STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Inspection Report for B-03-038 (USH 8)

USH 53 NB over USH 8

May 16,2017

Type	Prior	Frequency (mos)	Performed
Routine	05-13-15	24	X
Interim	02-19-07	0	
SIA Review	06-11-13	48	X

Latitude	45°23'42.38"N	Owner	STATE HIGHWAY DEPT
Longitude	91°45'27.10"W	Maintainer	STATE HIGHWAY DEPT

Time Log

Hours	Minutes
0	55

Team members

Wjk

	Name	Number	Signature	Date
Inspector	Kovaleski, William J	8007	William J Kovaleski E-signed by Bill(dotwjk)	08-07-17

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

Identification & Location

Feature On: USH 53 NB	Section Town Range: S29 T34N R11W	Structure Number: **B-03-038**
Feature Under: USH 8	County: BARRON	
Location: 8.5M N JCT CTH I TO E	Municipality: STANLEY	Structure Name: USH 8

Geometry

measurements in feet, except where noted

Approach Roadway Width: 56	Bridge Roadway Width: 74.0	Total Length: 244.2
Approach Pavement Width: 40	Deck Width: 80.4	Deck Area (sq ft): 19633

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	3	5400	2014	ONE WAY TRAFFIC
Under	4	7400	2014	TWO WAY TRAFFIC

Capacity

Load Rating

Inventory rating: HS21	Overburden depth (in): 2.0	Last rating date: 07-29-13	Controlling: INTERIOR DECK GIRDER Moment
Operating rating: HS36	Deck surface material: INTEGRAL CONCRETE	Re-rate for capacity (Y/N):	Control location: 1.0 SPAN 1, 118.5
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 #:

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		118.5	
2	CONT STEEL	DECK GIRDER		121.5	Y

Expansion joint(s)

Temperature:

File:	New:

Clearance

Item	File Measurement (ft)	File Date	New Measurement (ft)
Highway Min Vertical Under Cardinal	16.67		
Highway Min Vertical Under Non-Cardinal	17.29	16-Dec-1999	
Horizontal Under Cardinal	97.5		
Horizontal Under Non-Cardinal	97.5		
Highway Min Vertical On Cardinal			
Horizontal On Cardinal			

Special Components

Component	Year	Work Performed	Note
DECK - IOWA MIX	1994	OVERLAY - CONCRETE	

Construction History

Year	Work Performed	FOS id
1998	PAINTING	1197-10-71
1994	OVERLAY - CONCRETE	1190-22-60
1972	NEW STRUCTURE	1197-06-72

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
Deck - Patching	Bjorklund, Allan M (8003)	COMPLETE	12/17/15	2015
Patch both ends of deck along strip seal joints. Estimate 25lf on mainline south jt. North joint mainline 15lf, and 3lf on ramp.				
Deck - Patching	Harrington, Daniel J (8004)	COMPLETE	01/17/13	
patch spalls in top of backwalls 2 lf N and 10 lf S.				
Deck - Patching	Harrington, Daniel J (8004)	COMPLETE	01/17/13	
repair spalls on deck and backwalls approx. 40 SF.				
Deck - Patching	Bjorklund, Allan M (8003)	COMPLETE	12/17/15	2015
Patch paving blocks, est 60 sf, north 40sf south 20sf. Also, repour median end wall on north abutment to stabilize steel extrusion. Polymer patch concrete.				

Maintenance Items

Item	Priority	Recommended by	Status	Status change
Substructure - Other Work	MEDIUM	Bjorklund, Allan M (8003)	IDENTIFIED	06/24/15
Seal pier columns with a concrete sealer from the approved list, 5 columns.				

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State 1	2	3	4
X	**12**		**Reinforced Concrete Deck**	SF	19,634	4,633	15,000	1	0
		1080	Delamination - Spall - Patched Area Full depth failure along south joint in west flow line.	SF		0	0	1	0
		1130	Cracking (RC) **Fine surface map cracking throughout - adjacent to girders. Few fine/hrline t**ransverse crack**s.**	SF		0	15,000	0	0
	8514		Concrete Overlay	SF	19,634	0	19,591	43	0
		3210	Debonding/Spall/Patched Area/Pothole Spalled along joints. North joint has 12lf of repaired and 18 lf of unrepaired spalls. South joint has 12 lf of repaired and 25lf of unrepaired spalls.	SF		0	24	43	0
		3220	Crack (Wearing Surface) Random map cracking through out **- approx. 80%. Fine to hrline transverse cracking at Pier - approx. 30ft. Few fine longitudinal cracks at ends.**	SF		0	19,567	0	0
X	**107**		**Steel Open Girder** **Girders appear straight and plumb with no obvious indications of out-of-plane movement**. Hit on Girder 8 span 1over EB USH 8 ground out Mag-particle tested and painted 2-19-07.	LF	2,198	1,558	640	0	0
		1000	Corrosion **Spot locations on fascia girders of top-coat flaking. Approx. 70% of pin-size frckle** rust on **btm** flange**. Spot freckle rust at ends - approx. 1%. Approx 11% of all gird**s over **driving lanes have bubbling and lt flaking.**	LF		0	640	0	0
	8516		Painted Steel Painted overcoat 9/98.	SF	30,628	10,720	15,314	3,063	1,531
		3440	Effectiveness (Steel Protective Coatings) **Spot locations on fascia girders of top-**coat **flaking. Approx. 70% of pin-size frckle** rust **on btm flange. Spot freckle rust at ends - approx. 1%. Approx 11% of all girds over driv**ing l**anes have bubb**ling **and lt flaking. Estimate:** 35% CS1 50% bleached CS2 10% rusted CS3 and 5% failed CS4.	SF		10,720	15,314	3,063	1,531

X	**205**		**Reinforced Concrete Column**	EA	5	4	1	0	0
		1080	Delamination - Spall - Patched Area	EA		0	1	0	0
			Column 5 btm west spall w/ exposed rebar - poor cover.						
X	**215**		**Reinforced Concrete Abutment**	LF	170	148	19	3	0
		1080	Delamination - Spall - Patched Area	LF		0	0	3	0
			SOUTH: Edge spalls **at end - poor cover/ west end two 6in popout spalls w/ exposed rusty rebar. NORTH: CS3** spall **w/ rust staining** at **Bays 5, 7, & 8 / top edge spalls at G5, 6, and 7**						
		1130	Cracking (RC)	LF		0	19	0	0
			SOUTH: Few CS3 vert cracks **w/ staining and begin delam. NORTH: Hrln** vert cracks **at G2 and 4 w/ lt rust staining / CS3 vert cracks at G3 and Bay 5 / surface map cracking at east end approx. 50%.**						
X	**234**		**Reinforced Concrete Cap**	LF	78	75	3	0	0
			Consists of 2 units, Col 1 and 2 supports G 1-4, Cols 3,4,&5 support G 5-9.						
		1130	Cracking (RC)	LF		0	3	0	0
			Vry fine diag crack from col 5 in cantilever. **Fine d**iag cracks from col 1&2 toward center of cap						
X	**300**		**Strip Seal Expansion Joint**	LF	160	0	160	0	0
		2360	Adjacent Deck or Header Damage	LF		0	160	0	0
			South mainline joint has 25lf repaired spall. South ramp jt has 12lf repaired spall. North joint mainline has 2lf repaired spall by repaired median end, and 15lf unrepaired spalling. Steel extrusions are rusted entire length.						
X	**311**		**Moveable Bearing**	EA	18	14	4	0	0
			At abutments						
		1000	Corrosion	EA		0	4	0	0
			Rust forming on exterior bearings.						
X	**313**		**Fixed Bearing**	EA	9	7	2	0	0
			At Pier						
		1000	Corrosion	EA		0	2	0	0
			Rust forming on exterior bearings.						
X	**331**		**Reinforced Concrete Bridge Rail**	LF	731	481	250	0	0
		1080	Delamination - Spall - Patched Area	LF		0	6	0	0
			Fair. Spall w/ exposed rebar center parapet @ S abut.						
		1130	Cracking (RC)	LF		0	244	0	0
			Median parapet random map cracking thru out.						
X	**8400**		**Integral Wingwall**	EA	4	1	3	0	0
		8903	Wall Deterioration	EA		0	3	0	0
			NW - hrln vert crack at mid w/ small edge spall top. NE - small spall top south.. SW - fine vertical crack **at mid.**						

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Structure No.:**B-03-038**

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
X	**9030**		**Signs - Object Markers**	EA	2	2	0	0	0
X	**9043**		**Slope Protection- Crushed Aggregate with Bit.** **Most tightly adhered with lt bleaching and vegetation on edges.**	EA	2	2	0	0	0
X	**9167**		**Steel Diaphragm** At abutments. **Lt freckle rust on all edges.**	EA	16	16	0	0	0
X	**9250**		**Cross Bracing or Struts** 32 over roadways with **lt freckle** rust.	EA	56	24	32	0	0
X	**9322**		**Approach Roadway - Concrete (non-structural)** NE & SW center slab broke. Nw shldr slab is broken with spall full **width.**	EA	4	2	2	0	0

NBI Ratings

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

Structure Specific Notes

OLD: (01) Structure is in very good condition. Deck has some small cracks serious. Paint applied in 1998 is weathering well except for a few peels in span 2. Slopes need to be resprayed. Other elements in **very good condition.**
Hit on lower flange repaired 2/19/07. Swallows present 2009, 2011.

Inspection Specific Notes

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Walk-thru

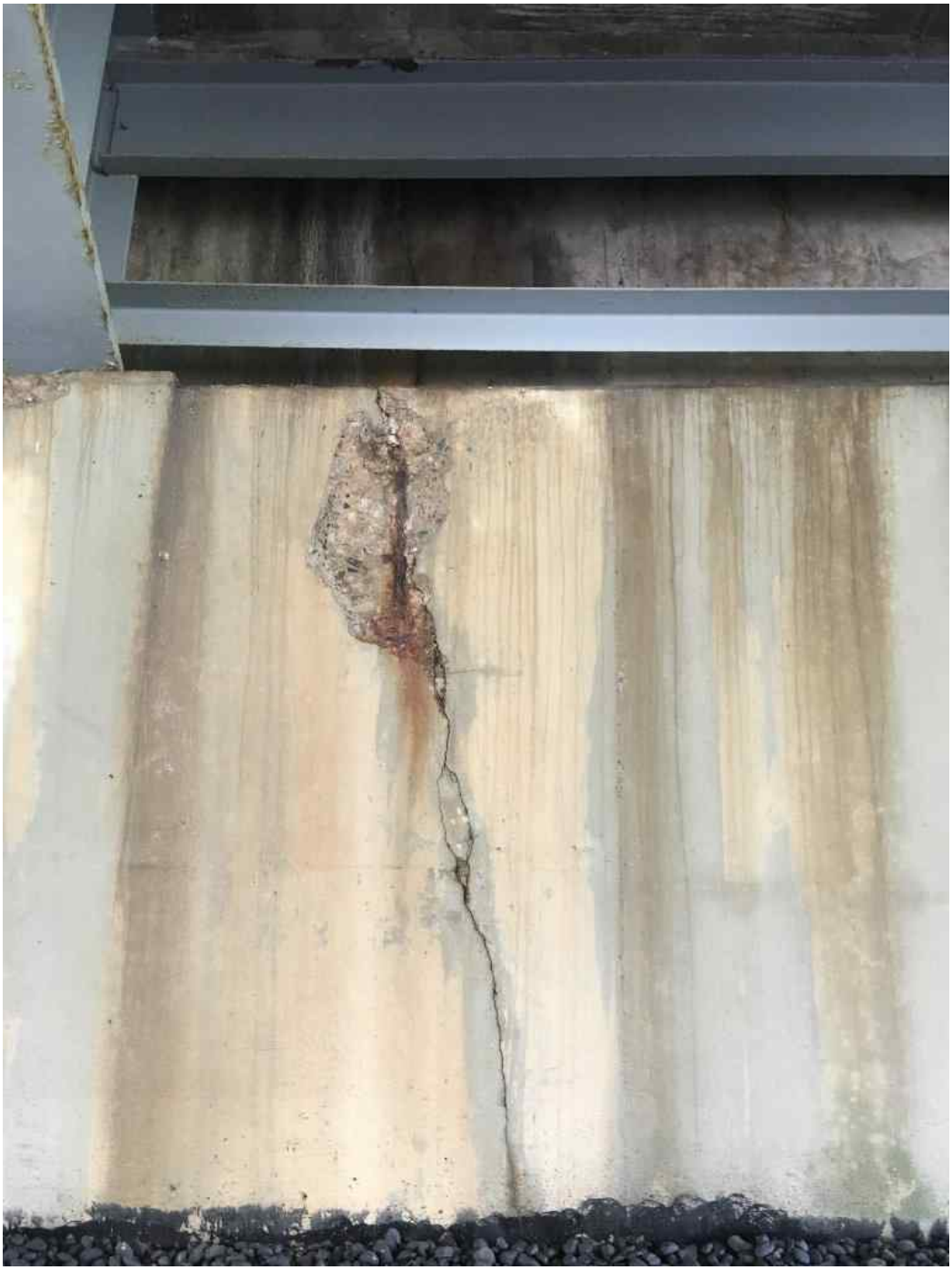
Special Requirements

Chk	Hours	Cost	Comments

Routine

Document Comment/Description

N abut Bay 5



Routine

Document Comment/Description

N abut Bay 7

Routine

Document Comment/Description

N abut G8

Routine

Document Comment/Description

SE abut - note joint location spall

STRUCTURE INVENTORY AND APPRAISAL FIELD REVIEW FORM

B-03-038
USH 53 NB over USH 8

LOCATION

(3) Municipality:	STANLEY
(16) Latitiude(° ' "):	45°23'42.38"N
(17) Longitude(° ' "):	91°45'27.10"W

TRAFFIC SERVICE

(28A) Lanes On:	3
(28B) Lanes Under:	4
(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):	244.2	
(50) Sidewalk Width(ft):	**Left:** 0.0	**Right:** 0.0
(50) Curb Width(ft):		
(52) Culvert Barrel Length(ft):		
(34) Skew:	**Angle(°):** 11	**Direction:** -RIGHT FORWARD X-LEFT FORWARD
	Cardinal	**Non-Cardinal**
(51) Bridge Roadway Width(ft):	74.0	74.0
(52) Deck Width(ft):	80.4	80.4
Right Wingwall Length(ft):		
Left Wingwall Length(ft):		
(32) Approach Roadway Width(ft):	56	40
	Cardinal Under Clearance	**Non-Cardinal Under Clearance**
(47) Minimum Horizontal(ft):	97.5	97.5
(55) Minimum Right Lateral(ft):	33.0	33.0
(56) Minimum Left Lateral(ft):	40.5	40.5

RAILING APPRAISAL

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

Outer Rail: Left	Right	Type
		TYPE F (TWO SQUARE TUBES) - STEEL(8)
		TYPE F (3 SQUARE TUBES) - STEEL(65)
		TYPE F (4 SQUARE TUBES) - STEEL(72)
		TYPE M-STEEL 3 SQUARE TUBES(93)
X	X	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)
		OTHER(99) (Please specify)

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)

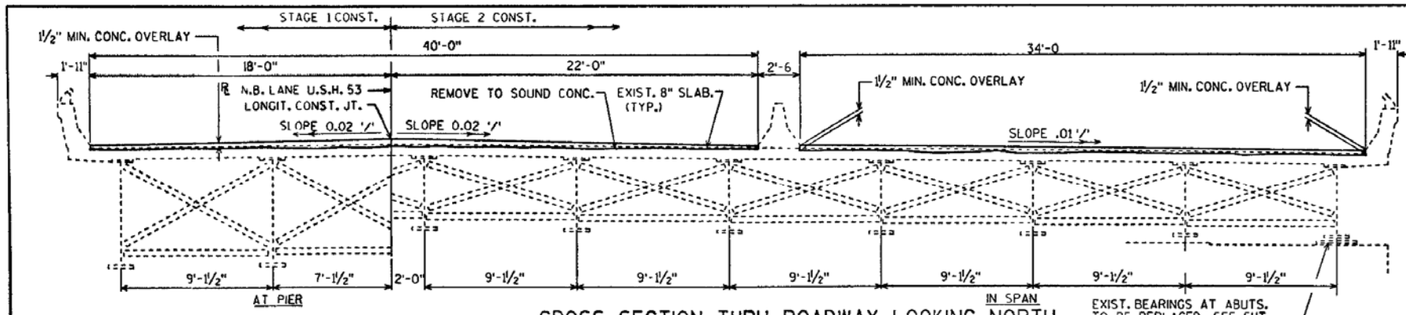
Approach Attachment Rail Note:	
Guardrail Termination Type:	
X	(01) ENERGY ABSORBING TERMINAL/EAT
	(02) TURN DOWN
	(99) OTHER (Please specify)
Guardrail Termination Note:	

ROADWAY ALIGNMENT APPRAISAL

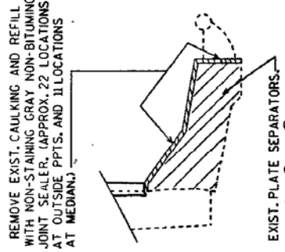
(72) Approach Alignment Appraisal:	
	3 Intolerable- Substantial speed reduction
	6 Fair- Minor speed reduction
X	8 Good- No speed reduction

TYPE CODE = X

STATE PROJECT NUMBER	SHEET NO.
1190-22-60	8.9



CROSS SECTION THRU ROADWAY LOOKING NORTH



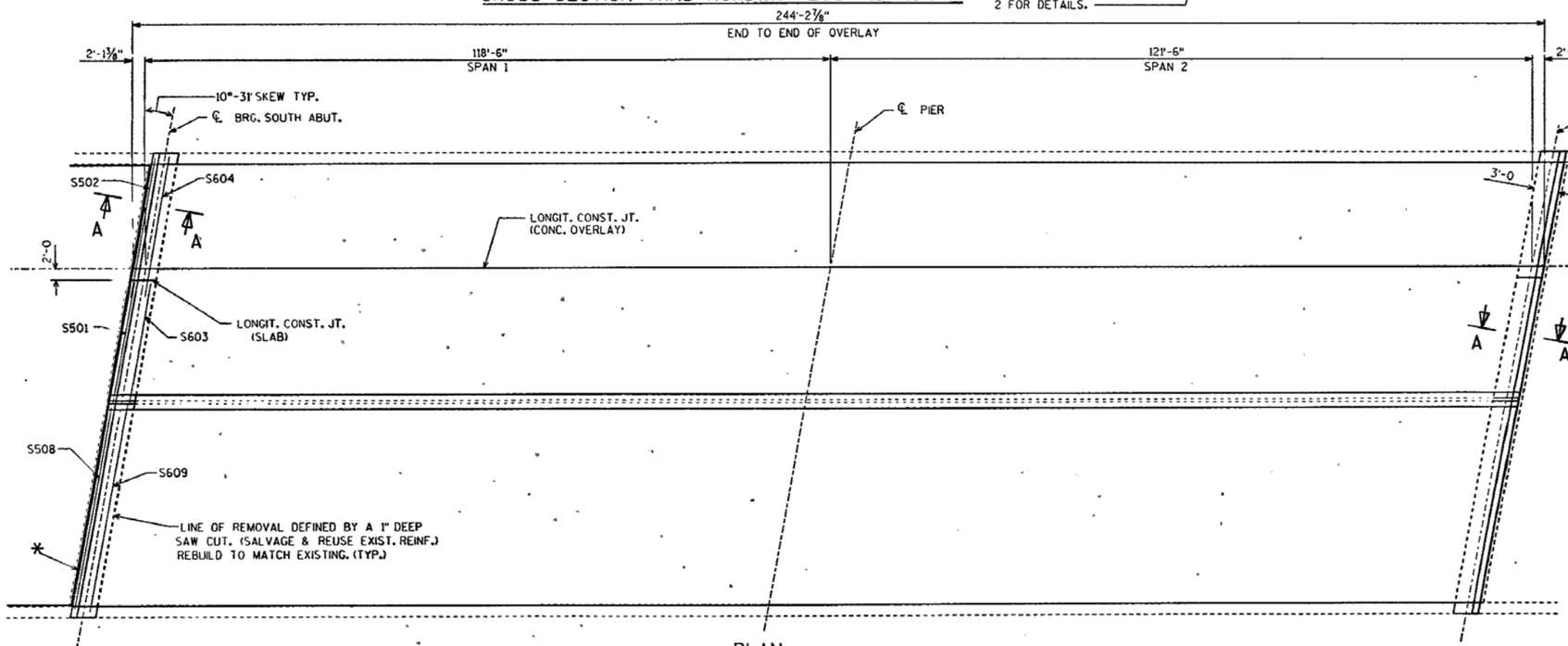
SECTION THRU PPT.

GENERAL NOTES

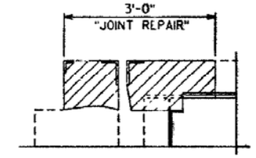
DRAWINGS SHALL NOT BE SCALED.
DIMENSIONS ARE BASED ON ORIGINAL PLANS. THEREFORE CONTRACTOR TO FIELD VERFIY ALL DIMENSIONS.
UTILIZE EXIST. REINF. AND EXTEND INTO NEW WORK.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
PROTECTIVE SURFACE TREATMENT TO BE APPLIED AT A RATE OF 150 S.F. PER GALLON.

DESIGN DATA

LIVE LOAD:
INVENTORY RATING: HS-19
OPERATIONAL RATING: HS-31
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 210 KIPS.
ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY SLAB f'c = 4,000 P.S.I.
ALL OTHER f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 —— fy = 60,000 P.S.I.



PLAN

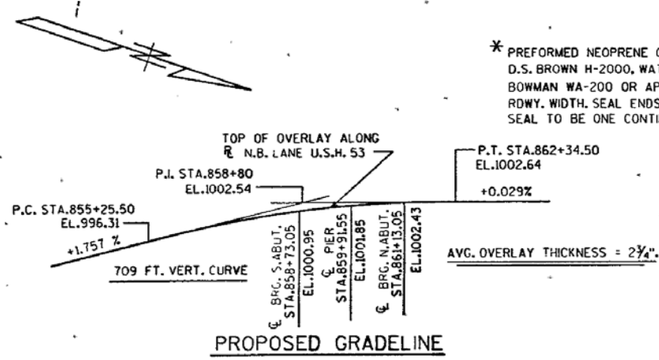


SECTION A-A

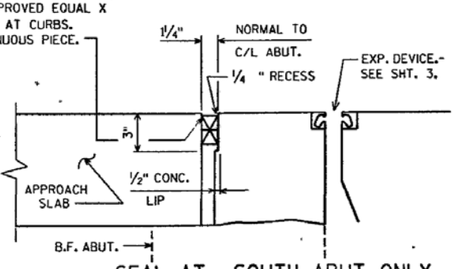
LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. BEARING DETAILS
3. EXPANSION DEVICE

BRIDGE OFFICE CONTACT - R.L. REESE (608)266-8488
OR KENT BAHLER (608)266-8490



PROPOSED GRADELINE



SEAL AT SOUTH ABUT. ONLY

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	TOTALS
CLEANING, DECKS	S.Y.	2,008
PREPARATION, DECKS	S.Y.	60
CONCRETE MASONRY, OVERLAY, DECKS	C.Y.	182
PROTECTIVE SURFACE TREATMENT	GAL.	142
EXPANSION DEVICE - B-3-38	L.S.	1
JOINT REPAIR	S.Y.	53
PREFORMED ELASTOMERIC COMPRESSION JOINT SEALER - 2"	L.F.	123
HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.	2,150
[redacted]	[redacted]	[redacted]
EXPANSION BEARING ASSEMBLIES B-3-38	EACH	18
REMOVING BEARINGS	EA.	18
FULL DEPTH DECK REPAIR	S.Y.	5

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

U.S.H. 53 N.B. LANE OVER U.S.H. 8

COUNTY BARRON	TOWN ~~CITY/VILLAGE~~ STANLEY
DESIGN SPEC. AASHTO 1990	LOAD — CONST. SPEC. 1989
DESIGNED BY D.K. CK'D. V.T.	DRAWN BY B.W. PLANS CK'D. R.C
APPROVED [signature] STATE BRIDGE ENGINEER	1-27-93 DATE

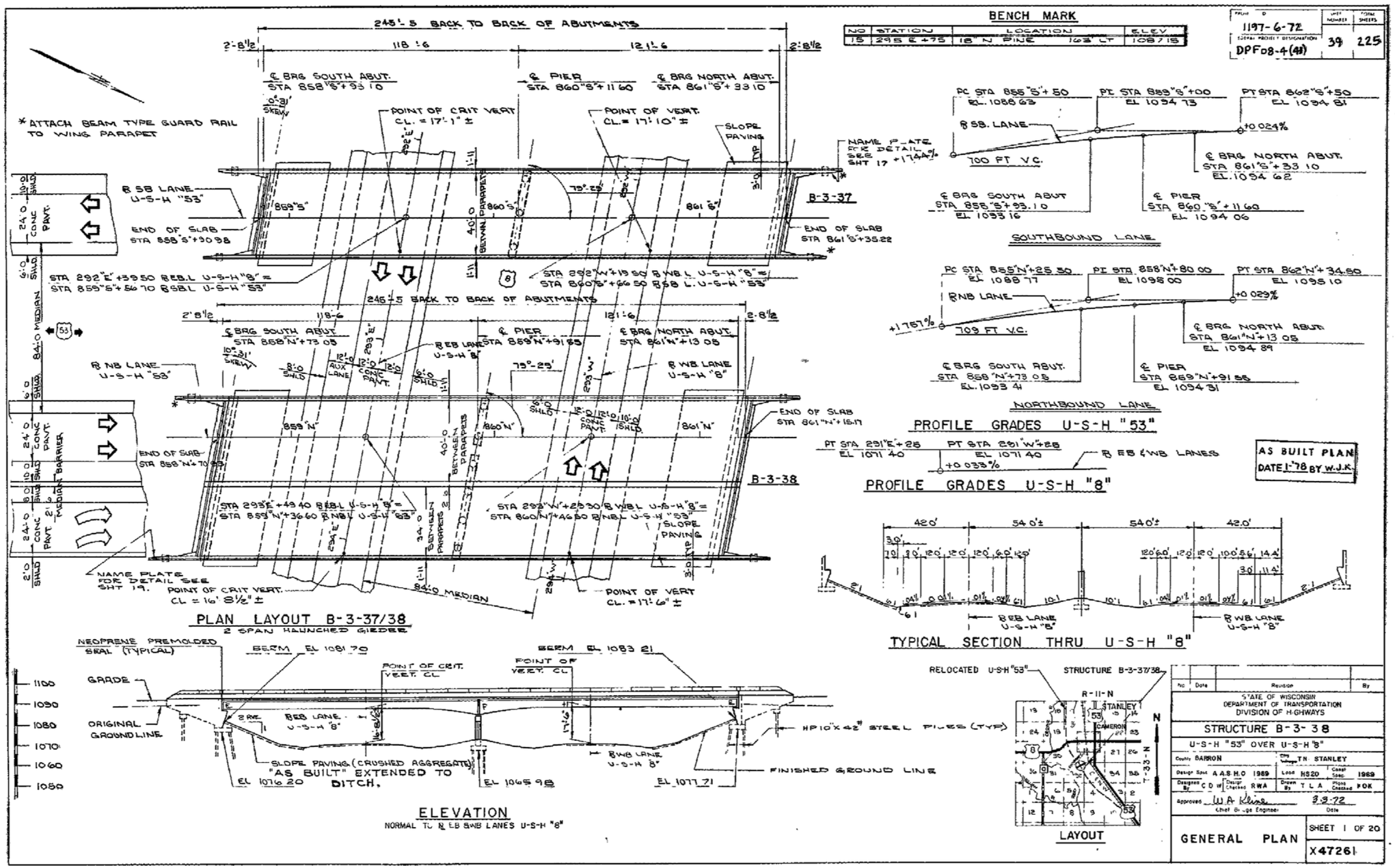
CONCRETE OVERLAY

SHEET 1 OF 3
11-92

BR 803038;BOVER.DGN

I.D. 11902230

B-3-38


245'-5 BACK TO BACK OF ABUTMENTS
118'-6
121'-6
2'-8½
℄ BRG SOUTH ABUT. STA 858"S"+93.10
℄ PIER STA 860"S"+11.60
℄ BRG NORTH ABUT. STA 861"S"+93.10
* ATTACH BEAM TYPE GUARD RAIL TO WING PARAPET
POINT OF CRIT VERT CL. = 17'-1" ±
POINT OF VERT. CL.= 17'-10" ±
SLOPE PAVING
NAME PLATE FOR DETAIL SEE SHT 17
+1.744%
B SB LANE U-S-H "53"
END OF SLAB STA 858"S"+90.98
END OF SLAB STA 861"S"+35.22
B-3-37
STA 292"E"+39.50 B EB L U-S-H "8" = STA 859"S"+56.70 B SB L U-S-H "53"
STA 292"W"+19.60 B WB L U-S-H "8" = STA 860"S"+66.50 B SB L U-S-H "53"
40'-0 BETWEEN PARAPETS
24'-0 CONC PAVT.
10'-0 SHLD
6'-0 SHLD
84'-0 MEDIAN
B NB LANE U-S-H "53"
B EB LANE U-S-H "8"
B WB LANE U-S-H "8"
12'-0 AUX LANE
12'-0 CONC PAVT.
8'-0 SHLD
16'-0 SHLD
2'-0 SHLD
2'-3 MEDIAN BARRIER
END OF SLAB STA 858"N"+70.98
END OF SLAB STA 861"N"+15.17
B-3-38
STA 293"E"+49.40 B EB L U-S-H "8" = STA 859"N"+36.60 B NB L U-S-H "53"
STA 293"W"+25.30 B WB L U-S-H "8" = STA 860"N"+46.80 B NB L U-S-H "53"
NAME PLATE FOR DETAIL SEE SHT 19.
POINT OF CRIT VERT. CL = 16' 8½" ±
POINT OF VERT CL. = 17'-6" ±
PLAN LAYOUT B-3-37/38
2 SPAN HAUNCHED GIRDER
NEOPRENE PREMOLDED SEAL (TYPICAL)
BERM EL 1081.70
BERM EL 1083.21
GRADE
ORIGINAL GROUNDLINE
2 PVE
B EB LANE U-S-H "8"
B WB LANE U-S-H "8"
SLOPE PAVING (CRUSHED AGGREGATE) "AS BUILT" EXTENDED TO DITCH.
EL 1076.20
EL 1065.98
EL 1077.71
HP10"X42" STEEL PILES (TYP)
FINISHED GROUND LINE
1100
1090
1080
1070
1060
1050
ELEVATION
NORMAL TO ℄ EB & WB LANES U-S-H "8"
BENCH MARK
NO 15 | STATION 295 E +75 | LOCATION 18" N PINE 163' LT | ELEV 1087.15
1197-6-72
PROJECT DESIGNATION DPF08-4(41)
SHEET NUMBER 39
TOTAL SHEETS 225
PC STA 855"S"+50 EL. 1088.63
PT STA 859"S"+00 EL 1094.73
PT STA 862"S"+50 EL 1094.81
B SB. LANE
+0.024%
700 FT V.C.
℄ BRG SOUTH ABUT STA 858"S"+93.10 EL 1093.16
℄ PIER STA 860"S"+11.60 EL 1094.06
℄ BRG NORTH ABUT. STA 861"S"+93.10 EL. 1094.62
SOUTHBOUND LANE
PC STA 855"N"+25.50 EL 1088.77
PT STA 858"N"+80.00 EL 1093.00
PT STA 862"N"+34.50 EL 1095.10
B NB LANE
+0.029%
+1.751%
709 FT V.C.
℄ BRG SOUTH ABUT. STA 858"N"+73.05 EL. 1093.41
℄ PIER STA 859"N"+91.55 EL 1094.31
℄ BRG NORTH ABUT. STA 861"N"+13.05 EL 1094.89
NORTHBOUND LANE
PROFILE GRADES U-S-H "53"
PT STA 291"E"+25 EL 1071.40
PT STA 291"W"+28 EL 1071.40
+0.033%
B EB & WB LANES
PROFILE GRADES U-S-H "8"
AS BUILT PLAN DATE 1-'78 BY W.J.K.
42'-0
54'-0 ±
54'-0 ±
42'-0
3.0'
12'-0
12'-0
12'-0
6'-0
12'-0
10'-0
5½'
14.4'
3.0
11.4'
10:1
6:1
2:1
B EB LANE U-S-H "8"
B WB LANE U-S-H "8"
TYPICAL SECTION THRU U-S-H "8"
RELOCATED U-S-H "53"
STRUCTURE B-3-37/38
R-11-N
T. STANLEY
CAMERON
53
N
T-33-N
LAYOUT
No Date Revision By
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURE B-3-38
U-S-H "53" OVER U-S-H "8"
County BARRON
City TN. STANLEY
Design Spec A.A.S.H.O. 1969
Load HS20
Const Spec 1969
Designed By C.D.W.
Design Checked R.W.A.
Drawn By T.L.A.
Plans Checked R.O.K.
Approved W.A. Kline Chief Bridge Engineer
3.3.72 Date
GENERAL PLAN
SHEET 1 OF 20
X47261

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

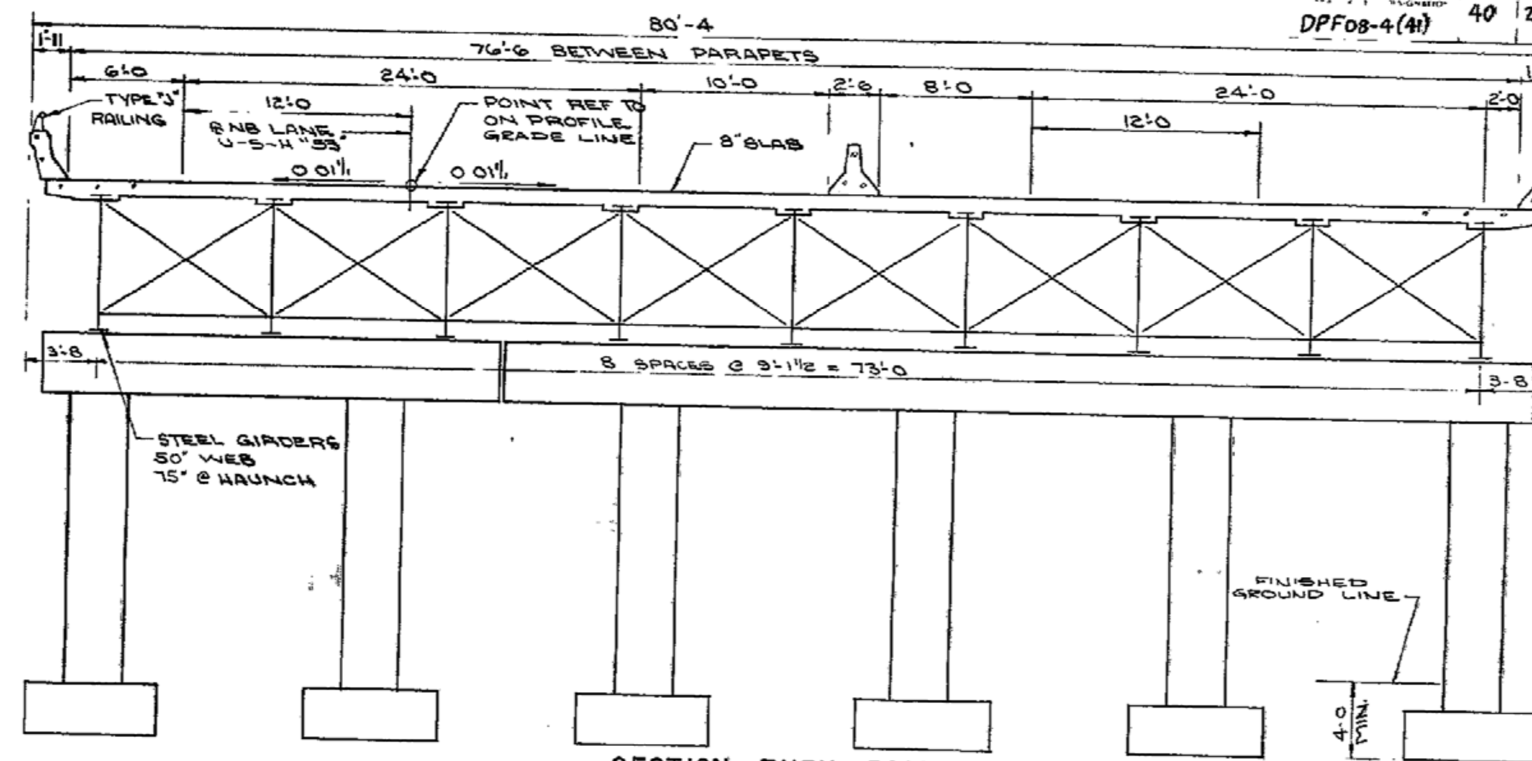
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING (CRUSHED AGGREGATE) TO THE EXTENT SHOWN ON SHT. 1 & IN THE ABUTMENT DETAILS

SEE SHT 6 AND 9 FOR UPPER LIMITS OF EXCAVATION AT THE ABUTMENTS.

THE FINISHED GRADED SECTION WAS USED AS THE UPPER LIMITS OF EXCAVATION FOR COMPUTATION OF EXCAVATION QUANTITIES AT THE PIER

AT THE ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW ABUTMENT SHALL BE FILLED WITH GRANULAR BACKFILL FOR PAY LIMITS SEE SHT 6 AND 9.

ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER FRICTION TYPE HIGH-TENSILE STRENGTH BOLTS UNLESS SHOWN OR NOTED OTHERWISE



SECTION THRU ROADWAY

LOOKING NORTH

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	SUPER	SO ABUT	PIER	NO ABUT	TOTAL
EXCAVATION FOR STRUCTURES	C Y	—	190	80	190	460
GRANULAR BACKFILL	C Y	—	285	—	285	570
CONCRETE MASONRY	C.Y	564 B	196 0	86 2	196 0	1043 0
BAR STEEL REINFORCEMENT	LB	159,000	12,980	20,200	12,980	205,160
STRUCTURAL CARBON STEEL	LB	420710	—	—	—	420710
STRUCTURAL LOW-ALLOY STEEL	LB	92,520	—	—	—	92,520
LUBRICATED BRONZE PLATES	LB	313	—	—	—	313
BEARING PADS	S F	52	—	—	—	52
NEOPRENE PRE-MOLDED SEAL	L F	162	—	—	—	162
STEEL PILING, DELIVERED & DRIVEN HP 10 INCH X 42 POUND	L F	—	1,125	1,440	1,125	3,690
TUBULAR RAILING, TYPE "J"	L.F	587	—	—	—	587
SLOPE PAVING (CRUSHED AGGR)	S Y	—	230	—	260	490
NON-BID ITEMS						
ALUMINUM OR ZINC PLATE	S F	100	—	—	—	100
POLYVINYL CHLORIDE WATERSTOP	L F	—	85	—	85	170

TRAFFIC VOLUME

U-S-H "53"		U-S-H "8"	
A D T	5,200	A D T	6070
A D S	80 M.P.H.	D H V	1,320
D H.V	1,180		

LIST OF DRAWINGS

DESIGN DATA

LIVE LOAD HS20

ALLOWABLE DESIGN STRESSES:

CONCRETE MASONRY, GRADE "AA", SLAB — 1,200 P.S.I.
ALL OTHER — 1,400 P.S.I.
BAR STEEL REINFORCEMENT — 20,000 P.S.I.
n = 10
STRUCTURAL CARBON STEEL — 20,000 P.S.I.
STRUCTURAL LOW ALLOY STEEL:
TO AND INCLUDING 3/4" THICK — 27,000 P.S.I.
3/4" TO AND INCLUDING 1½" THICK — 25,000 P.S.I.
OVER 1½" THICK — 22,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10" x 42# STEEL PILES EST 45'-0" LG & DRIVEN TO A MIN BRG VALUE OF 55 TONS/PILE

PIER TO BE SUPPORTED ON HP 10" x 42# STEEL PILES EST. 40'-0" LG & DRIVEN TO A MIN BRG. VALUE OF 58 TONS PER PILE

No	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

Const Spec 1969 | Drawn By T L A | Plans Checked KOK

GENERAL PLAN | SHEET 2 OF 20 | X47262

As Built

1 225

Index of Sheets

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED

CHETEK - HAUGEN ROAD

(C.T.H. "OO" - S.T.H. 48)

U.S.H. 53 - BARRON COUNTY

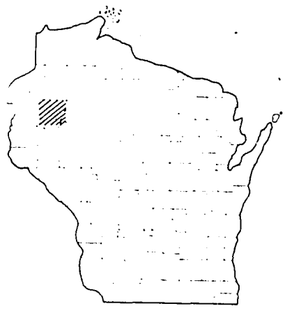
PROJECT IDENTIFICATION NUMBER	FEDERAL PROJECT DESIGNATION
1197-6-[redacted], 72, [redacted]	DPF 08-4(41)

BARRON - CTH "M" ROAD

(U.S.H. 53 - CAMERON)

USH 8 - BARRON COUNTY

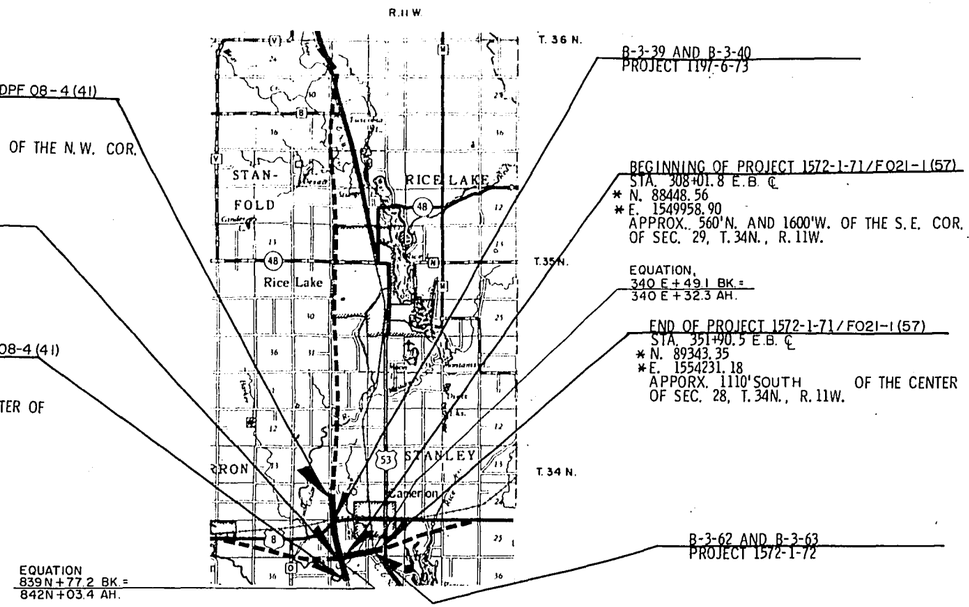
PROJECT IDENTIFICATION NUMBER	FEDERAL PROJECT DESIGNATION
1572-1-[redacted], 72	F 021-1(57)



GN

Design Designation

	US 53		US 8	
CONTROL OF ACCESS	= FULL			
A. D. T. (1975)	= 5,200	ADT (1968)	=	6,070
A. D. T. (1995)	= 7,800	ADT (1996)	=	8,800
D. H. V.	= 1,180	DHV	=	1,320
D.	= 60%	D	=	60%
T.	= 10%	T	=	4.7%
V.	= 80MPH	V	=	80 MPH



Layout

Scale 0 1 2 MI.

NET LENGTH OF CENTERLINE = 2.341 MILES. 1197-6-71 USH 53

NET LENGTH OF CENTERLINE = .834 MILES. 1572-1-71 USH 8

TOTAL NET LENGTH OF CENTERLINE = 3.178 MILES.

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	61.7 / 25.9
Wire Fence: Barbed		Marsh	
Lot Line		Hedge	
Corporate or City Limits		Trees	
Property Line	P.L. 32.6		
Traveled Way or P.E.		Ground Elevation	Datum Line 23.9
Railroads			
Base or Survey Line		Grade Elevation	Datum Line 76.16

CONTROL OF ACCESS

WITHIN THE LIMITS OF THE PROJECT, WHERE CONTROL OF ACCESS IS SHOWN THUS [redacted] NO ACCESS IS PERMITTED TO U. S. H. 53 TRAFFIC LANES EXCEPT AT DESIGNATED PUBLIC ROAD ACCESS POINT.

SCALES { PLAN 1 INCH = 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.

*ALL COORDINATES SHOWN ON THIS PLAN ARE REFERENCED TO THE WISCONSIN CO-ORDINATE SYSTEM NORTH ZONE.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Surveyor M.G.W. Note Book L.L.
District Computer R.A.B. M.O. Checker R.H.C.
District Checker J.H.L. Correct

Correct

Date 2/25/72 Wm. T. Wambach, Jr.
District Engineer

Recommended for Approval:

Date 3/10/72 L.C. Hamil
Chief Design Engineer

Approved:

Date 3/16/72 S.C. Hicks
State Highway Engineer

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
REGION 4

Approved:

Date _____
Division Engineer

ESTIMATE OF QUANTITIES

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

CONTRACT NO. 2
STRUCTURES B-3-37, B-3-38,
B-3-62 & B-3-63

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72 1572-1-72		
FEDERAL PROJECT DESIGNATION OPF 08-4(41) F 021-1(57)	3.1	225

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

SEC NO.	STRUCTURE NUMBERS	EXCAVATION FOR STRUCTURES	BRIDGES (STRUCTURES OVER 20FT. SPAN) GRANULAR BACKFILL	CONCRETE MASONRY	BAR STEEL REINFORCEMENT.	STRUCTURAL CARBON STEEL	STRUCTURAL LOW-ALLOY STEEL	LUBRICATED BRONZE PLATES	BEARING PADS	PREBORING, CAST-IN-PLACE CONCRETE PILING	SLOPE PAVING CRUSHED AGGREGATE	FIELD OFFICE TYPE A	TUBULAR RAILING TYPE J	NEOPRENE PRE-MOULDED SEAL	STEEL PILING, DELIVERED AND DRIVEN HP 10 INCH X 42 LB.	CAST-IN-PLACE CONCRETE PILING, DELIVERED & DRIVEN 10 3/4 INCH	ON THE JOB TRAINING
		20601	20901	50201	50501	50601	50605	50614	50621	51020	60405	64201	90001	90002	90003	90004	90005
		C.Y.	C.Y.	C.Y.	LB. 106,506	LB.	LB.	LB.	S.F.	L.F.	S.Y.	L.S.	L.F.	L.F.	L.F.	L.F.	HOURS
	B-3-37	290	320	597	~~184.770~~	230.700	50.750	174	29		277	1	557	87	1.980		1,000
	B-3-38	460	570	1.043	205.160	420.710	92.520	313	52		490		557	162	3.690		
	TOTAL PROJ. OPF08-4(41)	750	890	1.640	309.930	651.410	143.270	487	81		767	1	1.114	249	5.670		1,000
	B-3-62	226		485	97.650	450				281			276			1.860	
	B-3-63	226		486	97.850	450				282			276			1.860	
	TOTAL PROJ. F021-1(57)	452		971	195.500	900				563			552			3.720	
	PLAN TOTAL	1.202	890	2.611	~~505.430~~ 507.1186	652.310	143.270	487	81	563	767	1	1.666	249	5.670	3.720	1,000

ERROR IN QUANTITY
SEE SHEET 2 of 18.

SEC. NO.

SHEET NUMBER	TOTAL SHEETS
4	225

DP F08-4(41)/1197-6-71,72,73

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	∆	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	4.3 & 4.4	CLIFFORD N. AMUNDSON	FEE & ACCESS RIGHTS	19.03	1197-6-21
2	4.3 & 4.4	ARTHUR E. MORK	FEE, L.H.E & ACCESS RIGHTS	29.05	1197-6-21
3	4.4	ELMER MALUM	FEE & ACCESS RIGHTS	63.27	1197-6-21
4	4.4	SANNA, DIV. OF BEATRICE FOODS CO.	FEE, L.H.E. & ACCESS RIGHTS	25.72	1197-6-21
5	4.4	WILLIAM ZABKA	FEE, L.H.E & ACCESS RIGHTS	24.75	1197-6-21
6	4.4	GRANT JENSON	FEE & ACCESS RIGHTS	5.62	1197-6-21
7	4.4 & 4.5	LYLE G. ANDERSON	FEE & ACCESS RIGHTS	14.50	1197-6-21
8	4.5	CHARLES MILLS	FEE & ACCESS RIGHTS	13.05	1197-6-21
9	4.5	REUBEN BERZILL	FEE & ACCESS RIGHTS	12.16	1197-6-21
10	4.5	CHARLES COOK	FEE, L.H.E & ACCESS RIGHTS	27.55	1197-6-21
11	4.5	WILLIAM D. BUTLER	L.H.E.	---	1197-6-21
12	4.5	TOWN OF STANLEY	FEE & ACCESS RIGHTS	1.22	1197-6-21
13	4.5	NORTHERN STATES POWER CO.	RELEASE OF RIGHTS	--	1197-6-40
14	4.3 & 4.4	BARRON CO. ELECTRIC CO-OP	RELEASE OF RIGHTS	--	1197-6-40
15	4.5	CHIBARDUN TELEPHONE COMPANY	RELEASE OF RIGHTS	--	1197-6-40
16	4.5	SOO LINE RAILROAD	AGREEMENT	--	1197-6-50

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

OFFICIAL PLAT ON FILE WITH THE REGISTER OF DEEDS OFFICE

CONVENTIONAL SIGNS

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

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

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

REVISION DATE
9-28-71
1-19-72

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLAT OF RIGHT OF WAY REQUIRED

PROJECT I.D. 1197-6-21
CHETEK — HAUGEN ROAD
(C.T.H. "00" — S.T.H.48)
U.S. 53 BARRON COUNTY

SCALE 0 200 400 FEET

LENGTH 2.551 MILES

DATED MARCH 3, 1971

REVISION DATE		PROJECT ID	SHEET NUMBER	TOTAL SHEETS
9-28-71		1197-6-21		
1-19-72		FEDERAL PROJECT DESIGNATION	4.4	
		~~DPF 08-4(41)~~		

CHETEK – HAUGEN ROAD
(C.T.H. "OO" – S.T.H. 48)
U.S.H. 53 BARRON COUNTY

SCALE 0 200 400 FT

DATE MARCH 3, 1971

CONST. PROJECT
DPF 08-4(41) / 1197-6-71, 72 4.3-225

TOWN OF STANLEY

EQUATION: STA. 271E+87.2 = 100+0 STUB LINE

SEC. COR. 266.3' S. OF E.B.L. 108.3' BETWEEN LANES LOCATED FROM CONC. REF. MON.

SEC. COR. 374.6' S. OF W.B.L. LOCATED FROM CONC. REF. MON.

L.H.E. FOR SLOPES 0.11 ACRES (TEMP.)

L.H.E. FOR SLOPES 0.36 ACRES (TEMP.)

L.H.E. FOR SLOPES 0.17 ACRES (TEMP.)

PROPOSED SLOPE INTERCEPTS FOR FUTURE INTERCHANGE.

PROPOSED SLOPE INTERCEPTS FOR FUTURE INTERCHANGE.

L.H.E. FOR MARSH DISPOSAL 2.03 ACRES (TEMP.)

2.39 ACRES SEVERED

0.11 ACRES LANDLOCKED

14.3 ACRES LANDLOCKED

SLOPE INTERCEPTS

SLOPE INTERCEPTS

DONALD J. DEFLORIAN
V. 345 R – P. 188
190.4 ACRES

ARTHUR E. MORK
V. 345 R – P. 412
V. 89 – P. 156

ARTHUR E. MORK
V. 345R – P. 412
V. 89 – P. 156
96.9 ACRES
67.8 ACRES REMAINING

WILLIAM ZABKA
V. 143 – P. 484
40 ACRES
15 ACRES REMAINING

ELMER MALUM
V. 119 – P. 222

LYLE G. ANDERSON
V. 322R – P. 369
70.9 ACRES

DONALD J. DEFLORIAN
V. 345R – P. 188

BARRON COUNTY ELECTRIC COOPERATIVE

CLIFFORD N. AMUNDSON
L.C. TO
ERNEST B. PETERSON
V. 322R – P. 516

CLIFFORD N. AMUNDSON
L.C. TO
ERNEST B. PETERSON
V. 322R – P. 516
160 ACRES

ELMER MALUM
V. 122 – P. 248

SANNA, DIVISION OF BEATRICE FOODS CO.
V. 363 – P. 184
40 ACRES
14.3 ACRES REMAINING

ELMER MALUM
V. 119 – P. 222
120 ACRES
56.7 ACRES REMAINING
15.8 ACRES LANDLOCKED

ARTHUR E. MORK
V. 345R – P. 412
40 ACRES
39.9 ACRES REMAINING

GRANT JENSON
V. 148 – P. 359
V. 331R – P. 354
V. 331R – P. 355
40.0 ACRES
34.4 ACRES REMAINING

OSCAR JOHNSON
V. 128 – P. 499
V. 131 – P. 545

ROY MILLER
V. 126 – P. 116

S.B. LANE
P.I. 804S+87.3 BK.=
P.I. 801S+99.3 AHD.
I = 225° 18' 29"
Δ = 45° 18' 29"
D = 0° 40'
T = 3587.0'
L = 6796.2'
E = 718.5'
R = 8,594.4'
P.C. 769S+00.3
P.T.C. 836S+96.5
P.T.T. 837S+86.3

N.B. LANE
P.I. 809N+73.3 BK.=
P.I. 809N+00.4 AHD.
I = 222° 02' 45"
Δ = 42° 02' 45"
D = 0° 40'
T = 3,303.0'
L = 6,306.9'
E = 612.9'
R = 8,594.4'
P.C. 776N+70.3
P.T.C. 839N+77.2
P.T.T. 842N+03.4

EQN: 859S+56.7 U.S.H. 53 = 292E+39.5 U.S.H. 8

EQN: 860S+66.5 U.S.H. 53 = 292W+19.5 U.S.H. 8

EQN: 859N+36.6 U.S.H. 53 = 293E+49.4 U.S.H. 8

EQN: 860N+46.5 U.S.H. 53 = 293W+29.3 U.S.H. 8

CUR. STA. 838N+69.1
TAN. STA. 838N+66.5
1/4 COR. 1363.5' N. OF N.B.L. ℄
1/4 COR. 1366.2' N. OF N.B.L. TAN.
43+1' BETWEEN LANES

1/4 COR. 35' E. OF N.B.L. 111.6' BETWEEN LANES 2"x6" CONC. POST WITH 5/8" REINF. ROD.

1/4 COR. 1025.7' S.E. OF N.B.L. 113.3' BETWEEN LANES 9"x9" CONC. BLOCK

1/4 COR. 4025.7' W. OF S.B.L. 1" IRON PIPE

P.C. 89N+08.4

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

LEGEND
DENOTES NO ACCESS

GRID NORTH
TRUE NORTH

LOCATED T. 34 N. R. 11 W. SEC. 30

LOCATED T. 34 N. R. 11 W. SEC. 25

LOCATED T. 34 N. R. 11 W. SEC. 29

LOCATED T. 34 N. R. 11 W. SEC. 32

SW – NW
NW – NW
SE – NW
NE – NW
SW – SW
NW – SW
SE – SW
NE – SW
SW – NE
NW – NE
SW – SE
NW – SE

STANDARD ABBREVIATIONS

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

SCHEDULE OF LANDS AND INTERESTS REQUIRED

F021-1(57)/1572-1-71,72

Sheet Number 4.5 | 22.5

PARCEL NUMBER	SHEET NUMBER	OWNER	INTEREST REQUIRED	ACRES	OPERATIONS PROJECT I.D.
1	4.4	MABEL SCHWAHN ET. AL.	FEE	3.32	1572-1-21
2	4.4	JAMES G. WHITEFORD	FEE	6.94	1572-1-21
3	4484.5	JEROME W. JACKSON	FEE & ACCESS RIGHTS	1.25	1572-1-21
4	4.4	LLOYD G. ERICKSON	FEE & ACCESS RIGHTS	8.16	1572-1-21
5	4.5	ARTHUR FRISINGER	FEE, L.H.E., & ACCESS RIGHTS	29.07	1572-1-21
6	4.5	R.W BARTLETT	FEE, L.H.E., & ACCESS RIGHTS	4.06	1572-1-21
7	4.5	ROBERT BRYNGELSON	FEE & ACCESS RIGHTS	0.75	1572-1-21
8	4.5	VERNON BRYNGELSON	FEE, L.H.E., ACCESS RIGHTS	5.62	1572-1-21
9	4.5	KENNETH M. JUVE	FEE, L.H.E., & ACCESS RIGHTS	2.88	1572-1-21
10	4.5	EDWARD J. CHERMACK	FEE & ACCESS RIGHTS	8.59	1572-1-21
11	4.6	ELMER O. HUSSET	FEE & ACCESS RIGHTS	10.66	1572-1-21
12	4.6	GARY GRANUM	FEE, L.H.E., & ACCESS RIGHTS	8.98	1572-1-21
13	4.6	DONALD J. DEFLORIAN	L. H. E.	---	1572-1-21
14	4884.9	VILLAGE OF CAMERON	FEE, L.H.E., & ACCESS RIGHTS	5.41	1572-1-21
15	4.8	LYLE H. KISLING	FEE & ACCESS RIGHTS	17.97	1572-1-21
16	4.8	P&B. INC.	FEE & ACCESS RIGHTS	1.06	1572-1-21
17	4.8	CHICAGO & NORTHWESTERN RAILROAD	AGREEMENT	---	1572-1-21
18	4884.9	JEROME TURKEY FARMS, INC.	FEE, L.H.E., & ACCESS RIGHTS	12.96	1572-1-21
19	4.8	JOSEPH OPSAHL	L. H. E.	---	1572-1-21
20	4.9	ERMIN HANSEN (SEE PARCEL 41)	FEE, L.H.E., & ACCESS RIGHTS	15.13	1572-1-21
23	4.9	EDWARD P. KLEIN	FEE, L.H.E., & ACCESS RIGHTS	0.29	1572-1-21
24	4.9	REX W. GEBAUER	FEE & ACCESS RIGHTS	5.09	1572-1-21
25	4.984.10	JOSEPH L. SCHEYNOST	FEE, L.H.E., & ACCESS RIGHTS	10.88	1572-1-21
26	4.10	ROGER KIRCKOF	FEE	0.99	1572-1-21
27	4.10	ALVIN HAGNA	FEE, L.H.E., & ACCESS RIGHTS	0.10	1572-1-21
28	4.10	G.W. CUTSFORTH	FEE & ACCESS RIGHTS	0.18	1572-1-21
29	4.10	THADDEUS J. ZAJAC	FEE & ACCESS RIGHTS	11.87	1572-1-21
30	4.10	ARTHUR R. HEGNA	FEE & ACCESS RIGHTS	2.24	1572-1-21
31	4.10	LAZY "A" RANCH	FEE & ACCESS RIGHTS	0.20	1572-1-21
32	4.10	THADDEUS J. GONSOWSKI	L. H. E.	---	1572-1-21
33	4.10	ARLIE WETZEL	L. H. E.	---	1572-1-21
34	4.6 & 4.10	BARRON COUNTY ELECTRIC COOPERATIVE	RELEASE OF RIGHTS	---	1572-1-
35	4.4, 4.9 & 4.10	NORTHERN STATES POWER COMPANY	RELEASE OF RIGHTS	---	1572-1-
36	4.5	NORTHERN NATURAL GAS COMPANY	RELEASE OF RIGHTS	---	1572-1-
37	4.6, 4.9 & 4.10	CHIBARDUN TELEPHONE COMPANY, INC.	RELEASE OF RIGHTS	---	1572-1-

PARCEL NUMBER	SHEET NUMBER	OWNER	INTEREST REQUIRED	ACRES	OPERATIONS PROJECT I.D.
38	4.10	VIOLA G. GEBARDT	L.H.E	---	1572-1-21
39	4.9	ALCUIN F. WEISSER	L. H. E.	---	1572-1-21
40	4.9	ROBERT W. CASE	L. H. E.	---	1572-1-21
41	4.9	ERMIN HANSEN (SEE PARCEL 20)	L. H. E.	---	1572-1-21

CONVENTIONAL SIGNS

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

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

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

REVISION DATE
6-18-71
2-11-72

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLAT OF RIGHT OF ~~WAY~~ REQUIRED

PROJECT I.D. 1572 - 1 - 21

BARRON — C.T.H. "M" ROAD

U. S. H. 8

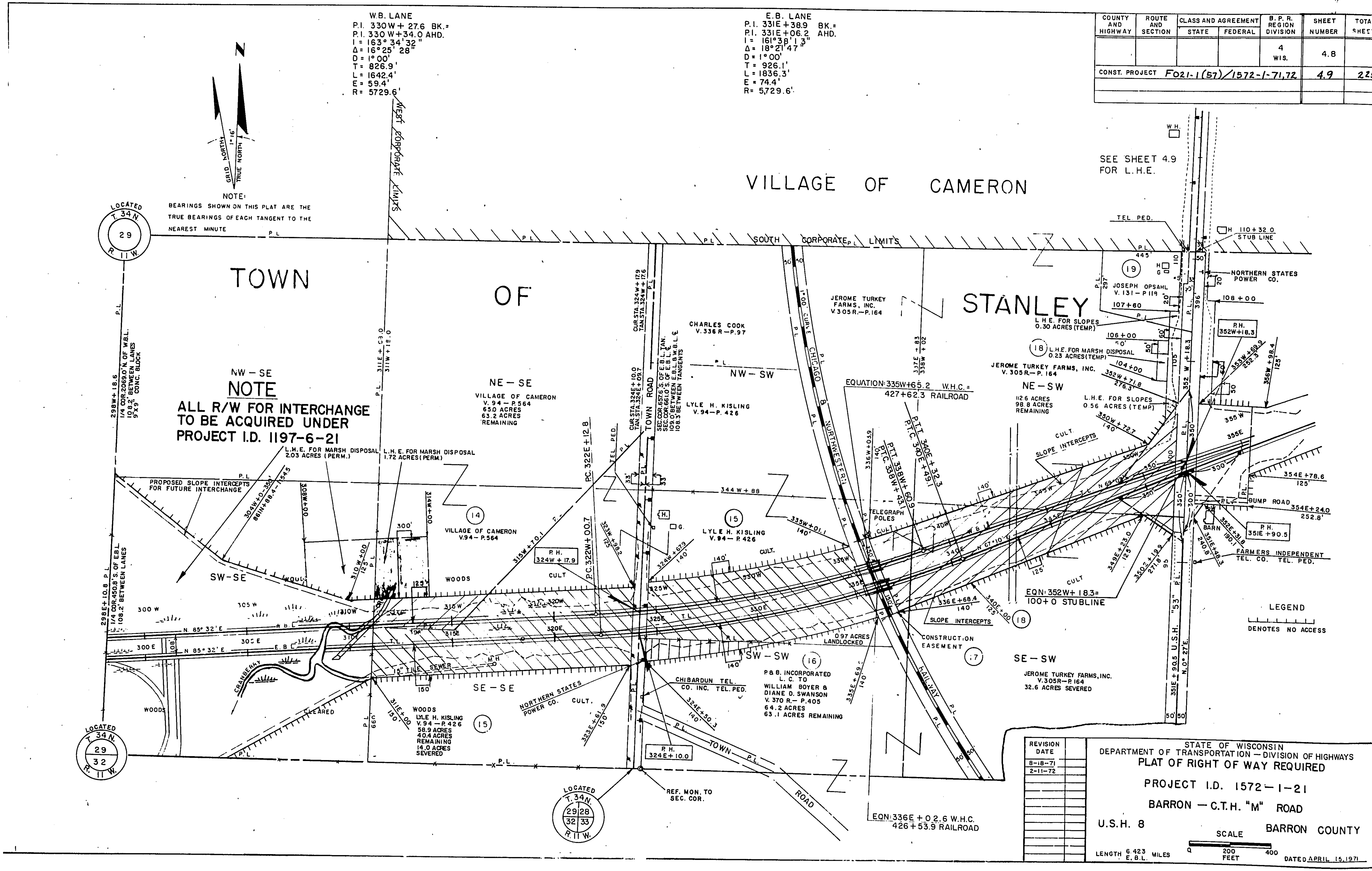
BARRON COUNTY

SCALE 0 200 400 FEET

LENGTH 6.423 E.B.L. MILES

DATED: APRIL 15, 1971

COUNTY AND HIGHWAY	ROUTE AND SECTION	CLASS AND AGREEMENT STATE	CLASS AND AGREEMENT FEDERAL	B. P. R. REGION DIVISION	SHEET NUMBER	TOTAL SHEETS
				4 WIS.	4.8	
CONST. PROJECT F021-1(57)/1572-1-71,72					4.9	225



W.B. LANE
P.I. 330W + 27.6 BK.=
P.I. 330 W +34.0 AHD.
I = 163° 34' 32"
Δ = 16° 25' 28"
D = 1° 00'
T = 826.9'
L = 1642.4'
E = 59.4'
R = 5729.6'
E.B. LANE
P.I. 331E + 38.9 BK.=
P.I. 331E + 06.2 AHD.
I = 161° 38' 13"
Δ = 18° 21' 47"
D = 1° 00'
T = 926.1'
L = 1836.3'
E = 74.4'
R = 5,729.6'
N
GRID NORTH
TRUE NORTH
1° 16'
NOTE:
BEARINGS SHOWN ON THIS PLAT ARE THE TRUE BEARINGS OF EACH TANGENT TO THE NEAREST MINUTE
LOCATED T. 34 N. 29 R. 11 W.
VILLAGE OF CAMERON
WEST CORPORATE LIMITS
SOUTH CORPORATE LIMITS
SEE SHEET 4.9 FOR L.H.E.
TOWN OF STANLEY
NOTE
ALL R/W FOR INTERCHANGE TO BE ACQUIRED UNDER PROJECT I.D. 1197-6-21
NW - SE
NE - SE
NW - SW
NE - SW
SW - SE
SE - SE
SW - SW
SE - SW
VILLAGE OF CAMERON V. 94 - P. 564 63.0 ACRES 63.2 ACRES REMAINING
CHARLES COOK V. 336 R - P. 97
LYLE H. KISLING V. 94 - P. 426
JEROME TURKEY FARMS, INC. V. 305 R. - P. 164
JOSEPH OPSAHL V. 131 - P. 119
L.H.E. FOR SLOPES 0.30 ACRES (TEMP.)
L.H.E. FOR MARSH DISPOSAL 0.23 ACRES (TEMP.)
JEROME TURKEY FARMS, INC. V. 305 R. - P. 164
112.6 ACRES 98.8 ACRES REMAINING
L.H.E. FOR SLOPES 0.56 ACRES (TEMP.)
EQUATION: 335W+65.2 W.H.C. = 427+62.3 RAILROAD
CHICAGO & NORTHWESTERN RAILWAY
NORTHERN STATES POWER CO.
L.H.E. FOR MARSH DISPOSAL 2.03 ACRES (PERM.)
L.H.E. FOR MARSH DISPOSAL 1.72 ACRES (PERM.)
PROPOSED SLOPE INTERCEPTS FOR FUTURE INTERCHANGE
VILLAGE OF CAMERON V. 94 - P. 564
LYLE H. KISLING V. 94 - P. 426
TELEGRAPH POLES
P.H. 324W + 17.9
P.H. 352W+18.3
P.H. 351E + 90.5
P.H. 324E + 10.0
EQN: 352W + 18.3 = 100 + 0 STUBLINE
SLOPE INTERCEPTS
CONSTRUCTION EASEMENT
FARMERS INDEPENDENT TEL. CO. TEL. PED.
STUMP ROAD
LEGEND
DENOTES NO ACCESS
0.97 ACRES LANDLOCKED
P & B. INCORPORATED L. C. TO WILLIAM BOYER & DIANE D. SWANSON V. 370 R. - P. 405 64.2 ACRES 63.1 ACRES REMAINING
JEROME TURKEY FARMS, INC. V. 305R - P. 164 32.6 ACRES SEVERED
CHIBARDUN TEL. CO. INC. TEL. PED.
NORTHERN STATES POWER CO.
WOODS
LYLE H. KISLING V. 94 - P. 426 58.9 ACRES 40.4 ACRES REMAINING 14.0 ACRES SEVERED
CRANBERRY
CLEARED
12" TILE SEWER
TOWN ROAD
REF. MON. TO SEC. COR.
LOCATED T. 34 N. 29 32 R. 11 W.
LOCATED T. 34 N. 29 28 32 33 R. 11 W.
EQN: 336E + 02.6 W.H.C. 426 + 53.9 RAILROAD
U.S.H. "53"
N. 85° 32' E

REVISION DATE	
8-18-71	
2-11-72	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION — DIVISION OF HIGHWAYS
PLAT OF RIGHT OF WAY REQUIRED

PROJECT I.D. 1572-1-21

BARRON — C.T.H. "M" ROAD

U.S.H. 8 BARRON COUNTY

SCALE 0 200 400 FEET

LENGTH 6.423 E.B.L. MILES

DATED APRIL 15, 1971

PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
1197-6-71,72		
FEDERAL PROJECT DESIGNATION	6	225
DPF 08-4(41)		

ARTHUR MORK

ELMER MALUM

CLIFFORD N. AMUNDSON
L.C. TO
ERNEST B. PETERSON

CLEARING AND GRUBBING LIMITS

STA. 858S+71 – 22.0' LT.
I-TYPE I-A INLET REQ'D.
GRATE ELEV. 1092.51
DISCH. ELEV. 1086.6

STA. 858S+64 – 18.0' RT.
I-TYPE I-A INLET REQ'D.
GRATE ELEV. 1092.48
INLET ELEV. 1086.3
DISCH. ELEV. 1086.3

STA. 856N+51 – 18.0' LT.
I-TYPE I-A INLET REQ'D.
GRATE ELEV. 1092.79
INLET ELEV. 1085.7
DISCH. ELEV. 1085.7

STA. 856N+45 – 22.0' LT.
I-SPECIAL INLET COVER REQ'D.
GRATE ELEV. 1092.72
INLET ELEV. 1085.4
DISCH. ELEV. 1085.4

STA. 856N+37 – 58.5' RT.
I-TYPE I-A INLET REQ'D.
GRATE ELEV. 1092.24
INLET ELEV. 1085.1
DISCH. ELEV. 1085.1

STA. 8633+00 54.0' RT.
I-TYPE 9 INLET WITH
2 MS COVERS REQ'D.
GRATE ELEV. 1089.4
DISCH. ELEV. 1086.1

STA. 8733+00 – 54.0' RT.
I-TYPE 9 INLET WITH
2 MS COVERS REQ'D.
GRATE ELEV. 1088.7
DISCH. ELEV. 1084.0
INLET ELEV. 1084.0

DRAINAGE AREA
7 ACRES

USE SPECIAL DISCHARGE
SEE DETAIL

SOD REQ'D.

