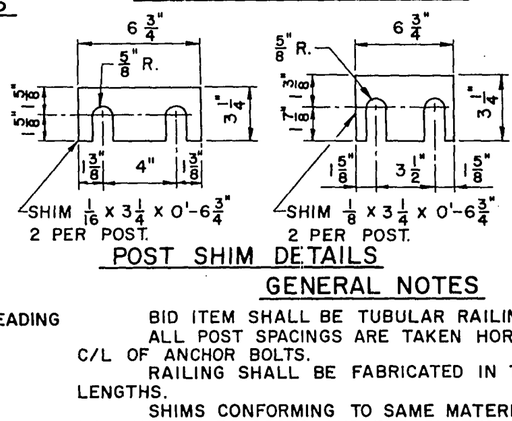
END PLATE



ANCHOR BOLTS AT END PLATE



ANCHOR BOLTS AT POSTS



POST SHIM DETAILS

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.

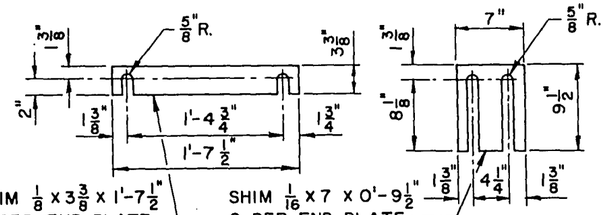
RAIL POSTS SHALL BE SET NORMAL TO GRADE.

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

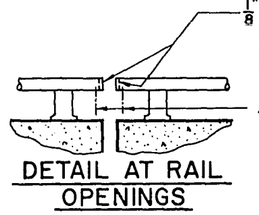
ANCHOR BOLTS, NUTS & WASHERS FOR ALUMINUM RAILING SHALL BE STAINLESS STEEL.

ANCHOR BOLTS, NUTS & WASHERS FOR STEEL RAILING SHALL BE EITHER STAINLESS STEEL OR ASTM A307. IF A307 IS USED ELECTRO-GALVANIZE NUTS, WASHERS & TOP 3 1/2" OF ANCHOR BOLTS.

SHIMS SHALL CONFORM TO SAME MATERIAL AS POSTS.



END PLATE SHIM DETAILS



DETAIL AT RAIL OPENINGS

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
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STRUCTURE B-3-17

Const. Spec. 1969	Drawn By BUDD	Plans Checked G.K.A.

TUBULAR RAILING TYPE 'J'

SHEET 16 OF 16

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