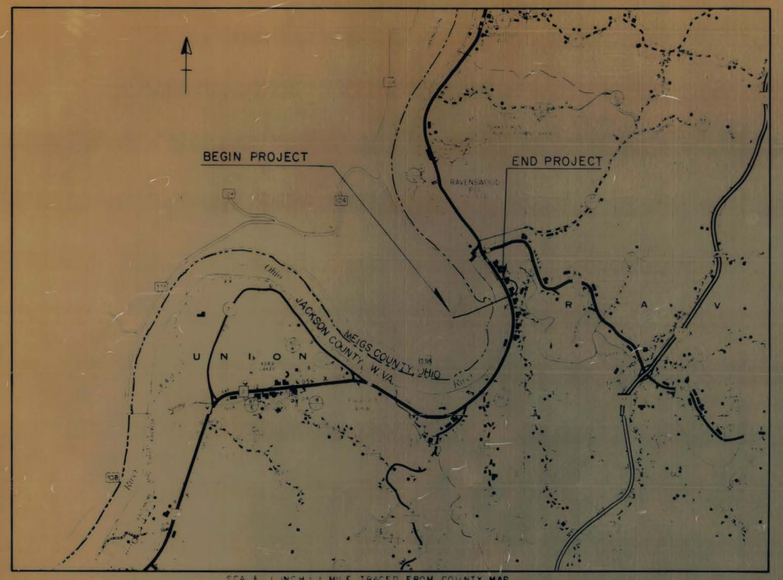


THIS PROJECT IS A FULLY CONTROLLED ACCESS FACILITY WITH NO ACCESS EXCEPT AT DESIGNATED POINTS OF PUBLIC ACCESS AS SET FORTH IN THESE PLANS.

FOR LIST OF STANDARD DRAWINGS SEE GENERAL NOTES SHEET NO. ____

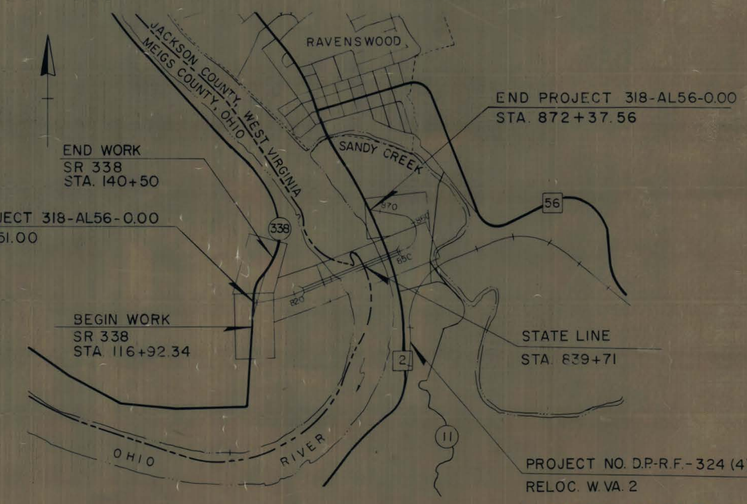
WEST VIRGINIA DEPARTMENT OF HIGHWAYS

PLANS FOR CONSTRUCTION OF STATE HIGHWAY

FED. PROJECT NO. F-338(002), C-1
STATE PROJECT NO. 318-AL56-0.00, C-1
ROUTE NO. 56

JACKSON COUNTY, W.VA.
MEIGS COUNTY, LEBANON TWP., OHIO

PROJECT NO.	STA. TO STA.	LENGTH	LENGTH
ROADWAY	809+51.00 – 822+31.42	1280.42 FT.	0.243 MI. RDY.
BRIDGE NO. 2972	822+31.42 – 839+71.00	1739.58 FT.	0.329 MI. BR.
TOTAL PROJECT – OHIO		3020.00 FT.	0.572 MI
BRIDGE NO. 2972	839+71.00 – 849+45.83	974.83 FT.	0.185 MI. BR.
ROADWAY	849+45.83 – 872+37.56	2291.73 FT.	0.434 MI. RDY.
TOTAL PROJECT – WEST VIRGINIA		3266.56 FT.	0.619 MI.



LAYOUT SCALE
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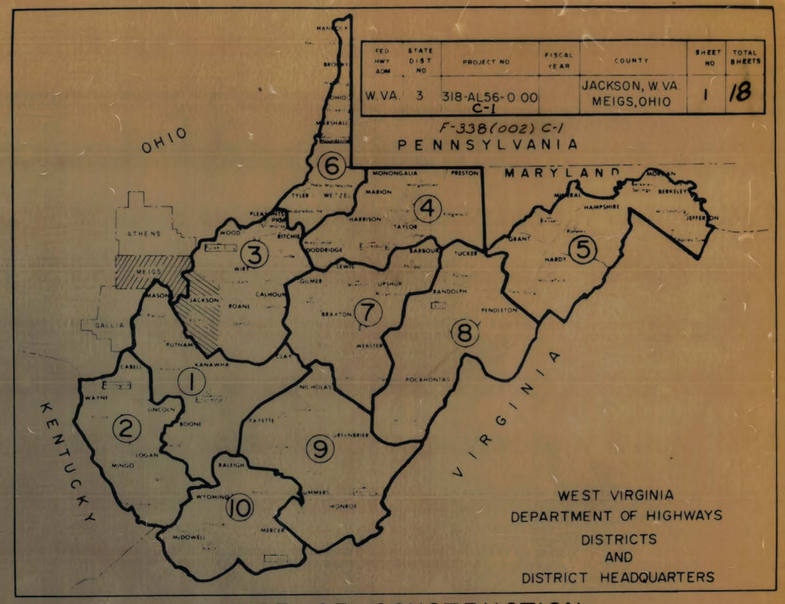


TYPE OF CONSTRUCTION

PIERS 6,7&8

SCALES
PLAN HOR. 0 25 50
PROFILE VERT. 10 5 0
HOR. 0 25 50

DESIGN DESIGNATION	
A.D.T. (1976)	= 1600
A.D.T. (1996)	= 3800
D.H.V.	= 380
D.	= 60/40
T.	= 4%
V.	= 40 MPH
K.	= 10%

CONVENTIONAL SIGNS

- State Line
- County Line
- Corporation Line
- Proposed R/W Line
- Property Line
- Existing Fence
- Proposed Fence
- Edge of Stream
- Proposed Guard Rail
- Existing Guard Rail
- Railroad
- Gas Line
- Water Line
- Telephone Line
- Electric Line
- Telephone Pole
- Power Pole
- Combined Power and Telephone Pole
- Tree
- Shrub
- Right of Way Marker

PLANS PREPARED BY
MICHAEL BAKER, JR., INC.
Consulting Engineers
SIGNED
DATE 11-23-76
BEAVER, PENNA.

SEAL

INDEX TO SHEETS

NO	DESCRIPTION
1	Title Sheet
2	Geometric Layout
3	General Plan & Elevation
4	General Notes
5	Quantities
6-9	Pier #6
10-12	Pier #7
13-14	Pier #8
15-17	Test Borings
18	Situation Plan

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

DEC. 14, 1976
I HEREBY CERTIFY THAT THIS IS A CORRECT COPY OF THE PLANS OF PROJECT 318-AL56-0.00
EXECUTIVE SECRETARY

APPROVED BY OFFICIAL ORDER OF THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS ENTERED 14th DAY OF DEC. 1976
EXECUTIVE SECRETARY

OHIO APPROVALS

The right of way for the Ohio portion of this improvement will be provided by the State of Ohio.

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway and that provisions for maintenance and safety of traffic will be as set forth on the plans and estimates.

APPROVED Date ..... CHIEF ENGINEER, OPERATIONS

APPROVED Date .....

APPROVED Date 12-8-76 Glenn A. Smith DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

APPROVED Date 12-9-76 Robert B. Shrifer ENGINEER, BUREAU OF BRIDGES

APPROVED Date 12-9-76 W.J. Cunningham ENGINEER, BUREAU OF ROADWAY DESIGN

APPROVED Date 12-9-76 John B. Ellis ASSISTANT DEPUTY DIRECTOR FOR HIGHWAY DESIGN

APPROVED Date 12-9-76 D.W. Billingly ASSISTANT DEPUTY DIRECTOR FOR REAL ESTATE

APPROVED Date 12-9-76 Howard E. Nolan ASSISTANT DEPUTY DIRECTOR FOR PROGRAM DEVELOPMENT

APPROVED Date 12-9-76 R.E. Gathin CHIEF ENGINEER, DESIGN

APPROVED Date 12-9-76 David L. Wain ASSISTANT DIRECTOR, DEPARTMENT OF TRANSPORTATION

APPROVED Date 12/9/76 Richard D. Jordan DIRECTOR, DEPARTMENT OF TRANSPORTATION

WEST VIRGINIA APPROVALS

RECOMMENDED Jack H. Stamper DIRECTOR DESIGN DIVISION

REVIEWED William A. Starling CHIEF ENGINEER DESIGN

RECOMMENDED FOR APPROVAL Joseph S. Jones STATE HIGHWAY ENGINEER - CONSTRUCTION

APPROVED W.S. Kitchen Jr. COMMISSIONER OF HIGHWAYS

APPROVED

DIVISION ADMINISTRATOR ..... DATE .....
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

PROJECT NO. 318-AL56-0.00

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

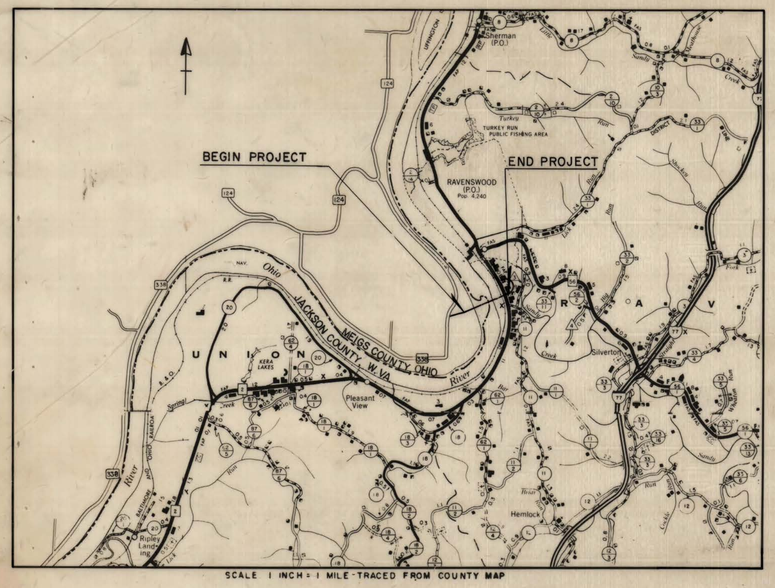
PLANS FOR CONSTRUCTION
OF
STATE HIGHWAY

STATE PROJECT NO. 318-AL56-0.00, C-4 ROUTE NO. 56
OHIO PROJECT NO. MEIGS 338/824-19.26/0.00 S.R. 824
FEDERAL PROJECT NO. F-338(002)

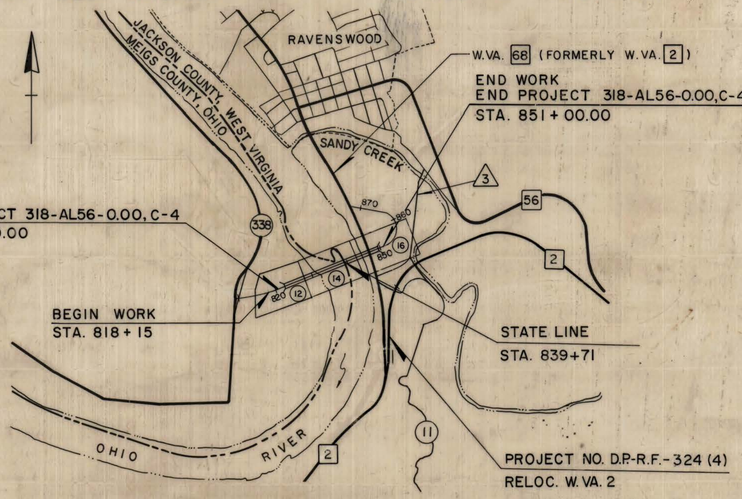
JACKSON COUNTY, W.VA.

MEIGS COUNTY, LEBANON TWP., OHIO

PROJECT NO.	STA. TO STA.	LENGTH	LENGTH
ROADWAY	821+00.00 – 822+31.42	131.42 FT.	0.025 MI. RDY.
BRIDGE NO. 2972	822+31.42 – 839+71.00	1739.58 FT.	0.329 MI. BR.
TOTAL PROJECT – OHIO		1871.00 FT.	0.354 MI.
BRIDGE NO. 2972	839+71.00 – 849+45.83	974.83 FT.	0.185 MI. BR.
ROADWAY	849+45.83 – 851+00.00	154.17 FT.	0.029 MI. RDY.
TOTAL PROJECT – WEST VIRGINIA		1129.00 FT.	0.214 MI.



SCALE 1 INCH = 1 MILE TRACED FROM COUNTY MAP



LAYOUT SCALE
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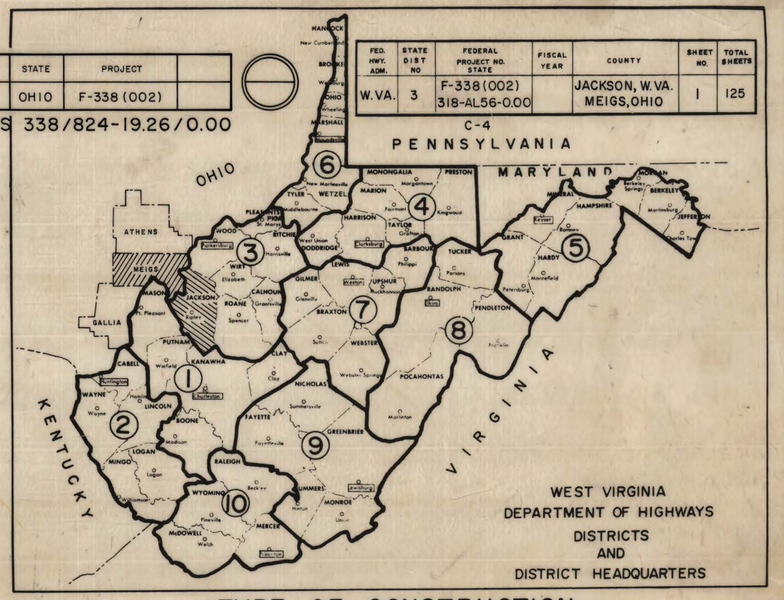


F.H.W.A. REGION	STATE	PROJECT	
5	OHIO	F-338(002)	

FED. HWY. ADM.	STATE DIST NO	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F-338(002) 318-AL56-0.00		JACKSON, W.VA. MEIGS, OHIO	1	125

MEIGS 338/824-19.26/0.00
C-4

THIS PROJECT IS A FULLY CONTROLLED ACCESS FACILITY WITH NO ACCESS EXCEPT AT DESIGNATED POINTS OF PUBLIC ACCESS AS SET FORTH IN THESE PLANS.

TYPE OF CONSTRUCTION
DRAINAGE, PAVING, BRIDGE SUPERSTRUCTURE, LIGHTING, SIGNING, AND PAVEMENT MARKINGS

Standard No	Date
TE3-2	10-22-75
TE6-3D	2-15-77
TE11-1	10-6-77
TE11-2	11-15-76
TP-A	10-21-76
TEM-2	11-23-77
TEM-3	11-23-77

The West Virginia Department of Highways Standard Detail Book dated June 20, 1973 shall apply to this project.

Standard No.	Date
TEL-09A	12-10-76
TEL-09B	12-10-76
TEL-21	12-10-76
TEL-31	6-1-76
TEL-43	8-11-77

UTILITIES

WEST VIRGINIA

C & P TELEPHONE CO.
COLUMBIA GAS OF W.VA., INC.
APPALACHIAN POWER CO.

SCALES
PLAN HOR. 0 25 50
PROFILE VERT. 10 5 0
HOR. 0 25 50

DESIGN DESIGNATION	
A.D.T. (1976)	= 1600
A.D.T. (1996)	= 3800
D.H.V.	= 380
D.	= 60/40
T.	= 4%
V.	= 40 MPH
K.	10% (12% One Way)

CONVENTIONAL SIGNS

State Line
County Line
Corporation Line
Proposed R/W Line
Property Line
Existing Fence
Proposed Fence
Edge of Stream
Proposed Guard Rail
Existing Guard Rail
Railroad
Gas Line
Water Line
Telephone Line
Electric Line
Telephone Pole
Power Pole
Combined Power and Telephone Pole
Tree
Shrub
Right of Way Marker

PLANS PREPARED BY
MICHAEL BAKER, JR., INC.
Consulting Engineers
SIGNED
DATE 4-7-78
BEAVER, PENNA.

MICHAEL BAKER, III, C.E. REGISTERED No. 4244 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
SEAL

INDEX TO SHEETS

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

June 2 1978
I HEREBY CERTIFY THAT THIS IS A CORRECT COPY OF THE PLANS OF PROJECT 318-AL56-0.00,C-4
EXECUTIVE SECRETARY

APPROVED BY OFFICIAL ORDER OF THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS ENTERED 2nd DAY OF June 1978
EXECUTIVE SECRETARY

OHIO APPROVALS

The right of way for the Ohio portion of this improvement will be provided by the State of Ohio

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway and that provisions for maintenance and safety of traffic will be as set forth on the plans and estimates.

APPROVED Date 5-17-78 Glenn A. Smith
DISTRICT DEPUTY DIRECTOR OF TRANSPORTATIONS

APPROVD Date 5-22-78 Robert B. Pfeifer
ENGINEER, BUREAU OF BRIDGES, AND STRUCTURAL DESIGN

APPROVED Date 5-23-78 R.E. Gallimore
CHIEF ENGINEER, PLANNING AND DESIGN OR CHIEF ENGINEER, OPERATIONS

APPROVED Date 5-23-78 David L. Weis
DIRECTOR, DEPARTMENT OF TRANSPORTATION

WEST VIRGINIA APPROVALS

RECOMMENDED Jack H. Sangster
DIRECTOR DESIGN DIVISION

REVIEWED Norman A. Lovas
CHIEF ENGINEER DESIGN

RECOMMENDED FOR APPROVAL William A. Hartz
STATE HIGHWAY ENGINEER

APPROVED Mark T. Mills
COMMISSIONER OF HIGHWAYS

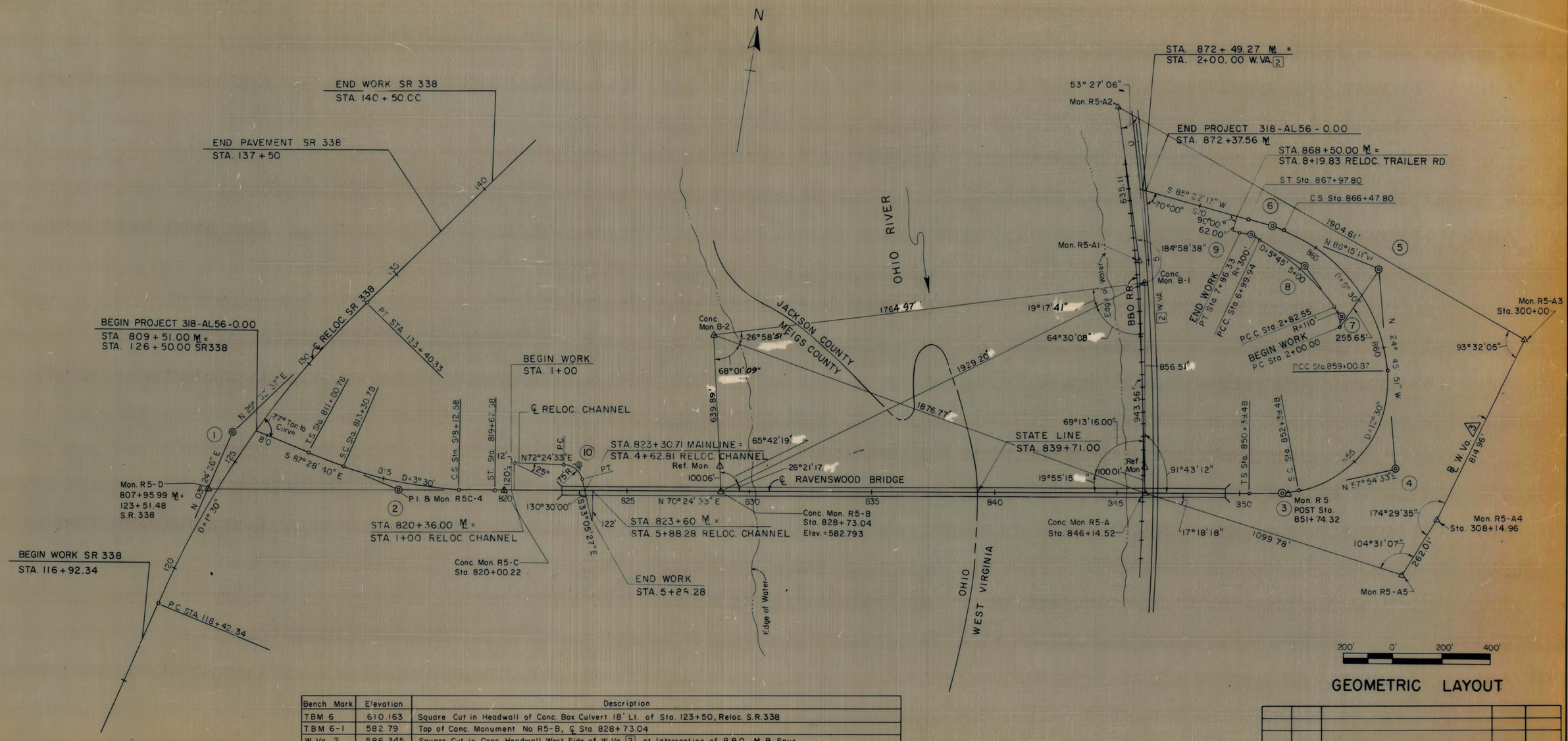
APPROVED
DIVISION ADMINISTRATOR DATE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

PROJECT NO. 318-AL56-0.00, C-4

LOCATION	CURVE NO	P.I. STATION	P.C. STATION	T.S. STATION	S.C. or P.C.C. STATION	C.S. or P.C.C. STATION	S.T. STATION	P.T. / STATION	BEARING BACK	BEARING FORWARD	Δ	Δ_c	D_c	R_c	L_c	L_s	T or T_s	X_c	Y_c	θ_s	ϕ_c	L.T.	S.T.	L.C.	E or E_s	K	P	S.E.
S.R. 338	1	126+01.08	118+42.34					133+40.33	N03°24'26"E	N25°52'37"E		22°28'11"	1°30'00"	3819.72	1497.99		758.74								74.63			.021%
Mainline	2	815+75.77		811+80.78	813+30.78	818+12.58	819+62.58		S87°28'40"E	N70°24'33"E	22°06'47"	16°51'47"	3°30'00"	1637.02	481.80	150	394.99	149.97	2.29	2°37'30"	0°52'30"	100.01	50.01	149.99	31.54	74.99	0.57	.043%
"	3	851+73.15		850+39.48	852+39.48				N70°24'33"E	N57°54'33"E						200	——	199.05	14.50	12°30'00"	4°10'00"	133.67	66.97	199.58	——	99.84	3.63	——
"	4	856+42.68			852+39.48	859+00.87			N57°54'33"E	N24°45'51"W		82°40'24"	12°30'00"	459.37	661.39		403.20								114.64			.08%
"	5	863+17.91			859+00.87	866+47.80			N24°45'51"W	N88°15'11"W		63°29'20"	8°30'00"	674.07	746.93		417.04								116.58			.071%
"	6	866+97.86				866+47.80	867+97.80		N88°15'11"W	S85°22'17"W						150	——	149.81	5.56	6°22'30"	2°07'30"	100.07	50.06	149.92	——	74.97	1.39	——
Reloc. Trailer Rd.	7		2+00.00		2+82.55				N16°07'43"W	N59°07'43"W		43°00'00"		110.00	82.55		43.33								8.23			
"	8		2+82.55		6+99.94				N59°07'43"W	N83°07'43"W		24°00'00"	5°45'00"	996.45	417.39		211.80								22.26			
"	9		6+99.94					7+86.33	N83°07'43"W	S80°22'17"W		16°30'00"		300	86.39		43.50								3.14			
Reloc. Channel	10	3+70.84	3+13.81					4+11.33	N72°24'33"E	S33°05'27"E		74°30'00"		75	97.52		57.03								19.22			

FED HWY ADM	STATE DIST NO	PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	318-AL56-000 C-1		JACKSON, W.VA. MEIGS, OHIO	2	18

F-338(002)C-1



Bench Mark	Elevation	Description
TBM 6	610.163	Square Cut in Headwall of Conc. Box Culvert 18' Lt. of Sta. 123+50, Reloc. S.R. 338
TBM 6-1	582.79	Top of Conc. Monument No. R5-B, ℄ Sta. 828+73.04
W. Va. 2	586.345	Square Cut in Conc. Headwall West Side of W.Va. 2 at Intersection of B&O M & Spur
W. Va. 3	594.77	Pony Spike in Telephone Pole 187' Lt. of Sta. 846 + 95

GEOMETRIC LAYOUT

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

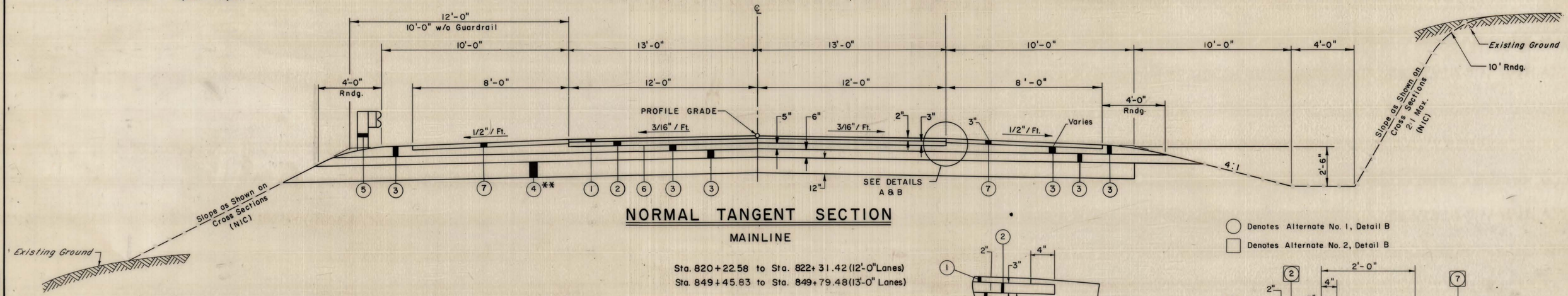
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

MEIGS-338/824-19.26/0.00

FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F-338(002) 318-AL56-0.00 C-4		JACKSON, W. VA. MEIGS, OHIO	2	125

** Note: Select Borrow Excavation shall be terminated at the P.I. of shoulder in all cut sections and in fill sections where positive drainage cannot be provided. (N.I.C.)

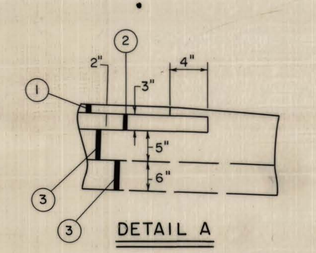
*** Constructed in adjacent Project



NORMAL TANGENT SECTION

MAINLINE

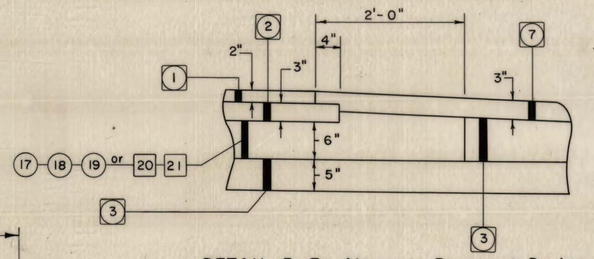
Sta. 820+22.58 to Sta. 822+31.42 (12'-0" Lanes)
Sta. 849+45.83 to Sta. 849+79.48 (13'-0" Lanes)



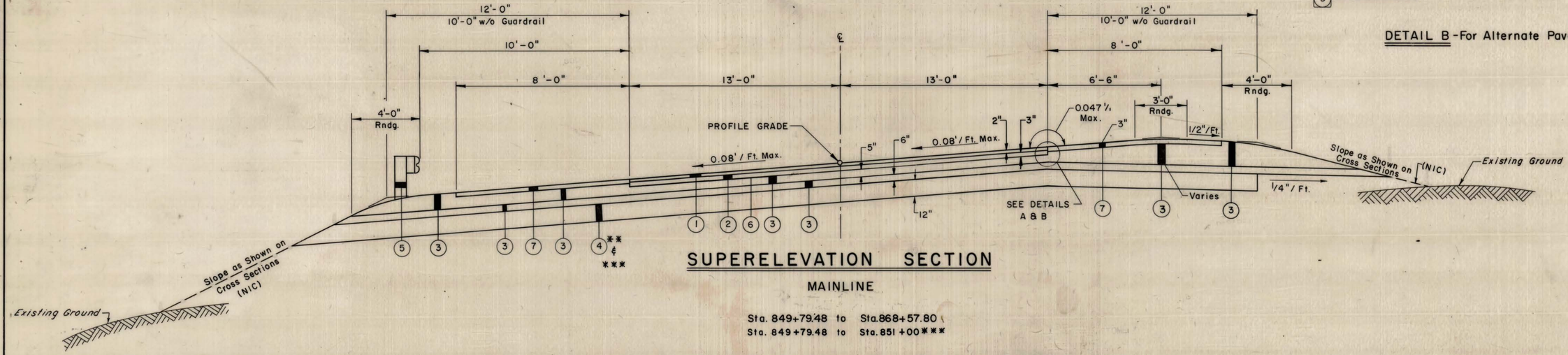
DETAIL A

○ Denotes Alternate No. 1, Detail B

□ Denotes Alternate No. 2, Detail B



DETAIL B - For Alternate Pavement Design



SUPERELEVATION SECTION

MAINLINE

Sta. 849+79.48 to Sta. 868+57.80
Sta. 849+79.48 to Sta. 851+00***

LEGEND

1. Hot-Laid Bituminous Concrete Wearing Course, (Stone, Gravel or Slag), Item 401-2 (1), Tons
2. Hot-Laid Bituminous Concrete Base Course, (Stone, Gravel or Slag), Item 401-1 (2), Tons
3. Class I, Aggregate Base Course, Item 307-1, C.Y. *
4. Select Borrow Excavation (Sandstone Only), Item 211-3, C.Y. (N.I.C.)
5. Type I, Guardrail, Item 607-1, (I)
6. Bituminous Material, Item 409-2, Gallons
7. Penetration Macadam Course, Item 403-4, (3"), S.Y.
17. Cement Treated Base Course Aggregate, Item 301-1, C.Y.
18. Portland Cement, Item 301-2, C.W.T.
19. Bituminous Material, Item 301-3, Gallons
20. Hot-Mixed, Hot Laid Bituminous Treated Base Course Aggregate, Item 302-1, C.Y.
21. Bituminous Material, Item 302-2, Gallons

* For Pavement Alternate, See Paving Summary, Sheet No. 4

TYPICAL SECTIONS

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER JR., INC. CONSULTING ENGINEERS

RT. OF WAY CHECKED NO.

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA	3	318-AL56-0.00 C-1	BR 338 (002) C-1	1976	Jackson, W.Va. Meigs, Ohio	3	18

MEIGS CO., OHIO

OHIO RIVER

Flow

N

Relocated Channel 10' Bottom

90° Typical for all Substructure Units

2:1

2:1

Toe of Slope

825 830 835 840 845 850

Ahead Stations

℄ Bridge & P.G. Line

N. 70°-24'-33" E.

B&O Railroad (Chessie System)

Proposed Buried C.& P. Telephone Co. Cable to be placed on Proj. No. D.P. 324 (1).

91°51'20" Tan. to Curve

Sta. 846+53.00 ℄ Ravenswood Bridge = at ℄ West Virginia Route 2

Toe of Slope

Columbia Gas of W.Va., Inc. (4" Line)

2:1

2:1

91°31'55" Tan. to Curve

Sta. 846+00.00 ℄ Ravenswood Bridge = Sta. 4941+66.00 ℄ B&O Railroad (Chessie System)

River's Edge at Elev. 560.0

River's Edge at Elev. 560.0

Proposed Buried Cable to be placed on Proj. No. D.P.-324 (1)

JACKSON CO., WEST VIRGINIA

Telegraph Line (Overhead)

W. Va. Rte. 2

Existing 150 PR. and 600 PR. Aerial Cables to be Removed on Proj. No. D.P. - 324 (1)

PLAN

38'-0" ℄c Trusses

16'-0" 16'-0"

℄ Bridge

Apply P.G.

TYPICAL SECTION-TRUSS SPANS

1200' V.C.

+2.0%

-2.0%

P.V.I. Sta. 840+00
Elev. 649.00
M.O. = 6.0'

PROFILE GRADE

Dimensions along ℄ Bridge	150'-0"	150'-0"	151'-0"	151'-0"	150'-0"	152'-2"	411'-1"	902'-0"	410'-6"	82'-0"
	℄ Brgs. Abut. A Sta. 822+33.75	℄ Pier 1 Sta. 823+83.75	℄ Pier 2 Sta. 825+33.75	℄ Pier 3 Sta. 826+84.75	℄ Pier 4 Sta. 828+35.75	℄ Pier 5 Sta. 829+85.75	℄ Pier 6 Sta. 831+37.92	℄ Pier 7 Sta. 835+49.00	℄ Pier 8 Sta. 844+51.00	℄ Pier 9 Sta. 848+61.50	℄ Brgs. Abut. B Sta. 849+43.50

36.72' Vert. Cl. over Exist. R.R. Track

32.40' Vert. Cl. over Exist. Rte. 2

Top of Ftg. Elev. 601.50

Berm Elev. 603.00

Top of Ftg. Elev. 621.20

Berm Elev. 622.70

600

500

400

Exp. Fix. Exp. Exp. Exp. Fix. Exp. Exp. Exp. Exp. Fix. Exp. Exp. Fix.

High Water Elev. 587.9 (50 Yrs. Frequency)

Normal Pool Elev. 560.0

2% Flow Line Elev. 574.9

For Vertical Clear See Below

Piles HP 12x53

Elev. 580.00 Elev. 580.00 Elev. 581.00 Elev. 580.50 Piles HP 14x73 Elev. 551.00 Elev. 539.50 Elev. 540.00 Elev. 541.00 Elev. 583.00 Piles HP 14x73

Piles HP 12x53

8" Crushed Rock Slope Protection and Concrete Gutter centered under Free Drop Scuppers.

Approx. Top of Rock

8" Crushed Rock Slope Protection

Approx. Existing Ground Line at ℄ Bridge

DATUM ELEV. 300

586 584 582.6 584 586 584 584 580 574 570 568 566 562 558 550 544 540 544 544 540 536 544 540 538 544 544 540 536 534 532 530 530 592 532 536 540 544 548 552 558 570 582 590 594 594 590 588 586

825 830 835 840 845 850

ELEVATION

100 50 0 100

	ACTUAL V.C. In Feet	REQUIRED V.C. In Feet
From Normal Pool	70.45	69.00
From 2% Flow Line	55.55	55.00

Note:
- Substructure elevations shown are for tops of Footings.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PDA CHECKED BY G&B DATE 5/1/75
DETAILED BY T.M.K. CHECKED BY G&B DATE 5/1/75
TRACED BY T.M.K. CHECKED BY G&B DATE 5/1/75

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
GENERAL PLAN AND ELEVATION

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	3 of 18

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824-19.26/0.00

C-4

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002)		Jackson, W. Va. Meigs, Ohio	3	125

ITEM NO.	ALT.	DESCRIPTION	OHIO SIDE QUANTITY	W.VA. SIDE QUANTITY	UNIT	TOTAL QUANTITY
211-3		SELECT BORROW EXCAVATION	117	143	C.Y.	260
228-1		SUBGRADE PREPARATION	701	857	S.Y.	1,558
307-1	P	CLASS I AGGREGATE BASE COURSE	154	193	C.Y.	347
301-1	A-1	CEMENT TREATED BASE COURSE AGGREGATE	58	75	C.Y.	133
301-2	A-1	PORTLAND CEMENT	102	131	C.W.T.	233
301-3	A-1	BITUMINOUS MATERIAL	70	78	GAL.	148
307-1	A-1	CLASS I AGGREGATE BASE COURSE	96	106	C.Y.	202
302-1	A-2	HOT-MIXED, HOT-LAID BITUMINOUS TREATED BASE COURSE AGGREGATE	58	75	C.Y.	133
302-2	A-2	BITUMINOUS MATERIAL	1,090	1,653	GAL.	2,743
307-1	A-2	CLASS I AGGREGATE BASE COURSE	96	106	C.Y.	202
401-1(2)	P	HOT LAID BITUMINOUS CONCRETE BASE COURSE, STONE OR GRAVEL	50	66	TON	116
401-1(2)	A	HOT LAID BITUMINOUS CONCRETE BASE COURSE, SLAG	45	58	TON	103
401-2(1)	P	HOT LAID BITUMINOUS CONCRETE WEARING COURSE, STONE OR GRAVEL	33	43	TON	76
401-2(1)	A	HOT LAID BITUMINOUS CONCRETE WEARING COURSE, SLAG	29	38	TON	67
401-6		FIELD LABORATORY		L.S.	L.S.	L.S.
403-4(3")		PENETRATION MACADAM COURSE	198	239	S.Y.	437
409-2		BITUMINOUS MATERIAL	137	179	GAL.	316
501-5		FIELD LABORATORY			L.S.	L.S.
502-1(12")		PORTLAND CEMENT CONCRETE APPROACH SLABS	69	71	S.Y.	140
601-2		CLASS B CONCRETE	1	1	C.Y.	2
604-9(18")		FULL BITUMINOUS COATED & PAVED INVERT CORRUGATED IRON OR STEEL PIPE, 0.064" THICKNESS	76	120	L.F.	196
604-62(18")		REINFORCED CONCRETE CULVERT, STORM DRAIN AND SEWER PIPE, CLASS III	30	26	L.F.	56
605-4		TYPE B INLET, MODIFIED	2	2	EA.	4
607-1(1)		TYPE I GUARDRAIL	800	175	L.F.	975
607-29		BREAKAWAY CABLE TERMINAL	2	—	EA.	2
610-1		PLAIN CONCRETE CURBING, TYPE I	28	25	L.F.	53
640-1		STANDARD FIELD OFFICE AND STORAGE BUILDING	L.S.	L.S.	L.S.	L.S.
640-3		BUILDING EQUIPMENT	L.S.	L.S.	L.S.	L.S.
699		On The Job Training		4000	HRS.	4000
		EROSION CONTROL QUANTITIES				
633-3		DUMPED ROCK GUTTER	2	3	C.Y.	5
642-3-2		CHECK DAM	1	1	EA.	2
642-4-1		TEMPORARY SEED	1	1	LBS.	2
642-4-3		SEED MIXTURE "D"	3	4	LBS.	7
642-5-1		STRAW OR HAY MULCH	0.1	0.1	TON	0.2
642-6		FERTILIZER	0.1	0.1	TON	0.2
642-10		AGRICULTURAL LIMESTONE	0.1	0.1	TON	0.2
652-1		AGRICULTURAL LIMESTONE	0.1	0.1	TON	0.2
652-2-1		FERTILIZER, 10-20-10	0.1	0.1	TON	0.2
652-3-2		SEED MIXTURE "D"	4	5	LBS.	9
652-4-1		STRAW OR HAY MULCH	0.1	0.1	TON	0.2
		SIGNING QUANTITIES				
657-8		(2.00 POUND) CHANNEL POSTS	154	308	L.F.	462
658-3 (16 & 17)		OVERHEAD SIGN STRUCTURE, GALVANIZED STEEL	—	1	EA.	1 *
661-1(1)		(0.080) FLAT SHEET SIGNS (ENCLOSED)	13	—	S.F.	13 *
661-2		EXTRUDED PANEL SIGNS (ENCAPSULATED)	—	72	S.F.	72 *
661-4(1)		DELINEATORS, REFLEX REFLECTORS, WHITE SINGLE	38	50	EA.	88
661-10		DELINEATOR BRACKET, TYPE "C"	16	6	EA.	22

ITEM NO.	ALT.	DESCRIPTION	UNIT	OHIO SIDE QUANTITY	W.VA. SIDE QUANTITY	TOTAL QUANTITY
		LIGHTING QUANTITIES (W. VA. SIDE)				
662-2(2)		GALVANIZED STEEL CONDUIT	L.S.		L.S.	L.S.
662-6(A)		JUNCTION BOX TYPE A, (MODIFIED)	EA.		12	12
662-14		INCIDENTAL ELECTRICAL WORK	L.S.		L.S.	L.S.
662-20(2)		NAVIGATION LIGHTING SYSTEM	L.S.		L.S.	L.S.
		LIGHTING QUANTITIES (OHIO SIDE)				
606-22		CRUSHED STONE, CRUSHED GRAVEL OR SILICA SAND FOR UNDERDRAIN	C.Y.	5		5
606-25(4)		UNDERDRAIN PIPE	L.F.	40		40
S625-9		PULL BOX 18" DIAMETER	EA.	2		2
S625-12(1 1/2")		CONDUIT	L.F.	1,070		1,070
S625-12(2")		CONDUIT (WITH PULL WIRE)	L.F.	3,540		3,540
S625-12(3")		CONDUIT (WITH PULL WIRE)	L.F.	45		45
S625-22		JUNCTION BOX, TYPE A, (MODIFIED)	EA.	20		20
662-20(2)		NAVIGATION LIGHTING SYSTEM	L.S.	L.S.		L.S.
		PAVEMENT MARKING QUANTITIES				
663-1-1		(TYPE I) EDGE LINE (WHITE)	L.F.	10,950	7,350	18,300
663-1-1		(TYPE I) EDGE LINE (YELLOW)	L.F.	1,900		1,900
663-3-1		(TYPE I) BARRIER LINES	L.F.	12,650	6,810	19,460
663-4		(TYPE I) CHANNELIZING LINE	L.F.	375		375
663-5		(TYPE I) STOP LINES	L.F.	65	60	125
663-10		(TYPE I) LANE ARROWS	EA.	6		6
663-11		(TYPE I) LANE LETTERS	EA.	24		24
663-7		(TYPE I) STRIPES	L.F.	1,470		1,470

	BRIDGE QUANTITIES	UNIT	OHIO SIDE	W.VA. SIDE	TRUSS	TOTAL QUANTITY
204-1	MOBILIZATION	L.S.	L.S.	L.S.	L.S.	L.S.
212-5	SELECT MATERIAL FOR BACKFILLING	C.Y.	46	18		64
218-4(8")	CRUSHED ROCK SLOPE PROTECTION	S.Y.	239	568		807
601-1	CLASS A CONCRETE	C.Y.			463	463
601-2	CLASS B CONCRETE	C.Y.	47	25		72
601-7	FIELD LABORATORY	L.S.		L.S.		L.S.
601-8	CLASS K CONCRETE BRIDGE DECK	S.F.	31,024	2767	28,287	62,078
601-9	CLASS K CONCRETE BRIDGE PARAPET	L.F.	1,809	164	3446	5419
602-1	REINFORCING STEEL BARS	LBS.	117,141	12,404	96,574	226,280
602-2	EPOXY COATED REINFORCING STEEL BARS	LBS.	136,665	12,380	146,055	295,233
615-1	STEEL SUPERSTRUCTURE	L.S.	L.S.	L.S.	L.S.	L.S.
621-1	STEEL GRID FLOORING, FILLED TYPE	S.F.			30,668	30,668
624-1	PREFORMED ELASTOMERIC JOINT SEALER	L.F.	41	75	408	524
633-1	CONCRETE GUTTER (MODIFIED)	S.Y.	61	26		87
639-1	CONSTRUCTION LAYOUT STAKES	L.S.	L.S.	L.S.	L.S.	L.S.

* NON-PARTICIPATING

ESTIMATE OF QUANTITIES

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER JR., INC. CONSULTING ENGINEERS

RT. OF WAY CHECKED

NO

PUBLIC ROADS DIVISION	STATE DIST. NO.	PROJECT NUMBER	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	3	318-AL56-000 C-1 F-338 (002) C-1	Jackson, W. Va. Meigs, Ohio	4	18

GOVERNING SPECIFICATION

THE GOVERNING SPECIFICATIONS ARE THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS' "STANDARD SPECIFICATIONS FOR ROADS AND BRIGES" AS ADOPTED IN 1972, TOGETHER WITH THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS' "SUPPLEMENTAL SPECIFICATIONS" DATED JULY 1, 1976.

DESIGN

THE BRIDGE IS DESIGNED IN ACCORDANCE WITH THE AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" DATED 1973, INCLUDING THE 1974,75,76 "INTERM SPECIFICATIONS," AND UTILIZING AN HS 20-44 LIVE LOADING.

DESIGN UNIT STRESSES

CLASS B CONCRETE	F'C = 3,000 PSI
FC = 1,200 PSI	N = 9
REINFORCEMENT STEEL	FS = 20,000 PSI

EXCAVATION AND BACKFILL

ALL EXCAVATION FOR PIERS 6,7 AND 8 SHALL BE CLASSIFIED AS "WET EXCAVATION." FOR WET EXCAVATION, THE COMPACTION REQUIREMENTS OF ARTICLE 212.3.8 ARE WAIVED. WET EXCAVATION SHALL INCLUDE ALL EXCAVATION NECESSARY, INCLUDING ROCK EXCAVATION, TO THE PLAN ELEVATION OR AS DIRECTED BY THE ENGINEER.

BEARING AREAS

ALL CONCRETE BEARING AREAS INDICATED ON THE DRAWINGS SHALL BE POURED MONOLITHICALLY WITH THE CAP OR PEDESTALS AND SHALL BE FINISHED TO A TRULY LEVEL PLANE AT THE EXACT ELEVATION SHOWN.

CONCRETE

ALL CONCRETE SHALL BE CLASS B EXCEPT THAT USED IN THE BACKFILLING OF ANY VOIDS OR EXCAVATED POCKETS IN THE FOUNDATIONS OF PIERS 6,7 AND 8 WHICH SHALL BE CLASS D CONCRETE.

REINFORCING STEEL BARS

ALL REINFORCING STEEL BARS SHALL BE INTERMEDIATE GRADE BILLET STEEL IN ACCORDANCE WITH ASTM A615, GRADE 40 OR GRADE 60.

ASTM A616 GRADE 50 BARS MAY BE USED IN THE SUBSTRUCTURE AND, IF USED, THEY SHALL MEET THE BEND TEST REQUIREMENTS OF A615 GRADE 60.

MINIMUM LAP AND EMBEDMENT WILL BE 30 DIAMETERS UNLESS OTHERWISE NOTED.

THE CLEAR DISTANCE BETWEEN REINFORCING STEEL AND THE FACE OF CONCRETE SHALL BE AS FOLLOWS UNLESS OTHERWISE SHOWN ON THE DRAWINGS:

TOP OF SLAB 2" ALL OTHER LOCATIONS 2"
BOTTOM OF SLAB 1"

ANCHOR BOLTS

SWEDGED ANCHOR BOLTS INCLUDING WASHERS AND NUTS SHALL BE FURNISHED AND INSTALLED TO THE CORRECT SPAN LENGTHS AND CENTERLINE OFFSETS AS INDICATED ON THE DRAWINGS. BEFORE INSTALLATION, THE PROTRUDING PORTIONS PLUS 6" OF THE BOLTS AND HARDWARE SHALL BE PAINTED WITH A ZINC-RICH SYSTEM IN ACCORDANCE WITH SECTION 711.20 (4 MILS).

THE BOLTS FOR PIER 6 SHALL BE SET BY TEMPLATE BEFORE THE CAP CONCRETE IS POURED. THE BOLTS FOR PIERS 7 AND 8 SHALL BE SET WITH THE GRILLAGE FRAME BEFORE THE ENCASEMENT CONCRETE IS POURED. IF PREFORMED OR DRILLED HOLES ARE USED TO SET GRILLAGE ANCHOR BOLTS, FILL ANCHOR BOLT HOLES WITH NON-SHRINK GROUT AFTER ANCHOR BOLTS ARE SET. THE NON-SHRINK GROUT SHALL BE IN PROPORTION OF ONE (1) PART NON-SHRINK ADMIXTURE, ONE (1) PART SAND AND ONE (1) PART REGULAR PORTLAND CEMENT BY WEIGHT.

FOOTINGS

THE FOOTING FOR PIERS 6,7 AND 8 SHALL BE FOUNDED UPON AND KEYED 12" MINIMUM INTO SOUND ROCK.

AS-BUILT SURVEY INFORMATION

AT THE COMPLETION OF THE SUBSTRUCTURE, THE SUBSTRUCTURE CONTRACTOR SHALL MAKE AN AS-BUILT SURVEY TO ACCURATELY SHOW THE AS-BUILT VERSUS THE PLAN LOCATION OF ALL SUB-STRUCTURE CENTERLINES, GIRDER CENTERLINES, TRUSS CENTER-LINES, CENTERLINE OF ANCHOR BOLT GROUPS, ANCHOR BOLTS BEARING ELEVATIONS AND ANY OTHER ELEMENTS OR ITEMS THAT MAY AFFECT THE LAYOUT OR PLACEMENT OF THE WORK TO BE FURNISHED BY THE SUPERSTRUCTURE CONTRACTOR. ALL OF THE PERTINENT AS-BUILT SURVEY INFORMATION, INCLUDING DIMENSIONS, ELEVATIONS, AND ANGLES SHALL BE SHOWN ON SUITABLE DRAWINGS, AS SPECIFIED FOR SHOP DRAWINGS, TOGETHER WITH THE CORRESPONDING DESIGN DRAWING INFORMATION FOR DIRECT COMPARISON. THE ORIGINAL DRAWINGS, OR APPROVED EQUAL, SHALL BE SUBMITTED TO THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS AS SOON AS PRACTICABLE AFTER COMPLETION OF THE SURVEY. PAYMENT FOR THIS WORK SHALL BE INCLUDED AS PART OF ITEM 639-1, CONSTRUCTION LAYOUT STAKES.