859S + 56.7 U.S.H. 53 =
292E + 39.5 U.S.H. 8

860S + 66.5 U.S.H. 53 =
292W + 19.5 U.S.H. 8

859N + 36.6 U.S.H. 53 =
293E + 49.4 U.S.H. 8

860N + 46.5 U.S.H. 53 =
293W + 29.3 U.S.H. 8

N 13° 41' W.

NET ℄ LENGTH STA. 850N + 00 TO STA. 880N + 00 = 3000.0 LIN. FT.

STA. 852S+00
+1.744%
V.C. = 700'
+50.0
88.63
B-3-37
U.S.H. 8 E.B.L. ℄
U.S.H. 8 W.B.L. ℄
+50.0
94.81

STA. 859S+56.7 B-3-37 REQ'D.
2 SPAN – 245' STEEL GIR. STRUC.
50" GIRDER
40' ROADWAY
SKEW = 10° 31' L.H.F.
SEE DRAWINGS X46904 – X46921

C – 10 C.Y.
C (INT.) – 105,288 C.Y. } UNCL.
F – 55,732 C.Y. SHG. 20%
F (INT) – 32,018 C.Y. SHG. 20% } FILL

STA. 863S+00
1-24" X 102' R.C.C.P.
CLASS III REQ'D.
1 APRON ENDWALL REQ'D.

+0.024%
FINISHED GRADE
EXISTING GROUND
STA. 873S+13
STA. 873S+00
1-24" X 248' R.C.C.P
CLASS III REQ'D.
1 APRON ENDWALL REQ'D.

STA. 859N+36.6 B-3-38 REQ'D.
2 SPAN – 245' STEEL GIR. STRUC.
50" GIRDER
76.5' ROADWAY DIVIDED BY 2.5' G.M. RAIL
SKEW = 10° 31' L.H.F.
SEE DRAWINGS X47261 – X47280

STA. 861N+20
1-24" X 354' R.C.C.P.
CLASS IV REQ'D.
1 APRON ENDWALLS REQ'D.
SKEW 11° L.H.F.

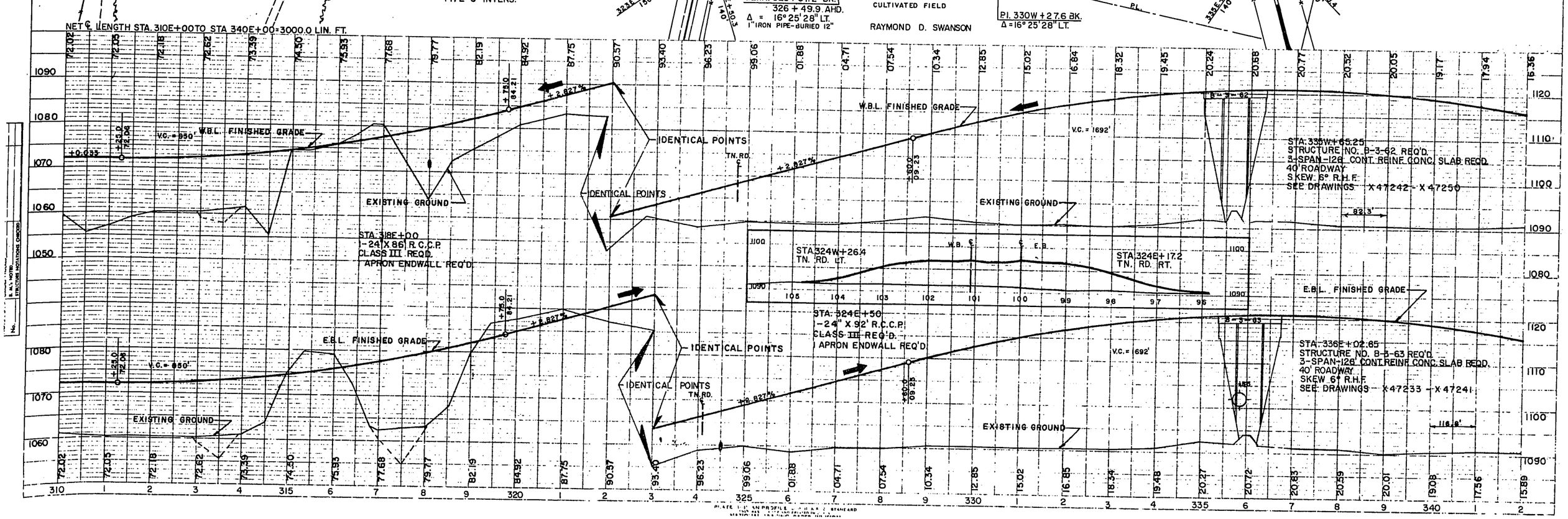
C – 41,899 C.Y.
C(INT)– 136,091 C.Y. } UNCL.
F – 99,500 C.Y. SHG. 20%
F(INT) – 48,826 C.Y. SHG. 20% } FILL

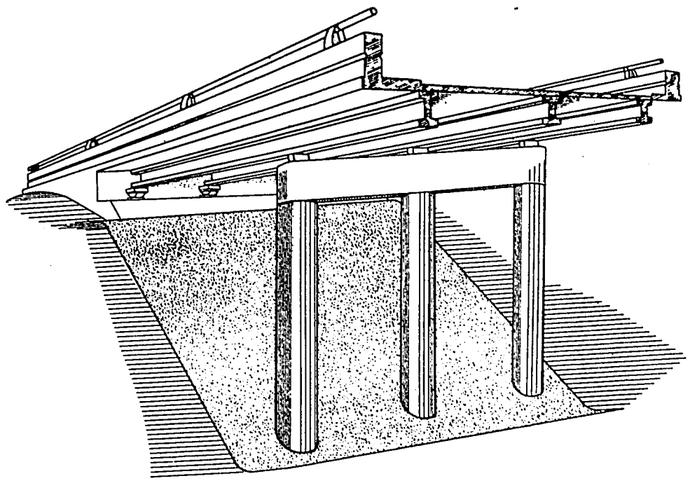
+0.029%
EXISTING GROUND
FINISHED GRADE
STA. 873N+00
1-24" X 124' R.C.C.P
CLASS III REQ'D.
1 APRON ENDWALL REQ'D.

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
18	318E+85	10" TRIPLE BIRCH 45'RT	1088.57
19	335E+30	6" ELM 410'LT.	1093.46

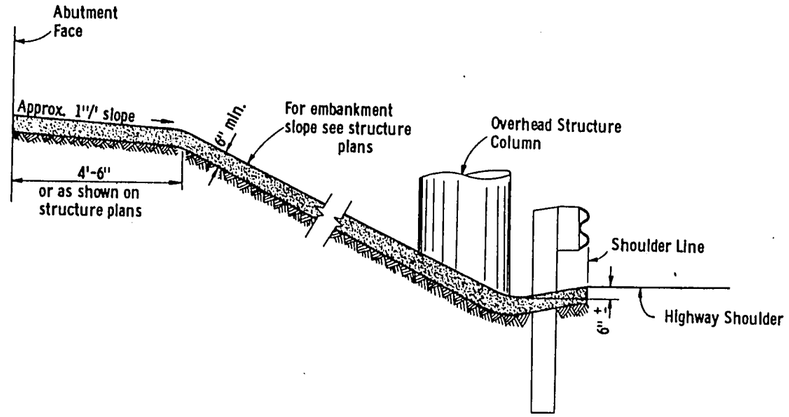
1572-1-71, 72
F 021-1(57)
12 225

L.H.E. FOR MARSH DISPOSAL (PERM.)
300'
311E+08 1/16 LINE
310W+00 125'
P.L.
CRANBERRY CREEK
MARSH
VILLAGE OF CAMERON
STA. 324W + 26.4 CONST. TN. RD. LT. TYPE "C" INTERS.
MANHOLE
GN
P.I. 330W +27.6 BK. Δ = 16° 25' 28" LT. D = 1°00' T = 826.9 L = 1,642.4 R = 5,729.6' S.E. = 0.047'/FT.
P.I. 331E + 38.98 BK. Δ = 18° 21' 47" LT. D = 1°00' T = 926.1 L = 1,836.3 R = 5,729.6' S.E. = 0.047'/FT.
U.G.T.C. PED. CHIBARDUN TEL. CO.
15" VITRIFIED CLAY SEWER PIPE. OWNED BY CAMERON CREAMERY AND PRODUCE CO.
WOODS 80'R
STA. 318E +00-54' LT 1-TYPE 9 INLET WITH 2 MS COVERS REQD. GRATE ELEV. 1073.9 DISC. ELEV. 1070.7
125'
P.C. 322 W +00.7
P.C. 322E+12.8
323W+98.2 125
324W+17.9
LYLE H. KISLING
CULTIVATED FIELD
STA. 324E +50-54.0' LT. 1 TYPE 9 INLET WITH 2 MS COVERS REQD. GRATE ELEV. 1092.0 DISC. ELE 1088.7
324W+67.9 140
CULTIVATED FIELD
STA. 335W +50-22' LT. 1-TYPE 1-A INLET REQ'D GRATE ELEV. 1119.20 FL ELEV. 1112.00
335W+19.1 140
336W+93.9 140
RAILWAY TELEGRAPH
CHICAGO & NORTHWESTERN
337E+83 338W+43.1
P.T.T. 338W+60.9 P.T.C. 338W+43.1
P.T.T. 340E+32.3 P.T.C. 340E + 491
JEROME TURKEY FARMS INC.
EQUATIONS
140'
310W
315W
N. 86° 49' E.
310E
315E
320W
320E
325W
325E
330W
330E
335E
340W
N. 70° 24' E.
340E
N. 68° 24' E.
LOW GROUND
WOODS
CHIBARDUN TEL. CO.
SOD REQ'D.
REMOVE AND ABANDON SEWER PIPES
ABANDON SEWERS
STA. 315E + 90 CONST. P.E. CROSSOVER
R.P. 16" WHITE PINE 11.00
ABANDON MANHOLE
REMOVE MANHOLES
STA. 324E + 17.2 CONST. TN. RD. CROSSOVER
335W +65.2 W.H.C. = 427 + 62.3 C. & N.W. RR.
336E + 02.6 W.H.C. = 426 + 53.9 C. & N.W. RR.
P.O.T. 314E+00 R.P. 12" WHITE PINE 20.48'
WOODS
LYLE H. KISLING
150'
STA. 324E + 17.2 CONST. TN. RD. RT. TYPE "C" INTERS.
NORTHERN STATES POWER
STA. 335E+25-18' LT. 1-TYPE 1-A INLET REQ'D. GRATE ELEV. 1118.75 FL ELEV. 1113.00
P.I. = 331E +38.98 BK. Δ = 18° 21' 47" LT.
P.I. 330W + 27.6 BK. Δ = 16° 25' 28" LT.
RAILWAY
JEROME TURKEY FARMS INC
CULTIVATED FIELD
RAYMOND D. SWANSON
T.L. P.I. 326 + 61.2 BK. 326 + 49.9 AHD. Δ = 16° 25' 28" LT. 1" IRON PIPE-BURIED 12"
NET ℄ LENGTH STA. 310E+00 TO STA 340E+00 = 3000.0 LIN. FT.

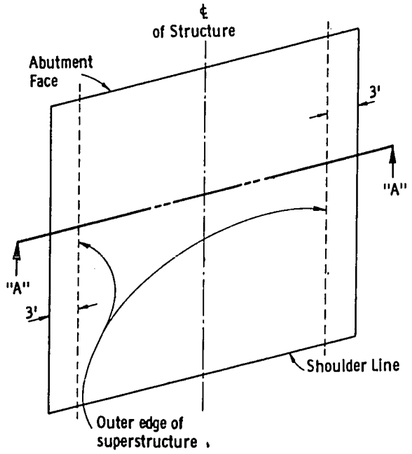




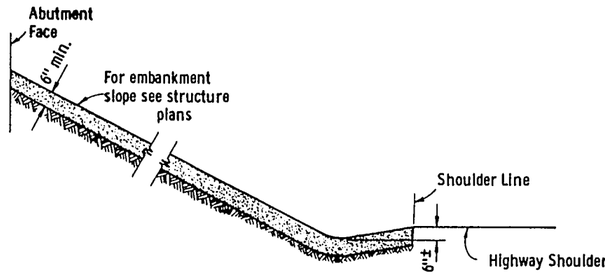
TYPICAL LOCATION DIAGRAM FOR SLOPE PAVING UNDER STRUCTURES



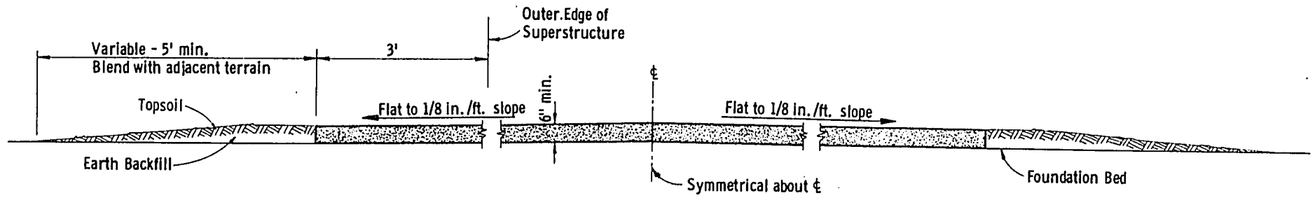
TYPICAL RURAL SECTION HIGHWAY GRADE SEPARATION SILL TYPE ABUTMENT



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

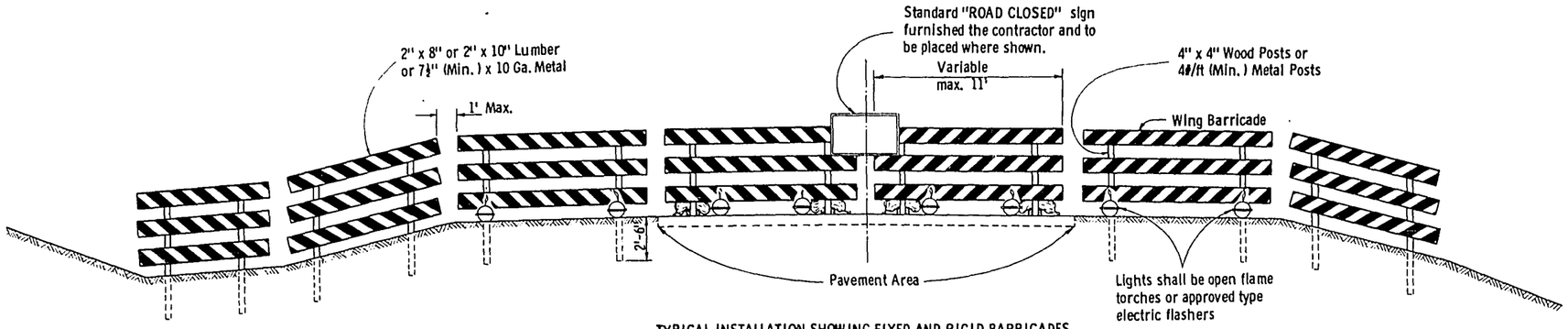
RECOMMENDED FOR APPROVAL
1/25/68 DATE — E. J. Ryckit CHIEF DESIGN ENGINEER

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

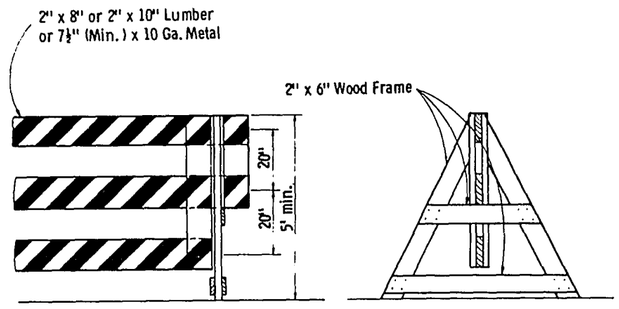
S.D.D. 12A2-1

S.D.D. 12A2-1

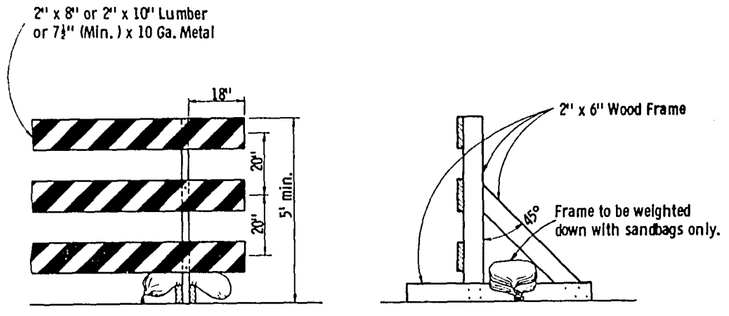
CLASS I BARRICADES



TYPICAL INSTALLATION SHOWING FIXED AND RIGID BARRICADES

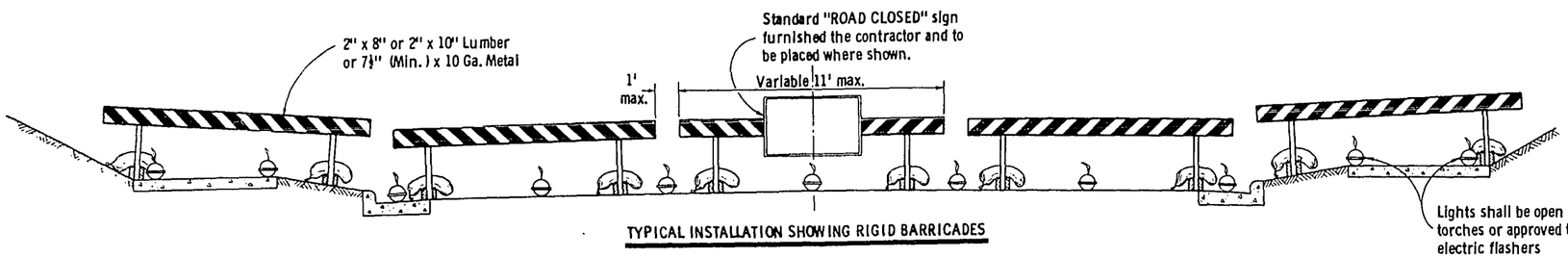


ALTERNATE TYPE INSTALLATION (DEMOUNTABLE)

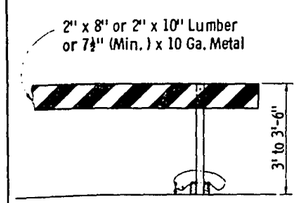


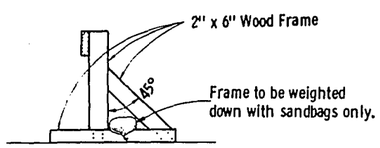
ALTERNATE TYPE INSTALLATION (RIGID)

CLASS II BARRICADES

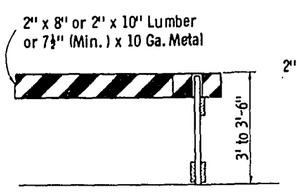


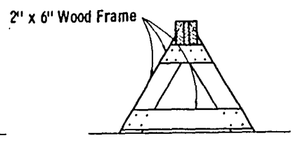
TYPICAL INSTALLATION SHOWING RIGID BARRICADES



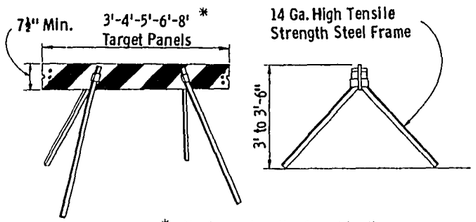


ALTERNATE TYPE INSTALLATION (RIGID)





ALTERNATE TYPE INSTALLATION (DEMOUNTABLE)



* Maximum length of combination panels 16'

ALTERNATE TYPE INSTALLATION (DEMOUNTABLE)

GENERAL NOTES

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

CLASS 1 BARRICADE:

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

CLASS 11 BARRICADE:

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

MATERIAL & FABRICATION:

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

PAINTING:

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

DIRECTION OF DIAGONAL STRIPES:

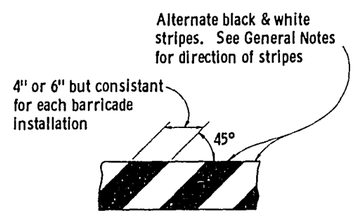
Where a barricade extends entirely across the roadway with no vehicle access provision, the stripes shall slope downward toward the highway centerline.
Where vehicle access is permitted, the stripes shall slope downward in the direction toward which vehicles must turn in detouring.
Where both right and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

LIGHTING:

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

MEASUREMENT & PAYMENT:

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



TYPICAL DIAGONAL STRIPES

Applies to all Classes & Types of Barricades

CONSTRUCTION BARRICADE

State Highway Commission of Wisconsin

RECOMMENDED FOR APPROVAL:
1/11/67 (DATE) — E. J. Bobst, CHIEF DESIGN ENGINEER
APPROVED:
1/13/67 (DATE) — W. J. Cunningham, STATE HIGHWAY ENGINEER

S. D. D. 15C1-1

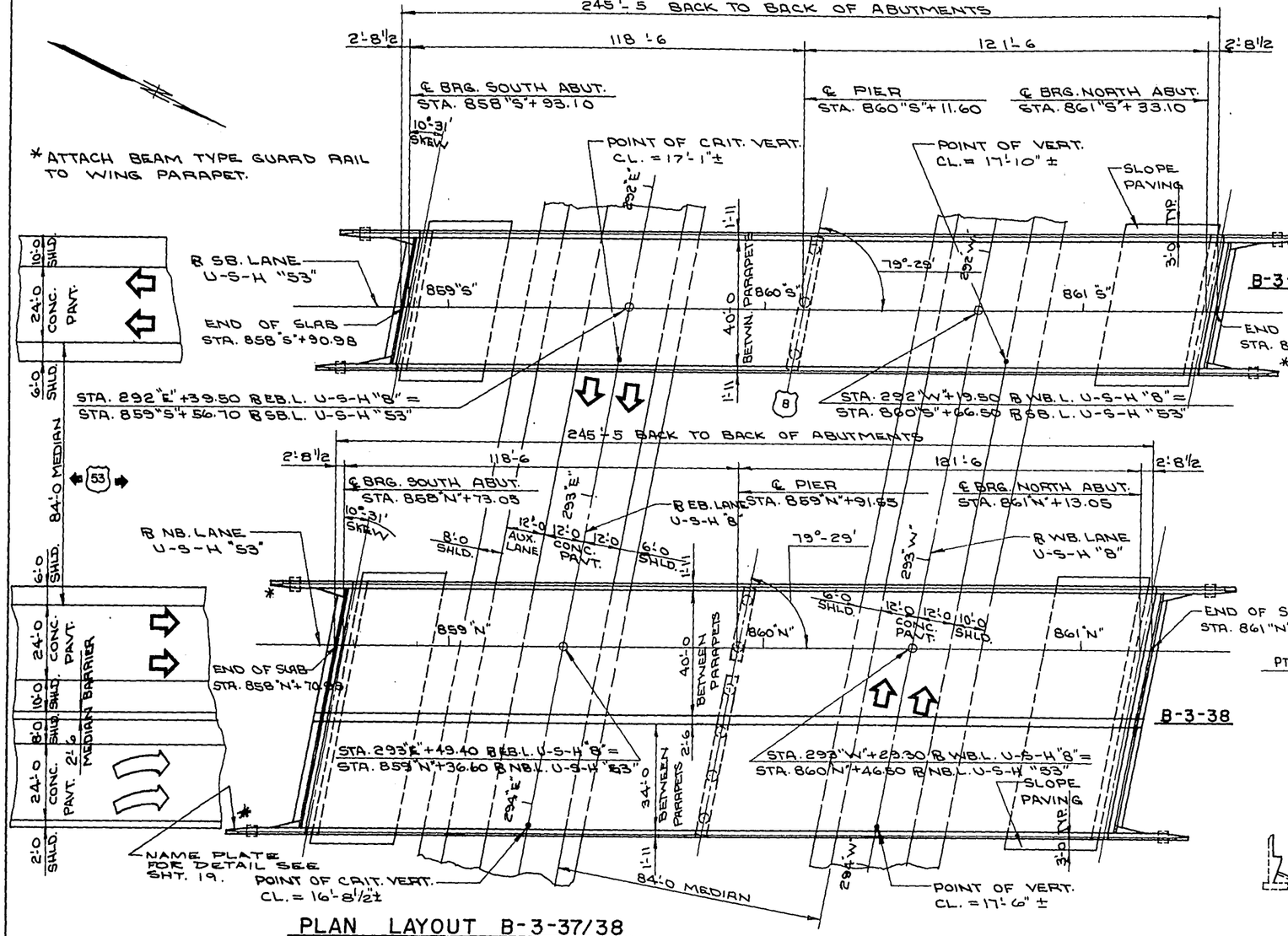
S. D. D. 15C: 1-1

Form E B 11 69

PROJECT I D	SHEET NUMBER	TOTAL SHEETS
1197-6-72		
FEDERAL PROJECT DESIGNATION	21	225
DPF 08-4(41)		

BENCH MARK

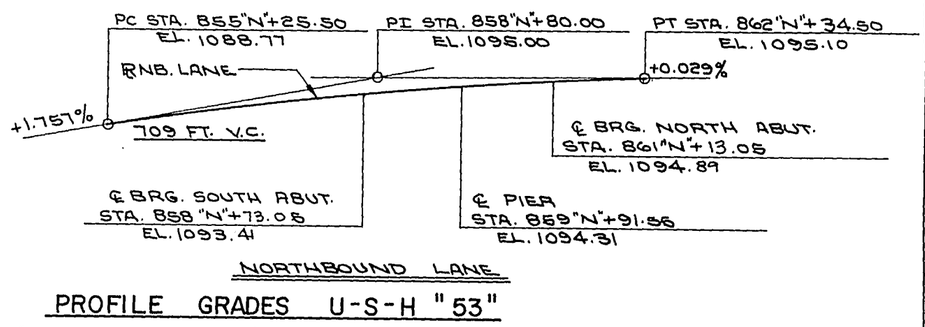
NO	STATION	LOCATION	ELEV.
15	295 E +75	18" N. PINE 163' LT.	1087.15



* ATTACH BEAM TYPE GUARD RAIL TO WING PARAPET.

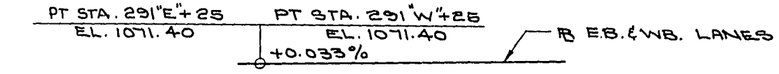
PLAN LAYOUT B-3-37/38

SOUTHBOUND LANE

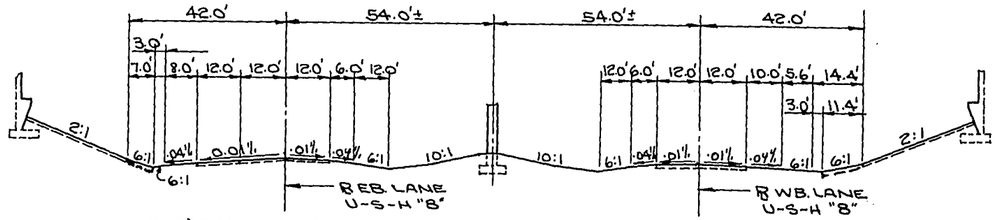


NORTHBOUND LANE

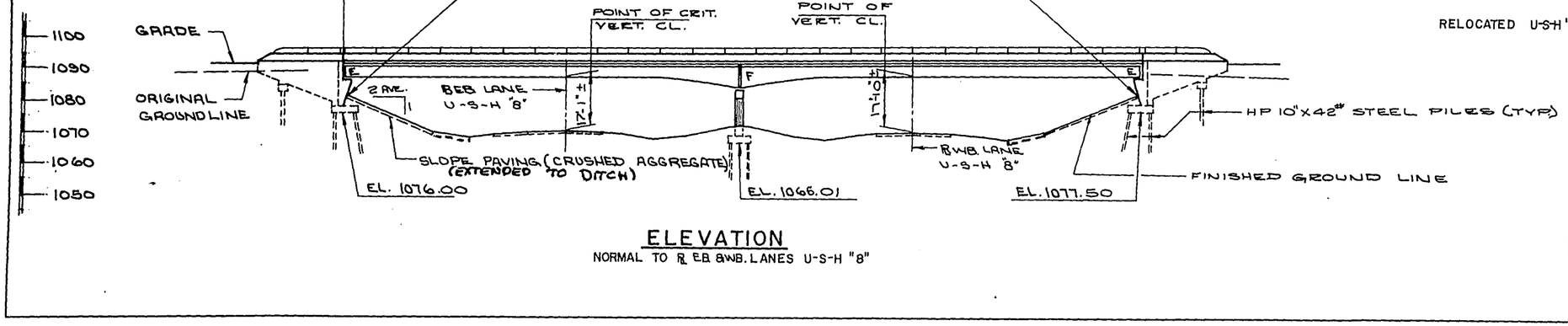
PROFILE GRADES U-S-H "53"



PROFILE GRADES U-S-H "8"

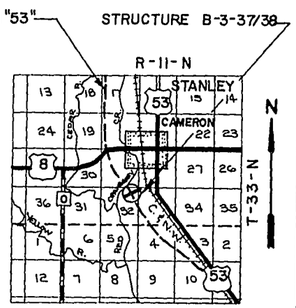


TYPICAL SECTION THRU U-S-H "8"



ELEVATION

NORMAL TO ℄ EB & WB. LANES U-S-H "8"



No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

U-S-H "53" OVER U-S-H "8"

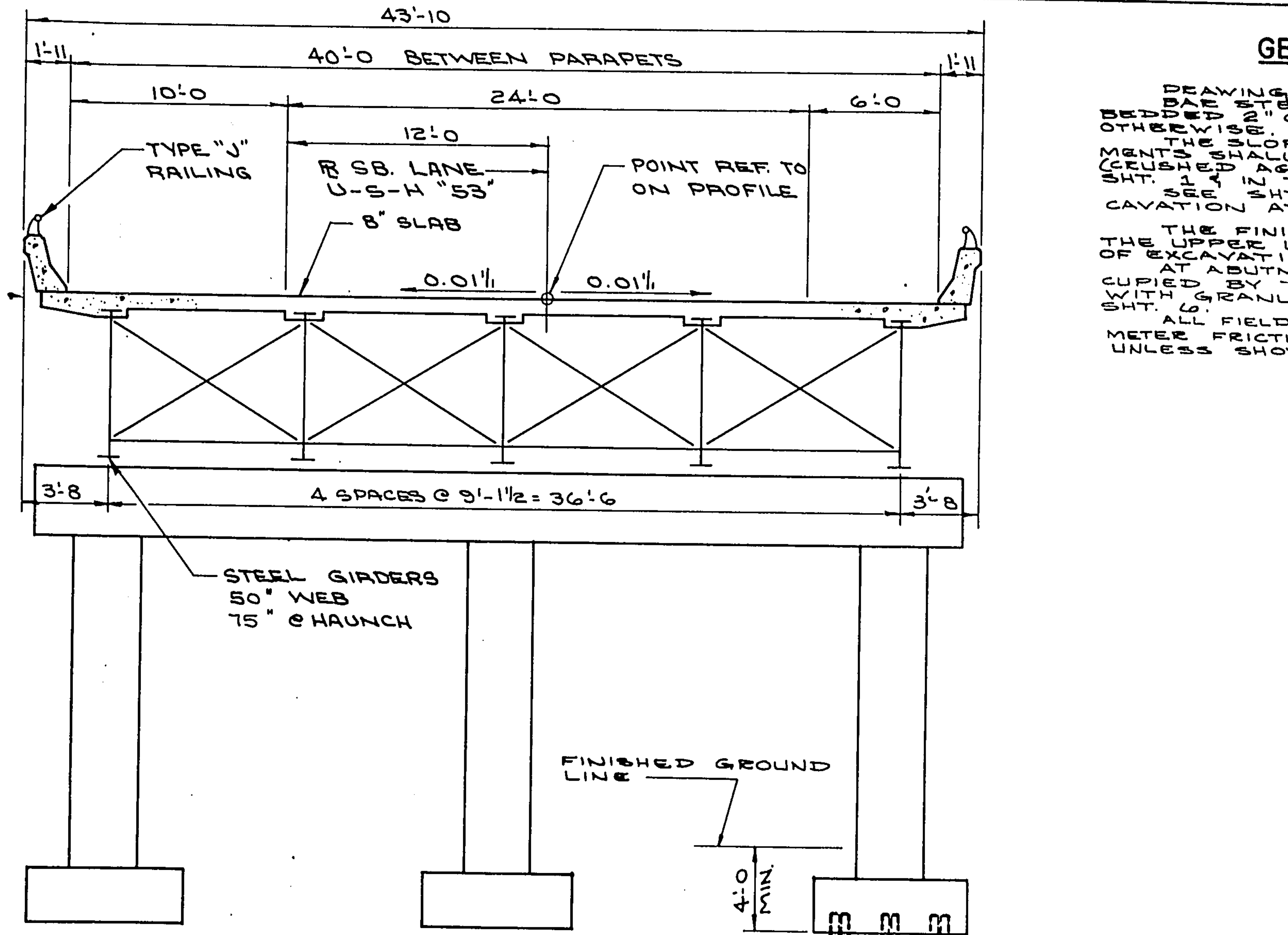
County BARRON	City Village TN: STANLEY		
Design Spec. A.A.S.H.O. 1969	Load H520	Const. Spec. 1969	
Designed By C D W / Design Checked R W A	Drawn By T L A	Plans Checked R L P	

Approved W. A. Kline, Chief Bridge Engineer — Date 7-72

GENERAL PLAN

SHEET 1 OF 18

X46904



CROSS SECTION THRU RDWY.

LOOKING NORTH

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	SUPER	SO. ABUT.	PIER	NO. ABUT.	TOTAL
EXCAVATION FOR STRUCTURES	C.Y.	—	115	60	115	290
GRANULAR BACKFILL	C.Y.	—	160	—	160	320
CONCRETE MASONRY	C.Y.	312.4	118.3	48.0	118.3	597.0
BAR STEEL REINFORCEMENT	LB.	84,090	6,970	6,740	6970	104,770
STRUCTURAL CARBON STEEL	LB.	230,700	—	—	—	230,700
STRUCTURAL LOW-ALLOY STEEL	LB.	50,750	—	—	—	50,750
LUBRICATED BRONZE PLATES	LB.	174	—	—	—	174
BEARING PADS	S.F.	29	—	—	—	29
NEOPRENE PRE-MOLDED SEAL	L.F.	87	—	—	—	87
STEEL PILING, DELIVERED & DRIVEN HP 10 INCH X 42 POUND	L.F.	—	675	630	675	1,980
TUBULAR RAILING, TYPE "J"	L.F.	557	—	—	—	557
SLOPE PAVING (CRUSHED AGGR.)	S.Y.	—	129	—	148	277
NON-BID ITEMS						
ALUMINUM OR ZINC PLATE	S.F.	63	—	—	—	63
FILLER	SIZE	—	—	—	—	
POLYVINYL CHLORIDE WATERSTOP	L.F.	—	34	—	34	68

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING (CRUSHED AGGREGATE) TO THE EXTENT SHOWN ON SHT. 1 & IN THE ABUTMENT DETAILS.

SEE SHT. 6 FOR UPPER LIMITS OF EXCAVATION AT THE ABUTMENTS.

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

AT ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW ABUTMENT SHALL BE FILLED WITH GRANULAR BACKFILL. FOR PAY LIMITS SEE SHT. 6.

ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER FRICTION TYPE HIGH-TENSILE STRENGTH BOLTS UNLESS SHOWN OR NOTED OTHERWISE.

THE ~~IT IS BELIEVED~~ PARAPET STEEL (R 501 ETC) AT ABUTS. WAS OMITTED FROM ESTIMATE FOR B-3-37. TOTAL SHOULD BE 106, ~~483.6~~# 506

TRAFFIC VOLUME

U-S-H "53"
A.D.T. — 5,200
R.D.S. — 80 M.P.H.

U-S-H "8"
A.D.T. — 6070

LIST OF DRAWINGS

1. GENERAL PLAN — X46904
2. GENERAL PLAN — X46905
3. SUBSURFACE EXPLORATION — X46906
4. SOUTH ABUTMENT — X46907
5. SOUTH ABUTMENT — X46908
6. SOUTH ABUTMENT — X46909
7. NORTH ABUTMENT — X46910
8. NORTH ABUTMENT — X46911
9. NORTH ABUTMENT — X46912
10. PIER — X46913
11. SUPERSTRUCTURE — X46914
12. SUPERSTRUCTURE — X46915
13. SUPERSTRUCTURE — X46916
14. SUPERSTRUCTURE — X46917
15. BEARING DETAILS — X46918
16. NEOPRENE SEAL EXPANSION JOINT — X46919
17. SLOPED FACE PARAPET "A" — X46920
18. TUBULAR RAILING TYPE 'J' — X46921

DESIGN DATA

LIVE LOAD: HS20

ALLOWABLE DESIGN STRESSES:

CONCRETE MASONRY, GRADE "AA", SLAB — 1,200 P.S.I.
ALL OTHER — 1,400 P.S.I.

BAR REINFORCING — 20,000 P.S.I.
n = 10

STRUCTURAL CARBON STEEL — 20,000 P.S.I.

STRUCTURAL LOW ALLOY STEEL:
TO AND INCLUDING 3/4" THICK — 27,000 P.S.I.
3/4" TO AND INCLUDING 1½" THICK — 25,000 P.S.I.

FOUNDATION DATA

PIER TO BE SUPPORTED ON HP 10 INCH X 42 POUND STEEL PILES EST. 35'-0" LG. & DRIVEN TO A MIN. BRG. VALUE OF 55 TONS/PILE.

ABUTMENTS TO BE SUPPORTED ON HP 10 INCH X 42 POUND STEEL PILES EST. 45'-0" LG. & DRIVEN TO A MIN. BRG. VALUE OF 55 TONS/PILE.

Form E-B-12-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	22	225
FEDERAL PROJECT DESIGNATION: DPF 08-4 (41)		

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

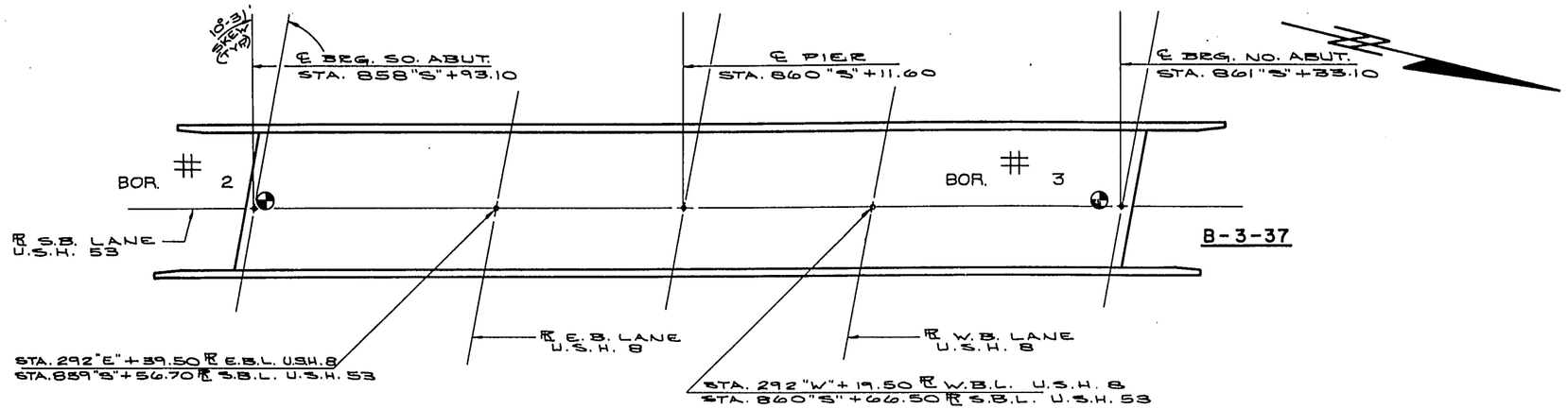
STRUCTURE B-3-37

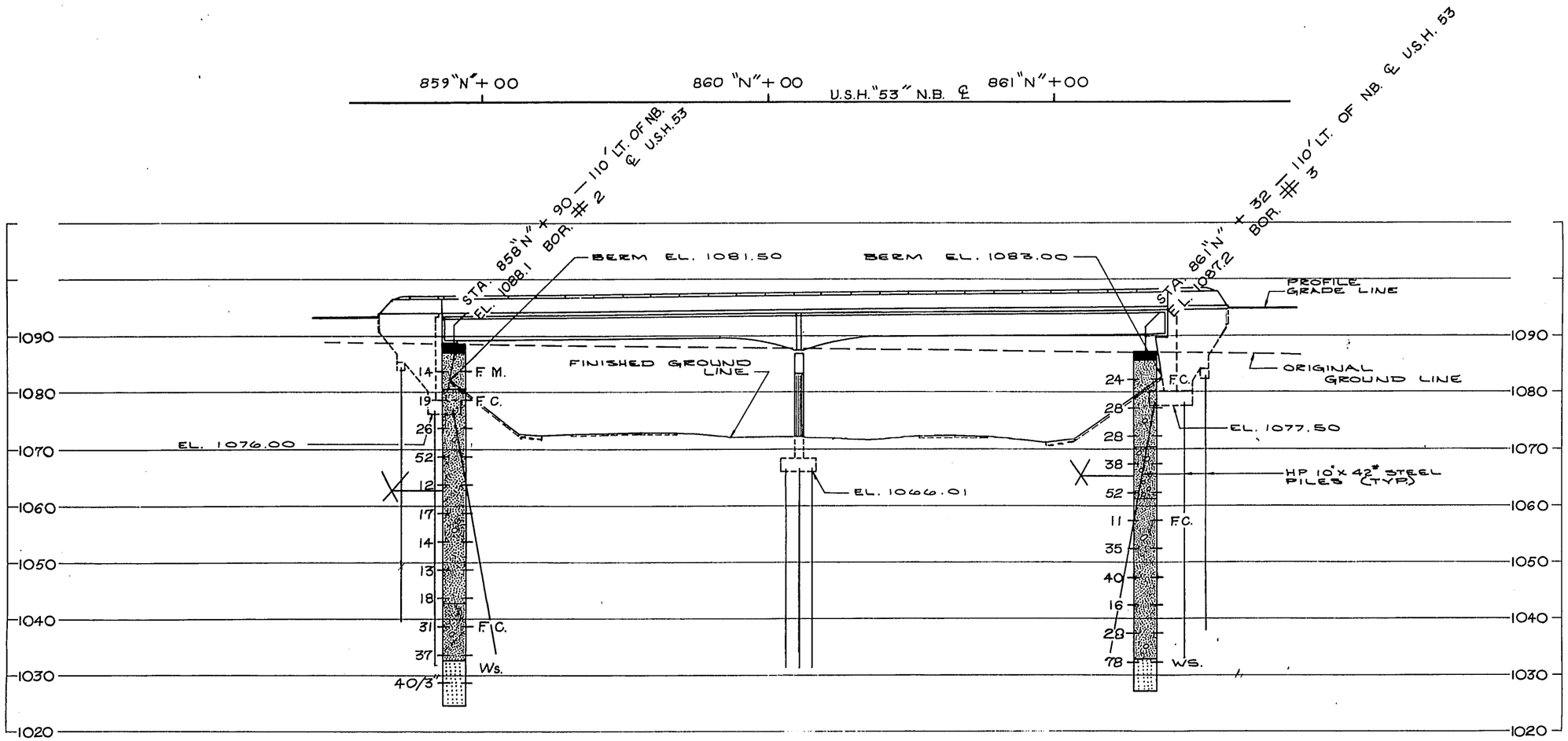
Const. Spec. 1969 | Drawn By T L A | Plans Checked R L P

GENERAL PLAN

SHEET 2 OF 18

X46905





PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	23	225
FEDERAL PROJECT DESIGNATION: DPF08-4(41)		

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

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

Const. Spec. 1969	Drawn By T L A	Plans Checked R L P

SUBSURFACE EXPLORATION

SHEET 3 OF 18

X46906

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1197-6-72	24	225
FEDERAL PROJECT DESIGNATION DPF08-4(41)		

* ELEVS ARE GIVEN @ ℄ OF BRG.

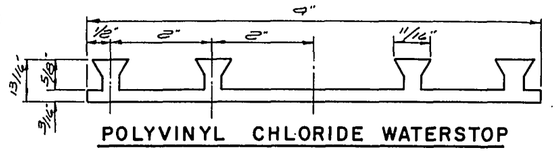
** DIMENSIONS ARE GIVEN @ F.F. ABUT. BACKWALL.

✛ POUR CONC. ABOVE THIS JOINT AFTER SUPERS. CONC. IS IN PLACE. STRIKE OFF LEVEL & LEAVE ROUGH.

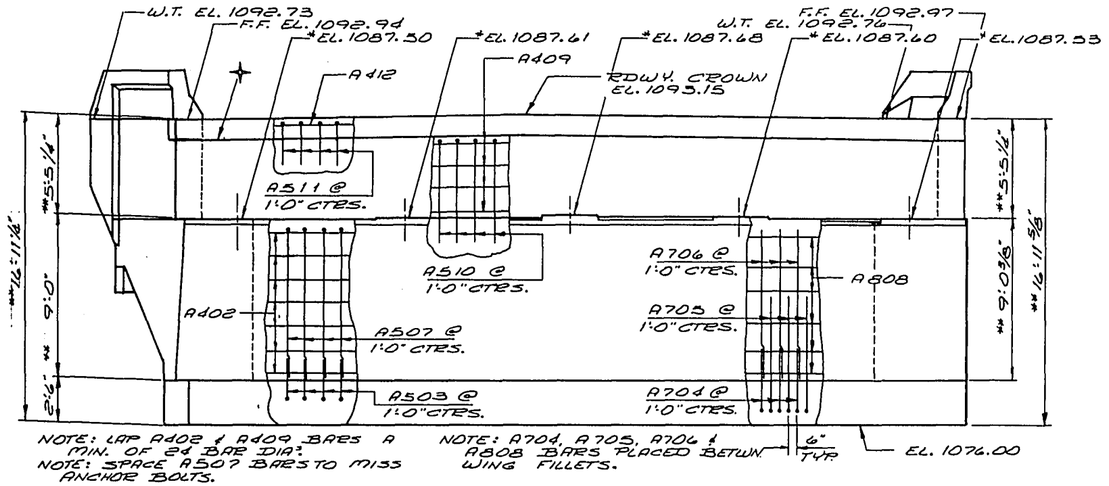
◒ OPTIONAL CONST. JOINT - FORMED BY SURFACED, BEVELED 2"x 6" KEYWAY.

◒ CONST. JOINT - FORMED BY SURFACED, BEVELED 2"x 6" KEYWAY.

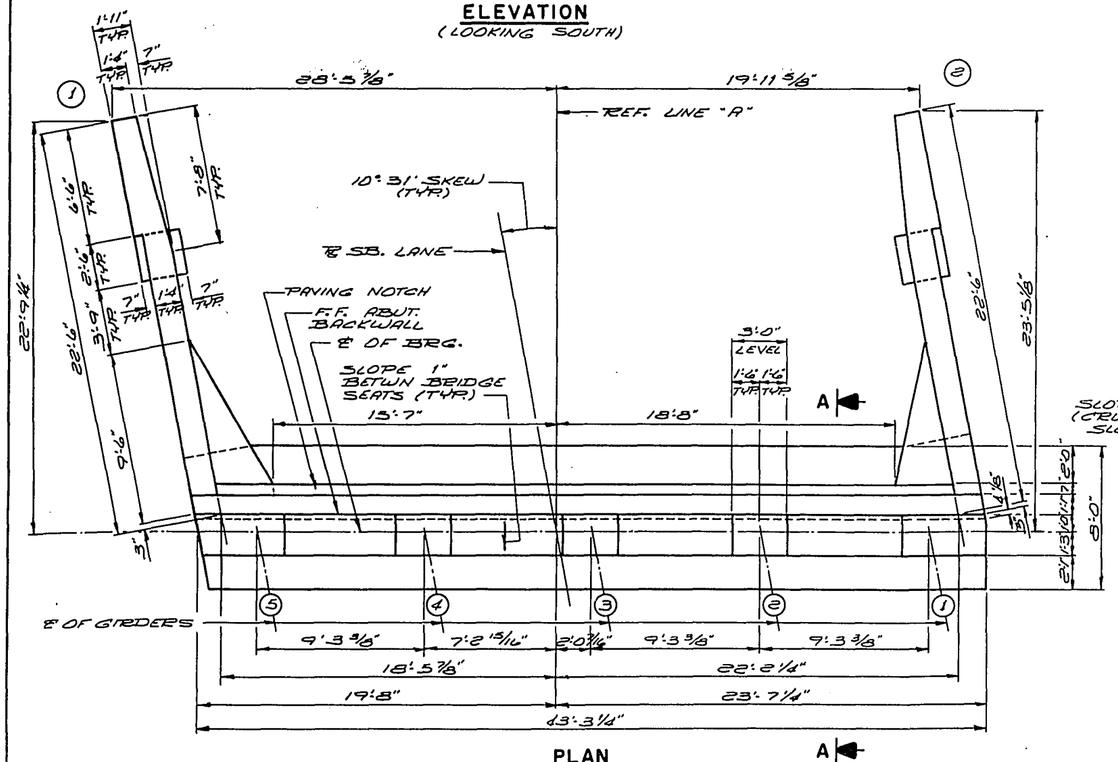
◐ POLYVINYL CHLORIDE WATERSTOP - TO EXTEND BETWEEN WING FILLETS. (TO BE FLUSH WITH FACE OF CONC.) (IF OPT. CONST. JT. IS USED)



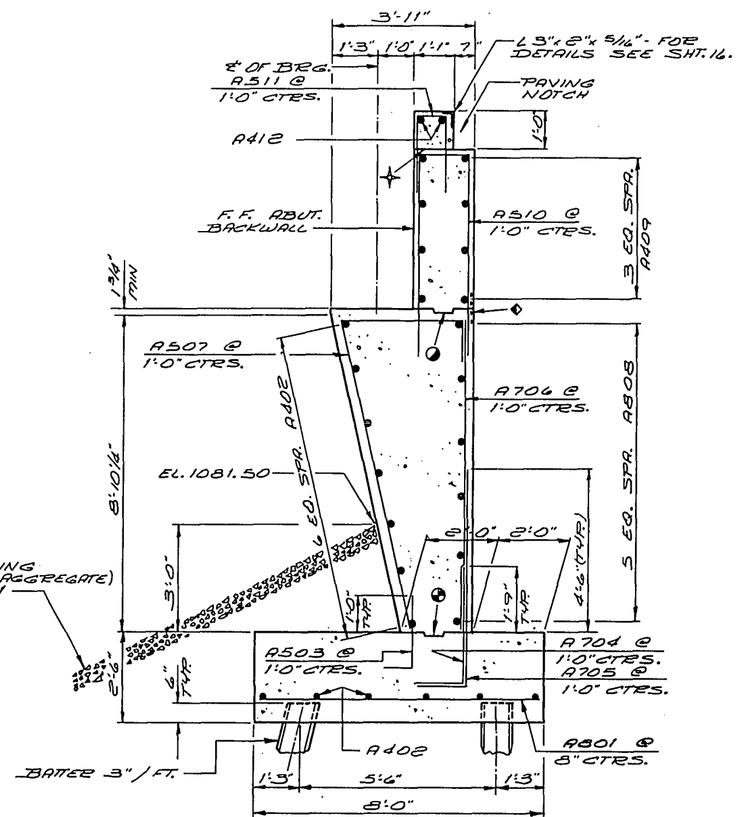
POLYVINYL CHLORIDE WATERSTOP



ELEVATION
(LOOKING SOUTH)



PLAN



NOTE: PILES - HP 10x42 STEEL "H" PILES. EST. 45'-0" LG. ⏊ DRIVEN TO A MIN. BRG. VALUE OF 55T/PILE.

SECTION A-A

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

Const. Spec. 1969	Drawn By BUDD	Plans Checked RLP

SOUTH ABUTMENT

SHEET 4 OF 18

X 46907

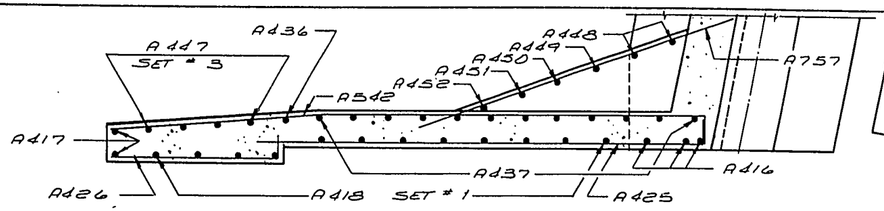
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	25	225
FEDERAL PROJECT DESIGNATION: DPF 08-4(41)		

⌖ POUR CONT. ABOVE THIS JOINT AFTER SUPER CONC. IS IN PLACE. STRIKE OFF LEVEL & LEAVE ROUGH.

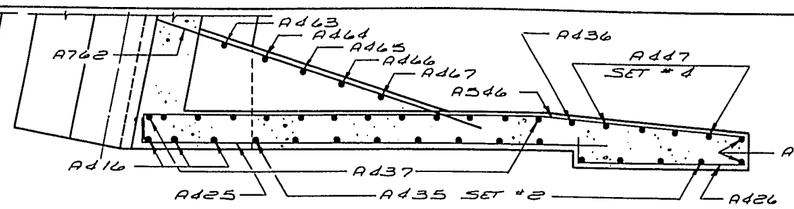
◕ OPTIONAL CONST. JOINT FORMED BY SURFACED, BEVELED 2"x 6" KEYWAY.

◕ CONST. JOINT FORMED BY SURFACED, BEVELED 2"x 6" KEYWAY.

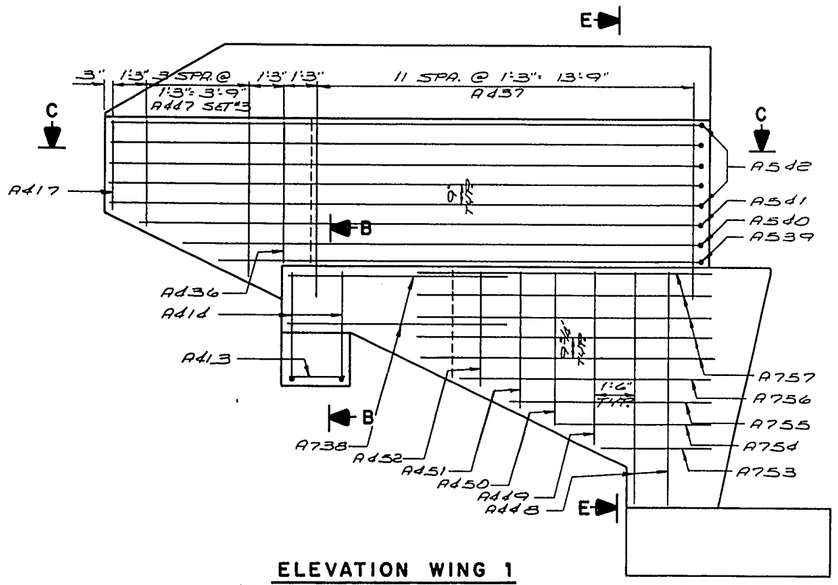
▲ FOR RAIL PARAPET DETAILS SEE SHT. 17.



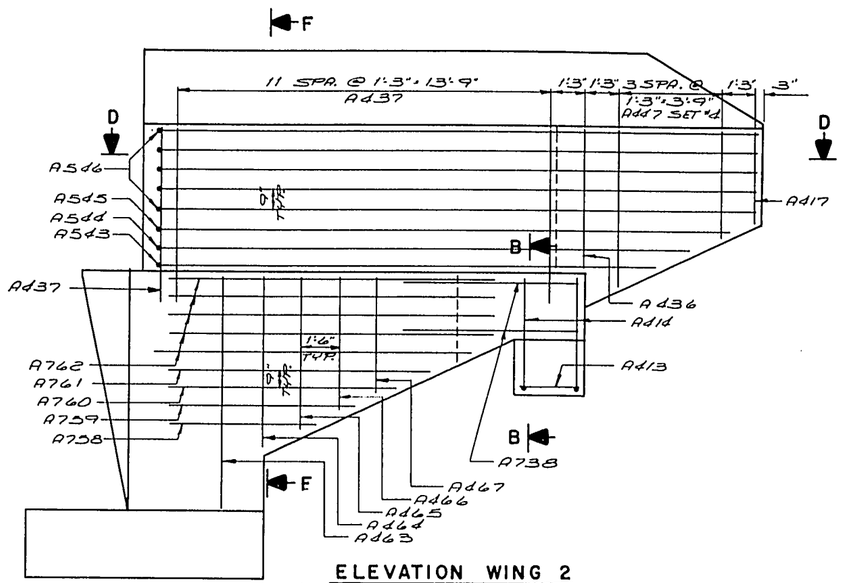
SECTION C-C



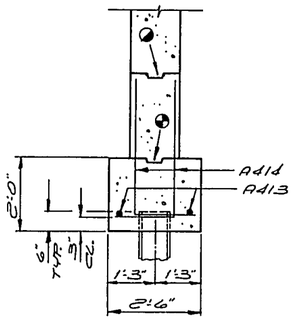
SECTION D-D



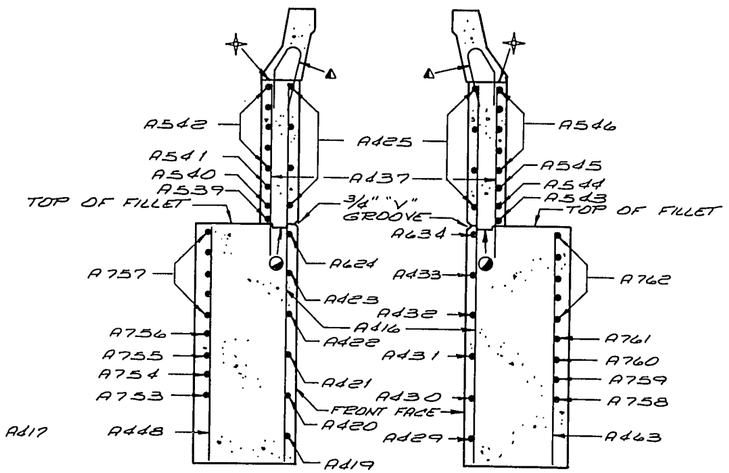
ELEVATION WING 1
(SHOWING B.F. BAR STEEL)



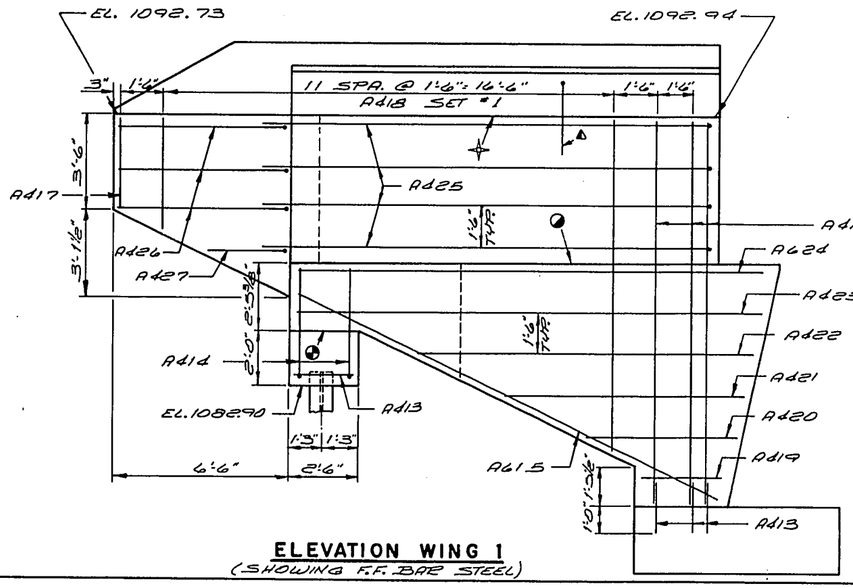
ELEVATION WING 2
(SHOWING B.F. BAR STEEL)



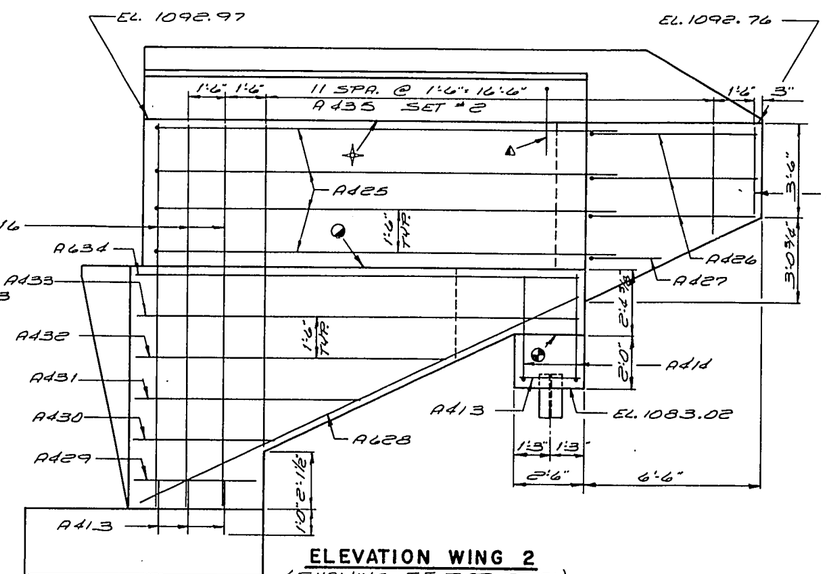
SECTION B-B



SECTION E-E SECTION F-F



ELEVATION WING 1
(SHOWING F.F. BAR STEEL)



ELEVATION WING 2
(SHOWING F.F. BAR STEEL)

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

Const. Spec. 1969	Drawn By BUDD	Plans Checked RLP

SOUTH ABUTMENT

SHEET 5 OF 18

X 46908

Form L B 12 69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	26	225
FEDERAL PROJECT DESIGNATION: DPF08-4(41)		

BILL OF BARS

BENDING DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A 3 DIGIT MARK SIGNIFIES THE BAR SIZE.
FOR RAIL PARAPET BARS SEE SHT. 17.

MARK	No. REQ'D.	LENGTH	BENT	CUT DIA.	LOCATION	
A801	65	7-6			FOOTING	
A802	26	22-3			" & BODY	
A803	43	3-0	X		" DOWELS	VERT.
A704	36	4-6	X		" "	"
A705	36	7-3	X		" "	"
A706	36	8-10			BODY B.F.	"
A507	43	14-0	X		" F.F.	"
A808	6	38-0			" B.F.	HORIZ.
A409	5/6	22-0			BACKWALL (ADDED TO COMPLY WITH DESIGN SHEET 4)	"
A510	41	12-1	X		"	VERT.
A511	41	4-8	X		PAVING NOTCH	"
A412	10	8-0			" "	HORIZ.
A413	10	2-0			WINGS 1 & 2 FTG'S	
A414	8	5-4	X		" 1 & 2	VERT.
A415	1	17-3			" 1 BASE	
A416	6	14-3			" 1 & 2 F.F.	"
A417	4	3-2			" 1 & 2 F.F. & B.F.	"
A418	6	15-9		X	" 1 F.F. SET #1	"
A419	1	3-2			" 1 F.F.	HORIZ.
A420	1	5-9			" 1 F.F.	"
A421	1	9-1			" 1 F.F.	"
A422	1	12-7			" 1 F.F.	"
A423	1	17-4			" 1 F.F.	"
A424	1	17-4			" 1 F.F.	"
A425	8	17-9	X		" 1 & 2 F.F.	"
A426	6	7-0	X		" 1 & 2 F.F.	"
A427	2	4-2	X		" 1 & 2 F.F.	"
A428	1	17-9			" 2 F.F.	"
A429	1	4-6			" 2 F.F.	"
A430	1	5-7			" 2 F.F.	"
A431	1	8-8			" 2 F.F.	"
A432	1	11-9			" 2 F.F.	"
A433	1	14-3			" 2 F.F.	"
A434	1	14-3			" 2 F.F.	"
A435	6	15-9		X	" 2 F.F. SET #2	VERT.
A436	2	5-2			" 1 & 2 B.F.	"

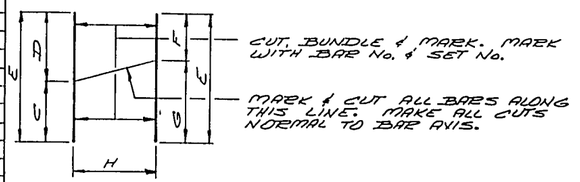
(CONTINUED)

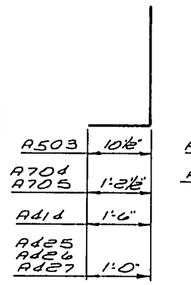
A437	25	6-4			WINGS 1 & 2 B.F.	VERT.
A738	4	8-0			" 1 & 2 B.F.	HORIZ.
A539	1	18-9	X		" 1 B.F.	"
A540	1	20-0	X		" 1 B.F.	"
A541	1	21-6	X		" 1 B.F.	"
A542	5	22-9	X		" 1 B.F.	"
A543	1	18-10	X		" 2 B.F.	"
A544	1	20-0	X		" 2 B.F.	"
A545	1	21-8	X		" 2 B.F.	"
A546	5	22-10	X		" 2 B.F.	"
A447	4	9-4		X	" 1 & 2 B.F. SETS #3 & 4	VERT.
A448	2	8-6			" 1 FILLET	"
A449	1	6-3			" 1 "	"
A450	1	5-7			" 1 "	"
A451	1	4-11			" 1 "	"
A452	1	4-3			" 1 "	"
A753	1	5-0			" 1 "	HORIZ.
A754	1	6-9			" 1 "	"
A755	1	8-6			" 1 "	"
A756	1	10-3			" 1 "	"
A757	5	12-9			" 1 "	"
A758	1	5-3			" 2 "	"
A759	1	6-6			" 2 "	"
A760	1	8-2			" 2 "	"
A761	1	9-8			" 2 "	"
A762	5	11-7			" 2 "	"
A463	1	8-9			" 2 "	VERT.
A464	1	6-9			" 2 "	"
A465	1	6-0			" 2 "	"
A466	1	5-3			" 2 "	"
A467	1	4-6			" 2 "	"

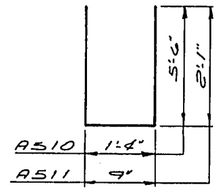
CUTTING DIAGRAM

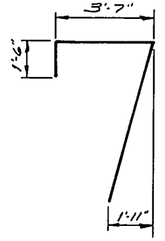
"H" IS NUMBER OF BARS REQ'D. BEFORE CUTTING.

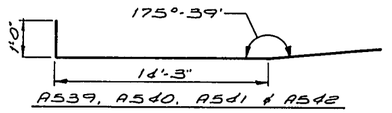
MARK	SET No.	C	D	E	F	G	H	SETS REQ'D.
A418	SET 1	8-3	7-6	15-9	3-10	11-11	6	1 SET 1
A435	SET 2	8-3	7-6	15-9	3-10	11-11	6	1 SET 2
A447	SET 3		5-7	9-4	3-9		4	1 SET 3
	SET 4	3-9				5-7		1 SET 4



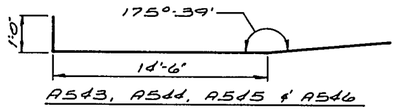




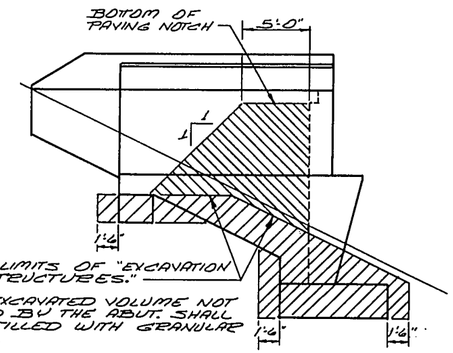




A539, A540, A541 & A542



A543, A544, A545 & A546



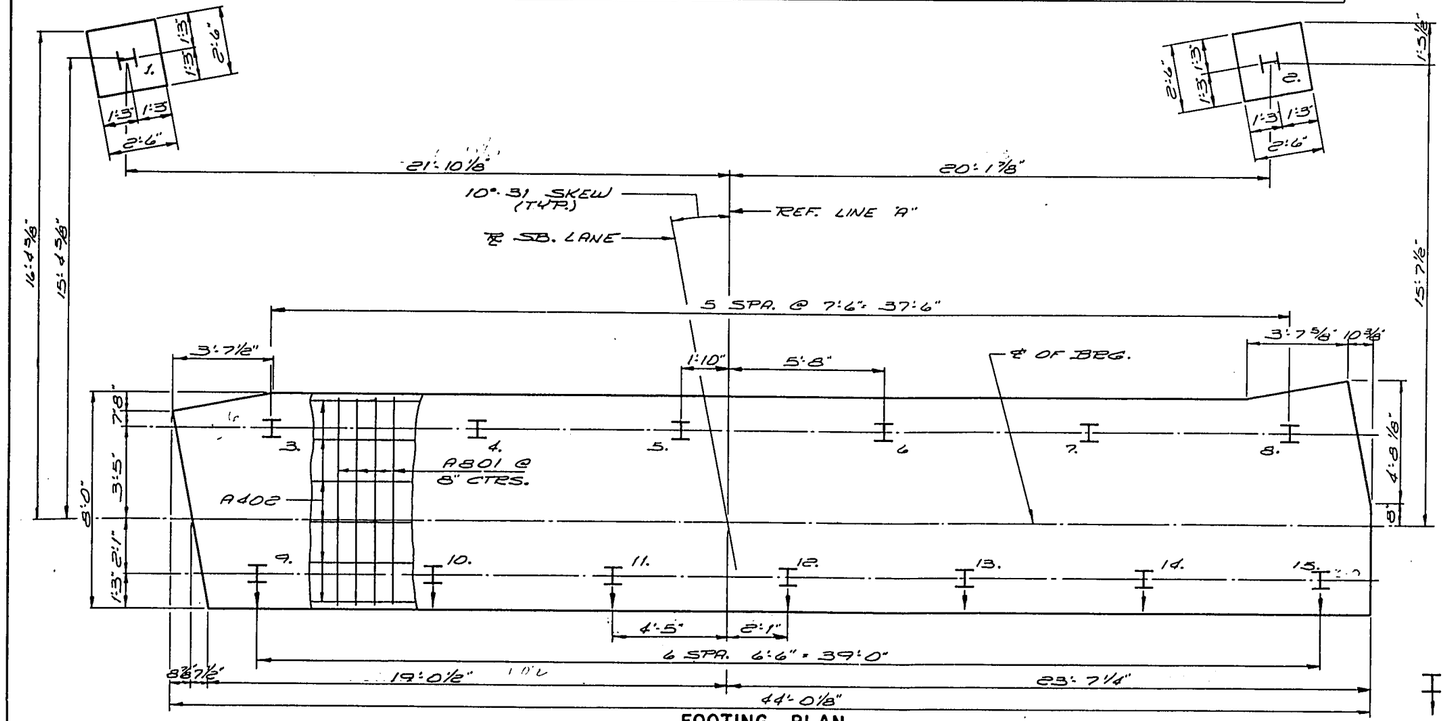
UPPER LIMITS OF "EXCAVATION FOR STRUCTURES."