REPLACEMENT BARS

THE INSPECTOR SHALL PICK RANDOM BARS FROM THE REINFORCING BAR LIST FOR TEST BARS. HE SHALL CUT 5'-0" FROM THE BARS CHOSEN; RE-BARS IN THE LIST SHALL BE SPLICED TO THE BARS SO LISTED. THE RE-BARS HAVE BEEN DETAILED TO ALLOW A 30 DIAMETER SPLICE AT EACH END. ONE RE-BAR FOR EACH 10 TONS OR FRACTION THEREOF, OF EACH SIZE. THE RE-BARS HAVE BEEN INCLUDED IN THE BILL OF STEEL AND WILL BE PAID FOR UNDER ITEM 602-1. IN THE EVENT THAT ALL BARS OF ANY ONE SIZE ARE NOT SENT IN ONE SHIPMENT, THE SUPPLIER SHALL FURNISH AT HIS EXPENSE, ONE FOR EACH 10 TONS OR FRACTION THEREOF FOR EACH EXTRA SHIPMENT. IN THE EVENT THAT ANY SHIPMENT OF MATERIAL HAS BEEN PRE-TESTED AND HAS BEEN IDENTIFIED IN ACCORDANCE WITH MATERIAL CONTROL, SOIL AND TESTING DIVISION'S "INFORMATIONAL MEMORANDUM NO. 17," THE SHIPMENT MAY BE ACCEPTED WITHOUT FURTHER TESTING SUBJECT TO RECORD SAMPLING PROCEDURES.

SPECIAL PROVISIONS

REFER TO SPECIAL PROVISIONS FOR:

WORK IN NAVIGABLE WATERS
WATER TRANSPORTATION FOR THE ENGINEER
COFFERDAMS
SUB-FOUNDATION DRILLING
ELECTRICAL GROUND WIRES
NAVIGATION VERTICAL CLEARANCE GAUGES
CONSTRUCTION LADDERS FOR RIVER PIERS

ACCESS TO RIVER

AS THE RIGHT OF WAY ACQUISITION HAS NOT BEEN COMPLETED, IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE THE NECESSARY ACCESS TO THE CONSTRUCTION SITE.

NO.	REVISION	DATE	BY

MADE JLM
TRACED
CKD
CKD

GENERAL NOTES

OHIO RIVER BRIDGE AT RAVENSWOOD

W. VA. DEPARTMENT OF HIGHWAYS

SHEET 4 OF 18 SHEETS

BRIDGE NUMBER 2972

F.H.W.A. ADM.	STATE	PROJECT	
5	OHIO	F-338 (002)	

MEIGS 338/824-19.26/0.00

FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	6	F-338 (002) 318-AL56-000		JACKSON, W. VA. MEIGS, OHIO	4	125

C-4

LOCATION	STATION TO STATION	PRINCIPAL ITEM NO. 307-1	ALTERNATE 2			ALTERNATE 1				PRINCIPAL ITEM NO. 307-2	ALTERNATE 1 ITEM NO. 307-2		ITEM 401-1 (2)		ITEM 401-2(1)		ITEM NO. 403-4(3")	ITEM NO. 408-1	ITEM NO. 408-2	ITEM NO. 409-1	ITEM NO. 409-2	REMARKS
			ITEM NO. 302-1	ITEM NO. 302-2	ITEM NO. 307-1	ITEM NO. 301-1	ITEM NO. 301-2	ITEM NO. 301-3	ITEM NO. 307-1				PRINC. Stone or Gravel	ALT. Slag.	PRINC. Stone or Gravel	ALT. Slag.						
		C.Y.	C.Y.	GAL.	C.Y.	C.Y.	C.W.T.	GAL.	C.Y.	C.Y.	C.Y.		TON	TON	TON	TON	S.Y.	TON	GAL.	TON	GAL.	
MAINLINE- OHIO APPR.	821 + 00 TO 822 + 30.67	154	58	1,090	96	58	102	70	96				50	45	33	29	198				137	
MAINLINE-W. VA. APPR.	849 + 45.83 to 851+00	193	75	1,653	106	75	131	78	106				66	58	43	38	239				179	
TOTAL		347	133	2,743	202	133	233	148	202				116	103	76	67	437				316	

LOCATION	STATION TO STATION	PLAIN CURBING 610-1	CONCRETE TYPE I	COMBINATION CURB & GUTTER TYPE II		CONC. SIDEWALK	CONC. GUTTER	MEDIAN TYPE II	MEDIAN TYPE II (MODIFIED)	REMARKS
		L.F.		L.F.	L.F.	S.Y.	S.Y.	S.F.	S.F.	
MAINLINE-OHIO APPR.	821 + 97.46 TO 822 + 11.67 LT. & RT.	28								
MAINLINE-W. VA. APPR.	849 + 61.58 TO 849 + 74.21 LT. & RT.	25								
TOTAL		53								

ALTERNATE PAVEMENTS - MAINLINE			
ITEM	PRINCIPAL	ALTERNATE 1	ALTERNATE 2
401-2 (1)	2"	2"	2"
401-1 (2)	3"	3"	3"
301-1, 2 & 3		6"	
302-1 & 2			6"
307-1	11"	5"	5"
TOTAL DEPTH	16"	16"	16"

FOR ALTERNATE PAVEMENT DETAIL
SEE TYPICAL SECTIONS SHEET NO. 2

GUARD RAIL

LOCATION	STATION TO STATION	Class I 6'-3" Spacing 607-1 L.F.	Class II 12'-6" Spacing 607-1 L.F.	Turned Down End Sec. Mod. Type I Guardrail 607-7 EACH	Bridge * Trailing End Treatment EACH	Bridge * Approach End Treatment EACH	Breakaway Cable Terminal 607-29 EACH	REMARKS
MAINLINE-OHIO APPR.	818 + 15 TO 822 + 15 LT. & RT.	800			1	1	2	CONNECT TO BRIDGE PARAPET -
MAINLINE-W. VA. APPR.	849 + 59 TO 850+92.50 LT. & RT.	175			1	1		CONNECT TO BRIDGE PARAPET -
TOTAL		975			2	2		

* For Information Only

RIGHT-OF-WAY FENCE

LOCATION	STATION TO STATION	Farm-Field Type 608-2(4')	Chain-Link Type 608-1(5')

SUMMARY

SURFACING, CURB & GUTTER, GUARDRAIL, FENCE

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

PUBLIC ROADS DIVISION	STATE DIST. NO.	PROJECT NUMBER	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	3	318-AL56-0.00(4) F-338(002) C-1	JACKSON, WV MEIGS, OHIO	5	18

ESTIMATE OF QUANTITIES

ITEM	DESCRIPTION	UNIT	PIER 6 (OHIO)	PIER 7 (OHIO)	PIER 8 (WV)	TOTAL (OHIO)*	TOTAL (WV)*
204-1	Mobilization	L.S.				L.S.	L.S.
212-2	Wet Excavation	C.Y.	1016	1068	1566	2084	1566
212-4(B)	Pier 6 Cofferdam	Ea.	1			1	
212-4(C)	Pier 7 Cofferdam	Ea.		1		1	
212-4(D)	Pier 8 Cofferdam	Ea.			1		1
212-6	Sub-Foundation Drilling	LF	60	60	60	120	60
601-4	Class B Concrete for Substructure	C.Y.	1,640	2,232	3,775	3,872	3,775
601-6	Class D Concrete	C.Y.	100	100	100	200	100
601-7	Field Laboratory	L.S.					L.S.
602-1	Reinforcing Steel Bars	Lbs.	76,985	121,030	186,087	198,485	186,682
615-4	Fabricated Structural Steel	Lbs.	300	6106	6668	6406	6668
639-1	Construction Layout Stakes	L.S.				L.S.	L.S.
640-1	Std. Field Office & Storage Building	L.S.					L.S.
640-3	Building Equipment	L.S.					L.S.

* TOTAL ITEM 602-1 INCLUDES 472 LB. RE BARS (OHIO) & 595 LB. RE BARS (WV)

ITEM 602-1 REINFORCING STEEL BARS

SIZE	OHIO				WEST VIRGINIA		
	PIER 6	PIER 7	RE BARS	TOTAL	PIER 8	RE BARS	TOTAL
4							
5	15,317	27,258	26	42,601	20,305	17	20,322
6	1,355		13	1368			
7							
8	11,177		27	11,204			
9	43,656	28,917	145	72,718			
10	723	64,855	197	65,775			
11	4,755		64	4819	165,782	578	166,360
TOTAL	76,983	121,030	472	198,485	186,087	595	186,682

RE BAR LIST

SIZE	OHIO			WEST VIRGINIA		
	NO.	LENGTH EA.	TOTAL WEIGHT	NO.	LENGTH EA.	TOTAL WEIGHT
4						
5	3	8'-2"	26	2	8'-2"	17
6	1	8'-9"	13			
7						
8	1	10'-0"	27			
9	4	10'-8"	145			
10	4	11'-5"	197			
11	1	12'-1"	64	9	12'-1"	578
TOTAL			472			595

INDEX OF DRAWINGS

NO.	REVISION	DATE	BY

MADE JeB 11-30-76
TRACED
CKD
CKD

BRIDGE QUANTITIES & INDEX OF DRAWINGS

OHIO RIVER BRIDGE AT RAVENSWOOD

W. VA. DEPARTMENT OF HIGHWAYS

SHEET 5 OF 18 SHEETS

BRIDGE NUMBER 2972

F.H.W.A. ADM.	STATE	PROJECT	
5	OHIO	F-338 (002)	

MEIGS 338/824-19.26/0.00

FED HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO	TOTAL SHEETS
W.VA.	3	F-338 (002) 318-AL56-0.00	197	JACKSON, W.VA. MEIGS, OHIO	5	125

C-4

BUILDING DEMOLITION

ITEM NO.	LOCATION	STATION	OFFSET	DESCRIPTION

ROCK BORROW EXCAVATION

LOCATION	STATION TO STATION	EMBANKMENT REQUIRED	REMARKS
		C.Y.	C.Y.
MAINLINE-OHIO APPR.	821 + 00 TO 822 + 11.42	117	SELECT BORROW - SANDSTONE ONLY
MAINLINE-W. VA. APPR.	849 + 65.83 TO 851 + 00	143	SELECT BORROW - SANDSTONE ONLY
TOTAL		260	

SEEDING & MULCHING

LOCATION	STATION TO STATION	CLEARING & GRUBBING		AGRICULTURAL LIMESTONE 652-1		FERTILIZER 10-20-10 652-2		TYPE "B" SEED MIXTURE 652-3-1		TYPE "D" SEED MIXTURE 652-3-2		STRAW OR HAY MULCH 652-4-1		* ASPHALT MATERIAL	
		SQ. FT.	ACRE	ACRE	TON	ACRE	TON	ACRE	LBS.	ACRE	LBS.	ACRE	TON	ACRE	GAL.
MAINLINE-OHIO APPR.	821 + 00 TO 822 + 50.67			.05	0.1	.05	0.1			.05	4	.05	0.1	.05	5
MAINLINE-W. VA. APPR.	849 + 45.83 TO 851 + 00			.07	0.1	.07	0.1			.07	5	.07	0.1	.07	7
TOTAL				0.12	0.2	0.12	0.2			0.12	9	0.12	0.2	0.12	12

EARTHWORK SUMMARY *

LOCATION	STATION TO STATION	EXCAV.	SWELL %	ADJUSTED EXCAV.	EMB.	NEEDED (EMB.)	EXCESS (EXCAV.)	BORROW	REMARKS
		C.Y.		C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	

* FOR INFORMATION ONLY

TEMPORARY PROJECT WATER POLLUTION CONTROL

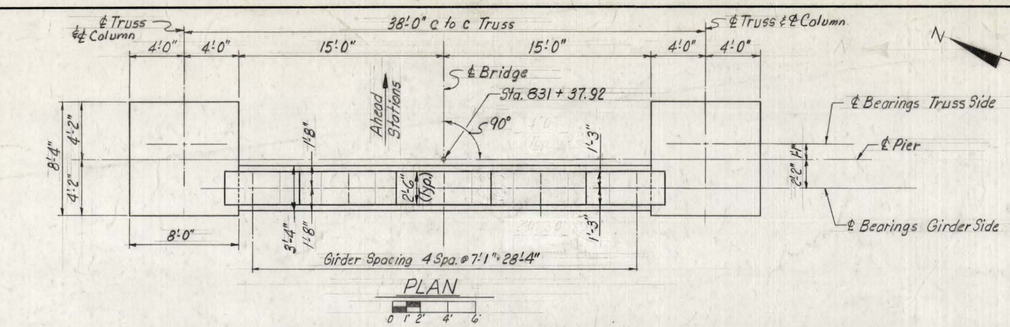
LOCATION	STATION TO STATION	TEMPORARY SEED 642-4-1		TYPE "B" SEED MIXTURE 642-4-2		TYPE "D" SEED MIXTURE 642-4-3		FERTILIZER 642-6		STRAW OR HAY MULCH 642-5-1		AGRICULTURAL LIMESTONE 642-10		* ASPHALT MATERIAL	
		ACRE	LBS.	ACRE	LBS.	ACRE	LBS.	ACRE	TON	ACRE	TON	ACRE	TON	ACRE	GAL.
MAINLINE-OHIO APPR.	821 + 00 TO 822 + 30.67	.01	1			.04	3	.04	0.1	.04	0.1	.04	0.1	.04	4
MAINLINE-W. VA. APPR.	849 + 45.83 TO 851 + 00	.02	1			.05	4	.05	0.1	.05	0.1	.05	0.1	.05	5
TOTAL		.03	2			.09	7	.09	0.2	.09	0.2	.09	0.2	.09	9

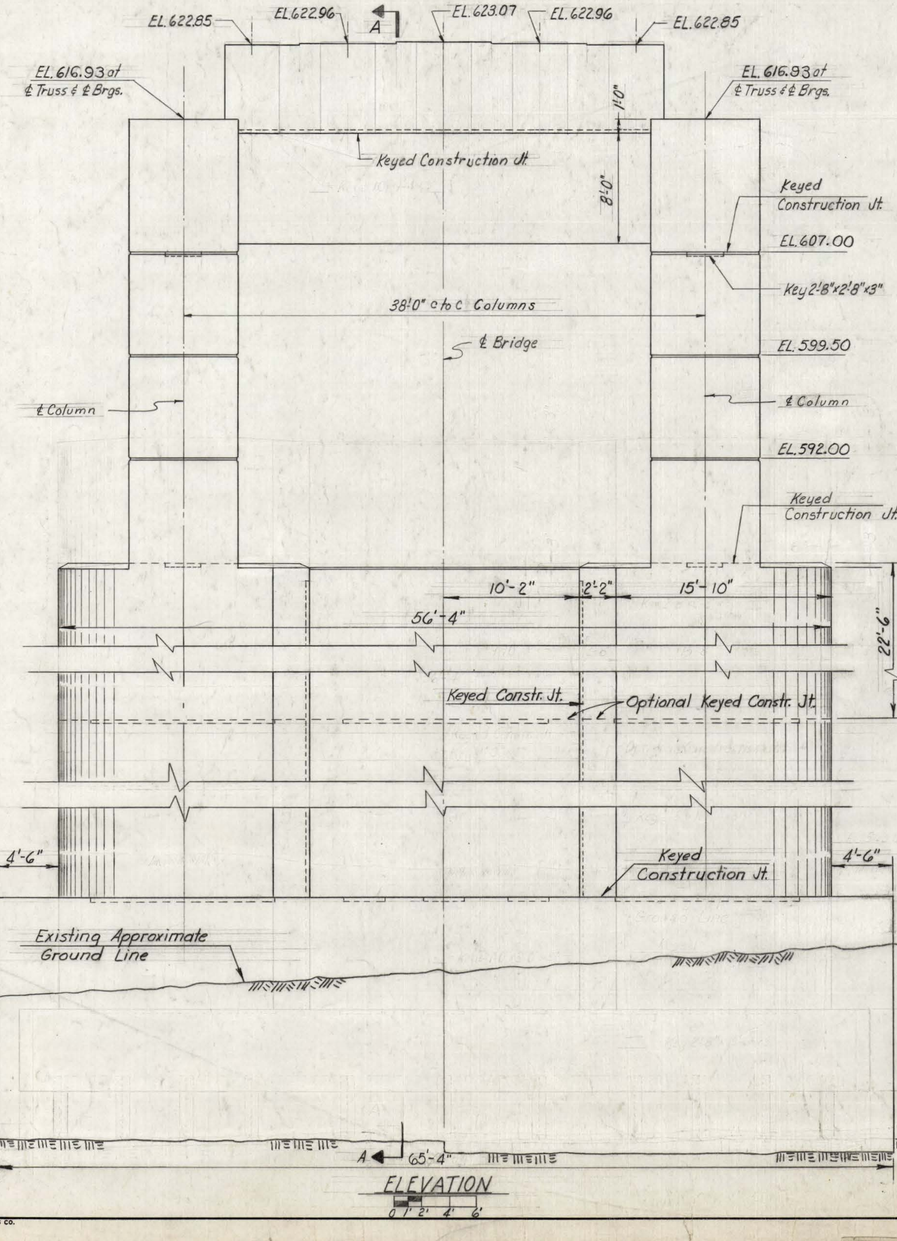
* FOR INFORMATION ONLY

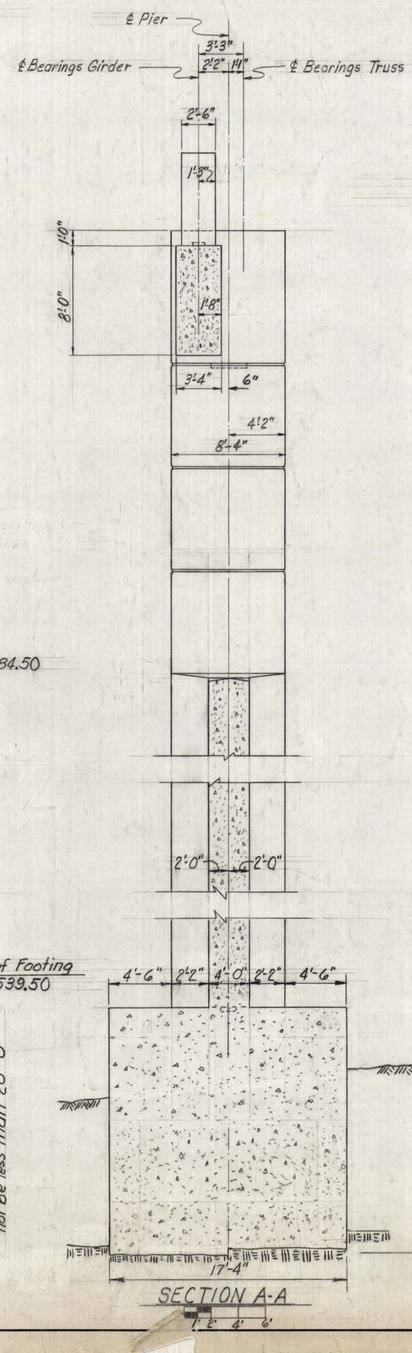
REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

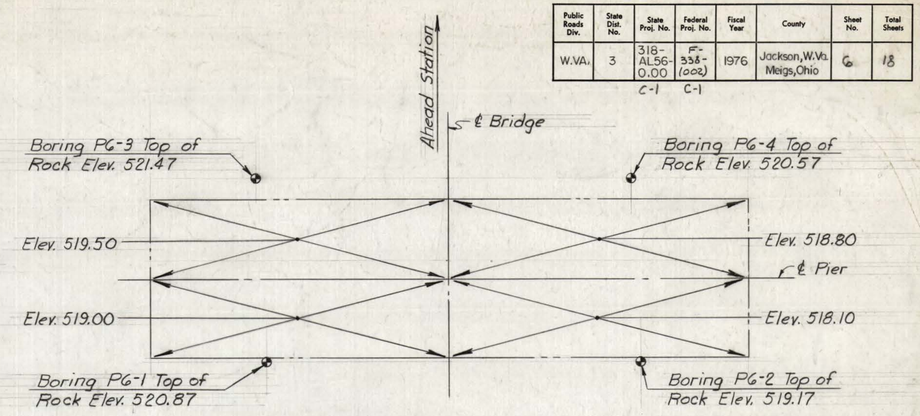
MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00 C-1	F-338-(002) C-1	1976	Jackson, W.Va. Meigs, Ohio	G	18

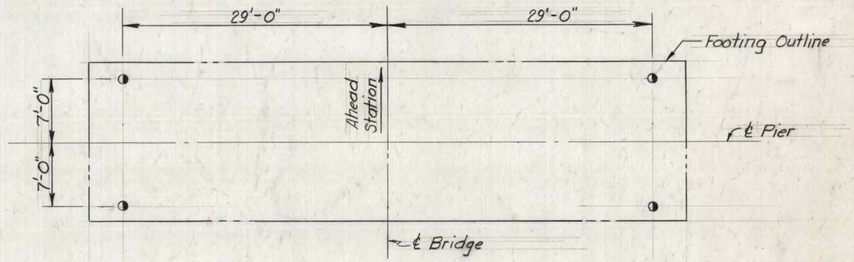








ESTIMATE OF BOTTOM OF FOOTING ELEVATION TO OBTAIN A MINIMUM KEY OF 1'-0" INTO SOUND ROCK



LOCATION OF TEST CORE HOLES FOR SUB FOUNDATION DRILLING

0 5' 10' 20'

NOTES:

- Maximum Design Foundation Pressure 4.5 Tons Per Sq. Ft.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY LAG DATE AUG. 16, 74
DETAILED BY TME CHECKED BY LAG DATE AUG 22, 74
TRACED BY T.M.K. CHECKED BY LAG DATE AUG 22, 74

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
PIER NO. 6
PLAN AND ELEVATION

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972	G of 18

F.H.W.A. ADM.	STATE	PROJECT	
5	OHIO	F-338 (002)	

MEIGS 338/824-19.26/0.00

FED HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	3	F-338 (002) 318-AL56-0.00		JACKSON, W. VA. MEIGS, OHIO	6	125

C-4

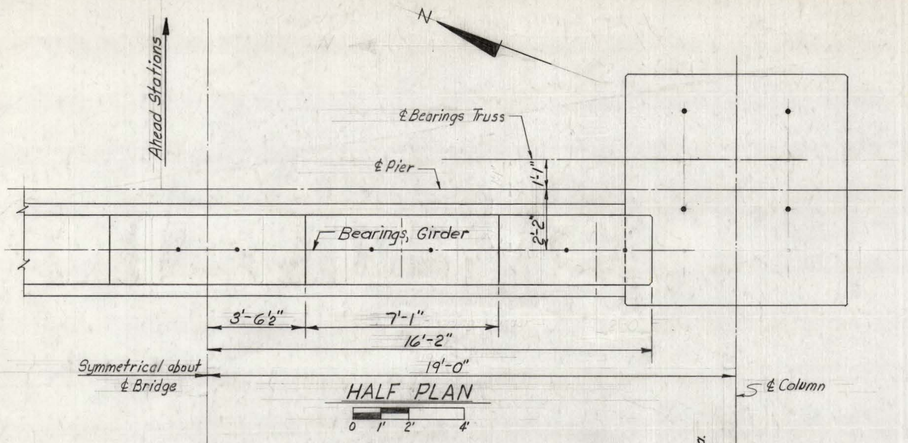
STR. NO.	STATION TO STATION	ALT.	Full Bituminous Coated and Paved Invert Corrugated Iron or Steel Pipe 604-9				Reinforced Concrete Culvert, Storm Drain And Sewer Pipe, Class III 604-62 III			Reinforced Concrete Culvert, Storm Drain & Sewer Pipe Class IV 604-62 IV		Pipe Culvert Wingwall	Class "B" Concrete 601-2	Reinf. Steel	Concrete Gutter 633-1	Dumped Rock Gutter 633-3	Rock Borrow Exc. 211-2	INLETS Type B Inlet Modified 605-4	REMARKS
			18" t=.064	36" Elong. t=.109	48" t=.064	54" Elong. t=.079	18"	54"	72"	36"	48"		CU. YD.	LBS.**	SQ. YD.	CU. YD.	CU. YD.	EACH	
	MAINLINE-OHIO APPR.																		
	822 + 03		76				30					1	1	42		2		2	
	MAINLINE-W. VA. APPR.																		
	849 + 70		120				26					1	1	42		3		2	
	TOTAL		196				56					2	2	84		5		4	

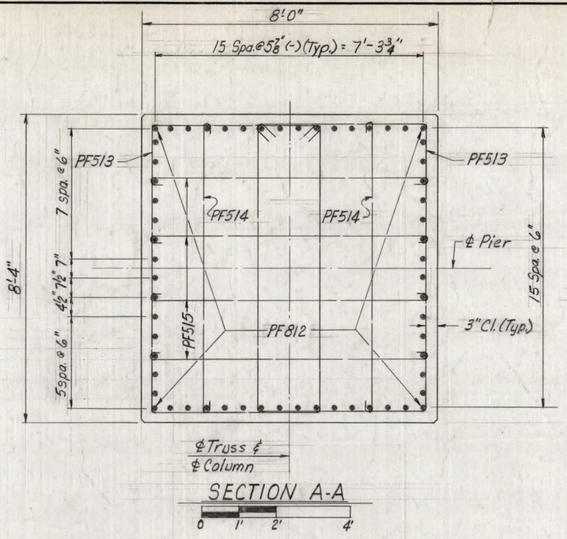
PIPE SUMMARY

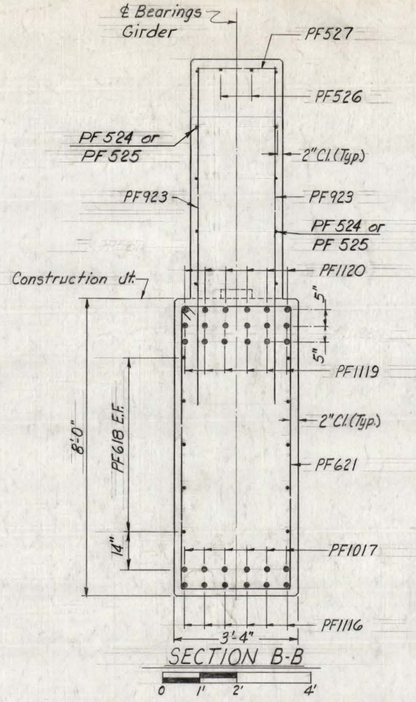
REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

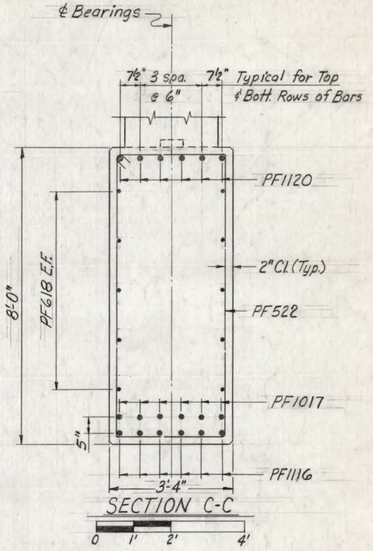
MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

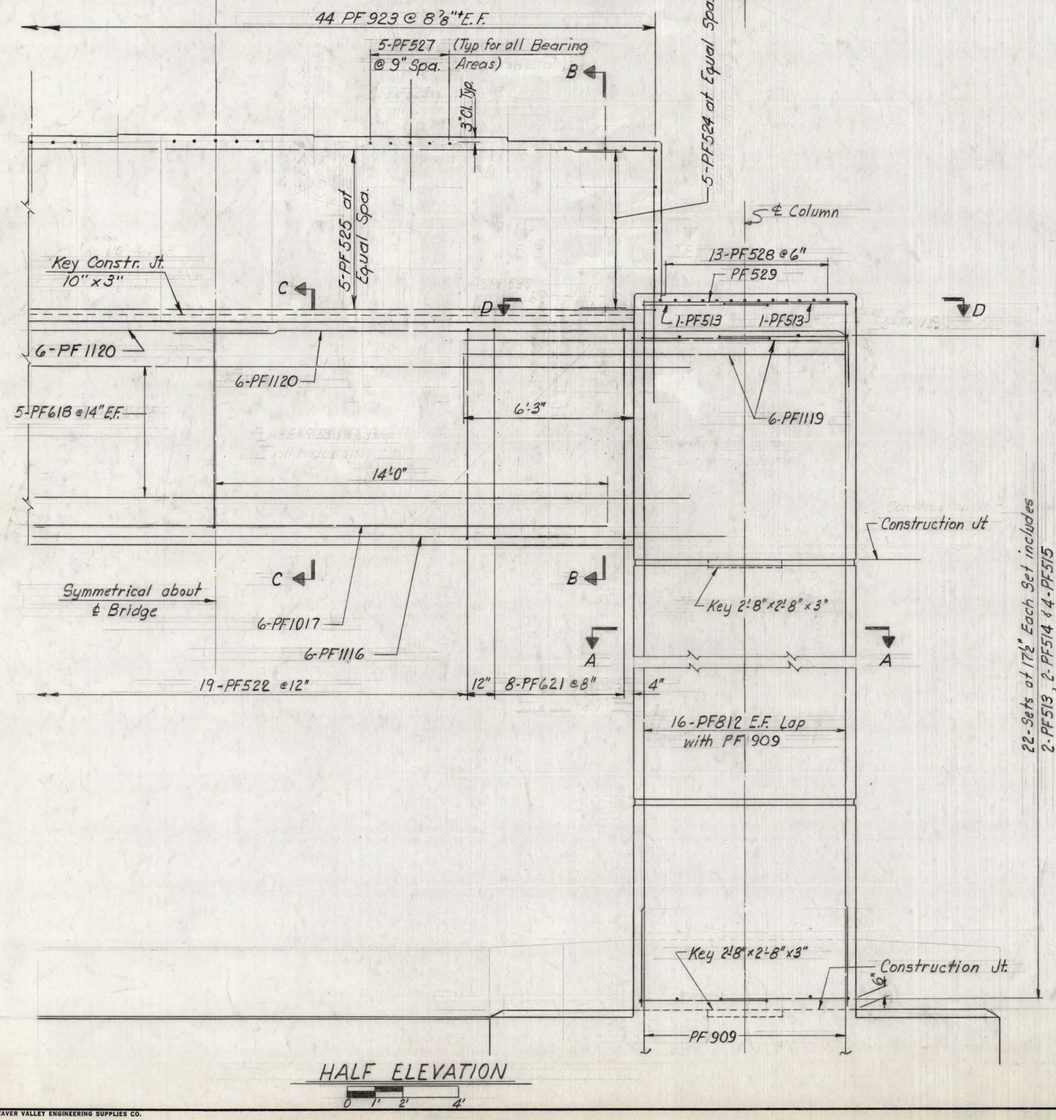
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W. VA.	3	318-AL56-0.00 C-1	F-338-(002) C-1	1976	Jackson, W.VA. Meigs, Ohio	7	18

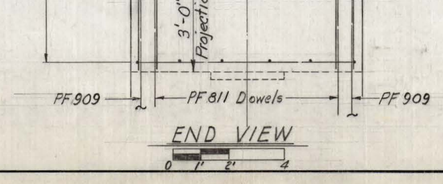












NOTE:
For Section D-D see Dwg." Pier No. 6 Anchor Bolt Details & Bar Schedule."

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY LAG DATE AUG. 16, '74
DETAILED BY TJS CHECKED BY LAG DATE AUG 22, '74
TRACED BY TJS CHECKED BY LAG DATE Aug 23, '74

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
PIER NO. 6
COLUMN AND CAP DETAILS

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	42972	7 of 18

FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F 338 (002) 318-AL56-0.00		JACKSON, W.VA. MEIGS, OHIO	7	125

C-4 E-1

SUMMARY OF QUANTITIES FOR WEST VIRGINIA PORTION

ITEM NO.	ALTERNATE	DESCRIPTION	QUANTITY UNIT	QUANTITY TOTAL
662-2(2)		GALV. STEEL CONDUIT	L.S.	L.S.
662-6(A)		JUNCTION BOX, TYPE A (MODIFIED)	EACH	6
662-14		INCIDENTAL ELECTRICAL WORK	LS	LS
662-20(2)		NAVIGATION LIGHTING SYSTEM	L.S	LS
		STRUCTURE GROUND **	L.S.	L.S.

**FOR INFORMATION ONLY

LEGEND FOR W. VA. PORTION OF THE PROJECT

LIGHTING SUPPORT WITH 250W. H.P.S. LUMINAIRE. ANCHOR BASE, PARAPET Mtd.
250W H.P.S. LUMINAIRE MAST ARM ON TRUSS — N.I.C.

UNDERPAVEMENT CROSSING - BY OTHERS

1-2" & 1-1½" GALVANIZED STEEL CONDUIT IN STRUCTURE. (WITH PULL WIRE)

2" GALVANIZED STEEL CONDUIT IN STRUCTURE (WITH PULL WIRE)

2" GALVANIZED STEEL CONDUIT (UNDER PAVEMENT CROSSING) (WITH PULL WIRE)

2" GALVANIZED STEEL CONDUIT IN SHOULDER AREAS. (WITH PULL WIRE)

JUNCTION BOX - TYPE H, 18" x 18"

POLE DATA FOR W. VA. PORTION OF PROJECT

POLE NO.	STATION	OFFSET (FEET)	POLE TYPE	POLE ITEM NO.	LUMINAIRE TYPE	LUMINAIRE ITEM NO.	CIRCUIT	BASE
15	849+ 02	———	I	662-10(35-6)	M N III	662-7(250)	A	ANCHOR
16	847+ 38	*	*	662-10(X6)			B	———
17	845+ 74	*	*				A	———
18	844+ 10	*	*				B	———
19	842+ 46	*	*				A	———
20	840+ 82	*	*	662-10(X-6)	M N III	662-7(250)	B	———

* LIGHTING SUPPORT (MAST ARM ON TRUSS)
SEE BRACKET MOUNTING DETAIL SHEET 118 of 125

GENERAL NOTES

N.I.C.

1. LUMINAIRE MOUNTING HEIGHT SHALL BE 35'-0" (NOM.) UNLESS OTHERWISE SPECIFIED.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE A POLE AND ARM COMINATION TO COMPLY WITH THE MOUNTING HEIGHT SPECIFIED.

N.I.C.

3. BRIDGE LIGHTING SHALL BE TESTED BEFORE CONNECTION TO APPROACH LIGHTING CIRCUITS.
4. CONTRACTOR SHALL CO-ORDINATE WITH APPROACH LIGHTING ELECTRICAL CONTRACTOR TESTING OF NAVIGATIONAL LIGHTING.

N.I.C. - NOT IN CONTRACT

GOVERNING SPECIFICATION

THE W.VA. DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS, ROAD AND BRIDGES ADOPTED 1978, SUPPLEMENTAL SPECIFICATIONS DATED JAN. 1, 1978, AND SPECIAL PROVISIONS ROADWAY LIGHTING, SECTION 662 DATED MAY 15, 1977.

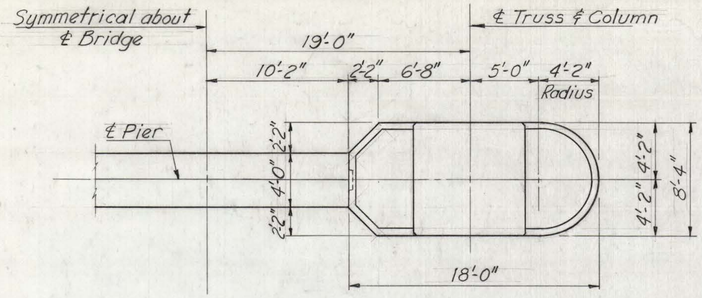
NATIONAL ELECTRIC CODE, STANDARDS OF BOARD OF FIRE UNDERWRITERS & ELECTRICAL WIRING.

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

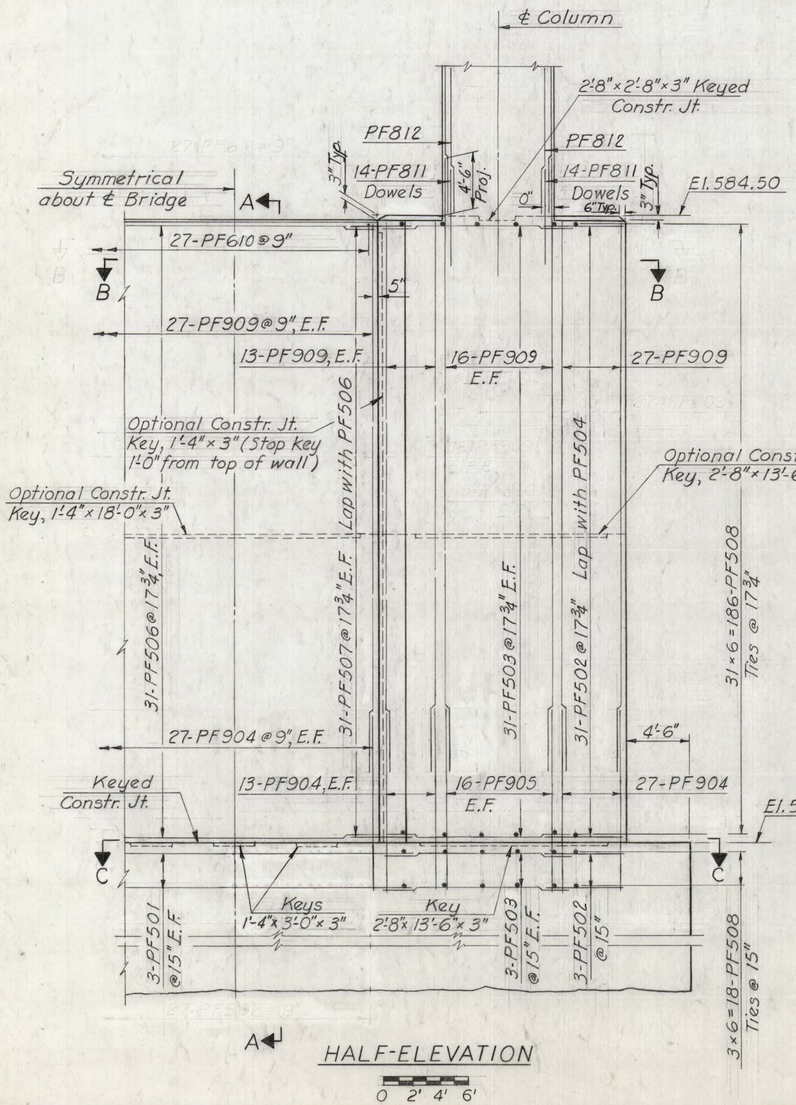
MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

ST OF WAY CHECKED
NO

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00 C-1	F-358 (002) C-1	1976	Jackson, W.Va. Meigs, Ohio	8	18

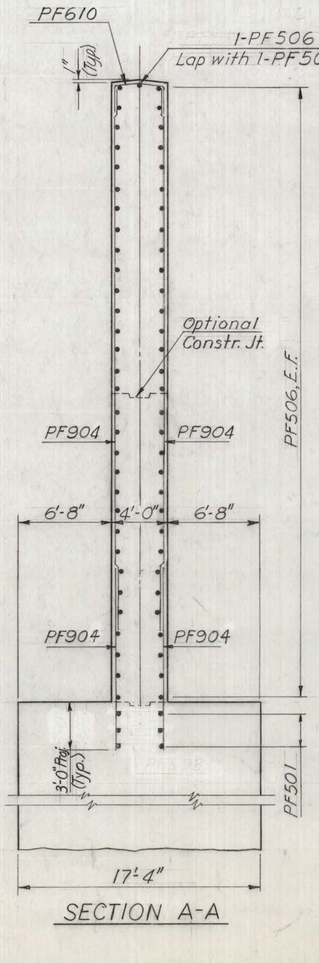


HALF-PLAN

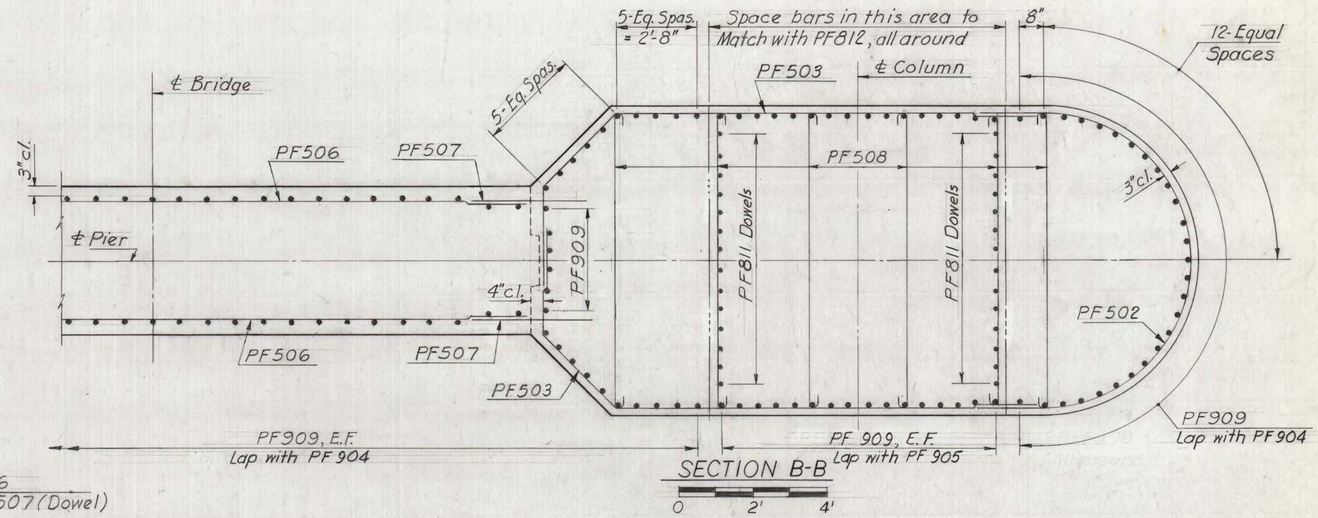


HALF-ELEVATION

0 2' 4' 6'

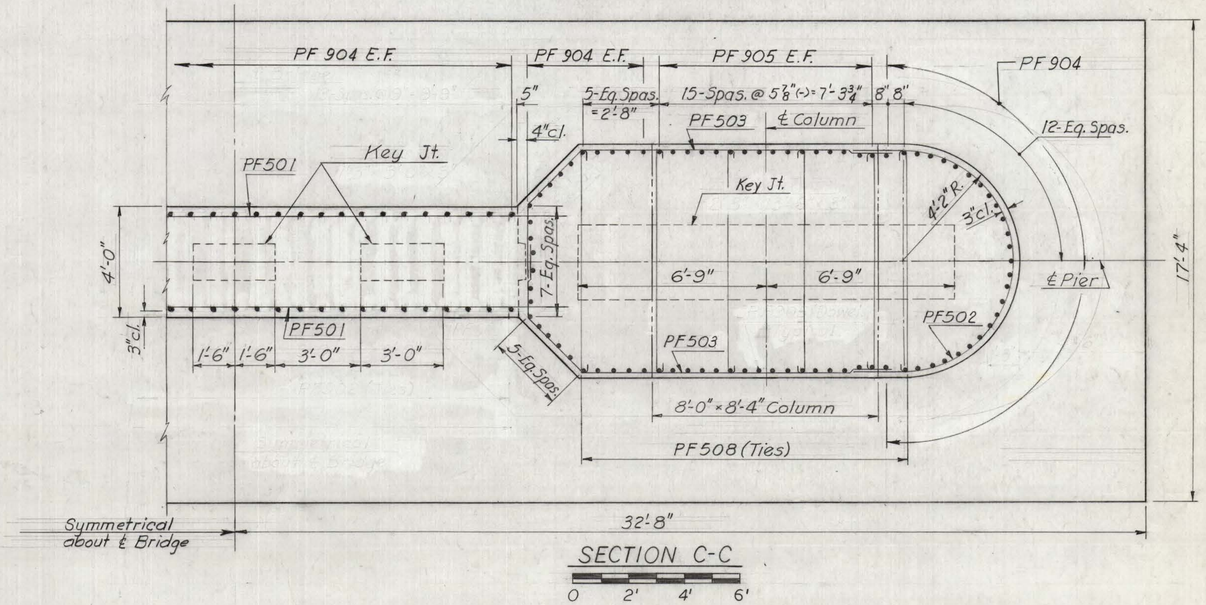


SECTION A-A



SECTION B-B

0 2' 4'



SECTION C-C

0 2' 4' 6'

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY LAG DATE APR 75
DETAILED BY PPA CHECKED BY LAG DATE APR 75
TRACED BY T.M.K. CHECKED BY LAG DATE APR 75

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
PIER NO. 6
SHAFT, WALL & FOOTING DETAILS

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972	8 of 18.

LIGHTING QUANTITIES SUB-SUMMARY
FOR OHIO PORTION OF PROJECT

FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F-338 (002) 318-AL56-0.00 C-4		JACKSON, W.VA. MEIGS, OHIO	8	125

FED. RD. DIVISION	STATE	FEDERAL PROJECT
5	OHIO	F-338 (002)

MEIGS 338/824 - 19.26/0.00

E 8

* FOR INFORMATION ONLY

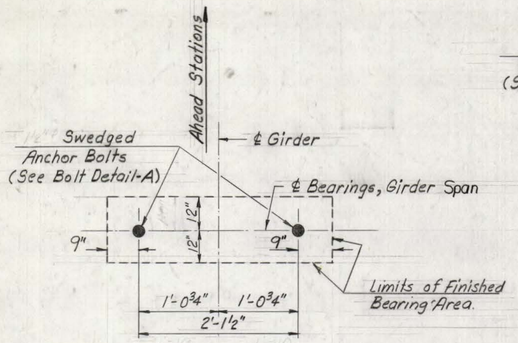
* * SEE BRACKET MOUNTING DETAIL SHEET 118 of 125

REFERENCE NO.	SIDE	STATION	STATION		LIGHT POLE & ARM TYPE 1 S 625-1(III)	LIGHT POLE & ARM TYPE 2 S 625-1(III)	LIGHT POLE & ARM TYPE 3 S 625-1(III)	6' BRACKET ARM ** (SPECIAL) S 625-1(SP)		LIGHT POLE 24" x 8' FOUNDATION S 625-2	GROUND ROD S 625-8		LUMINAIRE TYPE II STYLE B TYPE 250 WATT S 625-5	LAMP HIGH PRESSURE SODIUM 250 WATT S 625-6	CR. STONE, CR. GRAVEL OR SILICA SAND FOR UNDERDRAIN 606-22	POLE AND BRACKET CABLE 1/C #10, S 625-16	UNDERDRAIN PIPE 4" 606-25 (4)	TRENCH 24" DEPTH S 625-11	1-1/2" DUCT CABLE W/2 - #4 AWG 600 V. CABLE S 625-17	3" CONDUIT S 625-12(3")	1/C #4 AWG 600 V. DISTRIBUTION CABLE S 625-15	STRUCTURE GROUND * S 625-21	CONNECTOR KIT TYPE II S 625-18(II)	CONNECTOR KIT TYPE III S 625-18(III)	CONNECTOR KIT TYPE VII A, S 625-18(VIIA)	CONNECTOR KIT TYPE VII B, S 625-18(VII B)	CONNECTOR KIT TYPE VII C, S 625-18(VIIC)	SIGN LIGHTING*	PULL BOX 18" DIA. S 625-9	CONTROL CENTER INCL. SERVICE POLE S625-20	ELECTRICAL TEST 839-1
					EA	EA	EA	EA		EA	EA		EA	EA	CU. YDS	LF	LF.	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	LUMP	EA	LUMP	LUMP
1	Rt.	125+70			1					1	1		1	1		60							1	1							
2	Rt.	125+70	810+78															125	125												
3	Rt.	810+78			1					1	1		1	1		60							1	1							
4	Rt.	810+78	811+15															40	40												
5	Rt./Lt.	811+15																45	45	45					2		2		2		
6	Lt.	126+60			1					1	1		1	1		60							1	1							
7	Lt.	126+60	127+45															80	80												
8	Rt./Lt.	127+45																60	60	60					2	2			2		
9	Rt.	127+45	127+67															25	25												
10	Rt.	127+67			1					1	1		1	1		60							1	1							
11	Rt.	127+45	811+15															145	145												
12	Lt.	811+15																25	25											1	
13	Lt.	811+15	812+50															140	140												
		TOTALS			4					4	4		4	4		240		680	680	105			4	4	4	2	2		4	1	
14	Lt.	812+50	813+18															70	70												
15	Lt.	813+18			1					1	1		1	1		60							1	1							
16	Lt.	813+18	815+58															240	240												
17	Lt.	815+58			1					1	1		1	1		60							1	1							
18	Lt.	815+58	817+98															240	240												
19	Lt.	817+98			1					1	1		1	1		60							1	1							
20	Lt.	817+98	820+38															250	250												
21	Lt.	820+38				1				1	1		1	1		60							1	1							
22	Lt.	821+00	821+90																												
23	Lt./Rt.	821+90													5		40			45									2		
																						1									
28	Lt.	825+24					1																								
29	Rt.	822+78					1																								
		TOTALS					2								5		40			45		1							2		
																						1									
26	Lt.	830+16					1																								
24	Lt.	834+26						1																							
22	Lt.	837+54						1																							
27	Rt.	827+70					1																								
25	Rt.	832+62						1																							
23	Rt.	835+90						1																							
21	Rt.	839+18						1																							
		TOTALS					2	5														1									
	GRAND TOTAL						4	5							5		40			45		2 *							2		

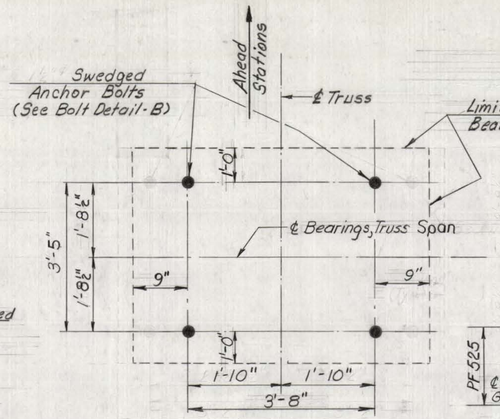
(N.I.C.)

N.I.C.

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002)C-1 & C-1	1976	Jackson, W.VA. Meigs, Ohio	9	18



ANCHOR BOLT LAYOUT FOR GIRDER BEARINGS
NO SCALE



ANCHOR BOLT LAYOUT FOR TRUSS BEARINGS
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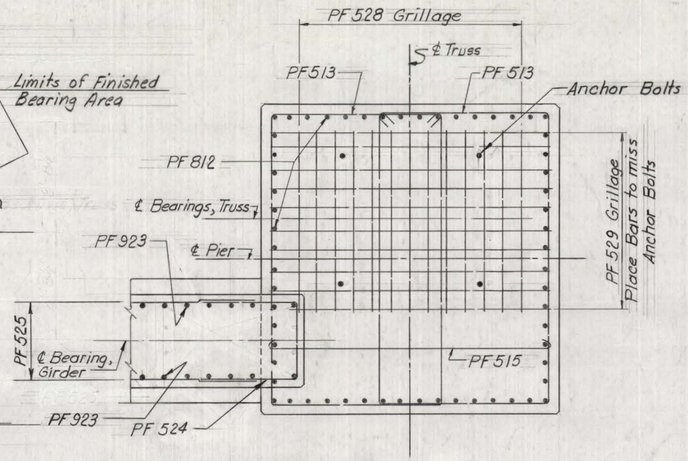
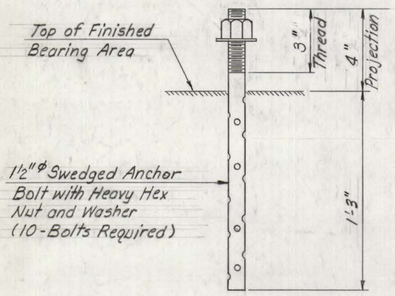
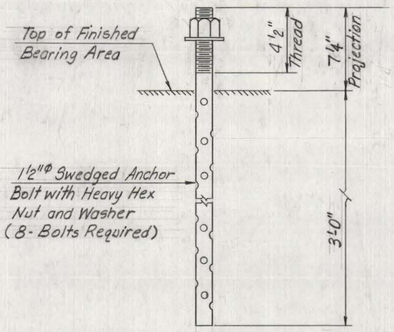
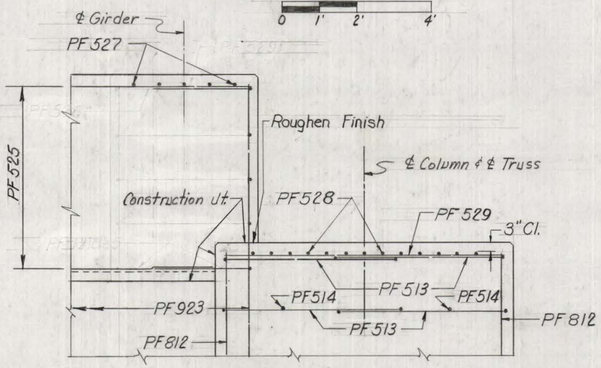




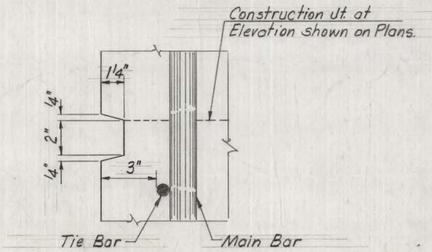
ANCHOR BOLT DETAIL A
NO SCALE



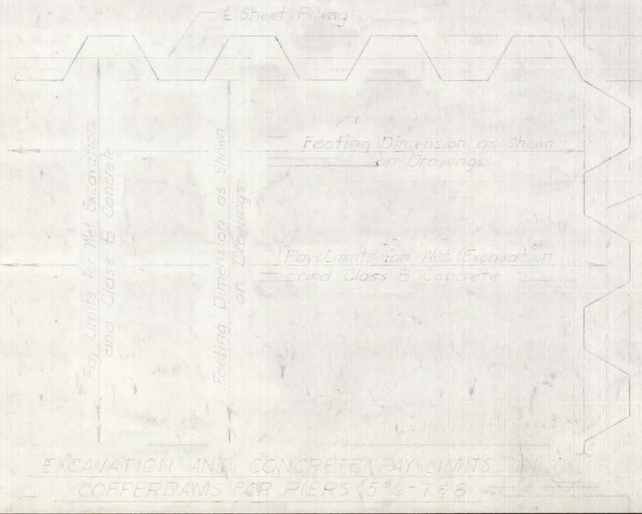
ANCHOR BOLT DETAIL B
NO SCALE



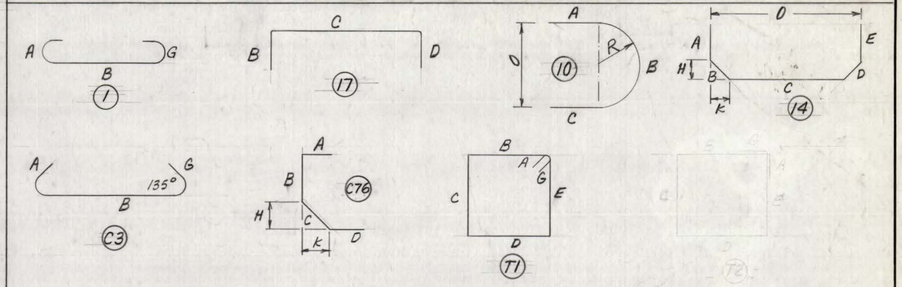
PARTIAL ELEVATION VIEW



SCORING DETAIL
NO SCALE



REINFORCEMENT BAR SCHEDULE



All bar dimensions are out to out of bar.

MARK	NO.	SIZE	LENGTH	TYPE	A	B	C	D	E	G	O	REMARKS
PF501	6	5	23'-6"	Str.								
PF502	68	5	15'-10"	10	1'-9¼"	12'-3½"	1'-9¼"				7'-10"	R = 3'-11"
PF503	136	5	17'-5"	14	2'-10"	2'-11"	11'-8"	0"	0"			H & k = 1'-11"
PF904	160	9	12'-6"	Str.								
PF905	64	9	17'-0"	Str.								
PF506	63	5	20'-0"	Str.								
PF507	126	5	3'-6"	Str.								
PF508	408	5	8'-9"	C3	5½"	7'-10"				5½"		
PF909	224	9	40'-0"	Str.								
PF610	27	6	7'-6"	17		2'-0"	3'-6"	2'-0"				
PF811	56	8	6'-0"	Str.								
PF812	120	8	32'-1"	Str.								
PF513	92	5	25'-9"	T1	5½"	4'-7"	7'-10"	4'-7"	7'-10"	5½"		
PF514	88	5	8'-9"	C3	5½"	7'-10"				5½"		
PF515	178	5	8'-5"	C3	5½"	7'-6"				5½"		
PF1116	6	11	37'-2"	Str.								
PF1017	6	10	28'-0"	Str.								
PF618	10	6	34'-0"	Str.								
PF1119	24	11	14'-0"	Str.								
PF1120	12	11	28'-0"	17		2'-0"	26'-0"	0"				
PF621	16	6	22'-5"	T1	6½"	3'-0"	7'-8"	3'-0"	7'-8"	6½"		
PF522	19	5	22'-3"	T1	5½"	3'-0"	7'-8"	3'-0"	7'-8"	5½"		
PF923	88	9	9'-0"	Str.								
PF524	10	5	7'-6"	17		2'-8"	2'-2"	2'-8"				
PF525	10	5	29'-6"	Str								
PF526	2	5	31'-10"	Str								
PF527	25	5	2'-2"	Str.								
PF528	26	5	5'-0"	Str.								
PF529	20	5	7'-6"	Str.								

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY LAG DATE AUG 16,74
DETAILED BY TJS CHECKED BY LAG DATE AUG 22,74
TRACED BY TJS CHECKED BY LAG DATE AUG 22,74

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
PIER NO. 6
ANCHOR BOLT DETAILS & BAR SCHEDULE

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972	9 of 18

MEIGS 338/824-19.26/0.00

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

FED. HWY. ADM.	STATE DIST. NO.	STATE PROJECT	FEDERAL PROJECT	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	3	318-AL56-0.00	F-338 (002)		Jackson, W. Va. Meigs, Ohio	9	125

C-4

GOVERNING SPECIFICATIONS

THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS, ROADS AND BRIDGES, AS CONTAINED IN THE BOOK ENTITLED WEST VIRGINIA DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS, ROADS AND BRIDGES, ADOPTED 1978, AS AMENDED BY THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS, SUPPLEMENTAL SPECIFICATIONS, JAN. 1, 1978, THE CONTRACT DOCUMENTS, AND THE CONTRACT PLANS ARE THE GOVERNING PROVISIONS APPLICABLE TO THIS PROJECT.

COORDINATION BETWEEN CONTRACTORS

IT IS ANTICIPATED THAT OTHER CONTRACTORS WILL BE WORKING IN THIS AREA, AND IT IS IMPERATIVE THAT A STRICT COORDINATION BETWEEN CONTRACTORS BE AGREED ON IN REFERENCE TO WORKING PLANS AND STORAGE AREAS.

THIS PLAN OF COORDINATION WILL BE PRESENTED TO THE ENGINEER IN WRITING FOR HIS REVIEW & APPROVAL.

~~SELECT ROCK FILL (ROCK BORROW EXCAVATION).~~

~~THIS ITEM SHALL CONSIST OF EMBANKMENT FOUNDATION AND LINING FOR DRAINAGE CHANNELS AND IS TO BE PLACED AS SHOWN ON THE PLANS AND/OR CROSS SECTIONS.~~

~~MATERIALS SHALL BE OBTAINED FROM A SITE APPROVED BY THE ENGINEER. ROCK BORROW EXCAVATION TO BE USED FROM STA. 816 + 75 TO STA. 820 + 35, STA. 851 + 45 TO STA. 872 + 37.56, STA. 122 + 65 TO STA. 125 + 15 ON SR 338 AND STA. 130 + 25 TO STA. 134 + 50 ON SR 338 SHALL CONSIST OF SANDSTONE ONLY.~~

~~WHEN USED UNDER EMBANKMENTS, THE SIZE OF MATERIAL WILL BE CONTROLLED BY THE EMBANKMENT SPECIFICATIONS. WHEN USED AS CHANNEL LINING, THE MATERIAL SHOULD BE AS LARGE AS THE THICKNESS OF THE BLANKET WILL PERMIT WITH ENOUGH SMALLER PIECES OF VARIOUS SIZES TO FILL VOIDS.~~

~~SELECT ROCK FILL SHALL BE PAID FOR UNDER ITEM 211-2, ROCK BORROW EXCAVATION.~~

SELECT BORROW EXCAVATION

THIS ITEM SHALL CONSIST OF CONSTRUCTING EMBANKMENT FOUNDATION IN AREAS WHERE PILES ARE TO BE DRIVEN AND SUBGRADE FOR THE ROADWAY, AND IS TO BE PLACED AS SHOWN ON THE PLANS AND/OR CROSS SECTIONS.

~~MATERIALS SHALL BE OBTAINED FROM A SITE APPROVED BY THE ENGINEER. SELECT BORROW EXCAVATION IS TO BE USED IN THE EMBANKMENT FOUNDATION AT ABUTMENTS A AND B AND PIER NO. 9 (STA. 820 + 35 TO STA. 822 + 94 AND STA. 848 + 09 TO STA. 851 + 45) SHALL CONSIST OF APPROVED HIGHLY PERMEABLE GRANULAR~~ SELECT BORROW EXCAVATION USED FOR SUBGRADE OF THE ROADWAY SHALL CONSIST OF SANDSTONE ONLY.

THE SIZE OF MATERIAL SHALL BE CONTROLLED BY THE EMBANKMENT SPECIFICATIONS.

SELECT BORROW EXCAVATION SHALL BE PAID FOR UNDER ITEM 211-3.

GUARD RAIL

THE GUARD RAIL LIMITS SHOWN ON THE PLANS ARE SUBJECT TO ADJUSTMENT IN THE FIELD AS DIRECTED BY THE ENGINEER.

DRAINAGE

ALL CULVERTS, INLETS AND OTHER DRAINAGE ITEMS ON THIS PROJECT HAVE BEEN LOCATED AS AVAILABLE INFORMATION ALLOWS. THE ENGINEER WILL BE RESPONSIBLE FOR FINAL EXACT LOCATION AND ELEVATION OF ALL DRAINAGE ITEMS AND WILL MAKE ANY NECESSARY ADJUSTMENTS IN THE FIELD.

TEMPORARY POLLUTION CONTROL

MATERIAL USED FOR DIKES, DAMS, DITCH CHECKS AND SEDIMENT BASINS UNDER SECTION 642, SHALL BE NON-SILTING (WOOD, ROCK, CONCRETE, ETC.), THE PURPOSE BEING TO REDUCE THE VELOCITY OF THE STREAM FLOW AND TO ALLOW DEPOSITION OR FILTERING OF THE SILT BEING CARRIED.

BACKFILLING

WHERE TRENCHING IS REQUIRED FOR PLACING OF WATERLINES, SEWERLINES OR OTHER FACILITIES UNDER EXISTING ROADS WHICH ARE TO REMAIN IN SERVICE, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPLACE PAVEMENT AND BASE TO CONFORM TO EXISTING THICKNESS, GRADES AND ALIGNMENTS.

EROSION AND POLLUTION CONTROL

IN THE EVENT THAT TEMPORARY EROSION AND POLLUTION CONTROL MEASURES ARE REQUIRED DUE TO THE CONTRACTOR'S NEGLIGENCE, CARELESSNESS, OR FAILURE TO INSTALL PERMANENT CONTROLS AS A PART OF THE WORK AS SCHEDULED, AND ARE ORDERED BY THE ENGINEER, SUCH WORK SHALL BE PERFORMED BY THE CONTRACTOR AT HIS OWN EXPENSE. THE CONTRACTOR WILL BE REQUIRED TO INCORPORATE ALL PERMANENT EROSION CONTROL FEATURES INTO THE PROJECT AT THE EARLIEST PRACTICAL TIME AS OUTLINED IN HIS ACCEPTED SCHEDULE.

PAVED SHOULDERS

WHERE PENETRATION MACADAM COURSE IS SPECIFIED ON THE PLANS, THE SHOULDERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 403 OF THE SPECIFICATIONS WITH THE EXCEPTION THAT THE CHIP COVERING SHALL BE LIMITED TO CRUSHED LIMESTONE.

NAVIGATIONAL LIGHTING SYSTEM

THE TEMPORARY NAVIGATIONAL LIGHTING SYSTEM INSTALLED IN THE PREVIOUS CONTRACT SHALL BE MAINTAINED UNTIL THE PERMANENT SYSTEM IS IN OPERATION AS IN ACCORDANCE WITH SECTION 662.4.12 OF THE SPECIAL PROVISIONS DATED SEPTEMBER 15, 1976.

STRUCTURE EXCAVATION

THE COST OF STRUCTURE EXCAVATION FOR WINGWALLS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR CLASS "B" CONCRETE.

~~PLUGGING DRILLED WATER WELLS~~

~~THE CONTRACTOR SHALL PLUG ALL DRILLED WELLS WITHIN THE RIGHT-OF-WAY LIMITS, UNLESS OTHERWISE NOTED ON PLANS, PRIOR TO STARTING ANY OTHER CONSTRUCTION IN THE VICINITY OF THE WELLS. WELLS SHALL BE FILLED WITH AASHTO NUMBER 7 STONE TO WITHIN TWENTY (20) FEET OF THE SURFACE, AND THE UPPER TWENTY (20) FEET SHALL BE PLUGGED USING CLASS B CONCRETE OR OTHER SUITABLE CONCRETE. CONCRETE MAY BE MIXED IN THE FIELD. THE COST OF THE STONE AND CONCRETE FOR PLUGGING DRILLED WATER WELLS AND THE WORK INVOLVED SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 207-1, UNCLASSIFIED EXCAVATION.~~

~~UTILITIES~~

~~ALL ABANDONED UTILITY POLES WITHIN THE LIMITS OF THE RIGHT-OF-WAY SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. THE REMOVAL SHALL BE TREATED IN A SIMILAR MANNER AS THE CLEARING AND GRUBBING OF TREES. THE COST OF REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 201-1, CLEARING AND GRUBBING. THE POLES TO BE ABANDONED WILL BE MARKED BY THE PROJECT ENGINEER.~~

~~PIPE REMOVAL~~

~~ANY EXISTING PIPES THAT ARE REMOVED DURING CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE COST OF THE REMOVAL OF EXISTING PIPES SHALL BE INCLUDED IN THE UNIT PRICE BID AND PAID FOR UNER ITEM 201-1, CLEARING AND GRUBBING.~~

APPROACH SLAB BASE COURSE

WITH THE APPROVAL OF THE ENGINEER, NORMAL ROADWAY BASE COURSE MATERIAL MAY BE SUBSTITUTED FOR THE BASE MATERIAL SPECIFIED FOR USE UNDER APPROACH SLABS. PAYMENT FOR THE SUBSTITUTED MATERIAL WILL BE AT THE LOWER OF THE UNIT PRICES BID FOR THE SPECIFIED MATERIAL OR FOR THE NORMAL ROADWAY BASE COURSE MATERIAL.

SITE GRADING

THE COST OF REMOVING PAVEMENT AND SITE GRADING OF EXISTING SR 338 BETWEEN STA. 125 + 75 TO STA. 134 + 75 LT. SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 201-1, CLEARING & GRUBBING. PLACING OF EXCAVATED MATERIALS IN THE EMBANKMENT AREAS SHALL BE DONE IN ACCORDANCE WITH SEC. 201-3-5.

~~LIMIT OF WORKING HOURS~~

~~NO CONSTRUCTION WORK SHALL BE PERFORMED BY THE CONTRACTOR BETWEEN 10:00 P.M. & 6:00 A.~~M.

BITUMINOUS MATERIAL

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, ANY OF THE TYPES OF BITUMINOUS MATERIAL LISTED IN SUBSECTION 409.2, WITH THE EXCEPTION OF CATIONIC EMULSIFIED ASPHALT, TYPE CRS-1, MAY BE USED. IN ADDITION, IF ACCEPTABLE TO THE ENGINEER, THE FOLLOWING GRADES OF BITUMINOUS MATERIAL MAY BE USED: SS-1 OR SS-1H MEETING THE REQUIREMENTS OF SUBSECTION 705.4, OR CSS-1 OR CSS-1H MEETING THE REQUIREMENTS OF SUBSECTION 705.11. THESE MATERIALS MAY BE DILUTED WITH WATER IN ORDER TO FACILITATE THEIR USE.

MAINTENANCE OF TRAFFIC

TRAFFIC MUST BE MAINTAINED AT ALL TIMES ON EXISTING W. VA. 68 (FORMERLY W. VA. 2). DELAYS FOR ANY CONSTRUCTION OPERATIONS SUCH AS ERECTION OF STEEL ETC. SHALL BE HELD TO A MAXIMUM OF FIFTEEN (15) MINUTE INTERVALS.

SEEDING AND MULCHING

TYPE C-1, SEED MIXTURE WILL BE USED ON ALL DISTURBED RESIDENTIAL AND COMMERCIAL LANDS.

~~SEWER HOUSE DRAINS AND EXISTING HOUSE CONNECTIONS~~

~~ALL EXISTING HOUSE DRAINS, INCLUDING YARD, ROOF, BASEMENT AND OTHER CONNECTIONS NOW IN USE, WHICH ARE DISTURBED BECAUSE OF THE HIGHWAY IMPROVEMENT, SHALL BE REPLACED BY THE CONTRACTOR. SANITARY DRAINS SHALL NOT BE CONNECTED TO STORM SEWERS. PAYMENT FOR CONNECTIONS SHALL BE INCLUDED IN THE UNIT PRICES BID FOR RESPECTIVE ITEM 604, STORM DRAINS AND ITEM 675, SANITARY SEWERS.~~

~~MAINTENANCE OF SEWER FLOWS~~

~~THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO MAINTAIN AT ALL TIMES SEWER FLOWS THROUGH EXISTING FACILITIES TO REMAIN IN PLACE AND THROUGH EXISTING FACILITIES TO BE REPLACED UNTIL NEW FACILITIES ARE COMPLETED AND PLACED IN USE. PAYMENT FOR ANY ADDITIONAL COSTS INVOLVED IN MAINTAINING THESE FLOWS BY PUMPING OR BY ANY OTHER MEANS APPROVED BY THE ENGINEER SHALL BE INCLUDED IN THE UNIT PRICES BID FOR RESPECTIVE ITEM 604, STORM DRAINS AND ITEM 675, SANITARY SEWERS.~~

SIGNING

ALL SIGN SUPPORTS WILL BE PART OF THE SUPERSTRUCTURE AND ARE SHOWN ON THE BRIDGE DETAIL DRAWINGS.

ALL SIGNS AND SUPPORTS ERECTED BY ADJOINING CONTRACTORS ON OTHER CONTRACTS OF THIS PROJECT OR ANY EXISTING SIGNS THAT ARE TO REMAIN SHALL BE PROTECTED DURING BRIDGE CONSTRUCTION.

ALL SIGNS AND SUPPORTS AND THE REFLECTIVE AND GALVANIZED COATING THEREON THAT HAVE BEEN DAMAGED IN ANY MANNER SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.

GOVERNING SPECIFICATIONS

THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS ROADS AND BRIDGES, ADOPTED 1978, AS AMENDED BY THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS SUPPLEMENTAL SPECIFICATIONS, ADOPTED JANUARY 1, 1978, THE CONTRACT DOCUMENTS AND THE CONTRACT PLANS.

CONSTRUCTION LAYOUT STAKES

CONSTRUCTION LAYOUT STAKES FOR SIGNING WILL BE INCIDENTAL TO THE CONTRACT AMOUNT BID AND INCLUDED IN THE UNIT COSTS FOR VARIOUS SIGNING ITEMS.

CORNERS

CORNERS OF ALL SHEET ALUMINUM SIGNS SHALL BE ROUNDED AS SHOWN ON THE PLANS; HOWEVER, CORNERS OF ALUMINUM SIGN PANELS (EXTRUDED OR LAMINATED) SHALL NOT BE ROUNDED.

BOLT TIGHTENING

A CALIBRATED DEVICE ACCEPTABLE TO THE ENGINEER SHALL BE PROVIDED BY THE CONTRACTOR TO INSURE THE STIPULATED TORQUE AND/OR TENSION THAT ARE SET FORTH BY THE PLANS.

REFLECTIVE SHEETING

ALL BACKGROUND MATERIAL FOR SIGNS IN THIS PROJECT IN WEST VIRGINIA SHALL BE ENCAPSULATED LENS. ALL BACKGROUND MATERIAL FOR SIGNS IN THIS PROJECT IN OHIO SHALL BE ENCLOSED LENS.

SIGN SUPPORT SYMBOLS

ASSEMBLY NUMBER ☐

SIGN MOUNTED ON BRIDGE —

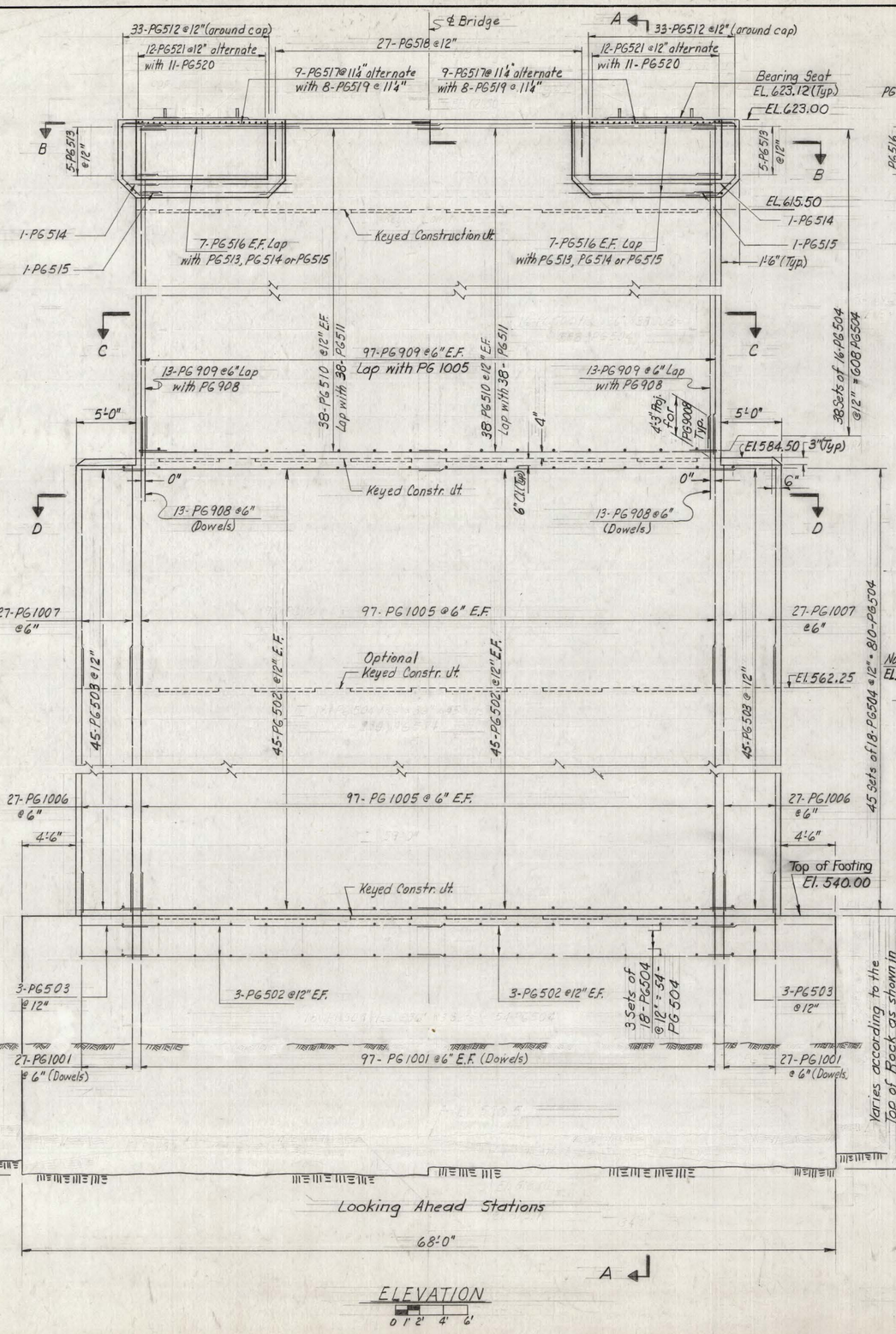
GENERAL NOTES

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

NO. ____ ST. OF WAY CHECKED

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	No. Sheets
W.VA.	3	318-AL56-0.00 C-1	F 53(2) (002) C-1	1976	Jackson, W.VA. Meigs, Ohio	10	18



NOTES:

- Maximum Actual Design Foundation Pressure = 10.7 Tons/Sq. Ft.

CONTRACT NO. II

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PDK — CHECKED BY LAG — DATE July 12,74
DETAILED BY TJS — CHECKED BY LAG — DATE July 31,74
TRACED BY TJS — CHECKED BY LAG — DATE July 31,74

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD PIER NO. 7 PLAN AND ELEVATION

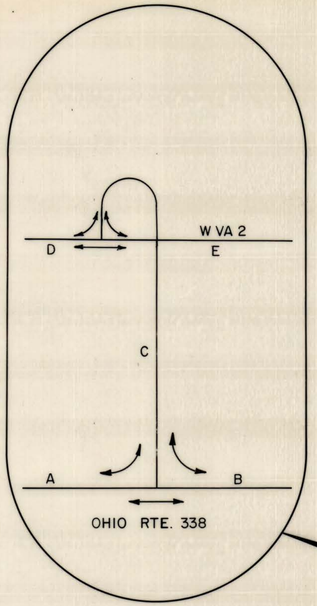
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. — BEAVER, PA.

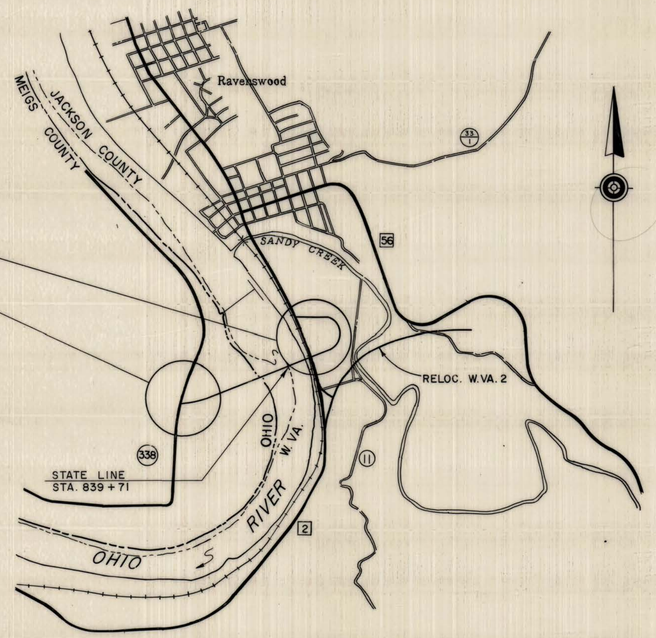
DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972	10 of 18

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00 C-4	F-338 (002)	197	Meigs, Ohio Jackson, W.Va.	10	125

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824-19.26/0.00





1976

From	To	ADT	DHV
A	B	30	4
A	C	750	90
B	A	30	4
B	C	50	6
C	A	750	90
C	B	50	6
C	D	225	27
C	E	575	69
D	C	225	27
D	E	3650	438
E	C	575	69
E	D	3650	438

1996

From	To	ADT	DHV
A	B	65	8
A	C	1670	200
B	A	65	8
B	C	230	28
C	A	1670	200
C	B	230	28
C	D	550	66
C	E	1350	162
D	C	550	66
D	E	6550	786
E	C	1350	162
E	D	6550	786

DESIGN DESIGNATION

A.D.T. (1976) = 1600
A.D.T. (1996) = 3800
D.H.V. = 380
D. = 60/40
% T (DHV) = 4%
V. = 40 M.P.H.
K. = 10% (12% One Way)
T.I. 10 YR. =
T.I. 20 YR. =

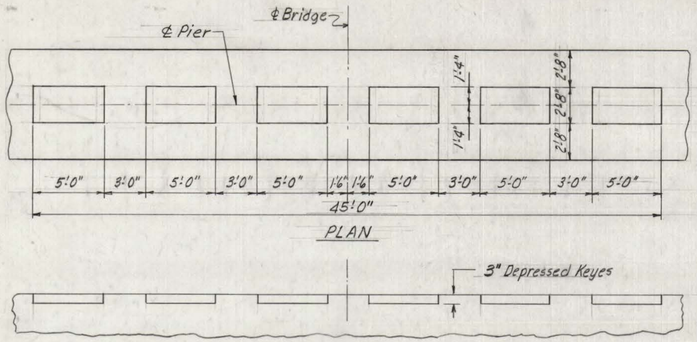
TRAFFIC DATA

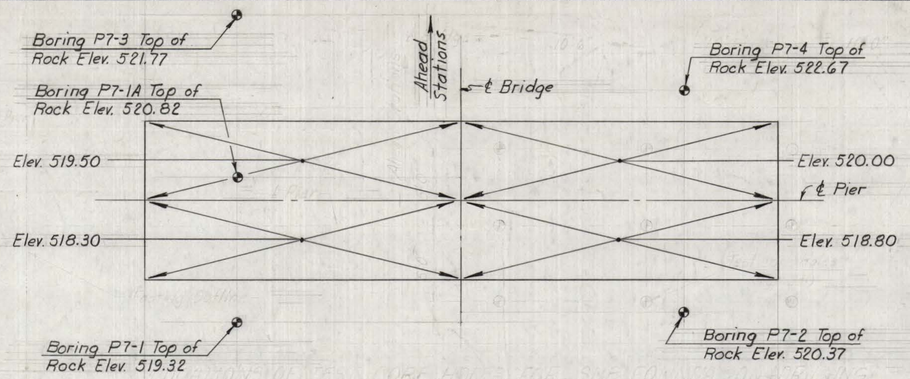
REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER JR., INC. CONSULTING ENGINEERS

RT. OF WAY CHECKED
NO.

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00 C-1	F 338 (002) C-1	1974	Jackson, W.VA. Meigs, Ohio	11	18



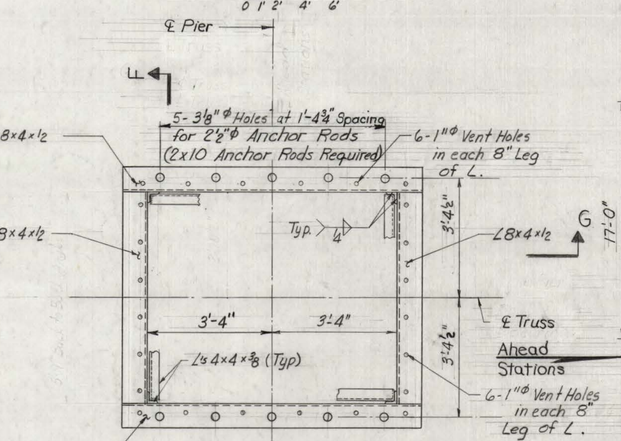


REINFORCEMENT BAR SCHEDULE

MARK	NO.	SIZE	LENGTH	TYPE	A	B	C	D	E	G	O	REMARKS
PG1001	248	10	8'-9"	Str.								
PG502	192	5	26'-4"	Str.								
PG503	96	5	15'-0"	(10)	1'-7¼"	11'-9½"	1'-7¼"				7'-6"	R=3'-9"
PG504	1472	5	8'-5"	(63)	5½"	7'-6"				5½"		
PG1005	388	10	26'-6"	Str.								
PG1006	54	10	26'-9"	Str.								
PG1007	54	10	21'-9"	Str.								
PG908	26	9	7'-0"	Str.								
PG909	220	9	37'-10"	Str.								
PG510	152	5	25'-1"	Str.								
PG511	76	5	10'-8"	(17)		1'-7"	7'-6"	1'-7"				
PG512	66	5	9'-8"	C76	1'-9"	4'-6"	1'-10"	1'-7"				H&K=1'-3"
PG513	10	5	15'-4"	(14)	1'-10"	1'-11"	7'-10"	1'-11"	1'-10"		10'-6"	H&K=1'-4"
PG514	2	5	13'-8"	(14)	1'-7"	1'-3"	8'-0"	1'-3"	1'7"		9'-9"	H&K=10½"
PG515	2	5	11'-9"	(17)		1'-7"	8'-3"	1'-7"				
PG516	28	5	14'-3"	Str.								Bend in Field as req'd
PG517	18	5	26'-6"	Str.								
PG518	27	5	11'-7"	(17)		2'-1"	7'-5"	2'-1"				
PG519	16	5	10'-9"	Str.								
PG520	22	5	7'-9"	Str.								
PG521	24	5	10'-6"	Str.								

TYPICAL KEYED CONSTRUCTION JTS.

0 1' 2' 4' 6'

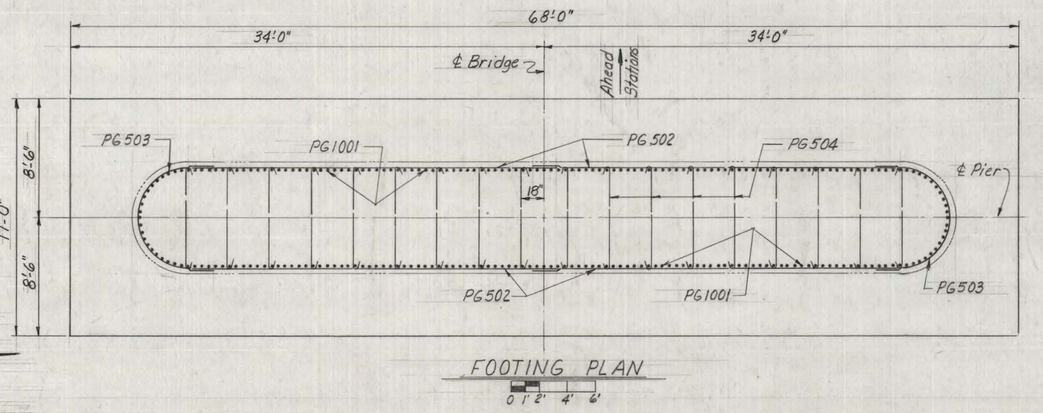


PLAN PIER 7

For Plan Anchor Rod Grillage - Pier 8 see Dwg. "Pier No. 8 Grillage and Bar Schedule."

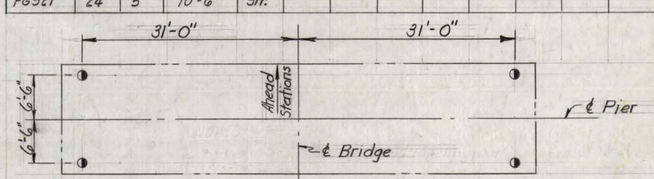
ESTIMATE OF BOTTOM OF FOOTING ELEVATION TO OBTAIN A MINIMUM KEY OF 1'-0" SOUND ROCK

No Scale



FOOTING PLAN

0 1' 2' 4' 6'

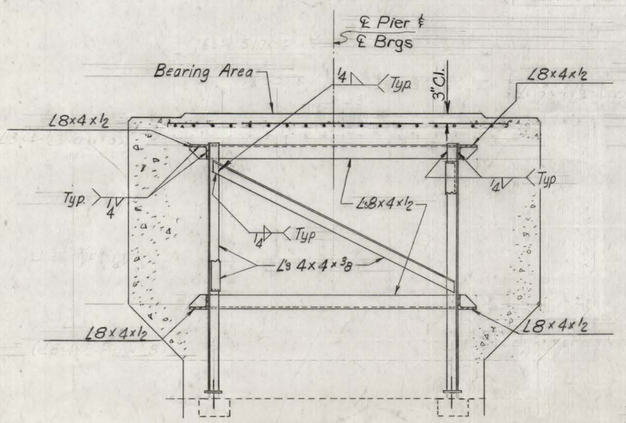


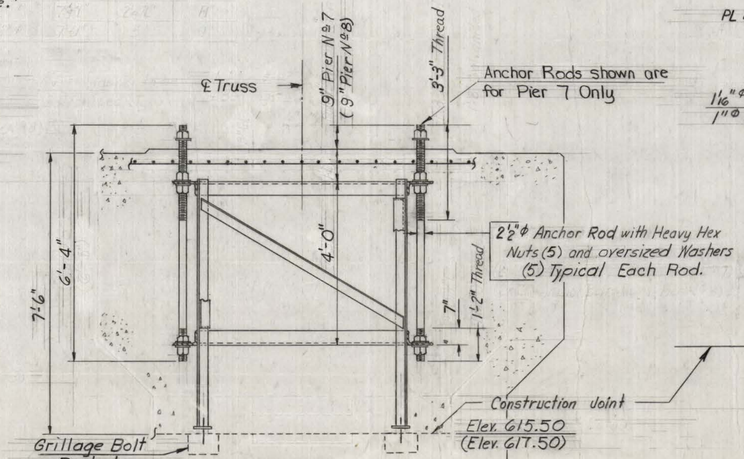
LOCATION OF TEST CORE HOLES FOR SUB FOUNDATION DRILLING

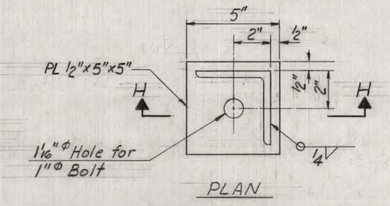
No Scale

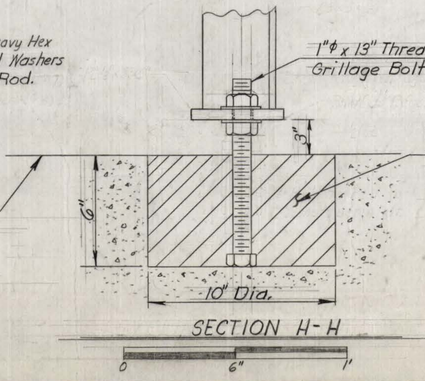
NOTES:

- The alignment of grillage frame and anchor rods shall be set and maintained precisely square and true with the center line of truss and center line of Pier. A minimum of twenty-four hours shall elapse between pouring the grout in the grillage bolt pockets and pouring the concrete around the grillage.
- For reinforcement bar types see Dwg." Pier No. 6 Anchor Bolt Details and Bar Schedule."









Grout Pockets after Grillage has been placed and adjusted in position.

ANCHOR ROD DETAIL AND GRILLAGE - PIER NO. 7

0 6" 1' 2' 3' 4'

GRILLAGE AT PIER NO. 8 SIMILAR EXCEPT WHERE NOTED ( ).

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
PIER NO. 7
GRILLAGE AND BAR SCHEDULE

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY LAG DATE July 12, 74
DETAILED BY TJS CHECKED BY LAG DATE July 31, 74
TRACED BY TJS CHECKED BY LAG DATE July 31, 74

DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972	11 of 18

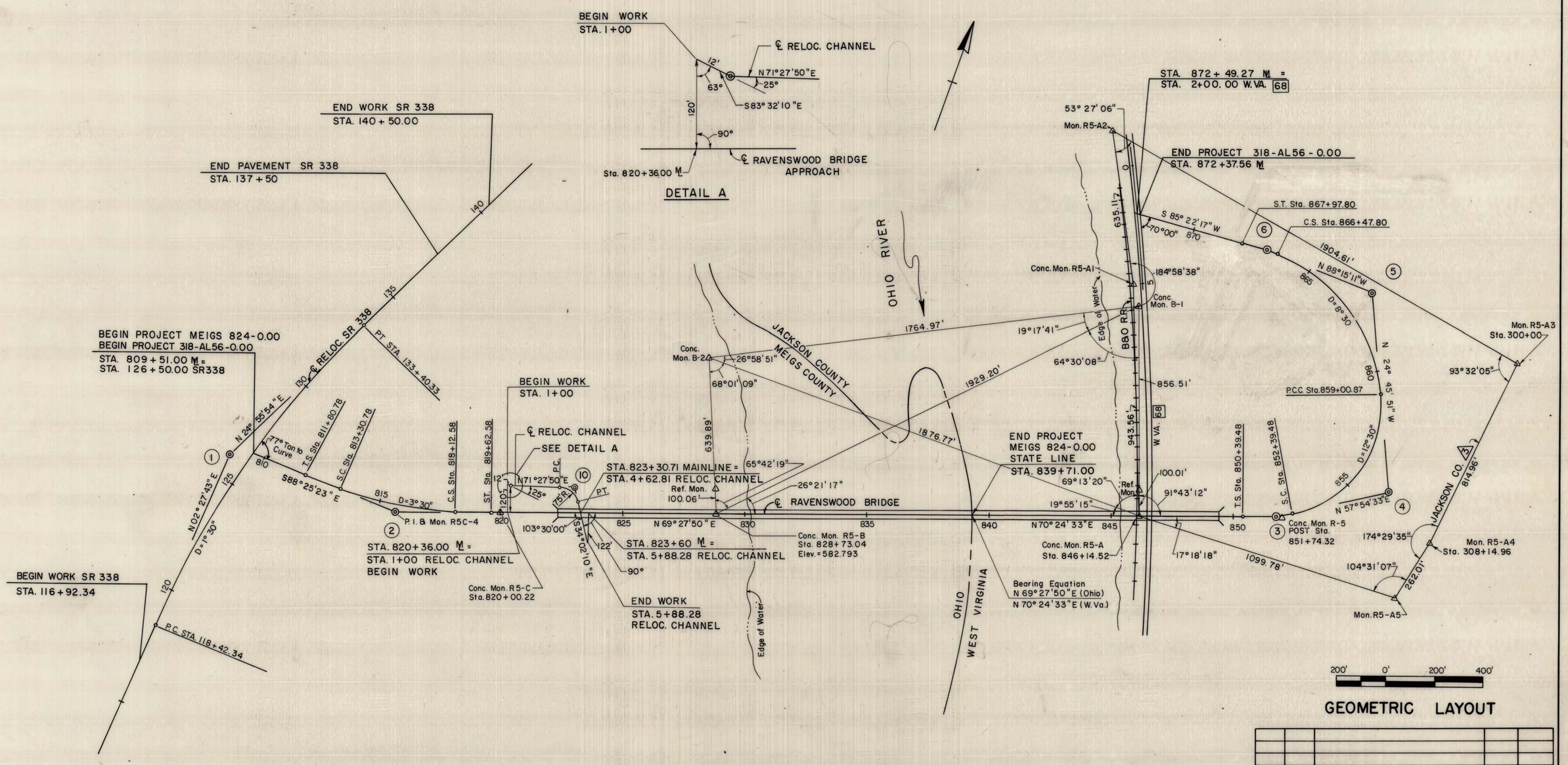
LOCATION	CURVE NO.	P.I. STATION	P.C. STATION	T.S. STATION	S.C or P.C.C. STATION	C.S or P.C.C. STATION	S.T. STATION	P.T. STATION	BEARING BACK	BEARING FORWARD	Δ	Δ_c	D_c	R_c	L_c	L_s	T or T_s	X_c	Y_c	θ_s	ϕ_c	L.T.	S.T.	L.C.	E or E_s	K	P	S.E
S.R. 338	1	126+01.08	118+42.34					133+40.33	N02°27'43"E	N24°55'54"E		22°28'11"	1°30'00"	3819.72	1497.99		758.74								74.63			.021½
Mainline	2	815+75.77		811+80.78	813+30.78	818+12.58	819+62.58		S88°25'23"E	N69°27'50"E	22°06'47"	16°51'47"	3°30'00"	1637.02	481.80	150	394.99	149.97	2.29	2°37'30"	0°52'30"	100.01	50.01	149.99	31.54	74.99	0.57	.043½
"	3	851+73.15		850+39.48	852+39.48				N70°24'33"E	N 57°54'33"E						200	———	199.05	14.50	12°30'00"	4°10'00"	133.67	66.97	199.58	———	99.84	3.63	———
"	4	856+42.68			852+39.48	859+00.87			N57°54'33"E	N 24°45'51"W		82°40'24"	12°30'00"	458.37	661.39		403.20								114.64			.081½
"	5	863+17.91			859+00.87	866+47.80			N24°45'51"W	N 88°15'11"W		63°29'20"	8°30'00"	674.07	746.93		417.04								118.58			.071½
"	6	866+97.86				866+47.80	867+97.80		N88°15'11"W	S 85°22'17"W						150	———	149.81	5.56	6°22'30"	2°07'30"	100.07	50.06	149.92	———	74.97	1.39	———
~~Reloc. Trailer Rd.~~	~~7~~	~~2+43.33~~	~~2+00.00~~		~~2+82.55~~				~~N16°07'43"W~~	~~N59°07'43"W~~		~~43°00'00"~~		~~110.00~~	~~82.55~~		~~43.33~~								~~8.23~~			
~~"~~	~~8~~	~~4+94.35~~	~~2+82.55~~		~~6+99.94~~				~~N59°07'43"W~~	~~N83°07'43"W~~		~~24°00'00"~~	~~5°43'00"~~	~~996.45~~	~~417.39~~		~~211.80~~								~~22.26~~			
~~"~~	~~9~~	~~7+43.44~~	~~6+99.94~~					~~7+86.33~~	~~N83°07'43"W~~	~~S80°22'17"W~~		~~16°30'00"~~		~~300~~	~~86.39~~		~~43.50~~								~~3.14~~			
Reloc. Channel	10	3+70.84	3+13.81					4+11.33	N71°27'50"E	S34°02'10"E		74°30'00"		75	97.52		57.03								19.22			

FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F-338(002)		JACKSON, W.VA.	11	125
		318-AL56-0.00		MEIGS, OHIO		

C-4

F.H.W.A. REGION	STATE	PROJECT
5	OHIO	

MEIGS 338/824-19.26/0.00

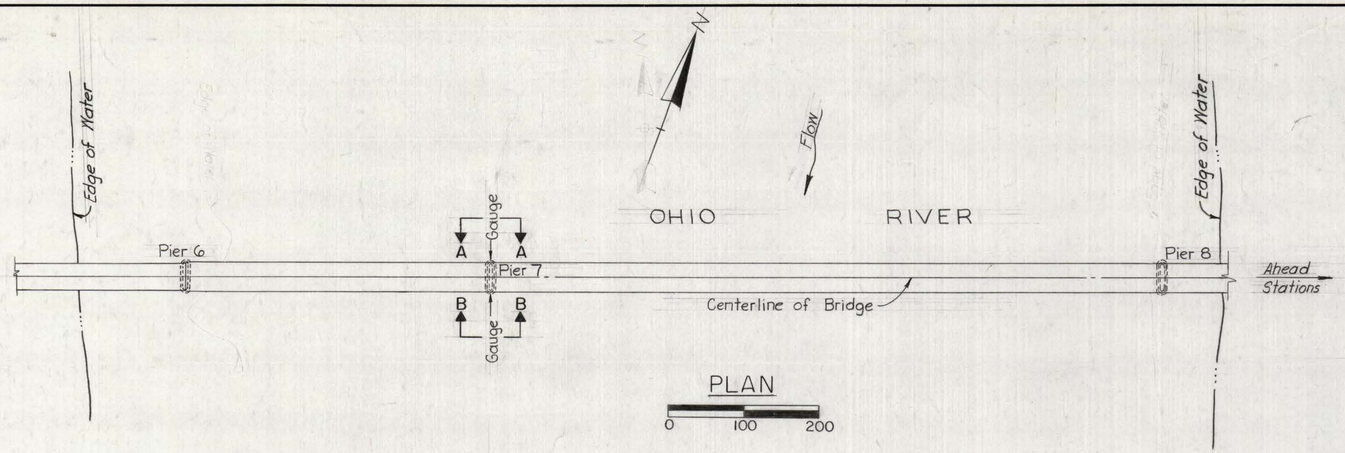


GEOMETRIC LAYOUT

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

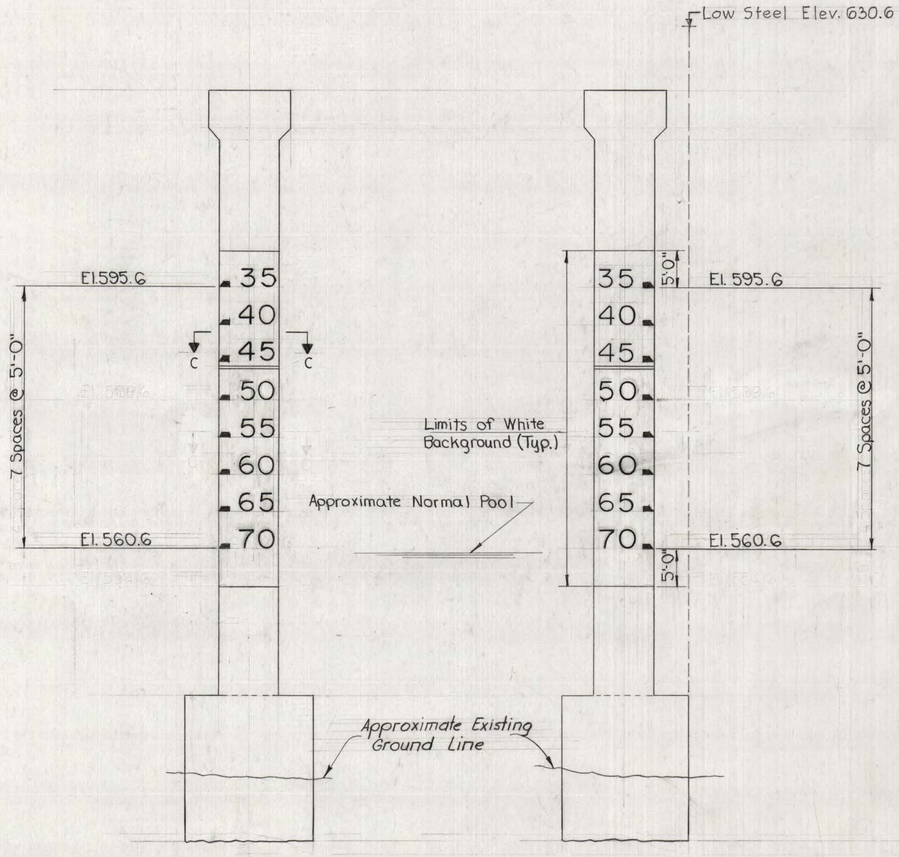
MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00 C-1	F 336 (002) C-1	1976	Jackson, W.VA. Meigs, Ohio	12	18