NOTE: ALL EXCAVATED VOLUME NOT OCCUPIED BY THE ABUT. SHALL BE BACKFILLED WITH GRANULAR BACKFILL.

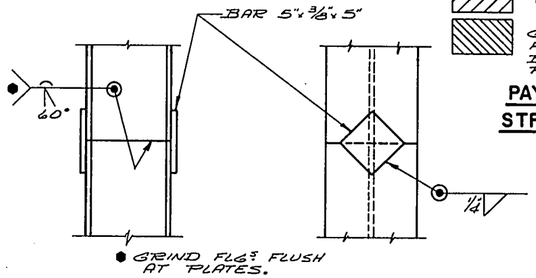
EXCAVATION FOR STRUCTURES & GRANULAR BACKFILL.

GRANULAR BACKFILL BETWEEN INSIDE FACES OF WING WALLS. MATERIAL SHALL BE PLACED BEFORE SUPER CONC. IS POURED.

PAY LIMITS FOR EXCAVATION FOR STRUCTURES & GRANULAR BACKFILL



FOOTING PLAN



PILE SPLICE DETAILS

INDICATES BATTERED PILES. BATTER 3" / FT. IN DIRECTION SHOWN.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

Const. Spec. 1969	Drawn By BUDD	Plans Checked RLP

SOUTH ABUTMENT

SHEET 6 OF 18

X 46909

Form E-B-12-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	2.7	225
FEDERAL PROJECT DESIGNATION: DPF08-4(41)		

* ELEV.S ARE GIVEN @ ℄ OF BRG.

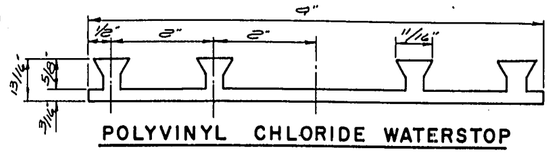
** DIMENSIONS ARE GIVEN @ F.F. ABUT. BACKWALL.

✛ POUR CONC. ABOVE THIS JOINT AFTER SUPER. CONC. IS IN PLACE. STRIKE OFF LEVEL & LEAVE ROUGH.

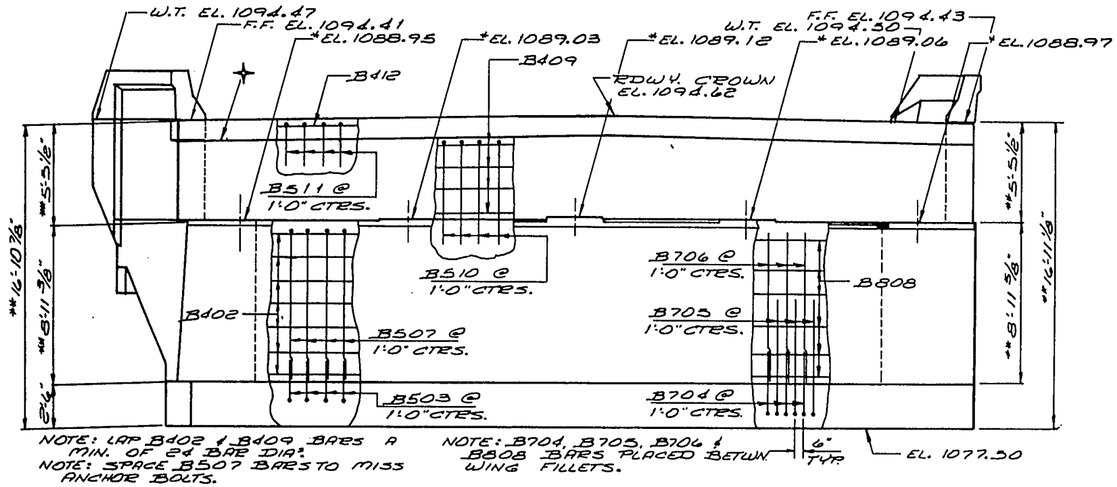
◒ OPTIONAL CONST. JOINT - FORMED BY SURFACED, BEVELED 2"x 6" KEYWAY.

◓ CONST. JOINT - FORMED BY SURFACED, BEVELED 2"x 6" KEYWAY.

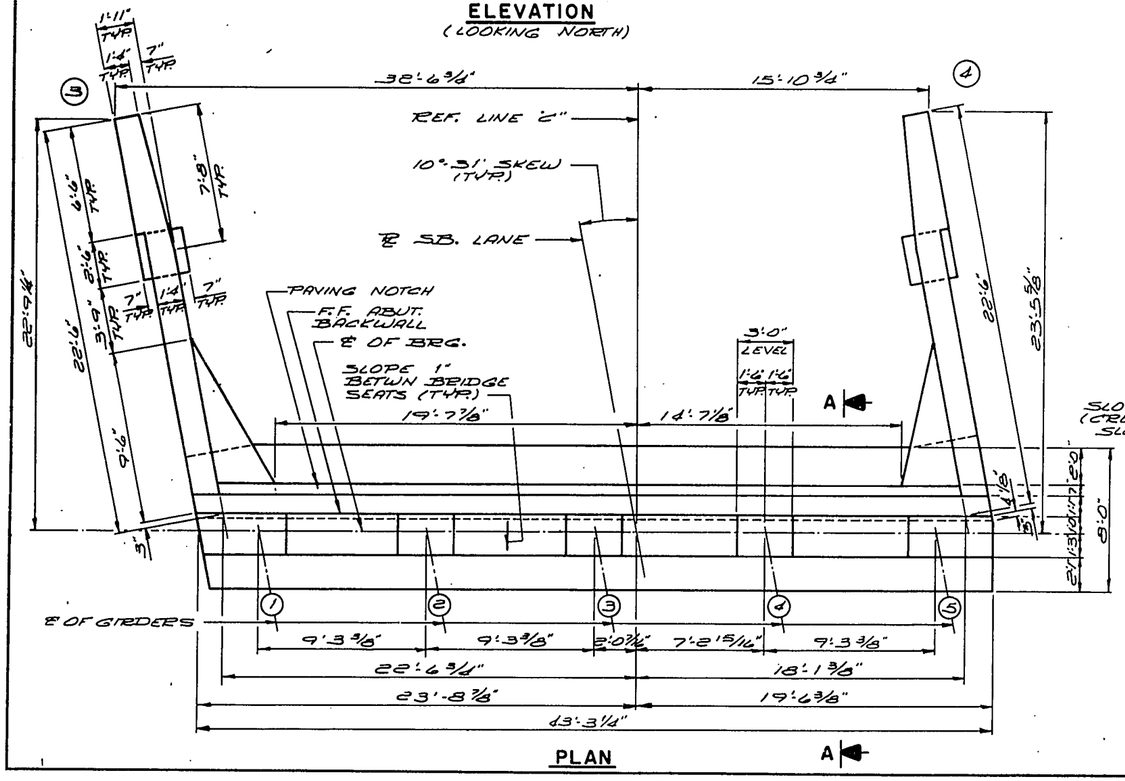
◖ POLYVINYL CHLORIDE WATERSTOP. TO EXTEND BETWEEN WING FILLETS. (TO BE FLUSH WITH FACE OF CONC.) (IF OPT. CONST. JT. IS USED.)



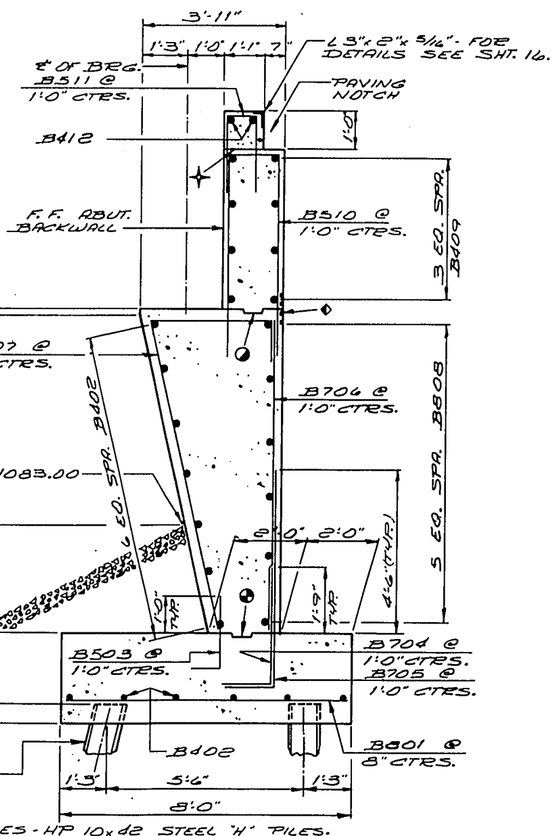
POLYVINYL CHLORIDE WATERSTOP



ELEVATION
(LOOKING NORTH)



PLAN



NOTE: PILES - HP 10x 42 STEEL "H" PILES. EST. 45'-0" LG. ℄ DRIVEN TO A MIN. BRG. VALUE OF 55T / PILE.

SECTION A-A

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

Const. Spec. 1969	Drawn By BUDD	Plans Checked RLP

NORTH ABUTMENT

SHEET 7 OF 18

X46910

Form E-B-12-69

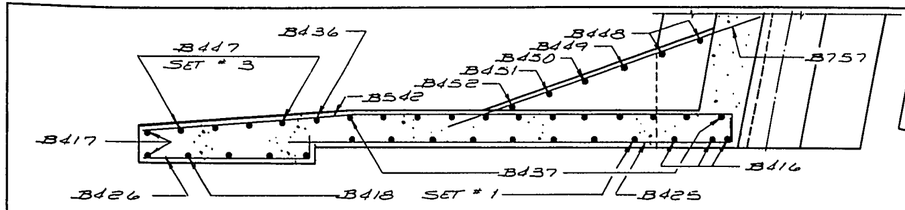
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	28	225
FEDERAL PROJECT DESIGNATION DPF08-4(41)		

✦ POUR CONT. ABOVE THIS JOINT AFTER SUPER CONC. IS IN PLACE. STRIKE OFF LEVEL & LEAVE ROUGH.

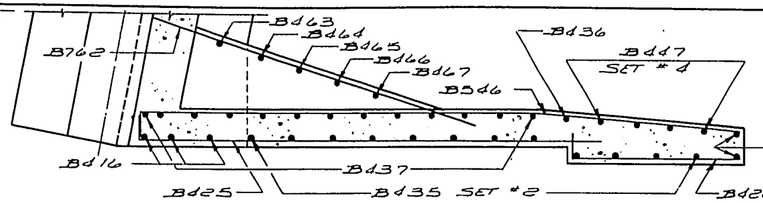
◕ OPTIONAL CONST. JOINT FORMED BY SURFACED, BEVELED 2"x 6" KEYWAY.

◕ CONST. JOINT FORMED BY SURFACED, BEVELED 2"x 6" KEYWAY.

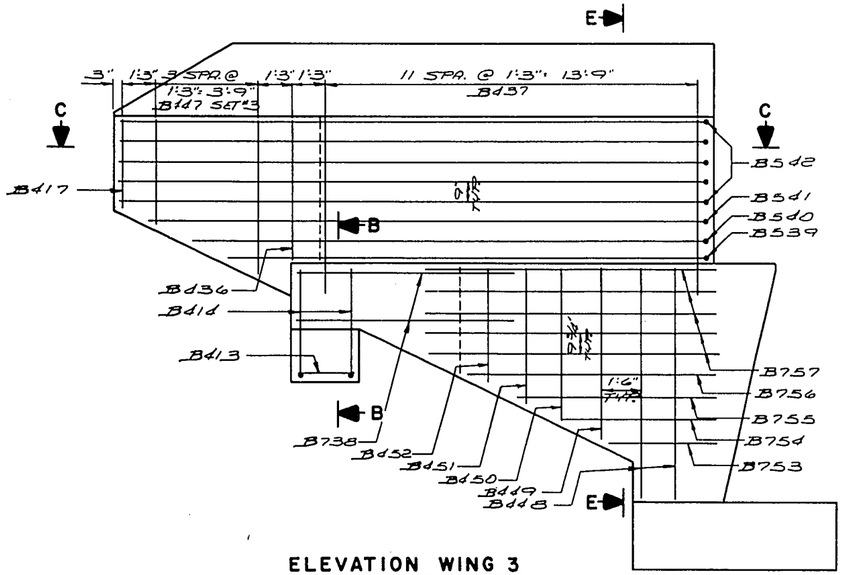
△ FOR RAIL PARAPET DETAILS SEE SHT. 17.



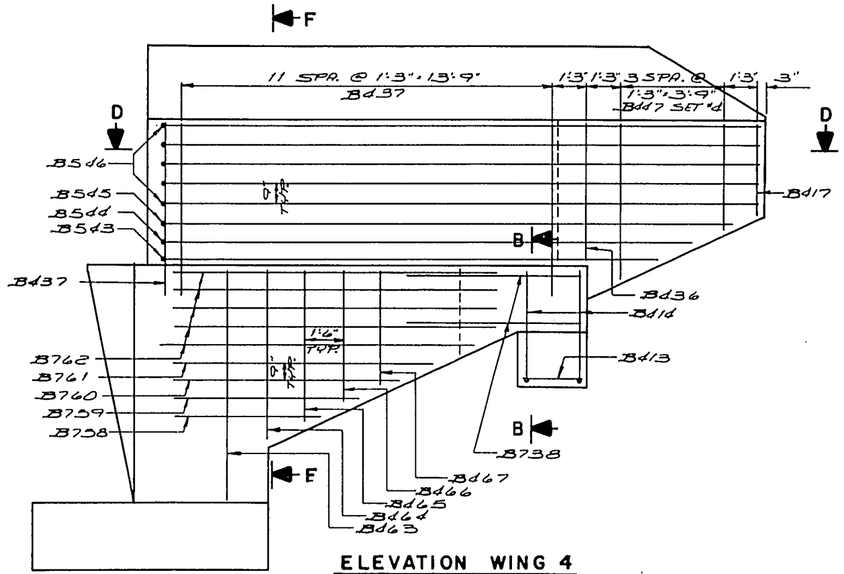
SECTION C-C



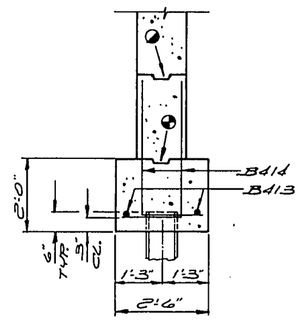
SECTION D-D



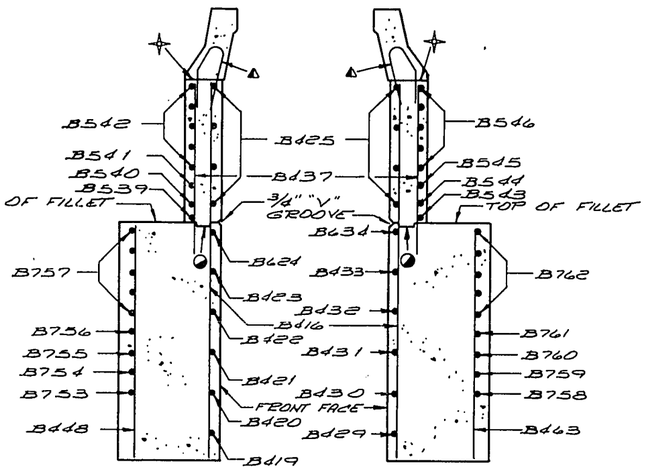
ELEVATION WING 3
(SHOWING B.F. BAR STEEL)



ELEVATION WING 4
(SHOWING B.F. BAR STEEL)

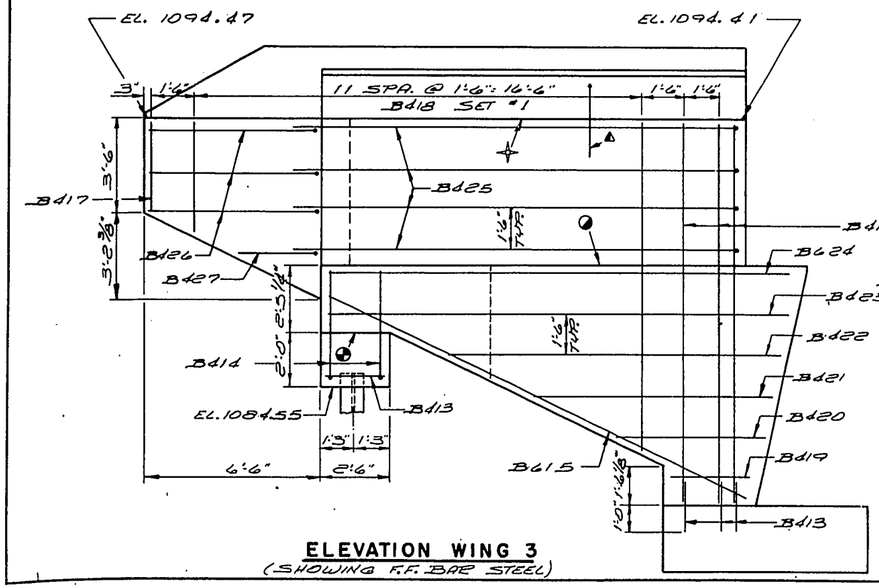


SECTION B-B

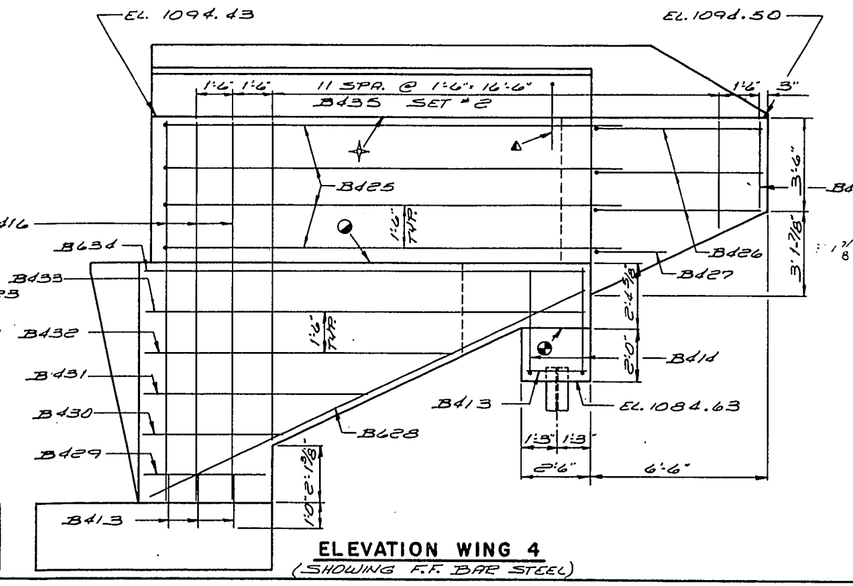


SECTION E-E

SECTION F-F



ELEVATION WING 3
(SHOWING F.F. BAR STEEL)



ELEVATION WING 4
(SHOWING F.F. BAR STEEL)

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

Const. Spec. 1969	Drawn By BUDD	Plans Checked RLP

NORTH ABUTMENT

SHEET 8 OF 18

X46911

FORM C-B-12-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72		
FEDERAL PROJECT DESIGNATION DPF 08-4(41)	29	225

BILL OF BARS

BENDING DIMENSIONS ARE OUT TO OUT OF BAR.
THE FIRST DIGIT OF A 3 DIGIT MARK SIGNIFIES THE BAR SIZE.
FOR RAIL PARAPET BARS SEE SHT. 17.

MARK	No. REQ'D.	LENGTH	BENT	CUT DIA.	LOCATION	
B801	65	7-6			FOOTING	
B802	26	22-3			" # BODY	
B503	43	3-0	X		" DOWELS	VERT.
B704	36	4-6	X		" "	"
B705	36	7-3	X		" "	"
B706	36	8-10			BODY B.F.	"
B507	43	14-0	X		" F.F.	"
B808	6	38-0			" B.F.	HORIZ.
B809	A16	22-0			BACKWALL (ADDED TO COMPLY WITH DESIGN SHEET 7 of 18)	VERT.
B510	41	12-1	X		"	"
B511	41	4-8	X		PAVING NOTCH	"
B812	10	8-0			" "	HORIZ.
B813	10	2-0			WINGS 3 # 4 FTG?	"
B814	8	5-4	X		" 3 # 4	VERT.
B815	1	17-3			" 3 BASE	"
B816	6	14-3			" 3 # 4 F.F.	"
B817	4	3-2			" 3 # 4 F.F. # B.F.	"
B818	6	15-9		X	" 3 F.F. SET #1	"
B419	1	3-2			" 3 F.F.	HORIZ.
B420	1	5-9			" 3 F.F.	"
B421	1	9-1			" 3 F.F.	"
B422	1	12-7			" 3 F.F.	"
B423	1	17-4			" 3 F.F.	"
B624	1	17-4			" 3 F.F.	"
B825	8	17-9	X		" 3 # 4 F.F.	"
B826	6	7-0	X		" 3 # 4 F.F.	"
B827	2	4-2	X		" 3 # 4 F.F.	"
B628	1	17-9			" 4 F.F.	"
B429	1	4-6			" 4 F.F.	"
B430	1	5-7			" 4 F.F.	"
B831	1	8-8			" 4 F.F.	"
B832	1	11-9			" 4 F.F.	"
B833	1	16-3			" 4 F.F.	"
B634	1	14-3			" 4 F.F.	"
B835	6	15-9		X	" 4 F.F. SET #2	VERT.
B836	2	5-2			" 3 # 4 B.F.	"

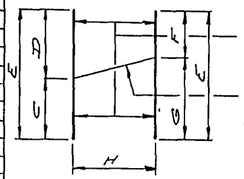
(CONTINUED)

B837	25	6-4			WINGS 3 # 4 B.F.	VERT.
B738	4	8-0			" 3 # 4 B.F.	HORIZ.
B539	1	18-9	X		" 3 B.F.	"
B540	1	20-0	X		" 3 B.F.	"
B541	1	21-6	X		" 3 B.F.	"
B542	5	22-9	X		" 3 B.F.	"
B543	1	18-10	X		" 4 B.F.	"
B544	1	20-0	X		" 4 B.F.	"
B545	1	21-8	X		" 4 B.F.	"
B546	5	22-10	X		" 4 B.F.	"
B447	4	9-4		X	" 3 # 4 B.F. SETS "3 # 4	VERT.
B448	2	8-6			" 3 FILLET	"
B449	1	6-3			" 3 "	"
B450	1	5-7			" 3 "	"
B451	1	4-11			" 3 "	"
B452	1	4-3			" 3 "	"
B753	1	5-0			" 3 "	HORIZ.
B754	1	6-9			" 3 "	"
B755	1	8-6			" 3 "	"
B756	1	10-3			" 3 "	"
B757	5	12-9			" 3 "	"
B758	1	5-3			" 4 "	"
B759	1	6-6			" 4 "	"
B760	1	8-2			" 4 "	"
B761	1	9-8			" 4 "	"
B762	5	11-7			" 4 "	"
B463	1	8-9			" 4 "	VERT.
B464	1	6-9			" 4 "	"
B465	1	6-0			" 4 "	"
B466	1	5-3			" 4 "	"
B467	1	4-6			" 4 "	"

CUTTING DIAGRAM

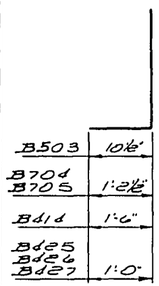
"H" IS NUMBER OF BARS REQ'D. BEFORE CUTTING.

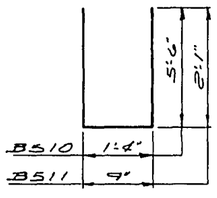
MARK	SET No.	C	D	E	F	G	H	SETS REQ'D.
B418	SET 1	8-3	7-6	15-9	3-10	11-11	6	1 SET 1
B435	SET 2	8-3	7-6	15-9	3-10	11-11	6	1 SET 2
B447	SET 3		5-7	9-4	3-9		4	1 SET 3
	SET 4	3-9				5-7		1 SET 4

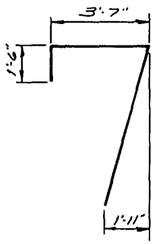


CUT BUNDLE # MARK. MARK WITH BAR No. # SET No.

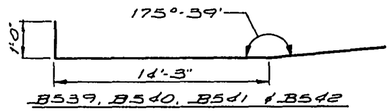
MARK # CUT ALL BARS ALONG THIS LINE. MAKE ALL CUTS NORMAL TO BAR AXIS.



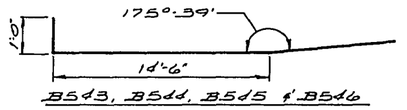




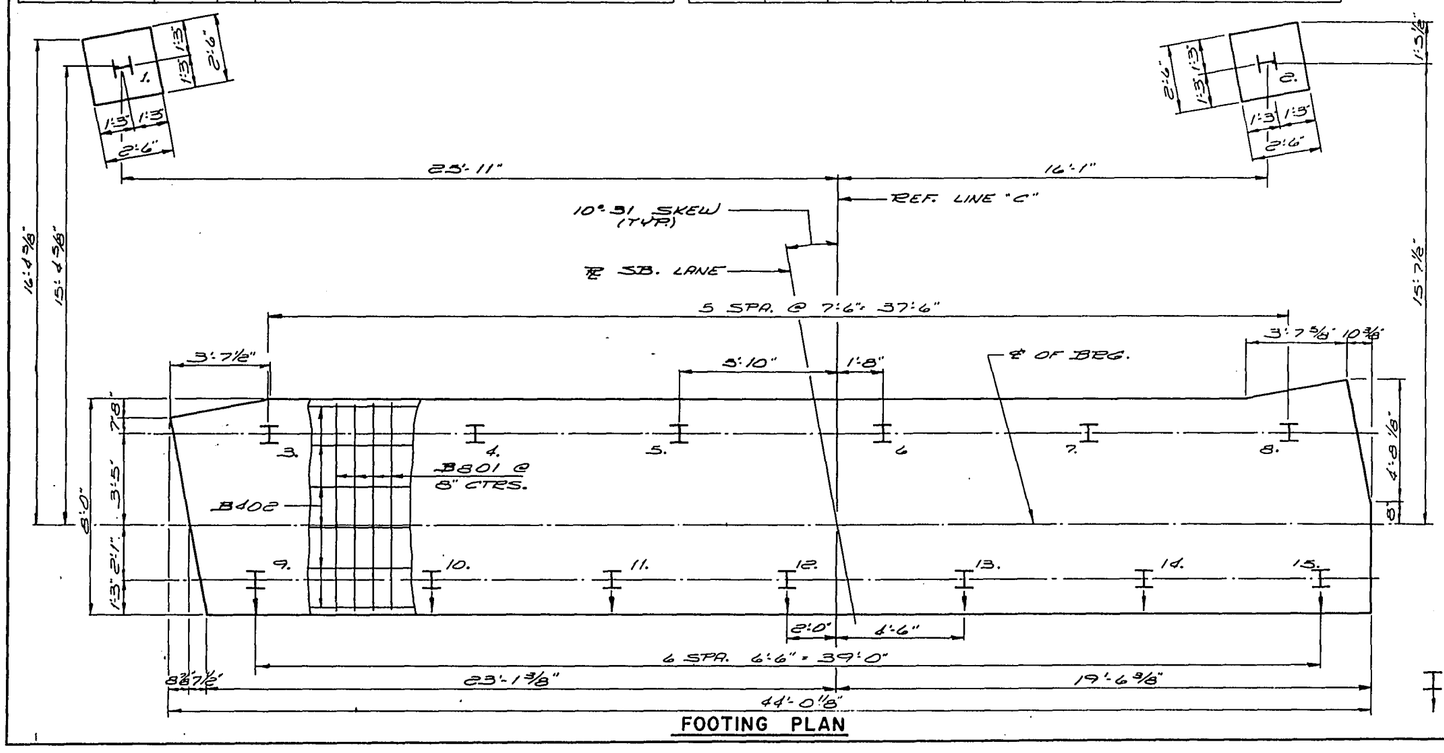
B507



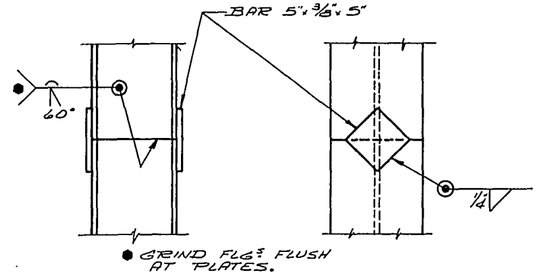
B539, B540, B541 # B542



B543, B544, B545 # B546



FOOTING PLAN



PILE SPLICE DETAILS

INDICATES BATTERED PILES. BATTER 3"/FT. IN DIRECTION SHOWN.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

Const. Spec. 1969	Drawn By BUDD	Plans Checked RLP

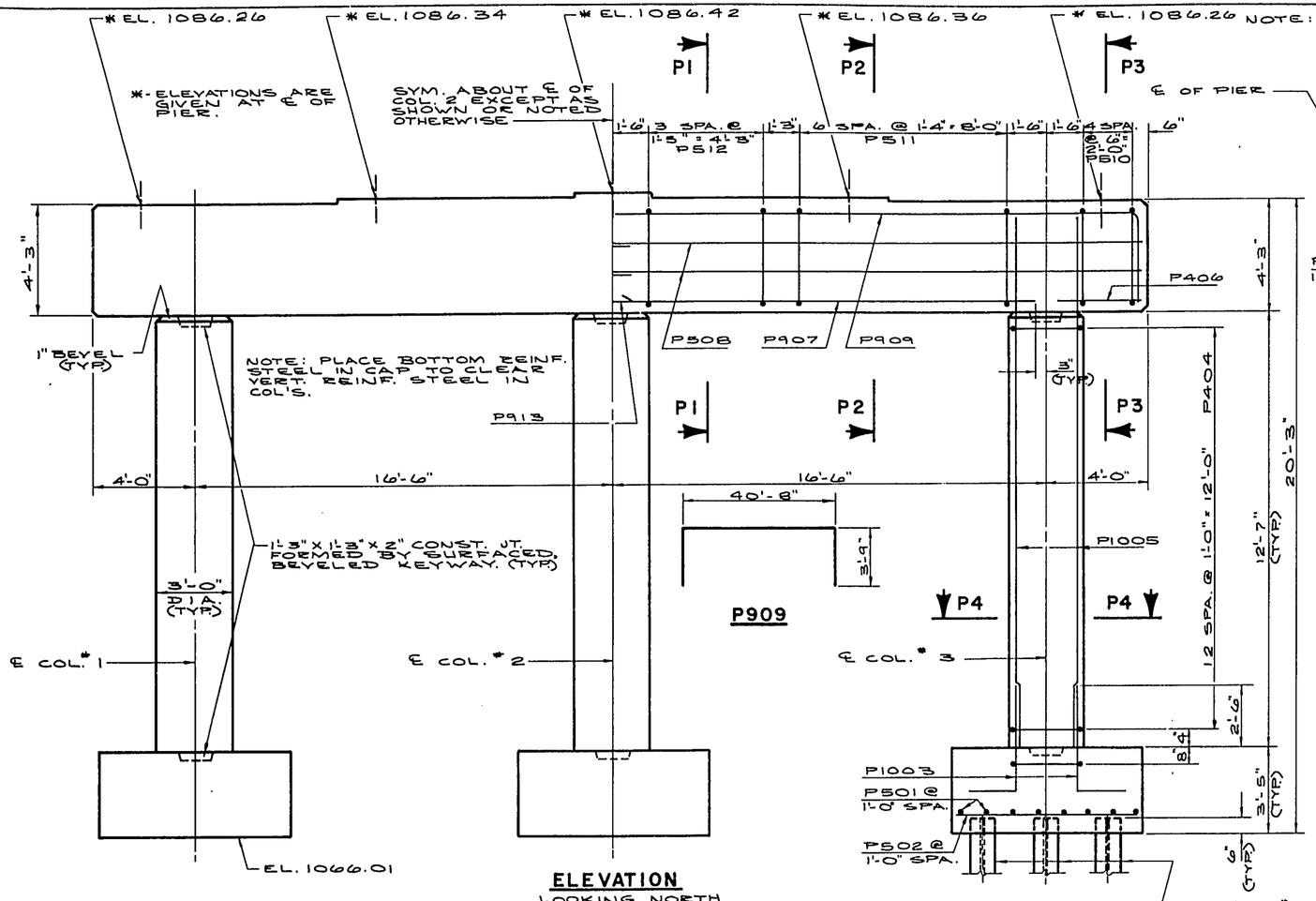
NORTH ABUTMENT

SHEET 9 OF 18

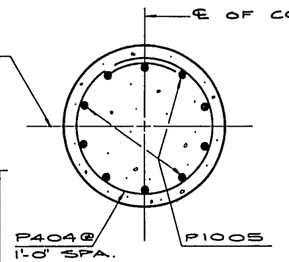
X 46912

Form C B 12 69

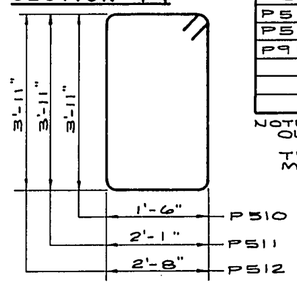
PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1197-6-72	30	225
FEDERAL PROJECT DESIGNATION DPF08-4(41)		



ELEVATION
LOOKING NORTH



SECTION P4

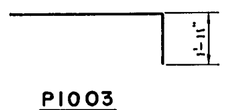


P510, P511 & P512

BILL OF BARS

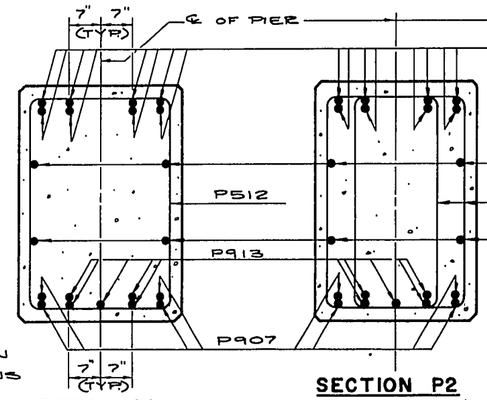
MARK	NO. REQ'D.	LENGTH	BENT	BUNDLED	LOCATION
P501	24	6-0			FOOTINGS
P502	21	7-0			"
P1003	30	5-9	X		" & COL'S - DOWELS
P404	42	9-5	X		" & " - HOOPS
P1005	30	16-3			COLUMNS - VERT
P406	10	3-7			CAP - BOTTOM - ENDS
P907	8	16-0		X	" - "
P508	8	21-0			" - MIDDLE
P909	8	47-8	X	X	" - TOP
P510	30	11-7	X		" - STIRUPS - TRIPLE
P511	28	12-9	X		" - " - DOUBLE
P512	8	13-11	X		" - " - SINGLE
P913	5	32-6		X	" - BOTTOM

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

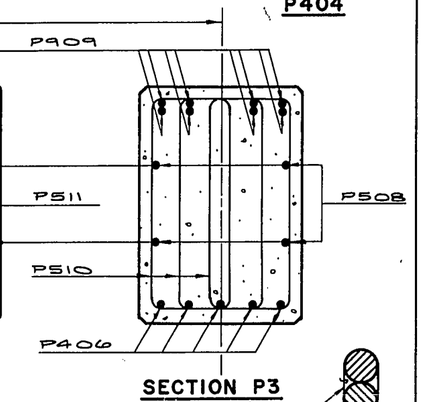


P1003

P404

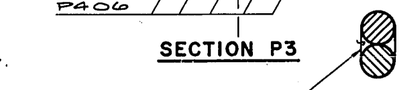


SECTION P1

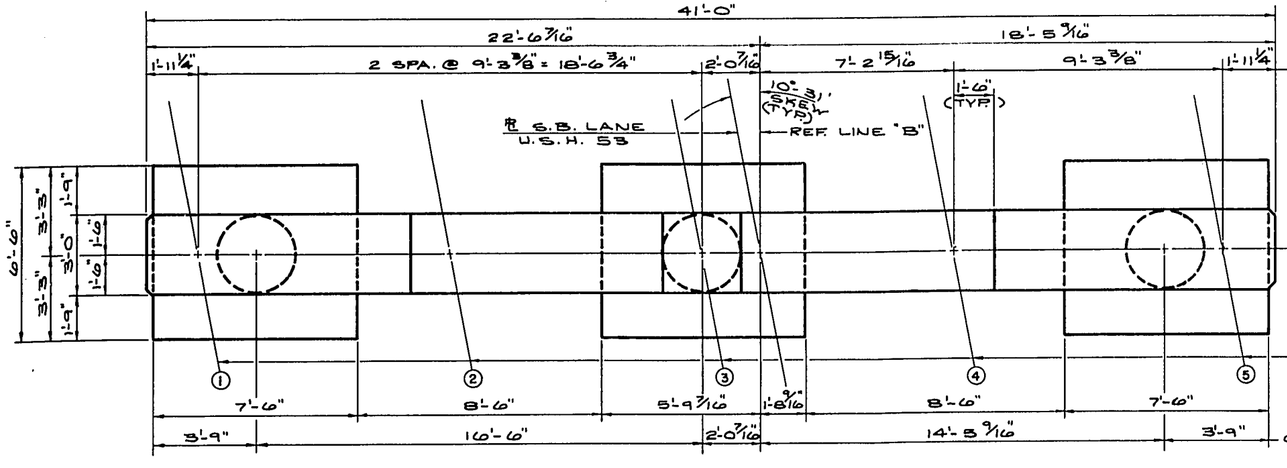


SECTION P2

SECTION P3

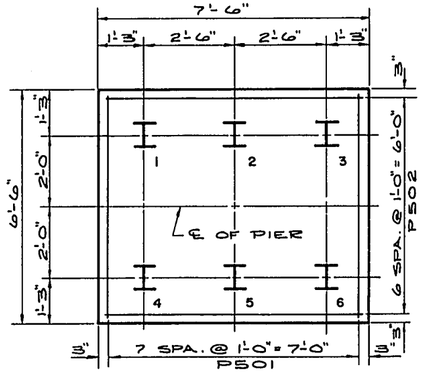


BUNDLING DETAIL



PLAN

NOTE: FOR PILE SPLICE DETAIL SEE SHT. 6.



TYP. FOOTING PLAN

ESTIMATED CONCRETE MASONRY

CAP	19.6 C.Y.
COLUMNS	9.9 C.Y.
FOOTINGS	18.5 C.Y.
TOTAL	48.0 C.Y.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

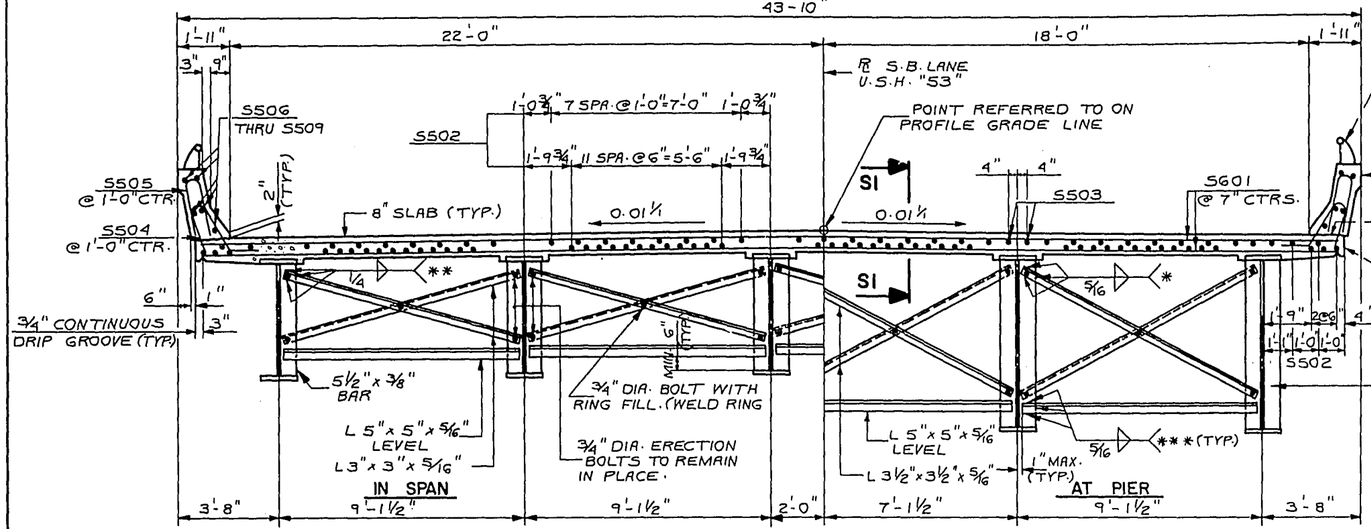
Const. Spec. 1969	Drawn By T.L.A.	Plans Checked RLP

PIER

SHEET 10 OF 18

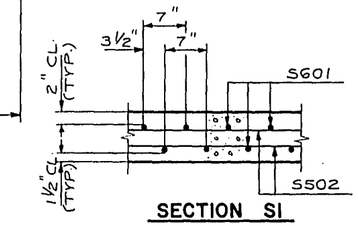
X46913

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	31	225
FEDERAL PROJECT DESIGNATION: DPF 08-4 (41)		

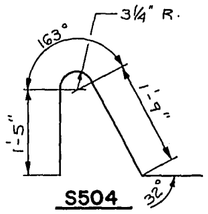


CROSS SECTION THRU ROADWAY
(LOOKING NORTH)

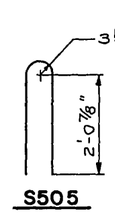
* MIN. WELD LENGTH TO BE 9".
** MIN. WELD LENGTH TO BE 9½".
*** MIN. WELD LENGTH TO BE 10½".



SECTION SI



S504



S505

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF THE MARK SIGNIFIES THE BAR SIZE.

MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
S601	823	43-0		SLAB - TOP AND BOTTOM - TRANS.
S502	630	35-7		" - " " " - LONGIT.
S503	10	15-0		" - TOP - LONGIT. - SYM. ABOUT ℄ OF PIER
S504	484	4-9	X	RAIL PARAPET - VERT.
S505	484	5-0	X	" " - "
S506	20	17-8		" " - LONGIT.
S507	80	22-6		" " - "
S508	10	9-4		" " - "
S509	10	12-11		" " - "

NOTES

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

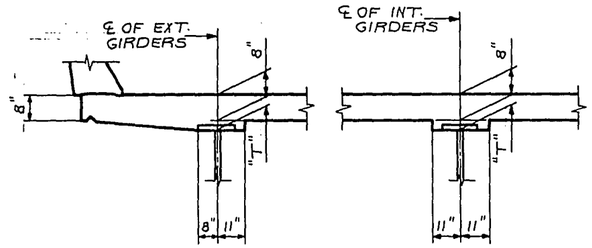
PLACE TRANSVERSE BAR STEEL ON SKEW.

BOTTOM TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS ON OR ADJACENT TO EACH GIRDER AND BY INDIVIDUAL BAR CHAIRS PLACED AT 3'-0" CTRS. AT APPROXIMATELY THE ⅓ POINTS BETWEEN GIRDERS.

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

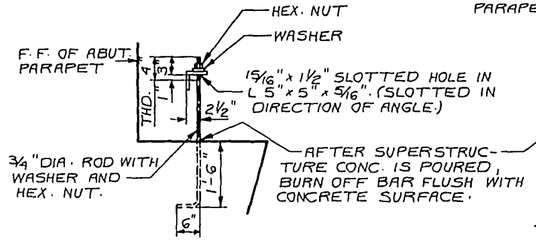
THE 2" VERTICAL FACE OF THE RAIL PARAPET IS TO BE MAINTAINED AT ALL POINTS OF BEARING.

RAIL POST SPACING GIVEN AT ℄ OF RAIL POSTS.



PART SECTION THRU SLAB

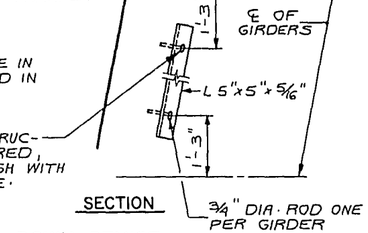
NOTE: TO DETERMINE "T", AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OR TOP OF SPLICE PLATES, WHICHEVER APPLIES, SHALL BE TAKEN AT CENTERLINE OF BEARINGS, CENTERLINE OF FIELD SPLICES AND AT EIGHTH POINTS OF EACH SPAN WHICH ARE MORE THAN SIX FEET FROM A FIELD SPLICE. THESE ELEVATIONS, SUBTRACTED FROM THE GRADE ELEVATIONS, ADJUSTED FOR DEADLOAD DEFLECTION OF THE CONCRETE, MINUS THE SLAB DEPTH, PLUS THE STEEL THICKNESS TO BOTTOM OF TOP FLANGE, EQUALS THE HAUNCH DEPTH "T".

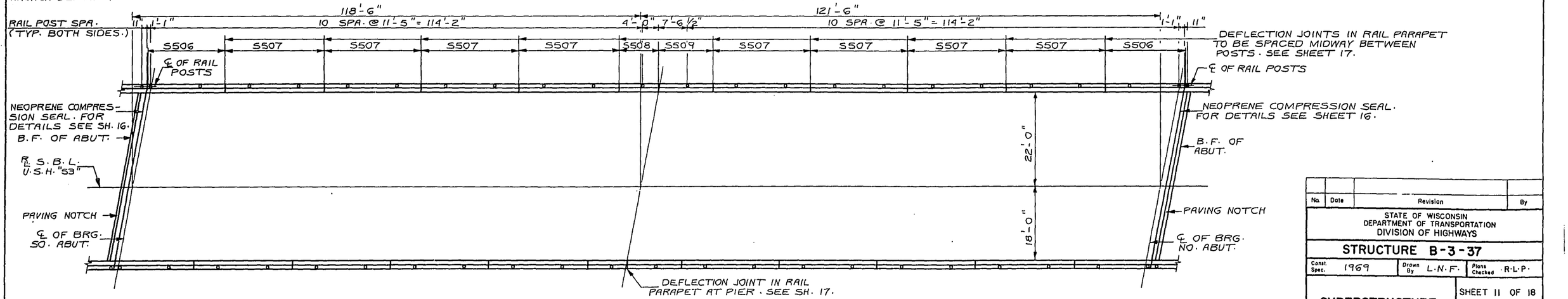


ELEVATION

TEMPORARY HOLD DOWN DEVICE

NOTE: THE TEMPORARY HOLD DOWN DEVICE SHALL BE PLACED AT ABUT. WHERE SLAB POUR TERMINATES. (TO BE PAID FOR AS STRUCTURAL CARBON STEEL.)





PLAN

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

Const. Spec.	Drawn By	Plans Checked
1969	L.N.F.	R.L.P.

SUPERSTRUCTURE

SHEET 11 OF 18

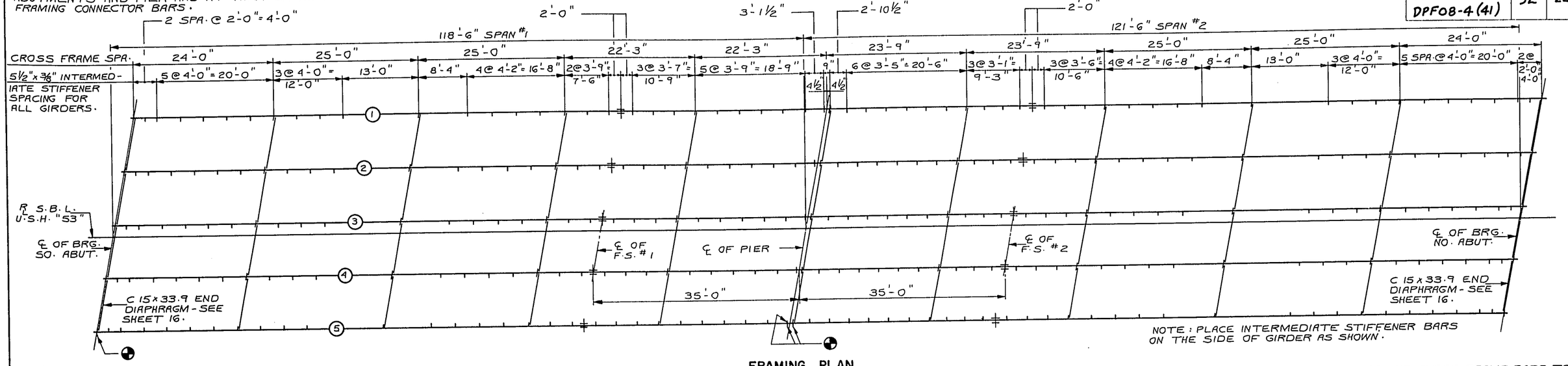
X46914

Form 1 B 12 69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	32	225
FEDERAL PROJECT DESIGNATION DPF08-4(41)		

EXTERIOR BEARING STIFFENERS ON GIRDERS 1 & 5 TO BE PLACED AT RIGHT ANGLES TO ℄ OF GIRDER FOR ABUTMENTS AND PIER AND AT THE PIER WHERE THE INTERIOR BEARING STIFFENERS ARE NOT USED AS CROSS FRAMING CONNECTOR BARS.

NOTE: ALL INTERMEDIATE STIFFENERS TO BE NORMAL TO ℄ OF GIRDER, EXCEPT WHEN USED AS A CROSS FRAMING CONNECTOR BAR AS SHOWN ON THIS SHEET.

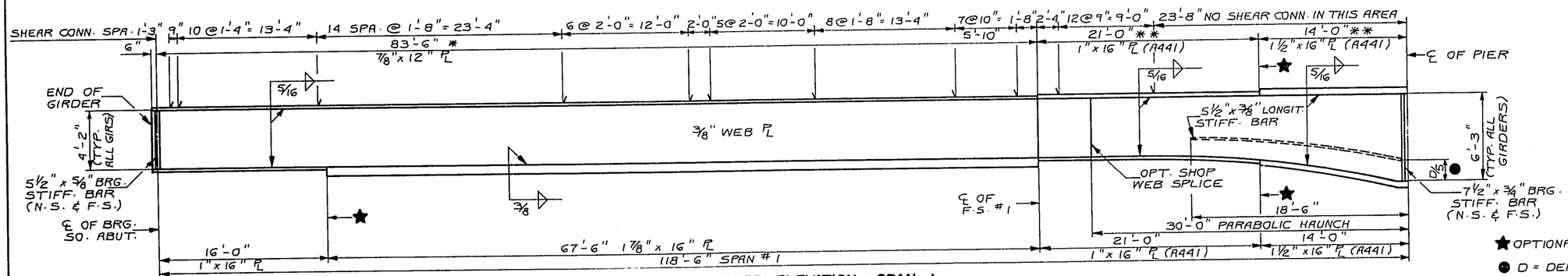


NOTE: PLACE INTERMEDIATE STIFFENER BARS ON THE SIDE OF GIRDER AS SHOWN.

FRAMING PLAN

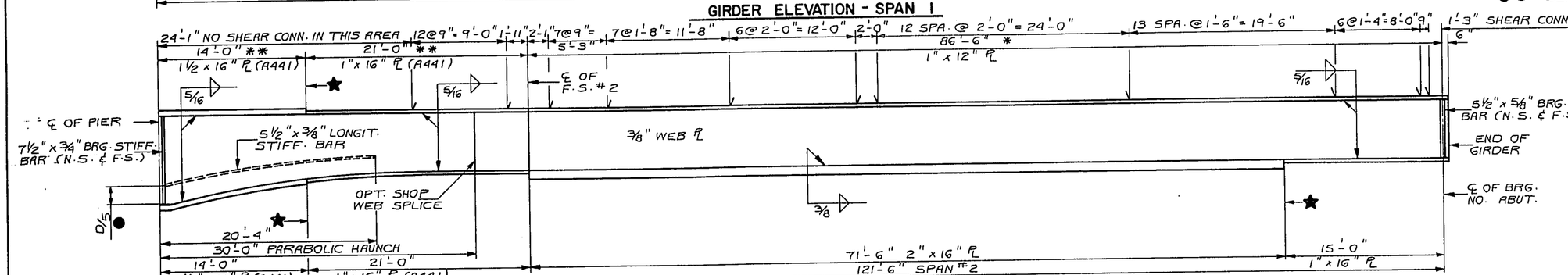
NOTE:
OPTIONAL BUTT WELDED FLANGE SPLICES MAY BE ELIMINATED AND A FLANGE PLATE OF THE LARGER SIZE MAY BE FURNISHED FULL LENGTH, BUT PAY WEIGHT SHALL BE BASED ON THE SECTIONS AS DETAILED.
OPTIONAL WELDED SHOP SPLICES MAY BE USED FOR ALL FLANGE AND WEB PLATES OVER 60'-0" LONG. IF USED, THE LOCATION OF THE SPLICE SHALL BE SHOWN ON THE SHOP DRAWINGS, AND WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

* WELD INTERMEDIATE STIFFENER AND CROSS FRAME BARS TO TOP FLANGE IN THIS AREA.
** WELD INTERMEDIATE STIFFENER AND CROSS FRAME BARS TO BOTTOM FLANGE IN THIS AREA.
NOTE:
FIELD WELDING ON TOP FLANGE FOR CONSTRUCTION PURPOSES IS PROHIBITED IN THE AREA OVER THE PIER BETWEEN THE SHEAR CONNECTORS.
FOR SHEAR CONNECTOR DETAILS SEE SHEET 13.



★ OPTIONAL FLANGE BUTT SPLICE
● D = DEPTH OF WEB

GIRDER ELEVATION - SPAN 1



GIRDER ELEVATION - SPAN 2

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

Const. Spec.	1969	Drawn By	L.N.F.	Plans Checked	R.L.P.

SUPERSTRUCTURE

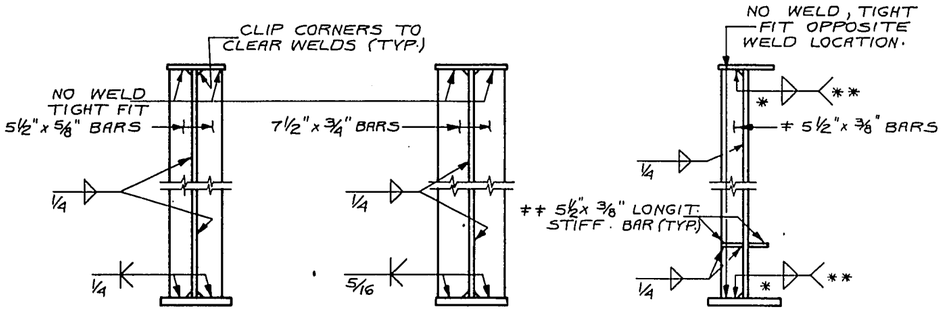
SHEET 12 OF 18

X46915

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	33	225
FEDERAL PROJECT DESIGNATION: DPF08-4(41)		

* ALL INTERMEDIATE STIFF. BARS SHALL BE PLACED ON INSIDE FACE OF EXTERIOR GIRDERS AND ON FACE OF INTERIOR GIRDERS AS SHOWN ON SHEET 12.

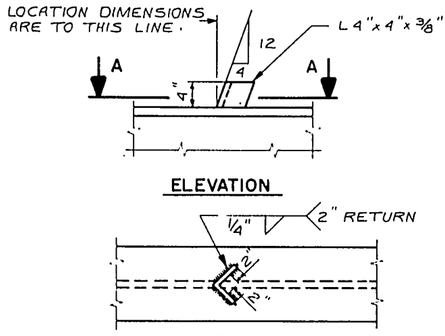
** PLACE LONGIT. STIFF. BARS ON OPPOSITE FACE FROM INTER. STIFF FOR INTERIOR GIRDERS AND THE SAME FACE AS INTER. STIFF. FOR EXTERIOR GIRDERS.



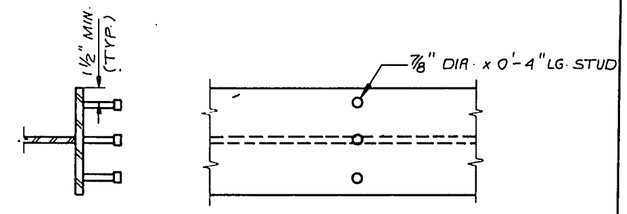
BRG. STIFF. AT ABUT. | BRG. STIFF. AT PIER | INTERMEDIATE STIFFENER & CROSS FRAME CONN.

* 5/16" WELD WHEN WELDING TO A ⅞", 1" AND 1½" FLANGE PLATE AND A ⅜" WELD WHEN WELDING TO A 1⅞" AND 2" FLANGE PLATE.

** SEE GIRDER ELEVATION FOR LOCATION - SEE SHEET 12.

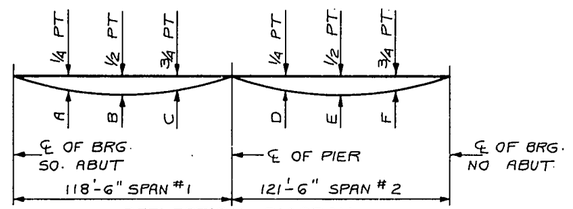


SHEAR CONNECTOR DETAIL



ALTERNATE SHEAR CONNECTOR DETAIL

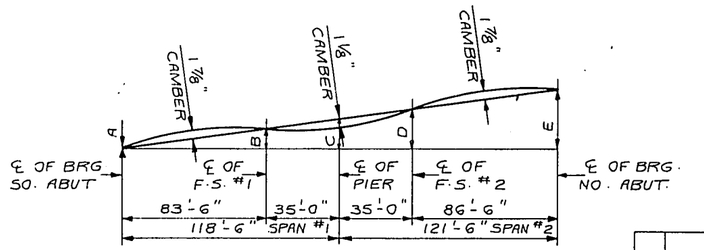
NOTE: THE CONTRACTOR MAY USE THREE SHOP OR FIELD WELDED ⅞" DIA. x 0'-4" LG. STUDS EQUALLY SPACED WITH A MIN. OF 1½" CLEARANCE FROM THE FLANGE EDGE AT ALL PLACES WHERE AN ANGLE SHEAR CONNECTOR IS DETAILED.



DEFLECTION DIAGRAM

(SHOWING DEADLOAD DEFLECTION ONLY)

DEFLECTION	A	B	C	D	E	F
CONC ONLY	1 11/16"	1 7/8"	11/16"	11/16"	1 3/4"	1 9/16"
TOTAL	1 15/16"	2 3/16"	13/16"	13/16"	2"	1 13/16"



BLOCKING DIAGRAM

DIMENSIONS	A	B	C	D	E
GIRDER 1	0.0	.751	.863	1.164	1.432
GIRDER 2	0.0	.755	.868	1.170	1.442
GIRDER 3	0.0	.758	.873	1.177	1.453
GIRDER 4	0.0	.761	.878	1.183	1.463
GIRDER 5	0.0	.765	.883	1.190	1.473

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

Const. Spec. 1969 | Drawn By L.N.F. | Plans Checked R.L.P.

SUPERSTRUCTURE

SHEET 13 OF 18

X46916

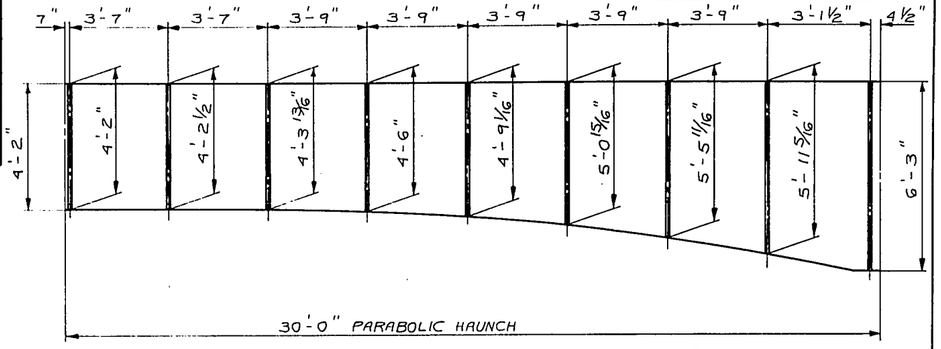
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	34	225
FEDERAL PROJECT DESIGNATION DPF08-4(41)		

ELEVATIONS AT TOP OF DECK (T·D·) AND TOP OF STEEL (T·S·)✖

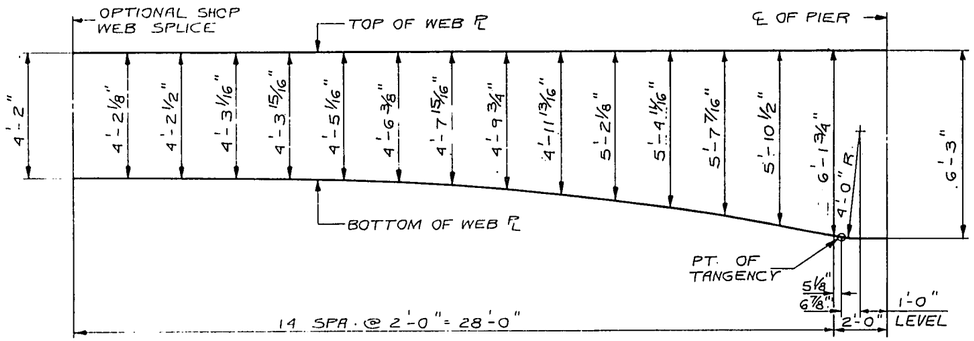
GIRDER		℄ BRG S. ABUT	1/8 PT.	1/4 PT.	3/8 PT.	1/2 PT.	5/8 PT.	℄ OF F.S. #1	7/8 PT.	℄ PIER	1/8 PT.	℄ OF F.S. #2	3/8 PT.	1/2 PT.	5/8 PT.	3/4 PT.	7/8 PT.	℄ BRG N. ABUT.
1	T·D·	1092.99	1093.12	1093.25	1093.37	1093.48	1093.59	1093.65	1093.79	1093.88	1093.97	1094.07	1094.13	1094.20	1094.26	1094.32	1094.38	1094.43
	T·S·	1092.30						1093.08		1093.21		1093.50						1093.74
2	T·D	1093.07	1093.20	1093.33	1093.44	1093.56	1093.67	1093.73	1093.87	1093.96	1094.05	1094.16	1094.21	1094.28	1094.35	1094.41	1094.46	1094.51
	T·S	1092.37						1093.16		1093.29		1093.58						1093.83
3	T·D	1093.15	1093.28	1093.40	1093.52	1093.64	1093.75	1093.81	1093.95	1094.04	1094.13	1094.24	1094.29	1094.37	1094.43	1094.49	1094.55	1094.60
	T·S	1092.45						1093.24		1093.37		1093.67						1093.91
4	T·D	1093.08	1093.21	1093.34	1093.46	1093.57	1093.68	1093.75	1093.89	1093.98	1094.07	1094.18	1094.23	1094.31	1094.37	1094.44	1094.49	1094.54
	T·S·	1092.38						1093.17		1093.31		1093.61						1093.85
5	T·D·	1092.97	1093.10	1093.23	1093.35	1093.47	1093.58	1093.65	1093.78	1093.88	1093.97	1094.08	1094.13	1094.21	1094.28	1094.34	1094.39	1094.45
	T·S·	1092.27						1093.07		1093.21		1093.51						1093.76

✖ THESE ELEVATIONS ARE TO TOP OF STEEL (SPLICE PLATE THICKNESS, IF APPLICABLE, IS ACCOUNTED FOR) AND THEY ARE FOR THE MATERIAL AS ERECTED. THE ELEVATION OF THE TOP OF STEEL AT THE FIELD SPLICE POINTS SHALL BE CHECKED, AND CORRECTED, IF POSSIBLE, AFTER ERECTION AND BEFORE PERMANENTLY WELDING THE CROSS FRAMING IN PLACE.

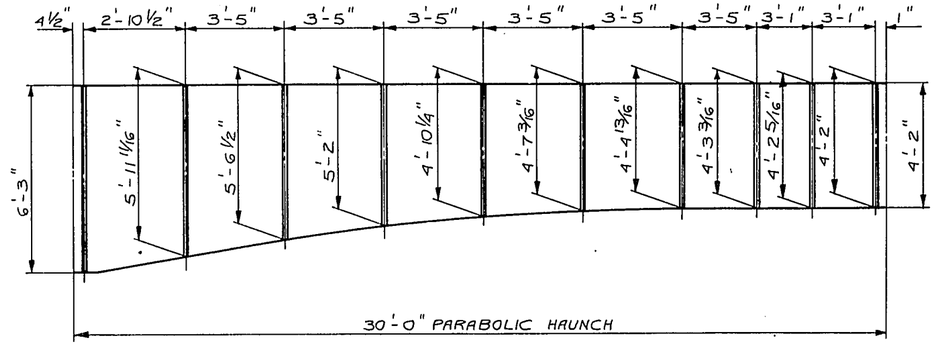
NOTE: TOP OF STEEL ELEVATIONS ARE BASED ON GIRDER SECTIONS AS DETAILED. IF OPTIONAL BUTT SPLICES ARE NOT USED, TOP OF STEEL ELEVATIONS AT FIELD SPLICES WILL HAVE TO BE REVISED.



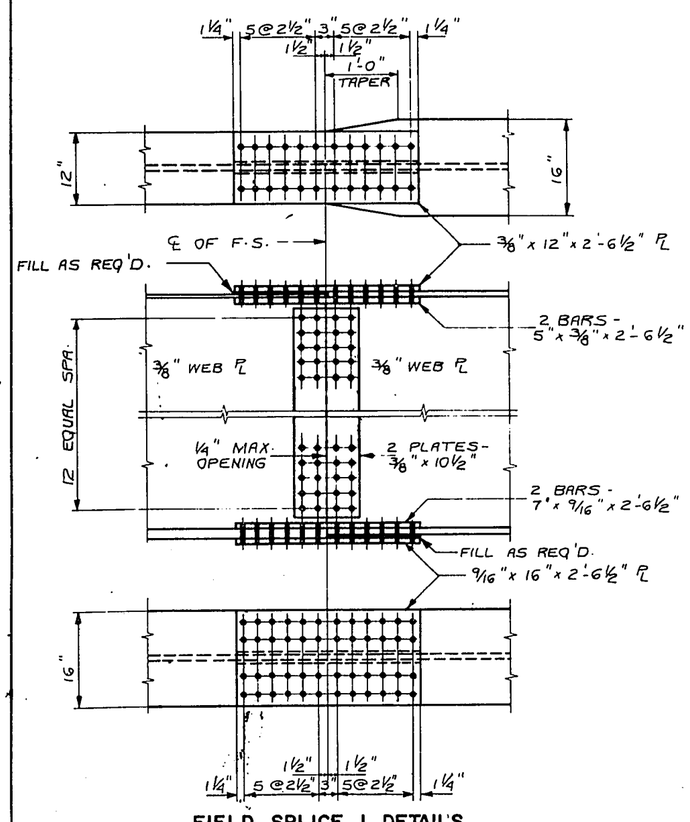
DIMENSIONS OF STIFFENERS IN HAUNCH AREA - SPAN 1



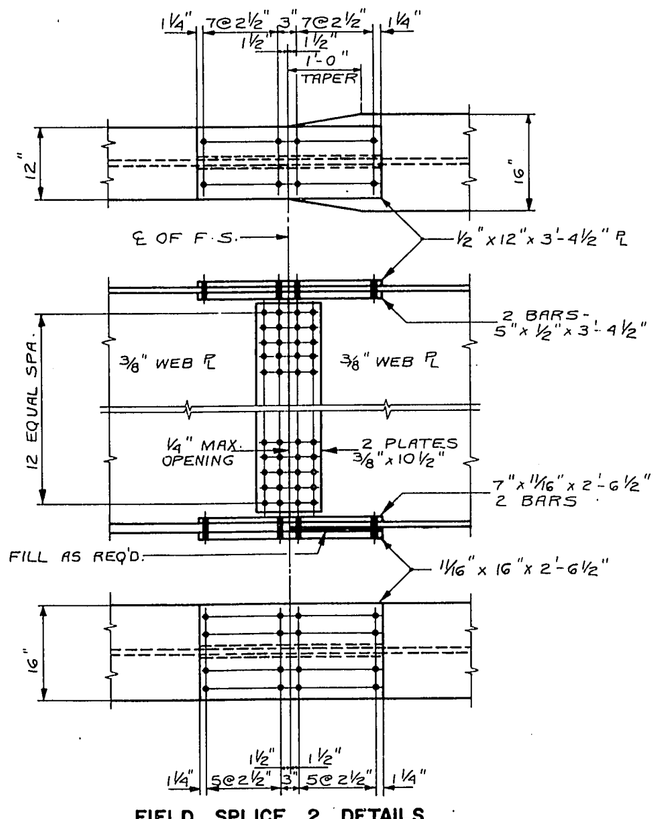
PARABOLIC HAUNCH DETAILS



DIMENSIONS OF STIFFENERS IN HAUNCH AREA - SPAN 2



FIELD SPLICE 1 DETAILS



FIELD SPLICE 2 DETAILS

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

Const. Spec.	Drawn By	Plans Checked
1969	L N F.	R·L·P·

SUPERSTRUCTURE

SHEET 14 OF 18

X46917

Form E-8-12-67

B. P. R. Division	Project	Sheet Number	Total Sheets
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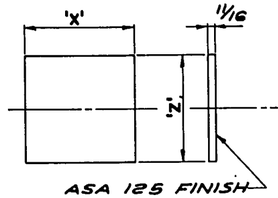
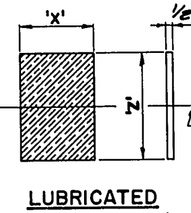


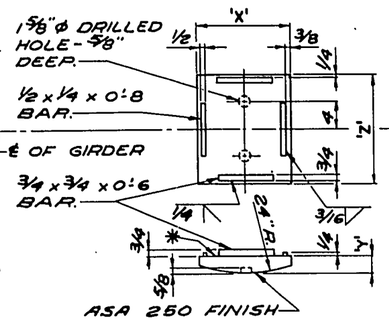
TOP PLATE "A"

FINISH BOTTOM OF TOP PLATE IN DIRECTION OF MOVEMENT.