PLAN

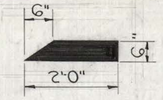
0 100 200

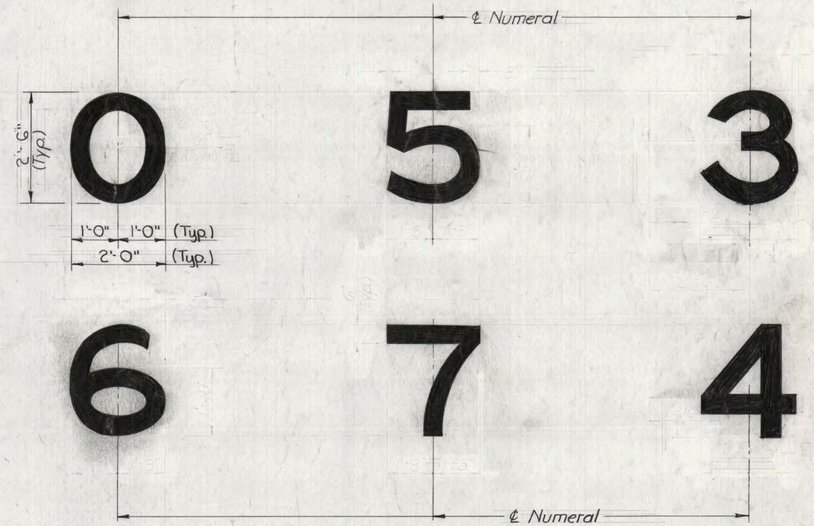


VIEW A-A VIEW B-B

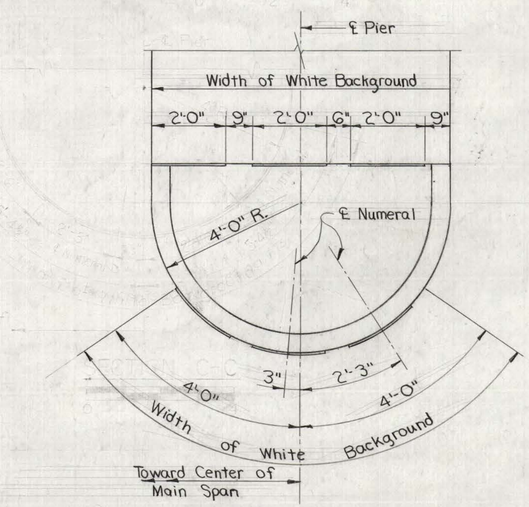
ELEVATION

0 10 20





DETAIL OF NUMERALS AND GRADUATIONS



SECTION C-C

0 2 4

NOTES:

- Refer to the Special Provisions for the Requirements of this Work.
- Numerals shall conform to the 30", Series E standard numerals as published in "Standard Alphabets for Highway Signs" from the Bureau of Public Roads.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY ____ CHECKED BY ____ DATE ____
DETAILED BY T.M.K CHECKED BY G&B DATE Aug 22, 74
TRACED BY T.M.K CHECKED BY G&B DATE Aug 22, 74

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
PIER NO. 7
NAVIGATION VERTICAL CLEARANCE GAUGES

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972	12 of 18

FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	3	F-338 (002) 318-AL56-000		JACKSON, W. VA. MEIGS, OHIO	12	125

C-4

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824-19.26/0.00

CURVE DATA - RELOCATED CHANNEL (NIC)

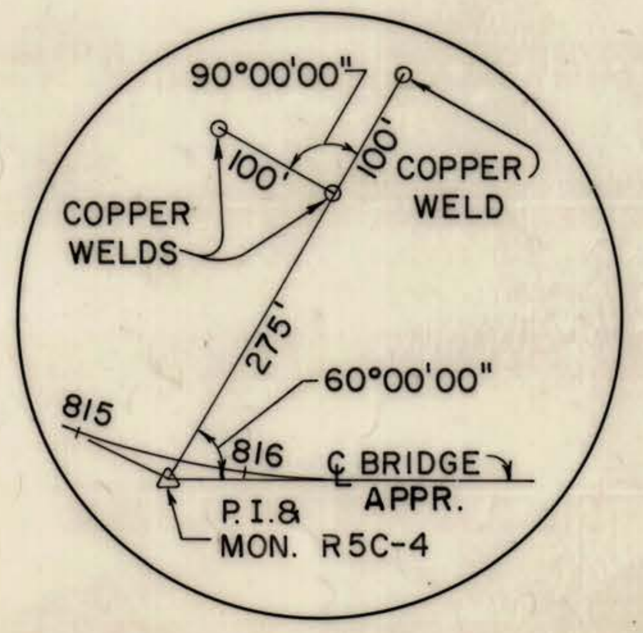
P.I. STA. 3+70.84
△ = 74°30'00"
R = 75.00'
T = 57.03'
L = 97.52'
E = 19.22'
P.C. Sta. 3+13.81
P.T. Sta. 4+11.33

Cult. Field
Pasture
BEGIN PROJECT
318-AL56-0.00, C-4
STA. 821+00
BEGIN WORK
STA. 818+15
MATCH MARK
STA. 812+50
S.C. STA. 813+30.78
C.S. STA. 818+12.58
S.T. STA. 819+62.58
℄ BRGS. ABUT. #A
STA. 822+33.75
℄ PIER #1 (NIC)
℄ PIER #2 (NIC)
℄ PIER #3 (NIC)
STA. 827+50
MATCH MARK
SEE SHEET NO. 14
812+50 T.L.
60' Lt.
813+00 T.L.
65' Rt.
817+00
65' Lt.
817+00
75' Rt.
819+00
110' Lt.
820+00
103.33' Lt.
820+50
160' Lt.
820+00
75' Rt.
821+00
120' Rt.
822+00
90' Lt.
822+00
140' Rt.
823+00
135' Lt.
823+50
50' Lt.
823+50
50' Rt.
824+00
50' Rt.
824+00
145'
Sta. 822+02 - 88' Lt.
1-Type CW-2C Wingwall
F.L. Elev. = 585.5
Dumped Rock Gutter
w = 4' d = 1.0'
t = 1.0' L = 6'
Permanent Drainage Easement
(NIC)
Relocated Channel - 10' Bottom
N71°27'50"E
S34°02'10"E
20" Maples
12" W. Cherry
15" Sycamore
28" Sycamore
30" Sycamore
8" W. Cherries
10" W. Cherry
15" W. Cherry
7" W. Cherry
8" W. Cherry
10" W. Cherry
6" W. Cherry
10" Elm
10" Sasafras
7" W. Cherry
12" Sasafras
8" W. Cherry
25" Oak
10" W. Cherry
12" Crab Apple
25°
Class I G.R.
4' Special Ditch
Breakaway Cable Terminal
16' Bench
30 L.F.-18" R.C.P.
103°30'
N69°27'50"E
Bridge No. 2972
825
820
815
℄ RAVENSWOOD BRIDGE APPROACH
(S.R. 824)
Conc. Mon. (R5C)
Sta. 820+00.22
S88°25'23"E
Class I G.R.
16' Bench
Breakaway Cable Terminal
2' Special Ditch
Marsh
Marsh
P.C.
P.T.
75' R.
L/A
Cult. Field

Sta. 822+11.42 - Sta. 822+31.42
Conc. Approach Slab

Sta. 822+03 - 16' Lt.
Type B Inlet, Mod.
T.G. Elev. = 612.83
F.L. Elev. = 608.74
F.L. Elev. = 608.24

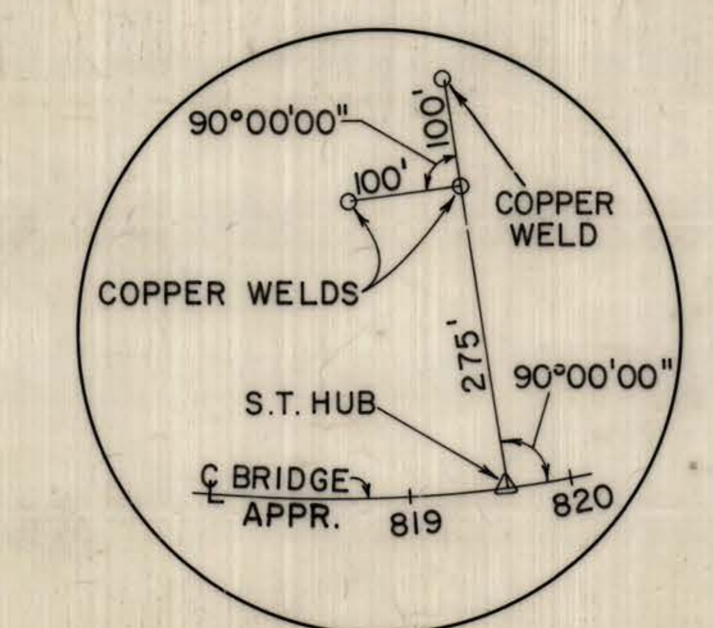
Sta. 822+03 - 16' Rt.
Type B Inlet, Mod.
T.G. Elev. = 612.83
F.L. Elev. = 609.00



P.I. STA. 815+75.77

CURVE DATA - ℄ (NIC)

P.I. STA. 815 + 75.77	Yc = 2.29'
△ = 22°06'47" Lt.	θs = 2°37'30"
△c = 16°51'47" Lt.	Φc = 0°52'30"
Dc = 3°30'00"	L.T. = 100.01'
Rc = 1637.02	S.T. = 50.01'
Lc = 481.80	L.C. = 149.99'
Ls = 150'	Es = 31.54'
Ts = 394.99'	K = 74.99'
Xc = 149.97	P = 0.57'
	S.E. = .043 '/,



S.T. STA. 819+62.57

76 L.F.-18" C.I./S.P.
1 - 25° Bend - 24' Lt. - F.L. Elev. 608.2
1 - 25° Bend - 53' Lt. - F.L. Elev. 593.7
1 - 25° Bend - 69' Lt. - F.L. Elev. 592.9
1 - 25° Bend - 83' Lt. - F.L. Elev. 585.9

FOR DETAILS BRIDGE NO. 2972
SEE SHEETS NO. 41 THRU 122

FOR DETAILS BREAKAWAY CABLE TERMINAL
SEE SHEET NO. 18-A

FOR PROFILE
SEE SHEET NO. 13

FOR CURB & INLET DETAILS
SEE SHEET NO. 18

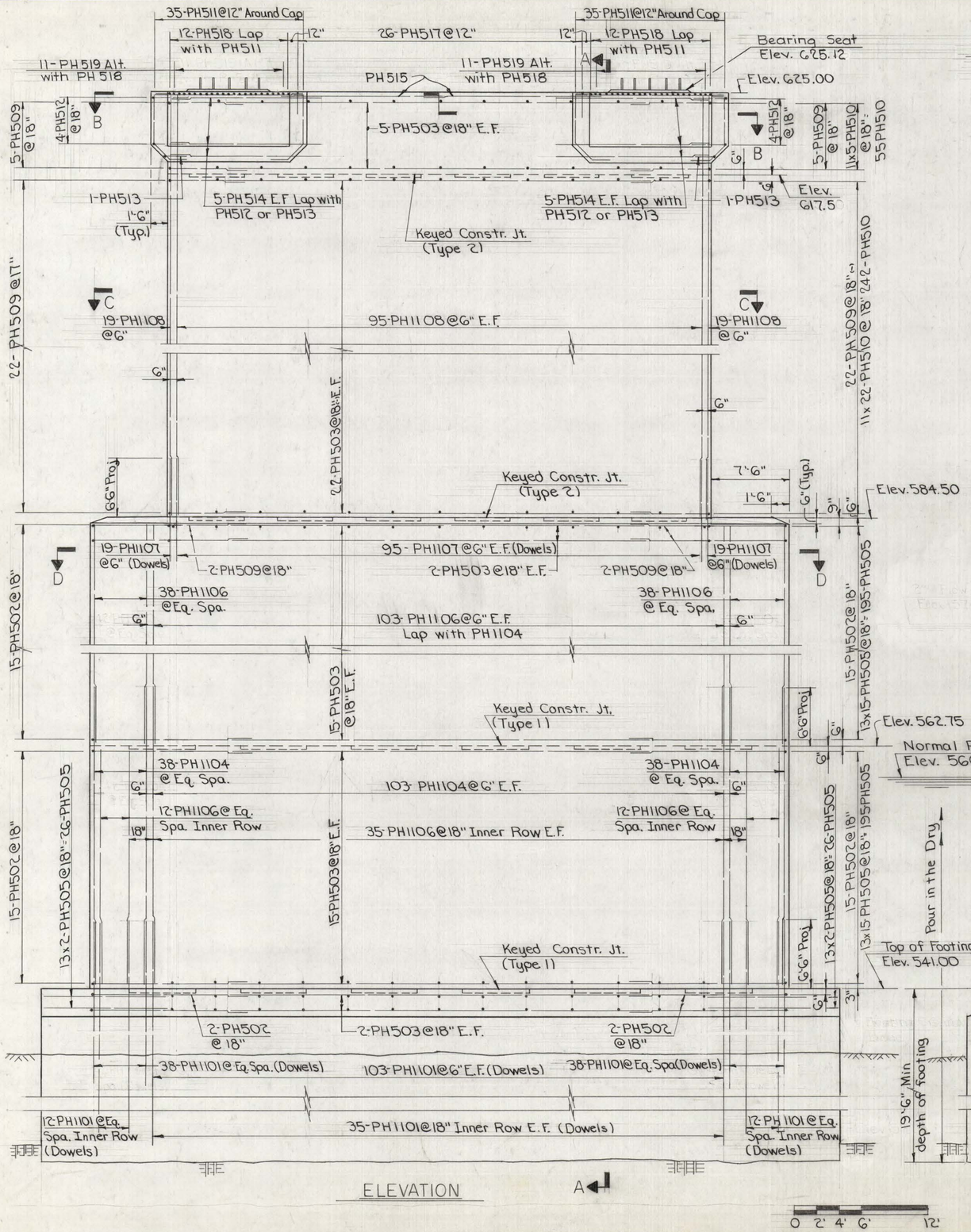
50 25 0 50

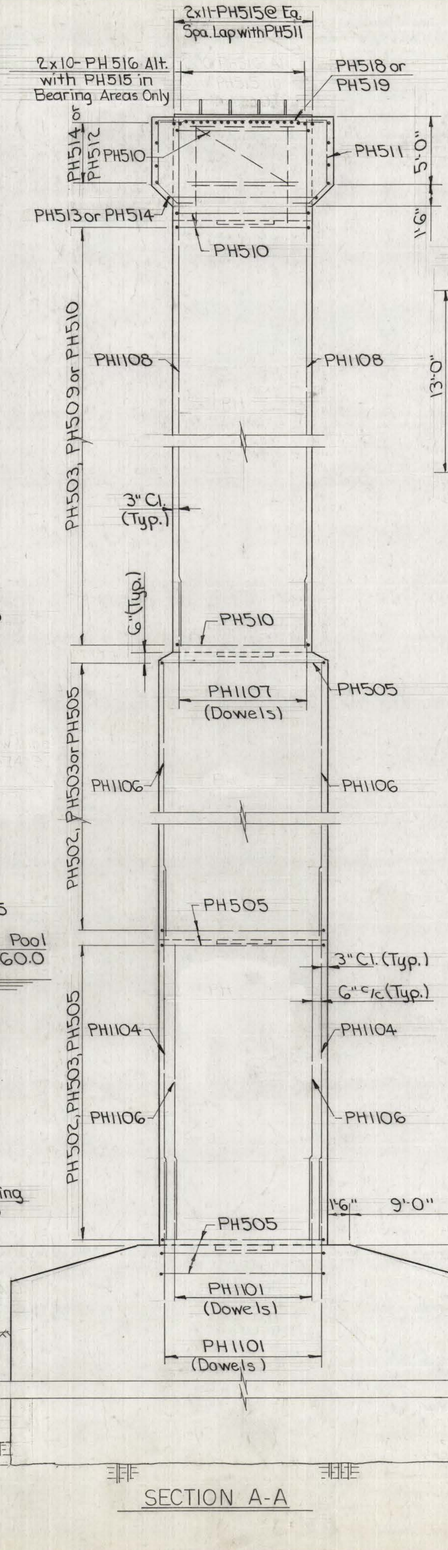
PLAN STA. 812+50 TO STA. 827+50 - ℄

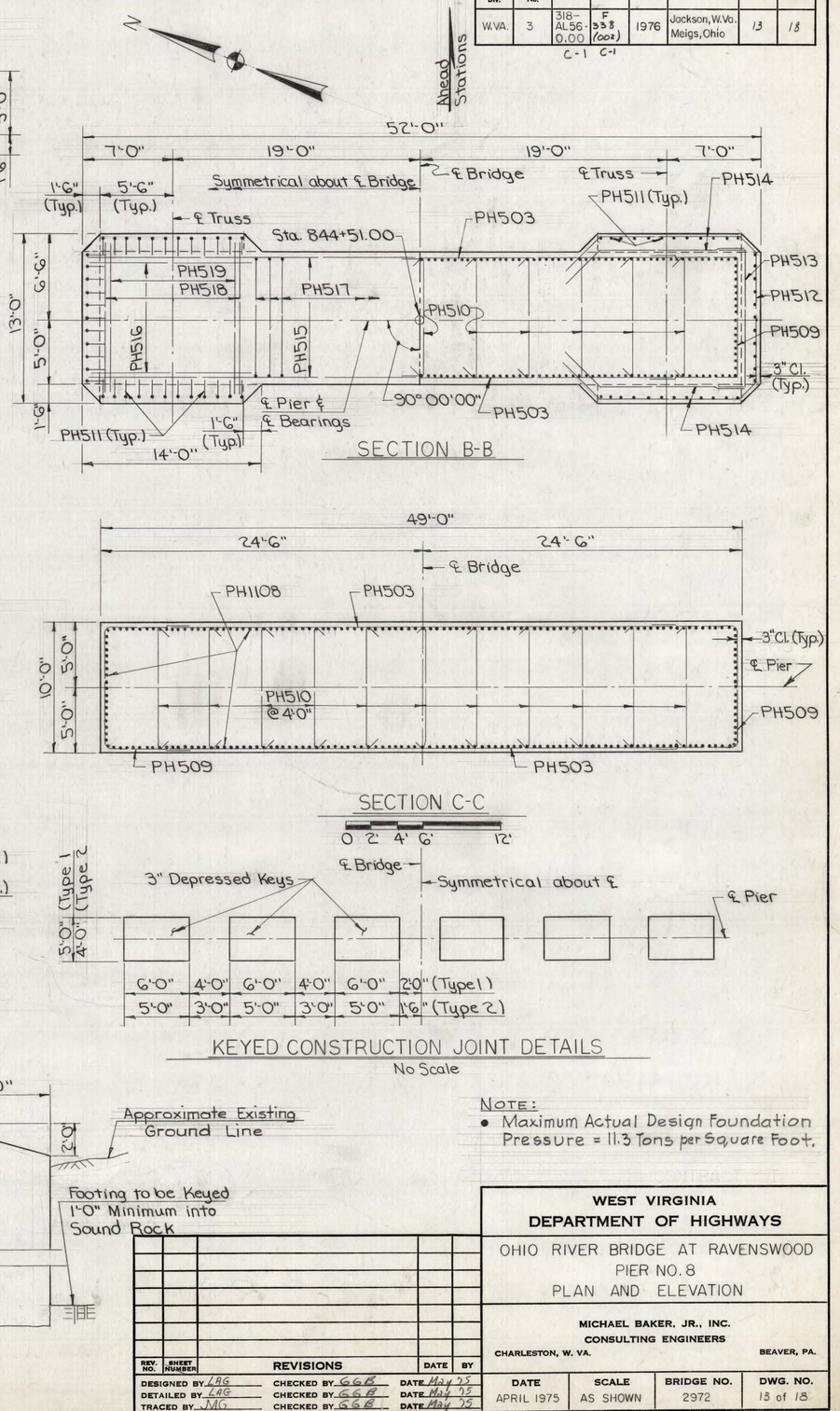
REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER JR., INC. CONSULTING ENGINEERS

Public Roads Dir.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00 C-1	F 338 (002) C-1	1976	Jackson, W.Va. Meigs, Ohio	13	18







NOTE:
- Maximum Actual Design Foundation Pressure = 11.3 Tons per Square Foot.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY LAG CHECKED BY GEB DATE May 75
DETAILED BY LAG CHECKED BY GEB DATE May 75
TRACED BY JMG CHECKED BY GEB DATE May 75

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
PIER NO. 8
PLAN AND ELEVATION

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972	13 of 18

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00 C-4	F-338 (002)		JACKSON, W.VA., MEIGS, OHIO	13	125

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824-19.26/0.00

PROFILE ℄ RAVENSWOOD BRIDGE

Horiz. 50 25 0 50 — Vert. 10 5 0 10

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

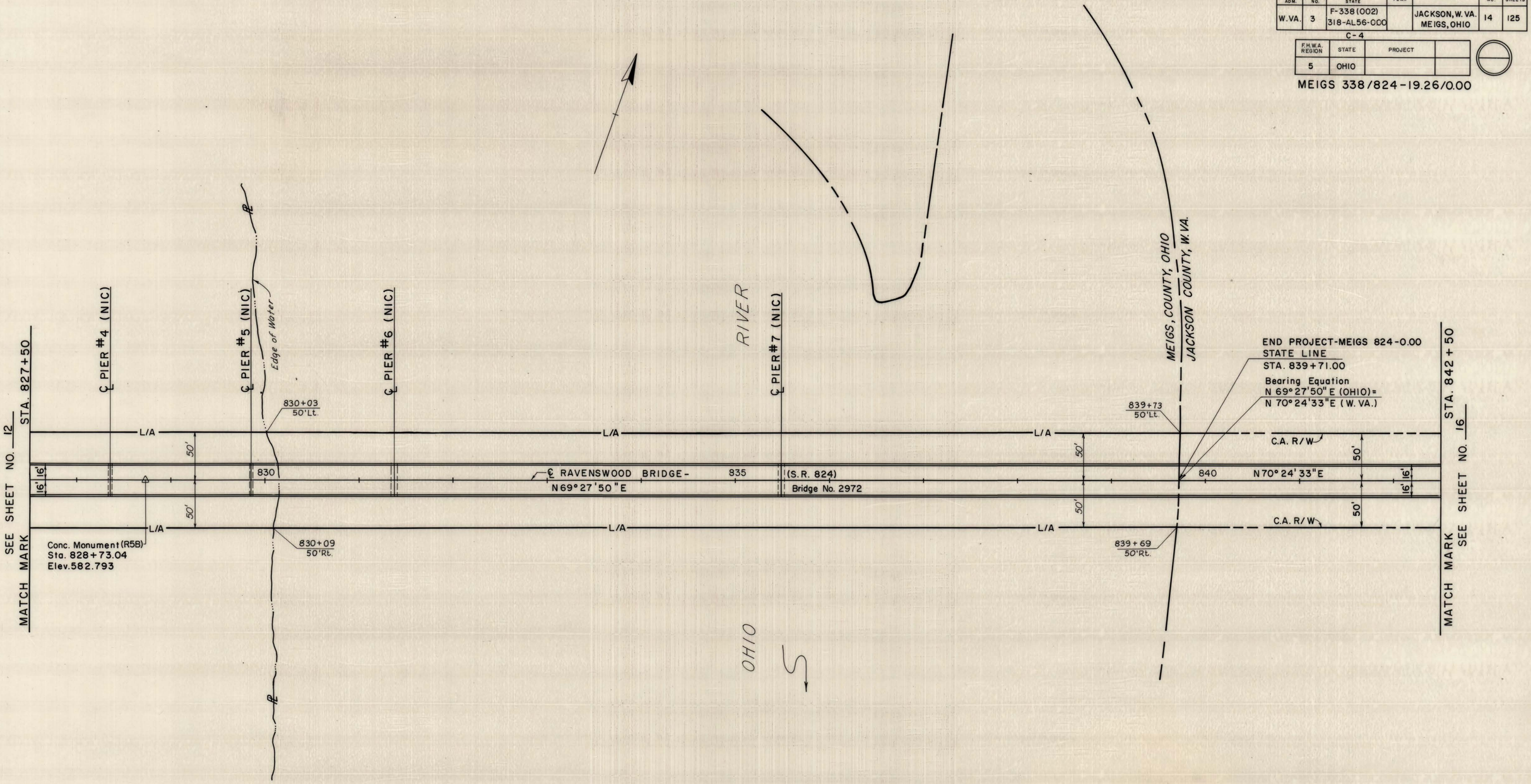
MICHAEL BAKER JR., INC. CONSULTING ENGINEERS

FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F-338(002) 318-AL56-000		JACKSON, W.VA. MEIGS, OHIO	14	125

C-4

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824-19.26/0.00



FOR DETAILS BRIDGE NO. 2972
SEE SHEETS NO. ____ THRU ____

FOR PROFILE
SEE SHEET NO. 15

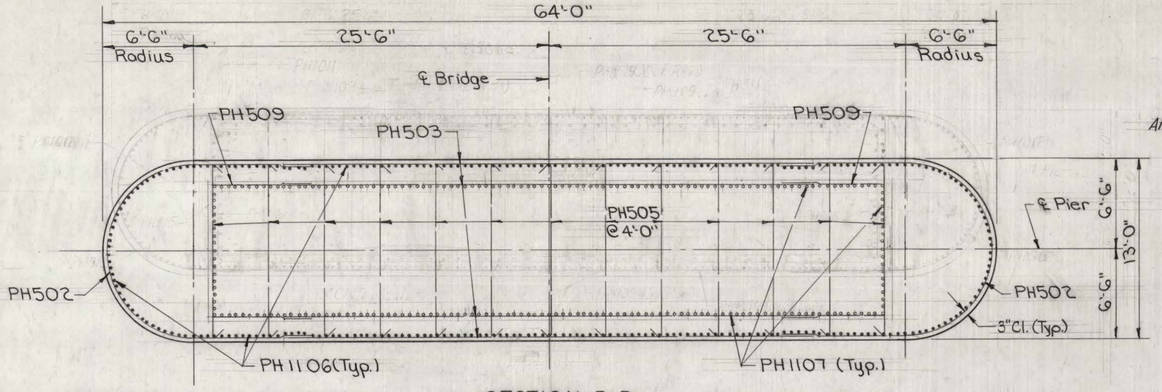
50 25 0 50

PLAN STA. 827+50 TO STA. 842+50 - ML

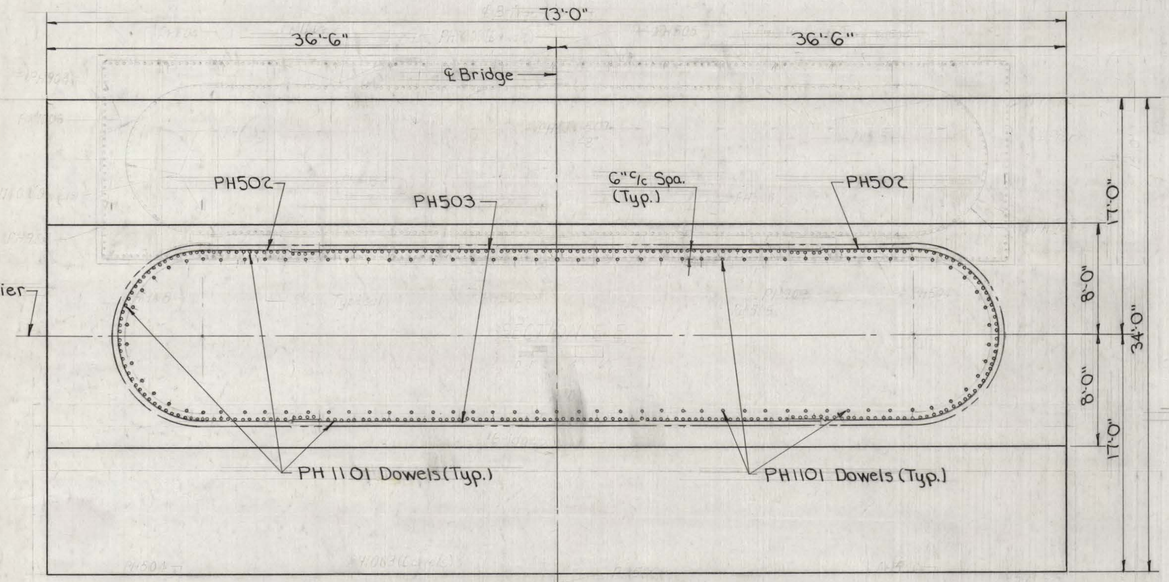
REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

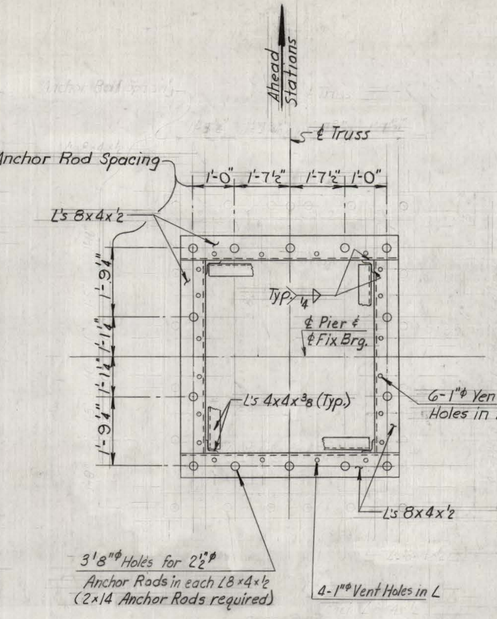
MICHAEL BAKER JR., INC. CONSULTING ENGINEERS

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00 C-1	F 338 (002) C7	1976	Jackson, W.Va. Meigs, Ohio	14	18



SECTION D D

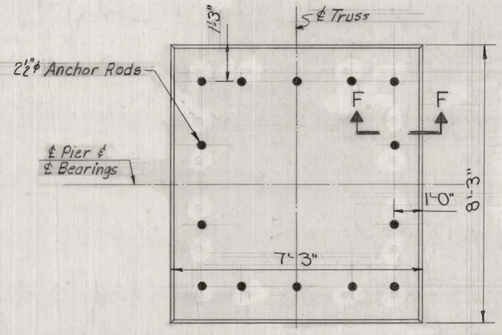




PLAN ANCHOR ROD GRILLAGE-PIER 8

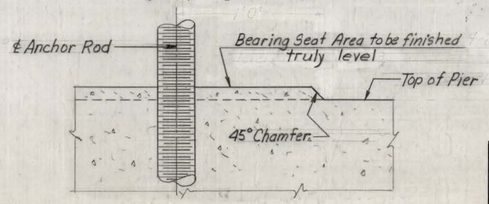
0 1' 2' 4'

NOTE: Anchor Rod and Grillage Details similar to Pier No. 7 except as noted. For Details not shown see Anchor Rod Detail and Grillage – Pier 7, DWG. "Pier No. 7 Grillage and Bar Schedule".



BEARING SEAT AREA

0 1' 2' 4'



SECTION F F

NO SCALE

REINFORCEMENT BAR SCHEDULE

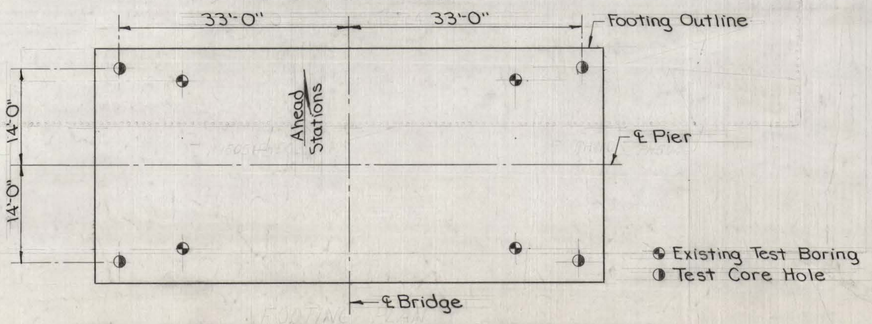
MARK	NO.	SIZE	LENGTH	TYPE	A	B	C	D	E	G	O	REMARKS
PH1101	376	11	10'-10"	Str.								
PH502	64	5	36'-1"	10	8'-3"	19'-7"	8'-3"				12'-6"	R'G'-3"
PH503	122	5	38'-0"	Str.								
PH1104	282	11	28'-3"	Str.								
PH505	390	5	13'-5"	C3	5½"	12'-6"				5½"		
PH1106	376	11	21'-0"	Str.								
PH1107	228	11	10'-4"	Str.								
PH1108	228	11	39'-1"	Str.								
PH509	58	5	24'-0"	17		7'-3"	9'-6"	7'-3"				
PH510	297	5	10'-5"	C3	5½"	9'-6"				5½"		
PH511	70	5	9'-8"	C16	1'-9"	4'-6"	1'-10"	1'-7"				H & K = 1'-3½"
PH512	8	5	17'-4"	14	1'-10"	1'-11"	9'-10"	1'-11"	1'-10"		12'-6"	H & K = 1'-4"
PH513	2	5	13'-8"	17		1'-9"	10'-2"	1'-9"				
PH514	20	5	14'-3"	Str.								Bend in field as req'd.
PH515	22	5	26'-8"	Str.								
PH516	20	5	12'-0"	Str.								
PH517	26	5	12'-8"	17		1'-7"	9'-6"	1'-7"				
PH518	24	5	12'-6"	Str.								
PH519	22	5	10'-0"	Str.								

NOTES:

- The alignment of grillage frame and anchor rods shall be set and maintained precisely square and true with the center line of truss and center line of Pier. A minimum of twenty-four hours shall elapse between pouring the grout in the grillage bolt pockets and pouring the concrete around the grillage.
- For reinforcement bar type see dwg. "Pier No. 6 Anchor Bolt Details & Bar Schedule."

FOOTING PLAN

0 2' 4' 6' 12'



LOCATION OF TEST CORE HOLES FOR SUB FOUNDATION DRILLING

No Scale

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY LAG CHECKED BY GGB DATE May 75
DETAILED BY TJS CHECKED BY GGB DATE May 75
TRACED BY MG CHECKED BY DATE May 75

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
PIER NO. 8
GRILLAGE AND BAR SCHEDULE

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972	14 of 18

Public Roads Dir.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W. VA.	3	318-AL 56-0.00	F-338 (002)		JACKSON, W.VA., MEIGS, OHIO	15	125

C-4

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824-19.26/0.00

624.06 625.06 626.06 627.06 628.06 629.06 630.06 631.06 632.06 633.06 634.06 635.06 636.06 637.06 638.02 638.89 639.68 640.39 641.02 641.56 642.02 642.39 642.68 642.89 643.02 643.06 643.02

642.89 642.68 642.39 642.02

T.B.M. #6-1 Elev. 582.79
Top of Conc. Monument #R5-B
℄ Sta. 828+73.04 ℄

P.I. Sta. 840+00
Elev. 649.06
V.C. = 1200'
M.O. 6.00'

650 640 630 620 610 600 590 580 570 560 550 540 530 520

+2.00% -2.00%

PROFILE GRADE

BRIDGE NO. 2972

1200' V.C.
S.D. 650±

NO. 13 STA. 827+50 SEE SHEET NO.

MATCH MARK

STA. 842+50 SEE SHEET NO. 17

MATCH MARK

+2.00%

100 Yr. Frequency
Elev. = 591.5

Modified High Water
(1913) Elevation 591.6

Existing Ground

Normal Pool Elevation 560.0'

Sta. 828+35.75 ℄ Pier #4 (NIC)
Sta. 829+85.75 ℄ Pier #5 (NIC)
Sta. 831+37.92 ℄ Pier #6 (NIC)
Sta. 835+49.00 ℄ Pier #7 (NIC)

Edge of Water

584.9 584.6 583.5 582.1 577.2

OHIO RIVER

STATE LINE
STA. 839+71.00
END PROJECT
MEIGS 824-0.00

FOR PLAN VIEW
SEE SHEET NO. 14

828 829 830 831 832 833 834 835 836 837 838 839 840 841 842

PROFILE ℄ RAVENSWOOD BRIDGE

Horiz. 50 25 0 50

Vert. 10 5 0 10

R.M. = NOTED STRUCTURE NOTATIONS

NO.	REVISIONS	DATE	BY
REVISION NUMBER	SHEET NUMBER		

MICHAEL BAKER JR., INC. CONSULTING ENGINEERS

Public Roads Dir.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W. VA.	3	318-AL56-0.00 C-1	F 335 (002) C-1	1976	Jackson, W. Va. Meigs, Ohio	15	18

Normal Pool Elev. 560.0

PG-1

Sta. 831+29
20' Lt. ℄
G.E. 532.87

A	B	C		ELEVATION	DEPTH
6	1.5	10-7-10	GRAVEL, Medium with Coarse Sand, Brown, Wet, Medium Dense.		
18					
15	5.0	—		527.87	5.0
	6.5	7-6-5	GRAVEL, Fine with little Medium Sand and Trace of Silt, Brown, Wet, Medium Dense.		
29					
40				522.87	10.0
130			(a)	521.87	11.0
	11.0	19-65	(b)		
				520.87	12.0
			SANDSTONE, Medium Grained, a few Thin Fractures, Good Core, Gray, Medium Hard.		
	21.0	98%		511.87	21.0

End of Boring @ 21.0'

(a) SAND, Medium, and Silt, with Some Fine Gravel and Sandstone Fragments, Brown, Wet, Very Dense.

(b) SANDSTONE, Coarse Grained, Weathered, Friable, Light Brown, Very Soft.

PG-2

Sta. 831+29
21' Rt. ℄
G.E. 535.67

A	B	C		ELEVATION	DEPTH
1	1.5	7-3-1			
4			GRAVEL, Fine and Medium Sand, with Trace of Silt, Brown, Wet, Loose to Medium Dense.		
19	6.5	11-11-9			
56					
21				525.67	10.0
24	11.5	14-7-7	SAND, Coarse, Brown, Wet, Medium Dense.		
57	14.3	—		521.37	14.3
100/.3			(a) (b)	519.67	16.0
				519.17	16.5
			SANDSTONE, Medium Grained, Some Thin Fractures, Fresh, Gray, Medium Hard.		
	24.3	100%		511.37	24.3

End of Boring @ 24.3'

(a) SANDSTONE, Coarse Grained, Conglomeritic with Quartz Pebbles, Friable, Brown, Very Soft.

(b) SANDSTONE, Coarse Grained, Weathered, Brown, Soft.

PG-3

Sta. 831+49
21' Lt. ℄
G.E. 538.97

A	B	C		ELEVATION	DEPTH
1	1.5	0-0-0	SAND, Medium to Coarse, with Some Fine Gravel, Little Silt, Brown, Wet, Very Loose.		
2					
1	5.0	—		533.97	5.0
1	6.0	1-1-1	SAND, Medium to Coarse, with Some Fine Gravel, Brown and Gray, Wet, Very Loose to Loose.		
9	10.0	—		528.97	10.0
17	11.5	7-5-3	SAND, Medium to Coarse, with Some Medium Gravel, Trace of Silt, Brown, Wet, Loose to Medium Dense.		
28					
61					
150/.5'	16.5	10-14-13		522.67	16.3
			(a) (b)	522.47	16.5
				521.47	17.5
			SANDSTONE, Medium Grained, a few Thin Joints, Gray, Medium Hard, Excellent Core.		
	26.5	92%		512.47	26.5

End of Boring @ 26.5'

(a) SAND, Medium (A Very Highly Weathered Sandstone), Gray, Very Dense.

(b) SANDSTONE, Medium Grained, Moderately Weathered, Brown, Soft to Medium Hard.

PG-4

Sta. 831+49
20' Rt. ℄
G.E. 538.57

A	B	C		ELEVATION	DEPTH
1	1.5	7-3-2	SAND, Medium to Coarse, Brown, Wet.		
2					
2	5.0	—		533.57	5.0
5	6.5	3-2-2	GRAVEL, Fine to Medium, with Some Sand, Brown, Wet, Loose.		
25				528.57	10.0
22	11.5	9-4-4	GRAVEL, Fine with Some Sand, Brown, Wet, Loose to Medium Dense.		
42					
42	16.5	10-9-11		522.57	16.0
160			GRAVEL *	520.57	18.0
			SANDSTONE **	518.57	20.0
			SANDSTONE, Medium Grained, Some Cross-bedding at 20°, Micaceous, Fresh,		
	28.0	98%	Gray, Medium Hard.	510.57	28.0

End of Boring @ 28.0'

* Fine with Some Silt, Trace of Medium Sand, Brown, Wet.

** Medium Grained, Slightly Weathered, Brown, Medium Hard.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY ____ CHECKED BY ____ DATE ____
DETAILED BY T.M.K. CHECKED BY P.F.S. DATE 2-20-75
TRACED BY T.M.K. CHECKED BY P.F.S. DATE 2-20-76

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TEST BORINGS PIER-6

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
FEB., 1975	—	2972	15 of 18

FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	3	F-338(002) 318-AL56-0.00		JACKSON, W. VA. MEIGS, OHIO	16	125

C-4

COPPER WELDS
80.08'
80.61'
90°00'00"
COPPER WELD
90°00'00"
165.23'
℄ BRIDGE APPR.
850
851
T.S. HUB
T.S. STA. 850+39.48
COPPER WELDS
87.33'
96.70'
90°00'00"
COPPER WELD
183.27'
90°00'00"
S.P.I. STA. 851+73.15 CONC. MON.
851
852
℄ BRG. APPR.
SPIRAL P.I. STA. 851+73.15
S.P.I.
855
856
℄ BRG. APPR.
470.17'
90°00'00"
80.10'
P.I. TACKED HUB
90°00'00"
COPPER WELDS
38.41'
64.81'
COPPER WELD
P.I. STA. 856+42.68
OHIO RIVER
C.A. Line - Aerial Easement Subject To R.R. Right-of-Way
℄ PIER #8 (NIC)
SEE SHEET NO. 14
MATCH MARK
STA. 842+50
C.A. R/W
845+34 50'
845+70 50'
4941+97 R.R. 30'
845+36 02'
845
Bridge No. 2972
845+70 05'
4941+32 R.R. 30'
Conc. Monument (R5A) Sta. 846+14.52
845+37 50'
845+67 50'
4"V.C.P. San Sewer
3 Res. on Columbia Gas Line
Existing 42" C.I.P.
JACKSON CO. 3 (Gravel)
C.&P. Tele. Co. (Buried Cable)
A.P.Co.
Existing R/W
855+59 38'
THIS SHEET
855+55 412'
Permanent Drainage Easement
855+55 443'
855+55 490'
855+30 490'
54" C.I./S.P. OR 54" R.C.P.
855+30 419' (NIC)
855+47 413'
SANDY CREEK
MATCH MARK
Edge of Water
4941+34 R.R. 30'
845+68 32.35'
846+28 32.35'
846+27 50'
846+99 50'
2-Existing 600 PR Buried Cable Placed on Project No. D.P.R.F.-324(4)
Existing R/W
Columbia Gas of W.Va. Inc. (4" Line)
R.R. R/W
R.R. R/W
60'
70'
C&P Tele. Co. #186 22
Existing Buried Cable placed on Project No. D.P. 324(1)
Appalachian Power Co.
A.P.Co. #666C24
Telephone Supply Yard
1-Sty. Brk. Gar.
845+70 32.35'
846+30 32.35'
C&P Tele. Co. (#L-10)
4941+99 50'
846+30 50' R.R.
4942
4943
B&O R.R.
W. VA. 68 (FORMERLY W. VA. 2)
R.R. R/W
Existing R/W
A.P.Co. 642D204 R.
C.&P. Tele. Co. #186 19
A.P.Co. 642D205
Conc. Dr.
1 Sty. Blk.
12
Macadam
A.P.Co. 642D203
Private 2" Water Line
A.P.Co. 642D201
50'
Appalachian Power Co.
2-Sty. Fr.
Approx. Location of Underground Cable A.P.Co.
C&P Tele. Co. #129 10
70'
(20')
Existing 600 PR CA. & 150 Pr. Ca. (Aerial)
Conc. Parking
Dumped Rock Gutter
w = 4' l = 10'
t = 1.0' d = 1.0'
1 Sty. Brk.
2" Water Line (Private)
Conc. Parking
C&P Tele Co. #186 20
C.&P. Tele Co. 3-4" Steel Pipes
847+03 50'
847+75 50'
Gravel Parking
Sta. 849+70-128' Lt. I-Type CW 2-C Wingwall F.L. Elev. 585.2
℄ BRGS. ABUT. #B STA. 849+43.50
1-Sty. Fr.
Septic Tank
848+70 70'
849+50 148'
850+04 149'
Open Field
Leach Field
851+00 150'
852+00 162'
℄ PIER #9 (NIC)
2' Special Ditch (NIC)
Sta. 849+70-14' Lt. I-Type B Inlet, Mod. T.G. Elev. = 629.39 F.L. Elev. = 625.34 F.L. Elev. = 624.84 I-25° Bend-27' Lt.- F.L. Elev. 624.7 I-25° Bend-76' Lt.- F.L. Elev. 600.2 I-25° Bend-96' Lt.- F.L. Elev. 599.2 I-25° Bend-124' Lt.- F.L. Elev. 585.2
120 L.F.-18" C.I./S.P.
26 L.F.-18" R.C.P.
T.S. STA. 850+39.48
S.C. STA. 852+39.48
20' Bench
52' Bench
Piezometer #2
N70°24'33"E
850
Guardrail By Others
℄ RAVENSWOOD BRIDGE APPROACH
Class I G.R.
Conc. Monument (R5) POST Sta. 851+74.32
847+00 29'
847+70 50'
Metal Shed
Piezometer #1
Lines to be Removed
A.P.Co. #642D206
1 Sty. Brk. 202-1(1)
Septic Tank 202-1(2)
849+46 76'
848+46 57'
12" Maple
26" Maple
20' Bench
849+98 96'
Piezometer Tubing (NIC)
Sta. 849+45.83-Sta. 849+65.83 Conc. Approach Slab
848+42 131'
848+25 130'
849+42 147'
Sta. 849+70-14' Rt. I-Type B Inlet, Mod. T.G. Elev.=629.39 F.L. Elev.=625.60
C.A. R/W
Piezometer Readout Station (NIC)
851+00 175'
852+51 165'
END WORK
END PROJECT 318-AL56-0.00, C-4
STA. 851+00.00
853+47 247'
R/W
854+48 173'
(NIC) 2' Special Ditch
C.A. R/W
853+00 300'
854+00 300'
Permanent Drainage Easement
857+00 120'
(NIC) Piezometer Readout Station
MATCH MARK
STA. 857+50
Headwater Contour - 36" C.M.P. Elev. = 581.3
H.P. 2' Special Ditch
13' 13'
855+00 140'
854+50 153'
853+00 160'
C.A. R/W
2' Special Ditch (NIC)
Piezometer Tubing
Piezometer #4 (NIC)
Piezometer #3 (NIC)
36" C.I./S.P. (N.I.C.)
D=12°30'00" 855
N 57° 54' 33" E
N 24° 45' 51" W
(NIC) 4' Special Ditch
4" V.C.P.
Reloc. San. Sewer
857+00 150'
857+00 180'
Temporary Construction Easement
856+00 155'
(Raven Meadows)
(NIC) 4" V.C.P. San. Sewer
855+50 170'
4' Special Ditch
4' Special Ditch
(NIC) 6' Special Ditch
Permanent Drainage Easement
Headwater Contour Elev.= 578.3
855+45 389' (NIC)
855+30 355'
54" C.I./S.P. or 54" R.C.P.
855+30 390'
THIS SHEET
MATCH MARK
Septic Tank
Shed Gar.
2 Sty. Blk.
Conc. Walk
Columbia Gas Line
2" Private Water Line
Exist. R/W
Gas Meter
Cistern
Gravel Dr.
JACKSON CO. 3
A.P.Co.

SIMPLE CURVE DATA (NIC)

P.I. Sta. 856+42.68
Δ = 82°40'24" Lt.
D = 12°30'00"
R = 458.37
T = 403.20
L = 661.39
E = 114.64
S.E. = .08'/'
S.C. Sta. 852+39.48
P.C.C. Sta. 859+00.87

SPIRAL CURVE DATA

P.I. Sta. 851+73.15
θs = 12°30'00" Lt.
Φc = 4°10'00"
Ls = 200'
P = 3.63
Xc = 199.05
Yc = 14.50
L.T. = 133.67
S.T. = 66.97
L.C. = 199.58
K = 99.84
T.S. Sta. 850+39.48
S.C. Sta. 852+39.48

FOR CURB AND INLET DETAILS SEE SHEET NO. 18

FOR PROFILE SEE SHEET NO. 17

50 25 0 50

FOR DETAILS BRIDGE NO. 2972 SEE SHEETS NO. 41 THRU 122

PLAN STA. 842+50 TO STA. 857+50-℄

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER JR., INC. CONSULTING ENGINEERS

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00 C-1	F 553 (002) C-	1976	Jackson, W.Va. Meigs, Ohio	16	18

Normal Pool Elev. 560.0

P7-1
Sta. 835+36
24' Lt. ℄
G.E. 540.02

A	B	C		ELEVATION	DEPTH
52	1.5	21-24-9	SAND, Medium and Medium Gravel with Boulder, Brown, Wet, Dense.		
18					
15	6.5	23-16-14			
31					
37				530.02	10.0
29	11.5	17-8-9	SAND, Medium and Medium to Coarse Gravel with Trace of Silt, Brown, Wet, Medium Dense.		
25					
26				525.02	15.0
32	16.5	5-3-3	SAND *		
75/1.7'	17.7	50/0.0'	(a)	522.32	17.7
			SANDSTONE **	522.12	17.9
				519.32	20.7
	22.7	98%	SANDSTONE ***	517.32	22.7

End of Boring @ 22.7'

* Medium to Coarse, with Little Silt, Brown, Wet, Loose.

(a) SANDSTONE, Coarse Grained, Friable, Broken, Brown, Very Soft.

** Medium to Medium Coarse Grained, Moderately Weathered, Jointed every 0.2' to 0.5', Brown, Soft to Medium Hard.

*** Medium to Coarse Grained, Slightly Weathered, Gray, Medium Hard, Good Core.

P7-2
Sta. 835+37
24' Rt. ℄
G.E. 539.77

A	B	C		ELEVATION	DEPTH
19			SAND, Medium to Coarse, Brown, Wet.		
11					
12	5.0	—		534.77	5.0
25	6.5	5-3-2	GRAVEL, Fine to Medium with Medium to Coarse Sand, Trace Sand		
21			Brown, Wet, Loose.	529.77	10.0
19	11.5	2-3-6	GRAVEL, Medium to Coarse, Trace of Silt,		
31			Brown, Wet, Loose.	523.77	16.0
35	16.5	5-5-50	(a)	523.27	16.5
110/1.5'		50/0.0'	(b)	522.47	17.3
			SANDSTONE, Medium Coarse Grained, Fresh, Massive, Light Gray, Medium Hard, Thin(⅛") Clayseam at 19.4'.		
	26.5	95%	(c)	512.77	27.0
			SANDSTONE, Coarse Grained, with Some Thin Claystone Partings and Inclusions, Slightly Weathered, Jointed, Gray, Medium Hard.	512.37	27.4
	31.5	100%		505.51	34.2
			SANDSTONE *	504.37	35.4
			SANDSTONE **		
	41.5	100%		498.27	41.5

End of Boring @ 41.5'

(a) SAND, Medium, with Little Medium Gravel, Brown, Wet, Dense.

(b) SANDSTONE, Medium Coarse Grained, Very Thin Clayseam @ 17.3', Light Brown, Medium Hard.

(c) SHALE, Silty, Fissile, Jointed, Gray, Medium Hard.

* Coarse Grained, Conglomeritic (Some Quartz Pebbles), Friable, Broken, Gray, Soft.

** Medium to Coarse Grained, Slightly Weathered, Little Limonite Staining, Gray, Medium Hard, Cross-bedded at 15 to 20°, Thin Joints every ½' to 1½'.

P7-1A
Sta. 835+51.5
24' Lt. ℄
G.E. 538.42

A	B	C		ELEVATION	DEPTH
37			SAND, Fine, with Some Medium Gravel, Brown, Wet.		
29	5.0	—		533.42	5.0
10	6.5	6-2-4			
13			GRAVEL, Medium with Some Fine Sand, Trace of Silt, Brown, Wet, Loose to Medium Dense.		
27	9.9				
17	11.4	7-4-5			
58				523.52	14.9
110/9'			SANDSTONE *	521.92	16.5
	17.6	81%	SANDSTONE **	520.82	17.6
			SANDSTONE, Medium to Coarse Grained, Slightly Weathered to Fresh, a Few Thin Fractures, Massive, Excellent Core, Gray, Medium Hard.		
	25.6	95%		508.32	30.1
	32.3	90%	SANDSTONE ***	506.12	32.3

End of Boring @ 32.3'

* Coarse Grained, Weathered, Friable, Broken, Brown, Soft.

** Coarse Grained, Moderately Weathered, Jointed every 0.2' to 0.4', Brown, Medium Hard.

*** Coarse Grained, Broken, Friable, Gray, Soft to Medium Hard.

P7-4
Sta. 835+61
24' Rt. ℄
G.E. 539.57

A	B	C		ELEVATION	DEPTH
34	1.5	26-8-14	GRAVEL *	538.07	1.5
18					
6	6.5	10-5-6	GRAVEL, Fine to Medium, with Some Medium Sand, Trace of Silt, Brown, Wet, Loose to Medium Dense.		
18					
17	11.5	7-3-4			
21	14.9				
40	16.3	9-9-49/4	(a)	523.27	16.3
61			(b)	522.67	16.9
101/6.3'			SANDSTONE, Medium Coarse Grained, Slightly Weathered, Little Limonite Staining, Thin Joints every 1½' to 3', Gray, Medium Hard.	521.77	17.8
	23.1	97%			
	26.3	94%		513.27	26.3

End of Boring @ 26.3'

* Medium to Coarse, Brown, Wet, Medium Dense.

(a) SANDSTONE, Medium Grained, Weathered, Jointed, Brown, Soft.

(b) SANDSTONE, Medium Grained, Slightly Weathered, Jointed, Light Brown, Medium Hard.

P7-3
Sta. 835+75.5
24' Lt. ℄
G.E. 533.07

A	B	C		ELEVATION	DEPTH
2	1.5	7-2-1	SAND, Medium to Coarse with Little Fine Gravel, Brown, Wet, Very Loose.	528.07	5.0
8					
10	6.5	10-6-6	GRAVEL, Medium, with Trace of Medium Sand,		
21			Brown, Wet, Medium Dense.	523.07	10.0
53			(a)	522.47	10.6
70/6'	10.6	17-50/11"	(b)	521.77	11.3
			SANDSTONE, Medium Coarse Grained, a Few Thin Fractures, Fresh, Light Gray, Medium Hard, Very Thin Clayseam (⅛") @ 20.0'.		
	20.6	98%		512.47	20.6

End of Boring @ 20.6'

(a) SAND, Medium to Coarse, with Some Medium to Coarse Gravel and Little Silt, Brown, Wet, Medium Dense.

(b) SANDSTONE, Medium Coarse Grained, Moderately Weathered, Light Brown, Soft to Medium Hard.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY ____ CHECKED BY ____ DATE ____
DETAILED BY T.M.K. CHECKED BY P.F.S. DATE 2-20-75
TRACED BY T.M.K. CHECKED BY P.F.S. DATE 2-20-75

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TEST BORINGS PIER - 7

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
FEB., 1975	—	2972	16 of 18

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002)		JACKSON, W.VA. MEIGS, OHIO	17	125

C-4

642.02 641.56 641.02 640.39 639.68 638.89 638.02 637.06 636.06 635.06 634.06 633.06 632.06 631.06 630.15 630.05 629.68 629.00 628.00 627.00 626.00 625.00 624.00 622.96 621.84 620.64 619.35 617.99 616.54

+45.83 +65.83

615.01 613.40 611.75 610.10

B.M.# W.VA. 3 Elev. 594.77
Pony Spike in Telephone Pole
187' Lt. of Sta. 846+95

SEE SHEET NO. 15
MATCH MARK STA. 842+50

-2.00%

BRIDGE NO. 2972

1200' V.C.
S.D. 650'±

-2.31%

Profile Grade

18" R.C.P.

END WORK
END PROJECT 318-AL56-0.00, C-4
STA. 851+00.00

P.I. Sta. 854+50
Elev. 620.00
V.C. = 400'
M.O. = 0.65

-2.00%

-3.30%

400' V.C.
S.D. = 750'±

MATCH MARK STA. 857+50

650 640 630 620 610 600 590 580 570 560

Modified High Water
(1913) Elevation 591.6'

100 Yr. Frequency
Elev. = 591.5'

℄ Pier #8 (NIC)
Sta 844+51.00

℄ R.R.O. Railroad
36.9'± Vertical Clearance
Edge of Rd.
℄ W. Va. 68
Edge of Rd.

Proposed Slope

℄ Pier #9 (NIC)
Sta. 848+61.50

℄ Brg. Abut. #6
Sta. 849+43.50

Existing Ground

Existing Buried Telephone Cable
Existing 4" Gas Line
2-Existing 600 P.R. Buried Telephone Cable

36" C.I. / S.P.
(NIC)

Normal Pool Elevation 560.0'

Edge of Water

561.8 588.2 588.7 591.03 591.11 592.46 593.53 593.97 594.19 594.06 594.2 594.6 594.6 594.62 593.82 593.2 587.8 587.1 586.8 585.8 585.8 587.1 584.1 584.4 579.8 579.6 579.0 579.9 580.4 580.9

843 844 845 846 847 848 849 850 851 852 853 854

581.5 582.5 583.9 586.1 586.6 583.8

855 856 857

FOR PLAN VIEW
SEE SHEET NO. 16

PROFILE ℄ RAVENSWOOD BRIDGE

Horiz. 50 25 0 50 Vert. 10 5 0 10

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER JR., INC. CONSULTING ENGINEERS

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W. VA.	3	318-AL56 0.00 C-1	F 338 (002) C-1	1976	Jackson, W. Va. Meigs, Ohio	17	18

Normal Pool Elevation 560.0

P8-1

Sta. 844+39
24' Lt. ℄
G.E. 535.7

A	B	C		ELEVATION	DEPTH
1	1.5	0-0-1	SAND *	532.7	3.0'
15			SILT, with Some Clay,		
26	6.5	3-3-6	Gray, Wet, Stiff.	529.7	6.0'
23			SAND, Medium to Fine,		
30			with Some Silt, Brown,		
30			Wet, Loose.	525.2	10.5'
30	11.5	1-3-22	(a) (b)	524.3	11.4'
5%/0.5		5%/0.0	(c)	524.2	11.5'
			SANDSTONE,	523.7	12.0'
			Medium Coarse Grained,		
			Slightly Weathered		
	17.5	100%	Some Joints, Light Gray		
			Medium Hard **	515.8	19.9'
			SANDSTONE, Medium		
			Grained, Well Induvated,		
			A Few thin Fractures		
			and Joints, Thick		
	27.5	97%	Bedded to Massive, some		
			Cross-Bedding, Micaceous †	506.1	29.6'
			SANDSTONE, Medium		
			Coarse Grained, Some		
			thin Fractures, ††	500.4	35.3'
	34.5	100%	(d)	499.2	36.5'

End of Boring @ 36.5'

* Fine to Medium and Gravel with Some Silt, Brown, Wet, Very Loose.
(a) SILT, Gray, Wet, Dense.
(b) SANDSTONE, Highly Weathered, Medium Grain, Gray, Soft.
(c) SANDSTONE, Coarse Grained, Jointed, Light Gray, Soft.
** Very thin Clay Partings at 19.3' and 19.8'
† Gray, Medium Hard.
†† Cross-Bedding, Dark Greenish Gray, Medium Hard.
(d) SANDSTONE, Medium Coarse Grained, Broken, Friable, Dark Greenish Gray, Soft.

P8-2

Sta. 844+39
24' Rt. ℄
G.E. 535.1

A	B	C		ELEVATION	DEPTH
15	1.5	10-7-6	GRAVEL, Medium to		
7			Coarse, with a Little		
18	6.5	9-8-7	Sand, Brown, Wet, Med. Dense.	530.1	5.0'
35			SAND, Coarse, with a		
45			Little Fine Gravel, *	526.1	9.0'
81	11.5	10-8-10	GRAVEL **	523.8	11.3'
59%/0.1			(a) (b)	523.0	12.1'
			SANDSTONE, Medium	522.7	12.4'
			Coarse Grained, Light		
			Gray, Medium Hard, †	516.9	18.2'
			(c)	516.4	18.7'
	22.1	99%	SANDSTONE ††	513.0	22.1'

End of Boring @ 22.1'

* Brown, Wet, Medium Dense.
** Medium to Coarse, Brown, Wet, Medium Dense.
(a) SILT, with a Little Fine Gravel, Gray, Wet, Medium Dense.
(b) SANDSTONE, Medium Coarse Grained, Light Gray, Medium Hard, Fractures every 0.1'.
† Near Horizontal Joints every 1'.
(c) SANDSTONE, Medium Coarse Grained, Light Gray, Medium Hard, Cross-Bedded, Jointed with Thin Clay Partings, Micaceous.
†† Coarse Grained, Light Gray, Medium Hard to Soft, Some Irregular Joints and Fractures.

P8-3

Sta. 844+63
24' Lt. ℄
G.E. 537.8

A	B	C		ELEVATION	DEPTH
4	1.5	2-2-2	SILT, with a Trace of Fine		
7			Sand, Gray, Wet, Very Loose	533.8	4.0'
4	6.5	13-9-5	SAND *	532.3	5.5'
16			(a)	531.5	6.3'
48			SAND, Medium, With		
32	11.5	6-7-10	some Silt, Gray, Wet, Med. Dense	527.8	10.0'
52			SAND, Medium, With		
85%/0.4			Medium to Coarse Gravel		
			and a Little Silt, **	523.4	14.4'
			(b)	522.6	15.2'
			SANDSTONE, Medium		
			Coarse to Coarse		
			Grained, Gray, Medium		
			Hard, Slightly		
	24.4	98%	Weathered †	513.4	24.4'

End of Boring @ 24.4'

* Medium, With Medium Gravel and a Little Silt, Gray, Wet, Medium Dense.
(a) SAND, Medium, With a Little Silt, Gray, Wet, Medium Dense.
** Gray, Wet, Medium Dense.
(b) SANDSTONE, Medium Coarse Grained, Gray, Soft to Medium Hard, Broken and Jointed.
† A Few Thin Fractures and Joints, Trace of Calcite Cement.

P8-4

Sta. 844+63
24' Rt. ℄
G.E. 537.9

A	B	C		ELEVATION	DEPTH
6	1.5	7-2-2	GRAVEL, Medium to		
8			Coarse, with a Little		
26			Sand, Brown, Wet, Loose.	532.9	5.0'
27	6.5	7-10-7			
42			GRAVEL, Medium, with		
47	11.5	10-6-6	Some Medium Sand,		
55			Brown and Gray, Wet,		
60%/0.5			Medium Dense.	523.4	14.5'
			SANDSTONE, Medium		
			Coarse Grained, Slightly		
			Weathered, Gray		
			Medium Hard, *	517.1	20.8'
			SANDSTONE **	515.7	22.2'
	24.5	100%	SANDSTONE †	513.4	24.5'

End of Boring @ 24.5'

* Thin Joints and Fractures every 0.3' to 0.9'.
** Coarse Grained, Slightly Weathered, Gray, Medium Hard.
† Medium to Medium Coarse Grained, Gray, Medium Hard, Cross-Bedded, Joints with thin (1/4") Clay Seams at 23.0' and 23.8'.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY ____ CHECKED BY ____ DATE ____
DETAILED BY P.F.S. CHECKED BY T.M.K. DATE 2/20/75
TRACED BY P.F.S. CHECKED BY T.M.K. DATE 2/20/75

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TEST BORINGS PIER-8

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
FEB. 1975	———	2972	17 of 18

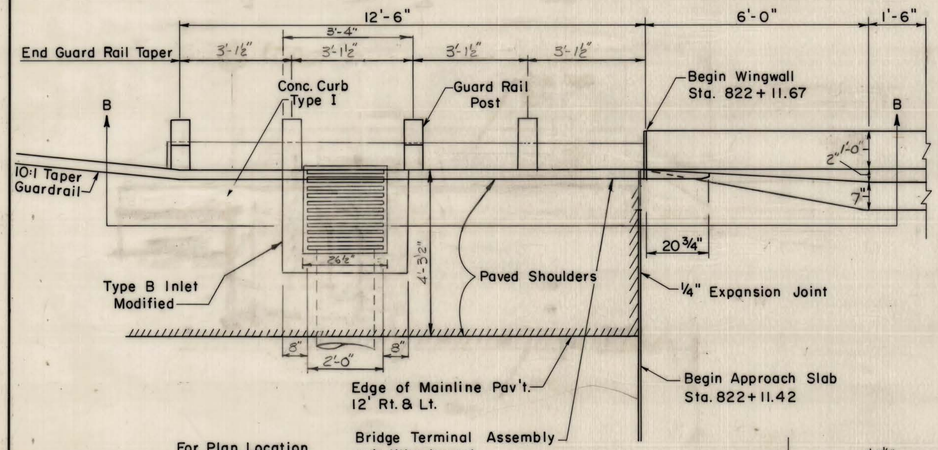
FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	3	F-338 (002) 318-AL56-0.00		JACKSON, W.VA.-MEIGS, OHIO	18	125

C-4

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824-19.26/0.00

LOCATION:
Bridge 2972
Abutment "A"



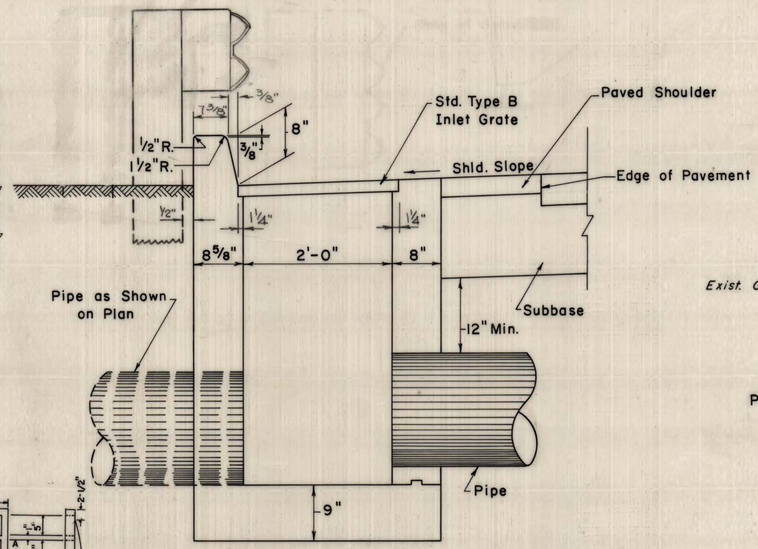
For Plan Location
See Sheet No. 12

For Bridge Terminal Assembly
See Sheet No. 21

PLAN

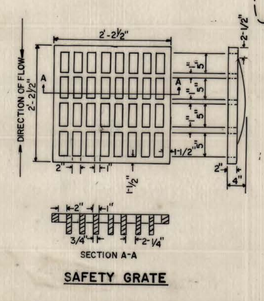
Scale: 1" = 2'

Bridge Terminal Assembly w/o Wheel Guard
Face of Guard Rail

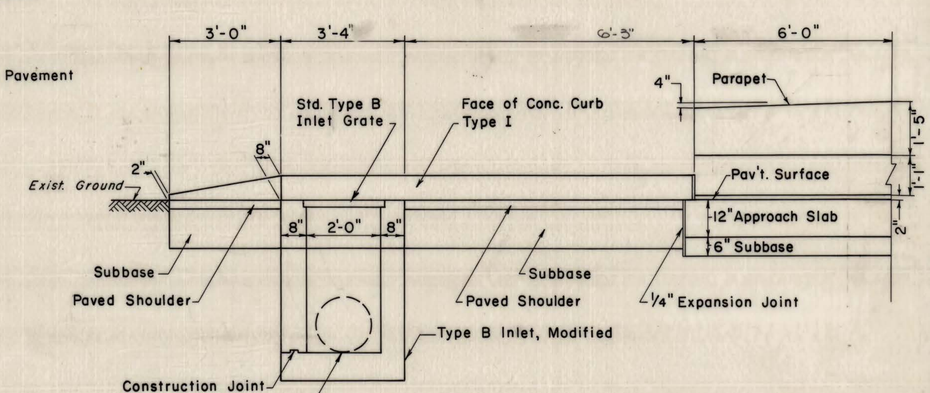


SECTION A-A

Scale: 1" = 1'



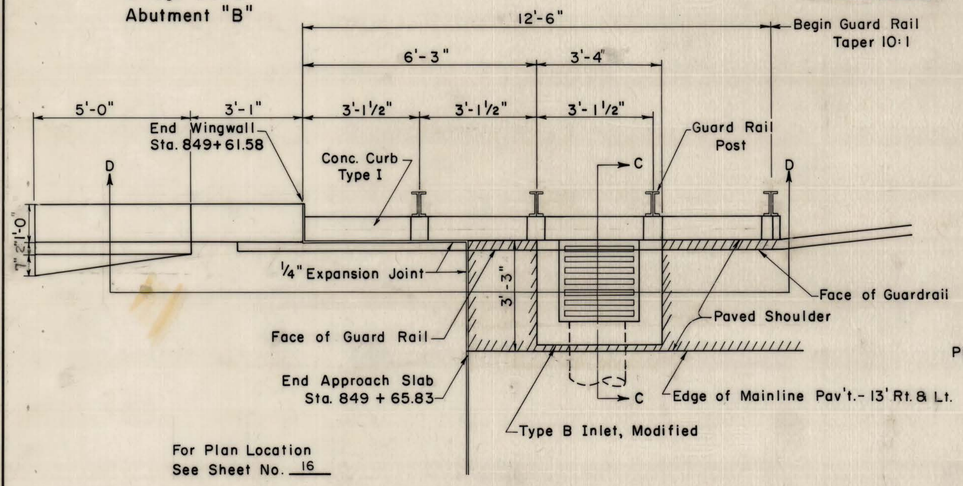
SAFETY GRATE



SECTION B-B

Scale: 1" = 2'

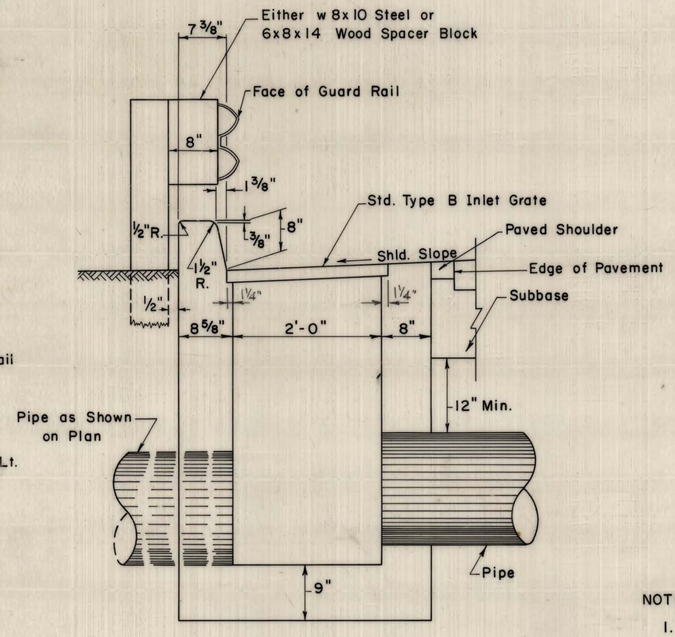
LOCATION:
Bridge 2972
Abutment "B"



For Plan Location
See Sheet No. 16

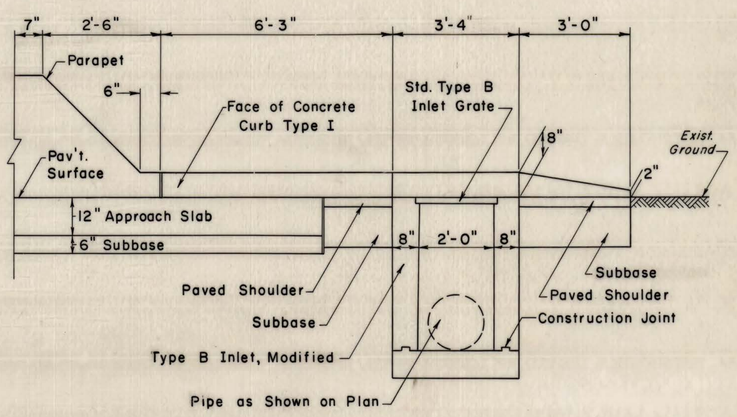
PLAN

Scale: 1" = 2'



SECTION C-C

Scale: 1" = 1'



SECTION D-D

Scale: 1" = 2'

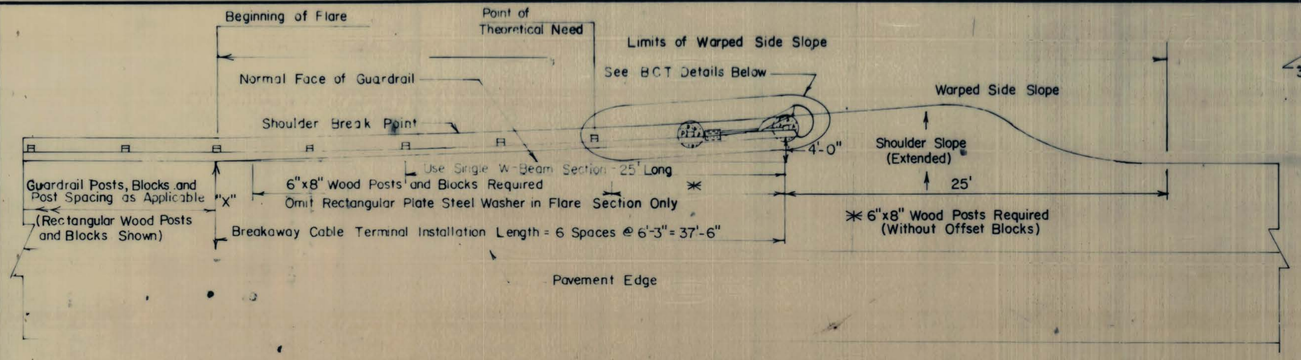
NOTES:

1. Type B Inlet shall conform to Standard Sheet M.S. 1-C except as modified by these details for addition of curb.

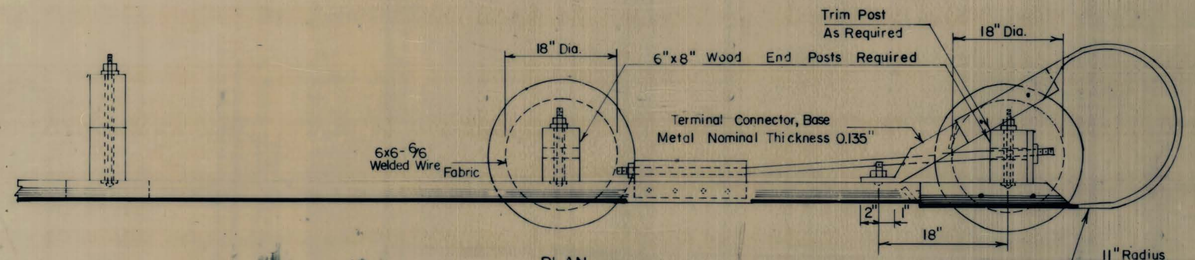
SPECIAL DETAILS

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

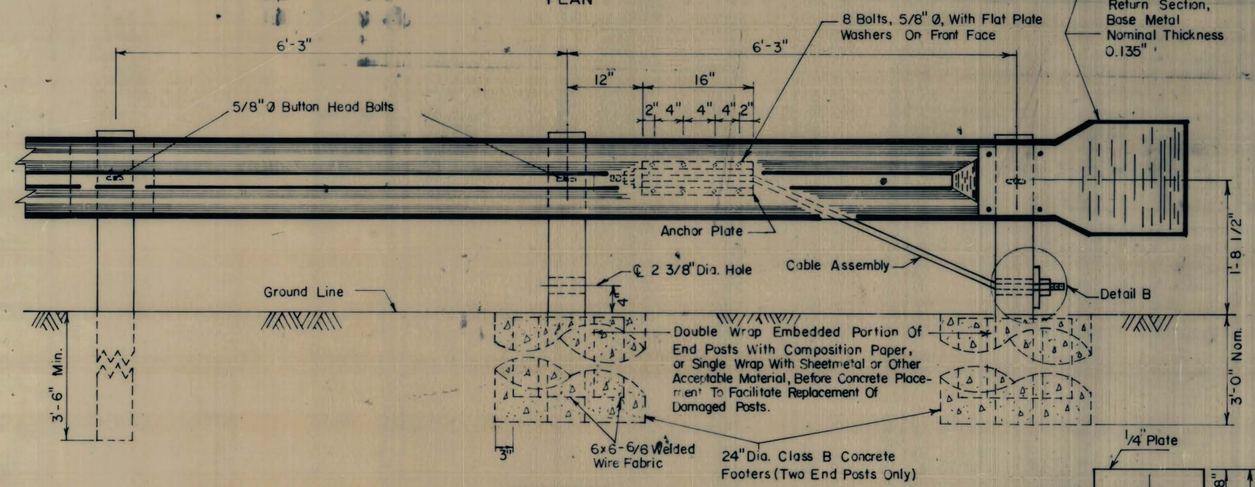
MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS



STANDARD APPROACH END TREATMENT (MULTI-LANE DIVIDED AND 2-LANE HIGHWAYS)
STANDARD TRAILING END TREATMENT (2-LANE HIGHWAYS)

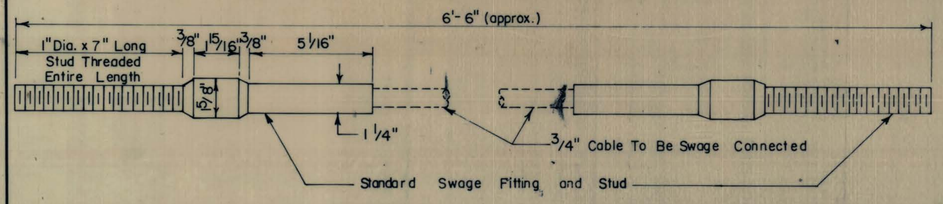


PLAN

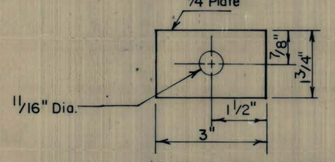


ELEVATION

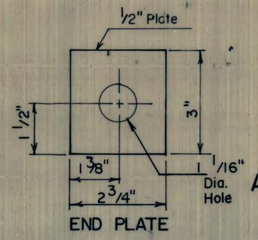
BREAKAWAY CABLE TERMINAL (BCT)



CABLE ASSEMBLY

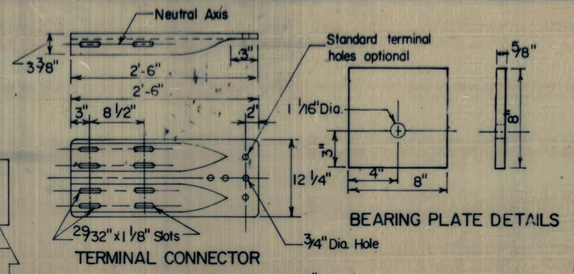


FLAT PLATE WASHER



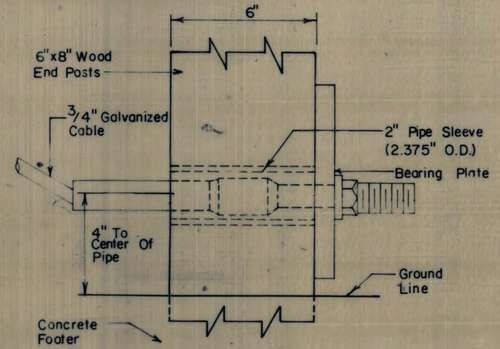
END PLATE

ANCHOR PLATE DETAILS

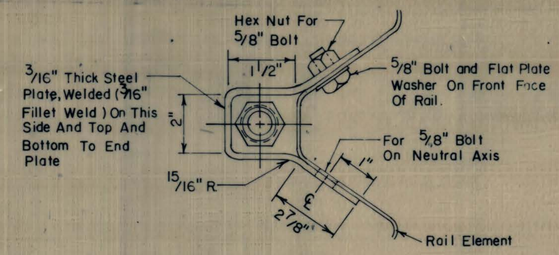


TERMINAL CONNECTOR

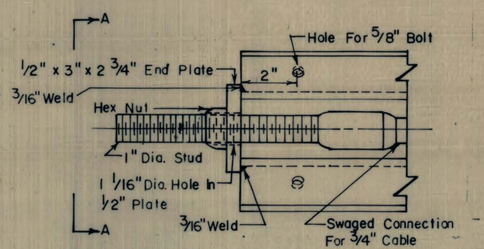
BEARING PLATE DETAILS



DETAIL - B



VIEW A-A
(End Plate Removed, Rail Shown)



FRONT VIEW
(Rail Removed)

NOTES

GENERAL:

For high fill-to-low fill guardrail terminals (trailing ends, two-lane highways, and all approach ends) where anchored ends are specified, the details and requirements herein shall be applicable.

For high fill-to-low fill guardrail terminals (trailing ends, multi-lane divided highways), the details shall conform to the requirements of Standard G. R. 2-C.

Warped side slope limits shall be established in the field to fit field conditions.

Prior to placing guardrail, a final check of existing conditions will be made by the Engineer, and any adjustment necessary to insure the proper functioning of the guardrail for the purpose for which it is intended will be made accordingly.

BREAKAWAY CABLE TERMINAL (BCT):

Guardrail return sections and terminal connectors shall meet the requirements of 712.4 of the Specifications.

Anchor cables shall meet the requirements of 712.1 of the Specifications except that the cables shall be 3/4" preformed, 6x9 (strands x wires per strand), wire strand core or independent wire rope core (IWRC), galvanized, right regular lay, manufactured of improved plow steel with a minimum breaking strength of 42,800 pounds.

Bolts and nuts shall meet the requirements of ASTM Specification A307 and shall be galvanized in accordance with AASHTO Specification M232.

Washer, plates, and studs shall meet the requirements of AASHTO Specification M183 and be galvanized in accordance with AASHTO Specification M111.

Welded wire fabric shall meet the requirements of 602 of the Specifications.

Pipe sleeve shall be "standard weight" galvanized pipe meeting the requirements of 709.17 of the Specifications.

At the completion of the installation, the 3/4" cable shall be securely fixed in place, without appreciable slack, but not tightened to a taut, stressed condition.

The cost of furnishing and installing the Breakaway Cable Terminal; including return section, terminal connector, Class "B" concrete, cables, studs, plates, all "terminal" hardware, pipe sleeve, welded wire fabric, composition paper, sheetmetal, and all necessary excavation; shall be included in the unit price bid for Item 607-29, "Breakaway Cable Terminal", per each. Normal guardrail components; i.e., posts, blocks, rail elements, hardware, etc; along with the special length wood guardrail end posts, shall be paid for as guardrail per linear foot.

POINT OF THEORETICAL NEED FOR BCT EMBANKMENT GUARDRAIL:

The point of need shall be considered that point where, to one side of the point, it would be safer for the vehicle to contact and be directed by the guardrail instead of going over the slope and, to the other side of the point, it would be safer for the vehicle to go over the slope. An exit angle from the roadway of approximately 15° should be utilized for determining the point of theoretical need. Where feasible, consideration should be given to flattening or further warping of the slope in order to "move back" the point of need and thereby reduce the length of needed guardrail.

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

STANDARD DETAIL
END TREATMENT — EMBANKMENT GUARDRAIL
(HIGH-FILL TO LOW-FILL TERMINAL)

PREPARED-7-25-78
REVISIONS

STANDARD SHEET G.R. 2-B

SUPERELEVATION TABLES

~~RAVENSWOOD BRIDGE APPROACH — OHIO SIDE~~

~~P.I. Sta. 815+75.77, D=3°30', Ls=150', SE=.043%~~

STATION	ELEV. LT.	OFFSET LT.	PROFILE GRADE	OFFSET RT.	ELEV. RT.	REMARKS
811 + 20.78	End Normal Crown — Begin SE Transition					
811+20.78	618.09	12'	618.28	12'	618.09	Begin Trans. Rt.
+25	618.03		618.22		618.05	
+50	617.67		617.86		617.76	
+75	617.31		617.50		617.48	
T.S.811+80.78	617.22		617.41		617.41	
812+00	616.94		617.13		617.20	
+25	616.58		616.77		616.92	
+35.20	616.43		616.62		616.71	Begin Trans. Lt.
+50	616.17		616.41		616.65	
+75	615.73		616.05		616.37	
813+00	615.28		615.89		616.10	
+25	614.82		615.32		615.82	
S.C.813+30.78	614.72	12'	615.24	12'	615.76	
S.C.813+30.78	End SE Transition — Begin Full SE = .043%					
C.S. 818+12.58	End Full SE — Begin SE Transition					
C.S. 818+12.58	608.29	12'	608.81	12'	609.33	
+25	608.29		608.76		609.23	
+50	608.31		608.70		609.09	
+75	608.39		608.69		608.99	
819+00	608.51		608.72		608.93	
+08.16	608.41		608.60		608.79	End Trans. Lt.
+25	608.63		608.82		608.95	
+50	608.78		608.97		609.01	
S.T.819+62.58	608.87		609.06		609.06	
+75	608.98		609.17		609.13	
820+00	609.24		609.43		609.31	
+22.58	609.52	12'	609.71	12'	609.52	End Trans. Rt.
820+22.58	End SE Transition — Begin Normal Crown					

RAVENSWOOD BRIDGE APPROACH — WEST VIRGINIA SIDE

P.I. Sta. 856+42.68(Simple Curve), D=12°30', Ls=200, SE=.08%

STATION	ELEV. LT.	OFFSET LT.	PROFILE GRADE	OFFSET RT.	ELEV. RT.	REMARKS
849 + 79.48	End Normal Crown — Begin SE Transition					
849+79.48	629.21	13'	629.41	13'	629.21	Begin S.E. Rt.
850+00	628.80		629.00		628.87	
+25	628.30		628.50		628.45	
T.S.850+39.48	628.01		628.21		628.21	
+50	627.80		628.00		628.05	
+75	627.30		627.50		627.68	
851+00	626.69		627.00		627.31	
+25	626.06		626.50		626.94	
+50	625.43		626.00		626.57	
+75	624.80		625.50		626.20	
852+00	624.17		625.00		625.83	
+25	623.54		624.50		625.46	
S.C.852+39.48	623.17	13'	624.21	13'	625.25	
SC.852+39.48	End SE Transition — Begin Full SE = .08%					
858+38.37	Begin SE Transition (.08% to .071%)					
858+38.37	606.14	13'	607.18	13'	608.22	
+50	605.77		606.80		607.83	
+75	604.97		605.98		606.99	
859+00	604.17		605.15		606.13	
P.C.C.859+00.87	604.14		605.12		606.10	
+25	603.37		604.33		605.29	
+50	602.56		603.50		604.44	
859+63.37	602.14	13'	603.06	13'	603.98	
859+63.37	End SE Transition — Begin Full SE = .071%					
P.I. Sta. 863 + 17.91 (Simple Curve) D=8°30', Ls=150', SE=.071%						
CS866+47.80	End Full SE — Begin SE Transition					
CS866+47.80	584.42	13'	585.34	13'	586.26	
+50	584.43		585.34		586.25	
+75	584.48		585.24		586.00	
867 +00	584.59		585.19		585.79	
+25	584.75		585.20		585.65	
+50	584.96		585.25		585.54	
+75	585.16		585.36		585.50	
S.T. 867+97.80	585.30		585.50		585.50	
868+00	585.32		585.52		585.51	
+25	585.50		585.70		585.61	
+50	585.68		585.88		585.70	
868+57.80	585.73	13'	585.93	13'	585.73	
868+57.80	End SE Transition — Begin Normal Crown					

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56 0.00	F-338 (002)		Jackson, W.Va. Meigs, Ohio	24	125

C-4

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824-19.26/0.00

M RAVENSWOOD BRIDGE APPROACH
SUPERELEVATION TABLES

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

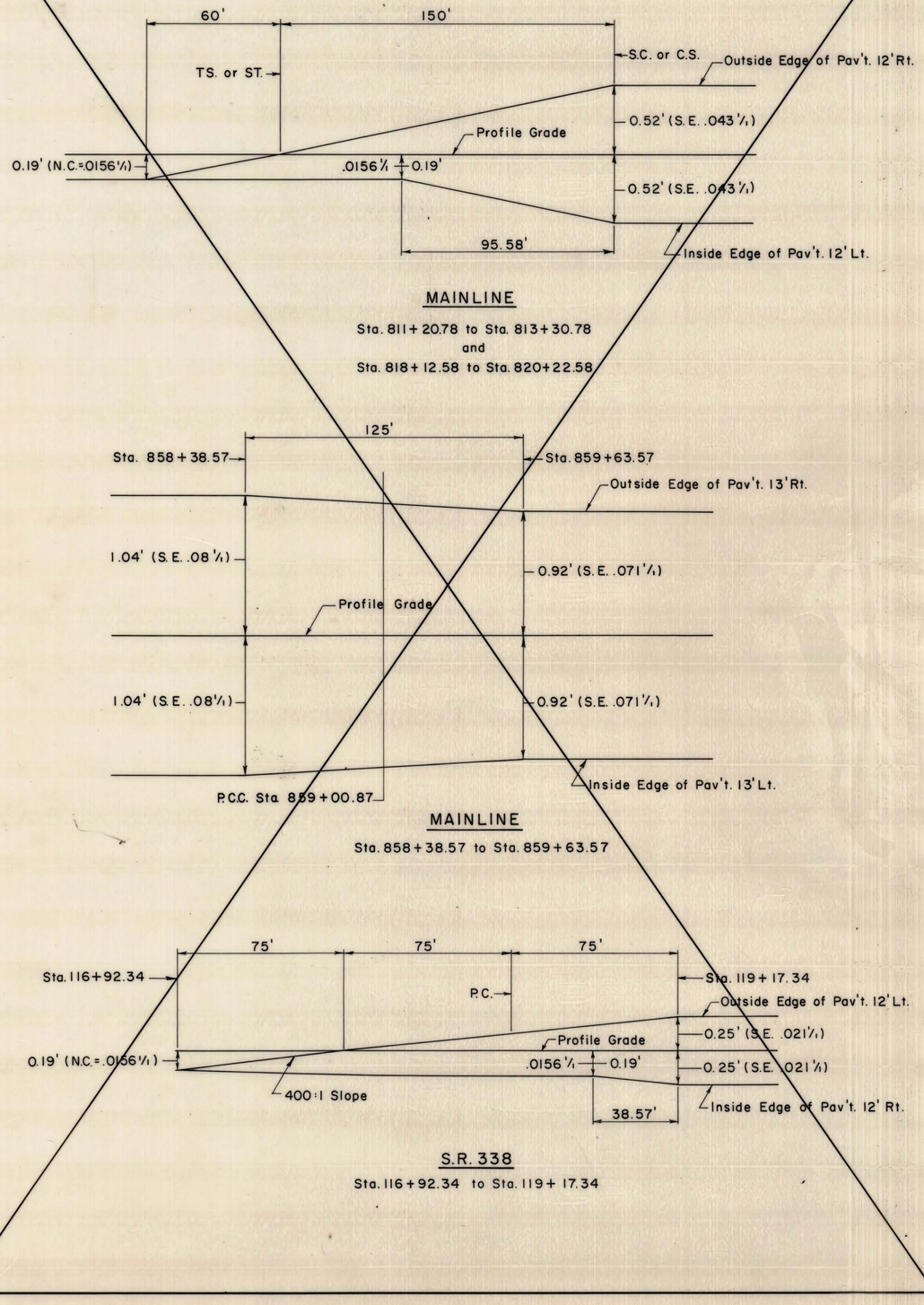
MICHAEL BAKER JR., INC. CONSULTING ENGINEERS

F.H.W.A. REGION	STATE	PROJECT	
5	OH10		

MEIGS 338/824-19.26/0.00

FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F-338 (002) 318-AL56-0.00		JACKSON, W. VA. MEIGS, OHIO	25	125

C-4



MAINLINE

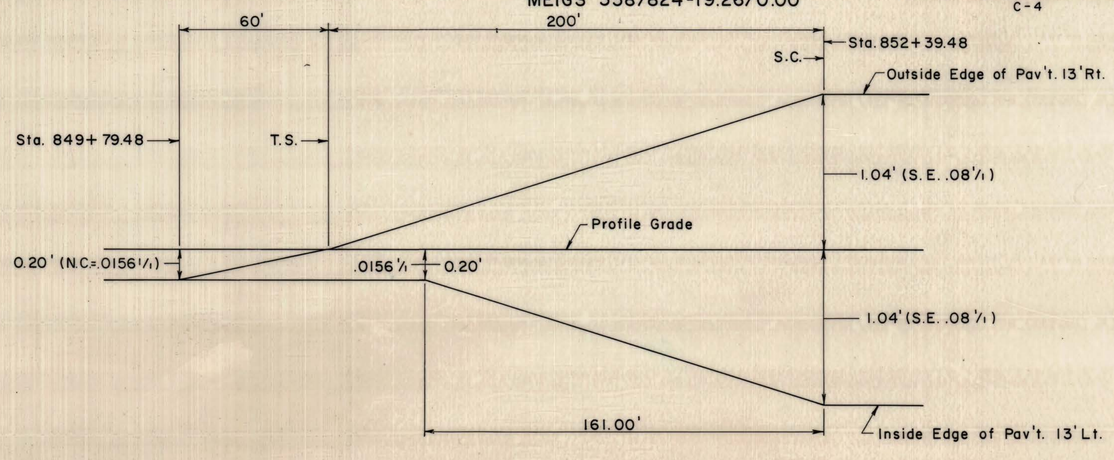
Sta. 811+20.78 to Sta. 813+30.78
and
Sta. 818+12.58 to Sta. 820+22.58

MAINLINE

Sta. 858+38.57 to Sta. 859+63.57

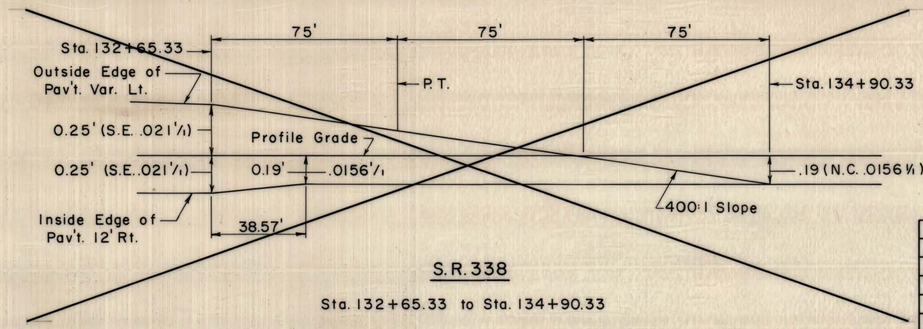
S.R. 338

Sta. 116+92.34 to Sta. 119+17.34



MAINLINE

Sta. 849+79.48 to Sta. 852+39.48



S.R. 338

Sta. 132+65.33 to Sta. 134+90.33

VERT.
1 .5 0 1

HORIZ.
30 15 0 30

SUPERELEVATION TRANSITION DIAGRAMS

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

RT. OF WAY CHECKED
NO.

FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	3	F-338 (002) 318-AL56-0.00	197	Jackson, W. Va. Meigs, Ohio	26	125

C-4

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824-19.26/0.00

144"
40"
9.0"
8" Cap.
5.5"
8" 6"
5.5"
8" 6"
7"
10" Cap.
11"
72"
8"
36"
WELCOME TO
Wild
Wonderful
WEST VIRGINIA
Existing Right of Way Line
338
W. VA. RTE. 2 STA. 12+00=
W. VA. RTE. 56 ALT. STA. 872+49.27
SPEED LIMIT 45
Pt. Pleasant
Pomeroy, O.
SOUTH
TO
68
338
NORTH
68
TO
2
STOP
ENCLOSED LENS BACKGROUND
16
OHIO
welcomes You
5'
2.5'
MEIGS COUNTY
JACKSON COUNTY
END PROJECT
STA. 872+37.56
Telephone Pole
Light Pole
Pt. Pleasant
Ravenswood
870
JCT
68
Ravenswood
Pomeroy O.
Ohio River
RIVER
Gas Line
BEGIN PROJECT
STA 126+50
S.R. 338
Racine 18
Pomeroy 25
Reedsville 15
NORTH
SOUTH
ENTER MEIGS COUNTY
820
830
840
850
860
Ravenswood 2
SPEED LIMIT 40
Ohio River
ENCAPSULATED LENS BACKGROUND
WELCOME TO
Wild
Wonderful
WEST VIRGINIA
17
OHIO
WEST VIRGINIA
Jackson County
B&O Railroad
(CHESSIE SYSTEM)
W. VA. RTE. 2
W. VA. RTE. 2 CONN.
Sandy Creek
Reedsville
Ravenswood, W. Va.
NOT IN CONTRACT
NOT IN CONTRACT
Existing Right-of-Way Line
RELOC. W. VA. 2
JACKSON CO. RTE. 11 CONN.