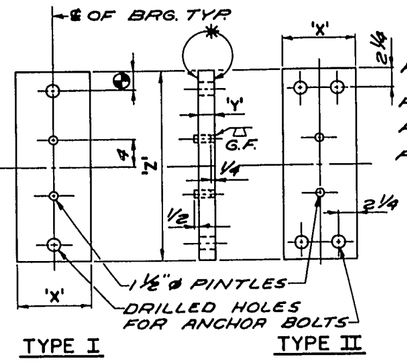


LUBRICATED BRONZE PL "B"

LUBRICATE TOP SURFACE ONLY.

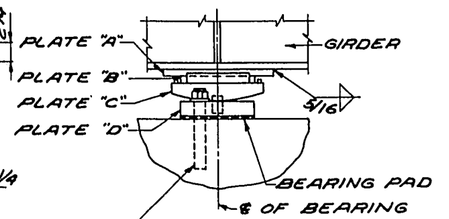


ROCKER PLATE "C"



MASONRY PLATE "D"

EXPANSION BEARING



EXPANSION BEARING ASSEMBLY

BEARING NOTES

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

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.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX. NUT PER BOLT.

ALL MATERIAL INCLUDING SHIMS BUT EXCLUDING ANCHOR BOLTS, PINTLES, NUTS AND WASHERS SHALL BE MADE OF A588 STEEL. PINTLES SHALL BE MADE OF A449 STEEL.

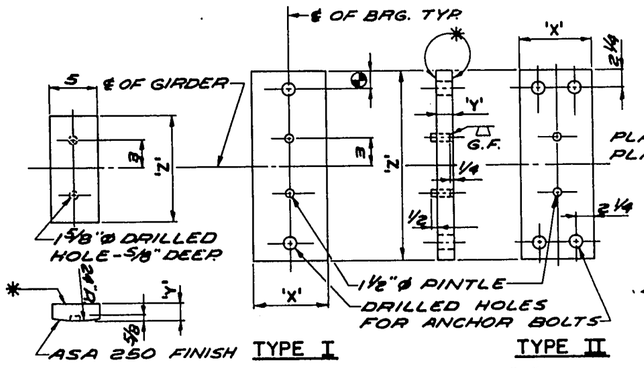
ALL MATERIAL IN BEARINGS, EXCLUDING BRONZE PLATES AND BEARING PADS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL LOW ALLOY STEEL."

CHAMFER TOP OF PINTLES 1/8". DRILL HOLES FOR PINTLES IN ALL MASONRY PLATES FOR DRIVING FIT.

PROVIDE 1/8" THICK BEARING PAD SAME SIZE AS MASONRY PLATE "D" FOR EACH BEARING.

ANCHOR BOLTS SHALL BE OF A SIZE AS GIVEN IN THE TABLE. LENGTH OF 1 1/4" ø ANCHOR BOLTS TO BE 1'-5". LENGTH OF 1 1/2" ø ANCHOR BOLTS TO BE 1'-10". PROJECT ANCHOR BOLTS "D" PLATE THICKNESS +2 1/4" ABOVE TOP OF CONCRETE. DRILLED HOLES FOR ANCHOR BOLTS IN PLATE "D" SHALL HAVE A DIAMETER 3/8" LARGER THAN THE ANCHOR BOLT DIAMETER.

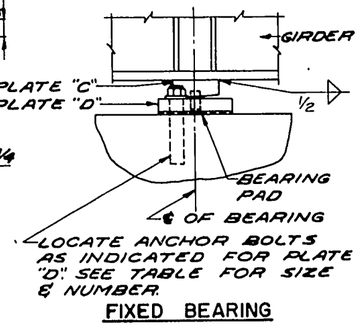
ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.



ROCKER PLATE "C"

MASONRY PLATE "D"

FIXED BEARING

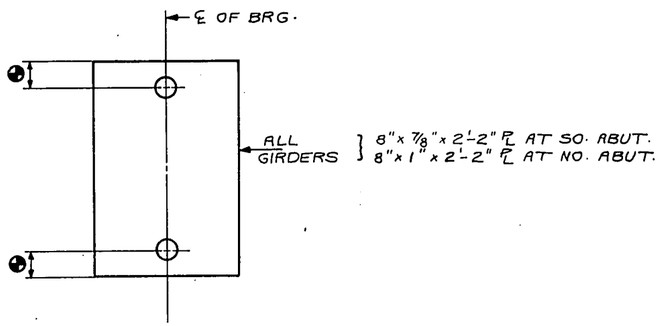


FIXED BEARING ASSEMBLY

	PLATE 'A'		PLATE 'B'		PLATE 'C'			PLATE 'D'			PLATE 'D' TYPE	ANCHOR BOLT SIZE	NO. OF BRG'S. REQ'D.	LOCATION
	X	Z	X	Z	X	Y	Z	X	Y	Z				
EXPANSION BEARING	11"	1'-4"	7"	1'-4"	9"	1 11/16"	1'-6 1/4"	8"	1 1/2"	2'-2"	I	1 1/2" DIA.	10	AT ABUTS.
FIXED BEARING					—	2 3/8"	1'-4"	1'-4"	2 7/8"	2'-2"	I	1 1/2" DIA.	5	AT PIER

② 2" WHEN 1 1/4" ø ANCHOR BOLTS ARE USED AND 2 1/4" WHEN 1 1/2" ø ANCHOR BOLTS ARE USED.

* FINISH ASA 250 IF DIMENSION 'Y' IS GREATER THAN 2".



OPTIONAL SHIM PLATE AT ABUTS.

NOTE: SHIM PLATES TO BE USED AT ABUTS. IF OPTIONAL FLANGE BUTT SPLICE IS USED.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

Const. Spec.	Drawn By	Plans Checked
1969	L.N.F.	R.L.P.

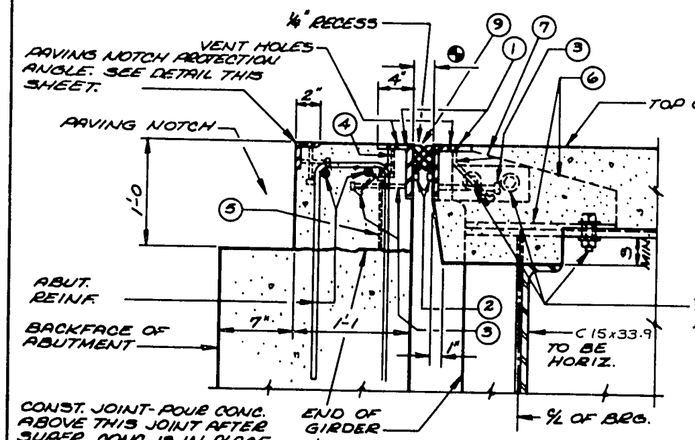
BEARING DETAILS

SHEET 15 OF 18

X46918

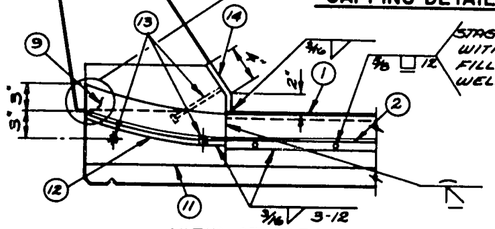
Form E-B-12-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	36	225
FEDERAL PROJECT DESIGNATION: DPF08-4(41)		

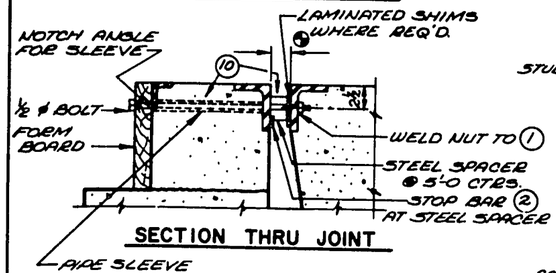


SECTION E1

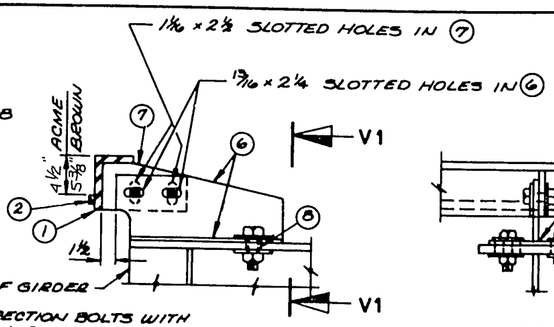
CAPPING DETAIL



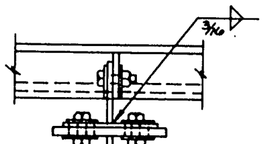
VIEW AT PARAPET



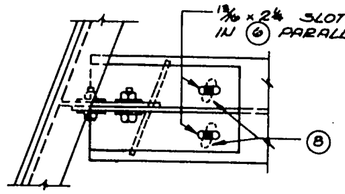
SECTION THRU JOINT



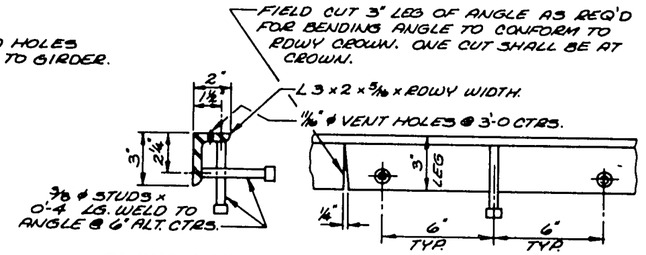
ELEVATION OF SEATING ADJUSTMENT



VIEW V1

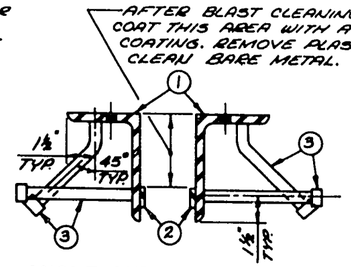


PLAN



PAVING NOTCH PROTECTION ANGLE

NOTE: ONE FIELD SPLICE PERMITTED IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. ANGLE AND STUDS SHALL BE PAID FOR AS STRUCTURAL CARBON STEEL. PLACE ONE PROTECTION ANGLE AT EACH ABUTMENT.

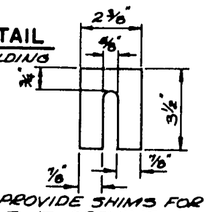


ANGLE AND STUD DETAIL

STUDS MAY BE BENT AFTER WELDING

BASE LENGTH ON JT. OPENING AT 90° F.

STEEL SPACER



PROVIDE SHIMS FOR 30° F. JT. OPENING.

LAMINATED SHIM

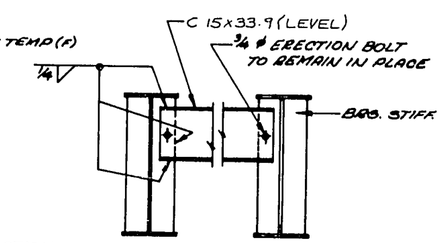
SHADED UNDERSIDE DECK TEMP (F)

	JT. OPENING	
	ACME	BROWN
90°	1 13/16"	1 7/8"
80°	1 15/16"	1 15/16"
70°	2"	2"
60°	2 1/8"	2 1/8"
50°	2 1/4"	2 3/16"
40°	2 5/16"	2 5/16"
30°	2 7/16"	2 3/8"

MAXIMUM PRACTIAL INSTALLATION TEMPERATURE IS ★.

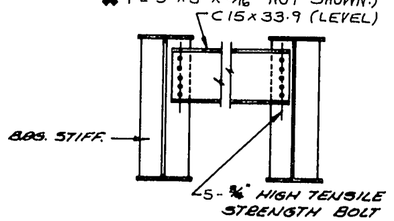
TEMPERATURE TABLE

★ 81° FOR ACME SEAL.
86° FOR BROWN SEAL.



END DIAPHRAGM CONN. DETAIL

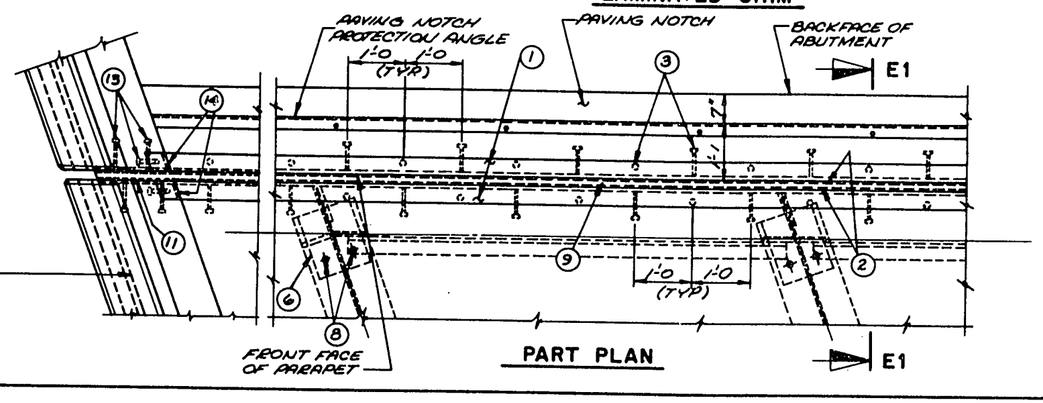
✖ (L 5"x5"x 5/16" NOT SHOWN.)



ALTERNATE BOLTED DIAPHRAGM DETAIL

✖ (L 5"x5"x 5/16" NOT SHOWN.)

✖ L 5"x5"x 5/16" TO BE PLACED THE SAME WAY AS THE PIER L 5"x5"x 5/16".



PART PLAN

LEGEND

(1) *** WITH 1 3/16" ø VENT HOLES AT 2'-0 CTRS AND 9/16" ø HOLES FOR BOLT (10) AT 5'-0 CTRS. ANGLE FACES MUST BE PARALLEL WITHIN ± 1/16" BETWEEN STEEL SPACERS (10).

(2) RETAINER BAR 1 x 1/4 WELD TO (1) AS SHOWN.

(3) 5/8 ø x 0'-6 3/8 LONG STUDS AT 1'-0 ALTERNATE CTRS. WELD TO (1)

(4) L 3 x 2 1/2 x 3/8 x 0'-3 @ 3'-0 CTRS. WELD TO (1). PROVIDE 1 5/16" ø HOLE IN 2 1/2" LEG FOR ROD (5).

(5) 3/4 ø ROD x 0'-10 LONG WITH NUT. TACK WELD NUT TO BOTTOM OF (4). THREAD 3".

(6) FABRICATE FROM 3/8 WELDED PLATES. 2-1 13/16 x 2 1/4 SLOTTED HOLES IN BASE PLATE PARALLEL TO ℄ OF GIRDER. 2-1 13/16 x 2 1/4 SLOTTED HOLES IN STEM PLACED HORIZONTALLY.

(7) 3/8 PLATE. WELD TO LEGS OF (1) WITH 3/16" FILLET WELD NEAR SIDE AND FAR SIDE. 2-1 7/16 x 2 1/2 SLOTTED HOLES PLACED VERTICALLY.

(8) 2-1 13/16 x 1 3/4 SLOTTED HOLES IN GIRDER FLANGE FOR 2-3/4 ø ERECTION BOLTS. SLOT TO BE PARALLEL TO ℄ OF BEARING. CLEAR BEARING STIFFENER BY 1 1/2" MIN.

(9) PREFORMED B-610 ACME OR H-3500 BROWN NEOPRENE SEAL. EDGE OF SLAB TO EDGE OF SLAB.

(10) BLOCK AND BOLT FOR SHIPMENT AND ERECTION WITH PIPE SLEEVE, STEEL SPACER AND 1/2 ø BOLT AT 5'-0 CTRS.

(11) 3/8 PLATE - SHAPE TO FIT. SHOP WELD TO (1)

(12) RETAINER BAR 1/2 x 1/4. WELD TO PLATE (11) AS SHOWN.

(13) 5/8 ø x 0'-6 3/8 LONG STUDS. WELD TO PLATES (11) AND (14).

(14) 3/8 PLATE - PLACE FLUSH WITH FACE OF RAIL PARAPET AS SHOWN. SHOP WELD TO (1) AND PLATE (11).

NOTES

CAPPING DETAIL - PROVIDE EITHER:
3CE-428 CLOSED CELL NEOPRENE SPONGE CONFORMING TO ASTM D1056-67T, 1" THICK CUT TO MATCH THE UNCOMPRESSED SEAL CROSS SECTION AND CEMENTED IN PLACE WITH THE LUBRICANT ADHESIVE,
OR A FLAP FORMED BY CUTTING AWAY ALL BUT THE TOP SURFACE OF THE SEAL THEN BENT DOWN AND CEMENTED IN PLACE.

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

ALL MATERIAL IN EXPANSION JOINT EXCEPT NEOPRENE SEAL SHALL BE PAID FOR AS STRUCTURAL CARBON STEEL.

AFTER CONCRETE HAS SET, BLOCKING (10) SHALL BE REMOVED AND THE JOINT OPENING SHALL BE THOROUGHLY CLEANED.

ONE FIELD SPLICE PERMITTED. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

Const Spec 1969	Drawn By L.N.F.	Plans Checked R.L.P.

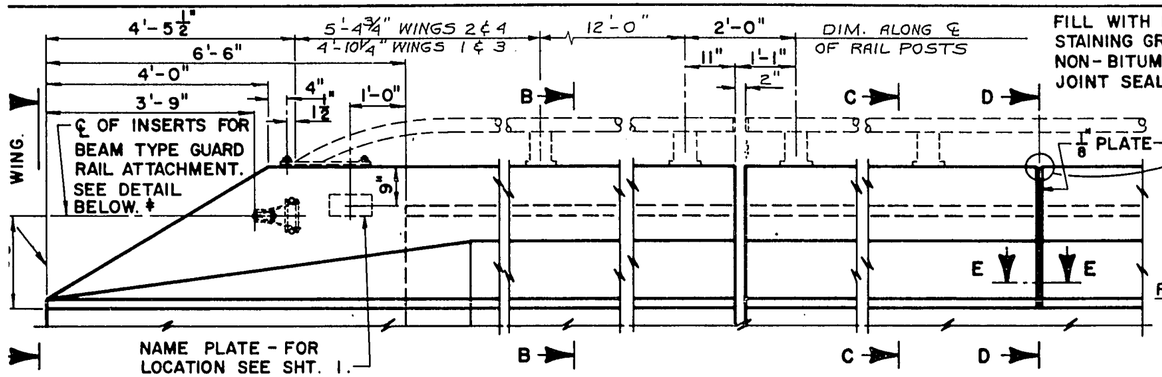
NEOPRENE SEAL EXPANSION JOINT

SHEET 16 OF 18

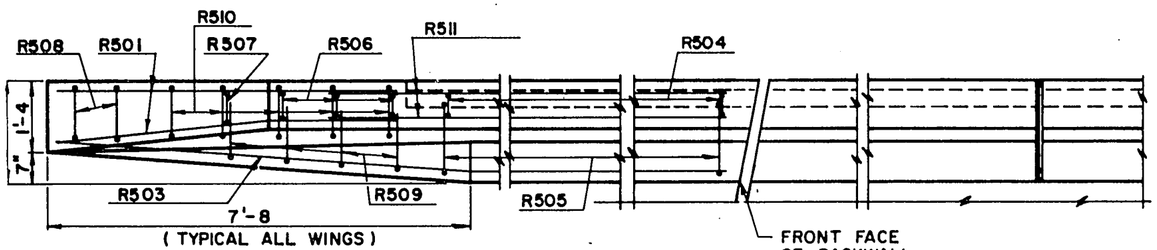
X46919

Form E-B 12-64

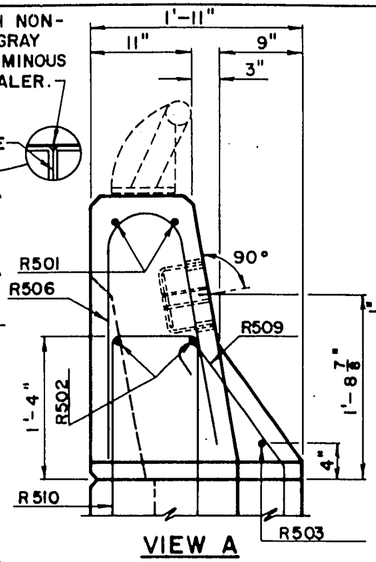
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	37	225
FEDERAL PROJECT DESIGNATION DPF08-4(41)		



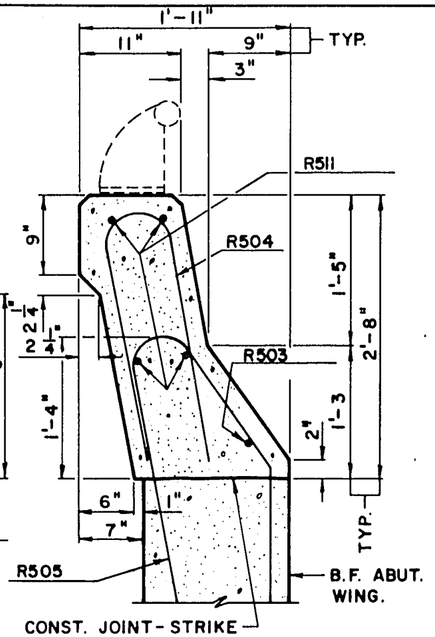
ELEVATION OF RAIL PARAPET



PART PLAN OF RAIL PARAPET

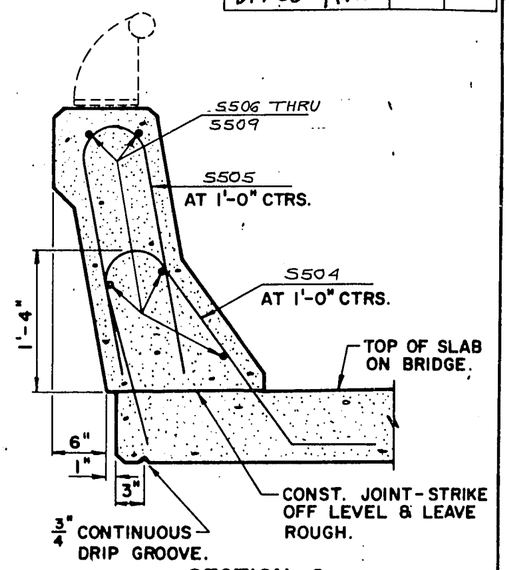


VIEW A



SECTION B

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



SECTION C

RAIL PARAPET
BILL OF BARS @ ABUTS. **

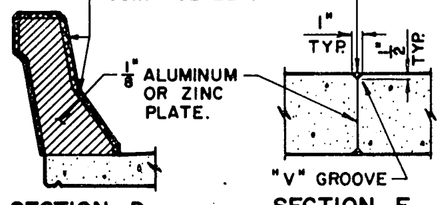
MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
R501	8	6-10	X	WINGS 1 THRU 4
R502	8	4-5		" 1 " 4
R503	4	21-6"	X	" 1 " 4
R504	64	5-0	X	" 1 " 4
R505	64	5-10	X	" 1 " 4
R506	12	5-2	X	" 1 THRU 4
R507	4	4-2	X	" 1 " 4
R508	8	4-10	X	" 1 " 4
R509	16	3-3	X	" 1 " 4
R510	20	5-10	X	" 1 " 4
R511	16	17-7		" 1 " 4

** WEIGHT IS INCLUDED IN ABUTMENT TOTALS ON SHEET 2.

NOTES

WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF 1/8" 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.

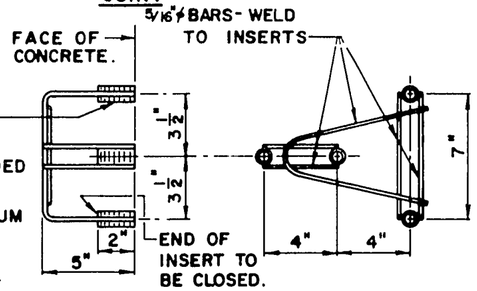
WORK THIS SHEET WITH SHEET TITLED "DETAILS FOR TYPE 'J' TUBULAR ALUMINUM OR STEEL RAILING."



SECTION D

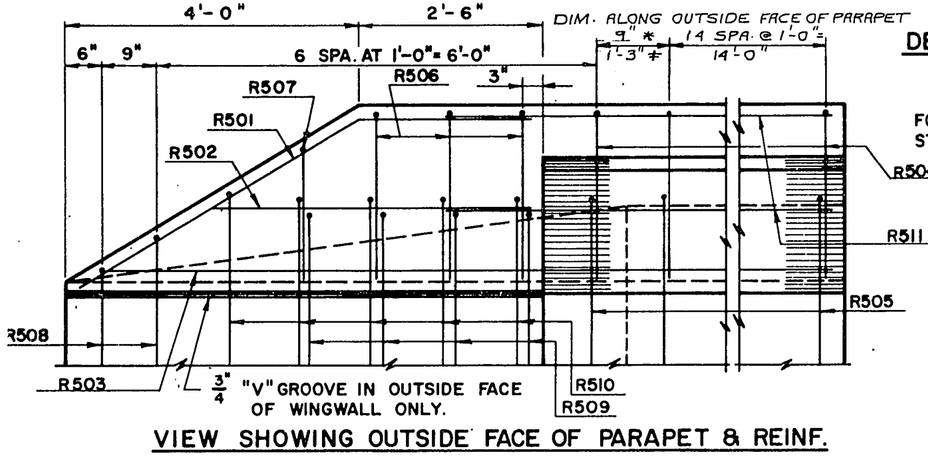
SECTION E

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



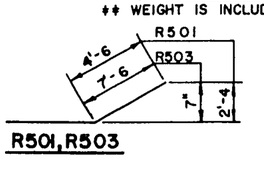
DETAIL OF ANCHOR ASSEMBLY FOR BEAM TYPE GUARD RAIL

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

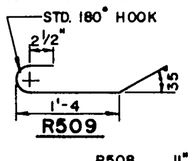


≠ WINGS 2 & 4
* WINGS 1 & 3

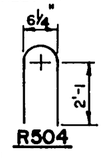
VIEW SHOWING OUTSIDE FACE OF PARAPET & REINF.



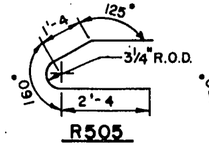
R501, R503



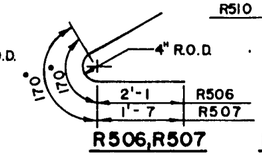
R509



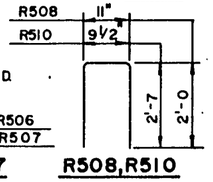
R504



R505



R506, R507



R508, R510

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

Const. Spec: 1969	Drawn By: L.N.F.	Plans Checked: R.L.P.

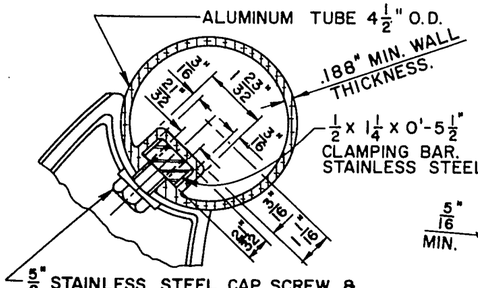
SLOPED FACE PARAPET "A"

SHEET 17 OF 18

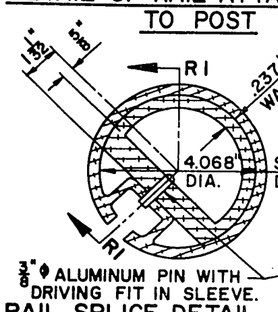
X46920

Form E B-12-69

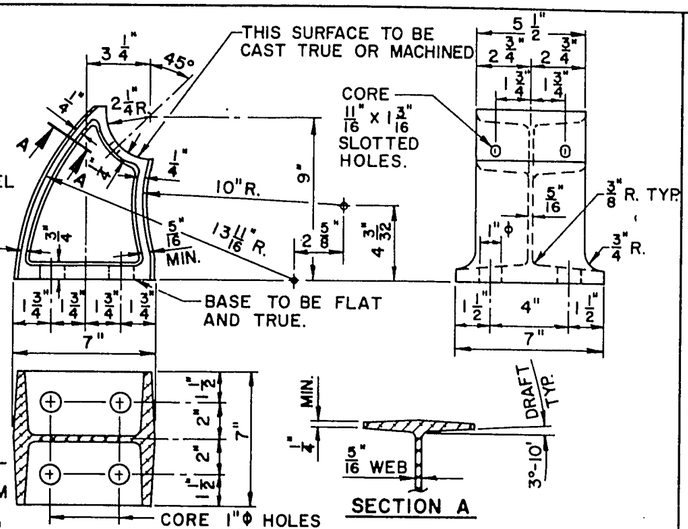
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72		
FEDERAL PROJECT DESIGNATION	38	225
DPF08-4(41)		

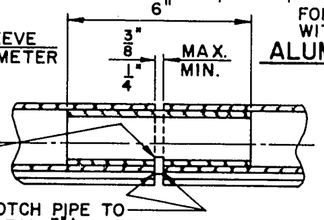


DETAIL OF RAIL ATTACHMENT TO POST

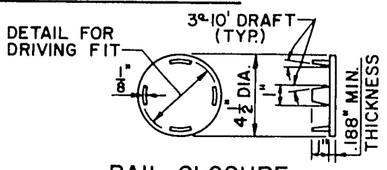


RAIL SPLICE DETAIL



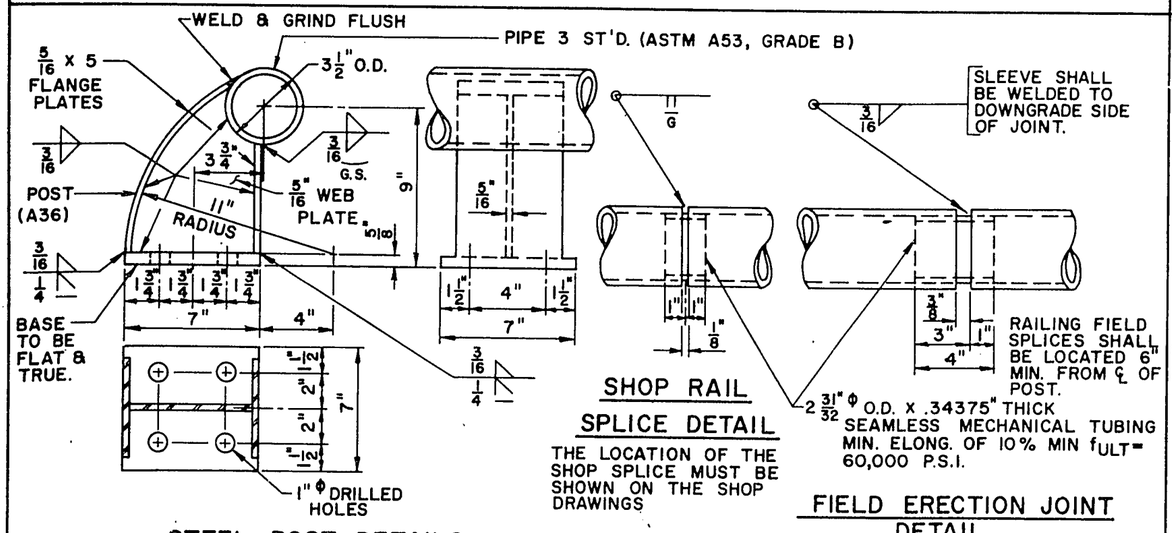


ALUMINUM POST CASTING



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.



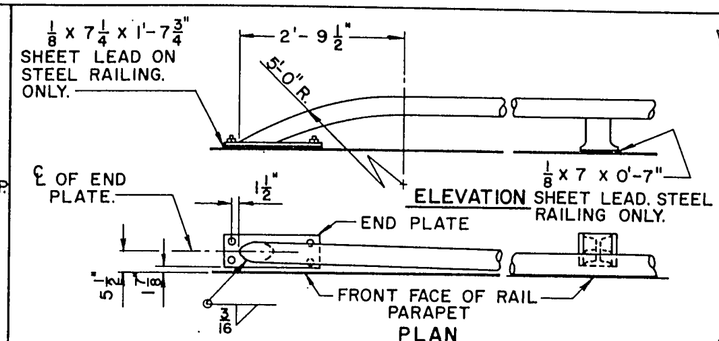
STEEL POST DETAILS

SHOP RAIL SPLICE DETAIL

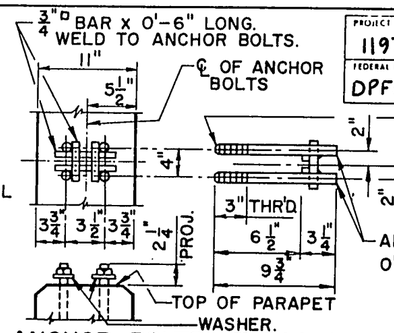
THE LOCATION OF THE SHOP SPLICE MUST BE SHOWN ON THE SHOP DRAWINGS

FIELD ERECTION JOINT DETAIL

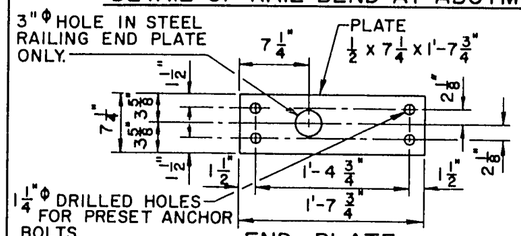
NOTE:
GALVANIZE ENTIRE RAILING AFTER FABRICATION INCLUDING SHIMS.



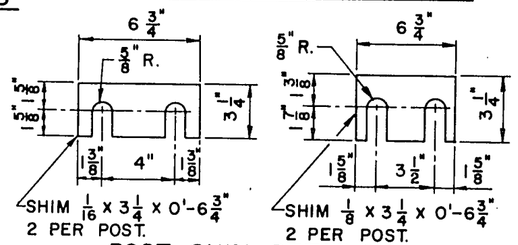
DETAIL OF RAIL BEND AT ABUTMENTS



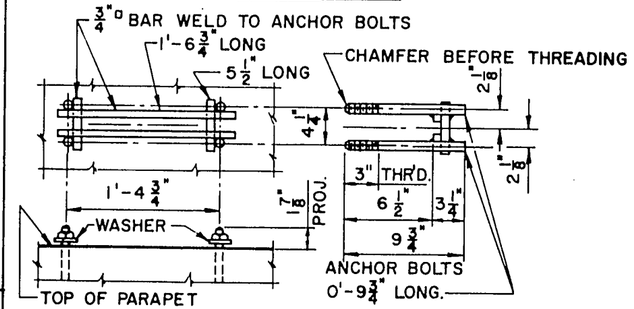
ANCHOR BOLTS AT POSTS



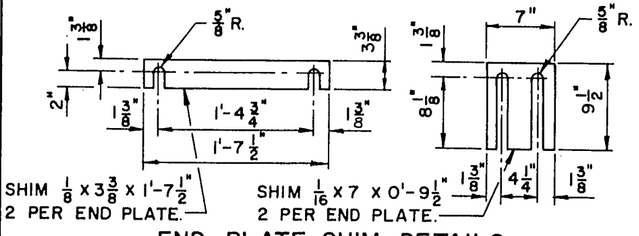
END PLATE



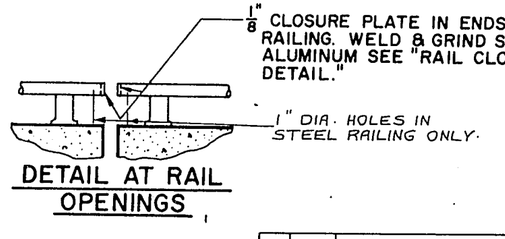
POST SHIM DETAILS



ANCHOR BOLTS AT END PLATE



END PLATE SHIM DETAILS



DETAIL AT RAIL OPENINGS

GENERAL NOTES

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

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

RAILING SHALL BE FABRICATED IN TWO OR THREE PANEL LENGTHS.

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

RAIL POSTS SHALL BE SET NORMAL TO GRADE.

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

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

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

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-37

Const. Spec.	Drawn By	Plans Checked
1969	L.N.F.	R.L.P.

TUBULAR RAILING TYPE 'J'

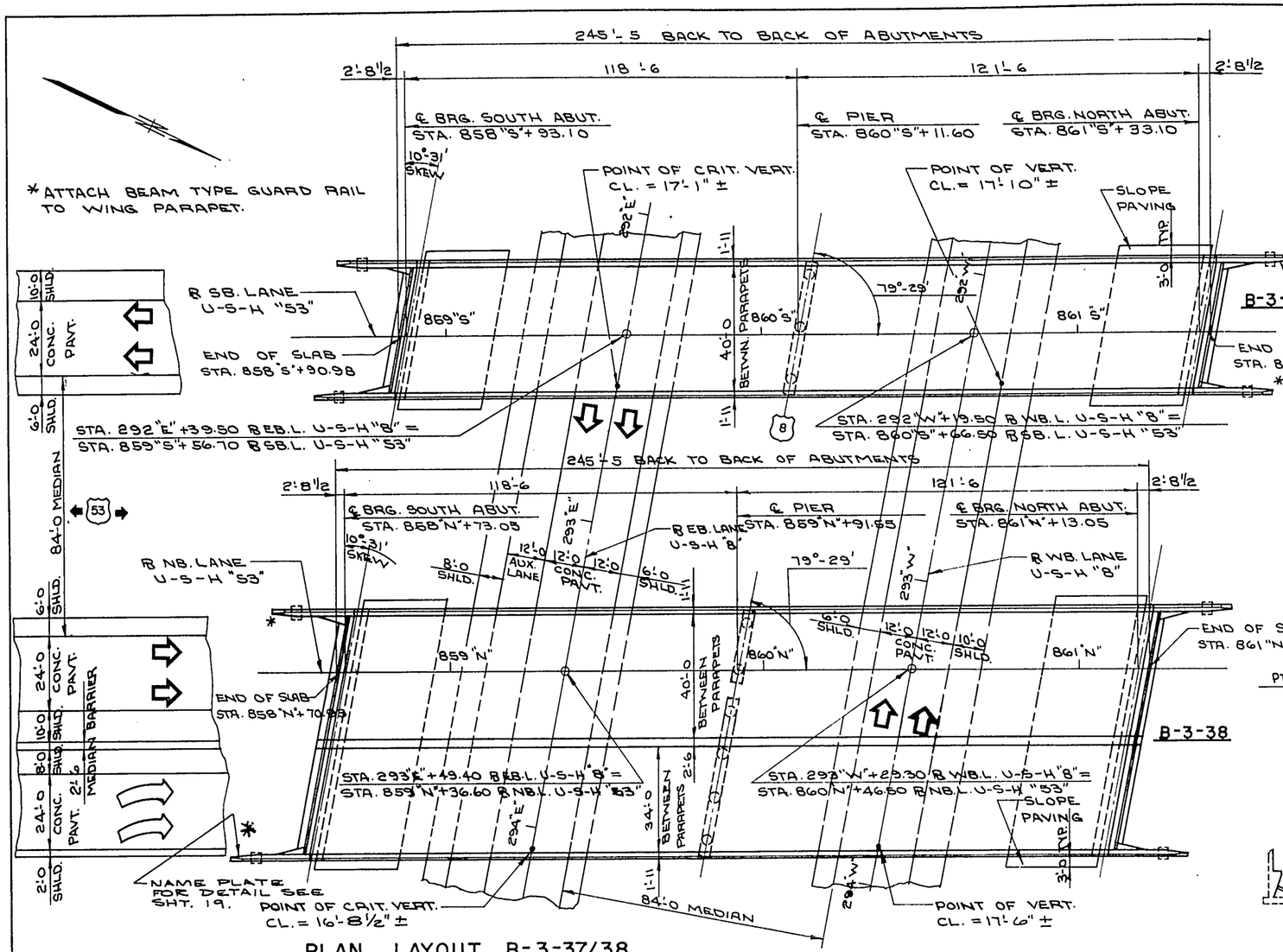
SHEET 18 OF 18

X46921

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	39	225
FEDERAL PROJECT DESIGNATION DPF08-4(41)		

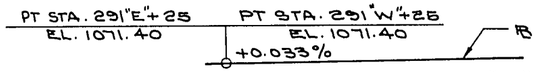
BENCH MARK

NO	STATION	LOCATION	ELEV.
15	295 E +75	18" N. PINE 163' LT.	1087.15

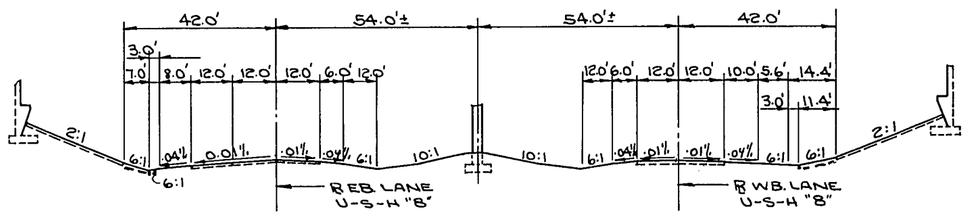


PLAN LAYOUT B-3-37/38
2 SPAN HAUNCHED GIRDER

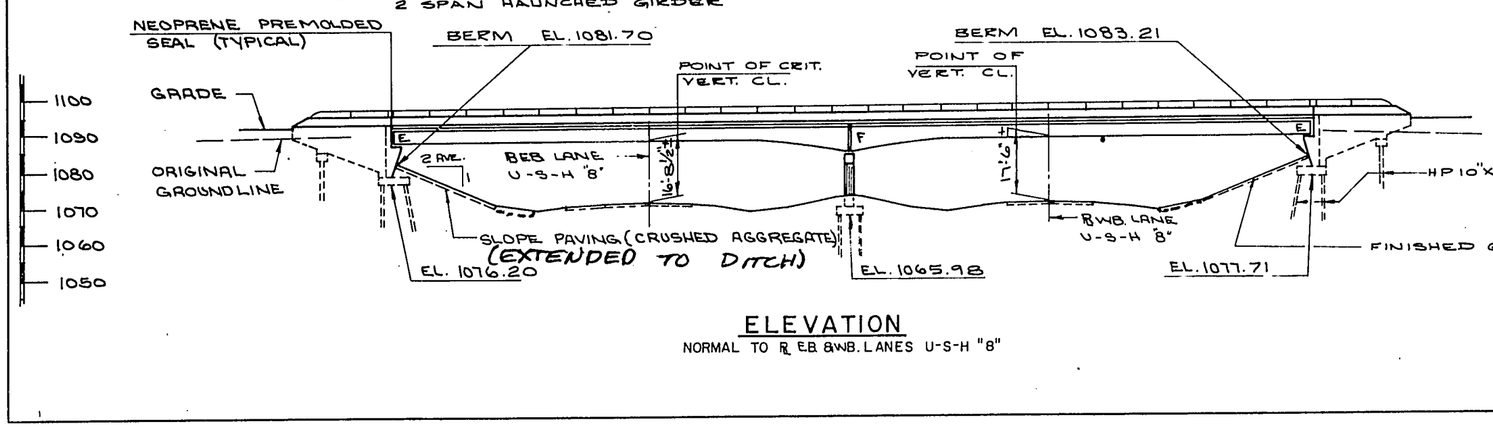
PROFILE GRADES U-S-H "53"



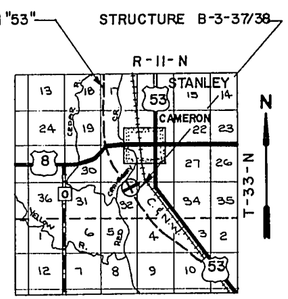
PROFILE GRADES U-S-H "8"



TYPICAL SECTION THRU U-S-H "8"



ELEVATION
NORMAL TO ℄ E.B. & WB. LANES U-S-H "8"



LAYOUT

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

U-S-H "53" OVER U-S-H "8"

County BARRON	City, Village, TN: STANLEY		
Design Spec. A.A.S.H.O. 1969	Load HS20	Const. Spec. 1969	
Designed By C D W	Design Checked R W A	Drawn By T L A	Plans Checked K O K

Approved W. A. Kline — Chief Bridge Engineer — 3-3-72 Date

GENERAL PLAN

SHEET 1 OF 20,

X47261

Form E-B 12 69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	40	225
FEDERAL PROJECT DESIGNATION DPF08-4(41)		

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

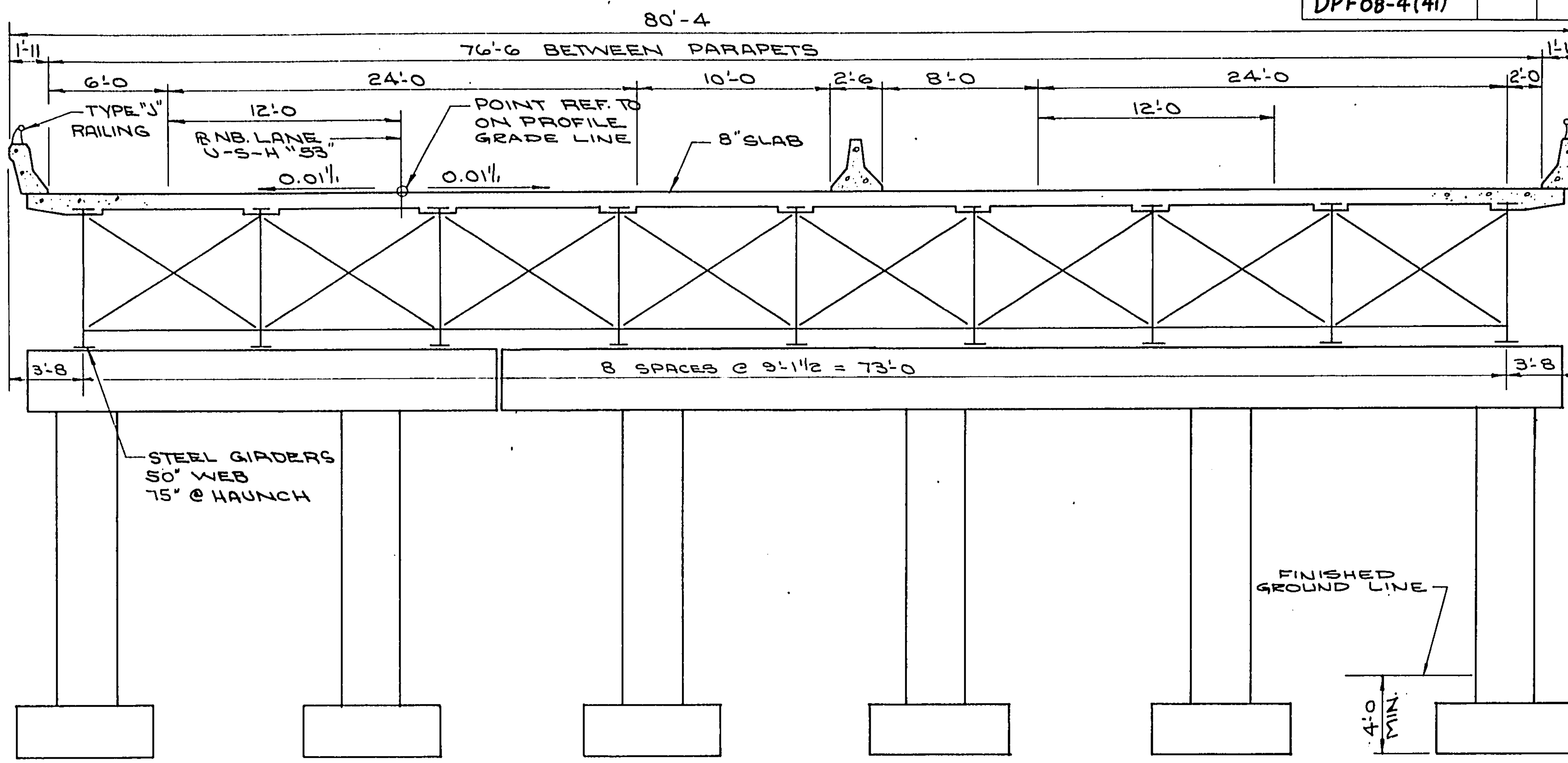
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING (CRUSHED AGGREGATE) TO THE EXTENT SHOWN ON SHT. 1 & IN THE ABUTMENT DETAILS.

SEE SHT 6 AND 9 FOR UPPER LIMITS OF EXCAVATION AT THE ABUTMENTS.

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

AT THE ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW ABUTMENT SHALL BE FILLED WITH GRANULAR BACKFILL. FOR PAY LIMITS SEE SHT. 6 AND 9.

ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER FRICTION TYPE HIGH-TENSILE STRENGTH BOLTS UNLESS SHOWN OR NOTED OTHERWISE.



SECTION THRU ROADWAY

LOOKING NORTH

DESIGN DATA

LIVE LOAD: HS20

ALLOWABLE DESIGN STRESSES:

CONCRETE MASONRY, GRADE "AR", SLAB ———— 1,200 P.S.I.

ALL OTHER ———— 1,400 P.S.I.

BAR STEEL REINFORCEMENT ———— 20,000 P.S.I.

n = 10

STRUCTURAL CARBON STEEL ———— 20,000 P.S.I.

STRUCTURAL LOW ALLOY STEEL:

TO AND INCLUDING 3/4" THICK ———— 27,000 P.S.I.

3/4" TO AND INCLUDING 1½" THICK ———— 25,000 P.S.I.

OVER 1½" THICK ———— 22,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10" x 42# STEEL PILES EST. 45'-0" LG. & DRIVEN TO A MIN. BRG. VALUE OF 55 TONS/PILE.

PIER TO BE SUPPORTED ON HP 10" x 42# STEEL PILES EST. 40'-0" LG. & DRIVEN TO A MIN. BRG. VALUE OF 55 TONS PER PILE.

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	SUPER	SO. ABUT.	PIER	NO. ABUT.	TOTAL
EXCAVATION FOR STRUCTURES	C.Y.	——	190	80	190	460
GRANULAR BACKFILL	C.Y.	——	285	——	285	570
CONCRETE MASONRY	C.Y.	564.8	196.0	86.2	196.0	1043.0
BAR STEEL REINFORCEMENT	LB.	159,000	12,980	20,200	12,980	205,160
STRUCTURAL CARBON STEEL	LB.	420,710	——	——	——	420,710
STRUCTURAL LOW-ALLOY STEEL	LB.	92,520	——	——	——	92,520
LUBRICATED BRONZE PLATES	LB.	313	——	——	——	313
BEARING PADS	S.F.	52	——	——	——	52
NEOPRENE PRE-MOLDED SEAL	L.F.	162	——	——	——	162
STEEL PILING, DELIVERED & DRIVEN HP 10 INCH x 42 POUND	L.F.	——	1,125	1,440	1,125	3,690
TUBULAR RAILING, TYPE "J"	L.F.	557	——	——	——	557
SLOPE PAVING (CRUSHED AGGR.)	S.Y.	——	230	——	260	490
NON-BID ITEMS						
ALUMINUM OR ZINC PLATE	S.F.	100	——	——	——	100
POLYVINYL CHLORIDE WATERSTOP	L.F.	——	85	——	85	170

TRAFFIC VOLUME

U-S-H "53"		U-S-H "8"	
A.D.T.	5,200	A.D.T.	6070
R.D.S.	80 M.P.H.	D.H.Y.	1,320
D.H.Y.	1,180		

LIST OF DRAWINGS

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

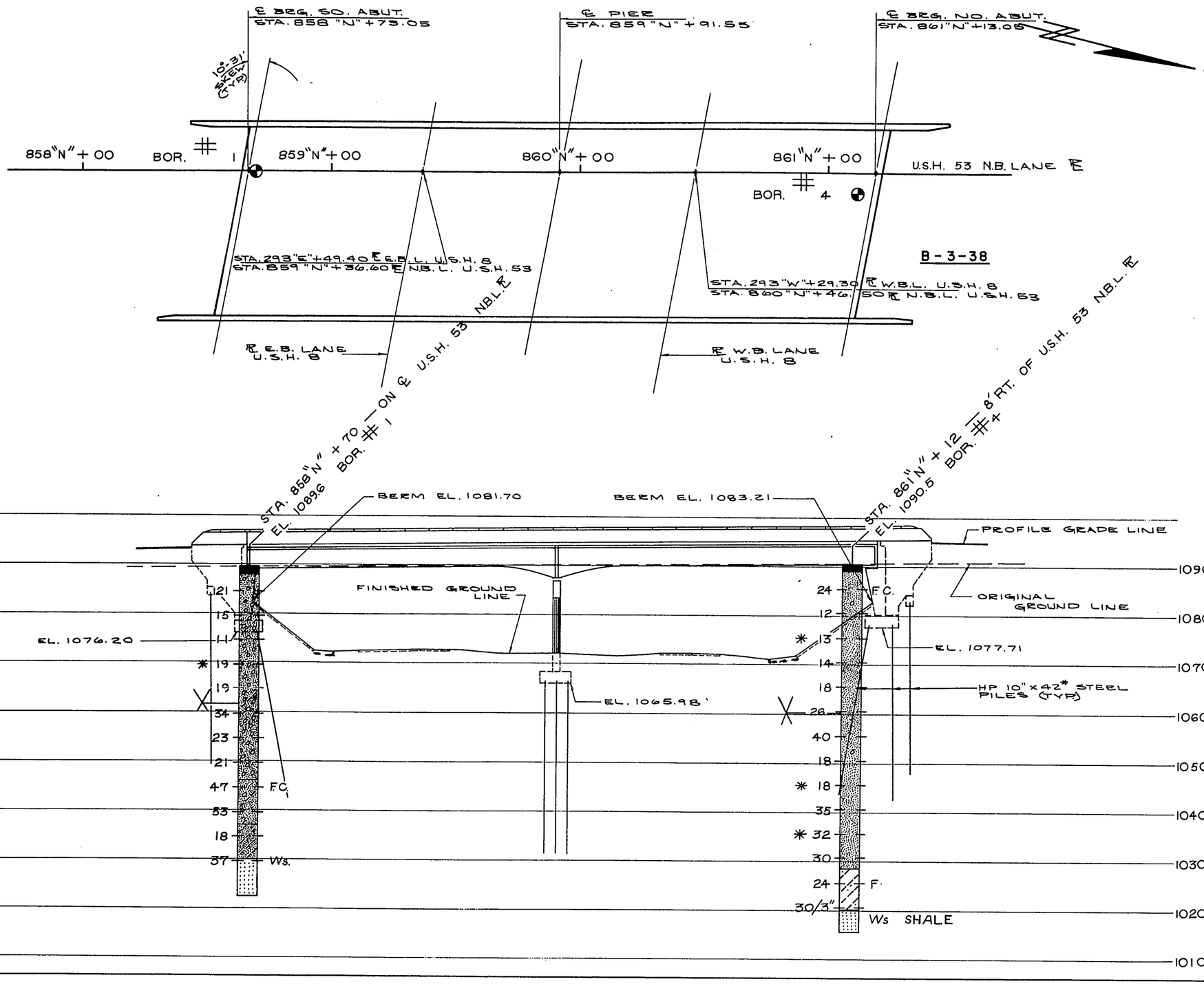
Const. Spec. 1969 | Drawn By TLA | Plans Checked KOK

GENERAL PLAN

SHEET 2 OF 20

X47262

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	41	225
FEDERAL PROJECT DESIGNATION: DPF08-4(41)		



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

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

Const. Spec. 1969	Drawn By TLA	Plans Checked KOK

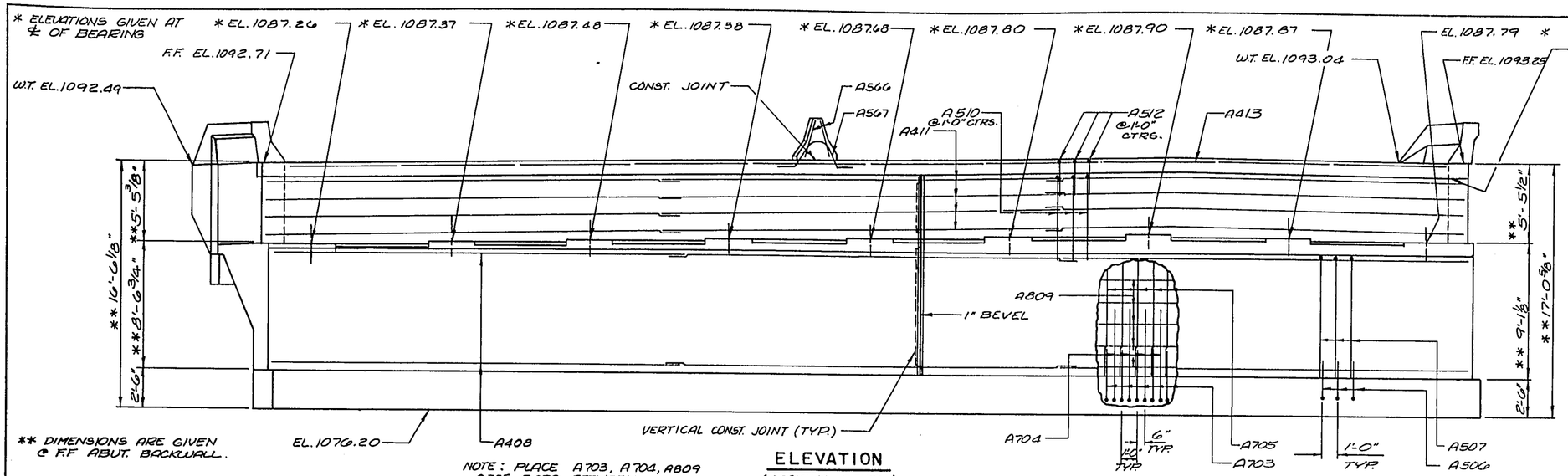
SUBSURFACE EXPLORATION

SHEET 3 OF 20

X47263

Form C B 12 69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	42	225
FEDERAL PROJECT DESIGNATION: DPF08-4(41)		



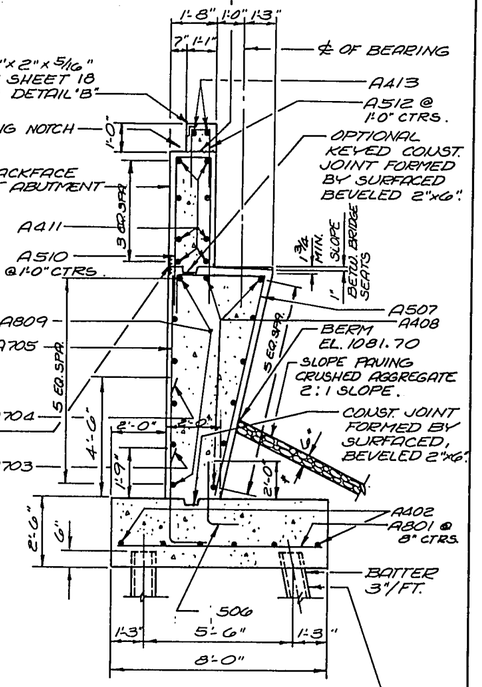
** DIMENSIONS ARE GIVEN @ F.F. ABUT. BACKWALL.

NOTE: PLACE A703, A704, A809 A705 BARS BETWEEN FILLETS ONLY.

ELEVATION
(LOOKING SOUTH)

POLYVINYL CHLORIDE WATERSTOP - TO EXTEND BETWEEN WING FILLETS. (TO BE FLUSH WITH FACE OF CONC.) (IF OPTIONAL CONST. JOINT IS USED). FOR DETAILS SEE SHEET 6

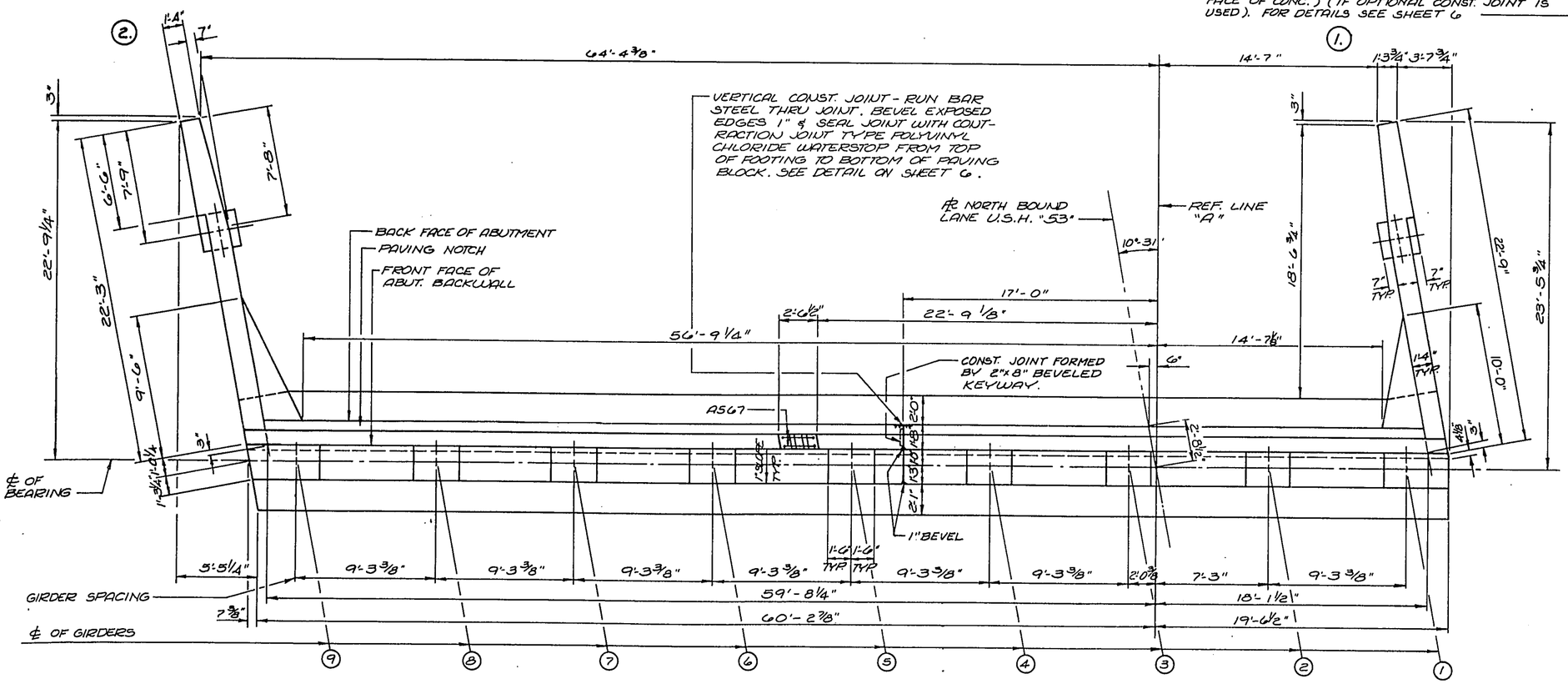
POUR CONC. ABOVE THIS JOINT AFTER SUPER CONC. IS IN PLACE STRIKE OFF AND LEAVE ROUGH.



H.P. 10 x 42 STEEL PILES EST. 45'-0" LONG AND DRIVEN TO A MIN. BRG. VALUE OF 55 TONS PER PILE.

SECTION THRU BODY

℄ 1'-3" MIN. LAP A507 TO BE A MIN. OF 2" CLEAR FROM TOP OF BRIDGE SEAT.



PLAN

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

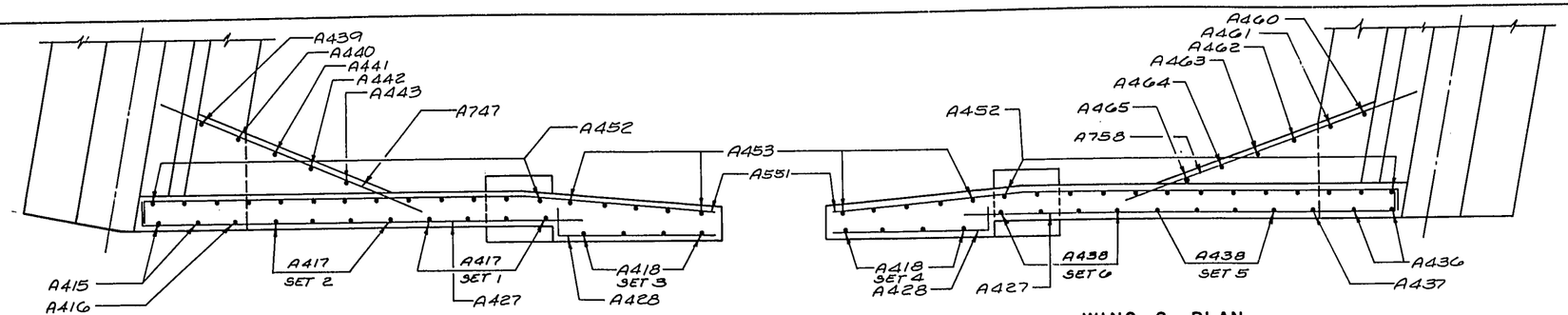
Const. Spec.	Drawn By	Plans Checked
1969	A.G.	KOK

SOUTH ABUTMENT

SHEET 4 OF 20

X 47264

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1197-6-72	43	225
FEDERAL PROJECT DESIGNATION: DPF08-4(41)		



WING 1 PLAN

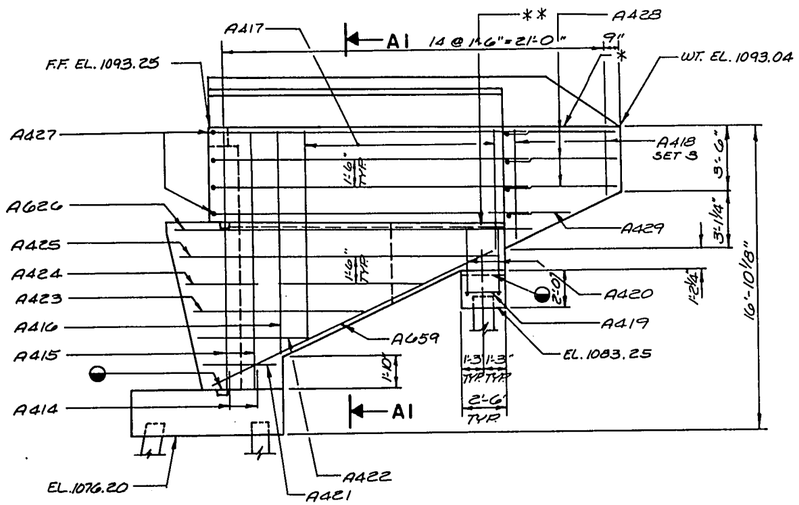
WING 2 PLAN

* COUST. JOINT - POUR CONC ABOVE THIS JOINT AFTER SUPER. CONC. IS IN PLACE STRIKE OFF & LEAVE ROUGH.

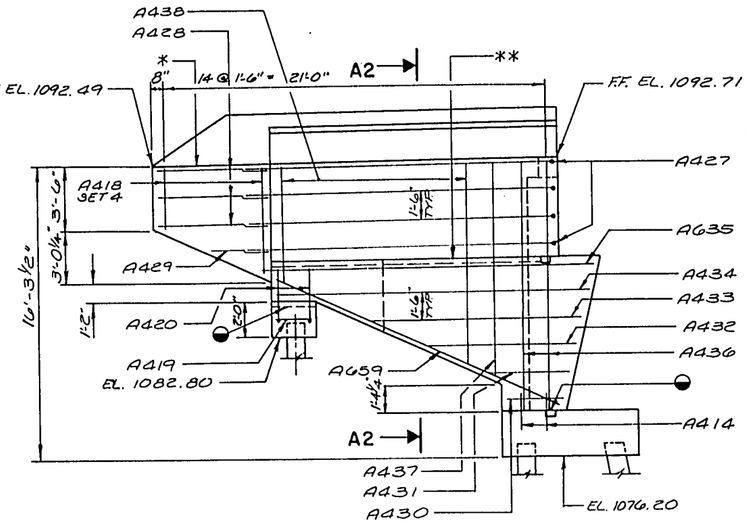
** OPTIONAL KEYED COUST. JOINT FORMED BY SURFACED BEVELED 2"x6".

◒ COUST. JOINT FORMED BY SURFACED, BEVELED 2" x 6".

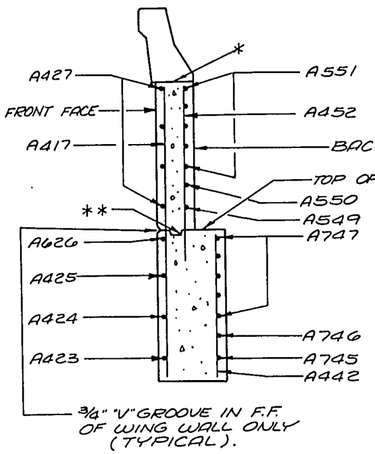
NOTE: FOR RAIL PARAPET BARS & DETAILS SEE SHEET 19.



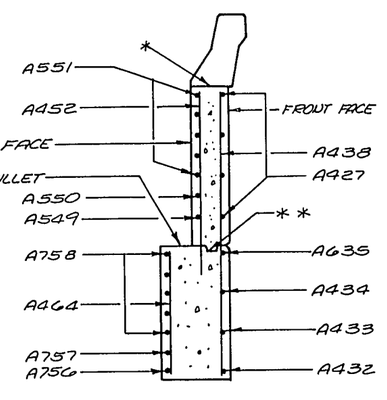
ELEVATION WING 1
(SHOWING FRONT FACE STEEL)



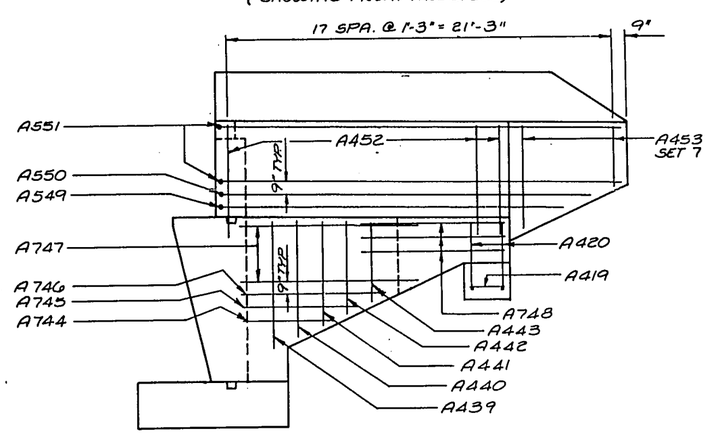
ELEVATION WING 2
(SHOWING FRONT FACE STEEL)



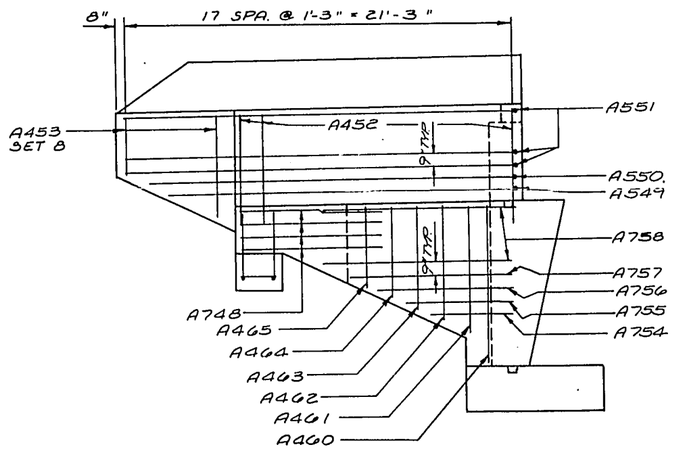
SECTION A1



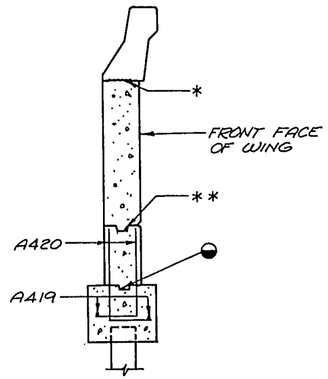
SECTION A2



ELEVATION WING 1
(SHOWING BACK FACE STEEL)



ELEVATION WING 2
(SHOWING BACK FACE STEEL)



TYPICAL SECTION AT WING FOOTING

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

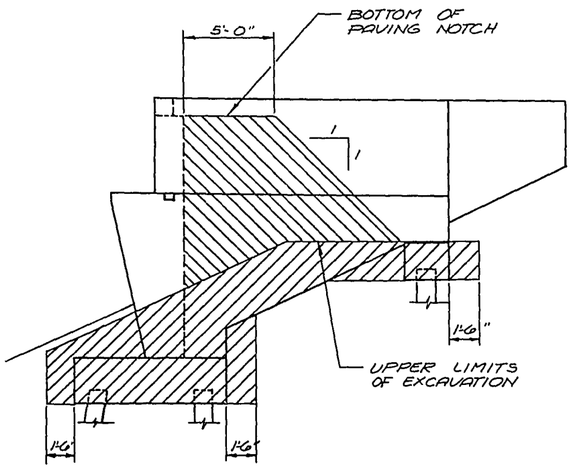
Const. Spec.	Drawn By	Plans Checked
1969	A.G.	KOK

SOUTH ABUTMENT DETAILS

SHEET 5 OF 20

X 47265

PROJECT I.D. 1197-6-72 | SHEET NUMBER 44 | TOTAL SHEETS 225
FEDERAL PROJECT DESIGNATION DPF08-4 (41)

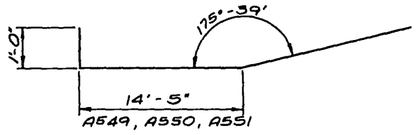


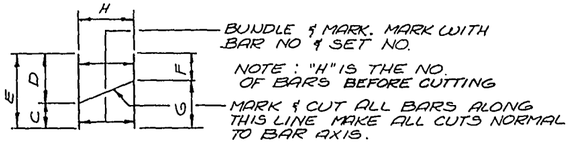
NOTE: ALL EXCAVATED VOLUME NOT OCCUPIED BY THE ABUTMENT SHALL BE BACKFILLED WITH GRANULAR BACKFILL.

EXCAVATION FOR STRUCTURES AND GRANULAR BACKFILL.

GRANULAR BACKFILL BETWEEN INSIDE FACES OF WINGWALLS. THIS MATERIAL SHALL BE PLACED BEFORE SUPERSTRUCTURE CONC. IS POURED.

PAY LIMITS FOR EXCAVATION FOR STRUCTURES & GRANULAR BACKFILL

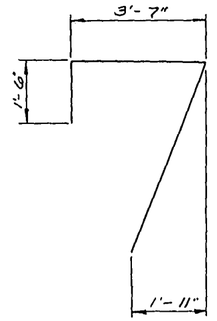




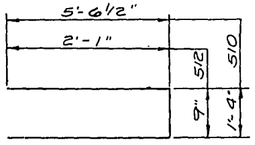
CUTTING DIAGRAM

MARK		C	D	E	F	G	H	REQ'D.
A417	SET 1	6'-3"	——	17'-8"	——	8-5	4	1 SET 1
	SET 2	——	11'-5"		9-3	——		1 SET 2
A418	SET 3	3'-4"	——	8'-11"	——	5'-7"	4	1 SET 3
	SET 4	——	5'-7"		3'-4"	——		1 SET 4
A438	SET 5	9'-0"	——	17'-4"	——	11'-2"	4	1 SET 5
	SET 6	——	8'-4"		6'-2"	——		1 SET 6
A453	SET 7	3'-4"	——	9'-1"	——	5'-9"	5	1 SET 7
	SET 8	——	5'-9"		3'-4"	——		1 SET 8

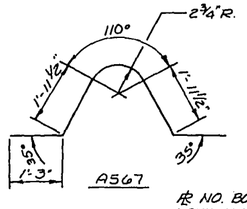
1'-2½"	A703, A704
10½"	A506
1'-6"	A420
1'-0"	A427, A428, A429



A507



A512, A510



A567

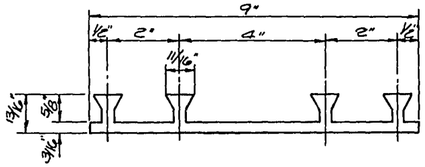
BILL OF BARS

MARK	NO. REQ'D.	LENGTH	BENT	CUT. DIAG.	LOCATION
A401	121	7-8			FOOTING TRANS.
A402	18	27-4			" LONGIT.
A403	72	4-6	X		" DOWEL
A404	72	7-3	X		" "
A405	72	8-4			BODY VERT. B.F.
A506	81	3-9	X		" " F.F.
A507	81	13-6	X		" " "
A408	21	27-4			" LONGIT.
A409	12	37-8			" LONGIT.
A510	78	12-2	X		ABUTMENT BACK WALL VERT.
A411	24	27-7			" " LONGIT.
A512	78	4-8	X		" PAVING BLOCK
A413	20	7-8			" " "
A414	4	2-0			FOOTING DOWELS
A415	2	14-3			WING 1 VERT. F.F.
A416	1	12-3			" " " "
A417	4	17-8		X	" " " "
A418	4	8-11		X	WING 1 & 2 " "
A419	4	2-0			" " " " FOOTING
A420	8	5-4	X		" " " " "
A421	1	4-0			WING 1 HORIZ F.F.
A422	1	6-3			" " " "
A423	1	9-7			" " " "
A424	1	13-0			" " " "
A425	1	17-5			" " " "
A426	1	19-9			" " " "
A427	8	17-9	X		WING 1 & 2 HORIZ. "
A428	6	7-0	X		" " " " "
A429	2	4-3	X		" " " " "
A430	1	3-2			" 2 HORIZ. "
A431	1	5-6			" " " "
A432	1	8-9			" " " "
A433	1	12-3			" " " "
A434	1	17-3			" " " "
A435	1	19-3			" " " "
A436	2	13-10			" " VERT. "
A437	1	11-11			" " VERT. "
A438	4	17-4		X	" " " "
A439	1	8-10			WING 1 FILLET VERT.
A440	1	6-10			" " " "
A441	1	6-1			" " " "
A442	1	5-5			" " " "
A443	1	4-8			" " " "
A744	2	5-0			" " FILLET HORIZ.
A745	1	6-9			" " " "
A746	1	8-4			" " " "
A747	5	10-10			" " " "
A748	7	7-10			" 1 & 2 B.F.

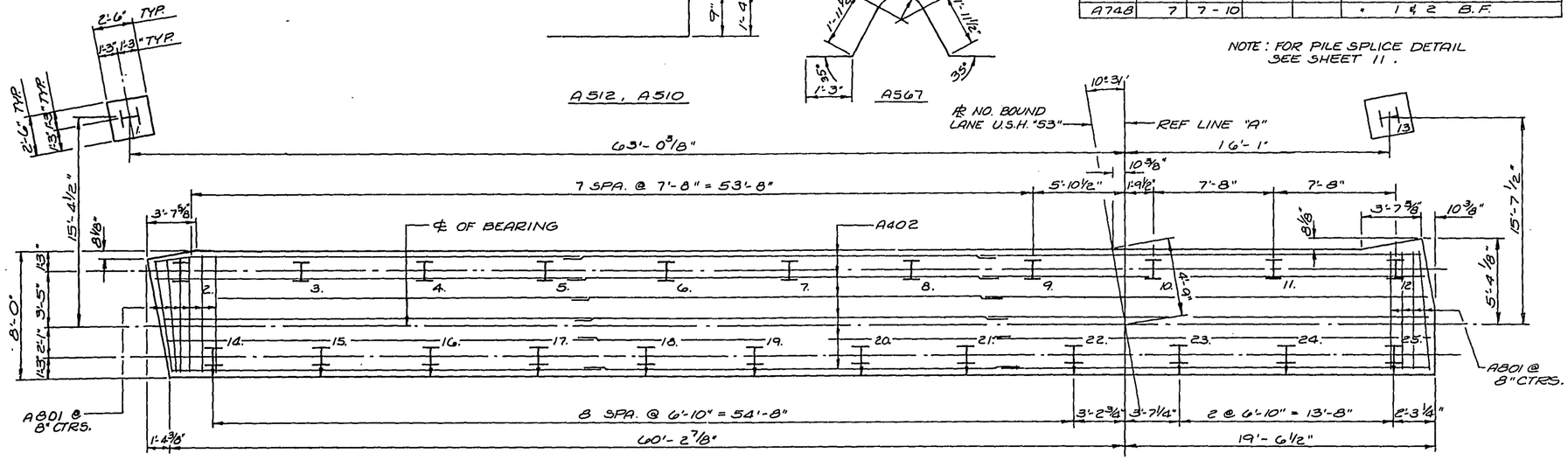
NOTE: FOR PILE SPLICE DETAIL SEE SHEET 11.

MARK	NO. REQ'D.	LENGTH	BENT	CUT. DIAG.	LOCATION
A549	2	19-8	X		WING 1 & 2 B.F. HORIZ.
A550	2	21-3	X		" " " " "
A551	10	22-10	X		" " " " "
A952	26	6-6			" " " " VERT.
A453	5	9-1		X	" " " " "
A754	1	5-0			WING 2 FILLET HORIZ.
A755	1	7-0			" " " "
A756	1	8-8			" " " "
A757	1	10-5			" " " "
A758	5	12-0			" " " "
A659	2	17-0			WING 1 & 2 F.F.
A460	1	8-5			WING 2 FILLET VERT.
A461	1	6-10			" " " "
A462	1	6-2			" " " "
A463	1	5-6			" " " "
A464	1	4-10			" " " "
A465	1	4-2			" " " "
A566	2	2-4			MEDIAN PARAPET
A567	2	6-10	X		" "

NOTE: ALL BENDING DIMENSIONS ARE OUT TO OUT OF BAR.
THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.
FOR BILL OF BARS FOR RAIL PARAPET SEE SHEET 19
FOR RAIL PARAPET DETAILS SEE SHEET 19



POLYVINYL CHLORIDE WATERSTOP DETAILS



PILE PLAN

DENOTES DIRECTION OF BATTERED PILING BATTER 3" FT. IN DIRECTION SHOWN.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

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

SOUTH ABUTMENT DETAILS

SHEET 6 OF 20

X 47266

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	45	225
FEDERAL PROJECT DESIGNATION DPF 08-4(41)		

* ELEVATIONS GIVEN AT ℄ OF BEARING

* EL. 1089.26 * EL. 1089.34 * EL. 1089.39 * EL. 1089.29 * EL. 1089.17 * EL. 1089.10 * EL. 1089.00 * EL. 1088.90 EL. 1088.80 *

F.F. EL. 1094.72 W.T. EL. 1094.79 CONST. JOINT A566 A567 B411 B510 @ 1'-0" CTRS. B512 @ 1'-0" CTRS. B413 W.T. EL. 1094.34 F.F. EL. 1094.27

POUR CONC. ABOVE THIS JOINT AFTER SUPER CONC. IS IN PLACE STRIKE OFF AND LEAVE ROUGH.

** 17'-0 1/8" ** 9'-0 5/8" ** 5'-5 1/2" 2'-6" ** 5'-5 5/8" ** 8'-7 1/8" ** 16'-6 3/4" 2'-6"

A809 1" BEVEL

EL. 1077.71 B408 VERTICAL CONST. JOINT (TYP.) B704 B705 B703 B507 B506

1'-0" TYP. 6" TYP. 1'-0" TYP.

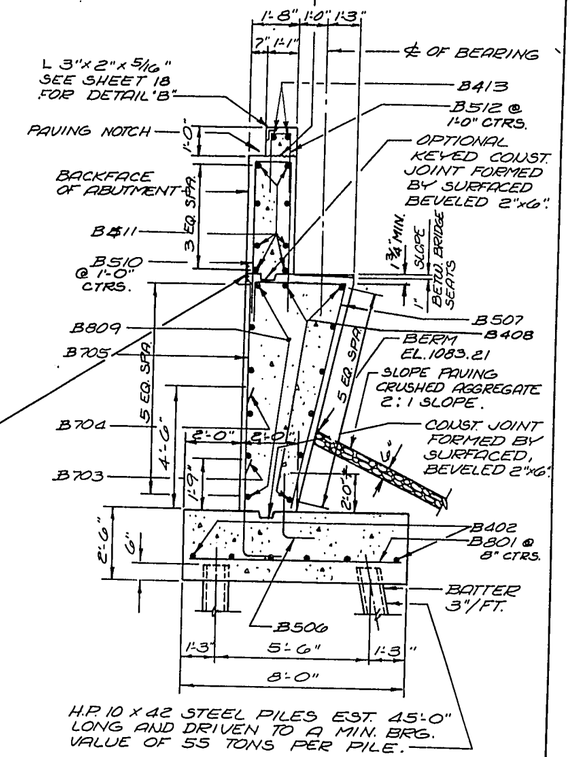
** DIMENSIONS ARE GIVEN @ F.F. OF ABUT. BACKWALL.

NOTE: PLACE B703, B704, B809 B705 BARS BETWEEN FILLETS ONLY.

ELEVATION
(LOOKING NORTH)

POLYVINYL CHLORIDE WATERSTOP - TO EXTEND BETWEEN WING FILLETS. (TO BE FLUSH WITH FACE OF CONC. IF OPTIONAL CONST. JOINT IS USED). FOR DETAILS SEE SHEET 6

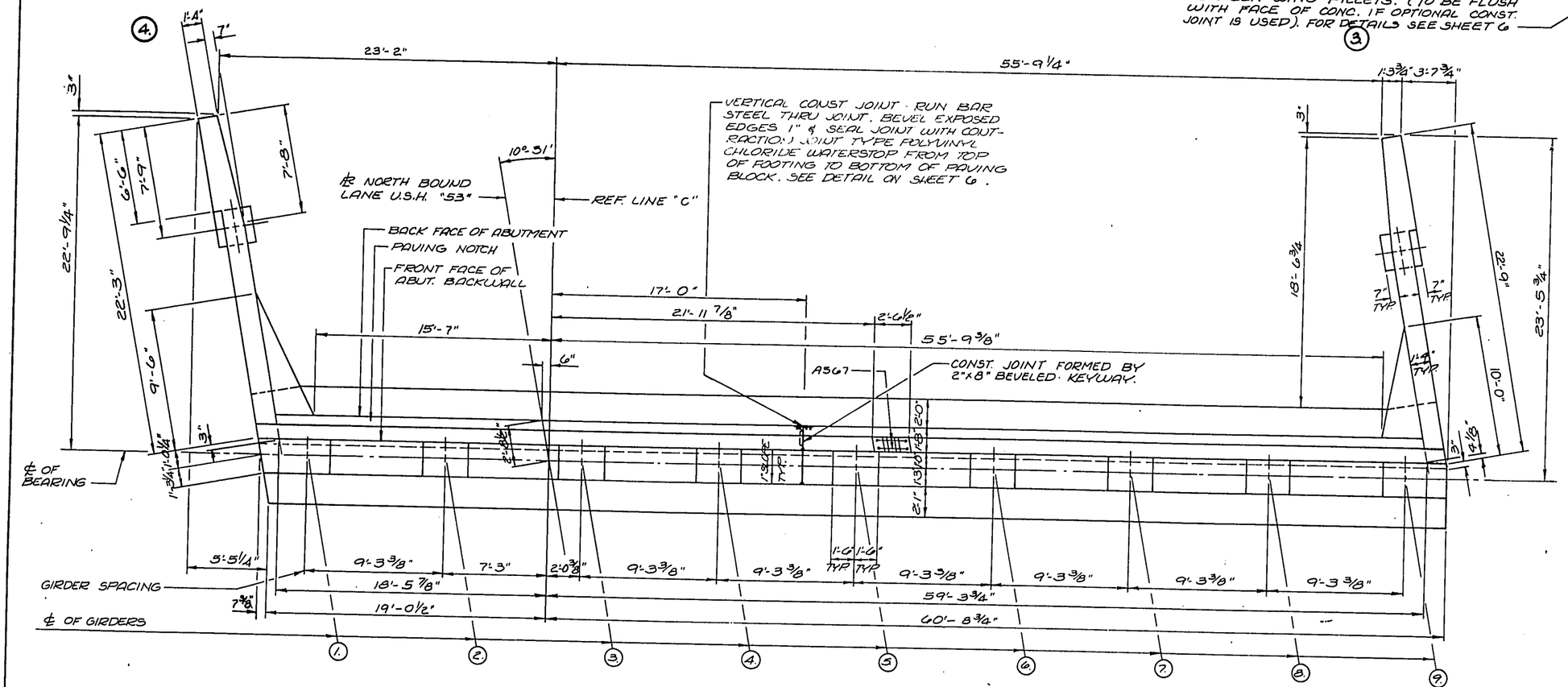
③



H.P. 10 x 42 STEEL PILES EST. 45'-0" LONG AND DRIVEN TO A MIN. BRG. VALUE OF 55 TONS PER PILE.

SECTION THRU BODY

* 1'-3" MIN. LAP B507 TO BE A MIN. OF 2" CL. FROM TOP OF BRIDGE SEAT.



PLAN

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B - 3 - 38

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

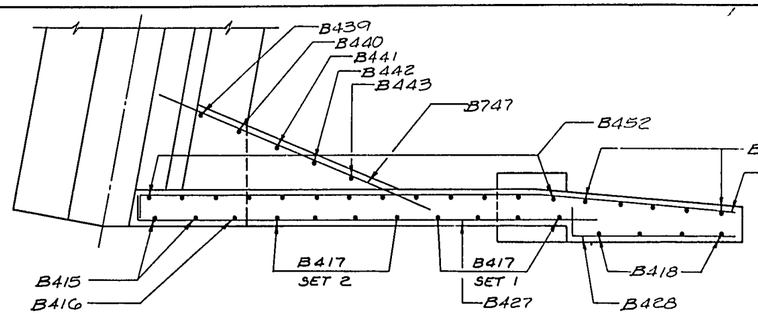
NORTH ABUTMENT

SHEET 7 OF 20

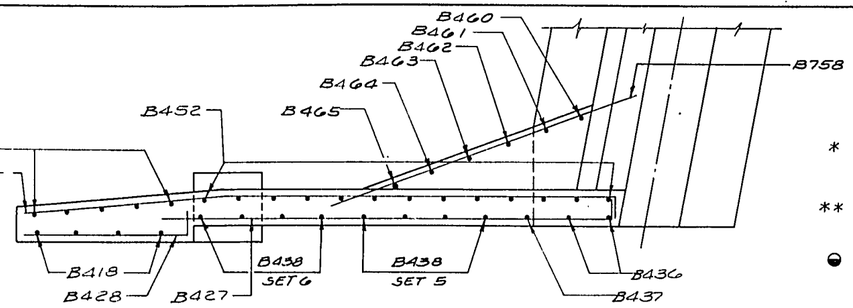
X 47267

Form C B-12 69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	46	225
FEDERAL PROJECT DESIGNATION: DPF 08-4 (41)		



WING 3 PLAN



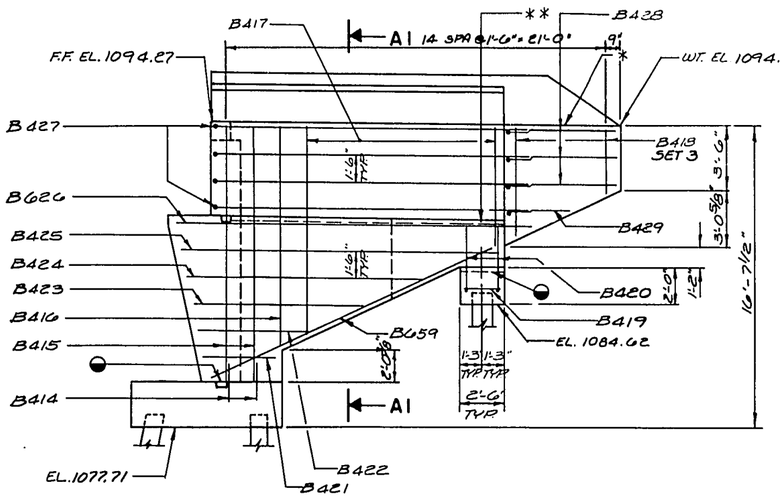
WING 4 PLAN

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

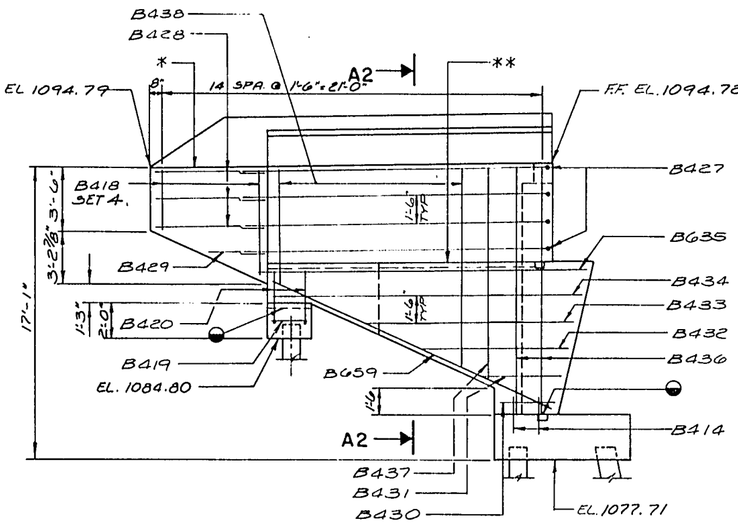
** OPTIONAL KEYED CONST. JOINT FORMED BY SURFACED BEVELED 2"X6".

◒ CONST. JOINT FORMED BY SURFACED, BEVELED 2"X6".

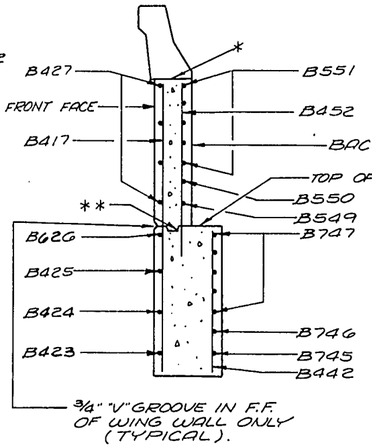
NOTE : FOR RAIL PARAPET BARS & DETAILS SEE SHEET 19 .



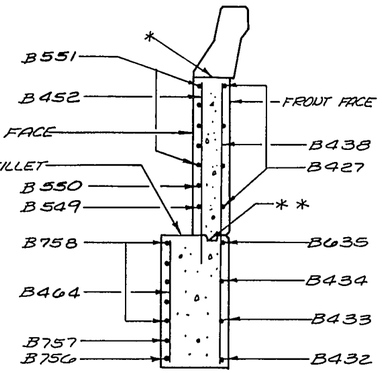
ELEVATION WING 3
(SHOWING FRONT FACE STEEL)



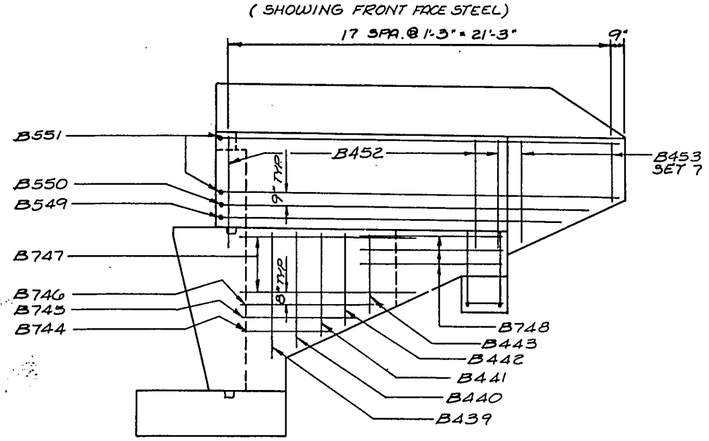
ELEVATION WING 4
(SHOWING FRONT FACE STEEL)



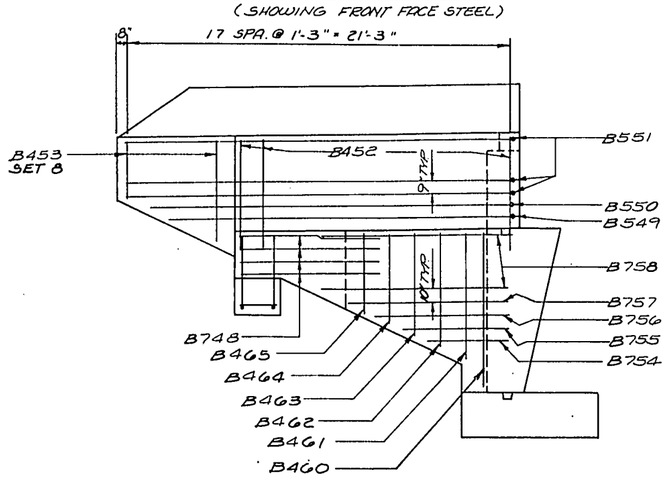
SECTION A1



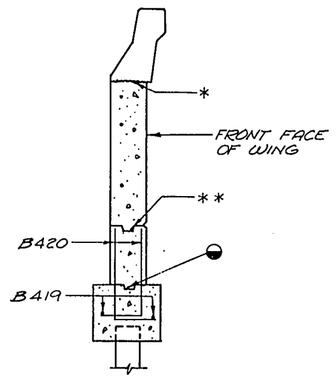
SECTION A2



ELEVATION WING 3
(SHOWING BACK FACE STEEL)



ELEVATION WING 4
(SHOWING BACK FACE STEEL)



TYPICAL SECTION AT WING FOOTING

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

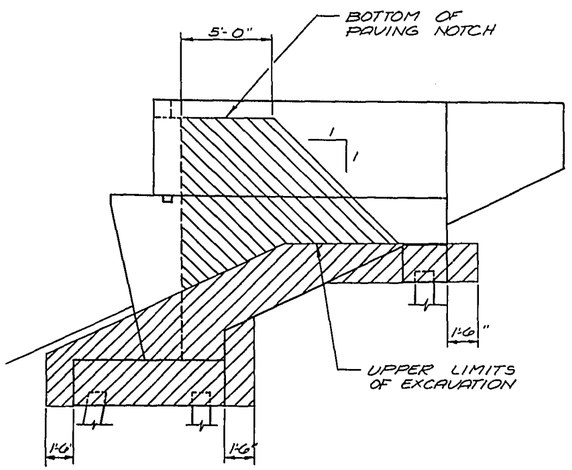
STRUCTURE B-3-38

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

NORTH ABUTMENT DETAILS

SHEET 8 OF 20

X 47268

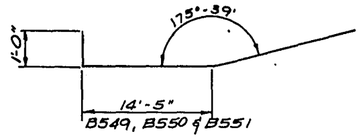


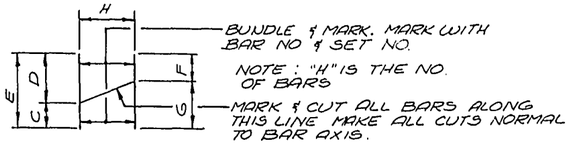
NOTE: ALL EXCAVATED VOLUME NOT OCCUPIED BY THE ABUTMENT SHALL BE BACKFILLED WITH GRANULAR BACKFILL.

EXCAVATION FOR STRUCTURES AND GRANULAR BACKFILL.

GRANULAR BACKFILL BETWEEN INSIDE FACES OF WINGWALLS. THIS MATERIAL SHALL BE PLACED BEFORE SUPERSTRUCTURE CONC. IS POURED.

PAY LIMITS FOR EXCAVATION FOR STRUCTURES & GRANULAR BACKFILL

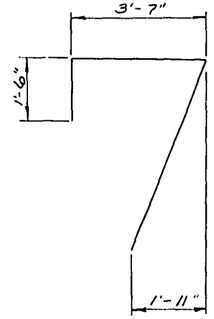




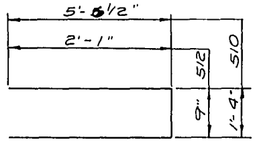
CUTTING DIAGRAM

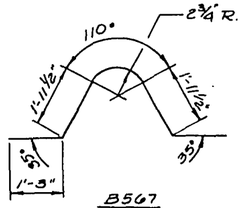
MARK		C	D	E	F	G	H	REQ'D
B417	SET 1	6'-2"	——	17'-3"	——	8'-3"	4	1 SET 1
	SET 2	——	11'-1"		9'-0"	——		1 SET 2
B418	SET 3	3'-4"	——	8'-10"	——	5'-6"	4	1 SET 3
	SET 4	——	5'-6"		3'-4"	——		1 SET 4
B438	SET 5	9'-4"	——	17'-11"	——	11'-7"	4	1 SET 5
	SET 6	——	8'-7"		6'-4"	——		1 SET 6
B453	SET 7	3'-4"	——	9'-1"	——	5'-9"	5	1 SET 7
	SET 8	——	5'-9"		3'-4"	——		1 SET 8

1'-2½"	B703, B704
10½"	B506
1'-6"	B420
1'-0"	B427, B428 & B429



B507





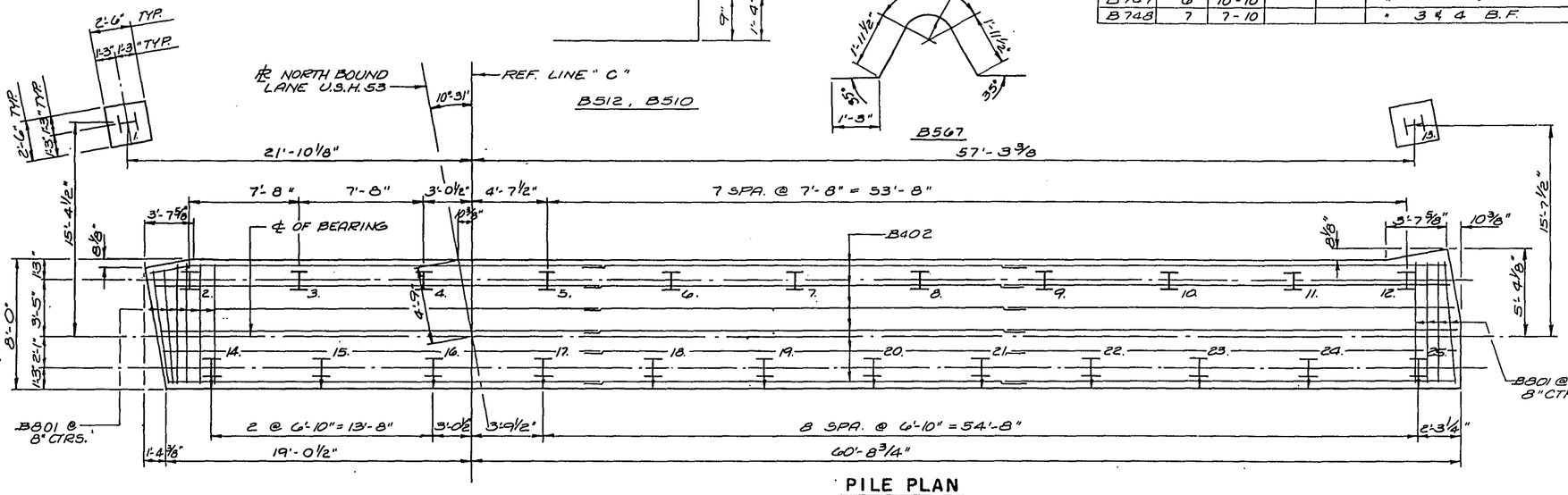
B567

BILL OF BARS

MARK	NO. REQ'D.	LENGTH	BENT	CUT. DIAG.	LOCATION
B401	121	7-8			FOOTING TRANS.
B402	18	27-4			" LONGIT.
B703	72	4-6	X		" DOWEL
B704	72	7-3	X		" "
B705	72	8-4			BODY VERT. B.F.
B506	81	3-9	X		" " F.F.
B507	81	13-6	X		" " "
B408	21	27-4			" LONGIT.
B809	12	37-8			" LONGIT.
B510	78	12-2	X		ABUTMENT BACK WALL VERT.
B411	24	27-7			" " LONGIT.
B512	78	4-8	X		" PAVING BLOCK
B413	20	7-8			" " "
B414	4	2-0			FOOTING DOWELS
B415	2	13-10			WING 3 VERT. F.F.
B416	1	11-10			" " " "
B417	4	17-3		X	" 3 & 4 " "
B418	4	8-10		X	WING " & " " "
B419	4	2-0			" " " " FOOTING
B420	8	5-4	X		" " " " "
B421	1	4-6			WING 3 HORIZ F.F.
B422	1	5-4			" " " "
B423	1	8-9			" " " "
B424	1	12-4			" " " "
B425	1	17-9			" " " "
B626	1	18-1			" " " "
B427	8	17-9	X		WING 3 & 4 HORIZ. "
B428	6	7-0	X		" " " " "
B429	2	4-0	X		" " " " "
B430	1	3-2			" 4 HORIZ. "
B431	1	5-9			" " " "
B432	1	9-2			" " " "
B433	1	12-6			" " " "
B434	1	17-2			" " " "
B635	1	17-5			" " " "
B436	2	14-4			" " VERT. "
B437	1	12-4			" " VERT. "
B438	4	17-11		X	" " " "
B439	1	6-8			WING 3 FILLET VERT.
B440	1	6-0			" " " "
B441	1	5-4			" " " "
B442	1	4-8			" " " "
B443	1	4-0			" " " "
B744	1	5-0			" " FILLET HORIZ.
B745	1	6-11			" " " "
B746	1	8-6			" " " "
B747	6	10-10			" " " "
B748	7	7-10			" 3 & 4 B.F.

MARK	NO. REQ'D.	LENGTH	BENT	CUT. DIAG.	LOCATION
B549	2	20-0	X		WING 3 & 4 B.F. HORIZ.
B550	2	21-7	X		" " " " "
B551	10	22-10	X		" " " " "
B452	26	6-6			" " " " VERT.
B453	5	9-1		X	" " " " "
B754	1	5-0			WING 4 FILLET HORIZ.
B755	1	6-7			" " " "
B756	1	8-5			" " " "
B757	1	10-3			" " " "
B758	5	12-0			" " " "
B659	2	17-0			WING 3 & 4 F.F.
B460	1	7-9			WING 4 FILLET VERT.
B461	1	7-1			" " " "
B462	1	6-4			" " " "
B463	1	5-8			" " " "
B464	1	5-0			" " " "
B465	1	4-4			" " " "
B566	2	2-4			MEDIAN PARAPET
B567	2	6-10	X		" "

NOTE: ALL BENDING DIMENSIONS ARE OUT TO OUT OF BAR.
THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.
FOR BILL OF BARS FOR RAIL PARAPET SEE SHEET 19.
FOR RAIL PARAPET DETAILS SEE SHEET 19.



PILE PLAN

DENOTES DIRECTION OF BATTERED PILING BATTER 3"/FT. IN. DIRECTION SHOWN.

NOTE: FOR PILE SPLICE DETAIL SEE SHEET 11.

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1197-6-72	47	225
FEDERAL PROJECT DESIGNATION DPF08-4(41)		

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

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

NORTH ABUTMENT DETAILS

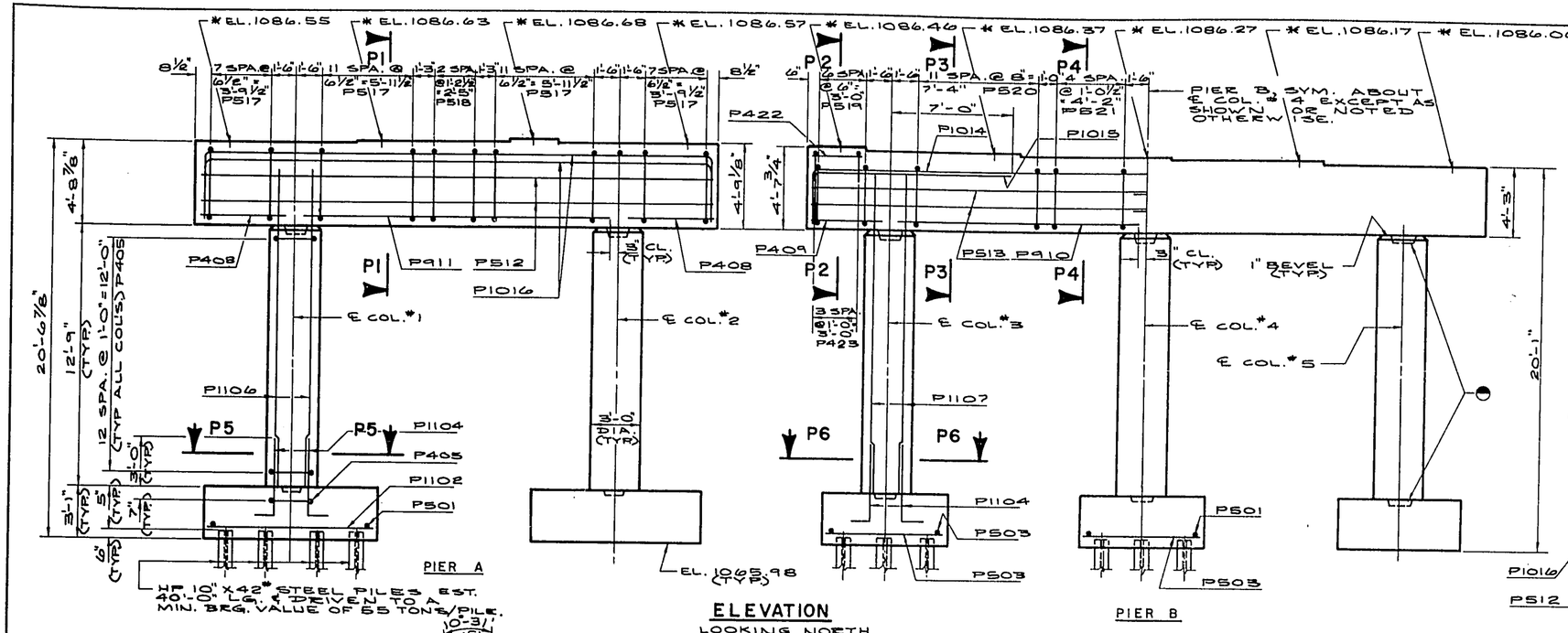
SHEET 9 OF 20

X 47269

Form C B 12-69

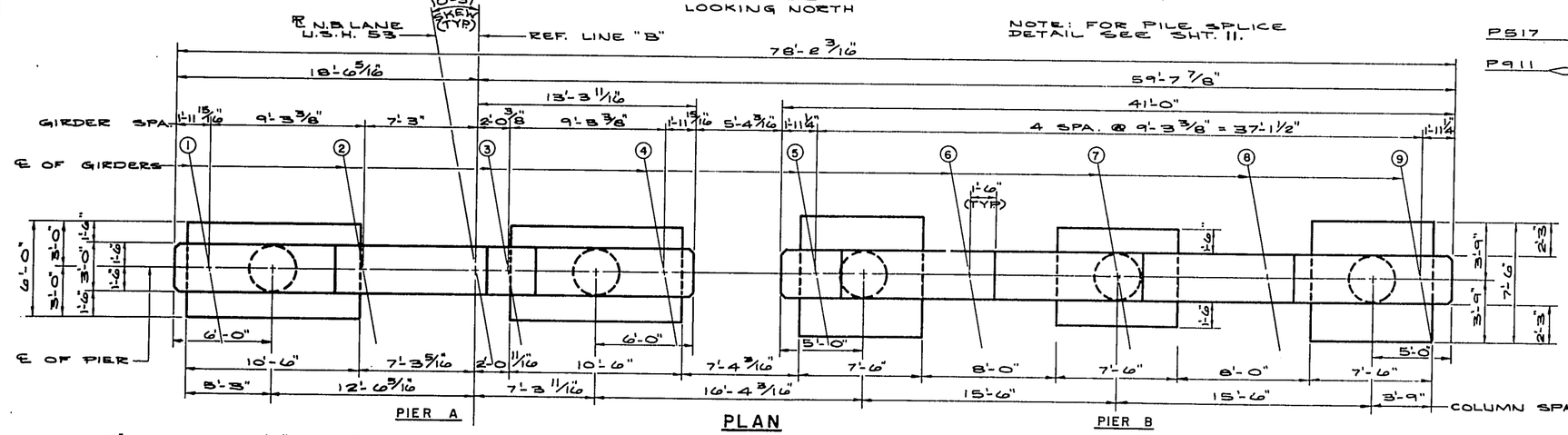
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	48	225
FEDERAL PROJECT DESIGNATION DPF08-4(41)		

*-ELEVATIONS ARE GIVEN AT ℄ OF PIER.

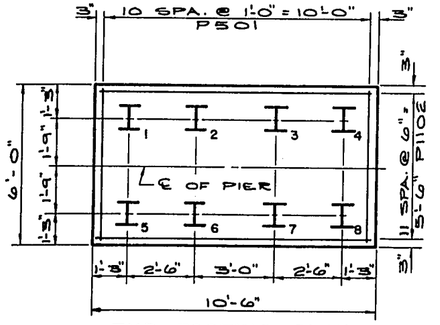


ELEVATION
LOOKING NORTH

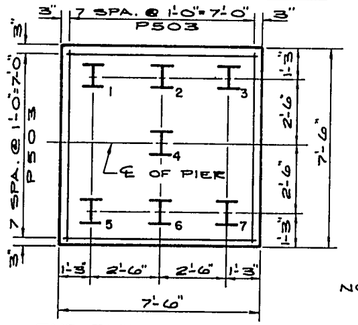
NOTE: FOR PILE SPLICE DETAIL SEE SHT. 11.



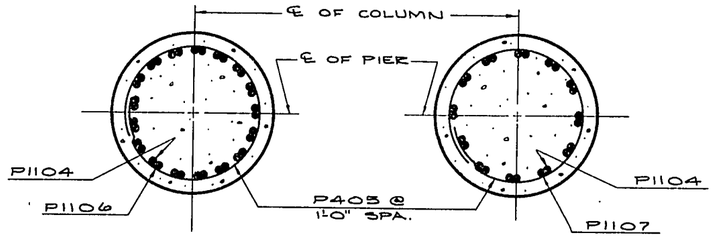
PLAN



TYP. FOOTING PLAN
PIER A



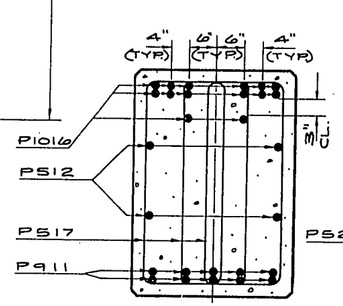
TYP. EXT. FOOTING PLAN
PIER B



NOTE: P1104, P1106 & P1107 BARS ARE EQUALLY SPACED.

SECTION P5

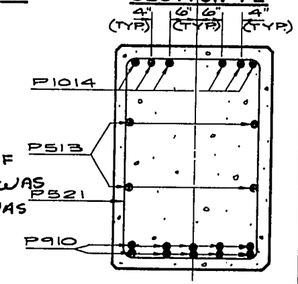
SECTION P6



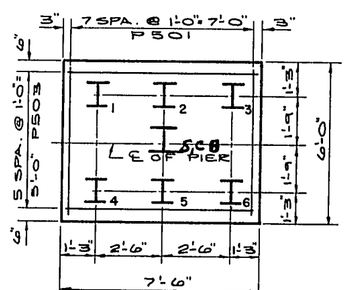
SECTION P1

SECTION P3

SECTION P2



ON INTERIOR FOOTING OF PIER B AN EXTRA PILE WAS DRIVEN BY MISTAKE. IT WAS REJECTED ON BASIS OF PLACEMENT BUT LEFT IN PLACE.



INT. FOOTING PLAN
PIER B

SECTION P4

ESTIMATED CONCRETE MASONRY

	PIER A	PIER B
PIER CAP	16.9 C.Y.	20.2 C.Y.
COLUMNS	6.7 C.Y.	10.0 C.Y.
FOOTINGS	14.4 C.Y.	18.0 C.Y.
TOTAL	38.0 C.Y.	48.2 C.Y.

● - 1'-3" x 1'-3" x 2" CONST. JOINT FORMED BY SURFACED, BEVELED KEY WAY. (TYP. ALL COL'S)

NOTE: PLACE BOTTOM REINF. STEEL IN CAP TO CLEAR VERT. REINF. STEEL IN COLUMNS.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

Const. Spec. 1969	Drawn By TLA	Plans Checked KOK

PIER

SHEET 10 OF 20

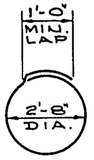
X47270

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	49	225
FEDERAL PROJECT DESIGNATION: DPF08-4(41)		

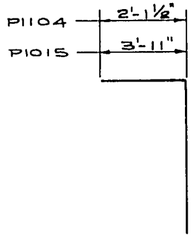
BILL OF BARS

MARK	NO. REQ'D.	LENGTH	BENT	BUND.	LOCATION
P501	30	5-8			PTGS. - PIER A, PIER B - INT.
P1102	24	10-2			" - " A
P503	38	7-2			" - " B - EXT. & INT.
P1104	70	6-5	X		" & COL'S. - DOWELS - PIER A & B
P405	70	9-5	X		" & " - HOOPS - " A & B
P1106	34	17-0			COL'S. - VERT - PIER A
P1107	36	16-6			" - " - " B
P408	10	5-7			CAP - ENDS - BOTT. - PIER A
P409	10	4-7			" - " - " - " B
P910	20	15-0		X	" - BOTTOM - " B
P911	10	19-4		X	" - " - " A
P512	4	31-6			" - MIDDLE - " A
P513	8	21-0			" - " - " B
P1014	6	47-9	X	X	" - TOP - " B
P1015	12	15-5	X	X	" - " - " B
P1016	14	39-5	X	X	" - " - " A
P517	120	12-7	X		" - STIRRUP - TRIPLE - " A
P518	3	14-9	X		" - " - SINGLE - " A
P519	42	11-9	X		" - " - TRIPLE - " B
P520	48	12-9	X		" - " - DOUBLE - " B
P521	10	13-11	X		" - " - SINGLE - " B
P422	2	3-1			" - SEATS - PIER B
P423	4	5-2	X		" - " - " B

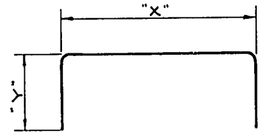
NOTE: DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A THREE DIGIT MARK & THE FIRST TWO DIGITS OF A FOUR DIGIT MARK SIGNIFIES THE BAR SIZE.



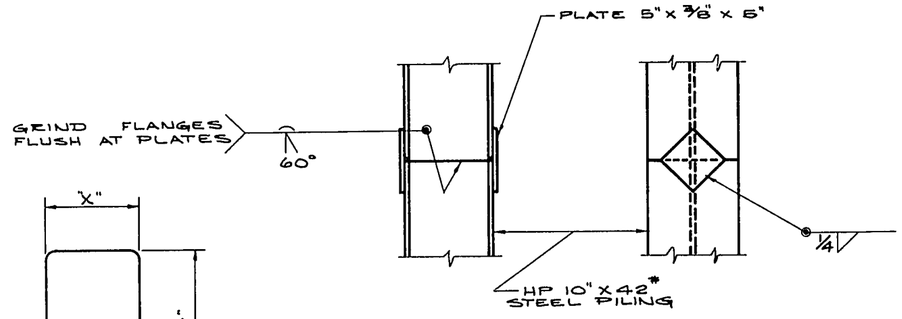
P405



P1104 & P1015

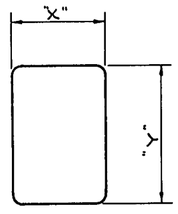


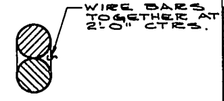
MARK	"X"	"Y"
P1014	40'-8"	3'-11"
P1016	31'-6"	4'-4"
P423	2'-8"	1'-4"



PILE SPLICE DETAIL

MARK	"X"	"Y"
P517	1'-7"	4'-4"
P518	2'-8"	4'-4"
P519	1'-7"	3'-11"
P520	2'-1"	3'-11"
P521	2'-8"	3'-11"





BUNDLING DETAIL

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

Const. Spec. 1969	Drawn By TLA	Plans Checked KOK

PIER DETAILS

SHEET 11 OF 20

X47271

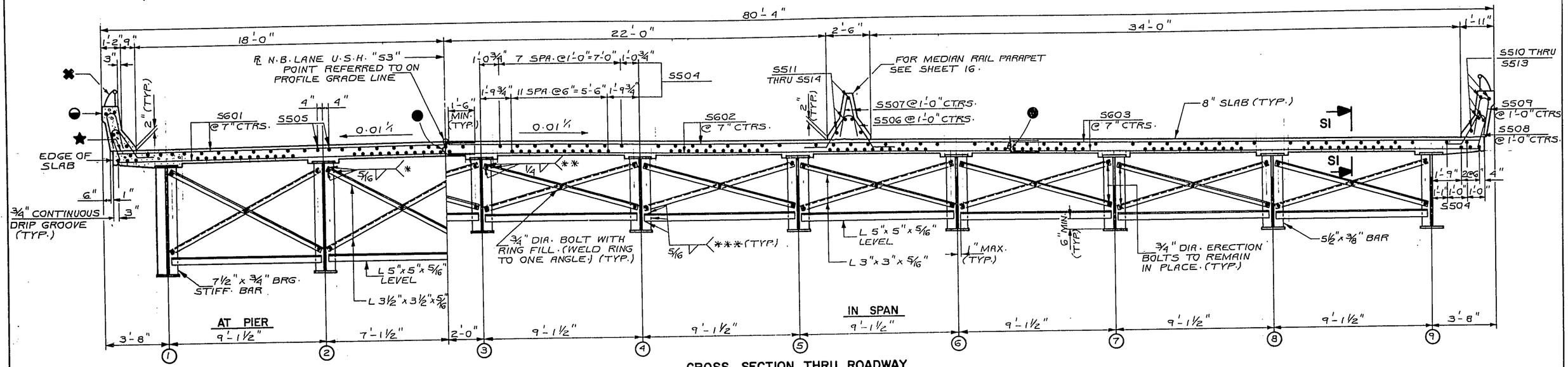
Form C B 12-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	50	225
FEDERAL PROJECT DESIGNATION DPF 08-4(41)		

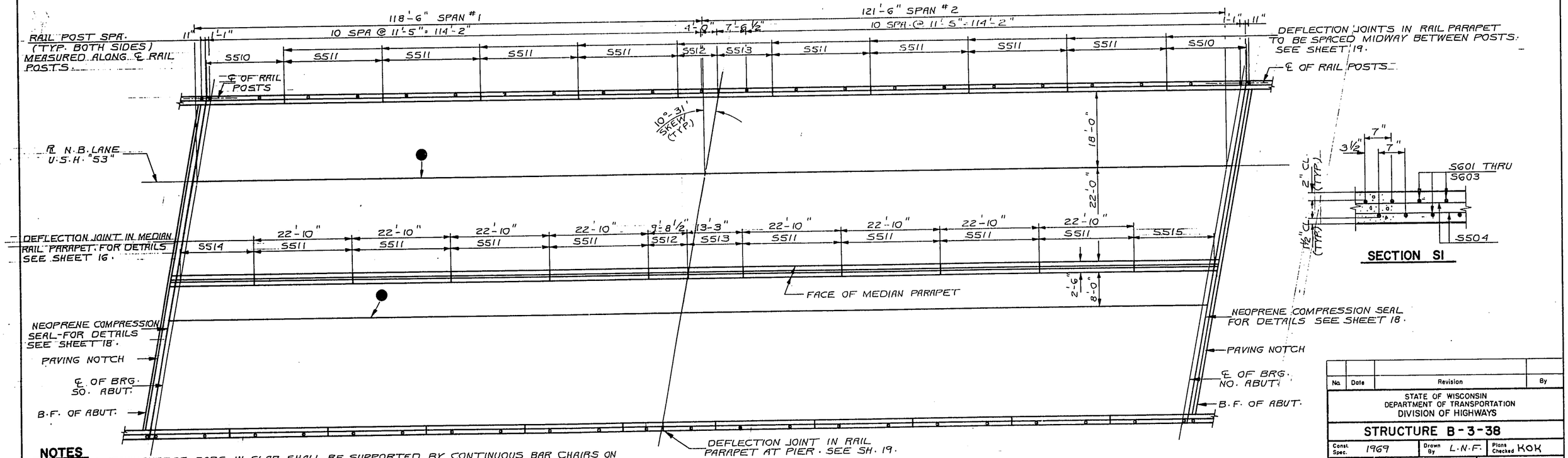
● OPTIONAL LONGIT. CONST. JOINT FORMED BY SURFACED, BEVELED 2"x2".
★ CONST. JOINT - STRIKE OFF LEVEL AND LEAVE ROUGH.
✖ TUBULAR RAILING, TYPE "J". FOR DETAILS SEE SHEET 20.
◒ FOR RAIL PARAPET DETAILS SEE SHEET 19.

* MIN. WELD LENGTH TO BE 9".
** MIN. WELD LENGTH TO BE 9½".
*** MIN. WELD LENGTH TO BE 10½".

NOTE: THE CONCRETE IN ANY SPAN SHALL BE PLACED WITHIN FOUR HOURS OF THE TIME THAT CONCRETE WAS PLACED OVER AN ADJACENT PIER. PLACE TRANSVERSE BAR STEEL ON SKEW.



CROSS SECTION THRU ROADWAY
(LOOKING NORTH)



PLAN

SECTION SI

NOTES

BOTTOM TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS ON OR ADJACENT TO EACH GIRDER AND BY INDIVIDUAL BAR CHAIRS PLACED AT 3'-0" CTRS. AT APPROXIMATELY THE ⅓ POINTS BETWEEN GIRDERS.

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

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

FOR THE BILL OF BARS AND BENDING DETAILS SEE SHEET 16.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

Const. Spec.	Drawn By	Plans Checked
1969	L.N.F.	KOK

SUPERSTRUCTURE

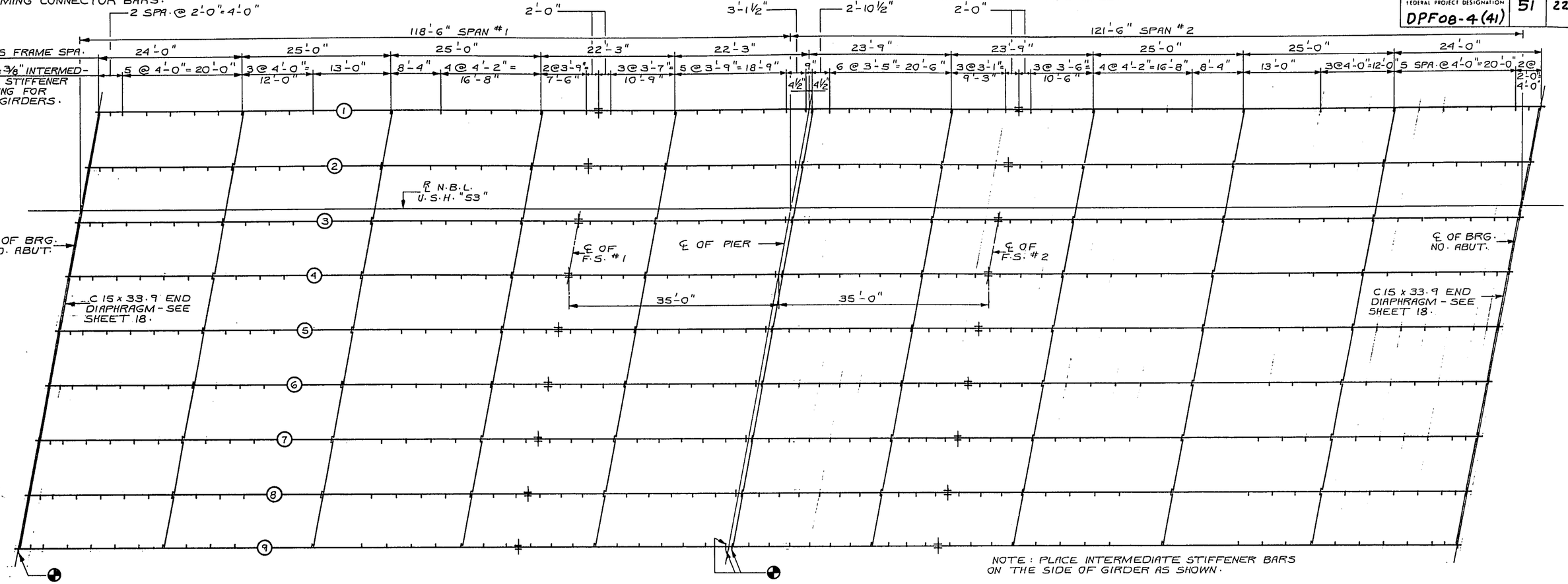
SHEET 12 OF 20

X47272

EXTERIOR BEARING STIFFENERS ON GIRDERS 1 & 9 TO BE PLACED AT RIGHT ANGLES TO ℄ OF GIRDER FOR ABUTMENTS AND PIER AND AT THE PIER WHERE THE INTERIOR BEARING STIFFENERS ARE NOT USED AS CROSS FRAMING CONNECTOR BARS.

NOTE: ALL INTERMEDIATE STIFFENERS TO BE NORMAL TO ℄ OF GIRDER, EXCEPT WHEN USED AS A CROSS FRAMING CONNECTOR BAR AS SHOWN ON THIS SHEET.

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	51	225
FEDERAL PROJECT DESIGNATION: DPF08-4(41)		



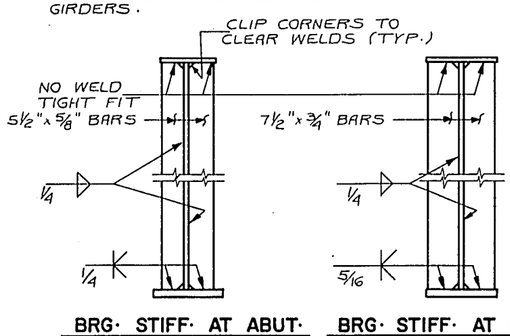
NOTE: PLACE INTERMEDIATE STIFFENER BARS ON THE SIDE OF GIRDER AS SHOWN.

FRAMING PLAN

‡ ALL INTERMEDIATE STIFF. BARS SHALL BE PLACED ON INSIDE FACE OF EXTERIOR GIRDERS AND ON FACE OF INTERIOR GIRDERS AS SHOWN ABOVE.

‡‡ PLACE LONG. STIFF. BARS ON OPPOSITE FACE FROM INTER. STIFF. FOR INTERIOR GIRDERS AND THE SAME FACE AS INTER. STIFF. FOR EXTERIOR GIRDERS.

* 5/16" WELD WHEN WELDING TO A ⅞", 1", 1⅛" AND 1½" FLANGE PLATE AND A ⅜" WELD WHEN WELDING TO A 1¾", 1⅞", 2", 2⅛" AND 2¼" FLANGE PLATE.



BRG. STIFF. AT ABUT. | BRG. STIFF. AT PIER | INTERMEDIATE STIFFENER & CROSS FRAME CONN.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

Const. Spec.	Drawn By	Plans Checked
1969	L.N.F.	KOK

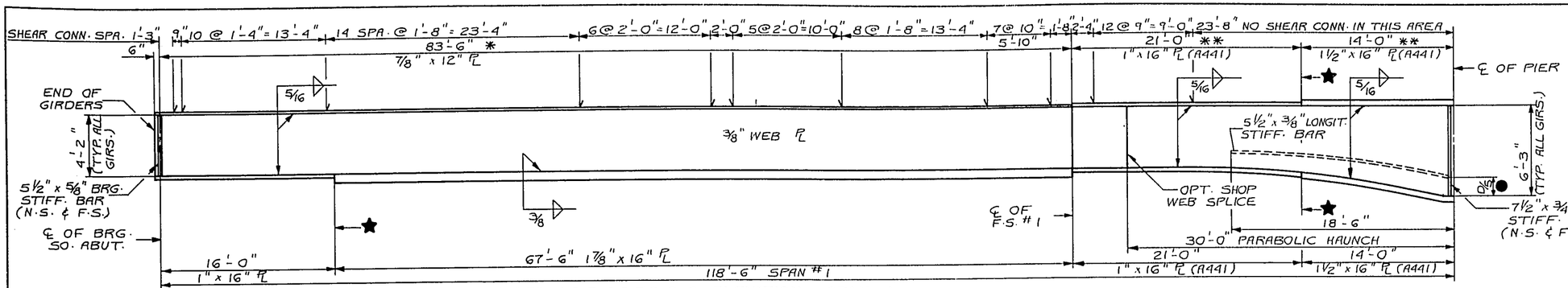
FRAMING PLAN

SHEET 13 OF 20

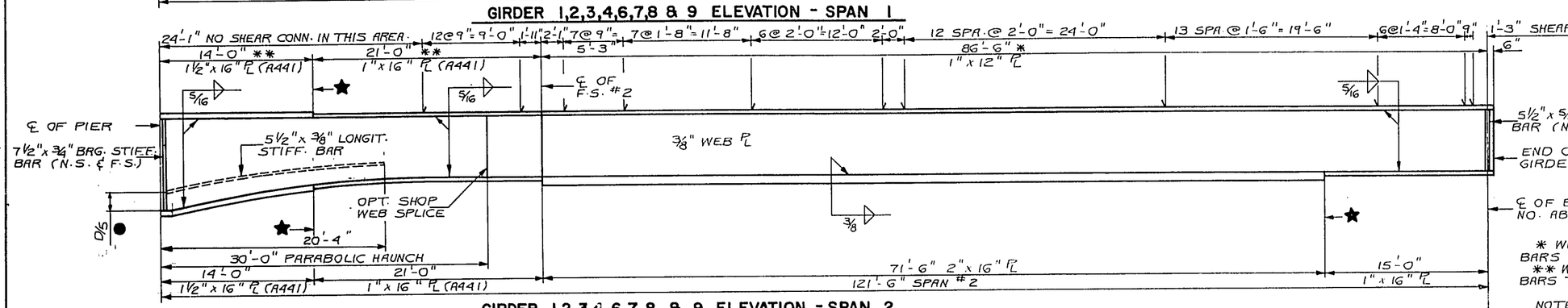
X47273

Form C B 12 69

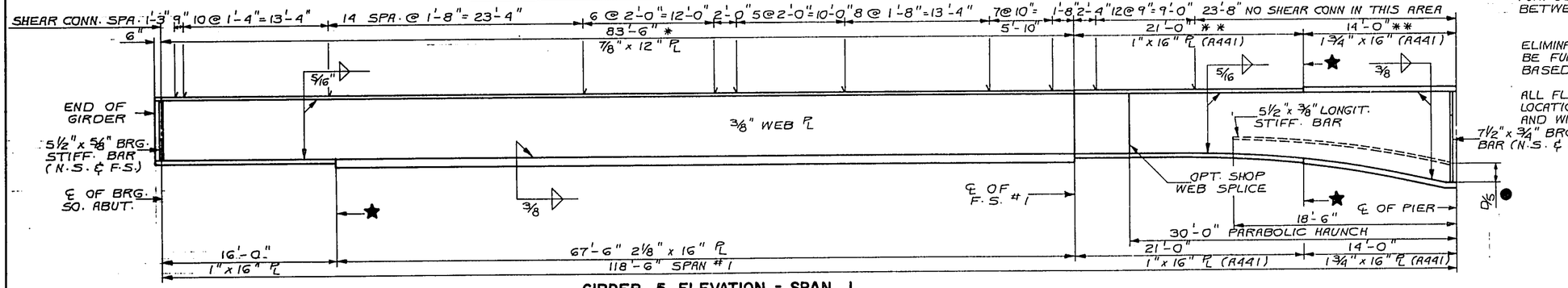
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	52	225
FEDERAL PROJECT DESIGNATION: DPF 08-4(41)		



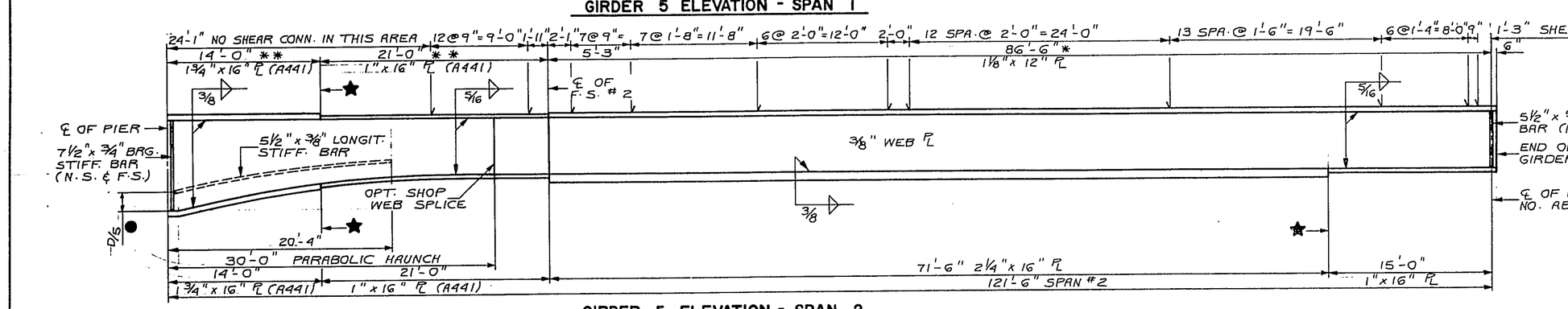
GIRDER 1,2,3,4,6,7,8 & 9 ELEVATION - SPAN 1



GIRDER 1,2,3,4,6,7,8 & 9 ELEVATION - SPAN 2



GIRDER 5 ELEVATION - SPAN 1



GIRDER 5 ELEVATION - SPAN 2

NOTE : FOR LONGIT. STIFF. PLACEMENT SEE SHEET 13.

* WELD INTERMEDIATE STIFFENER AND CROSS FRAME BARS TO TOP FLANGE IN THIS AREA.
** WELD INTERMEDIATE STIFFENER AND CROSS FRAME BARS TO BOTTOM FLANGE IN THIS AREA.