YELLOW LEGEND BORDER AND SHIELD ON BLUE BACKGROUND.
2" BORDER 12" BORDER RADIUS

10.1	39.6	93.9	21.0	9.3
10.2- W	11.1- W	40.0-shield	10.5-W	12.8 -W
8.4- E	4.6- I	10.1	7.5-O	9.4 -E
7.1- L	4.0- L	144.0"	7.5-N	9.4 -S
8.0- C	5.1- D		7.5-D	6.8 -T
8.9- O	79.6		7.6-E	15.0
10.4- M	144.0"		5.6-R	11.5 -V
5.5- E			6.1-F	6.6 -I
12.0			8.1-U	9.9 -R
7.2- T			1.6-L	11.0 -G
6.1- O			61.0	6.6 -I
50.1			144.0"	11.9 -N
144.0"				5.5 -I
				9.0 -A
				9.3
				144.0"

LEGEND

(1) SIGN NUMBER

BRIDGE MOUNTED SIGN

SEE SHEET 116

REQUIRED R/W

SIGNING PLAN LAYOUT AND FABRICATION DETAIL

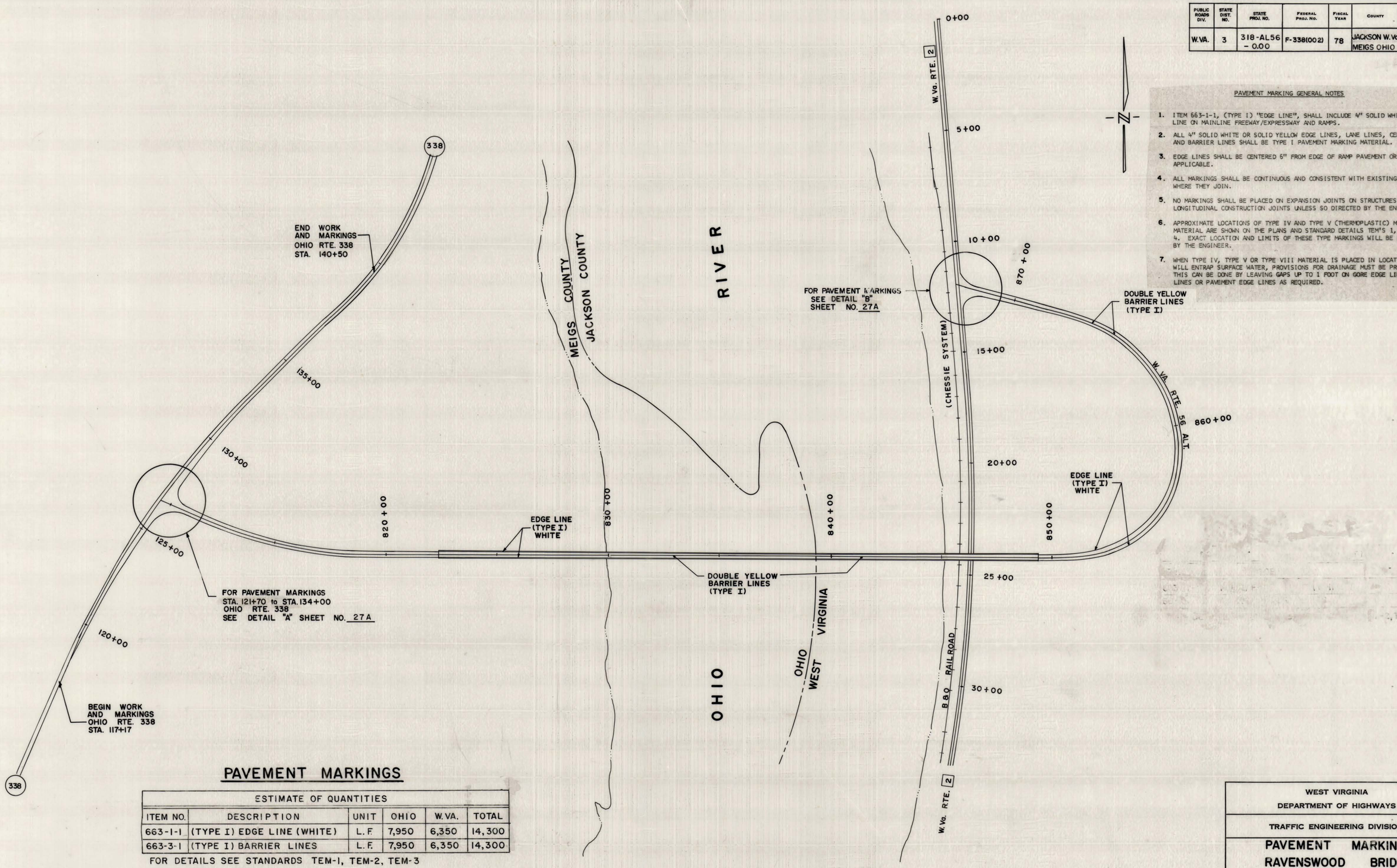
RAVENSWOOD

Scale in Feet
200 100 0 200

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER JR., INC. CONSULTING ENGINEERS

PUBLIC ROADS DIV.	STATE DIST. NO.	STATE PROJ. NO.	FEDERAL PROJ. NO.	FISCAL YEAR	COUNTY	SHEET No.	TOTAL SHEETS
W.VA.	3	318-AL56 - 0.00	F-338(002)	78	JACKSON W.VA. MEIGS OHIO	27	125



PAVEMENT MARKING GENERAL NOTES

1. ITEM 663-1-1, (TYPE I) "EDGE LINE", SHALL INCLUDE 4" SOLID WHITE EDGE LINE ON MAINLINE FREEWAY/EXPRESSWAY AND RAMPS.
2. ALL 4" SOLID WHITE OR SOLID YELLOW EDGE LINES, LANE LINES, CENTERLINES AND BARRIER LINES SHALL BE TYPE I PAVEMENT MARKING MATERIAL.
3. EDGE LINES SHALL BE CENTERED 6" FROM EDGE OF RAMP PAVEMENT OR LANE AS APPLICABLE.
4. ALL MARKINGS SHALL BE CONTINUOUS AND CONSISTENT WITH EXISTING MARKINGS WHERE THEY JOIN.
5. NO MARKINGS SHALL BE PLACED ON EXPANSION JOINTS ON STRUCTURES OR ON LONGITUDINAL CONSTRUCTION JOINTS UNLESS SO DIRECTED BY THE ENGINEER.
6. APPROXIMATE LOCATIONS OF TYPE IV AND TYPE V (THERMOPLASTIC) MARKING MATERIAL ARE SHOWN ON THE PLANS AND STANDARD DETAILS TEM'S 1, 2, 3 AND 4. EXACT LOCATION AND LIMITS OF THESE TYPE MARKINGS WILL BE DETERMINED BY THE ENGINEER.
7. WHEN TYPE IV, TYPE V OR TYPE VIII MATERIAL IS PLACED IN LOCATIONS THAT WILL ENTRAP SURFACE WATER, PROVISIONS FOR DRAINAGE MUST BE PROVIDED. THIS CAN BE DONE BY LEAVING GAPS UP TO 1 FOOT ON GORE EDGE LINES, STOP LINES OR PAVEMENT EDGE LINES AS REQUIRED.

PAVEMENT MARKINGS

ESTIMATE OF QUANTITIES					
ITEM NO.	DESCRIPTION	UNIT	OHIO	W.VA.	TOTAL
663-1-1	(TYPE I) EDGE LINE (WHITE)	L.F.	7,950	6,350	14,300
663-3-1	(TYPE I) BARRIER LINES	L.F.	7,950	6,350	14,300

FOR DETAILS SEE STANDARDS TEM-1, TEM-2, TEM-3

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

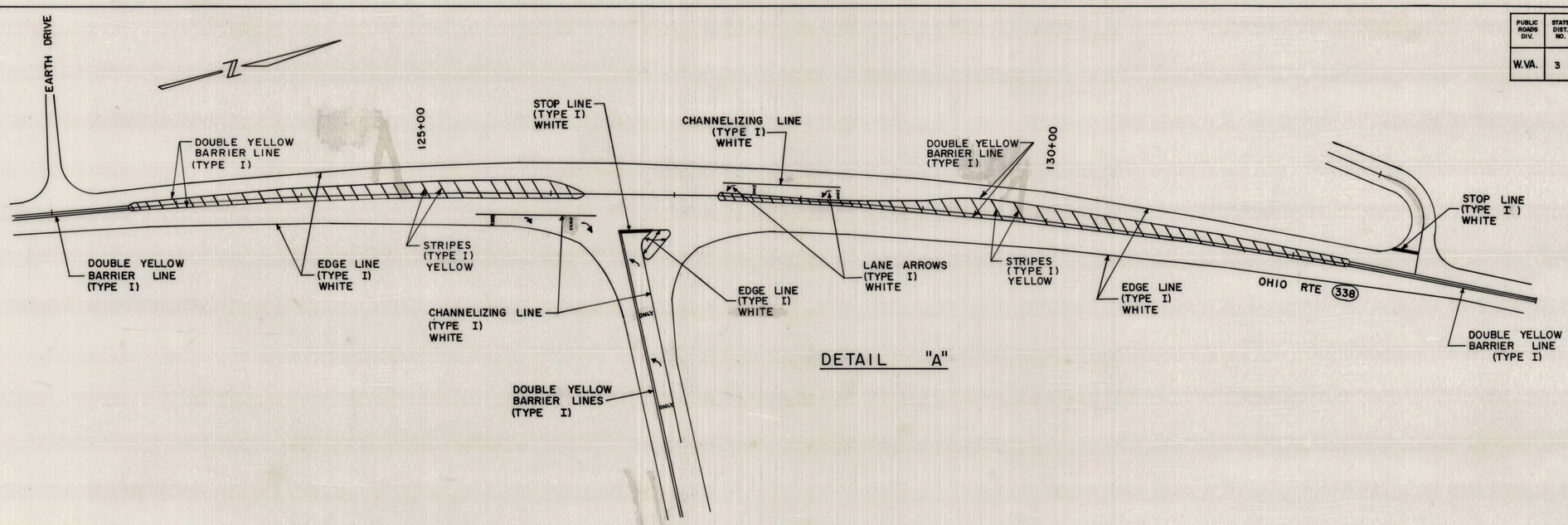
TRAFFIC ENGINEERING DIVISION

PAVEMENT MARKINGS
RAVENSWOOD BRIDGE

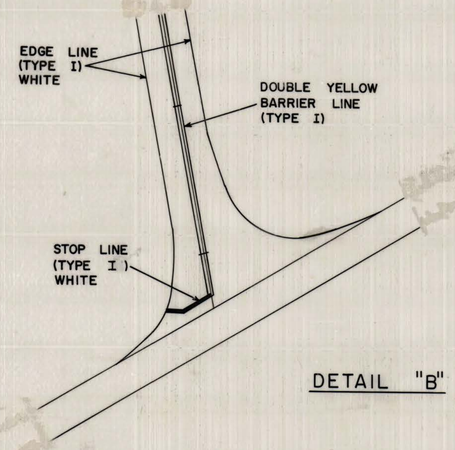
JACKSON CO. W.VA. MEIGS CO. O.

DRAWN BY	SCALE	DATE	
P. O. K.	0 200'		

PUBLIC ROADS DIV.	STATE DIST. NO.	STATE PROJ. NO.	FEDERAL PROJ. NO.	FISCAL YEAR	COUNTY	SHEET No.	TOTAL SHEETS
W.VA.	3	318-AL 56-0.00	F-338(002)	78	JACKSON, W.V. MEIGS, OHIO	27A	125



DETAIL "A"



DETAIL "B"

PAVEMENT MARKINGS

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	OHIO	W.VA.	TOTAL
663-1-1	(TYPE I) EDGE LINE (WHITE)	L.F.	3,000	1,000	4,000
663-1-1	(TYPE I) EDGE LINE (YELLOW)	L.F.	1,900		1,900
663-3-1	(TYPE I) BARRIER LINES	L.F.	4,700	460	5,160
663-4	(TYPE I) CHANNELIZING LINE	L.F.	375		375
663-5	(TYPE I) STOP LINES	L.F.	65	60	125
663-7	(TYPE I) STRIPES	L.F.	1470		1470
663-10	(TYPE I) LANE ARROWS	EACH	6		6
663-11	(TYPE I) LANE LETTERS	EACH	24		24

FOR DETAILS SEE STANDARDS TEM-1, TEM-2, TEM-3

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

TRAFFIC ENGINEERING DIVISION

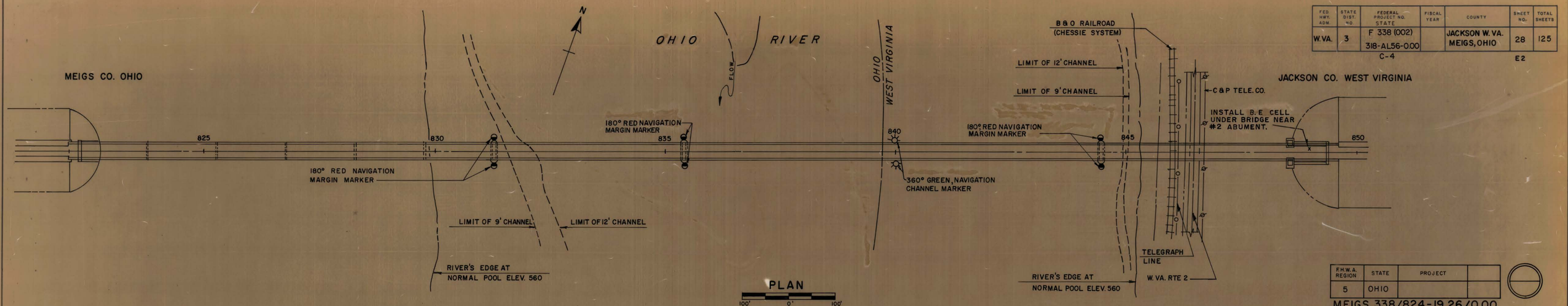
PAVEMENT MARKINGS

INTERSECTIONS: W.VA. RTE. 56 ALT. & W.VA. RTE. 2
W.VA. RTE. 56 ALT. & OHIO RTE. 338

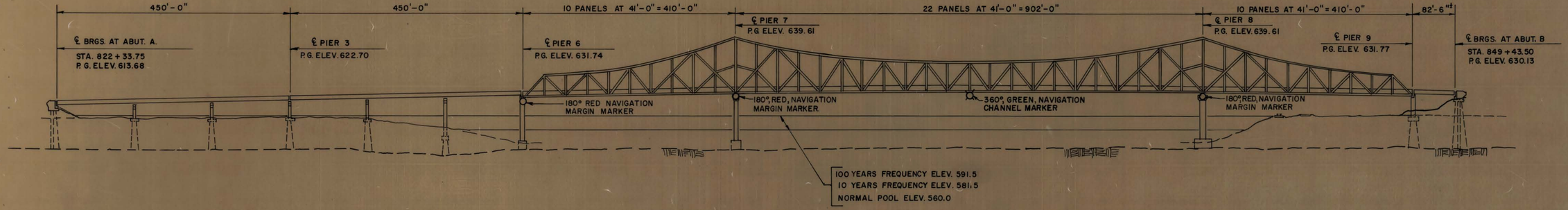
JACKSON CO. W.VA. MEIGS CO. OHIO

DRAWN BY	SCALE	DATE	
	0' 50'		

FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F 338 (002)		JACKSON W. VA.	28	125
		318-AL56-0.00		MEIGS, OHIO		
		C-4			E2	



PLAN
100' 0' 100'



ELEVATION
100' 0' 100'

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824-19.26/0.00

NOTES:

1. ALL ELEVATIONS SHOWN REFER TO THE SANDY HOOK DATUM.
2. THE CROSSING IS LOCATED AT APPROXIMATELY U.S. CORPS OF ENGINEERS MILE POINT 221.31
3. RIVER NAVIGATION LIGHTING BRIDGE CLEARANCE GAUGES WILL BE PROVIDED AS REQUIRED BY THE U.S. COAST GUARD AND WEST VIRGINIA DEPARTMENT OF HIGHWAYS.

NAVAGATION LIGHTS

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

RIGHT OF WAY CHECKED
NO

FHWA REGION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824-19.26/0.00

FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F-338 (002) 318-AL56-0.00		JACKSON, W.VA. MEIGS, OHIO	29	125

C-4 E3

NOTE

1. MOUNT P.E. CELL FOR NAVIGATION LIGHTING UNDER BRIDGE NEAR ABUT. #2 EXTEND 3-1/C #10 FROM P.E. CELL TO NAVIGATIONAL LIGHTING CONTROL VIA JUNCTION BOX AT STA. 850+00. LABEL CONDUCTORS AS "NAVIGATIONAL LIGHTING P.E. CELL CONTROL CIRCUIT"
2. JB "H" NO'S 1 & 2 SHALL BE BID AS INCIDENTAL ELECTRICAL WORK UNDER ITEM NO. 662-14

000+00 — UNIT LOCATION
A4-6-(12) — POLE NUMBER; BRACKET ARM LENGTH; CIRCUIT LETTER & POSITION NUMBER

(N.I.C.)

CIRCUIT IDENTIFICATION

NAVIGATIONAL LIGHTING CIRCUIT - 1½" C, 2-1/C #6, 1-1/C #4 i. grd.

CIRCUIT A - 2" C, 2-1/C #2, 1-1/C #2 i. grd.

CIRCUIT B - 2" C, 2-1/C #2, 1-1/C #2 i. grd.

(N.I.C.)

50 25 0 50
SCALE IN FEET

⊛ ANCHOR BOLTS, (AS REQUIRED), JUNCTION BOX TYPE A (MODIFIED), CONDUIT, ETC. PER SHEETS 117 & 118.

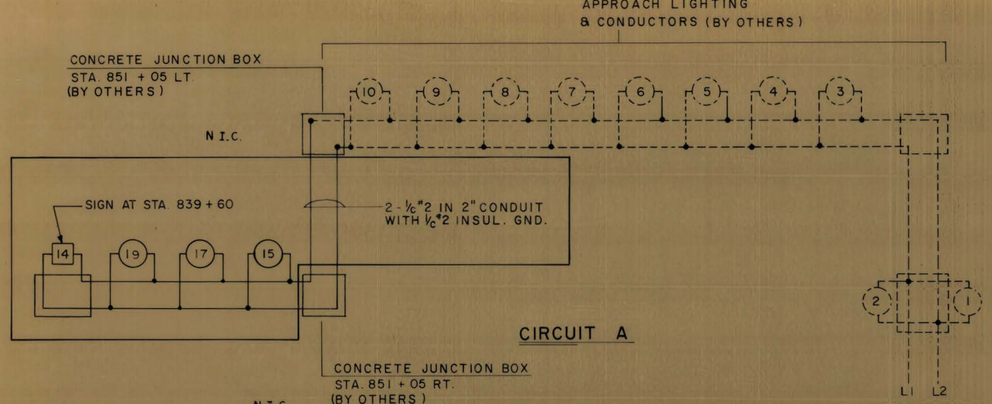
SEE SHEET E1 FOR LEGEND

LIGHTING PLAN STA. 839 + 60 TO STA. 851+00

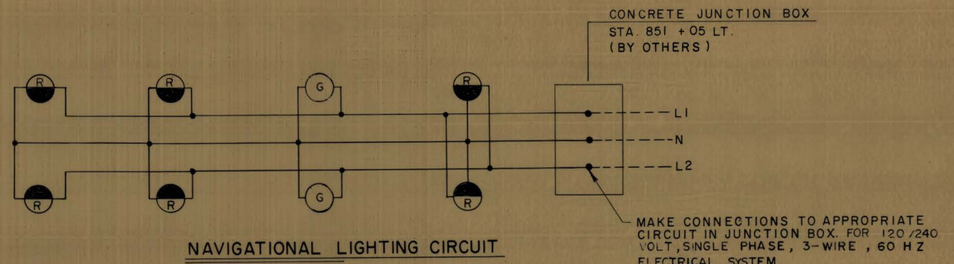
REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F-338(002) 318-AL56-0.00 C-4		JACKSON, W.VA MEIGS, OHIO	30 E 4	125

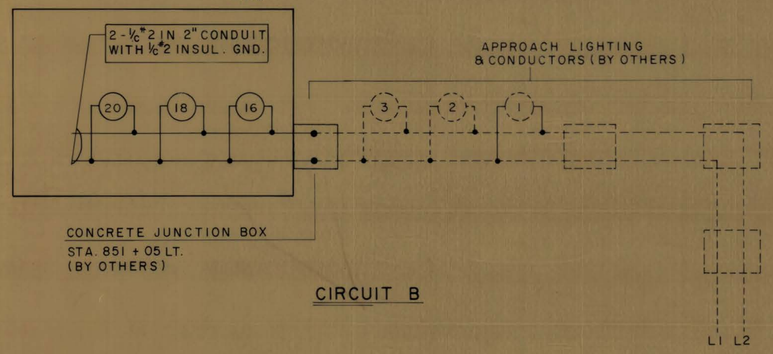


CIRCUIT A

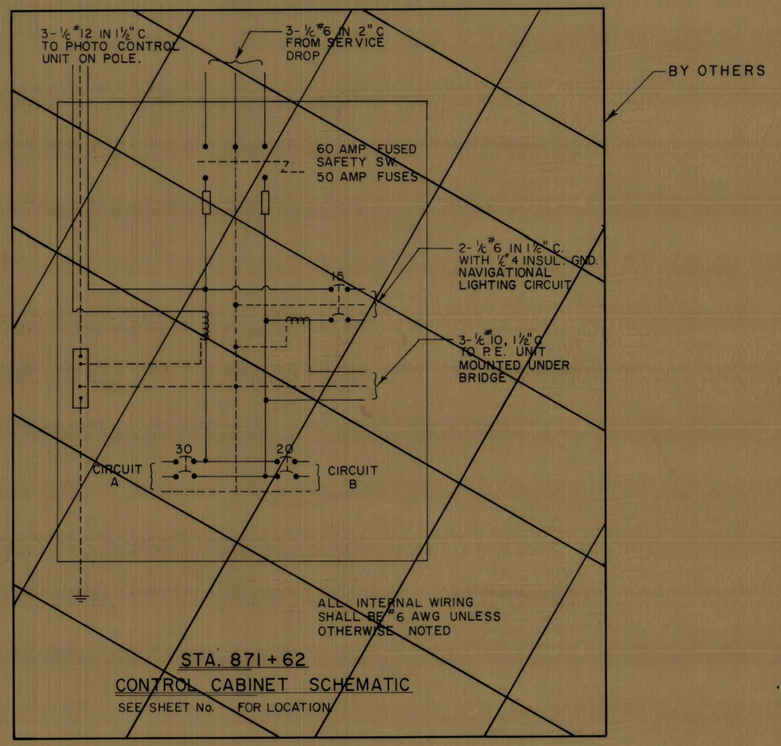


NAVIGATIONAL LIGHTING CIRCUIT

SERVICE AND CONTROL STATION FOR THE NAVIGATION LIGHTING SYSTEM SHALL BE INCLUDED IN THE BID ITEM, NO 662-20(2), NAVIGATION LIGHTING SYSTEM.



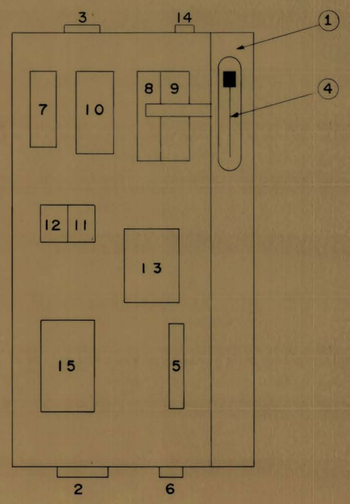
CIRCUIT B



STA. 871 + 62
CONTROL CABINET SCHEMATIC
SEE SHEET No. FOR LOCATION

NAVIGATION LIGHTING CONTROLLER

(MOUNTED ON NORTH WING WALL OF #2 ABUT.)



1. NEMA 4 SS ENCLOSURE
2. 2" CONDUIT HUB (FROM LINE)
3. 2" CONDUIT HUB (TO LOAD)
4. MASTER LOCK OUT SW.
5. SOLID NEUTRAL GROUND BAR
6. 1 1/2" CONDUIT HUB (TO GROUND)
7. LIGHTNING ARRESTOR
8. CKT BREAKER
9. CKT BREAKER
10. LIGHTING CONTACTOR
11. H.O.A. SW.
12. PILOT LIGHT
13. TERMINAL BLOCK
14. 1" CONDUIT HUB (TO P.E. UNIT)
15. LOAD CENTER (TWO CKTS.)

NOTE: ENCLOSURE & ALL ELECTRICAL COMPONENTS SHALL BE SIZED AS REQ'D.

CONTROL CABINET & CONNECTION DIAGRAM

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

FED HWY ADM.	STATE DIST NO.	FEDERAL PROJECT NO STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA	3	F-338 (002) 318-AL56-0.00		JACKSON, W.VA. MEIGS, OHIO	31	125

C-4

FED NO. DIVISION	STATE	PROJECT	
5	OHIO	F-338 (002)	

MEIGS 338/824 - 19.26/0.00

E5

LIGHTING NOTES

FOR OHIO PORTION OF PROJECT

SPECIFICATIONS

THESE NOTES ARE SUPPLEMENTAL TO SPECIAL PROVISIONS, SECTIONS S625, S713 OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 11, 1974 AND STATE OF OHIO SUPPLEMENTAL SPECIFICATION 839.

REFERENCE SHALL BE MADE TO OHIO DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DRAWINGS HL-2, HL-3, HL-5, HL-7, HL-8, HL-9, HL-10, HL-11, AND HL-12 (SHEET E-9 TO E-15)

PLAN SPECIFICATION REFERENCES

REFERENCES TO ITEMS 625 AND 713 IN THESE PLANS SHALL BE CONSIDERED TO READ AS RESPECTIVE REFERENCES TO ITEMS S625 AND S713.

625.03 - GENERAL

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS: THE COLUMBUS & SOUTHERN OHIO ELECTRIC CO.
215 NORTH FRONT STREET
COLUMBUS, OHIO 43215

THIS PROJECT HAS BEEN DESIGNED ON THE BASIS OF 5% VOLTAGE DROP PERMISSIBLE ON BRANCH CIRCUITS. THE PROJECT WILL RECEIVE 480 VOLT TWO-WIRE SECONDARY SERVICE, ONE SIDE GROUNDED FROM THE COLUMBUS & SOUTHERN OHIO ELECTRIC COMPANY.

THE PROJECT HAS BEEN DESIGNED ON THE BASIS OF 1.2 AVERAGE FOOTCANDLE INITIAL, WITH A MAXIMUM UNIFORMITY RATIO 4.0 TO 1.

(N.I.C.)

(N.I.C.)

ELECTRICAL SERVICE FOR ILLUMINATED SIGNS (FIXTURES NOT WIRING)

THE PAY ITEMS IN THE SIGNING GENERAL SUMMARY INCLUDE THE PULL BOX OR THE JUNCTION BOX ADJACENT TO EACH OVERHEAD SIGN AND THE ELECTRICAL SERVICE CONNECTIONS LEADING INTO THE BOX.

(N.I.C.)

HIGH VOLTAGE DIRECT CURRENT TEST

A HIGH VOLTAGE DIRECT CURRENT TEST, AS DESCRIBED IN SPECIAL PROVISIONS, SECTION 839, SHALL BE PERFORMED ON ALL DISTRIBUTION CABLE AND DUCT CABLE SYSTEMS TO BE INSTALLED ON THIS PROJECT. THE TEST SHALL NOT BE PERFORMED UNTIL AFTER ALL NEW CONSTRUCTION, SUCH AS GUARD RAIL, FENCE, DELINEATOR POSTS, SIGN SUPPORTS, ETC. IN THE IMMEDIATE VICINITY OF THE DISTRIBUTION CABLE RUN BEING TESTED, HAS BEEN COMPLETED. THE TESTING REQUIREMENTS OF 625.22(b) ARE HEREBY WAIVED FOR THOSE CIRCUITS ON WHICH THE HIGH VOLTAGE TEST IS TO BE PERFORMED.

S625.07 - S713.11 HIGH PRESSURE SODIUM LUMINAIRES

THE 250 WATT HORIZONTAL STYLE "B" LUMINAIRES SHALL HAVE A SINGLE RATED 480 VOLT, 250 WATT INTEGRAL REGULATOR BALLAST, DESIGNED FOR 250 WATT HIGH PRESSURE SODIUM LAMPS. THE LUMINAIRES SHALL BE GENERAL ELECTRIC - M - 400, WESTINGHOUSE OV - 25, MC GRAW EDISON UNISTYLE OR EQUAL APPROVED BY ENGINEER (LUMINAIRE RATED 23,000 LUMENS).

(N.I.C.)

CONNECTOR KITS

AT THE OPTION OF THE CONTRACTOR, TYPE IX CABLE CONNECTIONS MAY BE SUBSTITUTED WHERE TYPE II OR III CABLE CONNECTIONS ARE SPECIFIED IN HAND HOLES OR TRANSFORMER BASES OF LIGHT POLES.

TYPE I THROUGH TYPE VII CABLE CONNECTIONS IN PULL BOXES, JUNCTION BOXES, AND OTHER ENCLOSURES BELOW GROUND SHALL BE ACCOMPLISHED BY THE USE OF EITHER OF THE FOLLOWING:

1. A SLEEVE OR TEE CABLE CONNECTOR CONFORMING TO THE GENERAL REQUIREMENTS OF STYLE "S" OR "H", OR OTHER CONNECTING DEVICE APPROVED BY THE ENGINEER. THE CONNECTOR SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND THE CONNECTION SHALL BE SEALED AND WATERPROOFED WITH A HI-DIELECTRIC COMPOUND SUCH AS "AQUA SEAL" AS MANUFACTURED BY KEARNEY, OR EQUAL AS APPROVED BY THE ENGINEER. THE SEALING MATERIAL SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS TO MAKE A WATER-TIGHT CONNECTION. CONNECTIONS NOT ACCOMPLISHED IN-LINE OR IN TEE FORM SHALL BE ADDITIONALLY PROTECTED BY USE OF A HI-DIELECTRIC PVC OR OTHER APPROVED MATERIAL, BOOT WITH AN APPROVED FASTENING DEVICE.

2. A PREASSEMBLED KIT, AS MANUFACTURED BY JOY OR BUSSMAN, OR APPROVED EQUAL, WITH A WATER-TIGHT RATING ACCEPTABLE TO THE ENGINEER.

CONDUIT ON STRUCTURES

EXPANSION FITTINGS FOR CONDUIT ON STRUCTURES SHALL BE OZ TYPE AX, CROUSE-HINDS TYPE XJ-4, APPLETON TYPE XJ-4, OR EQUAL AS APPROVED BY THE ENGINEER.

EACH EXPANSION FITTING SHALL HAVE A COPPER BONDING BUMPER.

UNDERGROUND UTILITIES

EXTREME CAUTION SHOULD BE EXERCISED IN AREAS WITH UNDERGROUND ELECTRICAL CONDUIT AND/OR LIGHTING CABLE, SEWERS, DRAINS, WATER LINES, OR OTHER UNDERGROUND UTILITIES.

THE CONTRACTOR IS FULLY RESPONSIBLE FOR ALL DAMAGE INFLICTED ON UNDERGROUND UTILITIES IN THE EXCAVATION AND PLACEMENT OF SIGN SUPPORT FOUNDATIONS, LIGHT POLE FOUNDATIONS, GUARD RAIL FLARES, PROTECTIVE GUARD RAIL, DELINEATORS AND THE LIKE.

ESTIMATED QUANTITIES

(A) AN ESTIMATED QUANTITY OF 40 LIN. FT. OF 606-25(4), 4-INCH UNDERDRAIN PIPE AND 5 CUBIC YARDS OF 606-22 CRUSHED STONE, CRUSED GRAVEL OR SILICA SAND SHALL BE PROVIDED IN THE LIGHTING GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER IN PROVIDING POSITIVE DRAINAGE FOR PULL BOXES IN FILL AREAS. IT IS INTENDED THAT ALL PULL BOXES IN THESE AREAS BE PROVIDED WITH SUCH DRAINAGE, PROVIDED THE LENGTH OF UNDERDRAIN NECESSARY TO OBTAIN A SATISFACTORY OUTFALL DOES NOT EXCEED 20 FEET APPROXIMATELY. A PERFORATED PVC PIPE OR CONDUIT MATERIAL APPROVED BY THE ENGINEER MAY BE USED IN THE CONSTRUCTION OF THIS ITEM.

NOT IN CONTRACT

CONTROL CENTER DATA

CONTROL CENTER	CONN. LOAD KVA.	ENCLOSURE RATING AMPS.	SERVICE ENT COND SIZE AWG	CIRCUIT NO	CIRCUIT COND SIZE AWG.	CIRCUIT LOAD AMPS	CIRCUIT FUSE AMPS	C.T. RATING VA.
Rt. 56 STA 811+15	6.1	60	#4	C	#4	27	40	300

SEE SHEET E-2

BY OTHERS

LIGHT POLE DATA

REFERENCE NUMBER	DESIGN NUMBER	FOUNDATION ANCHOR BOLTS: SIZE, DIAMETER & LENGTH	FOUNDATION ANCHOR BOLTS: BOLT CIRCLE DIAMETER	BASE STYLE
3	A- 6BB-40	**	12 1/2"	——
4	6' BRACKET ARM MOUNTED ON TRUSS (SPECIAL) *			

*SEE BRACKET MOUNTING DETAIL SHEET 118 of 125

**SEE SHEET 117 OF 125

LIGHTING NOTES

LIGHT POLE DATA

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F-338 (002) 318-AL 56-0.00 C-4		JACKSON, W.VA. MEIGS, OHIO	32	125

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO	F 338 (002)	

MEG 338/824 - 19.26/0.00

E6

APPROACH LIGHTING BY OTHERS

480V, 2W. WITH GND. FROM CONTROL CABINET 2-1/c 4IN 1½" CABLE DUCT SEE SHEET E2 FOR LOCATION

MAKE APPROPRIATE CONNECTIONS TO LIGHTING CIRCUIT

821 + 00 PULLBOX (BY OTHERS)

18"DIA. PULLBOX 821 + 90 LT.

SIGN AT STA. 839 + 60

(N.I.C.)

L1 L2

1 2 3 4 5 6 7 8 9 21 22 23 24 25 26 27 28 29

NOTE:
BRIDGE LIGHTING SHALL BE TESTED BEFORE CONNECTION TO APPROACH LIGHTING CIRCUITS.

18"DIA. PULLBOX 821 + 90 RT.

CIRCUIT C

FOR CIRCUIT ROUTING SEE SHEET E6 & E7

BY OTHERS

℄ BRGS. ABUT. #1 STA. 822 + 33.75

Relocated Channel-10'Bottom

L/A

821 + 00 PULLBOX (BY OTHERS)

821+90 PULLBOX 2-TYPE VII B CONNECTORS (N.I.C)

820+38 15 - 2

817+98 16.5-1

815+58 16.5-1

813+18 16.5-1

C5 (33)

C6 (32)

C7 (31)

C8 (30)

820

815

SR 824

821+90 PULLBOX 2-TYPE VII A CONNECTORS

END PROJECT STA. 821+00

825+24 4-3

C10 (28)

825

C14 (29)

822+78 4-3

STA. 827+50 SHEET E7

MATCH MARK

STA. 812+50 SHEET NO. E7

MATCH MARK

⊛ ANCHOR BOLTS AS REQ'D, JUNCTION BOX TYPE A (MODIFIED), CONDUIT, ETC. PER SHEET

LEGEND

- LIGHTING POLE ASSEMBLY ANCHOR BASE, TYPE 3
- BRACKET ARM ASSEMBLY TRUSS MOUNTED, TYPE 4
- PULLBOX 18" DIA. (N.I.C.)
- 1½" CABLE DUCT WITH 2-½c#4 AWG., 600v CABLE. (N.I.C.)
- 3" RIGID STEEL CONDUIT (WITH PULL WIRE)
- 2" CONDUIT IN STRUCTURE (WITH PULL WIRE)
- 1-2"C & 1-1½"C IN STRUCTURE (WITH PULL WIRE)
- OVERHEAD SIGN STRUCTURE
- STRUCTURE GROUNDING SYSTEM

(N.I.C.)

000+00 — STATION NUMBER

13 - 1 — LIGHT POLE DESIGN (SEE LIGHT POLE DATA)

A10 (1) — POLE NUMBER

OFFSET DISTANCE BETWEEN ℄ OF POLE AND EDGE OF PAVEMENT

CIRCUIT LETTER & POSITION NUMBER

LIGHT POLE IDENTIFICATION

50 25 0 50

SCALE IN FEET

LIGHTING PLAN STA. 821+00 TO STA. 827+50

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

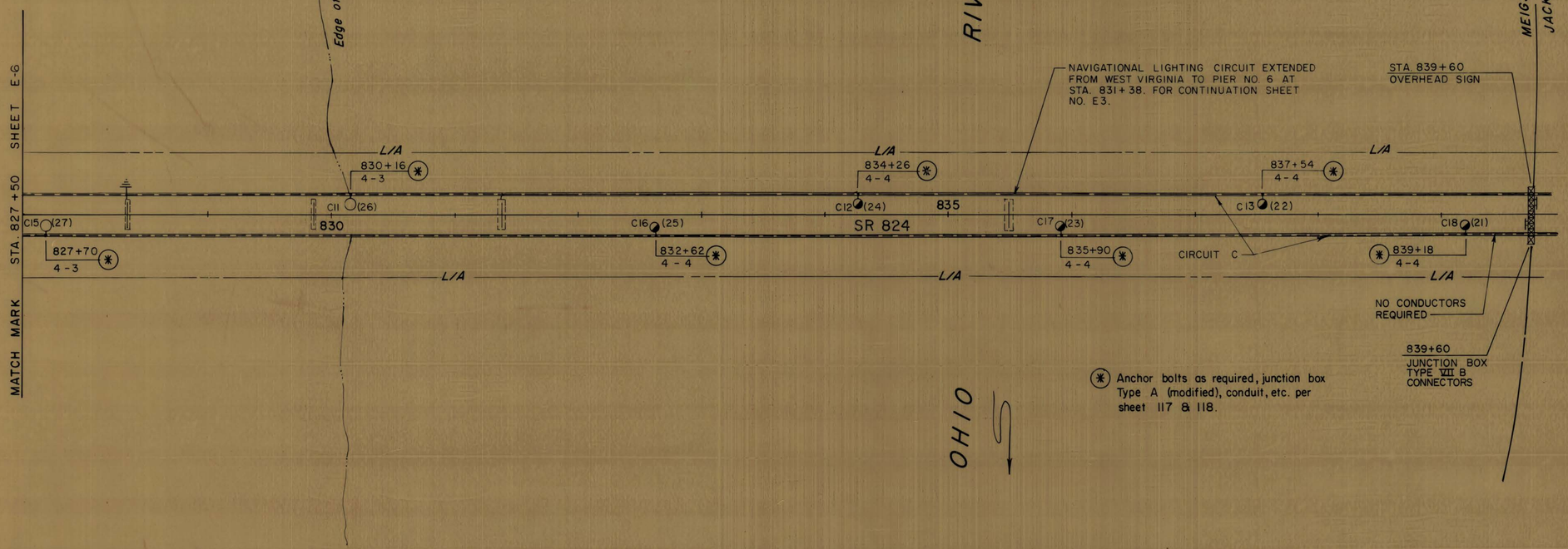
FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F-338 (002) 318-AL56-0.00		JACKSON, W.VA MEIGS, OHIO	33	125

C-4

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO	F 338 (002)	

MEIGS 338/824 - 19.26/0.00

E7



SEE SHEET E1 & E6 FOR LEGEND

LIGHTING PLAN STA. 827+50 TO STA. 839+60

50 25 0 50
SCALE IN FEET

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

LIGHT POLE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824-19.26/0.00

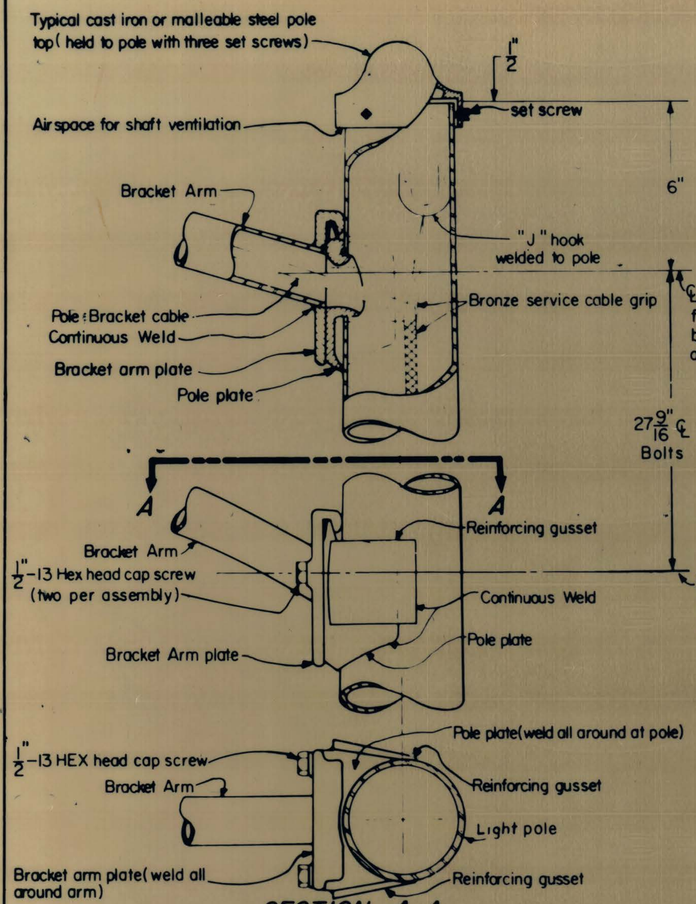
FED HWY ADM.	STATE DIST NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	3	F-338 (002) 318-AL56-0.00		JACKSON, W. VA. MEIGS, OHIO	34	125

C-4 E-9

NOTES

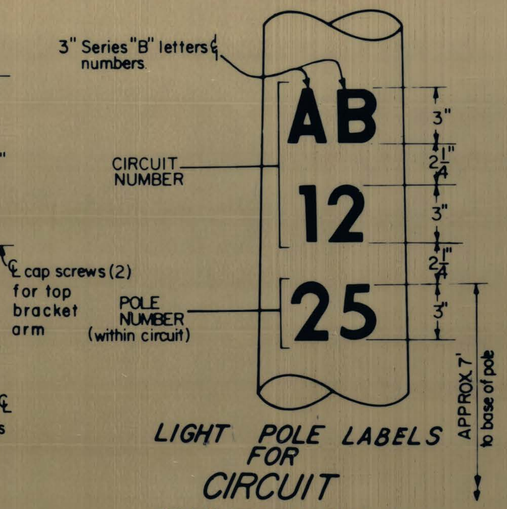
FOR INFORMATION ONLY

1. Hand holes are not required on poles with transformer bases.
2. Hand holes shall be opposite the roadway unless such location renders them inaccessible. (See NOTE 6)
3. Use of Reinforcing gussets is optional.
4. Circuit and light pole numbers shall be as scheduled on light plan sheets. Labels shall meet the requirements of 713.18 and shall contain 3" series "B" letters and numbers as per the "Standard Alphabets for Highway Signs" published by the Federal Highway Adminstration.
5. Hand holes for bridge poles shall be on roadway side and 17" from center of hand hole to bottom of base.
6. All light poles mounted on raised concrete median barriers shall be equipped with handholes. Handholes shall be located beneath the bracket arm extending over the Northbound or Westbound traffic lanes.
7. Details shown hereon are essentially for galvanized steel pole designs meeting 713.01 requirements. For aluminum designs, or other permitted steel material designs, variations from these details will be acceptable, as approved by the Engineer.
8. Circuit identification details are applicable to all pole designs.



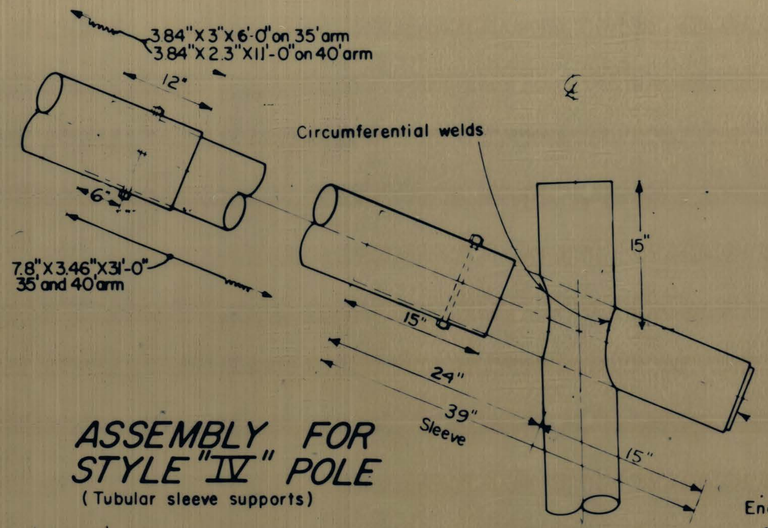
SECTION A-A

POLE TOP and BRACKET ARM ASSEMBLIES



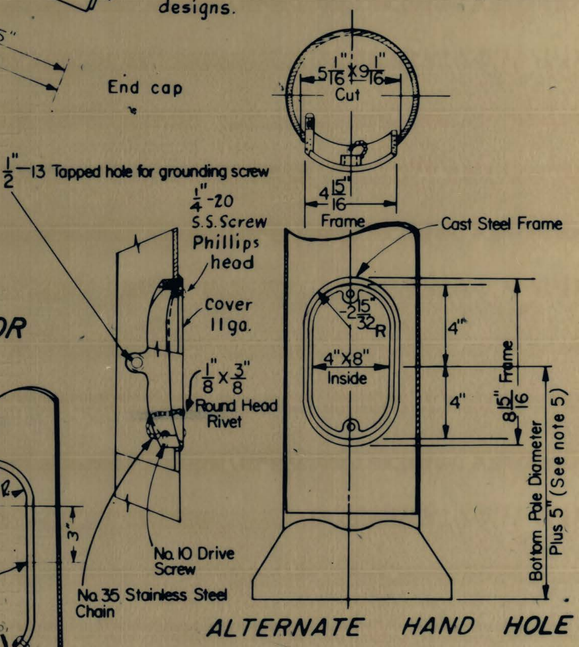
LIGHT POLE LABELS FOR CIRCUIT IDENTIFICATION

(See note 4)



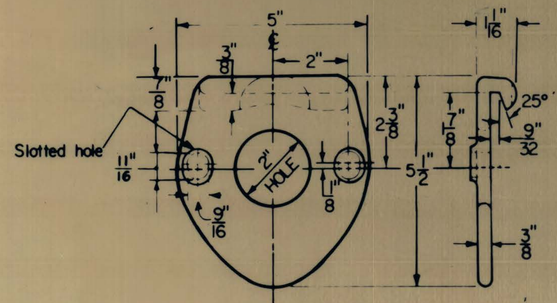
ASSEMBLY FOR STYLE "IV" POLE

(Tubular sleeve supports)



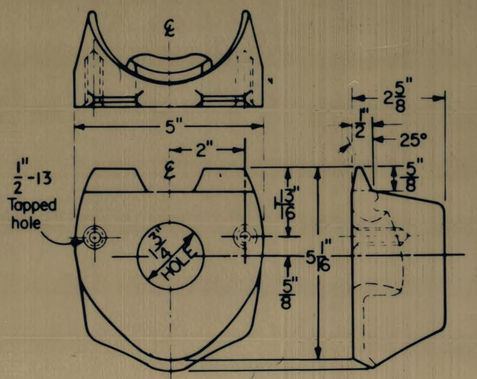
ALTERNATE HAND HOLE

—FOR INFORMATION ONLY—
(THIS SHEET)



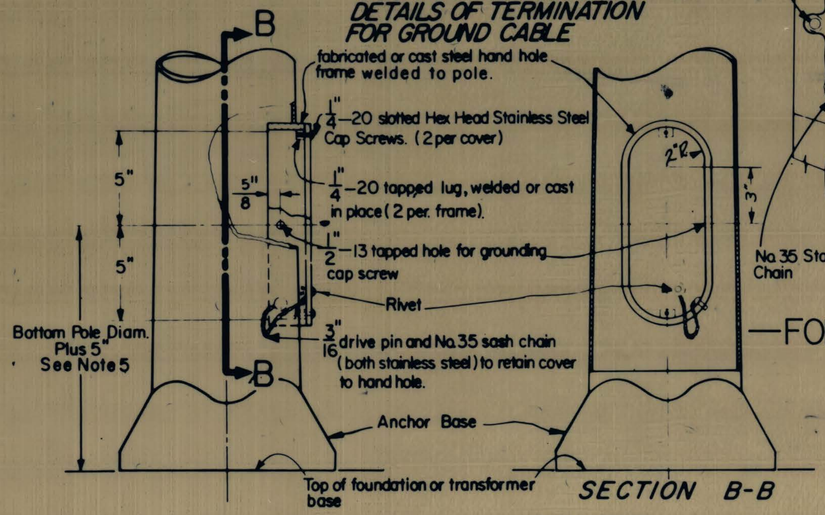
BRACKET ARM PLATE

(CAST STEEL)



POLE PLATE

(CAST STEEL)



SECTION B-B

HAND HOLE WITH COVER

See Notes 1 & 2

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

HIGHWAY LIGHTING

LIGHT POLE DETAILS

DATE 7-1-73

STANDARD CONSTRUCTION DRAWING **HL-2**

APPROVED: _____ Engineer of Design Services

POLE BASE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824 - 19.26/0.00

FED. HWY. ADM	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F-338(002) 318-AL.56-0.00		JACKSON, W.VA. MEIGS, OHIO	35	125

E-10

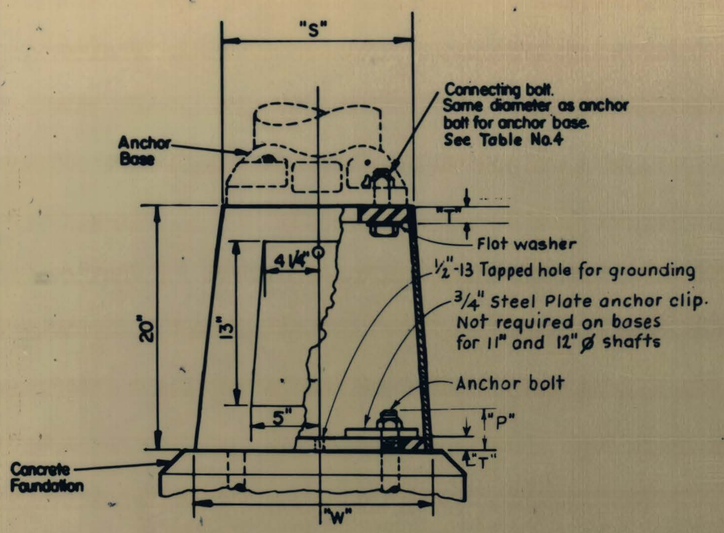
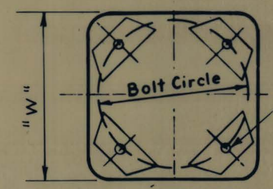


TABLE NO.1 STEEL TRANSFORMER BASES					
SHAFT SIZE	"T"	"S"	"W"	BOLT CIRCLE	"P"
6.0" thru 9.2"	3/4" min.	13" sq.	16" sq.	15"	4 1/2"
8.5" thru 10"	1 1/4" min.	15" sq.	18" sq.	17 1/4"	4 1/2"
11" and 12"	1 1/4"	17" sq.	25" sq.	22"	4 1/2"



BASE FRAME

STEEL TRANSFORMER BASES

TABLE NO.2 TRANSFORMER BASE ANCHOR BOLTS			
SHAFT SIZE	STEEL POLE GUAGE NO. 11	7	3
6.5"	1" ø x 40"	1" ø x 40"	1" ø x 40"
7"			
7.5"			
8"			1 1/4" ø x 48"
8.5"		1 1/4" ø x 48"	
9"			
9.5			1 1/4" ø x 48"
10"			
11"	1 1/4" ø x 48"		1 1/2" ø x 60"
12"		1 1/2" ø x 60"	

40" bolts include 4" bend
48" and 60" bolts include 6" bend

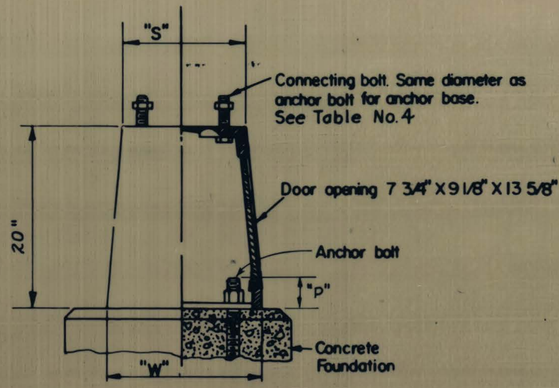
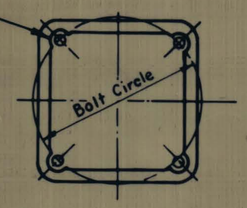


TABLE NO. 3 ALUMINUM TRANSFORMER BASES					
TYPE	"P"	"S"	"W"	BOLT CIRCLE	SHAFT SIZE
AT-A	4 1/2"	13"	16 3/8"	15"	SEE NOTE 2
AT-C	4 1/2"	14 5/8"	17 1/4"	17 1/4"	SEE NOTE 3



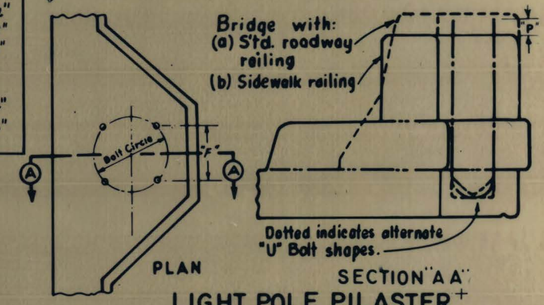
BASE FRAME

TABLE NO. 5			
SHAFT SIZE	"F"	U-BOLT LENGTH ‡ SIDEWALK	STD. RDWY
6.5"	6 3/4"	75"	82"
7.0"	7 1/16"	75"	82"
7.5"	7 7/16"	76 1/2"	83 1/2"
8.0"	7 3/4"	76 1/2"	83 1/2"
8.5"	8 1/8"	76 1/2"	83 1/2"
9.0"	8 7/8"	78"	85"
9.5"	9 3/16"	78"	85"
10.0"	9 9/16"	79 1/2"	86 1/2"
11.0"	10 5/8"	79 1/2"	86 1/2"
12.0"	11 3/16"	81"	88"

‡ See NOTE 4

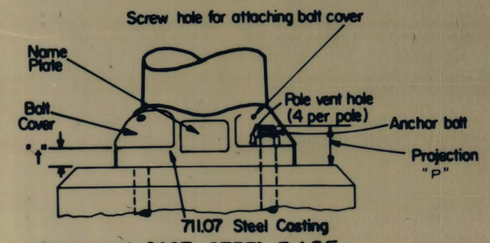
CAST ALUMINUM TRANSFORMER BASES

SHALL NOT BE USED WHERE OVERHEAD WIRING IS REQUIRED



LIGHT POLE PILASTER+

BRIDGE MOUNTED POLES



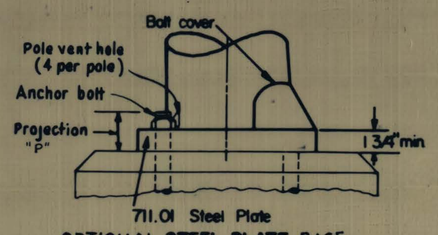
OPTIONAL **CAST STEEL** BASE
(See TABLE NO.4)

TABLE NO. 4 ANCHOR BOLTS FOR STEEL ANCHOR BASES						
SHAFT SIZE	BOLT CIRCLE	BOLT* PROJ. "p"	"t"	POLE GUAGE NO.11	NO. 7	NO.3
6.5"	9 1/2"	2 1/8"	7/8"	1" x 40"	1 1/4" x 48"	1 1/4" x 48"
7"	10"	2 1/4"	1"			
7.5"	10 1/2"	2 5/8"	1 1/8"			
8"	11"	2 5/8"	1 3/16"			
8.5"	11 1/2"	2 3/4"	1 1/4"			
9"	12 1/2"	3"	1 5/16"			1 1/2" x 60"
9.5	13"	3 1/8"	1 3/8"	1 1/4" x 48"		
10"	13 1/2"	3 3/8"	1 7/16"			
11"	15"	3 5/8"	1 5/8"		1 1/2" x 60"	1 3/4" x 90"
12"	16"	4	1 11/16"			

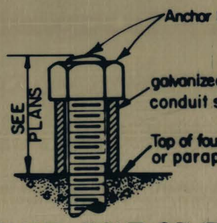
* Based on cast steel anchor bases only. For plate bases the projection shall be increased by the amount the plate thickness exceeds the "t" dimension shown.

STEEL ANCHOR BASES

(See optional base plate details on either side)



OPTIONAL **STEEL PLATE** BASE
(See TABLE NO.4)



ANCHOR BOLT COVER

Note: To be placed on all light pole anchor bolts provided for future lighting installations.

NOTES

1. For pole grounding details see "POLE WIRING," HL-9
2. Type AT-A base shall normally be used with anchor base poles having diameters of 6 inches through 9.2, inches inclusive, and mounting heights through 41.7 feet.
3. Type AT-C base must be used for anchor base poles having diameters of 9.5 inches and 10 inches and mounting heights through 51.7 except for exclusions listed below:
   - *a* All double-arm poles with mounting heights of 50 feet.
   - *b* All single-arm poles with mounting heights of 50 feet and arm lengths of 25 feet and 30 feet.
   - *c* All double-arm poles with mounting heights of 45 feet and arm lengths of 25 feet and 30 feet.
   - *d* All single-arm poles with mounting heights of 45 feet and arm length of 30 feet.

   On excepted poles above, transformer bases of material other than cast aluminum shall be used.
4. U-bolt lengths shown in TABLE NO.5 are developed lengths and may vary ±1/2". Lengths are for 1", 1 1/4", 1 1/2" and 1 3/4" diam. bolts. Lengths shown are for bridges with sidewalk railing and for bridges having a standard roadway railing.
5. For anchor bolt data when transformer bases are to be mounted on bridge pilasters see TABLE NO.1 and TABLE NO.2.
6. For median-mounted pole base details See HL-17A or HL-17B

+ For pilaster dimensional details, See HL-4

— FOR INFORMATION ONLY —
(THIS SHEET)

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

HIGHWAY LIGHTING

POLE BASE DETAILS

DATE 11-1-65, 4-6-73, 7-27-73

STANDARD CONSTRUCTION DRAWING HL-3

APPROVED: W. J. Cunningham Engineer of Design Services

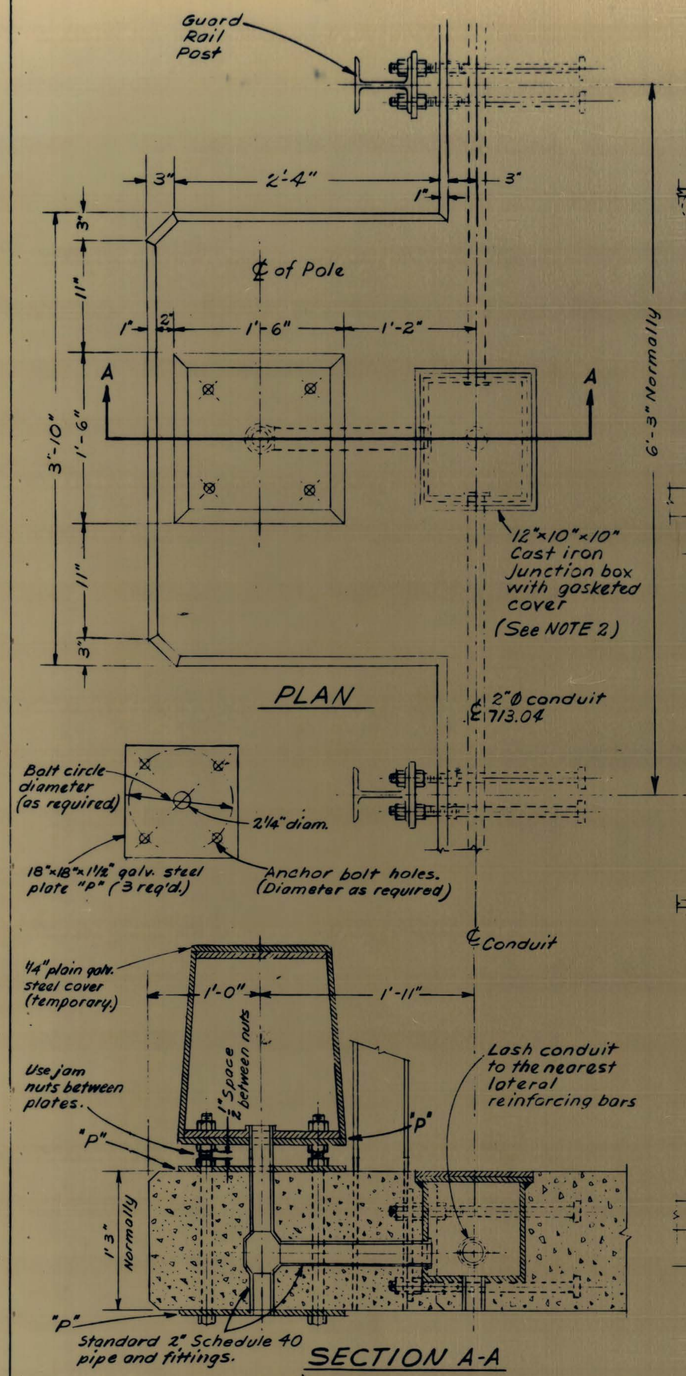
STRUCTURE LIGHTING II

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824 – 19.26/0.00

FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F-338 (002) 318-AL-56-0.00		JACKSON, W.VA. MEIGS, OHIO	36	125

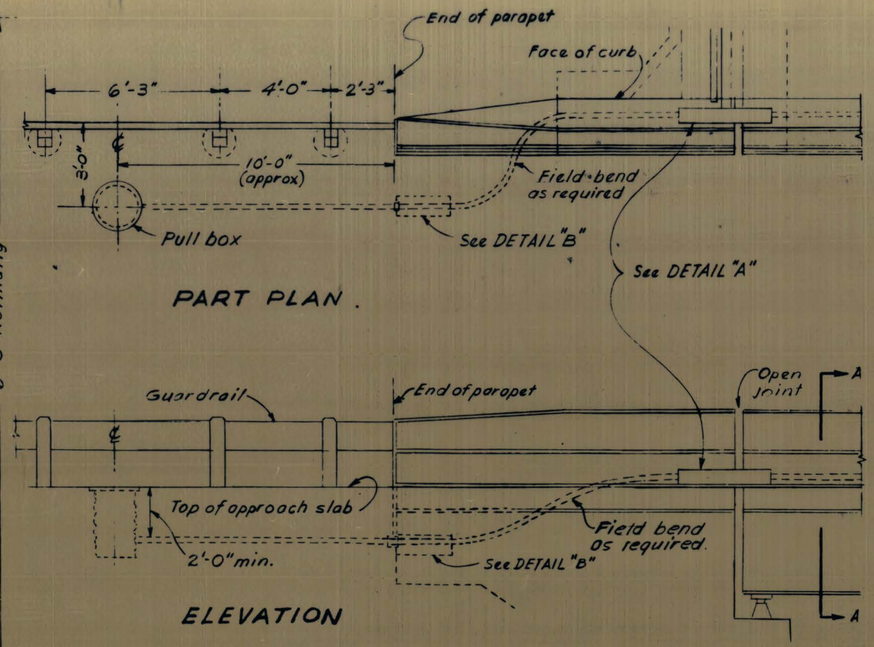
C-4 E-11



PLAN

SECTION A-A

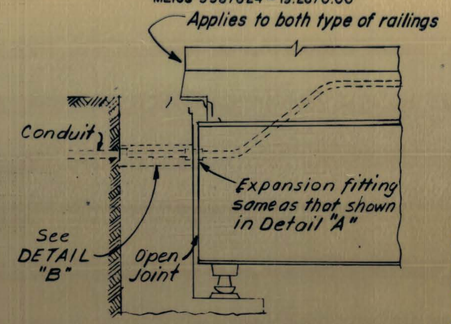
LIGHT POLE PILASTER FOR BRIDGE WITHOUT CURBS AND WITH HIGHWAY GUARD RAIL



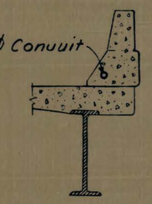
PART PLAN.

ELEVATION

CONDUIT DETAILS FOR BRIDGE WITH STANDARD ROADWAY RAILING



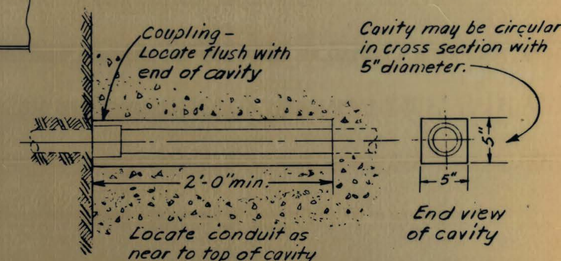
STRAIGHT WING WALL



SECTION A-A

NOTES

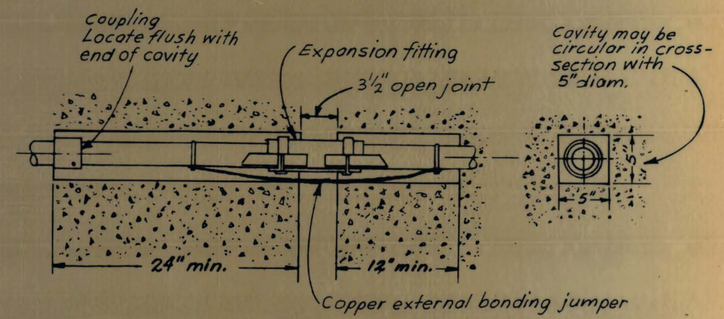
1. Fill space around the conduit and/or fittings within the cavity with a polyurethane foam or other approved cold applied joint sealer.
2. All conduit openings in junction boxes shall be bossed drilled and topped. Covers shall be ¼" min. thick cast iron.



DETAIL "B"

CAVITY FOR CONDUIT CONNECTION AT BRIDGE ABUTMENTS

Dimensions may be altered to fit abutment design

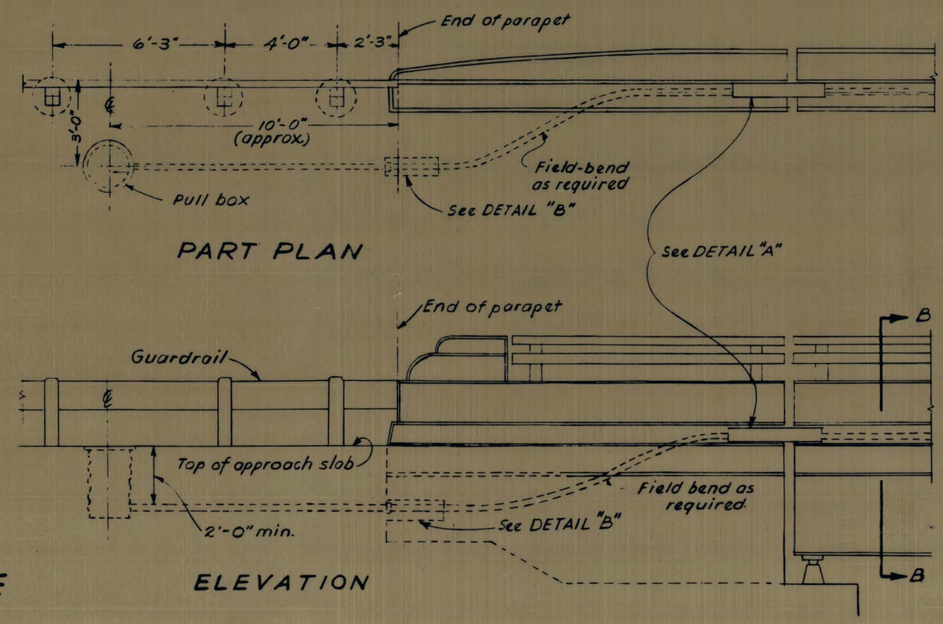


Locate conduit and fittings as near to top of cavity as possible.

DETAIL "A"

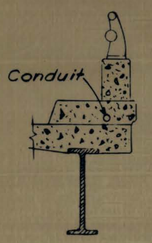
CAVITY FOR CONDUIT EXPANSION FITTING

Dimensions may be altered to fit abutment design.



PART PLAN

ELEVATION



SECTION B-B

CONDUIT DETAILS FOR BRIDGE WITH SIDEWALK RAILING

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

HIGHWAY LIGHTING

DATE 4-6-73 9-6-73

STRUCTURE LIGHTING II

STANDARD CONSTRUCTION DRAWING HL-5

APPROVED: W. J. Cunningham Engineer of Design Services

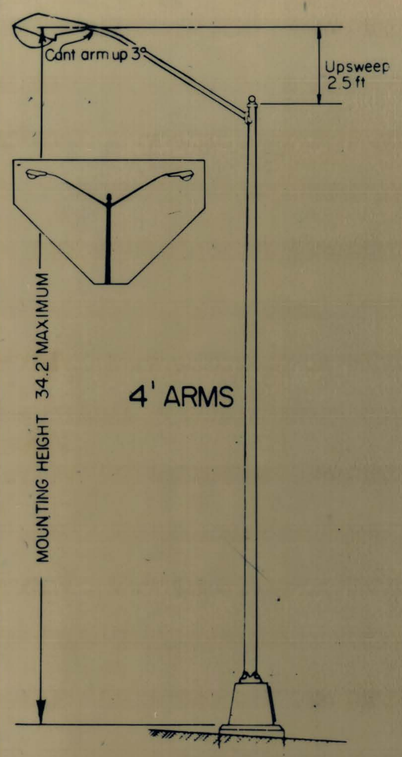
LIGHT POLE STYLES

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824-19.26/0.00

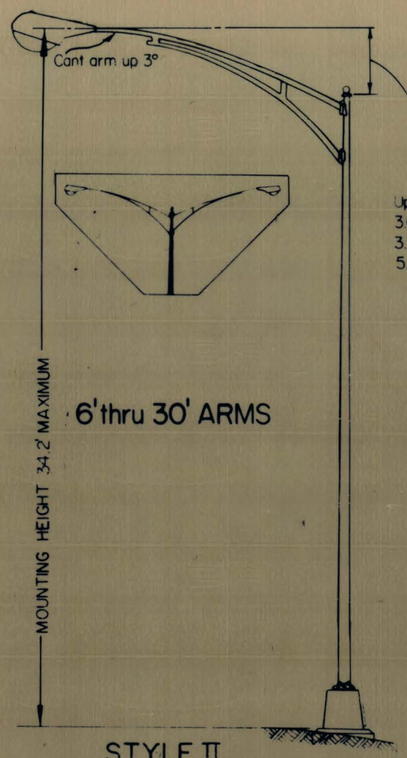
FED. HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F-338(002)		JACKSON, W.VA.	37	125
		318-AL 56-0.00		MEIGS, OHIO		

C-4 E-12



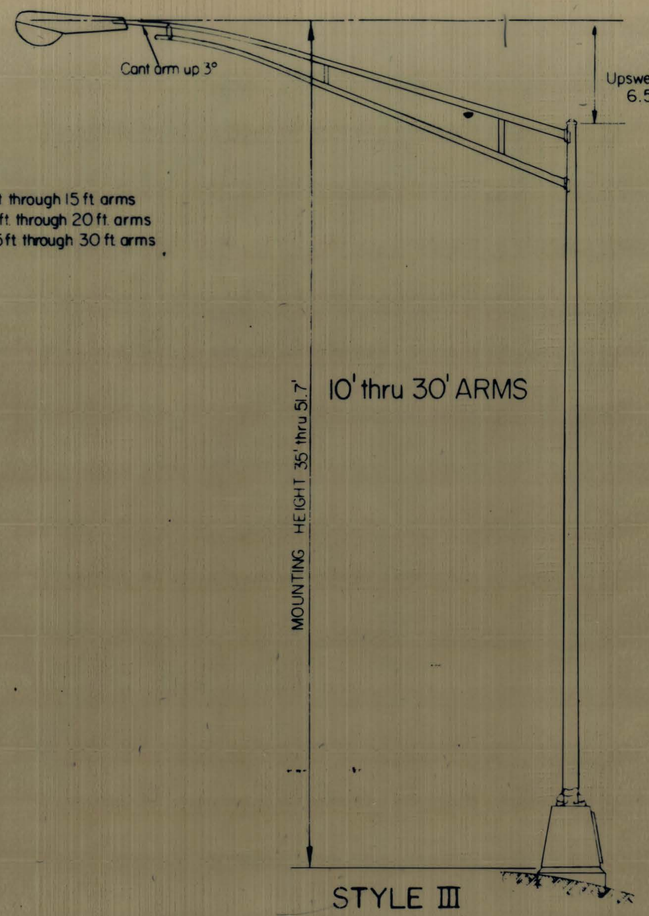
4' ARMS

STYLE I



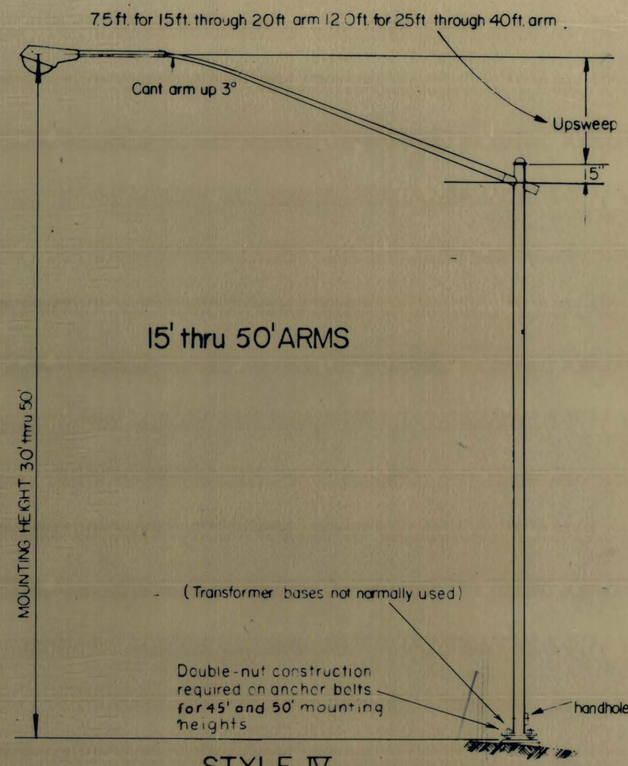
6' thru 30' ARMS

STYLE II



10' thru 30' ARMS

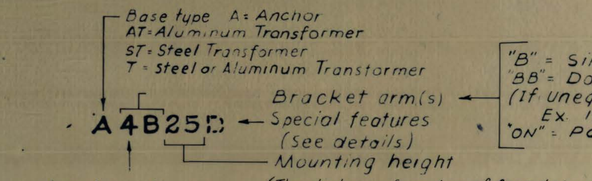
STYLE III



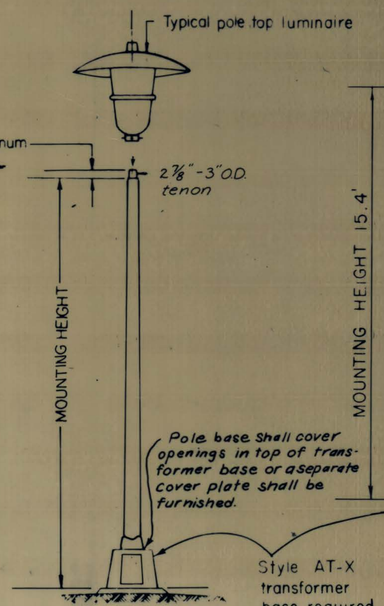
15' thru 50' ARMS

STYLE IV

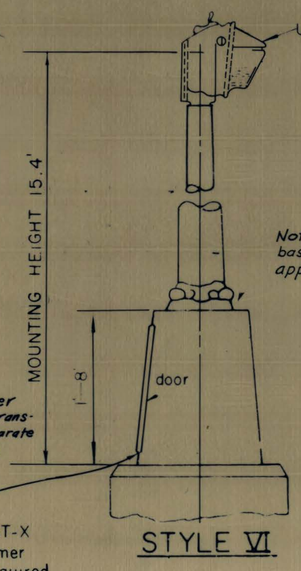
NOTE: *Subject to the approval of the Engineer, modification of the ratio of bracket upsweep to arm length is permissible provided the basic pole proportions are maintained as shown*



LIGHT POLE DESIGN NUMBER

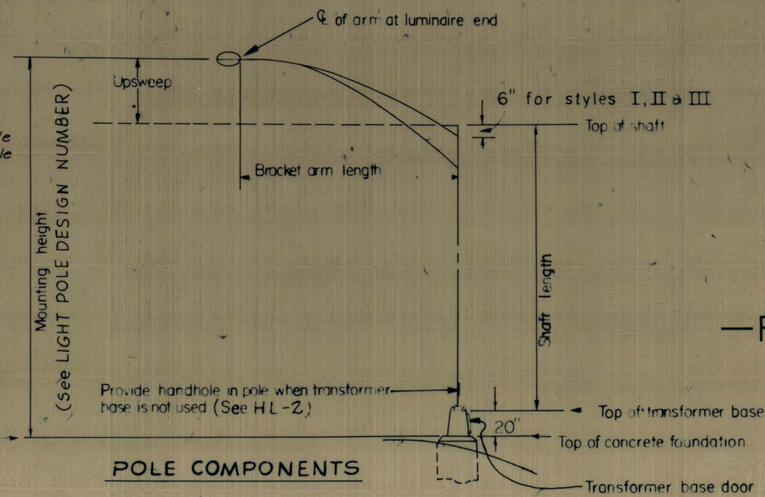


STYLE V



STYLE VI

Note regarding pole base for Style V pole applies here also.



POLE COMPONENTS

—FOR INFORMATION ONLY
(THIS SHEET)

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

HIGHWAY LIGHTING

LIGHT POLE STYLES

DATE 4-6-73, 9-6-73, 12-10-75, 1-21-76

STANDARD CONSTRUCTION DRAWING HL-8

APPROVED _____ Engineer of Design Services

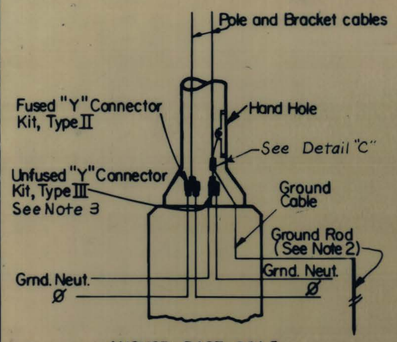
POLE WIRING

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

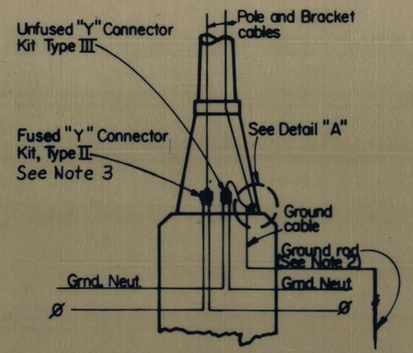
MEIGS 338/824 - 19.26/0.00

FED HWY. ADM	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F-338 (002) 318-AL56-0.00		JACKSON, W.VA MEIGS, OHIO	38	125

C-4 E-13

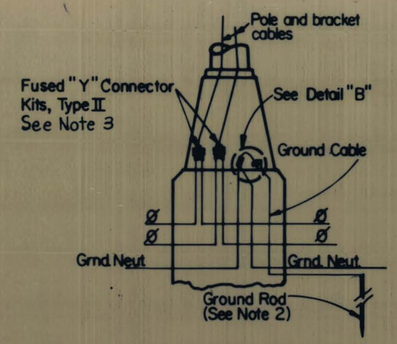


ANCHOR BASE POLE

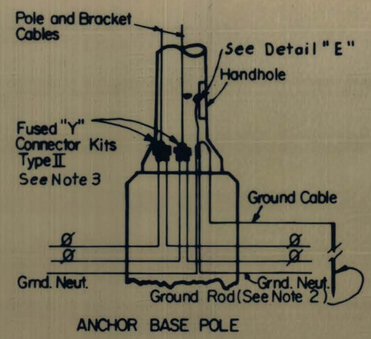


TRANSFORMER BASE POLE

480 VOLT, TWO-WIRE, GROUNDED NEUTRAL

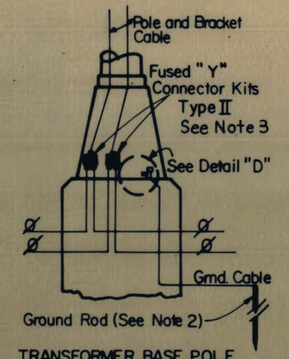


TRANSFORMER BASE POLE



ANCHOR BASE POLE

120/240 VOLTS, THREE WIRE, GROUNDED NEUTRAL



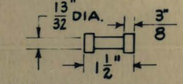
TRANSFORMER BASE POLE

240 or 480 VOLTS, TWO-WIRE, UNGROUNDED

NOTES

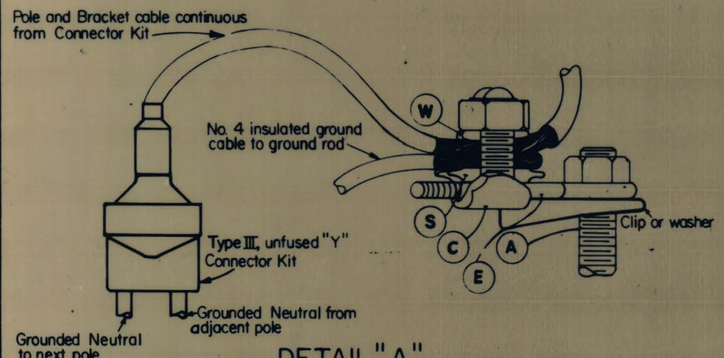
FOR INFORMATION ONLY

1. Provide sufficient slack in all cables to permit bringing Kits outside of pole base through handhole of anchor base poles or door in transformer base poles.
2. For structure-mounted poles substitute "Structure grounding system" for "ground rod."
3. Fuses for connector Kits shall be as follows:

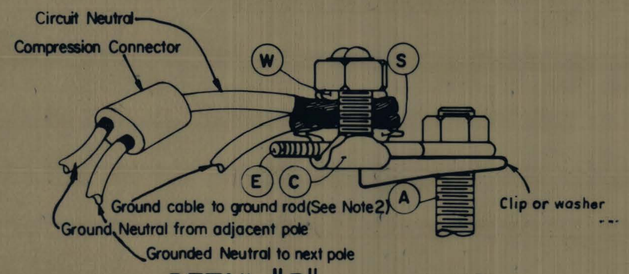


Any standard Midget Ferrule type fuse, (except glass tube) may be used in this connection.

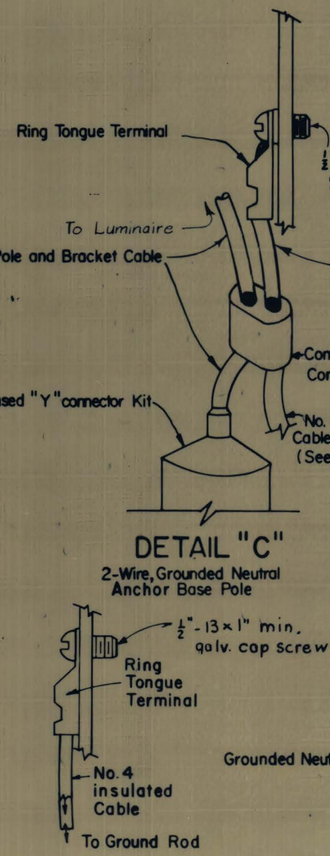
Fuses rated 600 volts and 10 amperes minimum shall be used unless other wise specified.



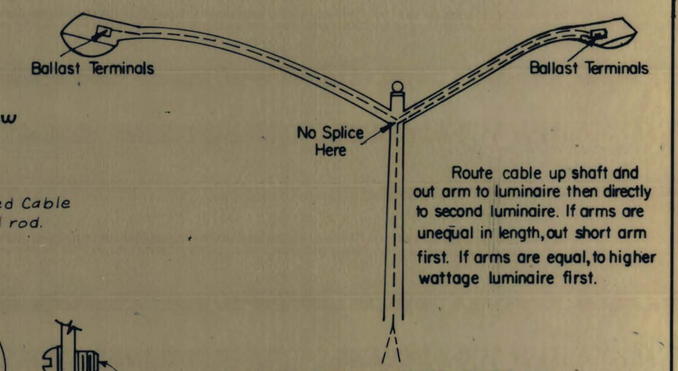
DETAIL "A"
2-Wire Grounded Neutral
Transformer Base Pole



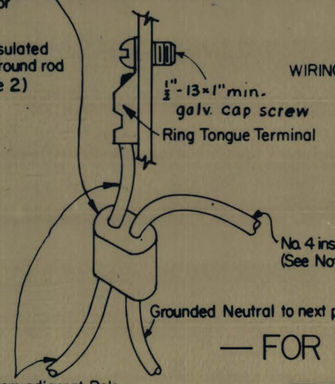
DETAIL "B"
3-WIRE, GROUNDED NEUTRAL
Transformer Base Pole



DETAIL "C"
2-Wire, Grounded Neutral
Anchor Base Pole



WIRING FOR TWIN-LUMINAIRE POLES

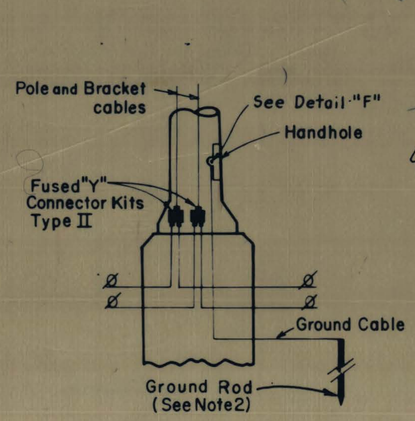


DETAIL "E"
3-Wire, Grounded Neutral
Anchor Base Pole

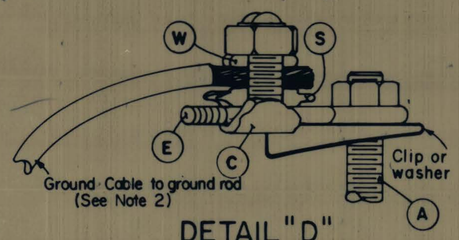
DETAIL "F"
2-WIRE UNGROUNDED

LEGEND of ITEMS COMMON TO DETAILS "A", "B", & "D"

- (A) Anchor Bolt
- (C) Tin Plated Copper Split Bolt Connector with the following components:
  - (S) Spacer (Tin plated)
  - (W) Washer
  - (E) 3/8"X4" Galv. Steel eyebolt



Anchor Base Pole



DETAIL "D"
2-Wire, Ungrounded Circuit
Transformer Base Pole

240 or 480 VOLTS, TWO-WIRE, UNGROUNDED

— FOR INFORMATION ONLY —
(THIS SHEET)

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

HIGHWAY LIGHTING

POLE WIRING

DATE
4-6-73
9-6-73
1-21-76
3-22-77

STANDARD CONSTRUCTION DRAWING HL-9

APPROVED: W. J. Cunningham Engineer of Design Services

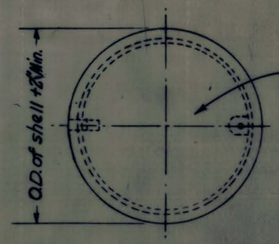
PULL BOX DETAILS

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

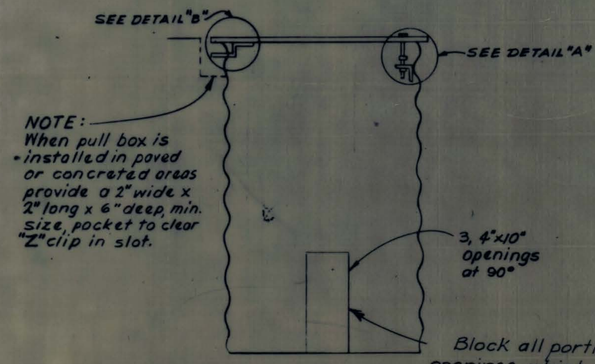
MEIGS 338/824-19.26/0.00

FED HWY. ADM.	STATE DIST. NO.	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	3	F-338(002) 318-AL 56-000		JACKSON, W.VA. MEIGS, OHIO	39	125

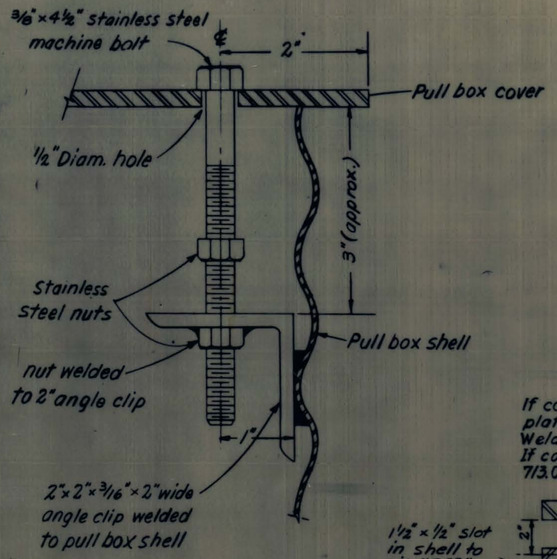
E-14



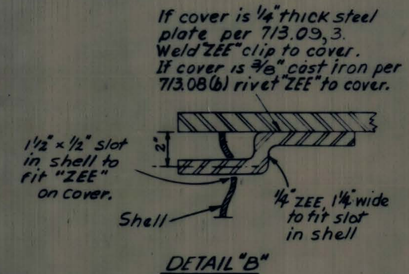
PLAN



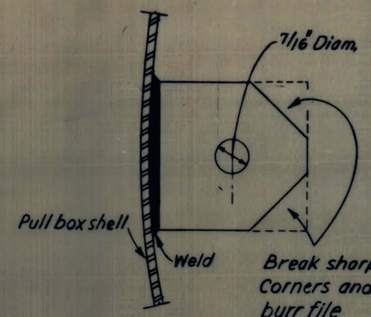
ELEVATION



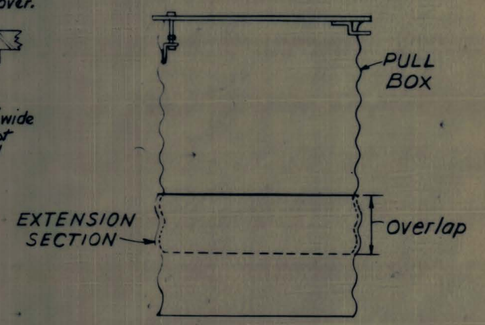
DETAIL "A"



DETAIL "B"



PLAN OF ANGLE CLIP



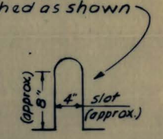
GRADE ADJUSTMENT EXTENSION SECTION

NOTES

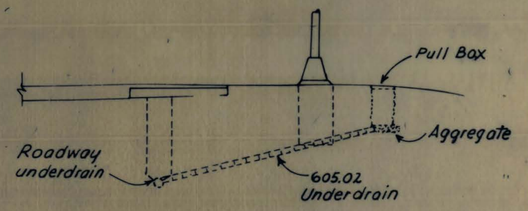
1. An air bell shall be provided only when specifically required by the plans.
2. Approximate Air Bell sizes:

Pullbox Diameter	Air Bell Diameter	Air Bell Height
18"	16¾"	20½"
24"	20½"	28½"

3. When required to provide a clear opening for the duct cable the air bell for the 24" diameter pullbox shall be notched as shown



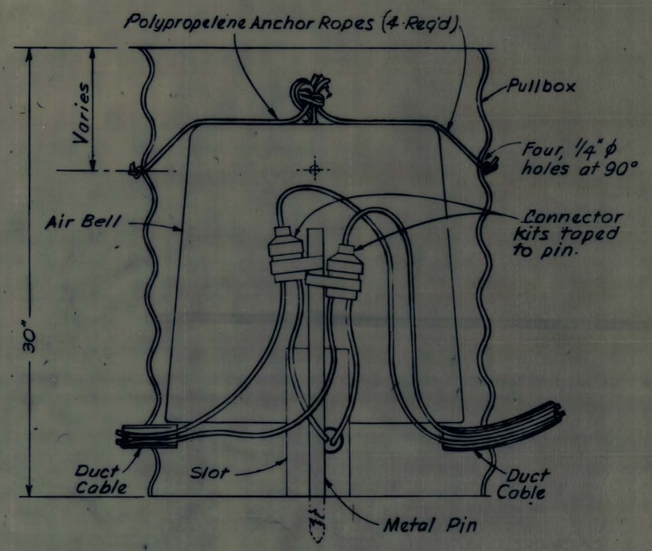
4. Pull Box Drain shall be installed only when specified or directed by the Engineer. The installation and payment shall be in accordance with 605.



PULL BOX DRAIN TO UNDERDRAIN IN CUT AREA

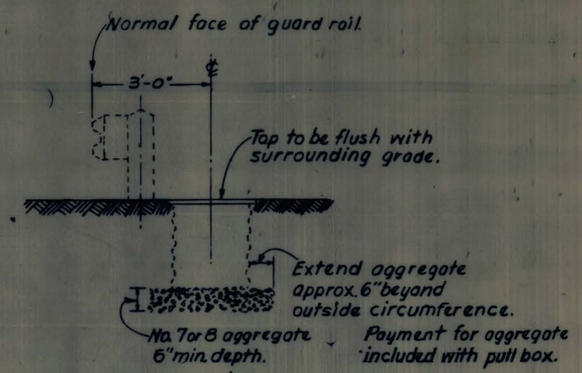
See Note 4.

CORRUGATED STEEL PULL BOX

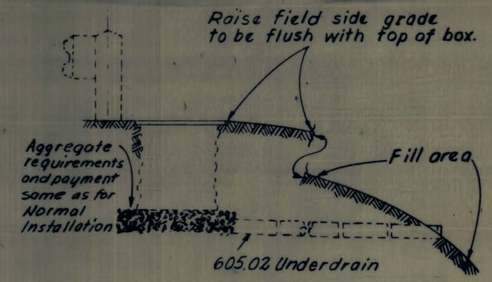


INTERIOR VIEW OF PULLBOX SHOWING ANCHORED AIR BELL AND SUPPORT FOR CONNECTOR KITS.

(See Notes 1 through 3)



NORMAL INSTALLATION



PULL BOX DRAIN ADJACENT TO FILL AREA

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

HIGHWAY LIGHTING

PULL BOX DETAILS

DATE 4-6-73 9-6-73 1-21-76

STANDARD CONSTRUCTION DRAWING HL-10

APPROVED: W. J. Cunningham Engineer of Design Services

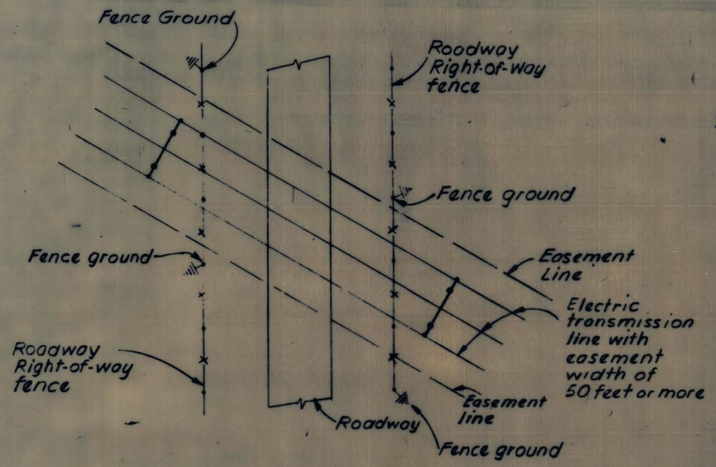
MISCELLANEOUS DETAILS I

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

MEIGS 338/824 - 19.26/0.00

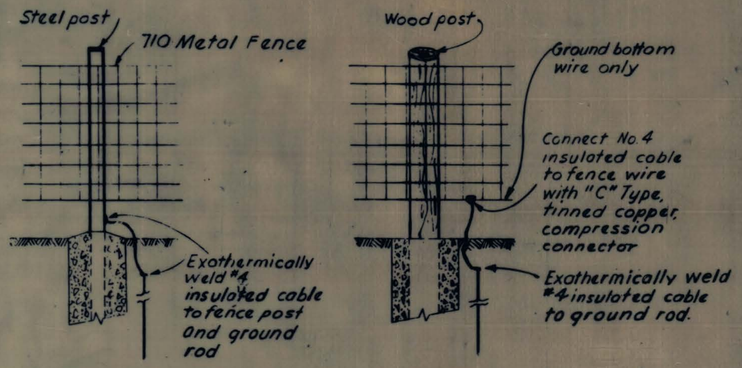
FED HWY. ADM	STATE DIST. NO	FEDERAL PROJECT NO. STATE	FISCAL YEAR	COUNTY	SHEET NO	TOTAL SHEETS
W.VA.	3	F-338 (002) 318-AL56-000		JACKSON, W.VA MEIGS, OHIO	40	125

C-4 E-15



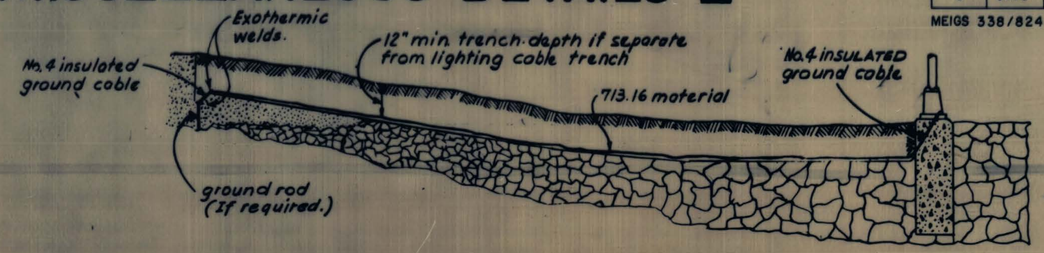
CROSSING OF ROADWAY R/W & TRANSMISSION LINE EASEMENT

(See Note 1)

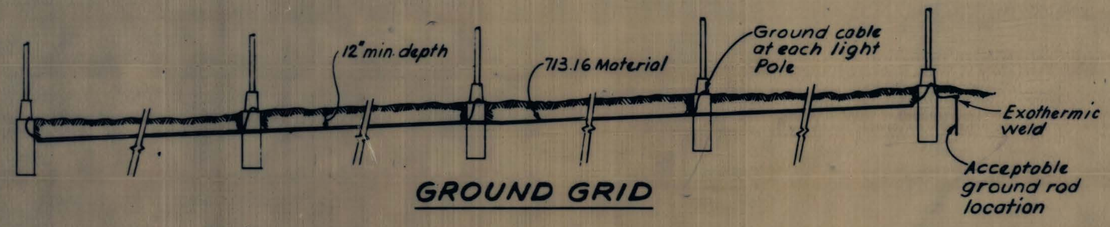


FENCE GROUND DETAILS

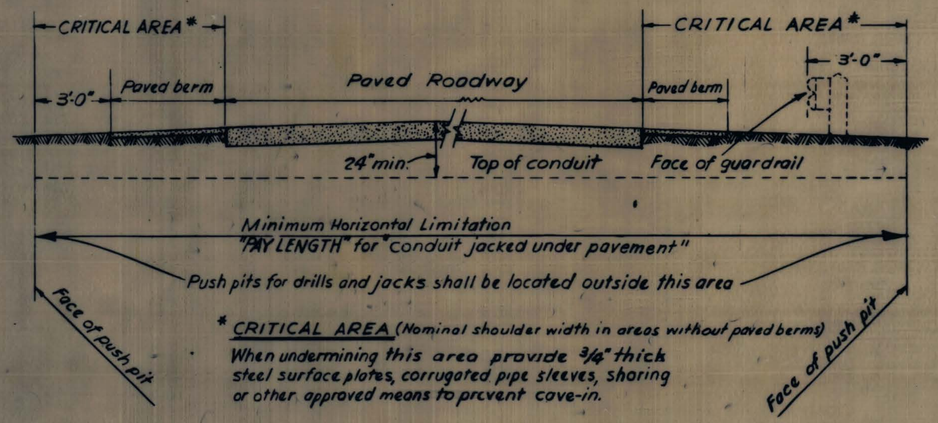
When specified, roadway right-of-way fences shall be grounded as shown hereon. (See also Notes 1, 2, 3, & 4)



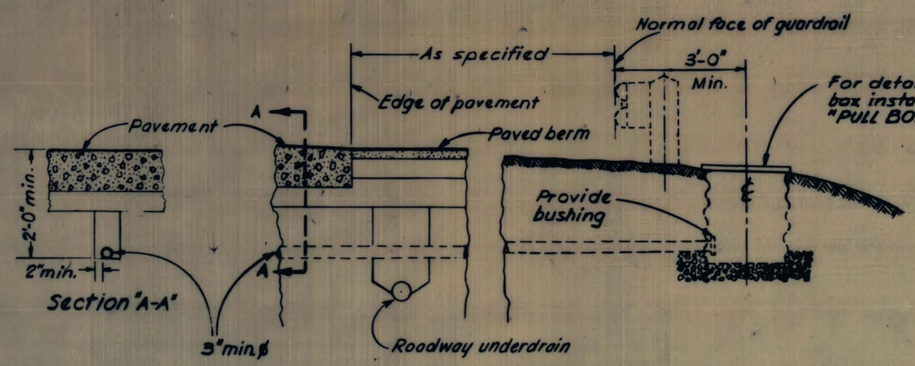
MODIFIED GROUND GRID FOR INDIVIDUAL POLE GROUND



GROUND GRID



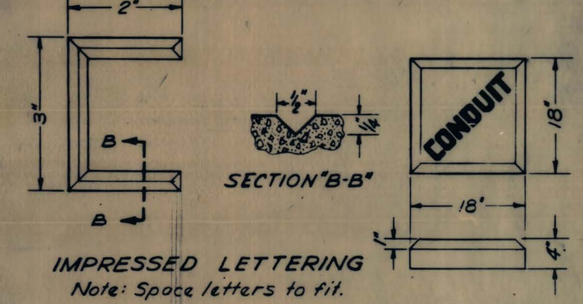
DETAIL FOR CONDUIT JACKED UNDER PAVEMENT



TYPICAL CONDUIT CROSSOVER DETAIL

NOTES

1. Where overhead transmission line easements 50 feet or more in width cross a fenced roadway right-of-way, each fence shall be grounded as shown hereon.
2. Where overhead electric power line easements less than 50 feet in width cross a fenced roadway right-of-way, each fence shall be grounded directly below the centerline of the power line crossing.
3. Where overhead transmission lines rated 110 KV or higher are parallel to roadway fences and the transmission line easement is contiguous to the roadway right-of-way the roadway fences shall be grounded at least every 300 ft.
4. Fence grounds will be paid for at unit price bid for Ground Rods, Item 625.
5. Apply two coats of insulating varnish over all exothermic welds and exposed cable.



IMPRESSED LETTERING

Note: Space letters to fit.

"CONDUIT" - to indicate conduit for future cable or wire.

"CABLE" - to indicate abrupt change in direction of cable

CONCRETE MARKER

(625.16)

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

HIGHWAY LIGHTING — DATE 4-6-73

MISCELLANEOUS DETAILS I

STANDARD CONSTRUCTION DRAWING **HL-11**

APPROVED: _____ Engineer of Design Services.