NOTE : FIELD WELDING ON TOP FLANGE FOR CONSTRUCTION PURPOSES IS PROHIBITED IN THE AREA OVER THE PIER BETWEEN THE SHEAR CONNECTORS.
FOR SHEAR CONNECTOR DETAILS SEE SHEET 16.
OPTIONAL BUTT WELDED FLANGE SPLICES MAY BE ELIMINATED AND A FLANGE PLATE OF THE LARGER SIZE MAY BE FURNISHED FULL LENGTH, BUT PAY WEIGHT SHALL BE BASED ON THE SECTIONS AS DETAILED.
OPTIONAL WELDED SHOP SPLICES MAY BE USED FOR ALL FLANGE AND WEB PLATES OVER 60'-0" LONG. IF USED, THE LOCATION OF THE SPLICE SHALL BE SHOWN ON THE SHOP DRAWINGS, AND WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

★ OPTIONAL FLANGE BUTT SPLICE

● D = DEPTH OF WEB

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

Const. Spec. 1969	Drawn By L.N.F.	Plans Checked KOK

GIRDER ELEVATIONS

SHEET 14 OF 20

X47274

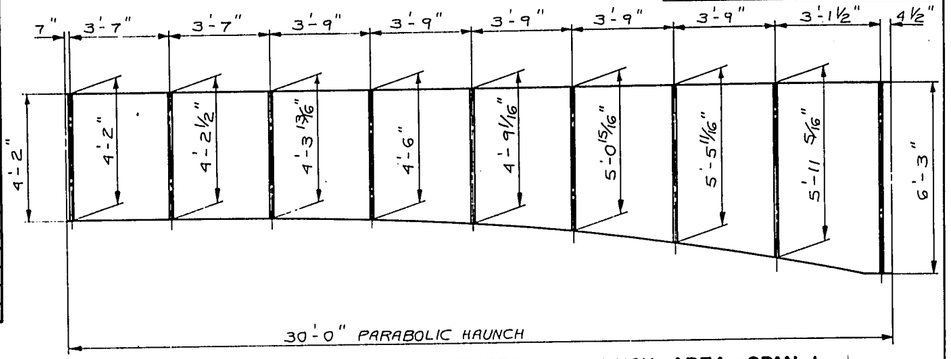
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	53	225
FEDERAL PROJECT DESIGNATION DPF08-4(41)		

ELEVATIONS AT TOP OF DECK (T.D.) AND TOP OF STEEL (T.S.)✖

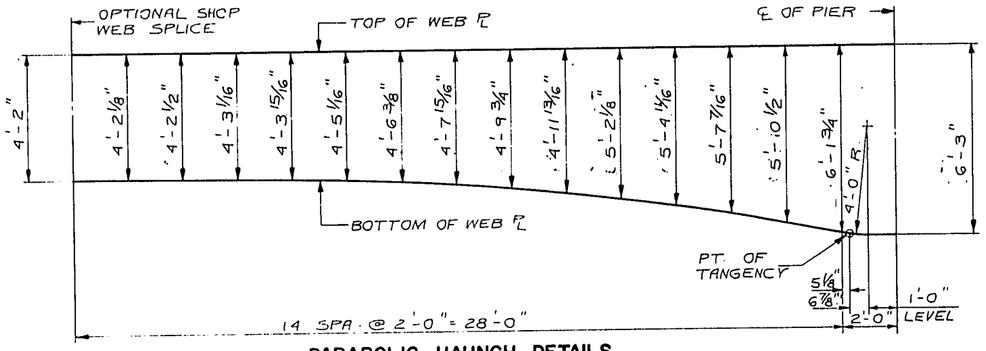
GIRDER		℄ BRG S. ABUT	1/8 PT.	1/4 PT.	3/8 PT	1/2 PT.	5/8 PT.	℄ OF F.S. #1	7/8 PT.	℄ PIER	1/8 PT.	℄ OF F.S #2	3/8 PT.	1/2 PT.	5/8 PT.	3/4 PT.	7/8 PT.	℄ BRG N. ABUT.
1	T.D.	1093.27	1093.40	1093.53	1093.65	1093.76	1093.87	1093.94	1094.08	1094.17	1094.26	1094.37	1094.42	1094.50	1094.56	1094.63	1094.68	1094.74
	T.S.	1092.56						1093.36		1093.50		1093.80						1094.05
2	T.D	1093.35	1093.48	1093.60	1093.73	1093.84	1093.95	1094.02	1094.16	1094.25	1094.34	1094.45	1094.51	1094.58	1094.65	1094.71	1094.77	1094.82
	T.S	1092.64						1093.44		1093.58		1093.88						1094.13
3	T.D	1093.38	1093.51	1093.64	1093.76	1093.88	1093.99	1094.06	1094.20	1094.29	1094.38	1094.49	1094.55	1094.62	1094.69	1094.76	1094.81	1094.87
	T.S	1092.67						1093.48		1093.62		1093.92						1094.18
4	T.D	1093.28	1093.41	1093.54	1093.66	1093.77	1093.89	1093.95	1094.09	1094.19	1094.28	1094.39	1094.45	1094.52	1094.59	1094.66	1094.72	1094.77
	T.S.	1092.57						1093.38		1093.52		1093.82						1094.08
5	T.D.	1093.17	1093.30	1093.43	1093.55	1093.67	1093.78	1093.85	1093.99	1094.09	1094.18	1094.29	1094.35	1094.42	1094.50	1094.56	1094.62	1094.67
	T.S.	1092.47						1093.28		1093.45		1093.72						1094.00
6	T.D.	1093.06	1093.20	1093.32	1093.45	1093.57	1093.68	1093.75	1093.89	1093.98	1094.08	1094.19	1094.25	1094.33	1094.40	1094.46	1094.52	1094.58
	T.S.	1092.35						1093.17		1093.32		1093.63						1093.89
7	T.D.	1092.95	1093.09	1093.22	1093.34	1093.46	1093.57	1093.64	1093.79	1093.88	1093.98	1094.09	1094.15	1094.23	1094.30	1094.36	1094.42	1094.48
	T.S.	1092.25						1093.07		1093.22		1093.52						1093.79
8	T.D.	1092.85	1092.98	1093.11	1093.24	1093.36	1093.47	1093.54	1093.68	1093.78	1093.88	1093.99	1094.05	1094.13	1094.20	1094.27	1094.33	1094.38
	T.S.	1092.14						1092.96		1093.11		1093.42						1093.69
9	T.D.	1092.74	1092.88	1093.01	1093.13	1093.25	1093.37	1093.44	1093.58	1093.68	1093.77	1093.89	1093.95	1094.03	1094.10	1094.17	1094.23	1094.28
	T.S.	1092.03						1092.86		1093.01		1093.32						1093.60

✖ THESE ELEVATIONS ARE TO TOP OF STEEL (SPLICE PLATE THICKNESS, IF APPLICABLE, IS ACCOUNTED FOR) AND THEY ARE FOR THE MATERIAL AS ERECTED. THE ELEVATION OF THE TOP OF STEEL AT THE FIELD SPLICE POINTS SHALL BE CHECKED, AND CORRECTED, IF POSSIBLE, AFTER ERECTION AND BEFORE PERMANENTLY WELDING THE CROSS FRAMING IN PLACE.

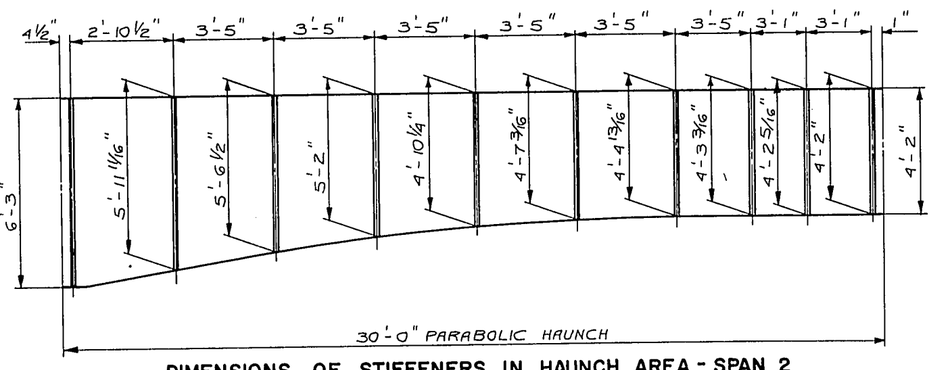
NOTE: TOP OF STEEL ELEVATIONS ARE BASED ON GIRDER SECTIONS AS DETAILED. IF OPTIONAL BUTT SPLICES ARE NOT USED, TOP OF STEEL ELEVATIONS AT FIELD SPLICES WILL HAVE TO BE REVISED.



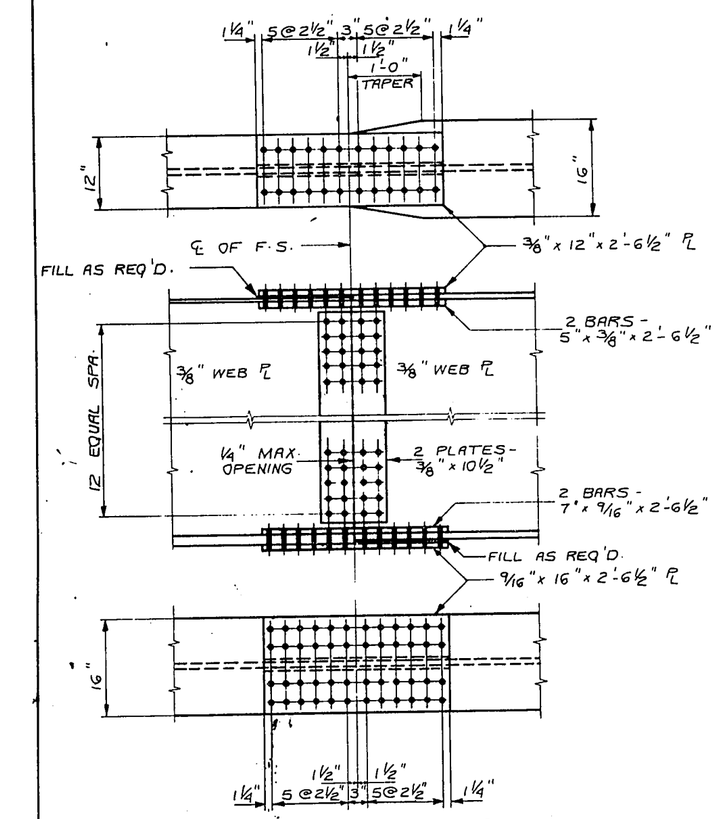
DIMENSIONS OF STIFFENERS IN HAUNCH AREA - SPAN 1



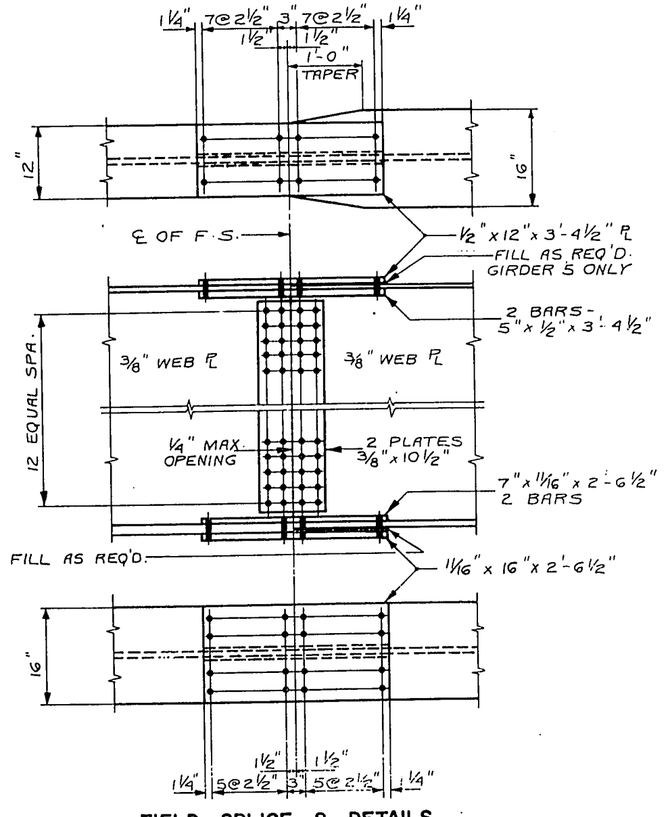
PARABOLIC HAUNCH DETAILS



DIMENSIONS OF STIFFENERS IN HAUNCH AREA - SPAN 2



FIELD SPLICE 1 DETAILS



FIELD SPLICE 2 DETAILS

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

Const. Spec.	Drawn By	Plans Checked
1969	L N F.	KOK

SUPERSTRUCTURE

SHEET 15 OF 20

X47275

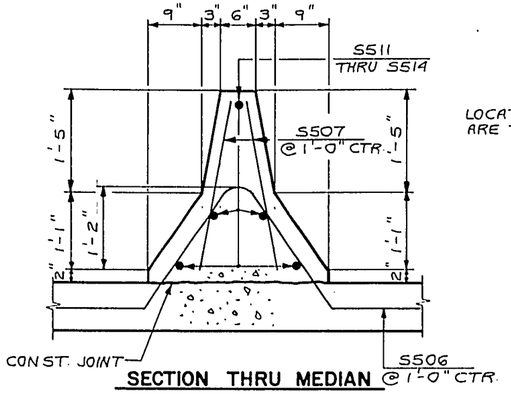
Form L B 12 69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	54	225
FEDERAL PROJECT DESIGNATION DPF08-4(41)		

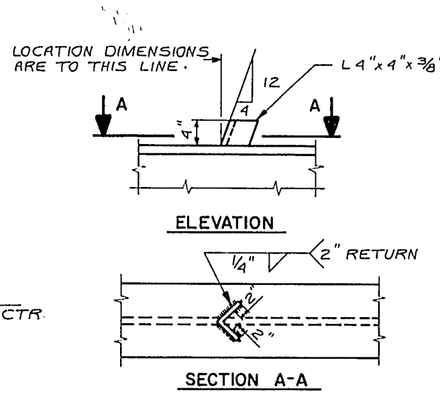
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF THE BAR SIGNIFIES THE BAR SIZE.

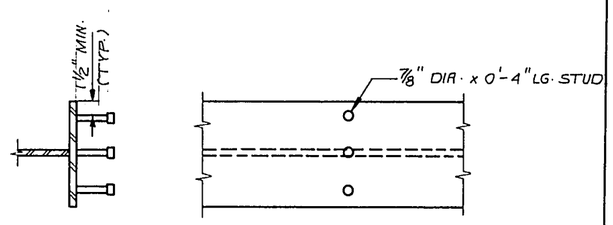
MARK	NO. REQ'D	LENGTH	BENT	LOCATION
S601	823	21-3		SLAB - TOP AND BOTTOM - TRANS.
S602	823	34-7		" - " " " - "
S603	823	27-6		" - " " " - "
S504	1190	35-7		" - " " " - LONGIT.
S505	18	15-0		" - TOP - LONGIT. - SYM. ABOUT ℄ OF PIER
S506	242	6-10	X	MEDIAN PARAPET - VERT.
S507	484	2-4		" " - HORIZ.
S508	484	4-9	X	RAIL PARAPET - VERT.
S509	484	5-0	X	" " - "
S510	20	17-8		RAIL PARAPET - HORIZ.
S511	120	22-6		RAIL AND MEDIAN PARAPET - HORIZ.
S512	15	9-4		" " " " - "
S513	15	12-11		" " " " - "
S514	5	17-11		MEDIAN PARAPET - HORIZ.
S515	5	17-5		" " - "



SECTION THRU MEDIAN

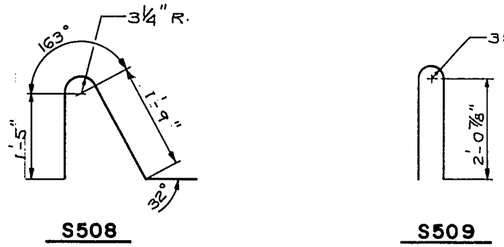


SHEAR CONNECTOR DETAIL

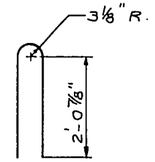


ALTERNATE SHEAR CONNECTOR DETAIL

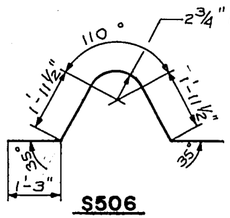
NOTE: THE CONTRACTOR MAY USE THREE SHOP OR FIELD WELDED 7/8" DIA. x 0'-4" LG. STUDS EQUALLY SPACED WITH A MIN. OF 1 1/2" CLEARANCE FROM THE FLANGE EDGE AT ALL PLACES WHERE AN ANGLE SHEAR CONNECTOR IS DETAILED.



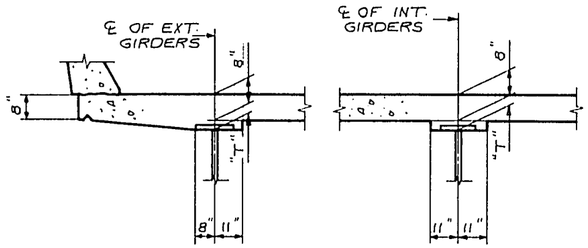
S508



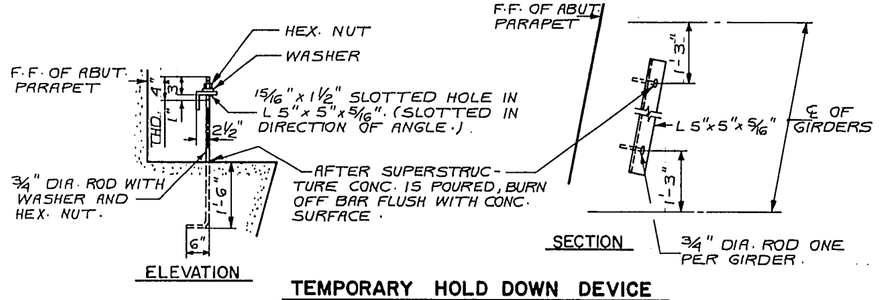
S509



S506



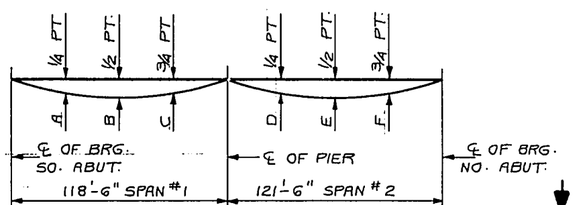
PART SECTION THRU SLAB



TEMPORARY HOLD DOWN DEVICE

NOTE: THE TEMPORARY HOLD DOWN DEVICE SHALL BE PLACED AT ABUT. WHERE SLAB POUR TERMINATES. (TO BE PAID FOR AS STRUCTURAL CARBON STEEL.)

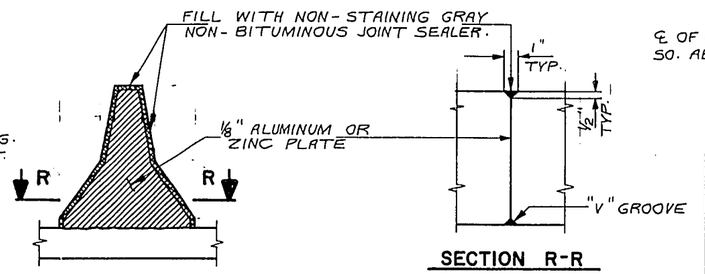
NOTE: TO DETERMINE "T"; AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OR TOP OF SPLICE PLATES, WHICHEVER APPLIES, SHALL BE TAKEN AT CENTERLINE OF BEARINGS, CENTERLINE OF FIELD SPLICES AND AT EIGHTH POINTS OF EACH SPAN WHICH ARE MORE THAN SIX FEET FROM A FIELD SPLICE. THESE ELEVATIONS, SUBTRACTED FROM THE GRADE ELEVATIONS, ADJUSTED FOR DEADLOAD DEFLECTION OF THE CONCRETE, MINUS THE SLAB DEPTH, PLUS THE STEEL THICKNESS TO BOTTOM OF TOP FLANGE, EQUALS THE HAUNCH DEPTH "T".



DEFLECTION DIAGRAM

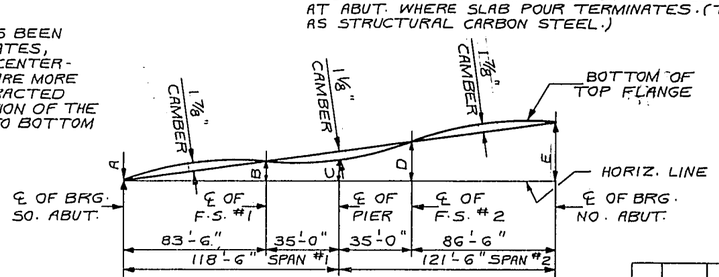
(SHOWING DEADLOAD DEFLECTION ONLY)

	DEFLECTION	A	B	C	D	E	F
GIRDERS 1,2,3,4,6,7,8 & 9	CONC. ONLY	1 11/16"	1 7/8"	11/16"	1 1/16"	1 3/4"	1 9/16"
	TOTAL	1 15/16"	2 3/16"	13/16"	13/16"	2"	1 13/16"
GIRDER 5	CONC. ONLY	1 7/8"	2 1/16"	13/16"	3/4"	1 7/8"	1 5/8"
	TOTAL	2 1/8"	2 3/8"	15/16"	13/16"	2 1/8"	1 7/8"



DEFLECTION JOINT AT MEDIAN

SECTION R-R



BLOCKING DIAGRAM

DIMENSIONS	A	B	C	D	E
GIRDER 1	0.0	.761	.877	1.183	1.465
GIRDER 2	0.0	.764	.883	1.189	1.475
GIRDER 3	0.0	.768	.887	1.196	1.484
GIRDER 4	0.0	.771	.893	1.202	1.494
GIRDER 5	0.0	.785	.904	1.213	1.505
GIRDER 6	0.0	.778	.902	1.215	1.514
GIRDER 7	0.0	.781	.907	1.221	1.524
GIRDER 8	0.0	.785	.912	1.228	1.534
GIRDER 9	0.0	.788	.917	1.234	1.544

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

Const. Spec. 1969 | Drawn By L.N.F. | Plans Checked KOK

SUPERSTRUCTURE

SHEET 16 OF 20

X47276

B.P.R. Division	Project	Sheet Number	Total Sheets
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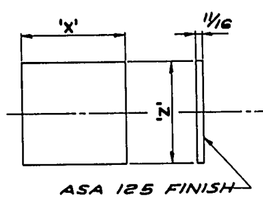
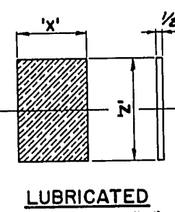


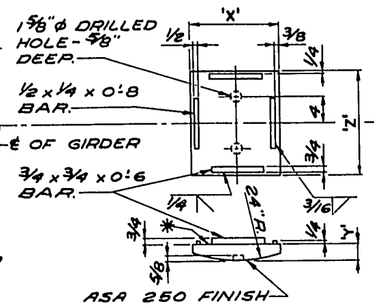
TOP PLATE "A"

FINISH BOTTOM OF TOP PLATE IN DIRECTION OF MOVEMENT.

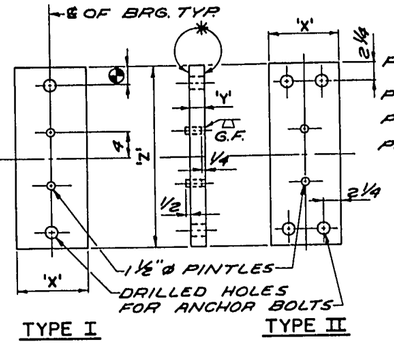


LUBRICATED BRONZE ℞ "B"

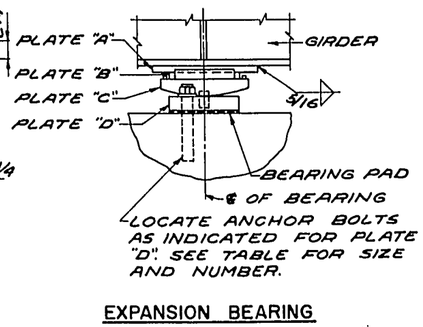
LUBRICATE TOP SURFACE ONLY.



ROCKER PLATE "C"

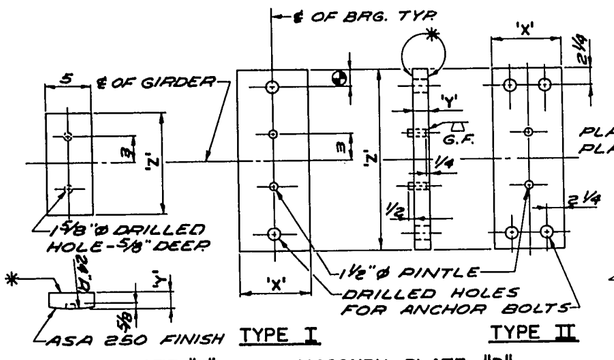


MASONRY PLATE "D"



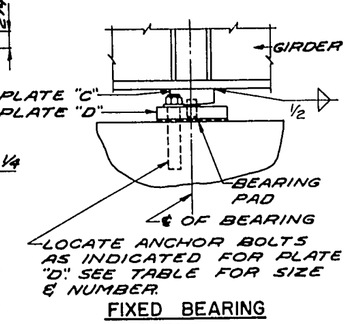
EXPANSION BEARING ASSEMBLY

EXPANSION BEARING



ROCKER PLATE "C"

MASONRY PLATE "D"



FIXED BEARING ASSEMBLY

FIXED BEARING

	PLATE 'A'		PLATE 'B'		PLATE 'C'			PLATE 'D'			PLATE 'D' TYPE	ANCHOR BOLT SIZE	NO. OF BRG'S. REQ'D.	LOCATION
	X	Z	X	Z	X	Y	Z	X	Y	Z				
EXPANSION BEARING	11"	1'-4"	7"	1'-4"	9"	1 11/16"	1'-6 1/4"	8"	1 1/2"	2'-2"	I	1 1/2" DIA.	18	AT ABUTS.
FIXED BEARING					—	2 3/8" ●	1'-4"	1'-4"	2 7/8"	2'-2"	I	1 1/2" DIA.	9	AT PIER
					—									
					—									

● 2" WHEN 1 1/4"ø ANCHOR BOLTS ARE USED AND 2 1/4" WHEN 1 1/2"ø ANCHOR BOLTS ARE USED.

* FINISH ASA 250 IF DIMENSION 'Y' IS GREATER THAN 2."

BEARING NOTES

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

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.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX. NUT PER BOLT.

ALL MATERIAL INCLUDING SHIMS BUT EXCLUDING ANCHOR BOLTS, PINTLES, NUTS AND WASHERS SHALL BE MADE OF AS88 STEEL. PINTLES SHALL BE MADE OF A449 STEEL.

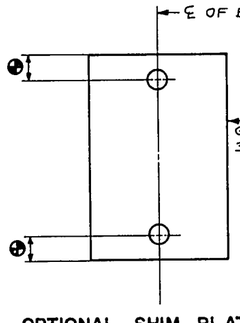
ALL MATERIAL IN BEARINGS, EXCLUDING BRONZE PLATES AND BEARING PADS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL LOW ALLOY STEEL".

CHAMFER TOP OF PINTLES 1/8" DRILL HOLES FOR PINTLES IN ALL MASONRY PLATES FOR DRIVING FIT.

PROVIDE 1/8" THICK BEARING PAD SAME SIZE AS MASONRY PLATE "D" FOR EACH BEARING.

ANCHOR BOLTS SHALL BE OF A SIZE AS GIVEN IN THE TABLE. LENGTH OF 1 1/4" ø ANCHOR BOLTS TO BE 1-5. LENGTH OF 1 1/2" ø ANCHOR BOLTS TO BE 1-10. PROJECT. ANCHOR BOLTS "D" PLATE THICKNESS +2 1/4" ABOVE TOP OF CONCRETE. DRILLED HOLES FOR ANCHOR BOLTS IN PLATE "D" SHALL HAVE A DIAMETER 3/8" LARGER THAN THE ANCHOR BOLT DIAMETER.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.



GIRDER 5 } 8 x 1 1/8" x 2'-2" PL AT SO. ABUT.
8" x 1 1/4" x 2'-2" PL AT NO. ABUT.

GIRDERS 1,2,3,4,6,7,8 & 9 } 8" x 7/8" x 2'-2" PL AT SO. ABUT.
8" x 1" x 2'-2" PL AT NO. ABUT.

OPTIONAL SHIM PLATE AT ABUTS.

NOTE: SHIM PLATES TO BE USED AT ABUTS. IF OPTIONAL FLANGE BUTT SPLICE IS USED.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

Const. Spec. 1969	Drawn By L.N.F.	Plans Checked KOK

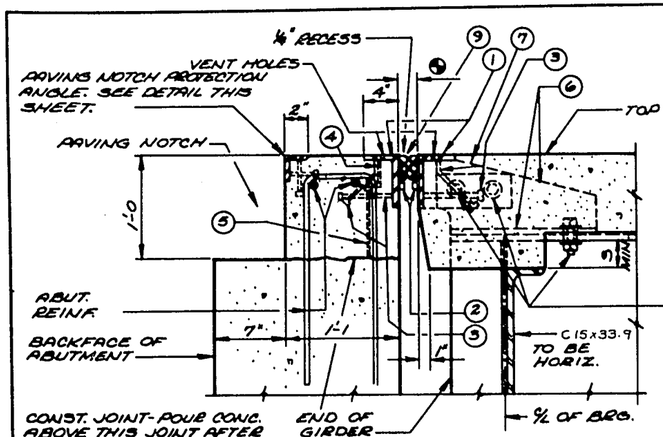
BEARING DETAILS

SHEET 17 OF 20

X47277

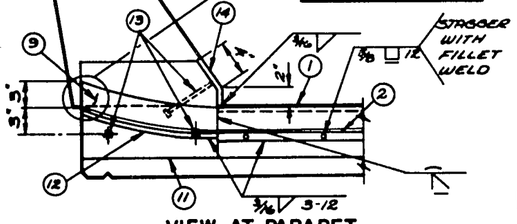
Form E-B-12-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	56	225
FEDERAL PROJECT DESIGNATION: DPF08-4(41)		

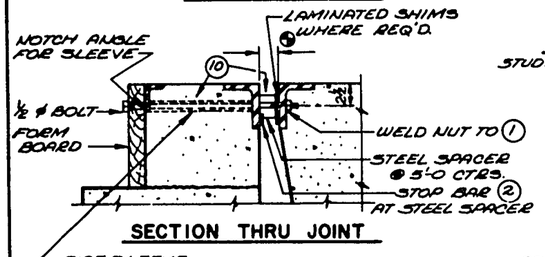


SECTION E1

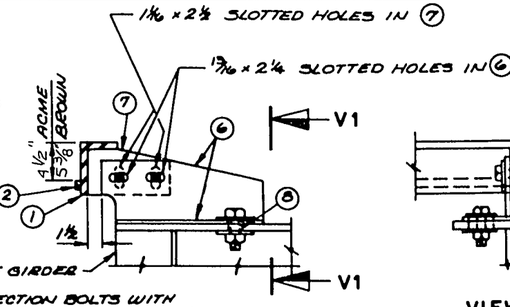
CAPPING DETAIL



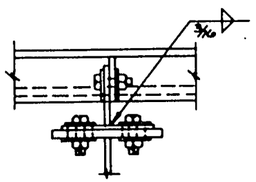
VIEW AT PARAPET

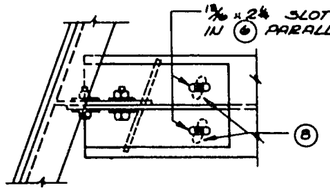


SECTION THRU JOINT

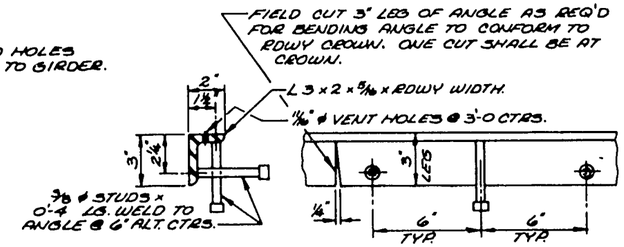


ELEVATION OF SEATING ADJUSTMENT



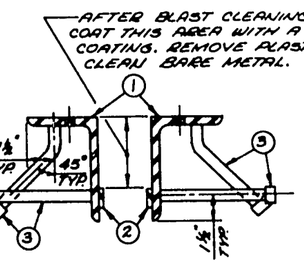


PLAN



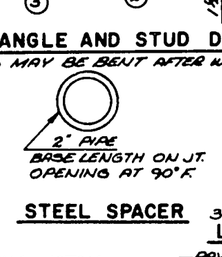
PAVING NOTCH PROTECTION ANGLE

NOTE: ONE FIELD SPLICE PERMITTED IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. ANGLE AND STUDS SHALL BE PAID FOR AS STRUCTURAL CARBON STEEL. PLACE ONE PROTECTION ANGLE AT EACH ABUTMENT.



ANGLE AND STUD DETAIL

STUDS MAY BE BENT AFTER WELDING



STEEL SPACER

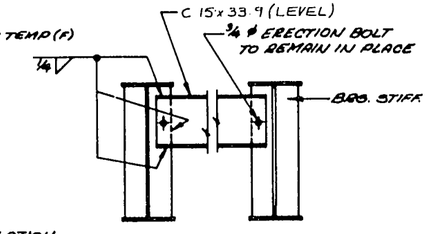
LAMINATED SHIM

SHADED UNDERSIDE DECK TEMP (F)	JT. OPENING ACME	JT. OPENING BROWN
90°	1 13/16"	1 7/8"
80°	1 15/16"	1 15/16"
70°	2"	2"
60°	2 1/8"	2 1/8"
50°	2 1/4"	2 3/16"
40°	2 5/16"	2 5/16"
30°	2 7/16"	2 3/8"

MAXIMUM PRACTICAL INSTALLATION TEMPERATURE IS ★.

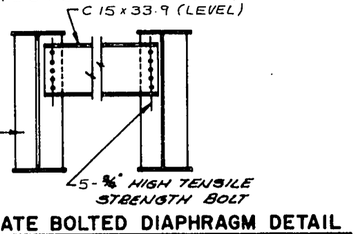
TEMPERATURE TABLE

★ 81° FOR ACME SEAL. 86° FOR BROWN SEAL.



END DIAPHRAGM CONN. DETAIL

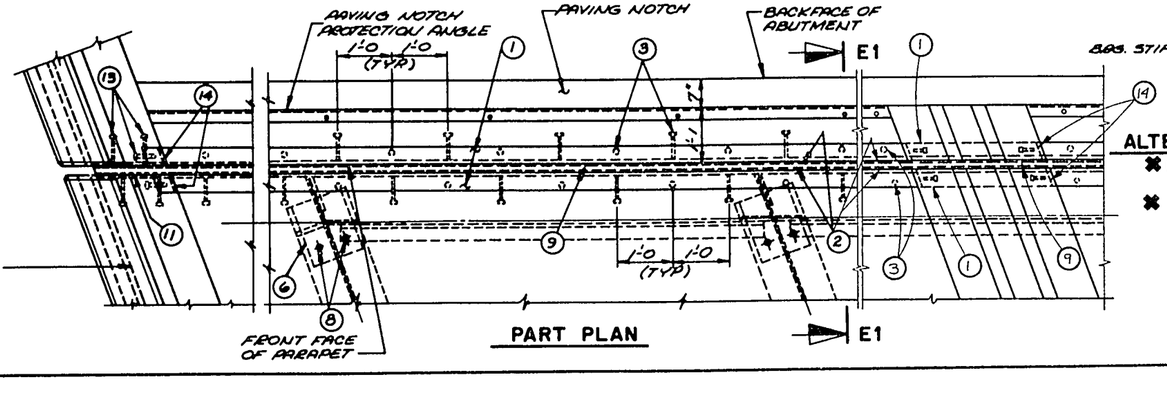
✖ (L 5" x 5" x 5/16" NOT SHOWN)



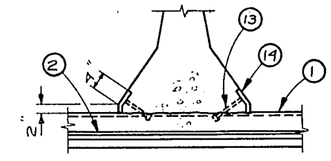
ALTERNATE BOLTED DIAPHRAGM DETAIL

✖ (L 5" x 5" x 5/16" NOT SHOWN)

✖ L 5" x 5" x 5/16" TO BE PLACED THE SAME WAY AS THE PIER L 5" x 5" x 5/16".



PART PLAN



SECTION THRU MEDIAN PARAPET AT JOINT

LEGEND

(1) *** WITH 1 3/16" ø VENT HOLES AT 2'-0 CTRS AND 7/16" ø HOLES FOR BOLT (10) AT 5'-0 CTRS. ANGLE FACES MUST BE PARALLEL WITHIN 1 1/16" BETWEEN STEEL SPACERS (10).

(2) RETAINER BAR 1 x 1/4 WELD TO (1) AS SHOWN.

(3) 5/8 ø x 0'-6 3/8 LONG STUDS AT 1'-0 ALTERNATE CTRS. WELD TO (1)

(4) L 3 x 2 1/2 x 3/8 x 0'-3 @ 3'-0 CTRS. WELD TO (1). PROVIDE 15/16" ø HOLE IN 2 1/2" LEG FOR ROD (5).

(5) 3/4 ø ROD x 0'-10 LONG WITH NUT. TACK WELD NUT TO BOTTOM OF (4). THREAD 3".

(6) FABRICATE FROM 3/8 WELDED PLATES. 2-1 3/16 x 2 1/4 SLOTTED HOLES IN BASE PLATE PARALLEL TO ℄ OF GIRDER. 2-1 3/16 x 2 1/4 SLOTTED HOLES IN STEM PLACED HORIZONTALLY.

(7) 3/8 PLATE. WELD TO LEGS OF (1) WITH 3/16" FILLET WELD NEAR SIDE AND FAR SIDE. 2-1 1/16 x 2 1/4 SLOTTED HOLES PLACED VERTICALLY.

(8) 2-1 3/16 x 1 3/4 SLOTTED HOLES IN GIRDER FLANGE FOR 2-3/4 ø ERECTION BOLTS. SLOT TO BE PARALLEL TO ℄ OF BEARING. CLEAR BEARING STIFFENER BY 1 1/2" MIN.

(9) AREOFORMED B-610 ACME OR H-3500 BROWN NEOPRENE SEAL. EDGE OF SLAB TO EDGE OF SLAB.

(10) BLOCK AND BOLT FOR SHIPMENT AND ERECTION WITH PIPE SLEEVE, STEEL SPACER AND 5/8 ø BOLT AT 5'-0 CTRS.

(11) 3/8 PLATE - SHAPE TO FIT. SHOP WELD TO (1)

(12) RETAINER BAR 1/8 x 1/4. WELD TO PLATE (11) AS SHOWN.

(13) 5/8 ø x 0'-6 3/8 LONG STUDS. WELD TO PLATES (11) AND (14).

(14) 3/8 PLATE - PLACE FLUSH WITH FACE OF RAIL AND MEDIAN PARAPET AS SHOWN. SHOP WELD TO (1) AND PLATE (11) AT CURB. AT MEDIAN PARAPET, WELD TO (1).

NOTES

CAPPING DETAIL - PROVIDE EITHER:
3CE-428 CLOSED CELL NEOPRENE SPONGE CONFORMING TO ASTM D1056-67T, 1" THICK CUT TO MATCH THE UNCOMPRESSED SEAL CROSS SECTION AND CEMENTED IN PLACE WITH THE LUBRICANT ADHESIVE, OR A FLAP FORMED BY CUTTING AWAY ALL BUT THE TOP SURFACE OF THE SEAL THEN BENT DOWN AND CEMENTED IN PLACE.

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

ALL MATERIAL IN EXPANSION JOINT EXCEPT NEOPRENE SEAL SHALL BE PAID FOR AS STRUCTURAL CARBON STEEL.

AFTER CONCRETE HAS SET, BLOCKING (10) SHALL BE REMOVED AND THE JOINT OPENING SHALL BE THOROUGHLY CLEANED.

ONE FIELD SPLICE PERMITTED. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

Const Spec 1969	Drawn By L.N.F.	Plans Checked KOK

NEOPRENE SEAL EXPANSION JOINT

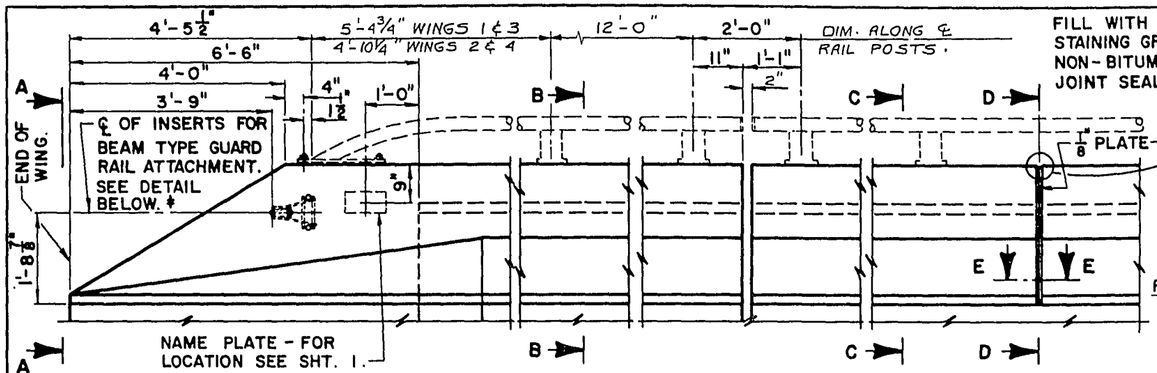
SHEET 18 OF 20

X47278

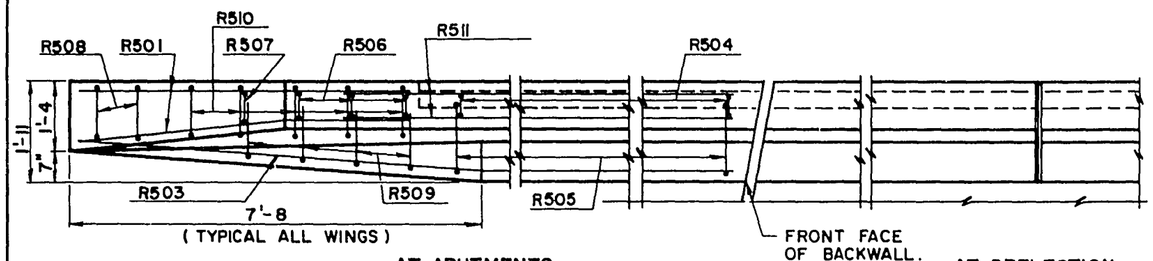
rdm
M

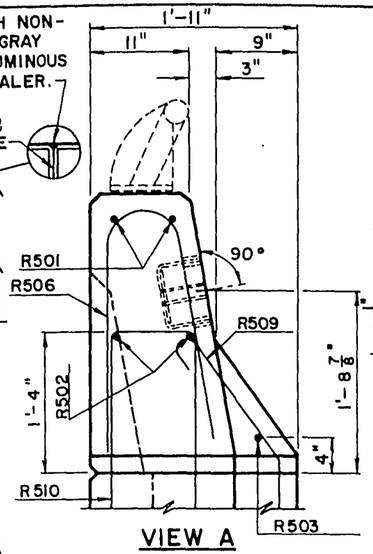
Form C B 12-6-

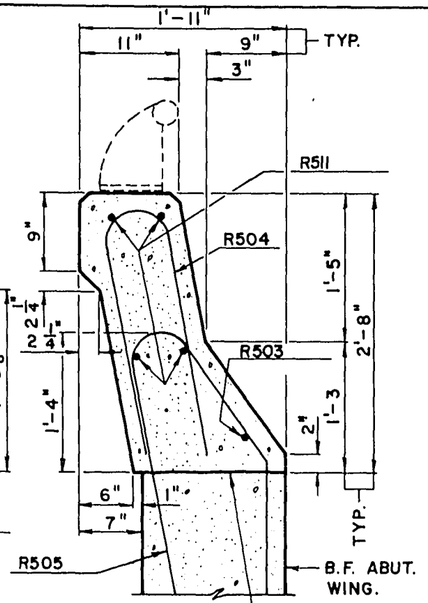
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	57	225
FEDERAL PROJECT DESIGNATION DPFO8-4(41)		

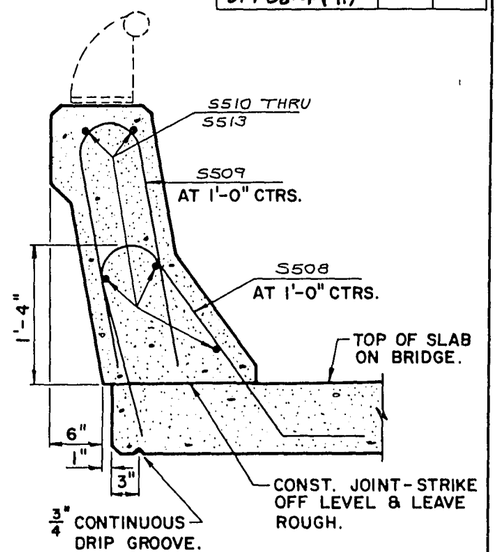


*PLACE AT ABUTMENT WINGS WHERE REQUIRED. SEE SHT. 1.









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 **

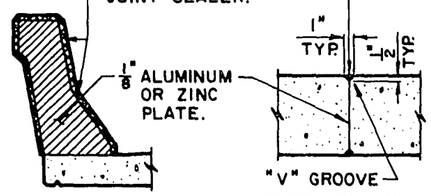
MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
R501	8	6-10	X	WINGS 1 THRU 4
R502	8	4-5		" 1 " 4
R503	4	21-9"	X	" " " "
R504	64	5-0	X	" " " "
R505	64	5-10	X	" " " "
R506	12	5-2	X	" 1 THRU 4
R507	4	4-2	X	" 1 " 4
R508	8	4-10	X	" 1 " 4
R509	16	3-3	X	" 1 " 4
R510	20	5-10	X	" 1 " 4
R511	16	17-7		" 1 " 4

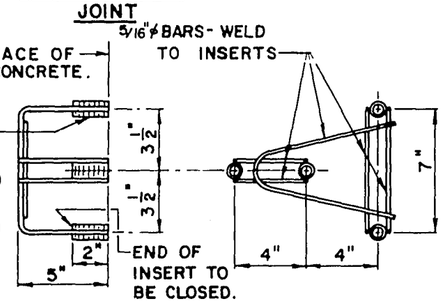
** WEIGHT IS INCLUDED IN ABUTMENT TOTALS ON SHEET 1.

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."

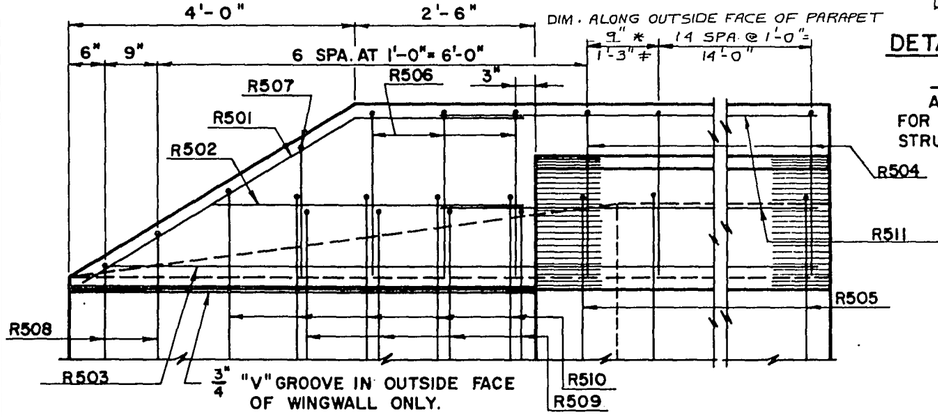




THREADED INSERTS FOR ⅞"ϕ x 0'-2" LONG GALVANIZED HEX. HEAD CAP SCREWS. CAP SCREWS TO BE THREADED A MINIMUM OF 1⅞". INSERTS TO BE THREADED A MINIMUM OF 1¾".

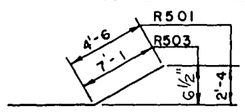
DETAIL OF ANCHOR ASSEMBLY FOR BEAM TYPE GUARD RAIL

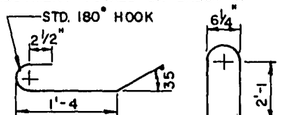
ANCHOR ASSEMBLY SHALL BE PAID FOR AT THE UNIT PRICE BID FOR STRUCTURAL CARBON STEEL.

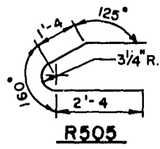


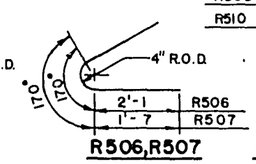
* WINGS 2 & 4
\# WINGS 1 & 3

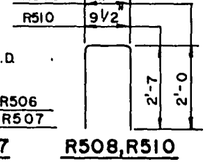
VIEW SHOWING OUTSIDE FACE OF PARAPET & REINF.











No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

Const. Spec.	Drawn By	Plans Checked
1969	L.N.F.	KOK

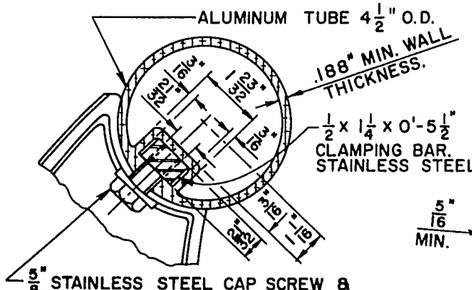
SLOPED FACE PARAPET "A"

SHEET 19 OF 20

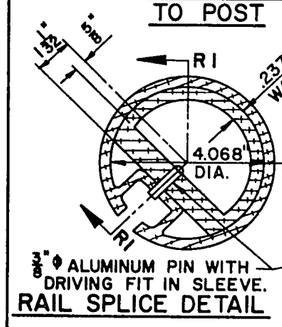
X47279

Form E B-12 69

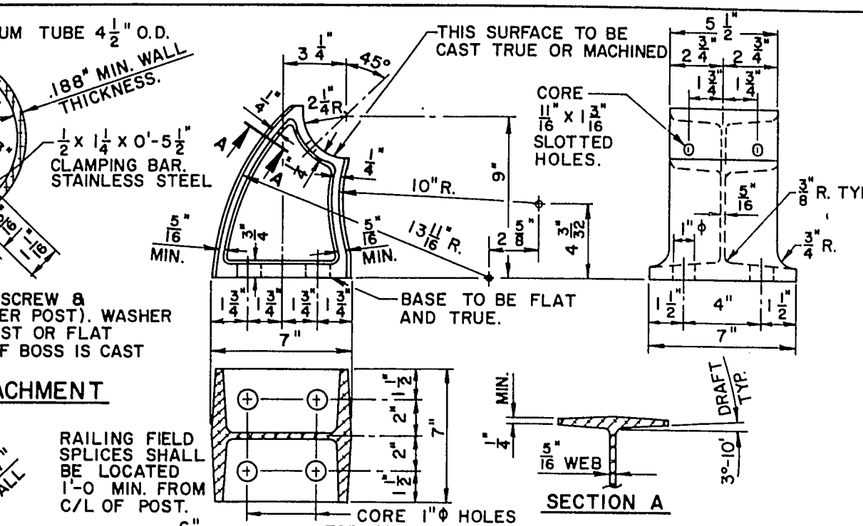
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1197-6-72	58	225
FEDERAL PROJECT DESIGNATION DPF08-4(41)		



DETAIL OF RAIL ATTACHMENT TO POST

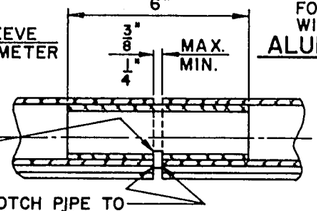


RAIL SPLICE DETAIL

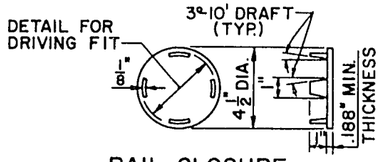


ALUMINUM POST CASTING

SECTION A

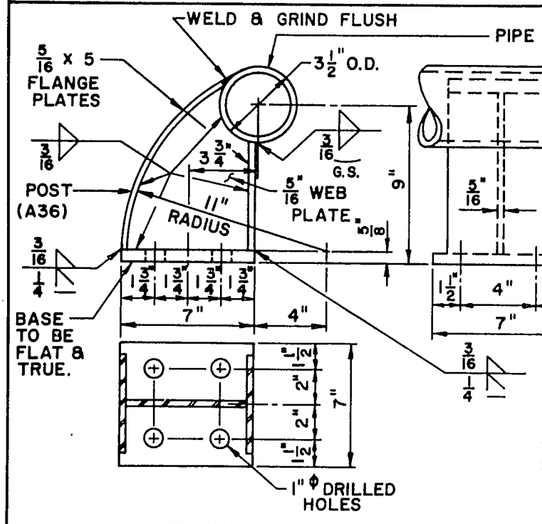


SECTION R1

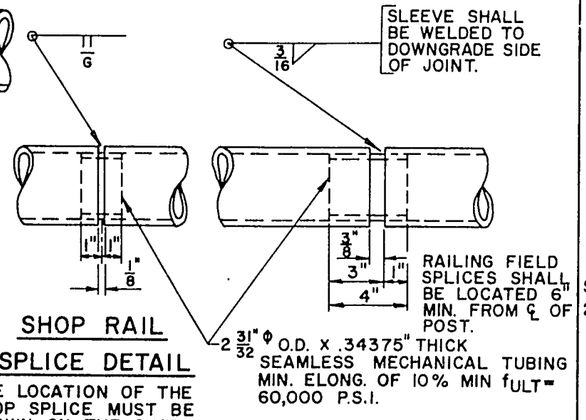


RAIL CLOSURE CAP DETAIL

NOTES:
MAX. REDUCTION IN DIAMETER OF BENT SECTION SHALL BE 3%.
MAX. REDUCTION IN SLOT WIDTH IN BENT TUBING SHALL BE 3/16".
WALL THICKNESS OF TUBING SHOWN ABOVE SHALL BE MIN. 87.5% NOMINAL AVERAGE WALL THICKNESS.



STEEL POST DETAILS

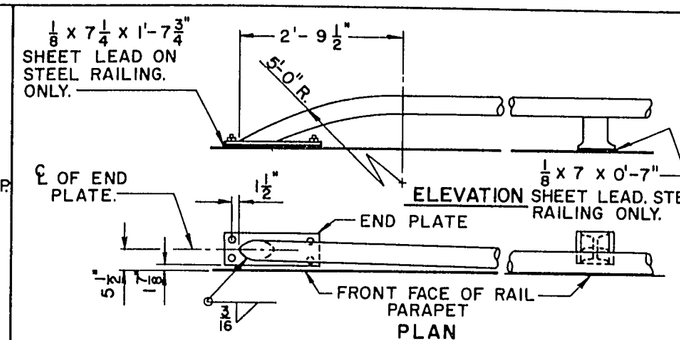


SHOP RAIL SPLICE DETAIL

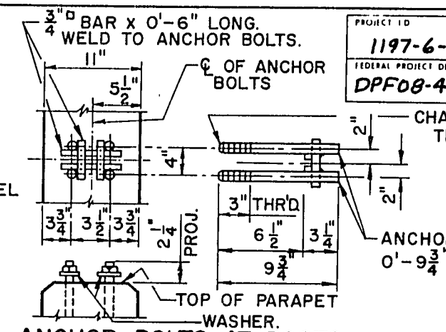
THE LOCATION OF THE SHOP SPLICE MUST BE SHOWN ON THE SHOP DRAWINGS

FIELD ERECTION JOINT DETAIL

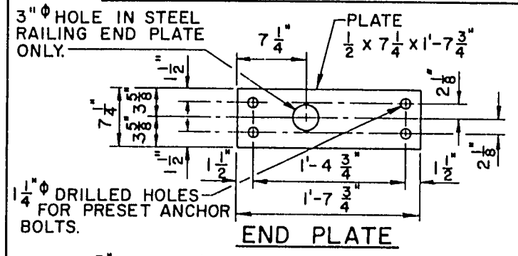
NOTE:
GALVANIZE ENTIRE RAILING AFTER FABRICATION INCLUDING SHIMS.



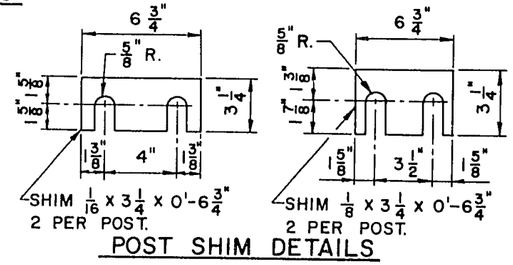
DETAIL OF RAIL BEND AT ABUTMENTS



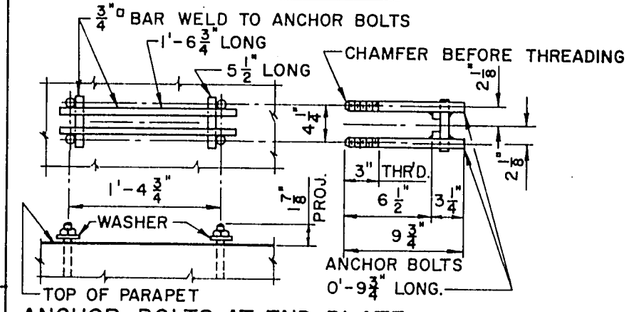
ANCHOR BOLTS AT POSTS



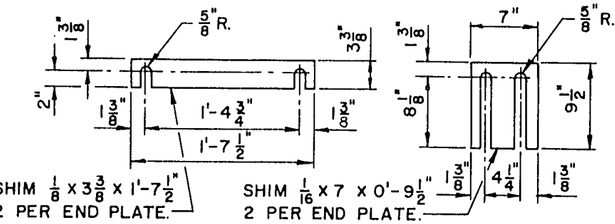
END PLATE



POST SHIM DETAILS



ANCHOR BOLTS AT END PLATE



END PLATE 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.

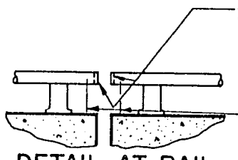
SHIMS CONFORMING TO SAME MATERIAL AS POSTS SHALL BE USED UNDER POSTS AND END PLATES WHERE REQ'D FOR ALIGNMENT.

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.



DETAIL AT RAIL OPENINGS

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-38

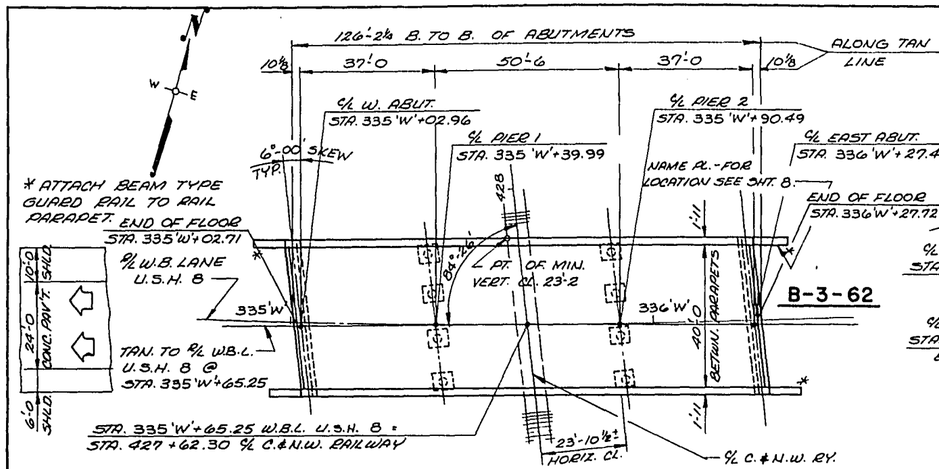
Const. Spec. 1969	Drawn By L.N.F.	Plans Checked KOK

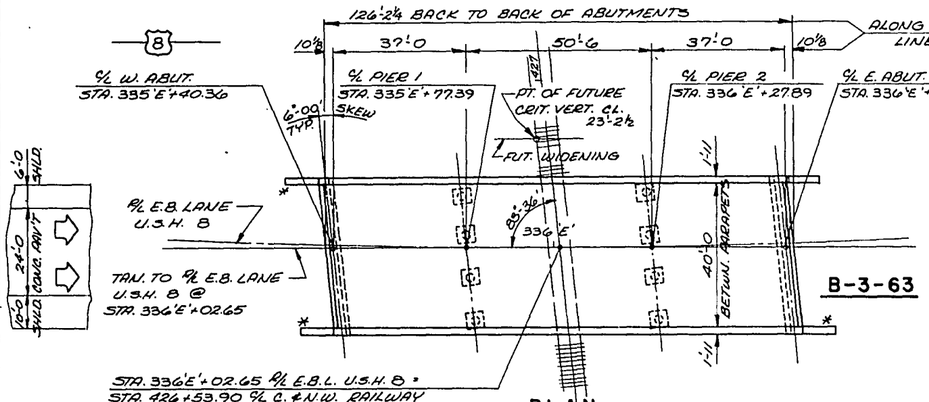
TUBULAR RAILING TYPE 'J'

SHEET 20 OF 20

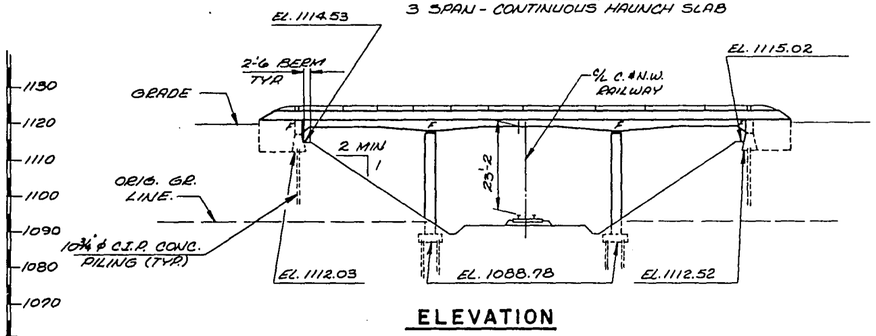
X47280

PROJECT I.D. 1572-1-72	SHEET NUMBER	TOTAL SHEETS
FEDERAL PROJECT DESIGNATION F021-1 (57)	91	225





PLAN



ELEVATION

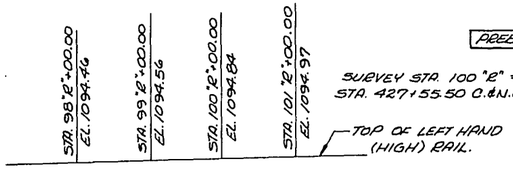
CURVE DATA

W.B. LANE
- PI = 330'W'+27.6 BK
- Δ = 16°-25'-28" LT.
- D = 1°-00'
- T = 826.9'
- L = 1,642.4'
- R = 5,729.6'
- SE = 0.047½

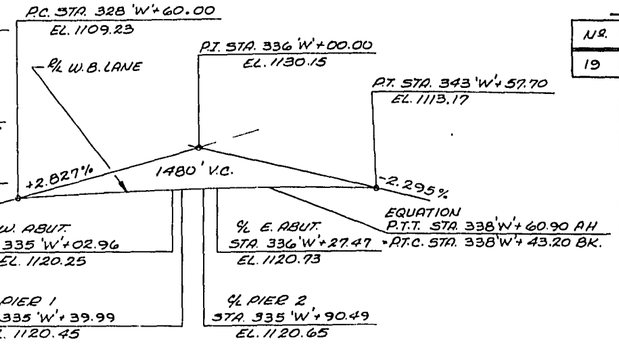
E.B. LANE
- PI = 331'E'+38.9 BK
- Δ = 18°-21'-47" LT.
- D = 1°-00'
- T = 926.1'
- L = 1,836.3'
- R = 5,729.6'
- SE = 0.047½

TRAFFIC VOLUME

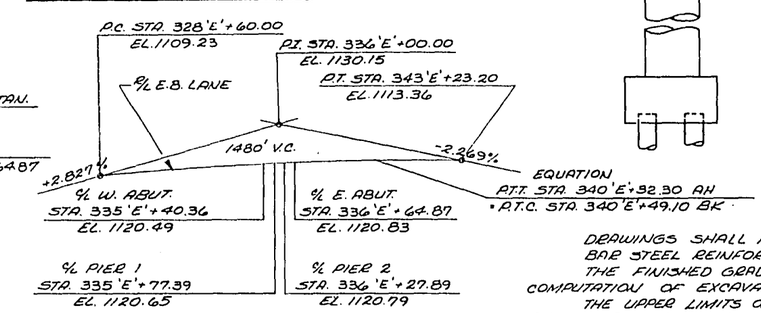
A.D.T. = 6,100 (1996)
R.D.S. = 80 M.P.H.
D.H.V = 915



PROFILE GRADE — C.&N.W. RAILWAY



WEST BOUND LANE (B-3-62)



EASTBOUND LANE (B-3-63)

PROFILE GRADES — U.S.H. 8

DESIGN DATA

LIVELOAD: H320
ALLOWABLE DESIGN STRESSES:
- CONCRETE MASONRY, GRADE 'AA' f_c = 1,400 p.s.i.
- BAR STEEL REINFORCEMENT f_s = 20,000 p.s.i.
- FUTURE WEARING SURFACE 20 LB/FT²

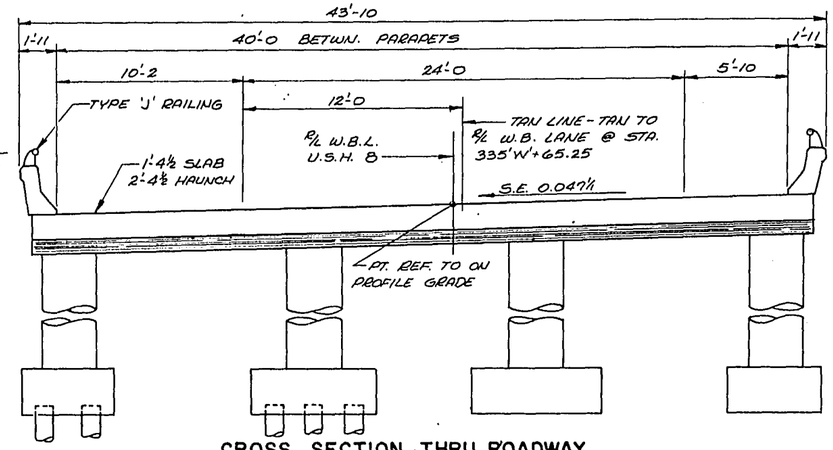
FOUNDATION DATA

PLACE ABUTS ON 10¾" ϕ CAST-IN-PLACE CONCRETE PILING DRIVEN TO 40 TONS/PILE MIN. BRG. EST. PILE LENGTH 50'-0.

PLACE PIERS ON 10¾" ϕ CAST-IN-PLACE CONCRETE PILING DRIVEN TO 55 TONS/PILE MIN. BRG. EST. PILE LENGTH 35'-0.

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
19	335'E'+20	6" ELM 510' LT.	1093.46



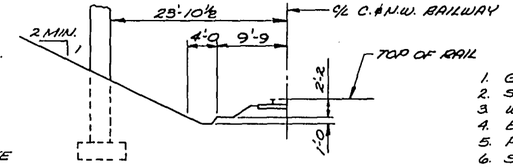
CROSS SECTION THRU ROADWAY

(LOOKING EAST)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE IMBEDDED 2" CL. UNLESS OTHERWISE SHOWN OR NOTED.
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 SHALL BE THE TOP OF BERM ELEVATION AT THE ABUTMENTS AND THE QUANTITIES WERE COMPUTED FROM THIS LINE.
PREBORE ABUTMENT PILING TO ORIGINAL GROUNDLINE.

DITCH WAS MODIFIED TO FIT EXISTING DRAINAGE REQUIREMENTS.



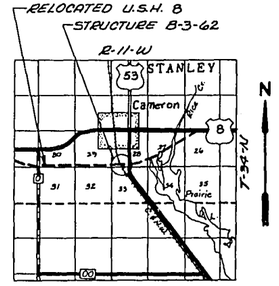
TYPICAL SECTION THRU C.&N.W. RAILROAD

(NORMAL TO ℄ RAILROAD)

LIST OF DRAWINGS

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	SUPER	W.ABUT.	PIER 1	PIER 2	E.ABUT.	TOTAL
EXCAVATION FOR STRUCTURES	C.Y.	———	96	77	77	36	226
PREBORING, CAST-IN-PLACE CONCRETE PILING	L.F.	———	137	———	———	144	281
CONCRETE MASONRY	C.Y.	332.5	38.4	42.8	42.9	38.4	485.0
BAR STEEL REINFORCEMENT	LB	81,630	2,325	5,670	5,700	2,325	97,650
STRUCTURAL CARBON STEEL	LB	450	———	———	———	———	450
CAST-IN-PLACE CONCRETE PILING, DELIVERED & DRIVEN 10¾ INCH	L.F.	———	300	630	630	300	1,860
TUBULAR RAILING-TYPE 'J'	L.F.	276	———	———	———	———	276
NON-BID ITEMS							
⅛ ALUMINUM OR ZINC PLATE	S.F.	40	———	———	———	———	40
FILLER	SIZE	½ϕ ½	———	———	———	———	½ ϕ ½
POLYVINYL CHLORIDE WATERSTOP	L.F.	———	41	———	———	41	82



LAYOUT

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-62

U.S.H. 8 OVER C.&N.W. RAILWAY

County BARRON	City Village TN: STANLEY		
Design Spec. A.A.S.H.O. '69	Load HS20	Const. Spec. 1969	
Designed By J.R.L.	Design Checked M.S.R.	Drawn By R.J.G.	Plans Checked B.W.

Approved W.A. Kline — Chief Bridge Engineer — 3.3.72 Date

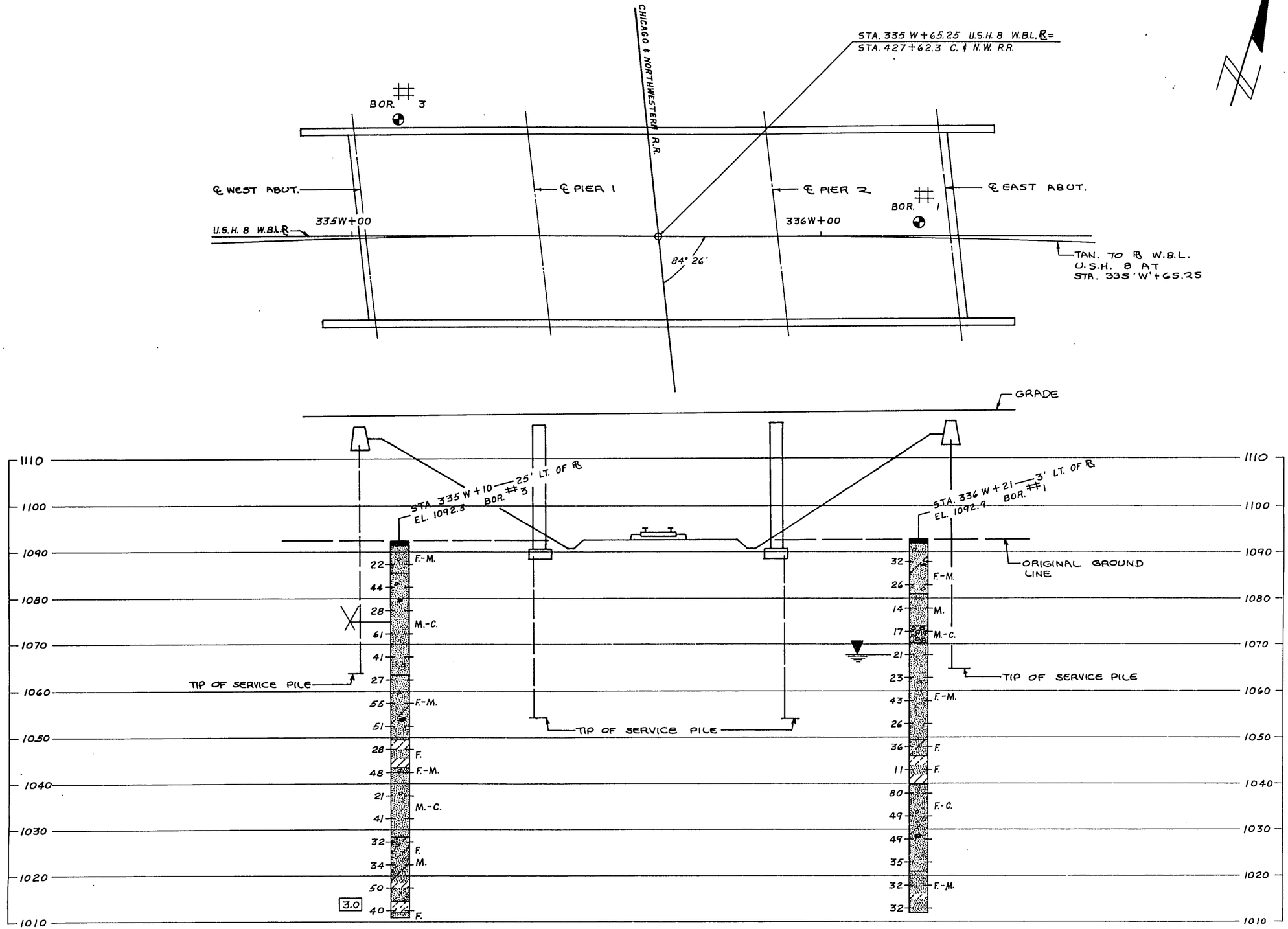
GENERAL PLAN

SHEET 1 OF 9

X47233

Form L B 45-69

PROJECT I D	SHEET NUMBER	TOTAL SHEETS
1572-1-72	92	225
FEDERAL PROJECT DESIGNATION F021-1(57)		



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.
Elev.
Sta.
Unconfined Strength → 7.7
7 Sandy Gravel
Blows Per Ft. Using 140# Wt. Falling 30"
F.
Wash Sample
Boulders or Cobbles
Shelby Tube — S. T.
Sand
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-3-62

Const. Spec.	Drawn By	Plans Checked
1969	DB	B. W.

SUBSURFACE EXPLORATION

SHEET 2 OF 9

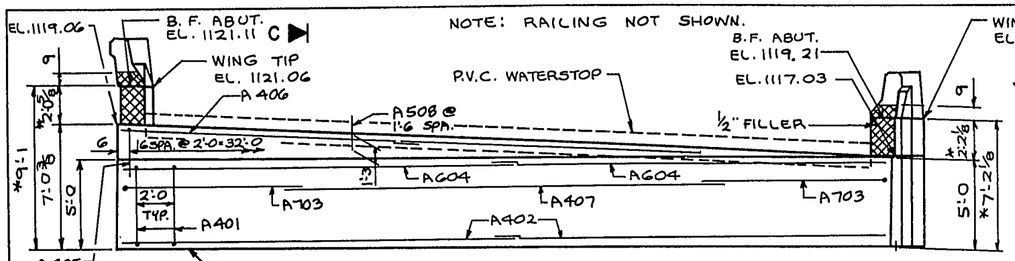
X 47234

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1572-1-72	93	225
FEDERAL PROJECT DESIGNATION: F021-1(57)		

1,980 #

BILL OF BARS

MARK	NO.	LENGTH	BENT	LOCATION
A401	44	7-10	X	BODY
A402	12	21-9		BODY
A703	8	10-0	X	BODY
A604	4	22-0		BODY
A405	17	6-10	X	BODY
A406	4	16-9		BODY
A407	4	25-6		BODY
A508	26	2-6		BODY
A409	16	2-10		WING 1
A410	16	7-1	X	WINGS 1 & 2
A411	6	5-5	X	WINGS 1 & 2
A412	6	10-6	X	WINGS 1 & 2
A913	10	12-3	X	WINGS 1 & 2
A814	2	12-5	X	WINGS 1 & 2
A415	10	8-5	X	WING 1
A416	16	3-0		WING 2
A417	10	6-5	X	WING 2
A418	8	5-10		WINGS 1 & 2
A819	2	11-8	X	WINGS 1 & 2
A420	6	8-11	X	WING 1
A421	6	6-11	X	WING 2
A422	12	2-3		BODY - PILE
A323	6	28-0	X	BODY - PILE - SPIRAL

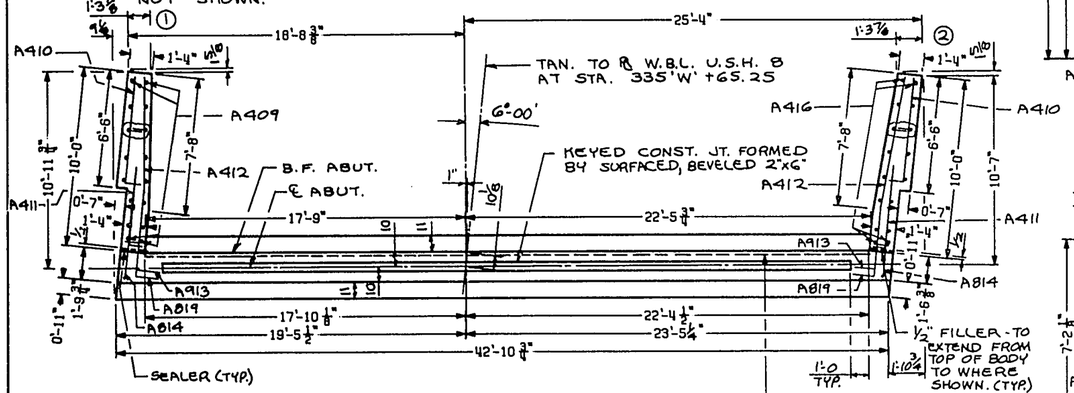


NOTE: RAILING NOT SHOWN.

ELEVATION
(LOOKING WEST)

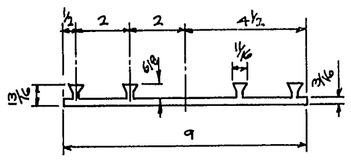
NOTE:
SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE)

NOTE:
RAILING AND RAIL PARAPET NOT SHOWN.

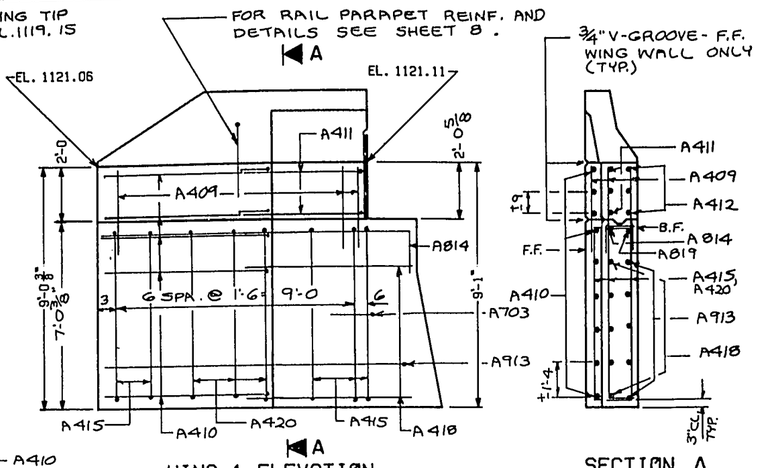


ABUTMENT PLAN

POLYVINYL CHLORIDE WATERSTOP- TO EXTEND BETWEEN INSIDE FACES OF WINGS. (FLUSH WITH FACE OF CONCRETE) SEE DETAIL BELOW.

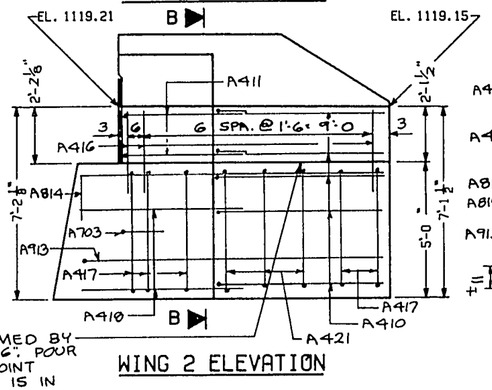


POLYVINYL CHLORIDE WATERSTOP

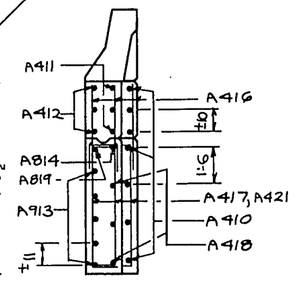


WING 1 ELEVATION

SECTION A

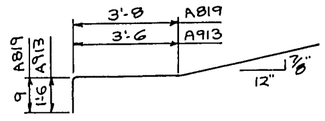


WING 2 ELEVATION

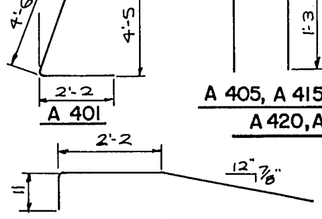


SECTION B

NOTE:
FILL TO EL. 1114.53 BEFORE DRIVING PILING. UPPER LIMITS OF 'EXCAVATION FOR STRUCTURES' SHALL NOT EXCEED THIS ELEVATION.

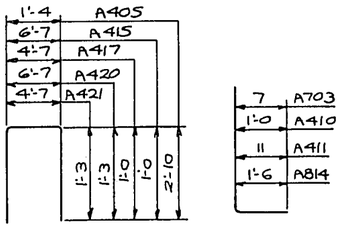


A819, A913



A 401

A 412

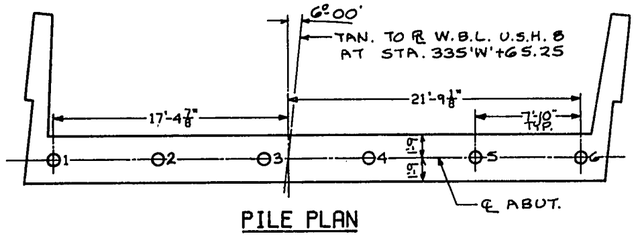


A 405, A 415, A417, A 420, A421

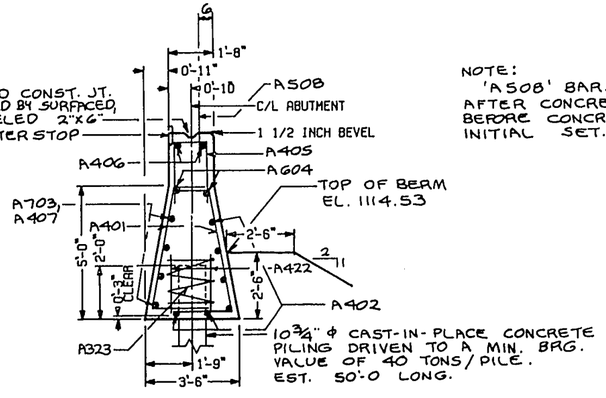
A410, A814, A411, A703

A 323

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

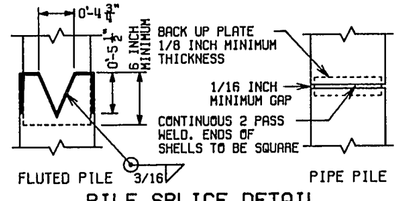


PILE PLAN



SECTION C

NOTE:
'A508' BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE CONCRETE HAS TAKEN ITS INITIAL SET.



PILE SPLICE DETAIL

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-62

Const. Spec.	Drawn By	Plans Checked
1969	DB	B.W.

WEST ABUTMENT

SHEET 3 OF 9

X.47235

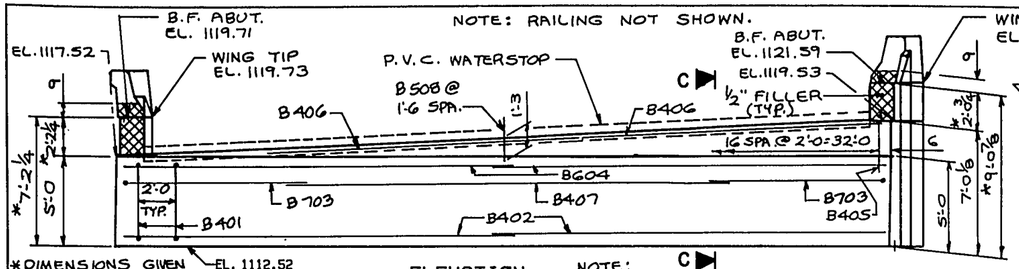
Form E-B 12-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1572-1-72	94	225
FEDERAL PROJECT DESIGNATION F021-1(57)		

1,980 #

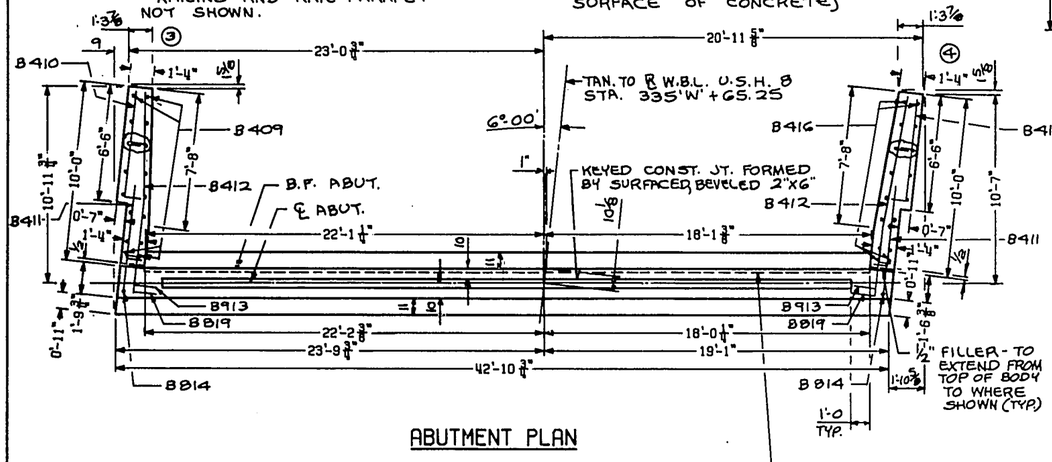
BILL OF BARS

MARK	NO.	LENGTH	BENT	LOCATION
B401	44	7-10	X	BODY
B402	12	21-9		BODY
B703	8	10-0	X	BODY
B604	4	22-0		BODY
B405	17	6-10	X	BODY
B406	4	16-9		BODY
B407	4	25-6		BODY
B508	26	2-6		BODY
B409	16	3-0		WING 3
B410	16	7-1	X	WINGS 3&4
B411	6	5-5	X	WINGS 3&4
B412	6	10-6	X	WINGS 3&4
B913	10	12-3	X	WINGS 3&4
B814	2	12-5	X	WINGS 3&4
B415	10	6-5	X	WING 3
B416	6	2-11		WING 4
B417	10	8-5	X	WING 4
B418	8	5-10		WINGS 3&4
B819	2	11-8	X	WINGS 3&4
B420	6	6-11	X	WING 3
B421	6	8-11	X	WING 4
B422	12	2-3		BODY - PILE
B323	6	28-0	X	BODY - PILE - SPIRAL



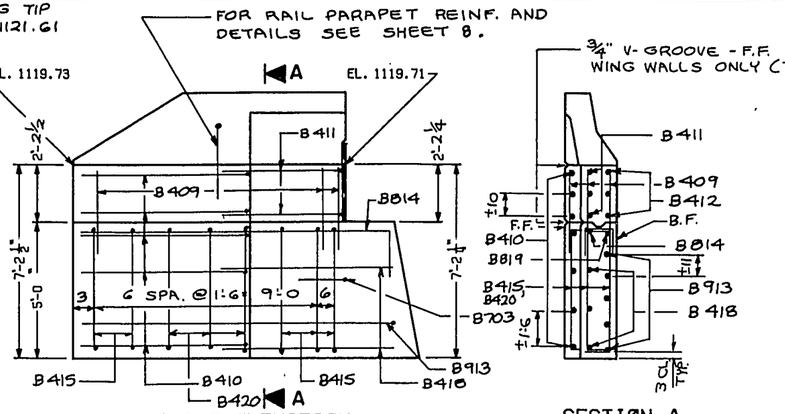
ELEVATION
(LOOKING EAST)

NOTE: SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE)



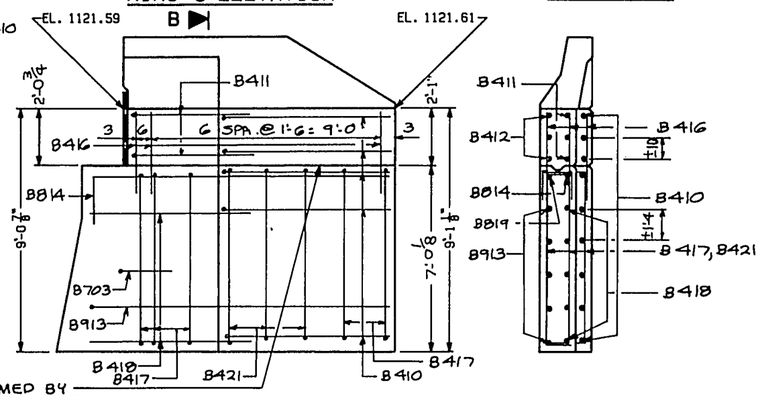
ABUTMENT PLAN

POLYVINYL CHLORIDE WATERSTOP TO EXTEND BETWEEN INSIDE FACES OF WINGS (FLUSH WITH FACE OF CONCRETE) SEE DETAIL ON SHEET 3.



WING 3 ELEVATION

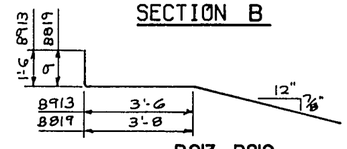
SECTION A



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

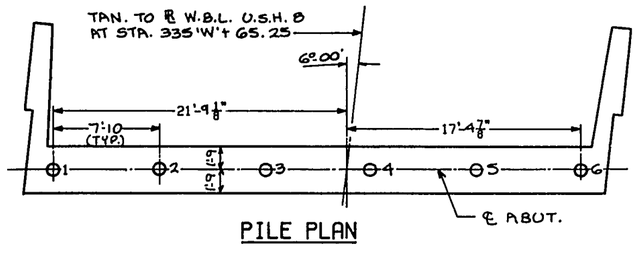
WING 4 ELEVATION
B ▶

SECTION B

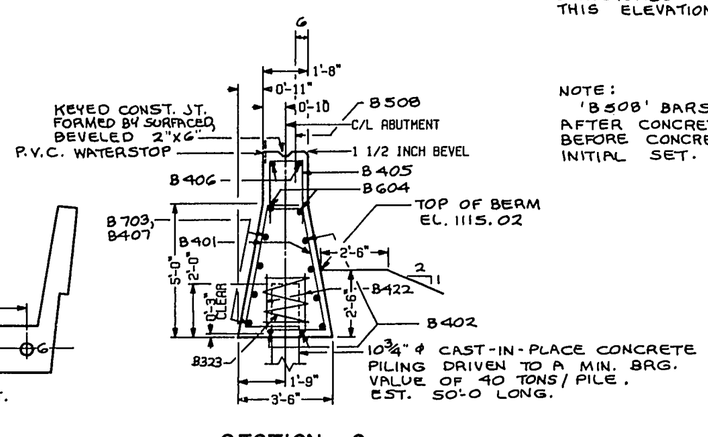


B913, B819

NOTE: FILL TO EL. 1115.02 BEFORE DRIVING PILING. UPPER LIMITS OF 'EXCAVATION FOR STRUCTURES' SHALL NOT EXCEED THIS ELEVATION.

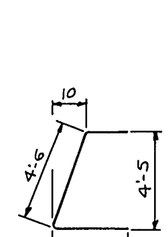


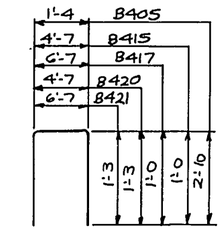
PILE PLAN



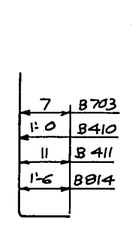
SECTION C

NOTE: 'B508' BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE CONCRETE HAS TAKEN ITS INITIAL SET.

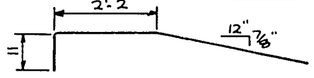




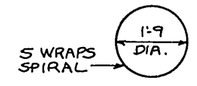
B 405, B 415, B417, B 420, B 421



B 410, B 814, B 703, B411



B 412



B 323

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

NOTE: FOR 'PILE SPLICE DETAIL' SEE SHEET 3 .

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-62

Const. Spec.	Drawn By	Plans Checked
1969	DB	B.W.

EAST ABUTMENT

SHEET 4 OF 9

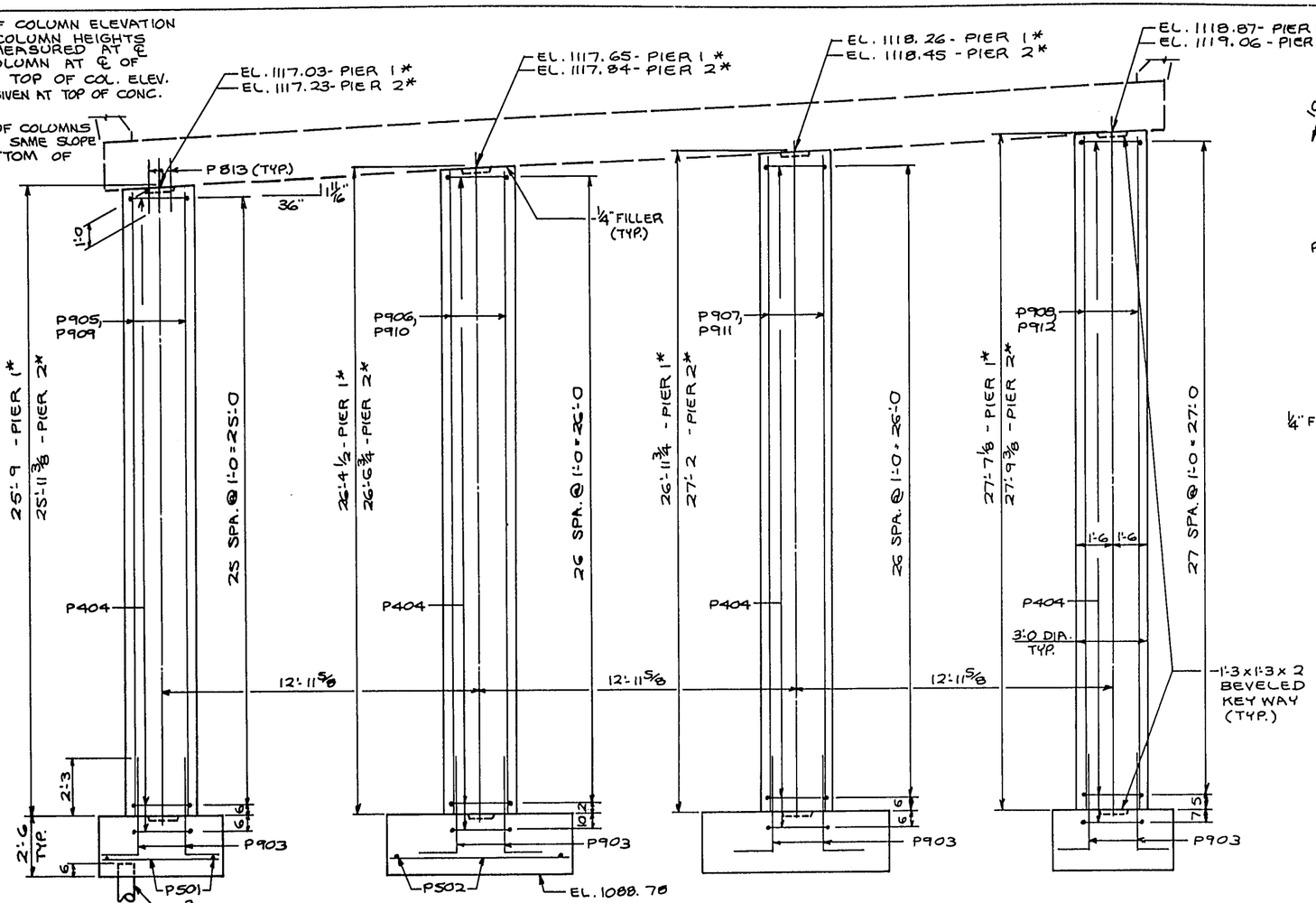
X 47236

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1572-1-72	95	225
FEDERAL PROJECT DESIGNATION F021-1(57)		

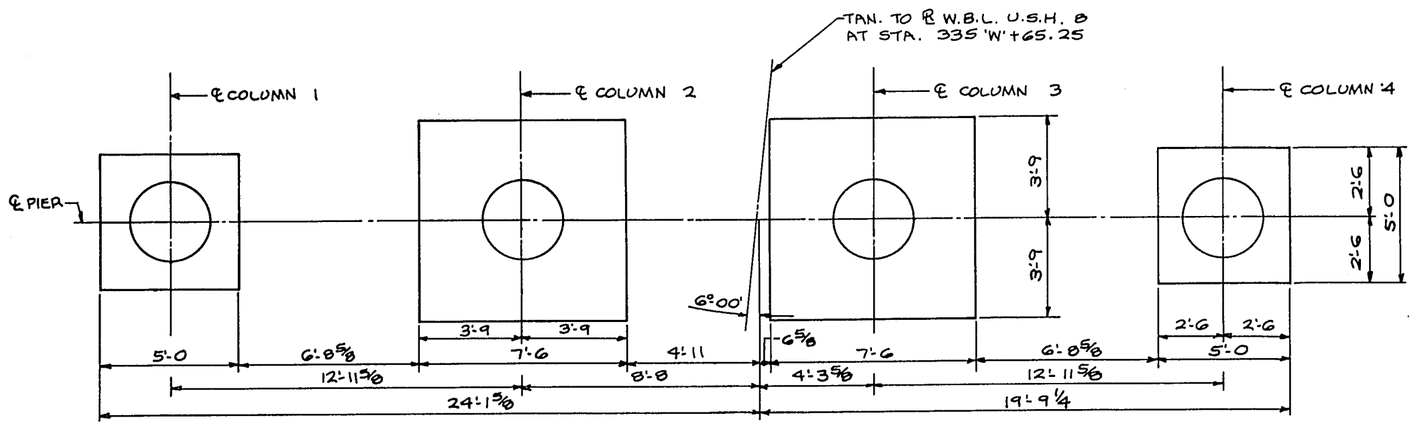
11,370 # (TWO PIERS)

*TOP OF COLUMN ELEVATION AND COLUMN HEIGHTS ARE MEASURED AT ℄ OF COLUMN AT ℄ OF PIER. TOP OF COL. ELEV. ARE GIVEN AT TOP OF CONC.

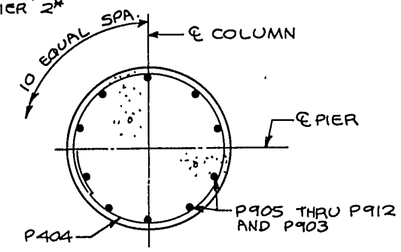
NOTE:
TOP OF COLUMNS TO HAVE SAME SLOPE AS BOTTOM OF SLAB.



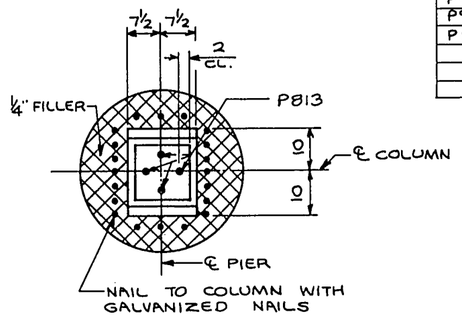
ELEVATION
(LOOKING EAST)



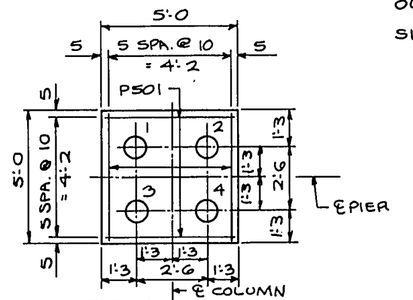
PLAN



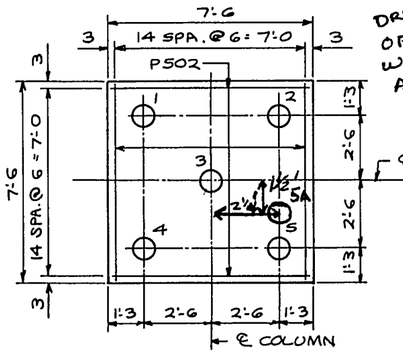
SECTION THRU COLUMN



SECTION THRU FILLER



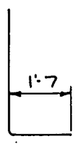
EXTERIOR FOOTING PLAN



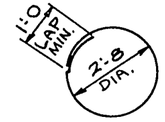
INTERIOR FOOTING PLAN

BILL OF BARS

MARK	NO.	LENGTH	BENT	LOCATION
P501	48	4-8		FOOTING - EXTERIOR
P502	120	7-2		FOOTING - INTERIOR
P903	80	5-4	X	FOOTING & COLUMNS
P404	224	9-5	X	COLUMNS & FOOTINGS
P905	10	25-6		COLUMN 1 - PIER 1
P906	10	26-1		COLUMN 2 - PIER 1
P907	10	26-8		COLUMN 3 - PIER 1
P908	10	27-4		COLUMN 4 - PIER 1
P909	10	25-8		COLUMN 1 - PIER 2
P910	10	26-3		COLUMN 2 - PIER 2
P911	10	26-11		COLUMN 3 - PIER 2
P912	10	27-6		COLUMN 4 - PIER 2
P813	32	2-0		COLUMNS



P 903



P 404

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

NOTE:
'P813' BARS MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET.

FOR PIER 2 A PILE WAS DRIVEN TO REPLACE #5 ON BASIS OF STRUCTURAL DAMAGE. #5 WAS FILLED WITH CONCRETE AND LEFT IN PLACE.

NOTE:
FOR 'PILE SPLICE DETAIL' SEE SHEET 3.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-62

Const. Spec. 1969	Drawn By DB	Plans Checked B.W.

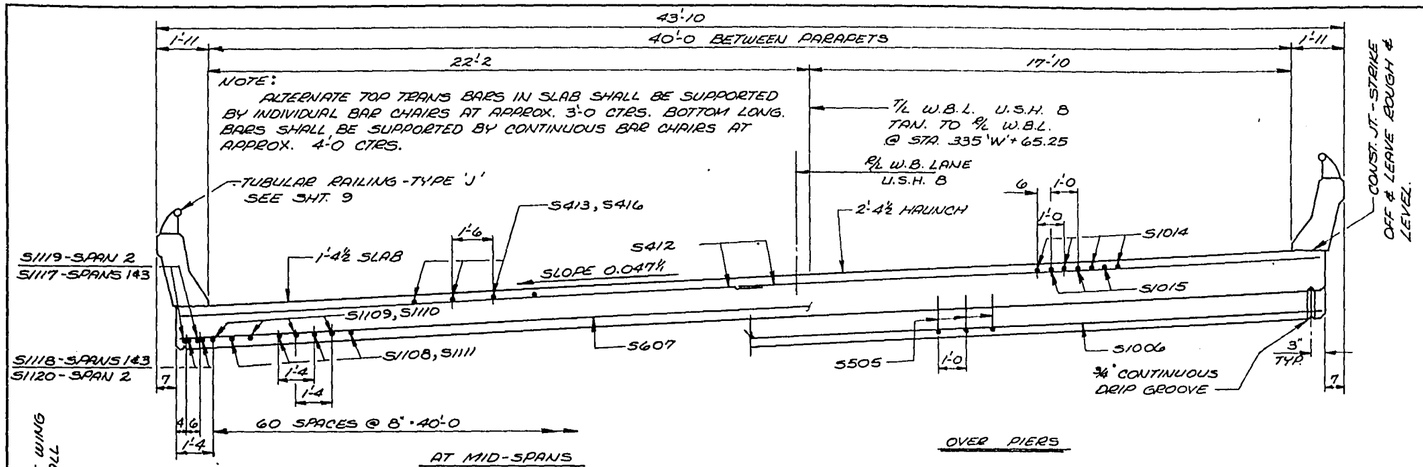
PIERS 1 & 2

SHEET 5 OF 9

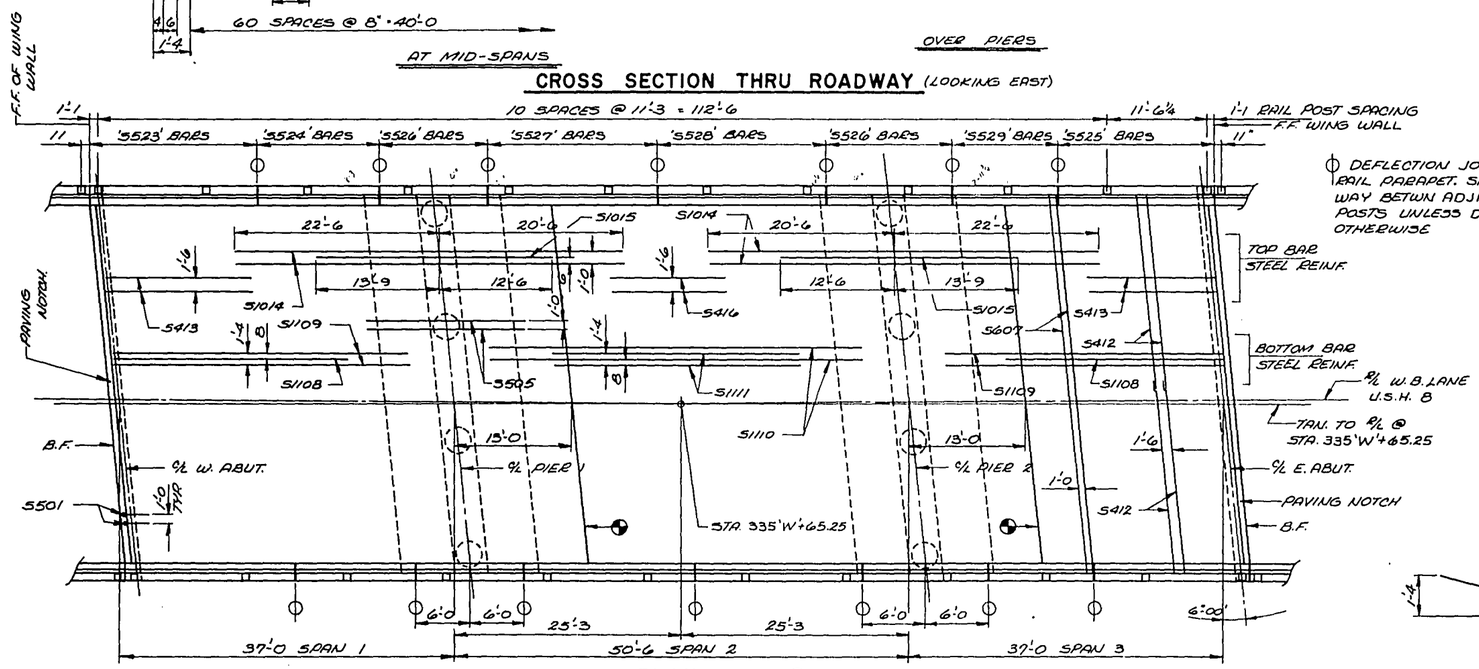
X 47237

Form E-B-12-69

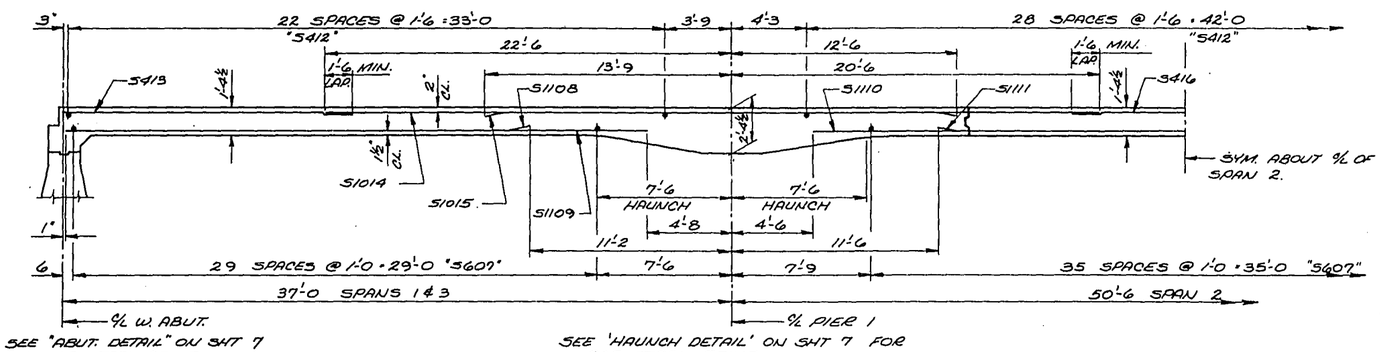
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1572-1-72	96	225
FEDERAL PROJECT DESIGNATION: F021-1(57)		



CROSS SECTION THRU ROADWAY (LOOKING EAST)



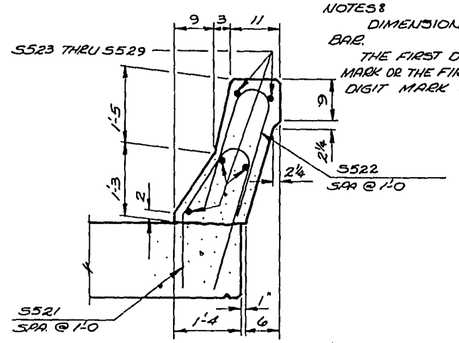
PLAN ℄ OPT. TRANS. CONST. JT. FORMED BY SURF. BEVELD 2×8



SEE "ABUT. DETAIL" ON SHT 7 FOR BAR STEEL REINF.

SEE 'HAUNCH DETAIL' ON SHT 7 FOR BAR STEEL REINF.

LONGITUDINAL SECTION (ALONG ℄ ROWY)



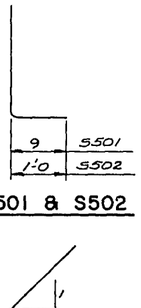
REINF. IN RAIL PARAPET

NOTES: DIMENSIONS ARE OUT TO OUT OF BAR.
THE FIRST DIGIT OF A THREE DIGIT MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT MARK SIGNIFIES THE BAR SIZE.

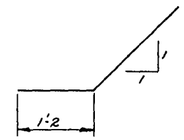
BILL OF BARS

81,630#

MARK	NO REQ'D	LENGTH	BEVIT	BUNDLED	LOCATION
S501	86	3-1	X		SLAB AT ABUTS.
S502	86	2-6	X		" " "
S503	86	3-2	X		" " "
S404	24	21-10			" " " & PIERS
S505	86	18-4	X		HAUNCH AT PIERS
S006	34	42-6			" "
S607	96	42-5			SLAB-BOT.-TRANS.
S1108	60	25-9			" - " -LONG.-SPANS 1&3
S1109	62	32-3			" - " - " - " "
S1110	31	41-6			" - " - " -SPAN 2
S1111	30	27-6			" - " - " - " "
S412	150	22-0			" -TOP-TRANS.
S413	58	16-0			" - " -LONG.-SPANS 1&3
S1014	86	43-0			" - " - " -OVER PIERS
S1015	84	26-3			" - " - " - "
S416	29	12-6			" - " - " -SPAN 2
S1117	8	32-3		X	EDGE BEAM REINF.-SPANS 1&3
S1118	8	25-9		X	" " " - " "
S1119	4	41-6		X	" " " -SPAN 2
S1120	4	27-6		X	" " " - "
S521	250	5-8	X		SLAB & RAIL PARAPET
S522	250	5-0	X		RAIL PARAPET
S523	10	17-5			" -HORIZ.
S524	10	13-6			" " - "
S525	10	17-8			" " - "
S526	20	11-8			" " - "
S527	10	18-9			" " - "
S528	10	19-0			" " - "
S529	10	13-3			" " - "

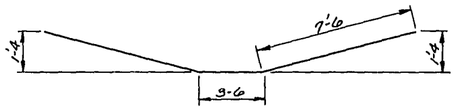


S501 & S502

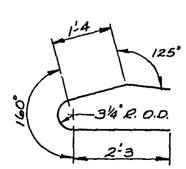


S503

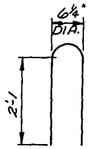
NOTE: BUNDLED BARS SHALL BE WIRED TOGETHER AT 2'-0 CTRS.



S505



S521



S522

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-62

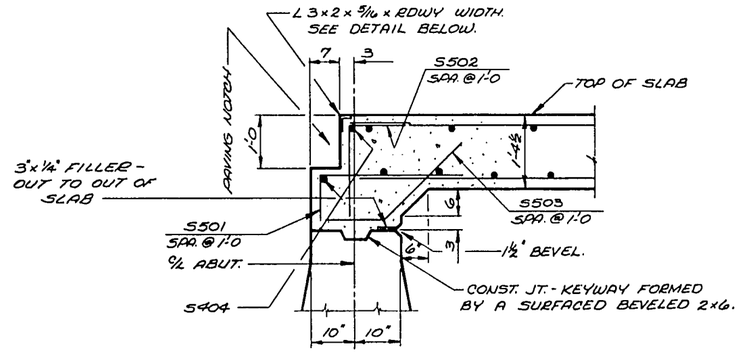
Const. Spec. 1969	Drawn By R.J.G.	Plans Checked B.W.

SUPERSTRUCTURE

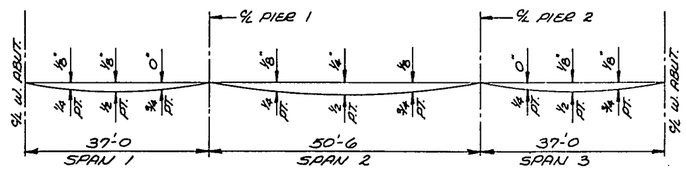
SHEET 6 OF 9

X 47238

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1572-1-72	97	225
FEDERAL PROJECT DESIGNATION: F021-1(57)		



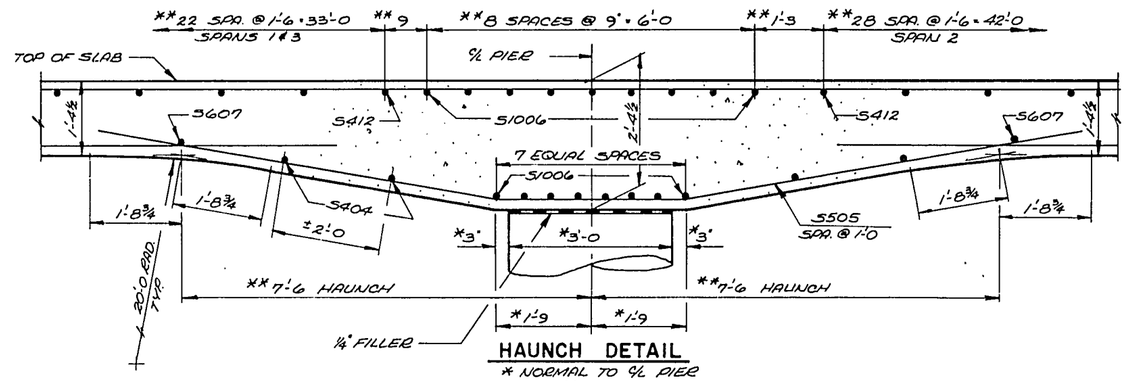
ABUTMENT DETAIL
(NORMAL TO ℄ ABUT.)



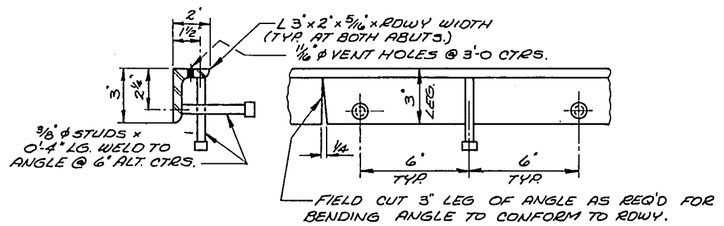
DEFLECTION DIAGRAM

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+). PARAPETS SHOWN ABOVE THE HORIZ. CONST. JT. SHALL BE POURED AFTER THE FALSEWORK HAS BEEN RELEASED.

PROVIDE CAMBER OF 5/16" AT THE 1/2 PT. OF SPANS 1 & 3 AND 5/8" AT THE 1/2 PT. OF SPAN 2 TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE PLASTIC FLOW. THIS DOES NOT INCLUDE AN ALLOWANCE FOR FORM SETTLEMENT.



HAUNCH DETAIL
* NORMAL TO ℄ PIER
** ALONG ℄ ROADWAY



PROTECTION ANGLE DETAIL

NOTE: ANGLE AND STUDS SHALL BE PAID FOR AS STRUCTURAL CARBON STEEL.
ONE FIELD SPLICE PERMITTED, IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-62

Const. Spec.	Drawn By	Plans Checked
1969	R.J.G.	B.W.

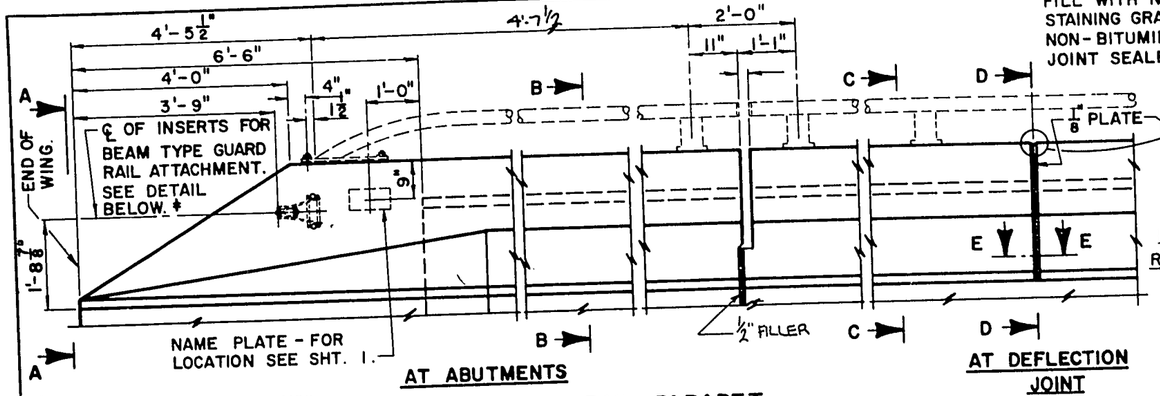
SUPERSTRUCTURE

SHEET 7 OF 9

X47239

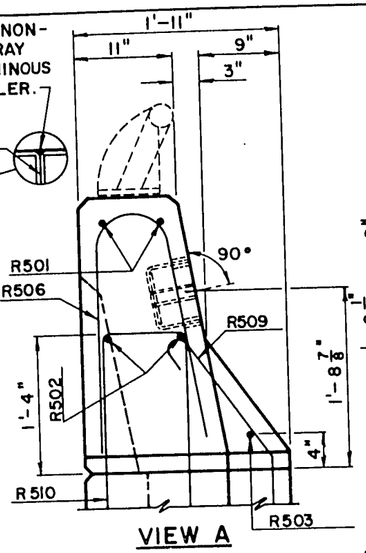
Form C B 12 6-

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1572-1-72	98	225
FEDERAL PROJECT DESIGNATION: FOZI-1(57)		

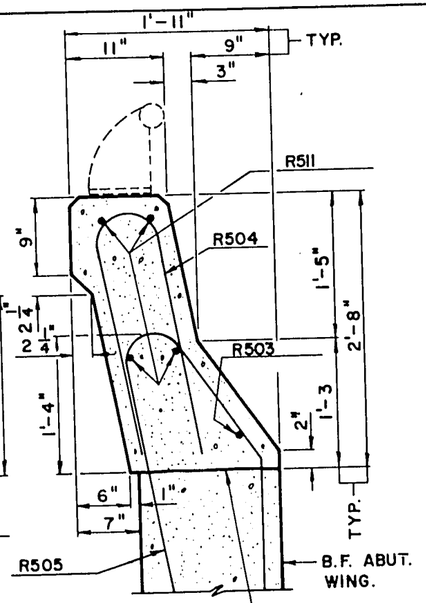


* PLACE AT ABUTMENT WINGS WHERE REQUIRED. SEE SHT. 1.

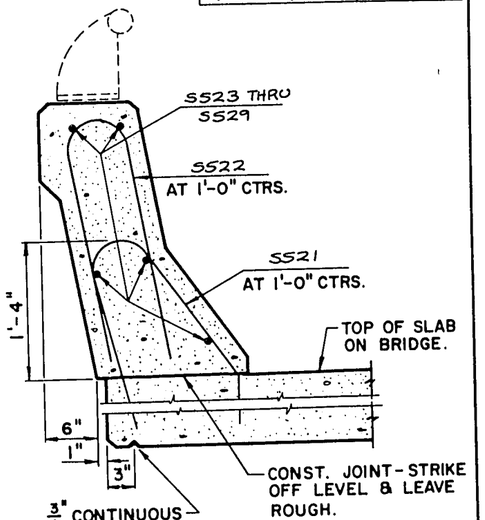
ELEVATION OF RAIL PARAPET



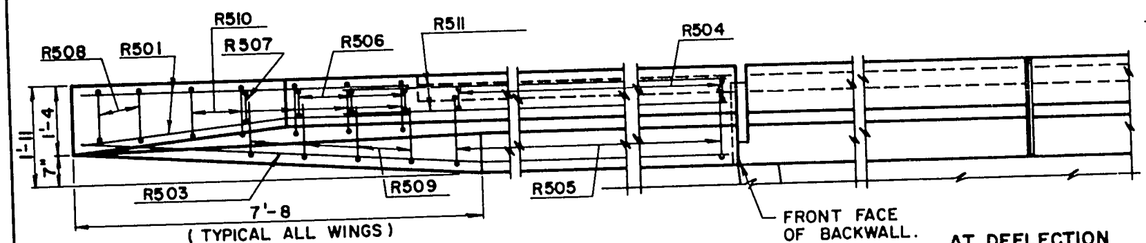
VIEW A



SECTION B

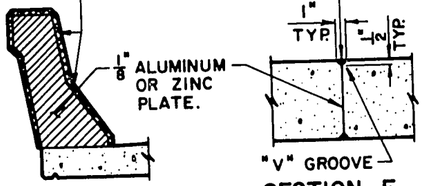


SECTION C



PART PLAN OF RAIL PARAPET

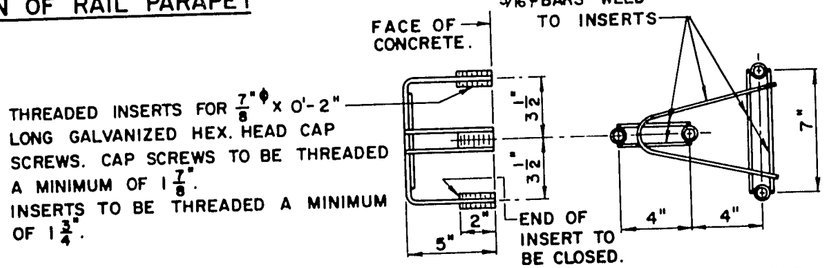
AT ABUTMENTS



SECTION D

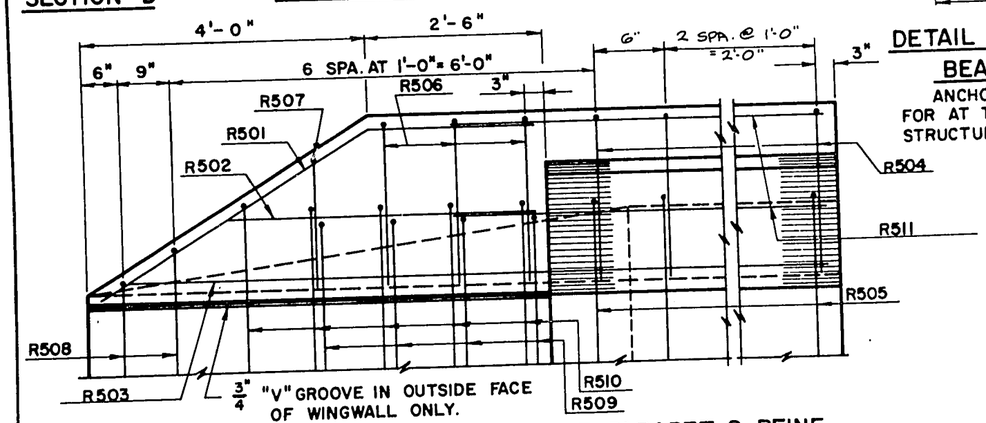
SECTION E

AT DEFLECTION JOINT



DETAIL OF ANCHOR ASSEMBLY FOR BEAM TYPE GUARD RAIL

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



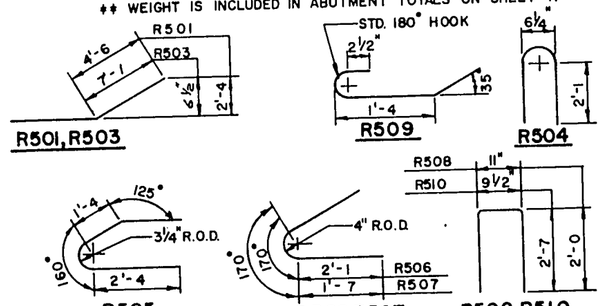
VIEW SHOWING OUTSIDE FACE OF PARAPET & REINF.

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. 690 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	9-2	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	4-10		" 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 "TUBULAR RAILING TYPE J".

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-62

Const. Spec	1969	Drawn By	DB	Plans Checked	B.W.

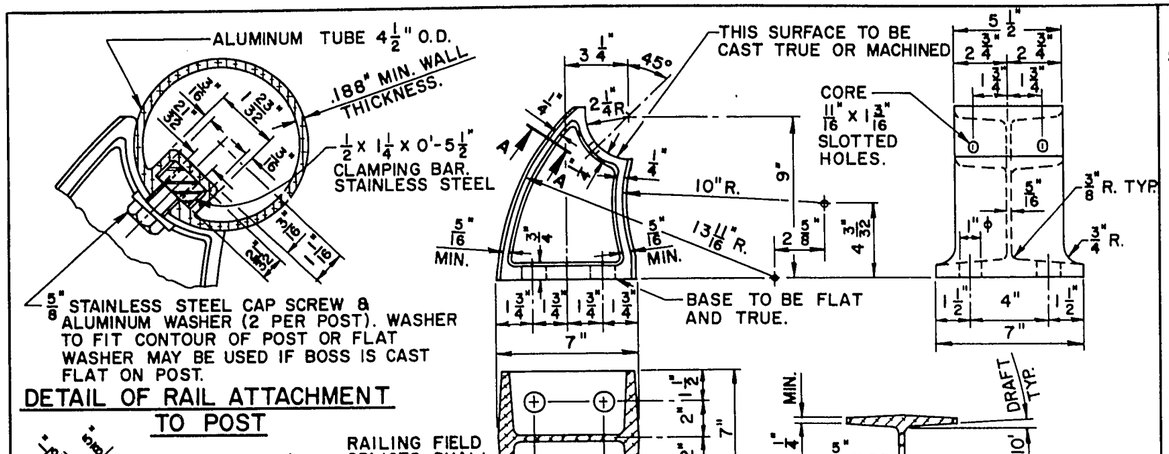
SLOPED FACE PARAPET "A"

SHEET 8 OF 9

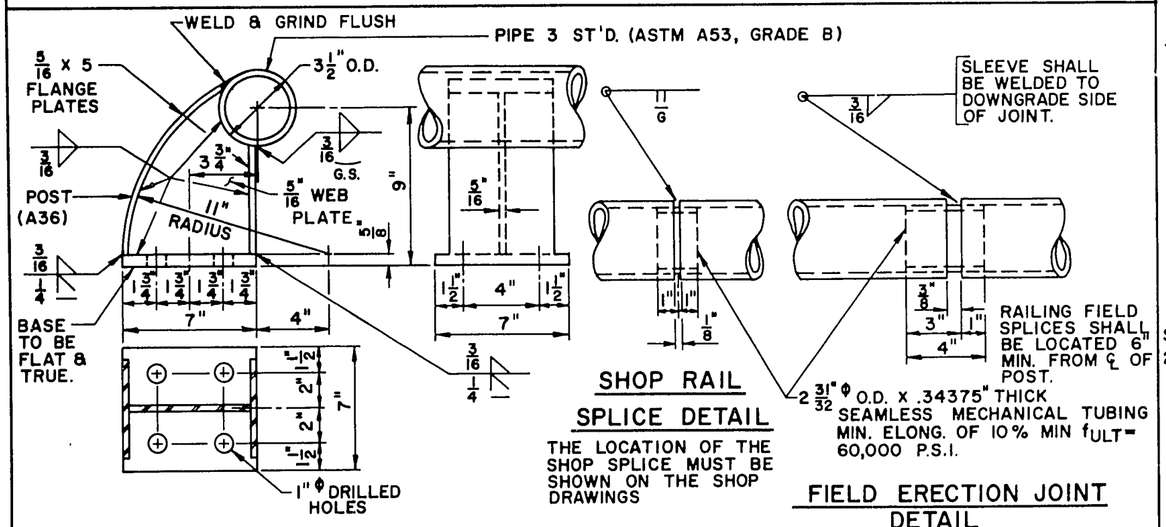
X 47240

Form E B 12 69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1572-1-72	99	225
FEDERAL PROJECT DESIGNATION F021-1(57)		



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.

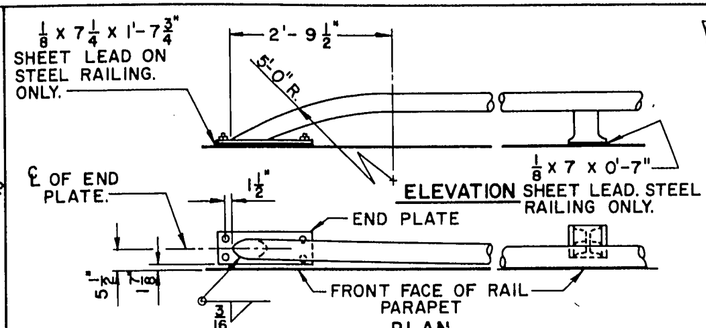


STEEL POST DETAILS

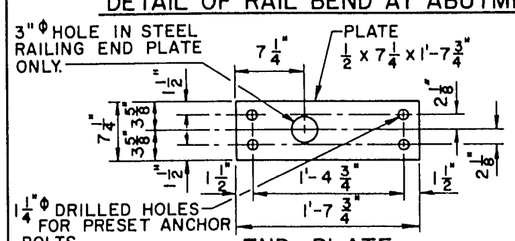
SHOP RAIL SPLICE DETAIL
THE LOCATION OF THE SHOP SPLICE MUST BE SHOWN ON THE SHOP DRAWINGS

FIELD ERECTION JOINT DETAIL

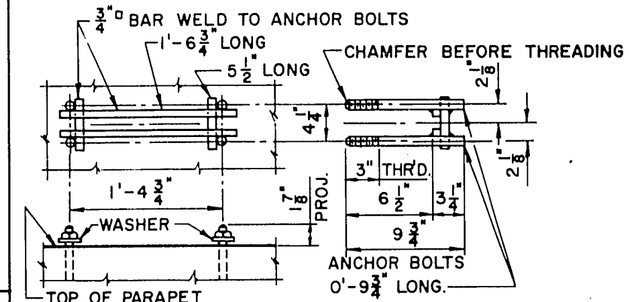
NOTE: GALVANIZE ENTIRE RAILING AFTER FABRICATION INCLUDING SHIMS.



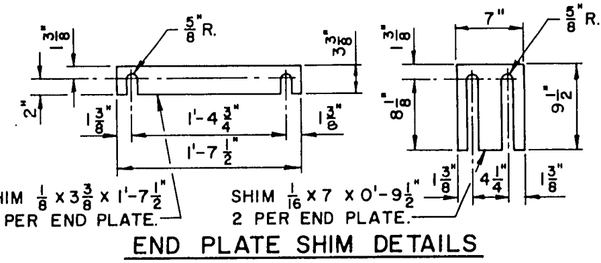
DETAIL OF RAIL BEND AT ABUTMENTS



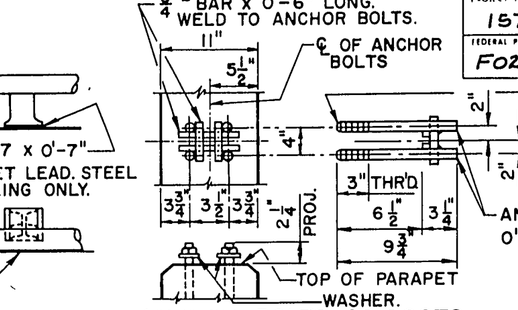
END PLATE



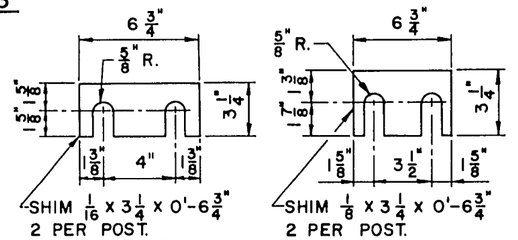
ANCHOR BOLTS AT END PLATE



END PLATE SHIM DETAILS



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.

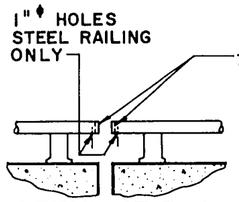
SHIMS CONFORMING TO SAME MATERIAL AS POSTS SHALL BE USED UNDER POSTS AND END PLATES WHERE REQ'D FOR ALIGNMENT.

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 3½" OF ANCHOR BOLTS.



DETAIL AT RAIL OPENINGS

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-62

Const. Spec. 1969	Drawn By DB	Plans Checked B.W.

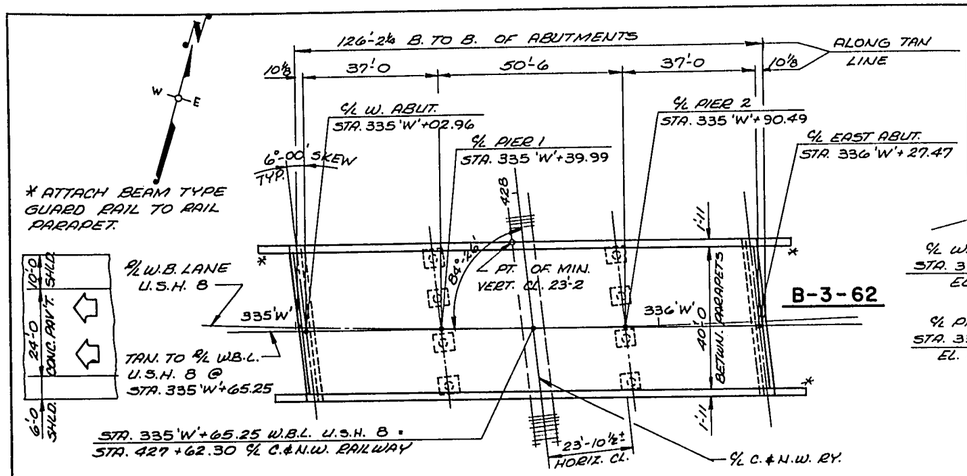
TUBULAR RAILING TYPE 'J'

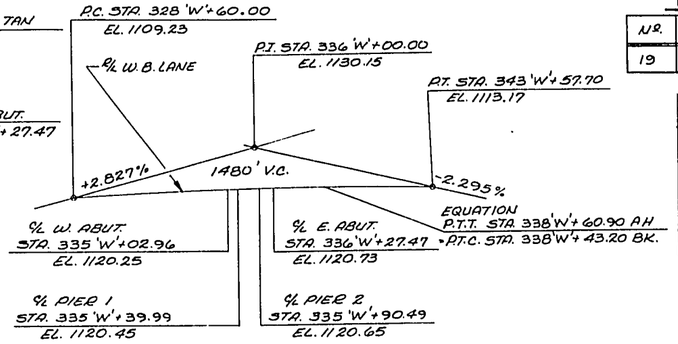
SHEET 9 OF 9

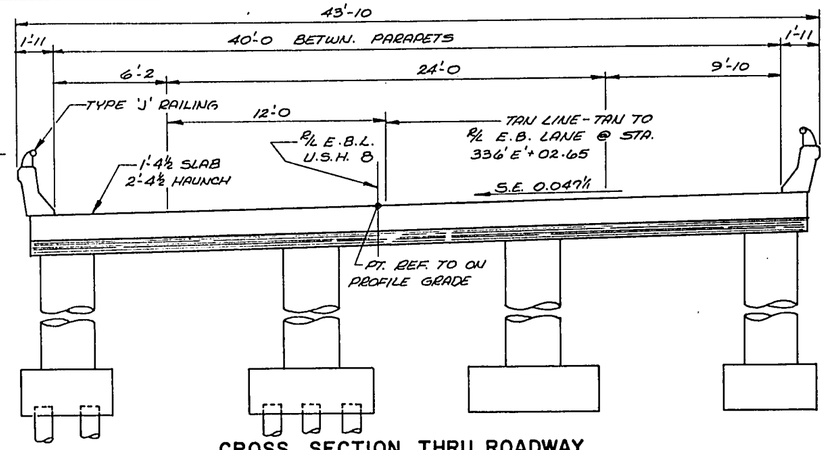
X 47241

Form E-B-11 69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
~~1572-1-72~~	100	225
FEDERAL PROJECT DESIGNATION: F021-1(57)		



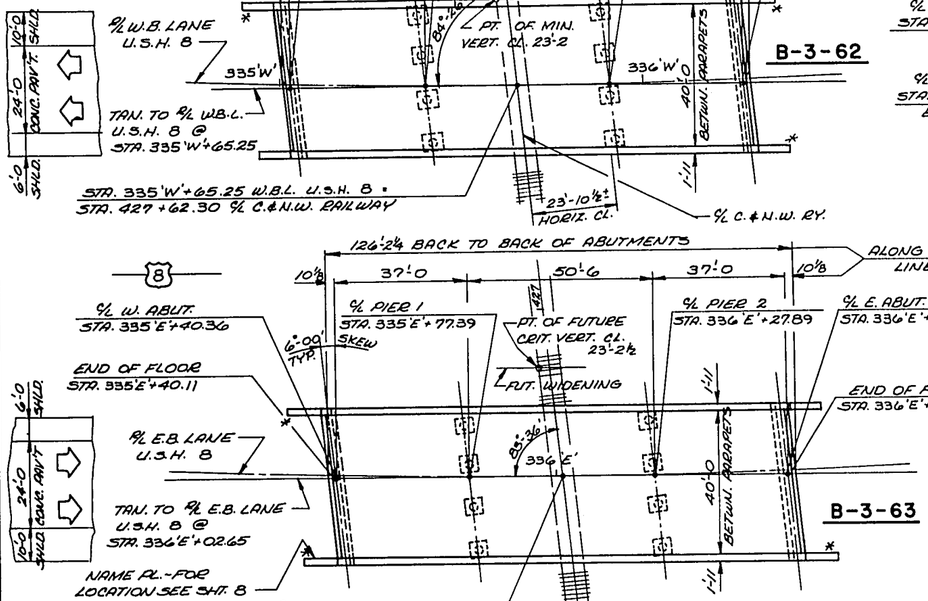




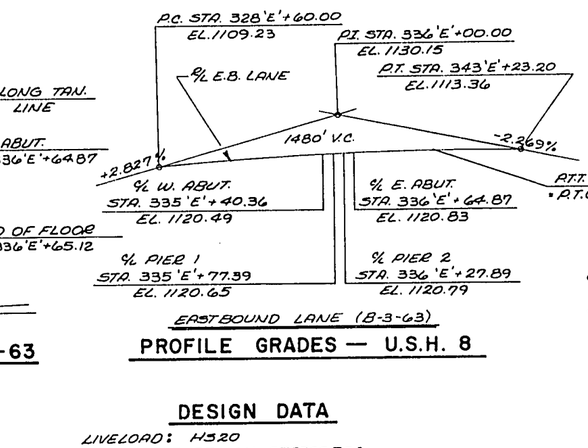
CROSS SECTION THRU ROADWAY
(LOOKING EAST)

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
19	335'E'+20	6" ELM 510' LT.	1093.46



PLAN



PROFILE GRADES — U.S.H. 8

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE IMBEDDED 2" CL. UNLESS OTHERWISE SHOWN OR NOTED.
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 SHALL BE THE TOP OF BERM ELEVATION AT THE ABUTMENTS AND THE QUANTITIES WERE COMPUTED FROM THIS LINE.
PREBORE ABUTMENT PILING TO ORIGINAL GROUNDLINE.

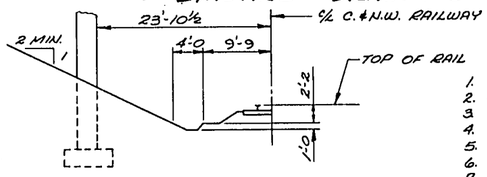
DESIGN DATA

LIVELOAD: H320
ALLOWABLE DESIGN STRESSES:
CONCRETE MASONRY, GRADE 'AA' f_c = 1,400 p.s.i.
BAR STEEL REINFORCEMENT f_s = 20,000 p.s.i.
FUTURE WEARING SURFACE 20 LB/FT²

FOUNDATION DATA

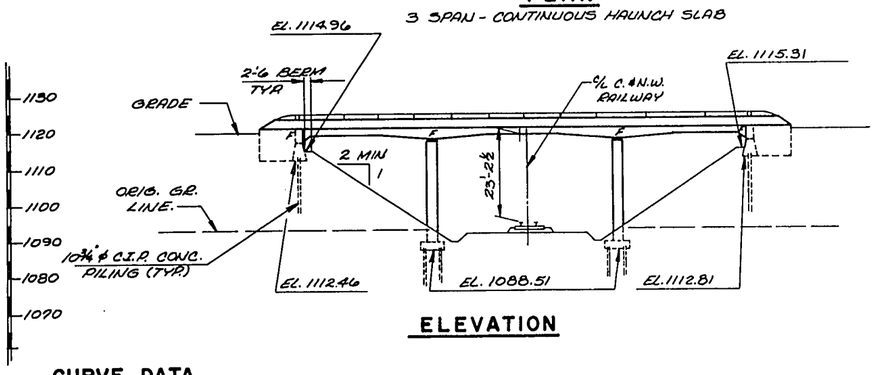
PLACE ABUTS ON 10¾"ϕ CAST-IN-PLACE CONCRETE PILING DRIVEN TO 40 TONS/PILE MIN. BRG. EST. PILE LENGTH 50'-0.
PLACE PIERS ON 10¾"ϕ CAST-IN-PLACE CONCRETE PILING DRIVEN TO 55 TONS/PILE MIN. BRG. EST. PILE LENGTH 35'-0.

DITCH WAS MODIFIED TO FIT EXISTING DRAINAGE REQUIREMENTS.



TYPICAL SECTION THRU C.& NW. RAILROAD
(NORMAL TO ℄ RAILROAD)

LIST OF DRAWINGS



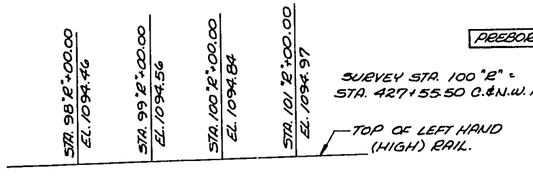
ELEVATION
3 SPAN - CONTINUOUS HAUNCH SLAB

CURVE DATA

W.B. LANE
P.I. = 330'W'+27.6 BK
Δ = 16°-25'-28" LT.
D = 1°-00'
T = 826.9'
L = 1,642.4'
R = 5,729.6'
SE = 0.047%

E.B. LANE
P.I. = 331'E'+38.9 BK
Δ = 18°-21'-47" LT.
D = 1°-00
T = 926.1'
L = 1,836.3'
R = 5,729.6'
SE = 0.047%

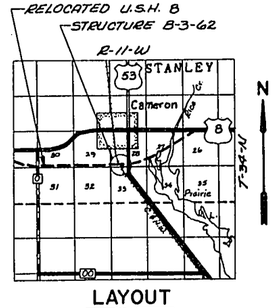
TRAFFIC VOLUME
A.D.T. = 6,100 (1996)
A.D.S. = 80 M.A.H.
D.H.V. = 915



PROFILE GRADE — C.& N.W. RAILWAY

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	SUPER	W. ABUT.	PIER 1	PIER 2	E. ABUT.	TOTAL
EXCAVATION FOR STRUCTURES	C.Y.	———	36	77	77	36	226
PREBORING, CAST-IN-PLACE CONCRETE PILING	L.F.	———	136	———	———	146	282
CONCRETE MASONRY	C.Y.	332.5	33.3	43.4	43.5	33.3	486.0
BAR STEEL REINFORCEMENT	LB	81,630	2325	5,770	5,800	2325	97,850
STRUCTURAL CARBON STEEL	LB	450	———	———	———	———	450
CAST-IN-PLACE CONCRETE PILING, DELIVERED & DRIVEN 10¾ INCH	L.F.	———	300	630	630	300	1,860
TUBULAR RAILING-TYPE 'J'	L.F.	276	———	———	———	———	276
NON-BID ITEMS							
⅛ ALUMINUM OR ZINC PLATE	S.F.	40	———	———	———	———	40
FILLER	SIZE	¼ ϕ ½	———	———	———	———	¼ ϕ ½
POLYVINYL CHLORIDE WATERSTOP	L.F.	———	41	———	———	41	82



LAYOUT

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-63

U.S.H. 8 OVER C.& N.W. RAILWAY

County	City/Village	Design Spec.	Load	Const. Spec.
BARRON	TN: STANLEY	A.A.S.H.O. '69	HS20	1969

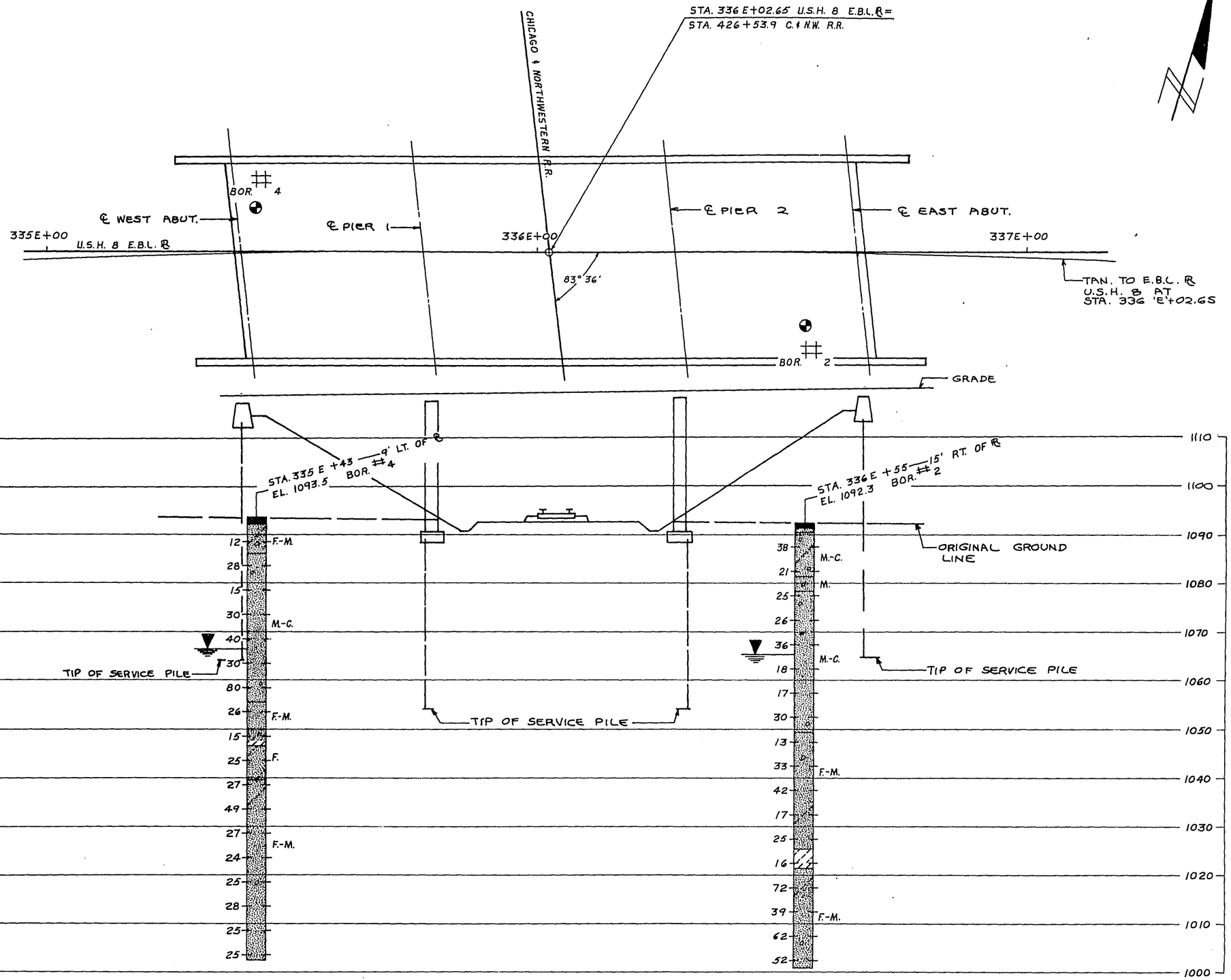
Designed By	Design Checked	Drawn By	Plans Checked
J.R.L.	M.S.R.	R.J.G.	B.W.

Approved W. A. Kleine, Chief Bridge Engineer — 3-3-72, Date

GENERAL PLAN

SHEET 1 OF 9
X47242

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1572-1-72		
FEDERAL PROJECT DESIGNATION	101	225
F021-1(57)		



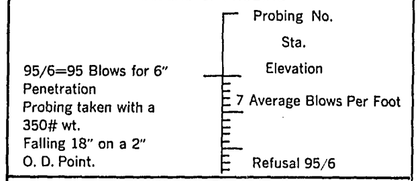
ABBREVIATIONS

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

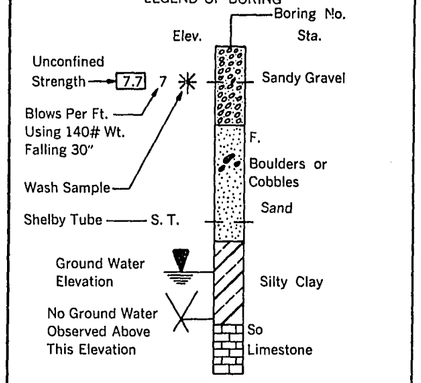
MATERIAL SYMBOLS

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

LEGEND OF PROBING



LEGEND OF BORING



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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-63

Const. Spec. 1969	Drawn By D B	Plans Checked B. W.

SUBSURFACE EXPLORATION

SHEET 2 OF 9

X 47243

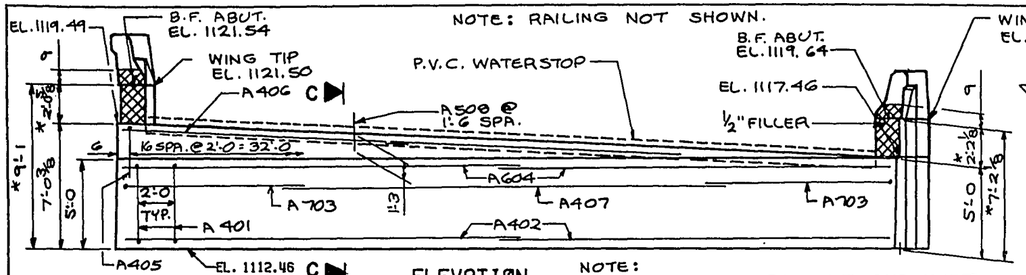
Form E-B-12-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1572-1-72	102	225
FEDERAL PROJECT DESIGNATION F021-1 (57)		

1,980 #

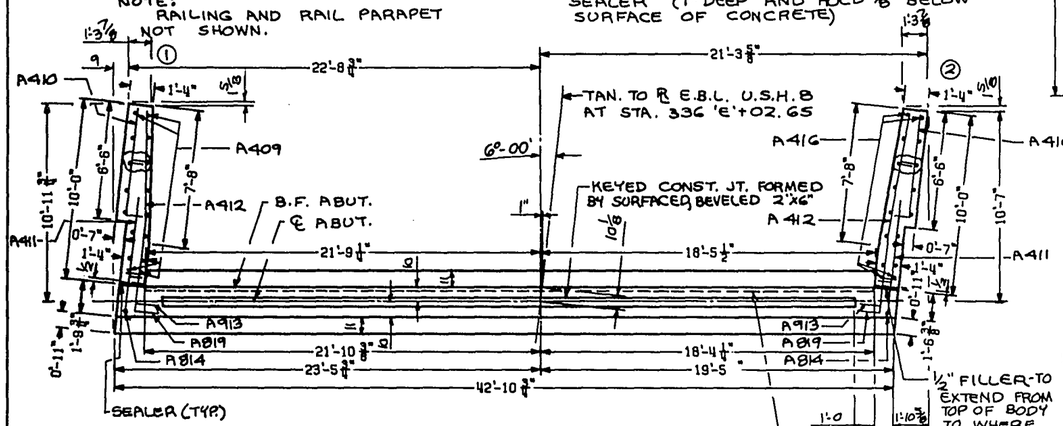
BILL OF BARS

MARK	NO.	LENGTH	BENT	LOCATION
A401	44	7-10	X	BODY
A402	12	21-9		BODY
A703	8	10-0	X	BODY
A604	4	22-0		BODY
A405	17	6-10	X	BODY
A406	4	16-9		BODY
A407	4	25-6		BODY
A508	26	2-6		BODY
A409	16	2-10		WING 1
A410	16	7-1	X	WINGS 1 & 2
A411	6	5-5	X	WINGS 1 & 2
A412	6	10-6	X	WINGS 1 & 2
A913	10	12-3	X	WINGS 1 & 2
A814	2	12-5	X	WINGS 1 & 2
A415	10	8-5	X	WING 1
A416	16	3-0		WING 2
A417	10	6-5	X	WING 2
A418	8	5-10		WINGS 1 & 2
A819	2	11-8	X	WINGS 1 & 2
A420	6	8-11	X	WING 1
A421	6	6-11	X	WING 2
A422	12	2-3		BODY - PILE
A323	6	28-0	X	BODY - PILE - SPIRAL



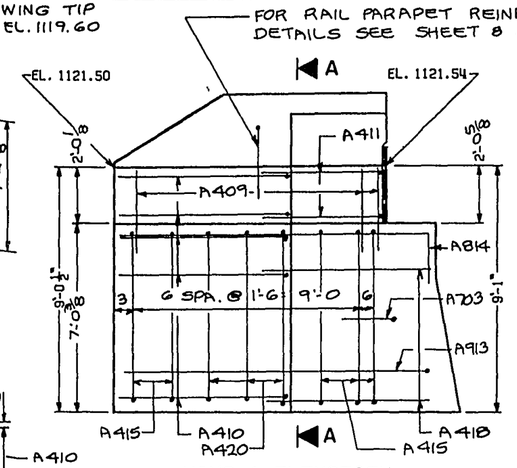
ELEVATION
(LOOKING WEST)

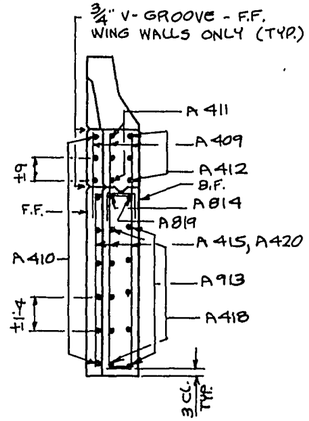
NOTE:
SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE)

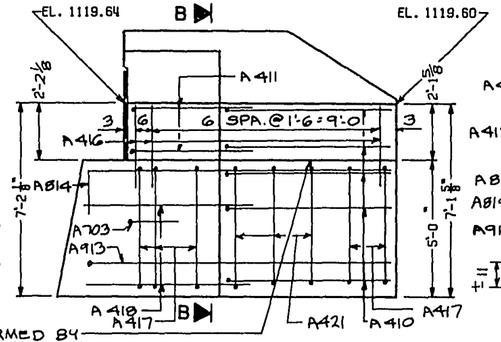


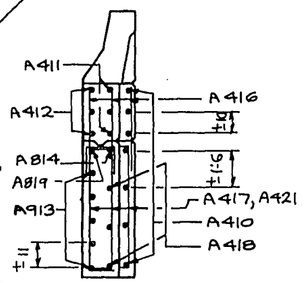
ABUTMENT PLAN

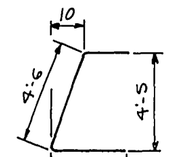
POLYVINYL CHLORIDE WATERSTOP-TO EXTEND BETWEEN INSIDE FACES OF WINGS. (FLUSH WITH FACE OF CONCRETE) SEE DETAIL BELOW.

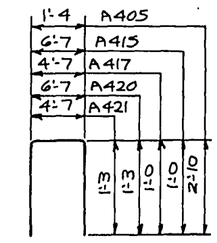


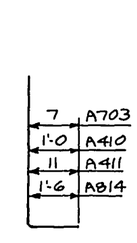


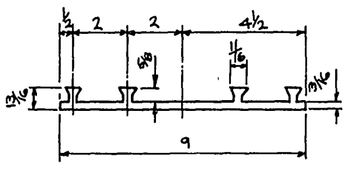




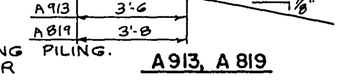




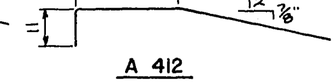


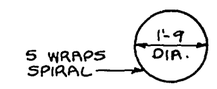


POLYVINYL CHLORIDE WATERSTOP

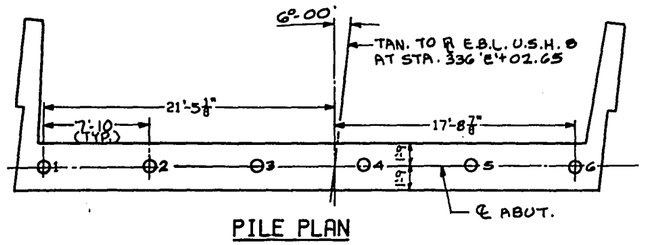


NOTE:
FILL TO EL. 1114.96 BEFORE DRIVING PILING. UPPER LIMITS OF 'EXCAVATION FOR STRUCTURES' SHALL NOT EXCEED THIS ELEVATION.

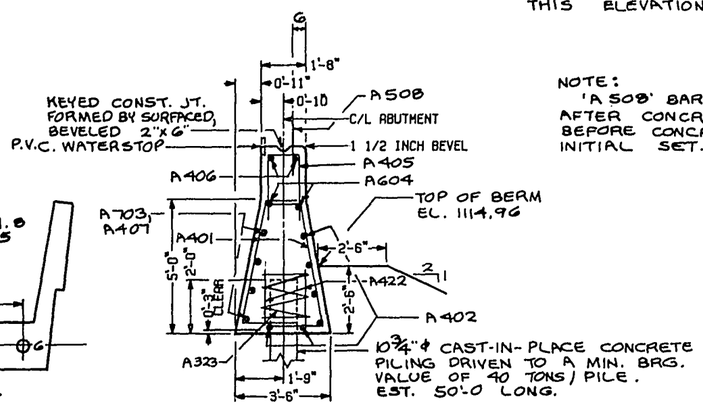




NOTE:
ALL DIMENSIONS IN BENDING ARE OUT TO OUT OF BAR.
THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

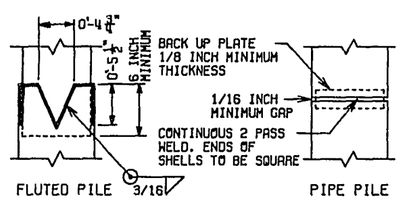


PILE PLAN



SECTION C

NOTE:
'A 508' BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE CONCRETE HAS TAKEN ITS INITIAL SET.



PILE SPLICE DETAIL

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-63

Const. Spec.	Drawn By	Plans Checked
1969	DB	B.W.

WEST ABUTMENT

SHEET 3 OF 9

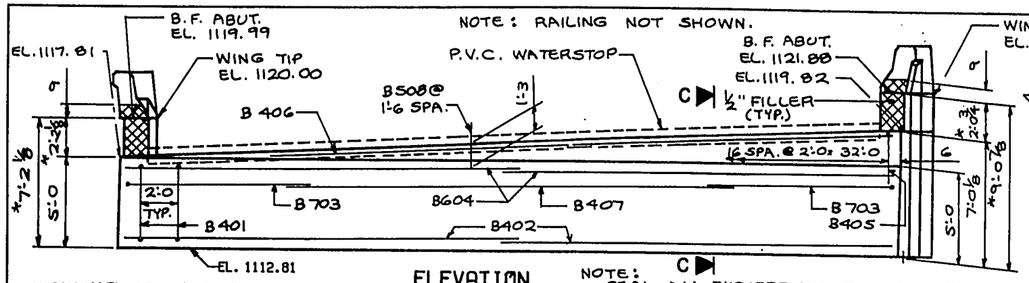
X 47244

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1572-1-72	103	225
FEDERAL PROJECT DESIGNATION F021-1(57)		

BILL OF BARS

1,980 #

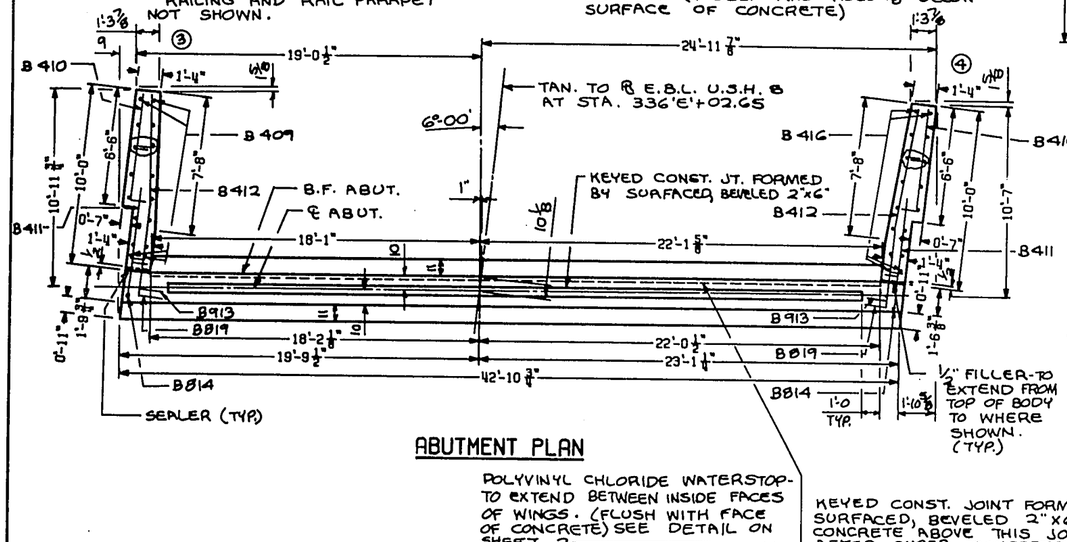
MARK	NO.	LENGTH	BENT	LOCATION
B 401	44	7-10	X	BODY
B 402	12	21-9		BODY
B703	8	10-0	X	BODY
B604	4	22-0		BODY
B405	17	6-10	X	BODY
B406	4	16-9		BODY
B407	4	25-6		BODY
B508	26	2-6		BODY
B409	16	3-0		WING 3
B410	16	7-1	X	WINGS 3&4
B411	6	5-5	X	WINGS 3&4
B412	6	10-6	X	WINGS 3&4
B913	10	12-3	X	WINGS 3&4
B814	2	12-5	X	WINGS 3&4
B415	10	6-5	X	WING 3
B416	16	2-11		WING 4
B417	10	8-5	X	WING 4
B418	8	5-10		WINGS 3&4
B819	2	11-8	X	WINGS 3&4
B420	6	6-11	X	WING 3
B421	6	8-11	X	WING 4
B422	12	2-3		BODY - PILE
B323	6	28-0	X	BODY - PILE - SPIRAL



ELEVATION

(LOOKING EAST)

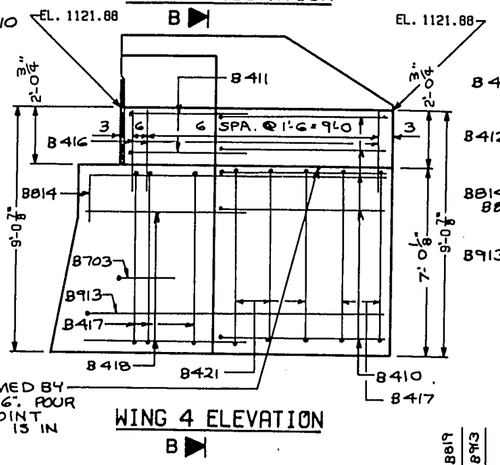
NOTE: SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE)



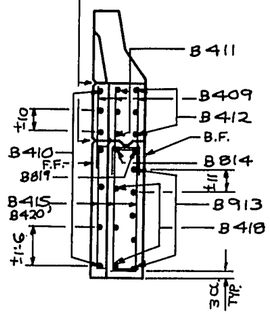
ABUTMENT PLAN

POLYVINYL CHLORIDE WATERSTOP-TO EXTEND BETWEEN INSIDE FACES OF WINGS. (FLUSH WITH FACE OF CONCRETE) SEE DETAIL ON SHEET 3.

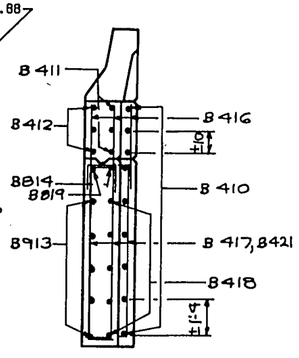
WING 3 ELEVATION



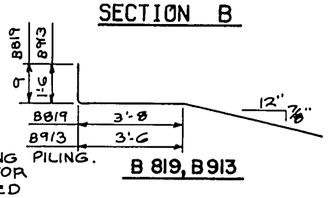
WING 4 ELEVATION



SECTION A



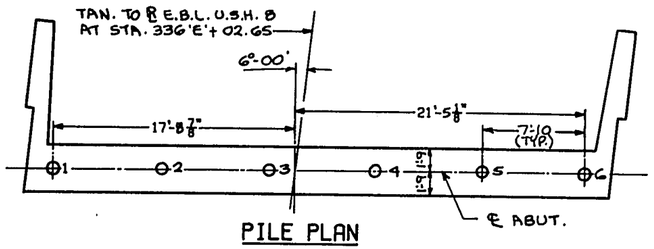
SECTION B



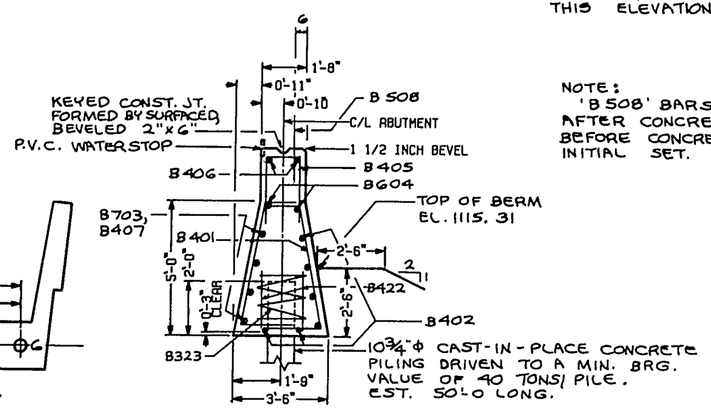
B 819, B913

NOTE: FILL TO EL. 1115.31 BEFORE DRIVING UPPER LIMITS OF 'EXCAVATION FOR STRUCTURES' SHALL NOT EXCEED THIS ELEVATION.

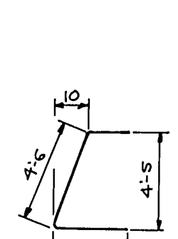
NOTE: 'B 508' BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE CONCRETE HAS TAKEN ITS INITIAL SET.



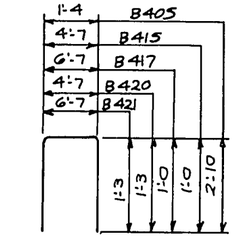
PILE PLAN



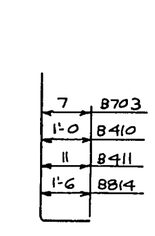
SECTION C



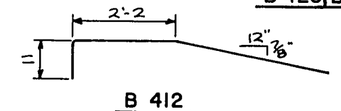
B 401



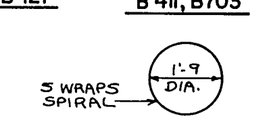
B 405, B415, B 417, B 420, B421



B410, B814, B411, B703



B 412



B 323

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

NOTE: FOR 'PILE SPLICE DETAIL' SEE SHEET 3.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-63

Const. Spec.	Drawn By	Plans Checked
1969	DB	B. W.

EAST ABUTMENT

SHEET 4 OF 9

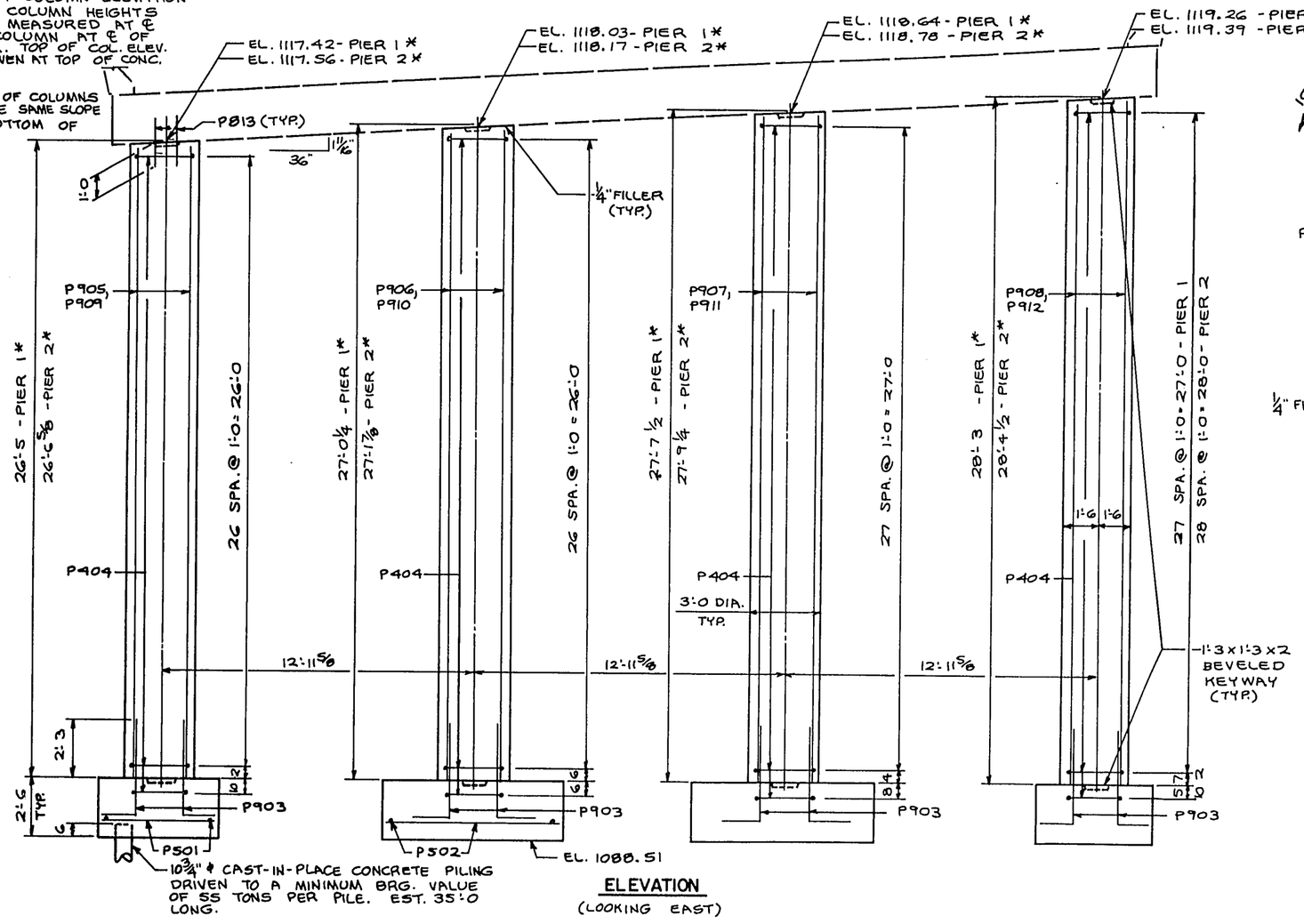
X 47245

Form E B 12 69

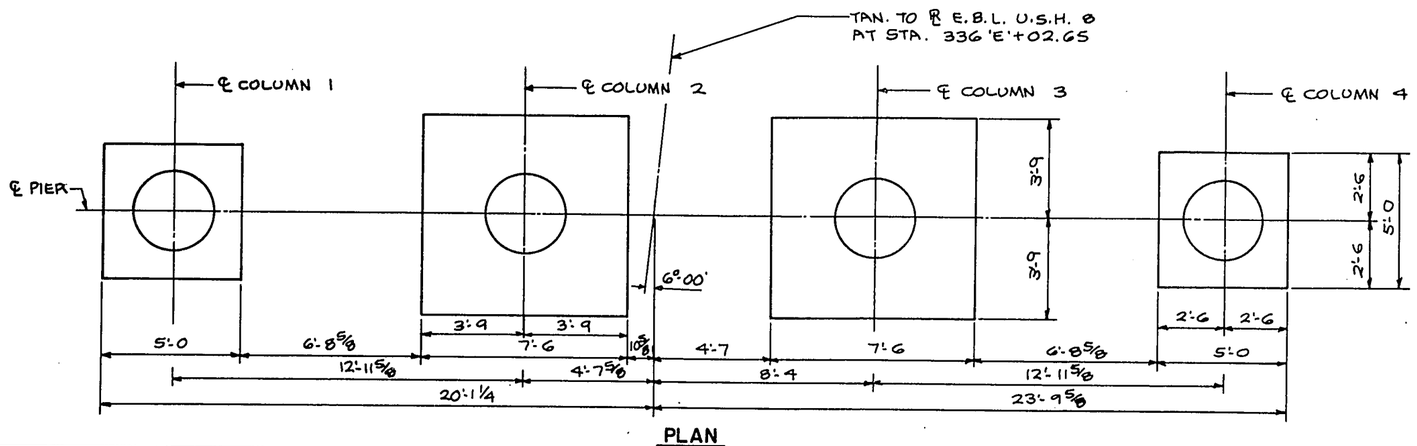
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1572-1-72	104	225
FEDERAL PROJECT DESIGNATION F021-1(57)		

* TOP OF COLUMN ELEVATION AND COLUMN HEIGHTS ARE MEASURED AT ℄ OF COLUMN AT ℄ OF PIER. TOP OF COL. ELEV. ARE GIVEN AT TOP OF CONC.

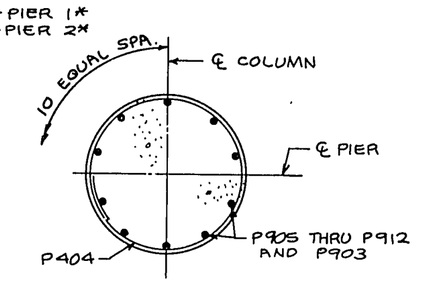
NOTE: TOP OF COLUMNS TO HAVE SAME SLOPE AS BOTTOM OF SLAB.



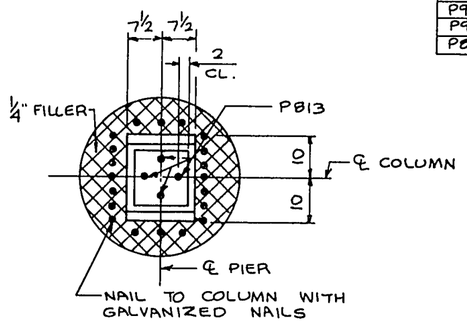
ELEVATION
(LOOKING EAST)



PLAN



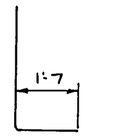
SECTION THRU COLUMN



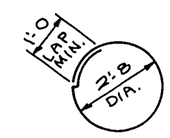
SECTION THRU FILLER

BILL OF BARS 11,570 * (TWO PIERS)

MARK	NO.	LENGTH	BENT	LOCATION
P501	48	4-8		FOOTING - EXTERIOR
P502	120	7-2		FOOTING - INTERIOR
P903	80	5-4	X	FOOTING & COLUMNS
P404	229	9-5	X	COLUMNS & FOOTINGS
P905	10	26-2		COLUMN 1 - PIER 1
P906	10	26-9		COLUMN 2 - PIER 1
P907	10	27-4		COLUMN 3 - PIER 1
P908	10	28-0		COLUMN 4 - PIER 1
P909	10	26-3		COLUMN 1 - PIER 2
P910	10	26-10		COLUMN 2 - PIER 2
P911	10	27-6		COLUMN 3 - PIER 2
P912	10	28-1		COLUMN 4 - PIER 2
P813	32	2-0		COLUMNS

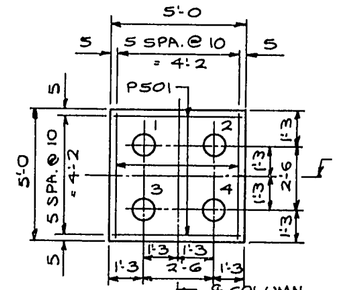


P 903



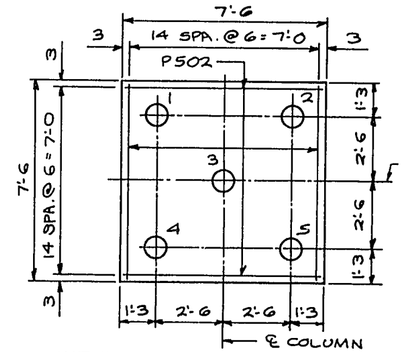
P 404

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



EXTERIOR FOOTING PLAN

NOTE:
'P813' BARS MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET.



INTERIOR FOOTING PLAN

NOTE:
FOR 'PILE SPLICE DETAIL' SEE SHEET 3.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-63

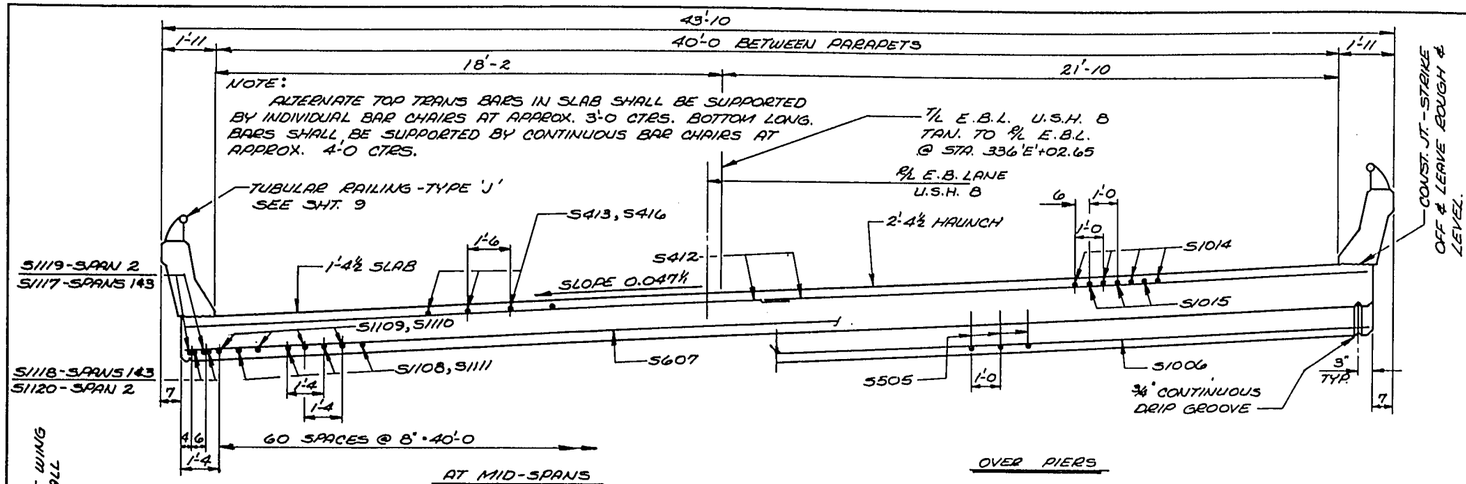
Const. Spec.	Drawn By	Plans Checked
1969	DB	B.W.

PIERS 1 & 2

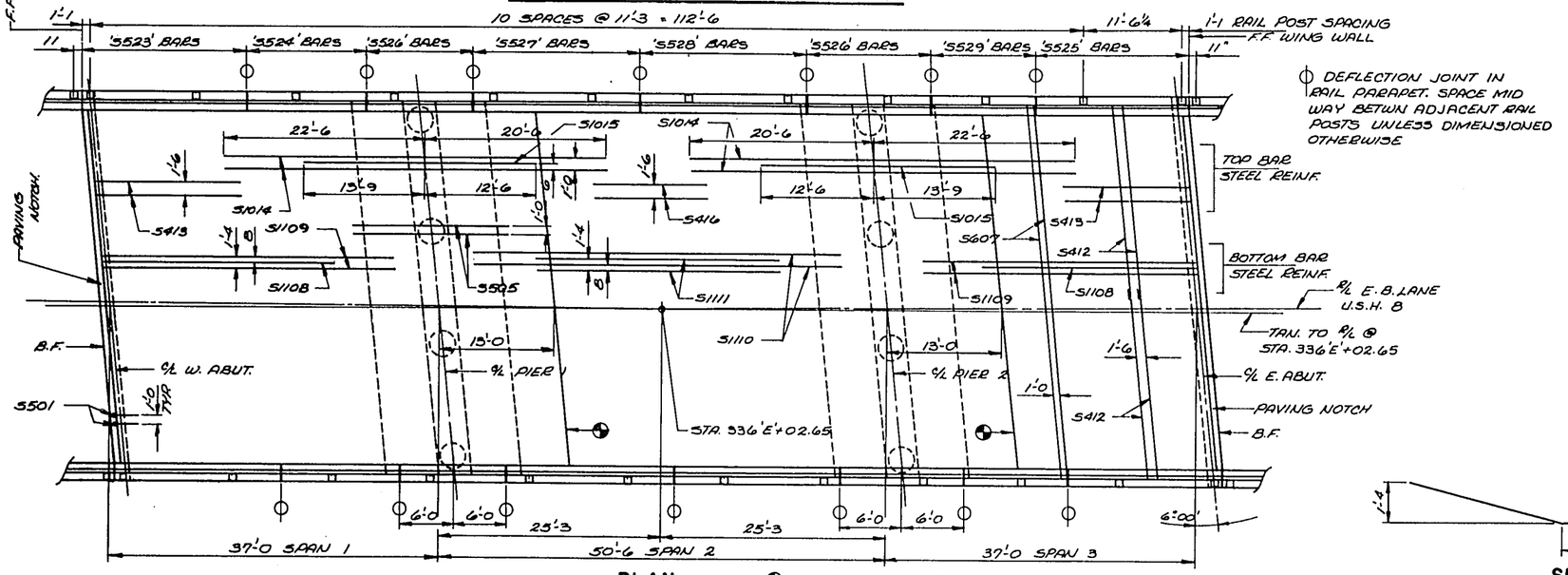
SHEET 5 OF 9

X 47246

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1572-1-72	105	225
FEDERAL PROJECT DESIGNATION: F021-1(57)		

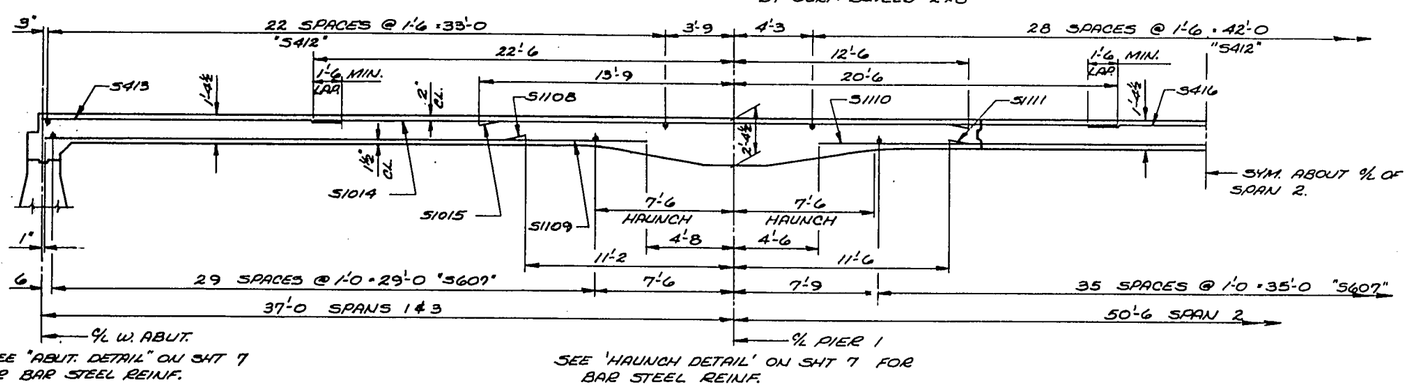


CROSS SECTION THRU ROADWAY (LOOKING EAST)

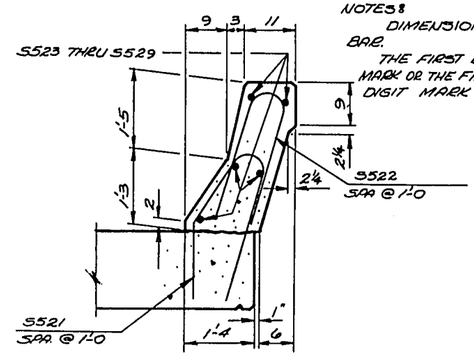


PLAN

℄ OPT. TRANS. CONST. JT. FORMED BY SURF. BEVELD 2×8



LONGITUDINAL SECTION
(ALONG ℄ ROADWAY)



REINF. IN RAIL PARAPET

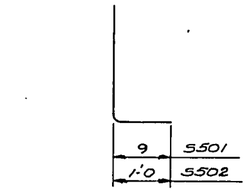
NOTES: DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A THREE DIGIT MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT MARK SIGNIFIES THE BAR SIZE.

BILL OF BARS

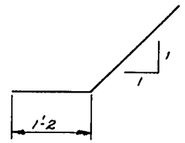
81,630

MARK	Nº REQ'D	LENGTH	BENT	BUNDLED	LOCATION
S501	86	3-1	X		SLAB AT ABUTS.
S502	86	2-6	X		" " "
S503	86	3-2	X		" " "
S404	24	21-10			" " " ℄ PIERS
S505	86	18-4	X		HAUNCH AT PIERS
S1006	34	42-6			" " "
S607	96	42-5			SLAB-BOT.-TRANS.
S1108	60	25-9			" - " -LONG.-SPANS 1&3
S1109	62	32-3			" - " - " - " "
S1110	31	41-6			" - " - " -SPAN 2
S1111	30	27-6			" - " - " - " "
S412	150	22-0			" -TOP-TRANS.
S413	58	16-0			" - " -LONG.-SPANS 1&3
S1014	86	43-0			" - " - " OVER PIERS
S1015	84	26-3			" - " - " - " "
S416	29	12-6			" - " - " -SPAN 2
S1117	8	32-3		X	EDGE BEAM REINF.-SPANS 1&3
S1118	8	25-9		X	" " " " "
S1119	4	41-6		X	" " " -SPAN 2
S1120	4	27-6		X	" " " - "
S521	250	5-8	X		SLAB & RAIL PARAPET
S522	250	5-0	X		RAIL PARAPET
S523	10	17-5			" " -HORIZ.
S524	10	13-6			" " - "
S525	10	17-8			" " - "
S526	20	11-8			" " - "
S527	10	18-9			" " - "
S528	10	19-0			" " - "
S529	10	13-3			" " - "

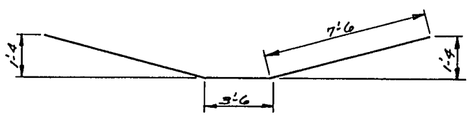
NOTE: BUNDLED BARS SHALL BE WIRED TOGETHER AT 2'-0 CTRS.



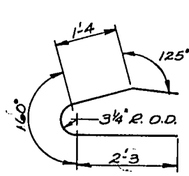
S501 & S502



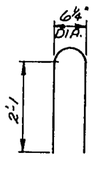
S503



S505



S521



S522

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-63

Const. Spec.	1969	Drawn By	R.J.G.	Plans Checked	B. W.

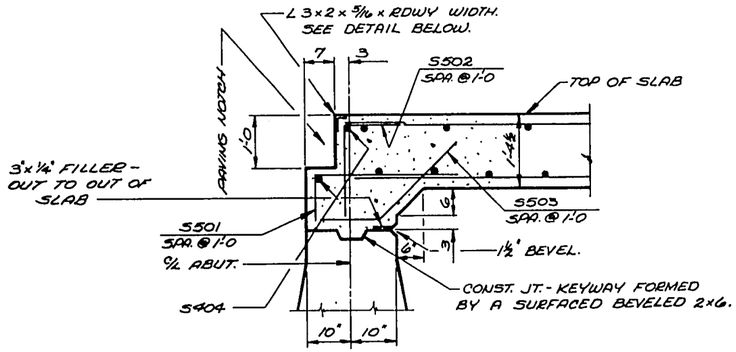
SUPERSTRUCTURE

SHEET 6 OF 9

X47247

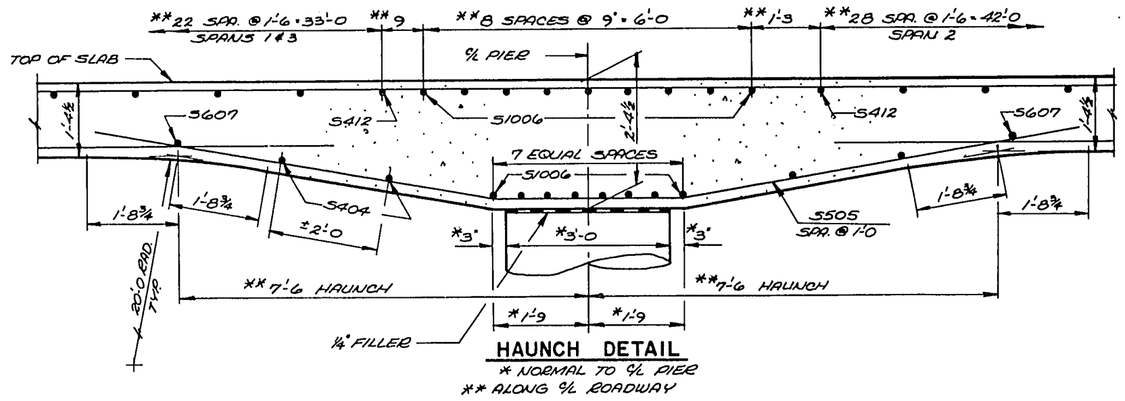
Form E-B-12-69

PROJECT I D	SHEET NUMBER	TOTAL SHEETS
1572-1-72		
FEDERAL PROJECT DESIGNATION	106	225
F021-1 (57)		



ABUTMENT DETAIL

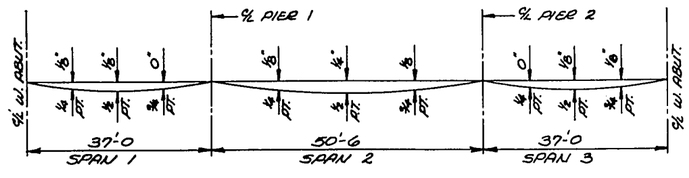
(NORMAL TO ℄ ABUT.)



HAUNCH DETAIL

* NORMAL TO ℄ PIER

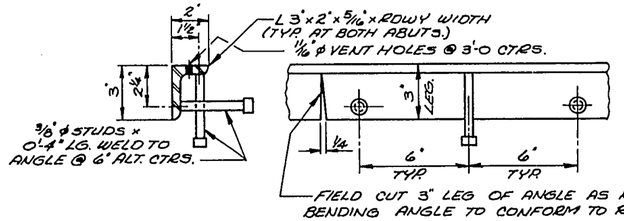
** ALONG ℄ ROADWAY



DEFLECTION DIAGRAM

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+). PARAPETS SHOWN ABOVE THE HORIZ. CONST. JT. SHALL BE POURED AFTER THE FALSEWORK HAS BEEN RELEASED.

PROVIDE CAMBER OF 5/16" AT THE ½ PT. OF SPANS 1 & 3 AND 5/8" AT THE ¼ PT. OF SPAN 2 TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE PLASTIC FLOW. THIS DOES NOT INCLUDE AN ALLOWANCE FOR FORM SETTLEMENT.



PROTECTION ANGLE DETAIL

NOTE: ANGLE AND STUDS SHALL BE PAID FOR AS STRUCTURAL CARBON STEEL.

ONE FIELD SPLICE PERMITTED, IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-63

Const. Spec.	1969	Drawn By	R.J.G.	Plans Checked	B.W.

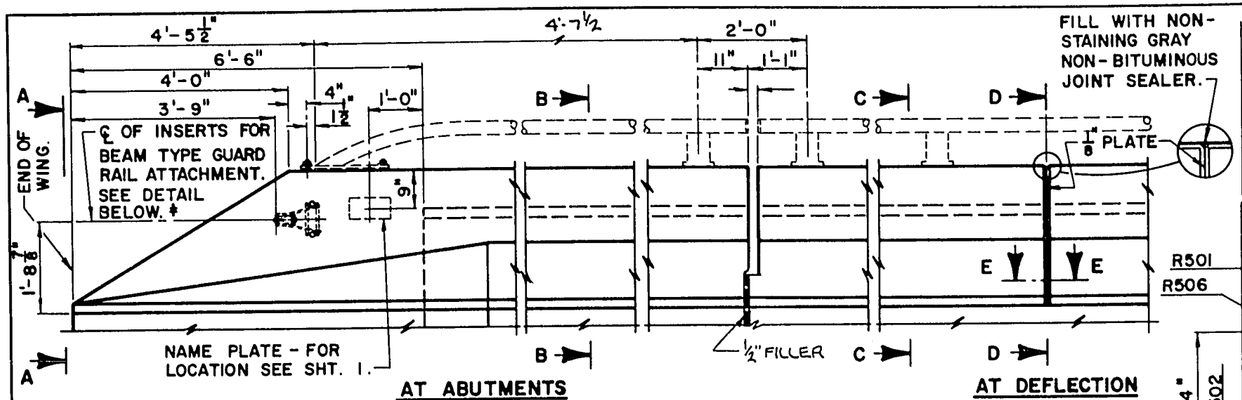
SUPERSTRUCTURE

SHEET 7 OF 9

X47248

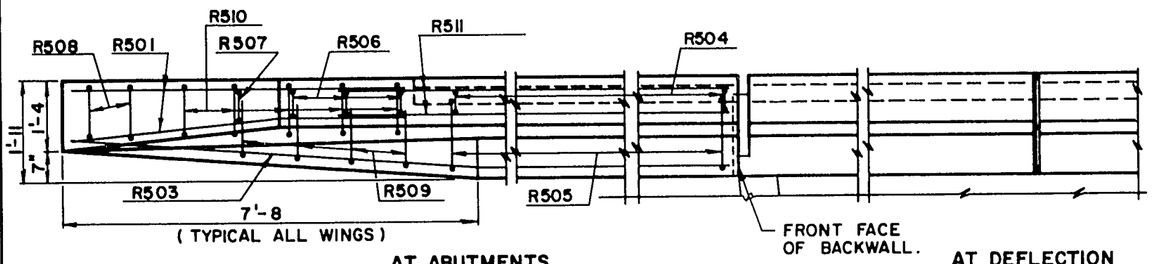
Form C B 12-6-

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1572-1-72	107	225
FEDERAL PROJECT DESIGNATION F021-1(57)		

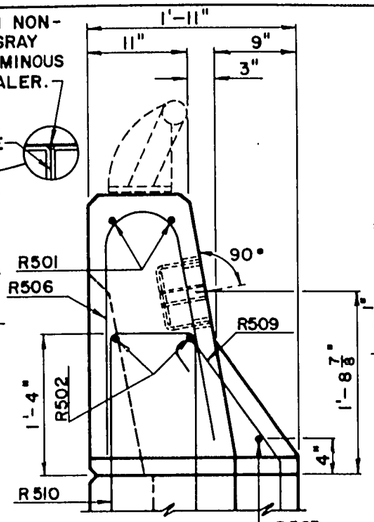


*PLACE AT ABUTMENT WINGS WHERE REQUIRED. SEE SHT. 1.

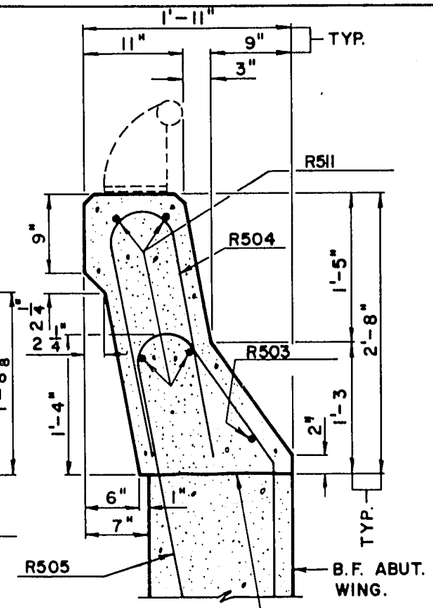
ELEVATION OF RAIL PARAPET



(TYPICAL ALL WINGS)

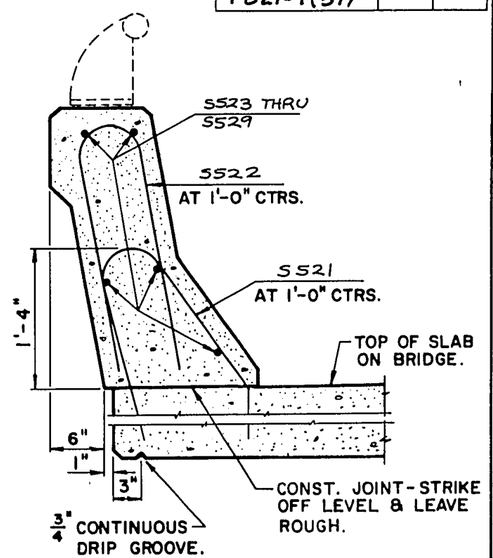


VIEW A



CONST. JOINT - STRIKE OFF LEVEL & LEAVE ROUGH.

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. 690 LBS.**

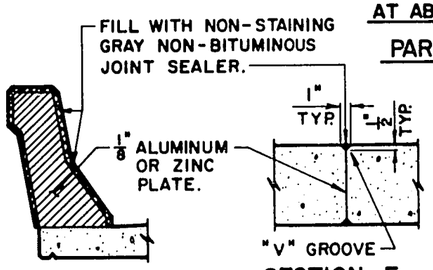
MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
R501	8	6-10	X	WINGS 1 THRU 4
R502	8	4-5		" 1 " 4
R503	4	9-2	X	" 1 " 4
R504	16	5-0	X	" 1 " 4
R505	16	5-10	X	" 1 " 4
R506	12	5-2	X	" 1 THRU 4
R507	4	4-2	X	" 1 " 4
R508	8	4-10	X	" 1 " 4
R509	16	3-3	X	" 1 " 4
R510	20	5-10	X	" 1 " 4
R511	16	4-10		" 1 " 4

** 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 "TUBULAR RAILING TYPE J".

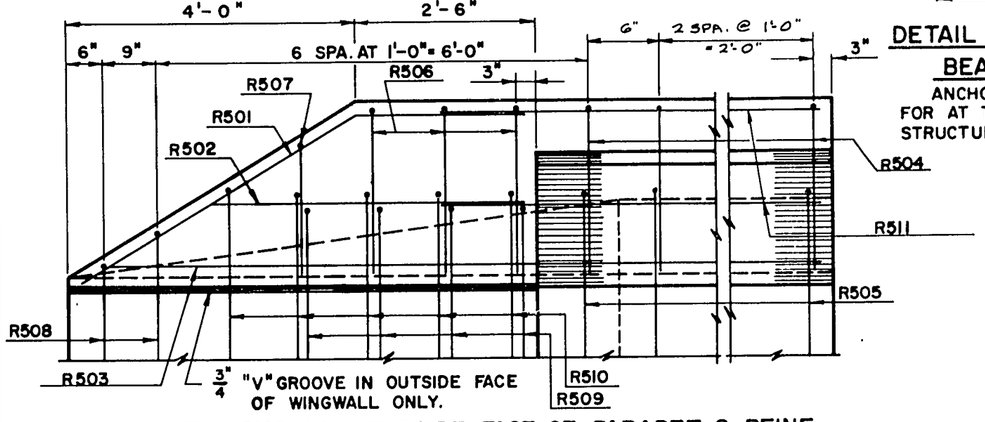


SECTION D

SECTION E

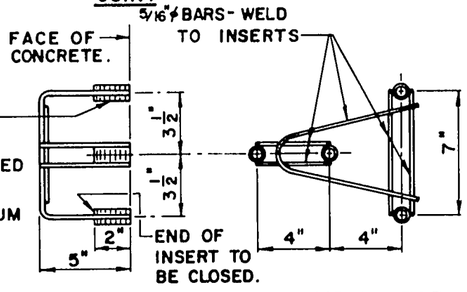
AT ABUTMENTS

PART PLAN OF RAIL PARAPET



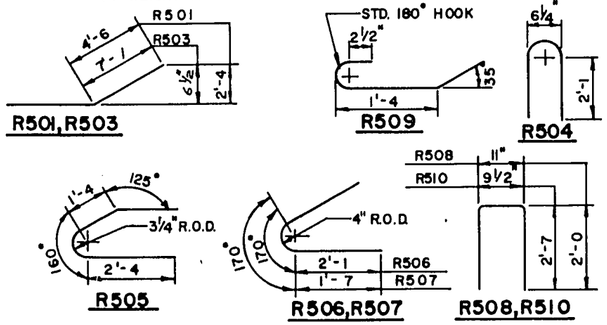
VIEW SHOWING OUTSIDE FACE OF PARAPET & REINF.

AT DEFLECTION JOINT



DETAIL OF ANCHOR ASSEMBLY FOR BEAM TYPE GUARD RAIL

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



No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-63

Const. Spec.	Drawn By	Plans Checked
1969	DB	B.W.

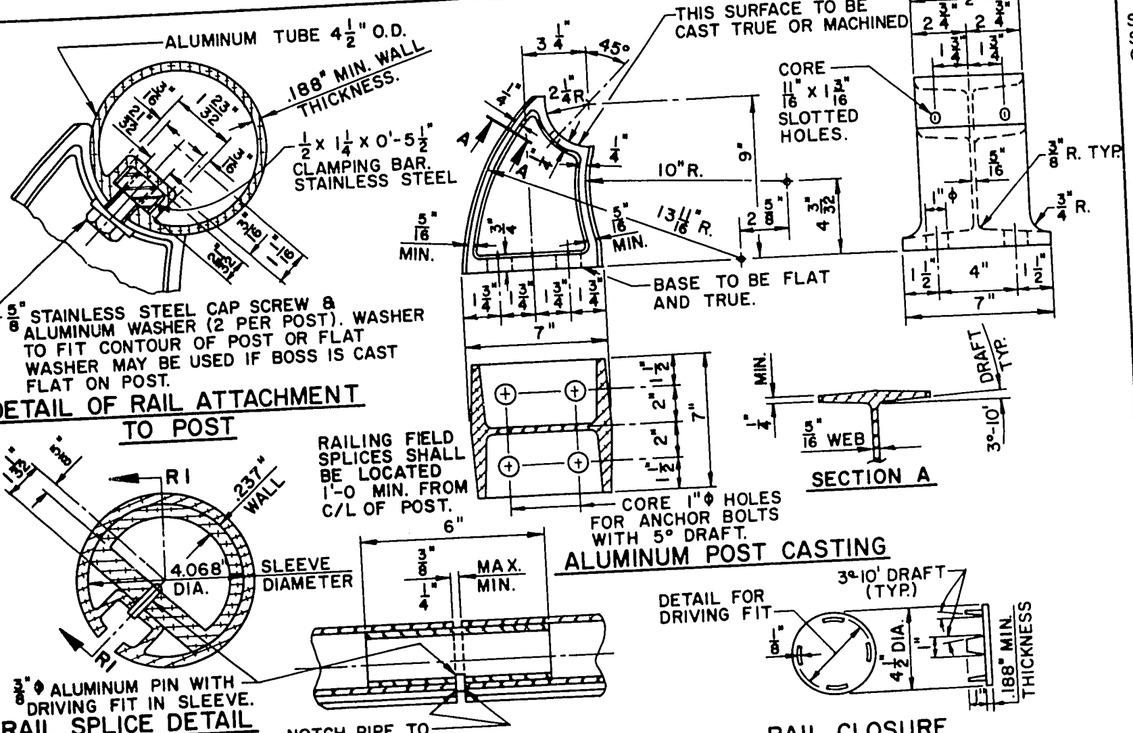
SLOPED FACE PARAPET "A"

SHEET 8 OF 9

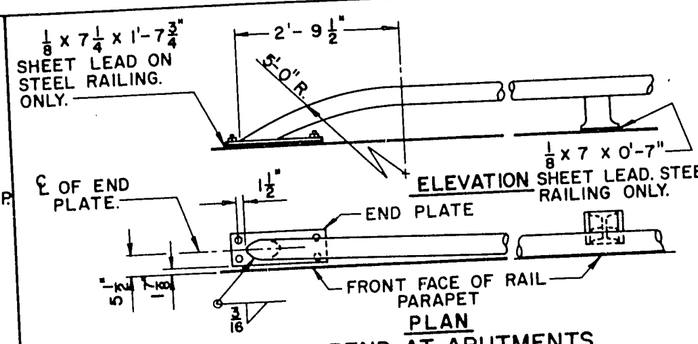
X 47249

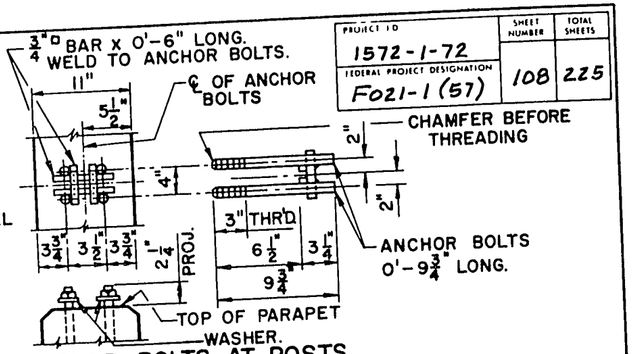
Form E 8-12-69

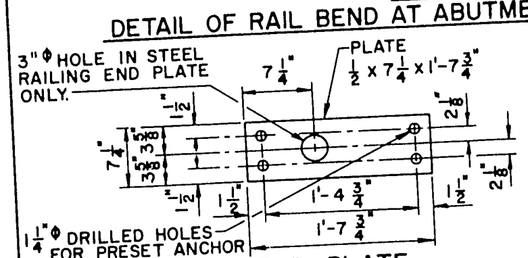
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1572-1-72	108	225
FEDERAL PROJECT DESIGNATION F021-1(57)		

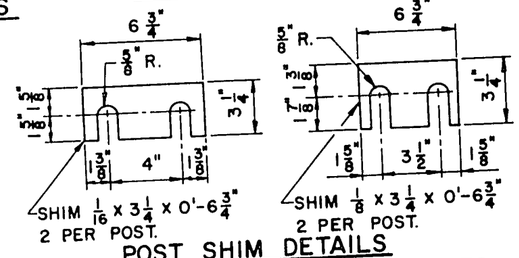


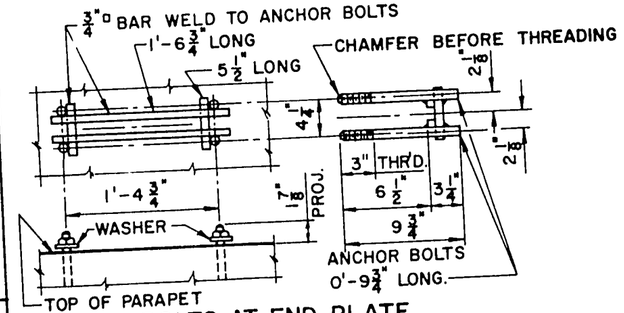
NOTES:
MAX. REDUCTION IN DIAMETER OF BENT SECTION SHALL BE 3%.
MAX. REDUCTION IN SLOT WIDTH IN BENT TUBING SHALL BE 3/16".
WALL THICKNESS OF TUBING SHOWN ABOVE SHALL BE MIN. NOMINAL AVERAGE WALL THICKNESS.











GENERAL NOTES

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

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

RAILING SHALL BE FABRICATED IN TWO OR THREE PANEL LENGTHS.

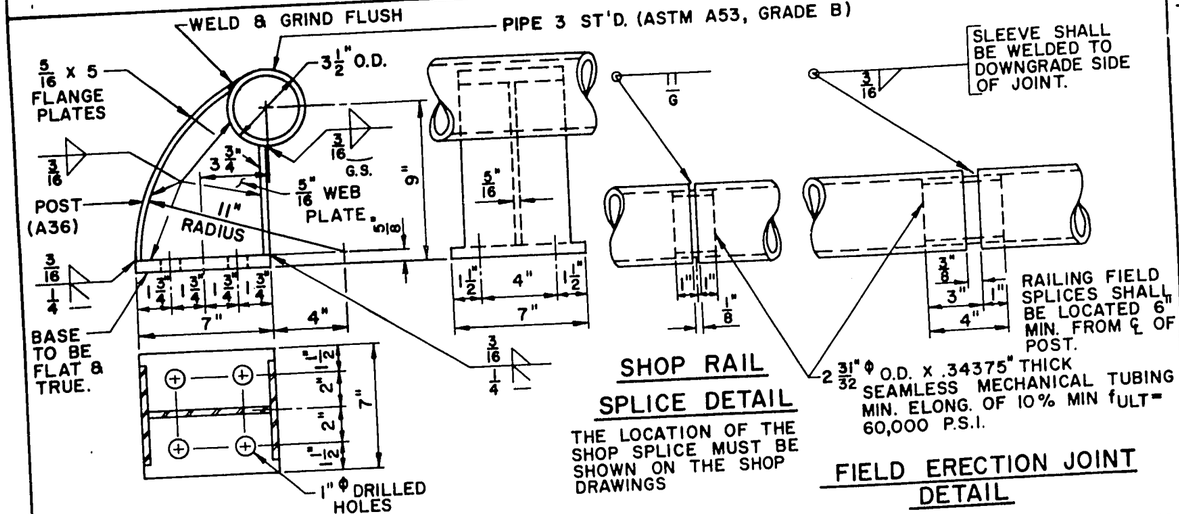
SHIMS CONFORMING TO SAME MATERIAL AS POSTS SHALL BE USED UNDER POSTS AND END PLATES WHERE REQ'D FOR ALIGNMENT.

RAIL POSTS SHALL BE SET NORMAL TO GRADE.

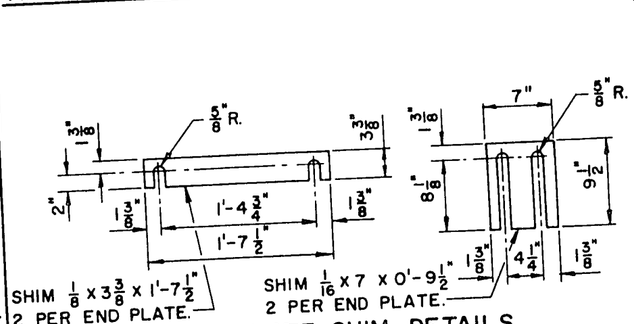
THE SHANK AND ROOT OF THREAD DIAMETER FOR ANCHOR BOLTS SHALL BE A MIN. OF 0.62 INCHES.

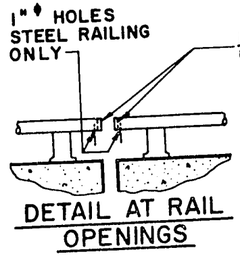
ANCHOR BOLTS, NUTS & WASHERS FOR ALUMINUM RAILING SHALL BE STAINLESS STEEL.

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



NOTE: GALVANIZE ENTIRE RAILING AFTER FABRICATION INCLUDING SHIMS.





No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-63

Const. Spec. 1969	Drawn By DB	Plans Checked B.W.

TUBULAR RAILING TYPE 'J'

SHEET 9 OF 9

X 47250