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	41	125

MEIGS CO., OHIO

Relocated Channel 10' Bottom

90° Typical for all Substructure Units

OHIO RIVER

Flow

N

B&O Railroad (Chessie System)

2 Existing 600 PR. Buried Cable placed on Proj. No. D.P.-R.E.-324(4).

Sta. 846+53.00 ℄ Ravenswood Bridge = at ℄ West Virginia Route 2

Columbia Gas of W. Va., Inc. (4" Line)

402.9' Horizontal Clearance Ahead Stations

891.5' Horizontal Clearance

91° 51' 20" Tan. to Curve

N. 70° - 24' - 33" E.

91° 31' 55" Tan. to Curve

℄ Bridge & P.G. Line

Sta. 846+00.00 ℄ Ravenswood Bridge = Sta. 4941+66.00 ℄ B&O Railroad (Chessie System)

River's Edge at Elev. 560.0

River's Edge at Elev. 560.0

Existing Buried Cable placed on Proj. No. D.P.-324 (1)

JACKSON CO., WEST VIRGINIA

Telegraph Line (Overhead)

W. Va. Rte. 2

PLAN

38'-0" ℄ Trusses

16'-1½" 16'-1½"

℄ Bridge

Apply P.G.

TYPICAL SECTION-TRUSS SPANS

1200' V.C.

+2.0% +2.31% +2.0% -2.0% -2.31% -2.0%

Sta. 822+11.42 Begin Approach Slab

Sta. 822+31.42 End Approach Slab at Abut.

P.V.I. Sta. 840+00 Elev. 649.0625 M.O. = 6.0'

Sta. 849+45.83 Begin Approach Slab at Abut.

Sta. 849+65.83 End Approach Slab

PROFILE GRADE

2709'-9" % Brgs. at Abutments

Dimensions along ℄ Bridge	150'-0" Span 1	150'-0" Span 2	151'-0" Span 3	151'-0" Span 4	150'-0" Span 5	152'-2" Span 6	411'-1" Span 7	902'-0" Span 8	410'-6" Span 9	82'-0" Span 10
	℄ Brgs. Abut. A Sta. 822+33.75	℄ Pier 1 Sta. 823+83.75	℄ Pier 2 Sta. 825+33.75	℄ Pier 3 Sta. 826+84.75	℄ Pier 4 Sta. 828+35.75	℄ Pier 5 Sta. 829+85.75	℄ Pier 6 Sta. 831+37.92	℄ Pier 7 Sta. 835+49.00	℄ Pier 8 Sta. 844+51.00	℄ Pier 9 Sta. 848+61.50	℄ Brgs. Abut B Sta. 849+43.50

36.72' Vert. Cl. over Exist. R.R. Track

32.40' Vert. Cl. over Exist. Rte. 2

Top of Ftg. Elev. 601.50

Berm Elev. 603.00

Top of Ftg. Elev. 621.20

Berm Elev. 622.70

Exp. Fix. Exp. Exp. Exp. Fix. Exp. Exp. Exp. Exp. Exp. Fix. Exp. Exp. Fix.

Elev. 580.00 Elev. 580.00 Elev. 581.00 Elev. 580.50 Elev. 551.00 Elev. 539.50 Elev. 540.00 Elev. 541.00 Elev. 601.0

Piles HP 12x53

Piles HP 14x73

Piles HP 12x53

Piles HP 12x53

High Water Elev. 587.9 (50 Yrs. Frequency)

Normal Pool Elev. 560.0

2% Flow Line Elev. 574.9

For Vertical Clear See Below

8" Crushed Rock Slope Protection and Concrete Gutters centered under Free Drop Scuppers.

Approx. Top of Rock

8" Crushed Rock Slope Protection

Approx. Existing Ground Line at ℄ Bridge

Concrete Gutters

600 500 400

DATUM ELEV. 300

586 584 582.6 584 586 584 584 580 574 570 568 566 562 558 550 544 540 544 544 540 536 544 540 538 544 544 540 536 534 532 530 530 592 532 536 540 544 548 552 558 570 586 590 594 594 590 588 586

825 830 835 840 845 850

402.9' Horizontal Clearance

891.5' Horizontal Clearance

ELEVATION

100 50 0 100

Note:

- Substructure elevations shown are for tops of Footings.
- For Location of Roadway Lighting Poles, Luminaire Brackets and Navigational Lighting, See Dwg. "Layout For Bridge Roadway And Navigational Lighting".
- The following Construction Contracts are either under Construction or have been Completed:
  - Contract No. 1 - Includes Piers 6, 7 and 8.
  - Contract No. 2 - Includes Piers 1, 2, 3, 4, and 5, Abutment A below Bridge Seats, and Ohio Side Bridge Approach.
  - Contract No. 3 - Includes Pier 9, Abutment B below Bridge Seats, and West Virginia Side Bridge Approach.

HYDRAULIC DATA	
DESIGN FLOOD	BASIC FLOOD
Q=510,000 C.F.S. (Based on 1955 Flood)	Q=495,000 C.F.S.
Elev.: 592.0	Elev.: 591.5
Frequency: 120 - 140 Yrs.	Frequency: 100 Yrs.

NAVIGATIONAL VERTICAL CLEARANCES IN MAIN SPAN		
	ACTUAL In Feet	REQUIRED In Feet
From Normal Pool	70.45	69.00
From 2% Flow Line	55.55	55.00

CONTRACT NO. 4

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD GENERAL PLAN AND ELEVATION

MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY S&B DATE 2/1/75

DETAILED BY T.M.K. CHECKED BY S&B DATE 2/1/75

TRACED BY T.M.K. CHECKED BY S&B DATE 2/1/75

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	1 of 82

3/78

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W. Va. Meigs, Ohio	42	125

GOVERNING SPECIFICATIONS

THE GOVERNING SPECIFICATIONS ARE THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS' "STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES" AS ADOPTED IN 1978, TOGETHER WITH THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS' "SUPPLEMENTAL SPECIFICATIONS" DATED JANUARY 1, 1978.

ALL MATERIALS, WORKMANSHIP AND INSPECTION FOR THE WELDING OF STEEL STRUCTURES OR PARTS THEREOF SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN WELDING SOCIETY "STRUCTURAL WELDING CODE" AWS D1.1-72 (INCLUDING REVISION 1-73) AS SHOWN IN AASHTO "STANDARD SPECIFICATIONS FOR WELDING OF STRUCTURAL STEEL HIGHWAY BRIDGES, 1974", EXCEPT AS FURTHER MODIFIED BY THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS SPECIFICATIONS.

DESIGN

THE BRIDGE IS DESIGNED IN ACCORDANCE WITH THE AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" DATED 1973, INCLUDING THE 1974, 1975, AND 1976 "INTERIM SPECIFICATIONS," AND UTILIZING AN HS20-44 LIVE LOADING. THE DESIGN DEAD LOAD OF THE BRIDGE DECK INCLUDES THE DECK SLAB THICKNESS PLUS INTEGRAL WEARING SURFACE OF 1-3/4 INCH THICKNESS FOR THE MAIN TRUSS SPAN AND 1-1/2 INCH THICKNESS FOR THE GIRDER SPANS AND TRUSS ANCHOR SPANS. THE DESIGN DEAD LOAD ALSO INCLUDES AN ADDITIONAL 25 POUNDS PER SQUARE FOOT FOR ANY FUTURE WEARING SURFACE. EXCEPT FOR THE MAIN TRUSS SPAN, THE DEAD LOAD OF THE DECK SLAB INCLUDES THE ADDITIONAL WEIGHT OF THE CONCRETE FILLER AND PANS FOR THE STAY-IN-PLACE FORMS.

DESIGN UNIT STRESSES

CLASS A CONCRETE	CLASS B	CLASS K CONCRETE
F'C = 3,500 PSI	F'C = 3,000 PSI	F'C = 3,600 PSI
FC = 1,400 PSI	FC = 1,200 PSI	FC = 1,200 PSI
N = 8	N = 9	N = 9

REINFORCEMENT STEEL
FS = 20,000 PSI

STRUCTURAL STEEL

ASTM A-36 STEEL	- FS = 20,000 PSI	FY = 36,000 PSI MIN
ASTM A-572 STEEL	- FS = 27,000 PSI	FY = 50,000 PSI MIN (UNLESS OTHERWISE NOTED)
ASTM A-588 STEEL	- FS = 27,000 PSI	FY = 50,000 PSI MIN

PREFORMED ELASTOMERIC JOINT SEALER

THE PREFORMED ELASTOMERIC JOINT SEALER FOR THE DECK SLAB STRINGER RELIEF JOINTS AND FOR THE FIXED JOINT AT ABUTMENT B SHALL CONFORM TO THE REQUIREMENTS OF SUB-SECTION 708.2 OF THE SPECIFICATIONS.

ANCHOR BOLTS

ANCHOR BOLTS SET IN CONCRETE PARAPET FOR BRIDGE ROADWAY LIGHTING STANDARDS INCLUDING WASHERS AND NUTS SHALL BE FURNISHED AND INSTALLED AT THE CORRECT LOCATIONS AND TO THE CORRECT PROJECTIONS AS INDICATED ON THE DRAWINGS. BEFORE INSTALLATION, THE PROTRUDING PORTIONS PLUS 6" OF THE BOLT AND HARDWARE SHALL BE PAINTED WITH A ZINC-RICH SYSTEM IN ACCORDANCE WITH SECTION 711.20 (4 MILS). THE BOLTS SHALL BE SET BY TEMPLATE.

CONCRETE

CLASS K CONCRETE SHALL BE USED IN ALL BRIDGE DECKS AND BRIDGE PARAPETS.

CLASS A CONCRETE SHALL BE USED IN THE HALF-FILLED GRID FLOORS.

CLASS B CONCRETE SHALL BE USED IN ABUTMENTS AND WINGWALLS.

A WATER-REDUCING, SET-RETARDING ADMIXTURE SHALL BE USED IN THE DECK SLAB AND FILLED-GRID CONCRETE. THE COST OF THE ADMIXTURE SHALL BE INCORPORATED IN THE UNIT PRICE BID FOR THE CONCRETE IN WHICH IT IS USED.

FOR THE PLACEMENT OF THE DECK SLAB CONCRETE, THE USE OF MECHANICAL PLACEMENT AND FINISHING EQUIPMENT IS REQUIRED.

THE FOLLOWING RESTRICTIONS SHALL APPLY TO THE APPLICATION OF LOADS TO A COMPLETED CONCRETE DECK SLAB:

(A) POWER OPERATED BUGGIES MAY CROSS A SECTION OF THE DECK SLAB PROVIDED THE CONCRETE HAS ATTAINED A STRENGTH OF 2,500 PSI FOR CLASS K CONCRETE AND 2,900 PSI FOR CLASS A CONCRETE.

(B) CONCRETE CONVEYOR BELT SYSTEMS MAY BE PLACED ON A SECTION OF DECK 24 HOURS AFTER THE CONCRETE IS PLACED, PROVIDED ITS WEIGHT IS PROPERLY DISTRIBUTED AND ITS OPERATION IS NOT DETRIMENTAL TO THE DECK.

(C) TRUCK MIXERS OR TRUCK AGITATORS AND OTHER HEAVY EQUIPMENT ON A STRUCTURE SHALL NOT BE USED UNTIL AUTHORIZED BY THE ENGINEER. SUCH AUTHORIZATION MAY ONLY BE GIVEN 14 DAYS AFTER THE LAST CONCRETE HAS BEEN PLACED.

ALL DECK SLAB AND PARAPET CONCRETE SHALL BE CHAMFERED 3/4" x 3/4" UNLESS OTHERWISE NOTED. ALL EXPOSED EDGES OF SUBSTRUCTURE CONCRETE SHALL BE CHAMFERED 1" x 1" UNLESS OTHERWISE NOTED.

REFER TO THE SPECIAL PROVISIONS "STRUCTURAL CONCRETE" FOR THE DECK SLAB METAL STAY-IN-PLACE FORMS AND FOR THE BASIS OF PAYMENT FOR THE DECK SLAB AND PARAPET CONCRETE.

REINFORCING STEEL BARS

ALL REINFORCING STEEL BARS SHALL BE INTERMEDIATE GRADE BILLET STEEL IN ACCORDANCE WITH ASTM A615, GRADE 40 OR GRADE 60.

ASTM A616 GRADE 50 BARS MAY BE USED IN THE SUBSTRUCTURE AND, IF USED, THEY SHALL MEET THE BEND TEST REQUIREMENTS OF A615 GRADE 60.

THE REQUIRED LAP AND EMBEDMENT LENGTH SHALL BE IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS.

THE CLEAR DISTANCE BETWEEN REINFORCING STEEL AND THE FACE OF CONCRETE SHALL BE AS FOLLOWS UNLESS OTHERWISE SHOWN ON THE DRAWINGS:

TOP OF SLAB 2 1/2" ALL OTHER LOCATIONS 2"
BOTTOM OF SLAB 1"

AS-BUILT SURVEY INFORMATION

AS-BUILT SURVEY INFORMATION FOR ALL SUBSTRUCTURE UNITS OF CONTRACT NO.1 IS AVAILABLE AND CAN BE OBTAINED FROM THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS. AS-BUILT SURVEY INFORMATION RELATED TO OTHER SUBSTRUCTURES OF CONTRACT NOS. 2 AND 3 WILL BE AVAILABLE AFTER COMPLETION OF THE RESPECTIVE CONTRACTS.

TEMPORARY NAVIGATION LIGHTS

THE TEMPORARY NAVIGATION LIGHTS FOR PIERS 6, 7 AND 8 WILL BE MAINTAINED BY THE CONTRACTOR UNTIL THE PERMANENT NAVIGATION LIGHTS ARE INSTALLED.

NOTICE TO CONTRACTORS

IT IS TO BE ANTICIPATED THAT OTHER CONTRACTORS WILL BE WORKING IN THIS AREA, AND IT IS IMPERATIVE THAT A STRICT PLAN OF COORDINATION BETWEEN CONTRACTORS BE AGREED ON IN REFERENCE TO WORKING PLANS AND STORAGE AREAS. THIS PLAN OF COORDINATION WILL BE PRESENTED TO THE ENGINEER IN WRITING FOR HIS REVIEW AND APPROVAL.

ABUTMENTS & PIERS COMPLETION DATES

IT IS ANTICIPATED, BUT NOT GUARANTEED, THAT THE ABUTMENTS AND LAND PIERS ON ADJACENT PROJECTS WILL BE COMPLETED BY OCTOBER 31, 1979.

FINAL GRADING AT ABUTMENTS

ANY EMBANKMENT AND FINAL GRADING REQUIRED TO FINISH THE SLOPES AROUND WINGWALLS AND ABUTMENTS SHALL BE FURNISHED UNDER THIS CONTRACT. NO SEPERATE PAY ITEM WILL BE PROVIDED AND COST TO BE INCIDENTAL TO THE CONTRACT.

FOR CONTINUATION OF GENERAL NOTES SEE DRAWING "GENERAL NOTES II"

CONTRACT NO. 4

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
GENERAL NOTES I

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY GGB DATE 3/1/76
DETAILED BY PPA/MB CHECKED BY GGB DATE 3/1/78
TRACED BY JCE CHECKED BY GGB DATE 3/1/78

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	——	2972	2 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W. VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	43	125

REPLACEMENT BARS

THE INSPECTOR SHALL PICK RANDOM BARS FROM THE REINFORCING BAR LIST FOR TEST BARS. HE SHALL CUT 5'-0" FROM THE BARS CHOSEN; RE-BARS IN THE LIST SHALL BE SPLICED TO THE BARS SO LISTED. THE RE-BARS HAVE BEEN DETAILED TO ALLOW EQUAL SPLICE LENGTH AT EACH END AS PER AASHTO STANDARD SPECIFICATIONS. ONE RE-BAR FOR EACH 10 TONS OR FRACTION THEREOF, OF EACH SIZE. THE RE-BARS HAVE BEEN INCLUDED IN THE BILL OF STEEL AND WILL BE PAID FOR UNDER ITEMS 602-1 AND 602-2. IN THE EVENT ALL BARS OF ANY ONE SIZE ARE NOT SENT IN ONE SHIPMENT, THE SUPPLIER SHALL FURNISH AT HIS EXPENSE, ONE FOR EACH 10 TONS OR FRACTION THEREOF FOR EACH EXTRA SHIPMENT. IN THE EVENT THAT ANY SHIPMENT OF MATERIAL HAS BEEN PRE-TESTED AND HAS BEEN IDENTIFIED IN ACCORDANCE WITH MATERIAL CONTROL, SOIL AND TESTING DIVISION'S "INFORMATIONAL MEMORANDUM NO. 17," THE SHIPMENT MAY BE ACCEPTED WITHOUT FURTHER TESTING SUBJECT TO RECORD SAMPLING PROCEDURES.

STEEL SUPERSTRUCTURE - GENERAL

THE LUMP SUM BID FOR ITEM 615-1 "STEEL SUPERSTRUCTURE", SHALL COMPRISE ALL METAL WORK IN THE APPROACH SPANS, THE TRUSS UNIT AND THE FLOOR SYSTEM INCLUDING THE SHOES, ROCKERS, ROLLERS, CASTINGS, BEARING AND SLAB PLATES, ANCHOR BOLTS AND NUTS, RAILING, RAILING POSTS, LADDERS, SCUPPERS, PIPE DOWNSPOUTS WITH COUPLINGS, BLAST CLEANING, AND ALL SHOP AND FIELD PAINTING.

STEEL SUPERSTRUCTURE - MATERIALS

ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36 EXCEPT AS NOTED ON THE PLANS.

ALL STRUCTURAL STEEL USED IN THE MAIN LOAD CARRYING MEMBERS WHICH ARE SUBJECT TO TENSION STRESS SHALL MEET THE CHARPY V-NOTCH TESTING REQUIREMENTS. THESE MEMBERS ARE:

A. FOR THE TRUSS SPANS

1. ALL CHORDS, DIAGONALS AND VERTICALS WHERE SO INDICATED ON THE PLANS; INCLUDING THEIR CONNECTING SPLICE PLATES AND GUSSETS.
2. THE BOTTOM FLANGE PLATES OF ALL FLOOR BEAMS.
3. ALL STRINGERS AND ALL PLATES OF THE STRINGER SPLICES.

B. FOR THE GIRDER SPANS

1. ALL GIRDER FLANGE PLATES WHERE SO INDICATED ON THE DRAWINGS.
2. ALL GIRDER SPLICE PLATES.

ALL FASTENERS SHALL BE HIGH STRENGTH BOLTS THAT CONFORM TO ASTM A325.

THE CONTRACTOR, AT HIS OPTION, AND AT NO ADDITIONAL COST TO THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS, MAY ELIMINATE ANY BUTT WELDED SPLICE IN ANY MEMBER BY EXTENDING THE THICKER OF THE PLATES.

CASTINGS SHALL BE OF THOSE GRADES AS SPECIFIED ON THE DRAWINGS.

REFER TO THE SPECIAL PROVISIONS FOR THE REQUIREMENTS OF "RADIOGRAPHIC INSPECTION OF STEEL CASTINGS".

1" DIAMETER FASTENERS SHALL BE USED IN THE CONNECTIONS AND SPLICES OF ALL TRUSS CHORDS, DIAGONALS, VERTICALS AND END PLATES OF FLOOR BEAMS AND STRUTS EXCEPT AS NOTED ON THE PLANS.

FASTENERS SHALL BE 7/8" DIAMETER IN THE FOLLOWING LOCATIONS:

(A) TRUSS STRINGERS AND STRINGER RELIEF JOINTS
(B) TRUSS FLOOR BEAMS
(C) TRUSS UPPER AND LOWER LATERAL BRACING
(D) TRUSS SWAY BRACINGS AND PORTALS
(E) STIFFENER ANGLES FOR TRUSS GUSSET PLATES
(F) ALL GIRDER SPANS

HEADS OF ALL BOLTS SHALL BE ON THE OUTSIDE FACE OF CONNECTIONS INSOFAR AS PRACTICABLE.

STEEL SUPERSTRUCTURE - FABRICATION AND ERECTION

ALL MEMBERS OF THE TRUSSES SHALL BE FABRICATED TO THE GEOMETRIC ANGLES BASED ON FINAL CHORD ELEVATIONS. THE MAIN FIELD CHORD CONNECTIONS SHALL BE REAMED OR DRILLED FROM THE SOLID TO THESE GEOMETRIC ANGLES. THE SPLICES SHALL BE REAMED OR DRILLED WITH THE CHORDS COMPLETELY ASSEMBLED TO THEIR GEOMETRIC ANGLES. A PROGRESSIVE CHORD ASSEMBLY IN ACCORDANCE WITH SECTION 615.3.17.4 OF THE SPECIFICATIONS WILL BE REQUIRED. THE CHORD ASSEMBLAGE SHALL CONSIST OF NOT LESS THAN THREE ABUTTING SECTIONS WITH THE MILLED ENDS OF MEMBERS IN FULL BEARING. THE CONNECTIONS OF VERTICAL AND DIAGONAL MEMBERS MAY BE REAMED WITH THE MEMBERS IN THEIR CORRECT POSITIONS TO EACH OF THE CHORDS IN SUCCESSION OR ELSE THE CONNECTIONS MAY BE REAMED TO METAL TEMPLATES FITTED WITH HARDENED STEEL BUSHINGS.

THE CONTINUOUS GIRDER SPANS SHALL RECEIVE A PROGRESSIVE GIRDER ASSEMBLY.

THE DIMENSIONAL TOLERANCES OF ALL WELDED FABRICATED STRUCTURAL STEEL MEMBERS SHALL BE IN ACCORDANCE WITH THE BEFOREMENTIONED A.W.S. SPECIFICATION.

IF STRINGERS OR GIRDERS CAN BE FABRICATED IN LENGTHS LONGER THAN THE SECTIONS SHOWN ON THE PLANS BY ELIMINATING FIELD SPLICES, FIELD SPLICES MAY BE OMITTED AT THE REQUEST OF THE CONTRACTOR PROVIDED HE HAS OBTAINED A HAULING PERMIT (IF NEEDED) PRIOR TO PREPARATION OF STEEL SHOP DRAWINGS.

IF GIRDERS OR TRUSS MEMBERS CANNOT BE SHIPPED IN THE LENGTHS SHOWN ON THE PLANS, FIELD SPLICES SUBJECT TO THE APPROVAL OF THE ENGINEER WILL BE PERMITTED AT THE REQUEST OF THE CONTRACTOR, BUT NO COMPENSATION WILL BE ALLOWED FOR SPLICE MATERIAL.

ALL FABRICATED STRUCTURAL STEEL SHALL BE DETAILED AND FABRICATED FOR A TEMPERATURE OF 68°F.

TRUSSES SHALL BE CAMBERED FOR THE FULL DEAD LOAD AXIAL STRESSES. CAMBERED LENGTHS SHALL BE CALCULATED BY THE CONTRACTOR FROM AREAS DETERMINED IN ACCORDANCE WITH ARTICLE 1.7.12 AASHTO SPECIFICATIONS.

APPROACH SPAN GIRDERS SHALL BE CAMBERED FOR FULL DEAD LOAD.

ALL FLOOR BEAMS SHALL BE CAMBERED FOR FULL DEAD LOAD. END CONNECTIONS SHALL BE DETAILED SO AS TO BE VERTICAL UNDER FULL DEAD LOAD.

THE TRUSS SPAN STRINGERS NEED NOT BE CAMBERED, NATURAL MILL CAMBER OF ROLLED BEAMS SHALL BE TURNED UP.

ALTERNATE DRILLING AND ASSEMBLY PROCEDURES WILL BE CONSIDERED PROVIDED THAT THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS FOR QUALITY AND DIMENSIONAL ACCURACY OF INDIVIDUAL HOLES AND ASSEMBLED CONNECTIONS ARE MET. THE CONTRACTOR SHALL SUBMIT COMPLETE DETAILS OF HIS PROPOSED METHOD OF DRILLING AND CONTROL OF THE ASSEMBLY TO THE ENGINEER FOR APPROVAL. NOTHING IN THE ALTERNATE PROCEDURE SHALL BE CONSTRUED AS TO RELIEVE THE CONTRACTOR OF HIS COMPLETE RESPONSIBILITY FOR CORRECT AND ACCEPTABLE FINAL SHAPE AND FIT OF THE COMPLETE STRUCTURE OR PARTS THEREOF.

THE SAFE ERECTION OF THE BRIDGE BY ANY METHOD IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ATTENTION IS CALLED TO THE SPECIAL PROVISIONS SECTION "WORK IN NAVIGABLE WATERS". THIS PROVISION IS RELATIVE TO THE CONSTRUCTION "IN AND OVER" THE NAVIGABLE OHIO RIVER. CONSIDERATION WILL BE GIVEN THE CONTRACTOR FOR REQUESTS TO CHANGE OR MODIFY ANY WORK SHOWN ON THE PLANS IN ORDER TO SAFELY AND ECONOMICALLY ERECT THE STRUCTURE. ANY CHANGES OR MODIFICATIONS IN THE WORK SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER AND THE ENTIRE COST OF THESE CHANGES OR MODIFICATIONS SHALL BE BORNE SOLELY BY THE CONTRACTOR.

THE CONTRACTOR SHALL COMPUTE THE STRESSES IN ALL AFFECTED WORK RESULTING FROM HIS METHOD OF ERECTION. HE SHALL FURNISH THE ENGINEER, FOR HIS EXAMINATION, SUFFICIENT COPIES OF (A) THE DESIGN CALCULATIONS, (B) WORKING DRAWINGS SHOWING THE PROPOSED ERECTION SEQUENCE AND PROCEDURE, AND (C) DRAWINGS SHOWING ALL PROPOSED CHANGES OR MODIFICATIONS IN THE WORK. THE ENGINEER'S EXAMINATIONS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF THE SAFE ERECTION OF THE WORK.

UPON COMPLETION OF THE STEEL ERECTION AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL FALSEWORK AND TEMPORARY MEMBERS, LUGS, JACKS, OR THE LIKE, FROM THE STRUCTURE.

PAINTING

ALL STRUCTURAL STEEL INCLUDING TRUSS SPAN SHOES SHALL BE PAINTED IN ACCORDANCE WITH SECTION 615 OF THE SPECIFICATIONS, USING THE FOLLOWING PAINT:

SHOP PRIMER - SECTION 711.20.2 - DRY FILM THICKNESS = 4 MILS
INTERMEDIATE FIELD COAT - SECTION 711.20.3
FINAL TOP COAT - SECTION 711.20.4
TOTAL DRY FILM THICKNESS OF THE PAINT SYSTEM = 7 MILS MINIMUM
FIELD AND SHOP CONTACT SURFACES - DRY FILM THICKNESS = 2 MILS

THE TOP COAT SHALL BE COLORED IN ACCORDANCE WITH FEDERAL STANDARD 595 (SECTION 711.20.4) AS FOLLOWS:

FEDERAL STANDARD NUMBER
X CO-ORDINATE
Y CO-ORDINATE
Y CO-ORDINATE

THE PAINTING WILL NOT BE REQUIRED FOR THE INSIDE SURFACES OF THE PERMANENTLY SEALED PORTIONS BETWEEN SEAL DIAPHRAGMS OF THE FABRICATED STEEL BOX SECTIONS OF THE TRUSS AND BRACING MEMBERS.

THE SHOES FOR THE GIRDER SPANS INCLUDING SOLE PLATES, ROCKERS, MASONRY PLATES AND PORTIONS OF THE ANCHOR BOLTS; ALL SCUPPER BOXES, SCUPPER GRATINGS, DOWNSPOUT PIPES, MECHANICAL COUPLINGS, AND U-BOLTS; ALL EXPANSION DAMS INCLUDING THE TROUGH AND SPLASH PLATES AND THE ANGLES AND KEYSTOCK BARS OF THE ARMORED JOINT AND STRINGER RELIEF JOINTS, SHALL BE PAINTED THE SAME AS FOR STRUCTURAL STEEL WITH THE OPTION TO GALVANIZE IN ACCORDANCE WITH ASTM A123, 2 OUNCES.

SPECIAL PROVISIONS

REFER TO SPECIAL PROVISIONS FOR:

WORK IN NAVIGABLE WATERS
WATER TRANSPORTATION FOR THE ENGINEER
STRUCTURAL CONCRETE
RADIOGRAPHIC INSPECTION OF STEEL CASTINGS
MAINTENANCE AND PROTECTION FOR RAILROAD TRAFFIC
NAVIGATION LIGHTING
ROADWAY LIGHTING

FOR REST OF GENERAL NOTES
SEE DRAWING "GENERAL NOTES I"

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
GENERAL NOTES II

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY GGB DATE 3/11/76
DETAILED BY PPA/TJS CHECKED BY GGB DATE 3/11/76
TRACED BY JCEL CHECKED BY GGB DATE 3/11/76

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	—	2972	3 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338(002) C-4	1976	Jackson, W.Va. Meigs, Ohio	44	125

SCHEDULE OF BRIDGE QUANTITIES

ITEM	DESCRIPTION	UNIT	ABUT. A	PIER 9	ABUT. B	OHIO GIRDER SPANS SUPERSTRUCTURE	TRUSS SPANS SUPERSTRUCTURE	W.VA. GIRDER SPAN SUPERSTRUCTURE	TOTAL
212-5	SELECT MATERIAL FOR BACKFILLING	C.Y.	46	—	18	—	—	—	64
218-4(8")	CRUSHED ROCK SLOPE PROTECTION	S.Y.	239	193	375	—	—	—	807
502-1(12")	PORTLAND CEMENT CONCRETE APPROACH SLAB	S.Y.	69	—	71	—	—	—	140
601-1	CLASS A CONCRETE	C.Y.	—	—	—	—	463	—	463
601-2	CLASS B CONCRETE	C.Y.	47	—	25	—	—	—	72
601-7	FIELD LABORATORY	L.S.	—	—	—	—	—	—	LUMP SUM
601-8	CLASS K CONCRETE BRIDGE DECK	S.F.	—	—	—	31,024	28,287	2,767	62,078
601-9	CLASS K CONCRETE BRIDGE PARAPET	L.F.	—	—	—	1,809	3,446	164	5,419
602-1	REINFORCING STEEL BARS	LBS.	3871	—	2323	113,270	96,574	10,081	226,280 *
602-2	EPOXY COATED REINFORCING STEEL BARS	LBS.	1066	—	552	135,599	146,055	11,828	295,233 *
615-1	STEEL SUPERSTRUCTURE	L.S.	—	—	—	L.S.	L.S.	L.S.	LUMP SUM
621-1	STEEL GRID FLOORING, FILLED TYPE	S.F.	—	—	—	—	30,668	—	30,668
624-1	PREFORMED ELASTOMERIC JOINT SEALER	L.F.	—	—	34	41	408	41	524
633-1	CONCRETE GUTTER (MODIFIED)	S.Y.	61	26	—	—	—	—	87
639-1	CONSTRUCTION LAYOUT STAKES	L.S.							LUMP SUM
640-1	STANDARD FIELD OFFICE AND STORAGE BUILDING	L.S.							LUMP SUM
640-3	BUILDING EQUIPMENT	L.S.							LUMP SUM
204-1	MOBILIZATION	L.S.							LUMP SUM

ITEM 615-1 STEEL SUPERSTRUCTURE

TYPE	OHIO GIRDER SPANS	TRUSS SPANS	W.VA. GIRDER SPANS	TOTAL(LBS)
A36	136,921	6,164,991	103,180	6,405,092
A572	1,333,166	3,023,868	11,377	4,368,411
A588	9,897	328,302	—	338,199
A486 Class 90	—	71,217	—	71,217
A296 CA-15	—	66,901	—	66,901
A668-72 Class G	—	26,946	—	26,946
A666 Class C	—	1,680	—	1,680
A53	7,680	2,825	1,356	11,861
TOTAL(LBS)	1,487,664	9,686,730	115,913	11,290,307

REPLACEMENT BARS

SIZE	NO.	LENGTH	WEIGHT
4	—	7'-6"	—
5	12	8'-8"	108
6	1	10'-2"	15
8	1	14'-2"	38
4E	3	7'-6"	15
5E	13	8'-8"	118

"E" indicates Epoxy Coated Bars.

ITEM 602-1 REINFORCING STEEL BARS (LBS)

SIZE	ABUT. A	ABUT. B	OHIO GIRDER SPANS	TRUSS SPANS	W.VA. GIRDER SPANS	REPLACE BARS	TOTAL WEIGHT
4	—	—	—	—	—	—	—
5	2838	1929	113,270	96,574	10,081	108	224,800
6	416	394	—	—	—	15	825
8	617	—	—	—	—	38	655
TOTAL	3871	2323	113,270	96,574	10,081	161	226,280

ITEM 602-2 EPOXY COATED REINFORCING STEEL BARS (LBS)

4	—	—	21,791	18,638	1905	15	42,349
5	1066	552	113,808	127,417	9923	118	252,884
TOTAL	1066	552	135,599	146,055	11828	133	295,233

* Total Weight of Item 602-1, "Reinforcing Steel Bars", and Item 602-2, "Epoxy Coated Reinforcing Steel Bars" includes respectively 161 lbs. and 133 lbs. of Replacement Bars.

LIST OF BRIDGE DRAWINGS

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
BRIDGE QUANTITIES AND
INDEX OF DRAWINGS

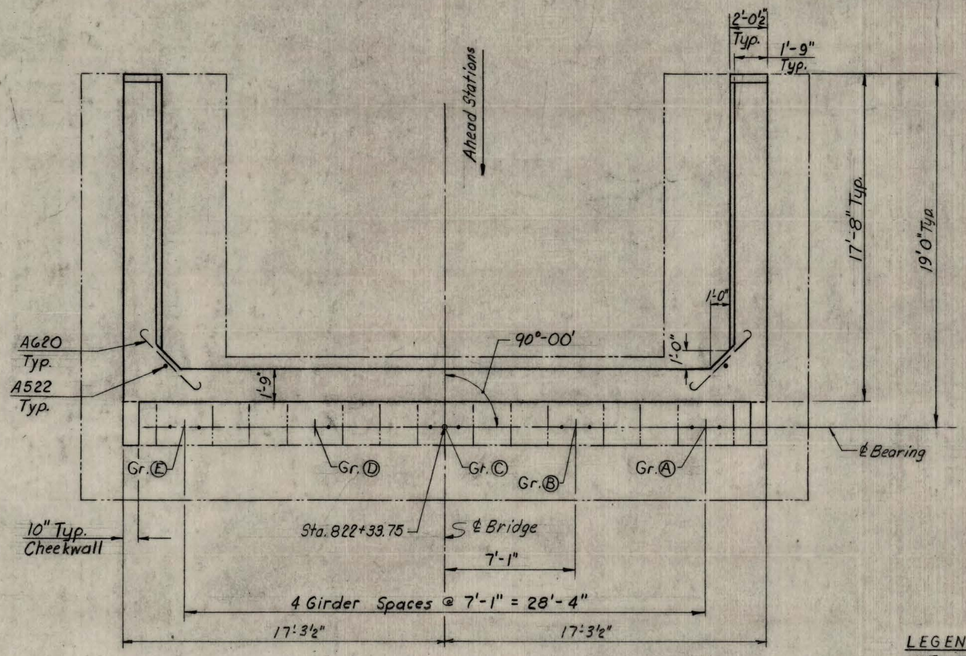
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY LAG DATE 3/1/78
DETAILED BY T.M.K CHECKED BY LAG DATE 3/1/78
TRACED BY T.M.K CHECKED BY LAG DATE 3/1/78

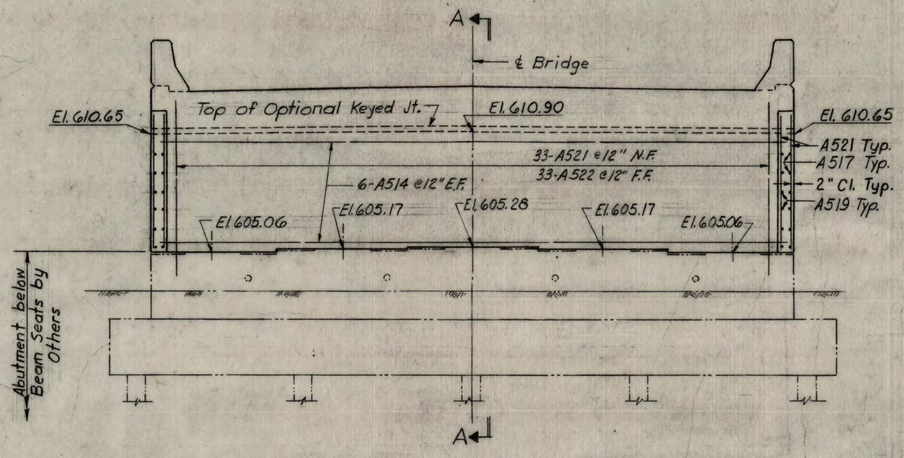
DATE	SCALE	BRIDGE NO.	DWG. NO.
DEC, 1977	—	2972	4 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W. VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W. Va. Meigs, Ohio	45	125



PLAN

0' 2' 4' 8'

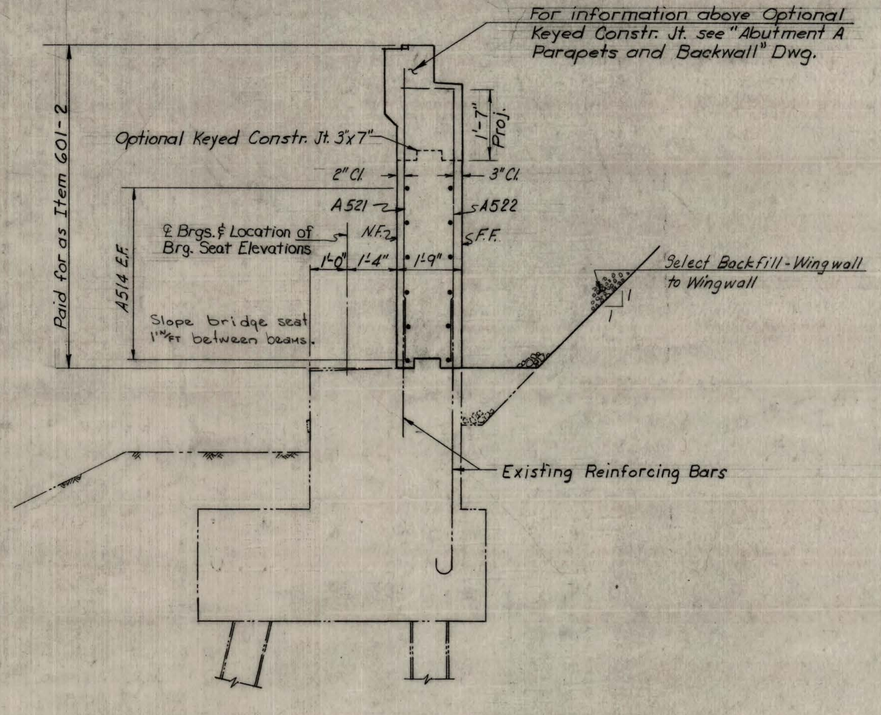


ELEVATION

0' 2' 4' 8'

LEGEND

F.F. - Far Face
N.F. - Near Face
E.F. - Each Face



SECTION A-A

0 1' 2' 4'

NOTES:

- For Reinforcement Bar Schedule, See Drawing "Abutment Bar Schedules".
- The Abutment Backwall above the Bridge Seat Construction Joint shall not be poured until the Deck Slab is in place.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
ABUTMENT A

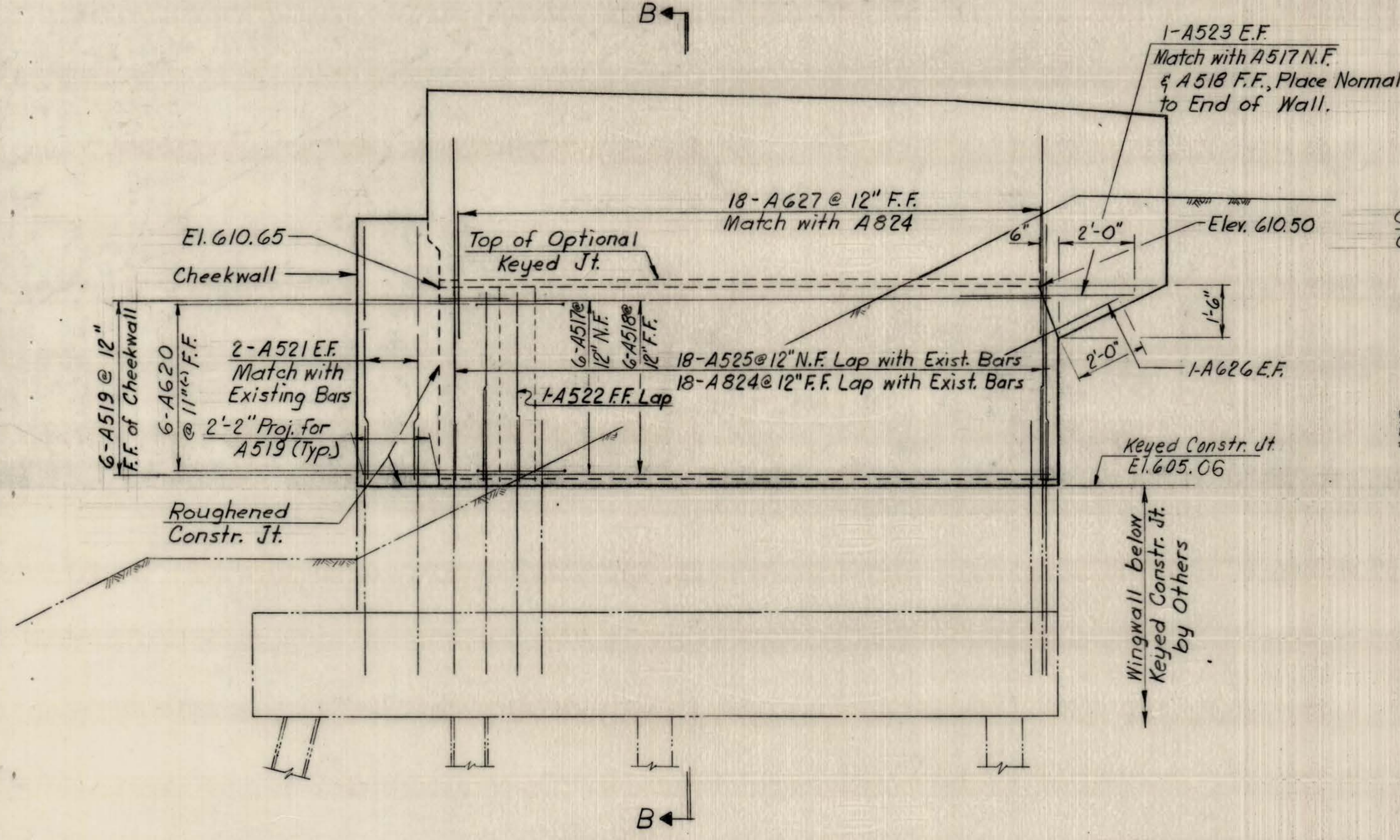
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY LAG — CHECKED BY TJS — DATE Aug 1974
DETAILED BY TJS/LAG — CHECKED BY PTS/LAG/RAP — DATE 3/20/78
TRACED BY TJS — CHECKED BY PTS/LAG — DATE Aug 1974

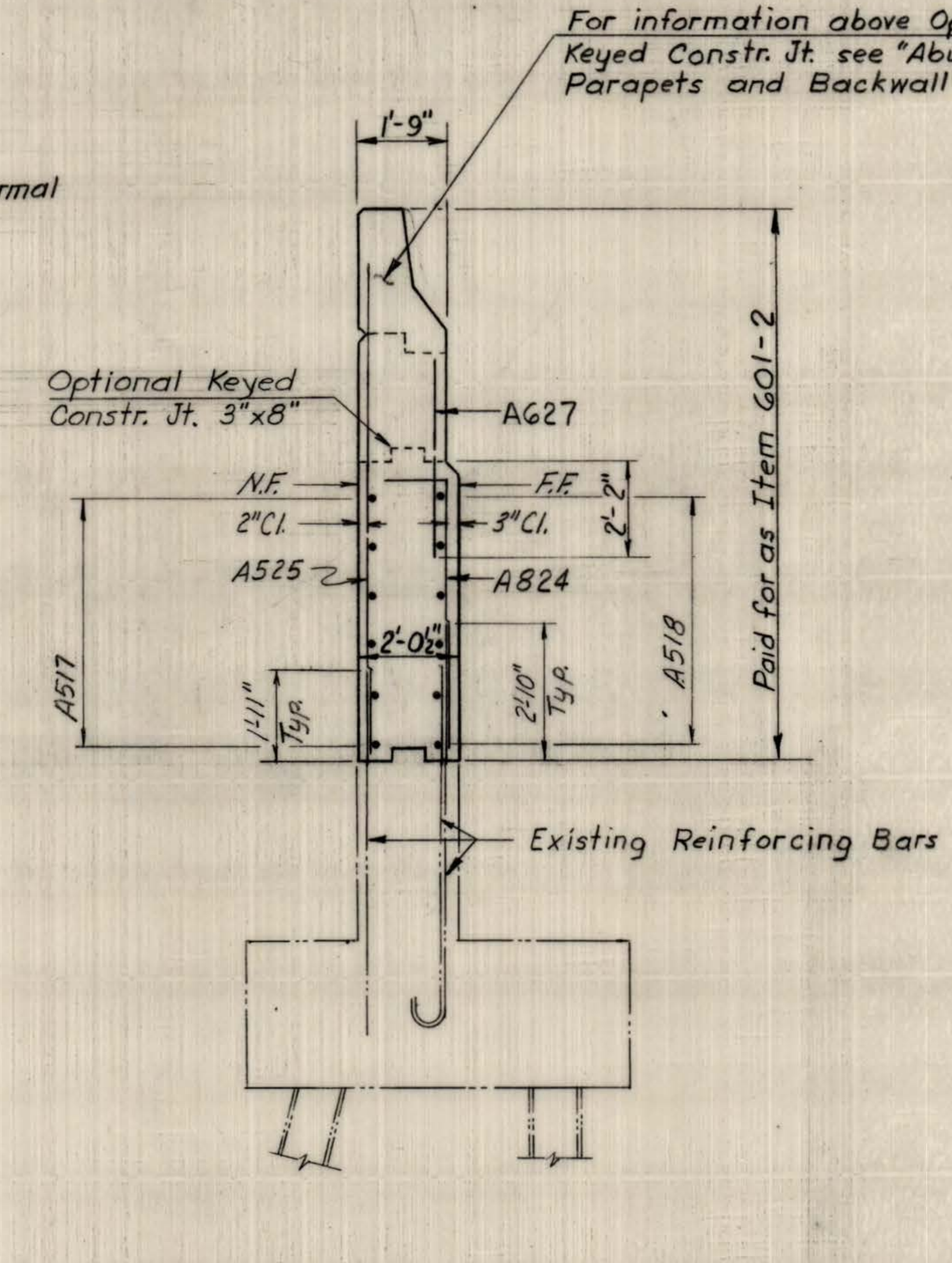
DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972	5 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	46	125



WINGWALL ELEVATION

0 1' 2' 4'



SECTION B-B

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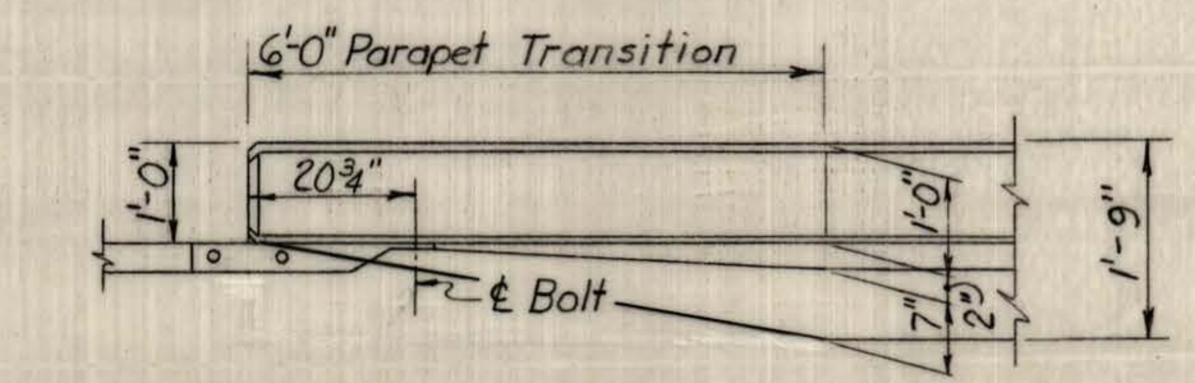
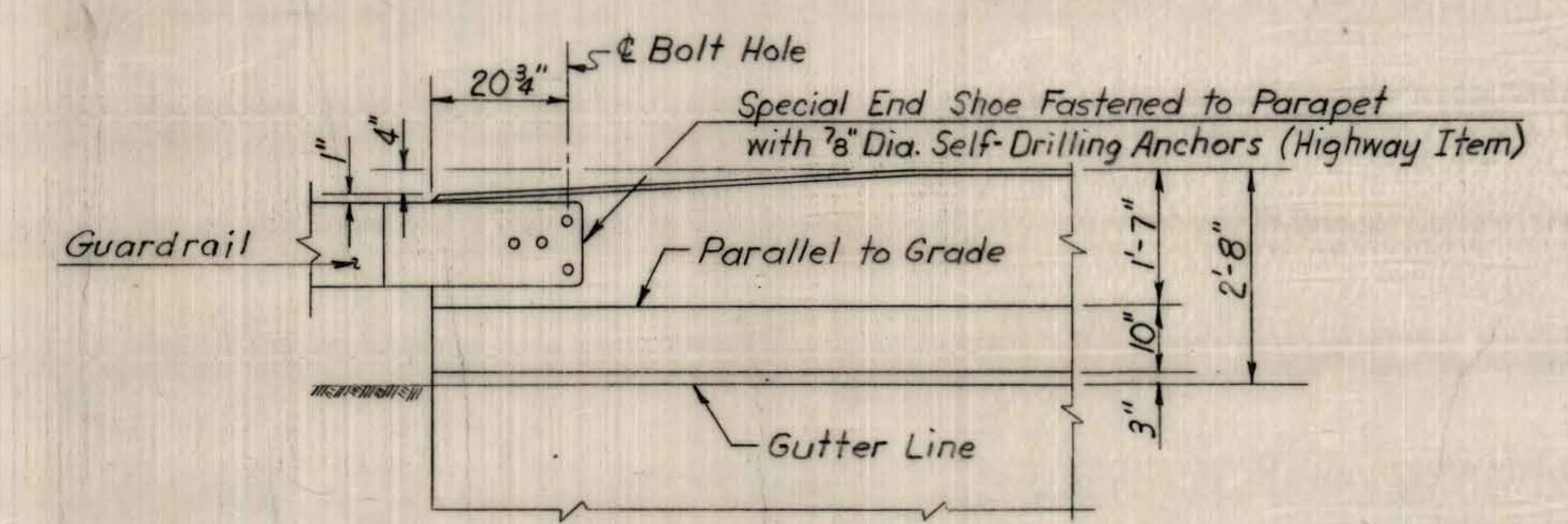


PLAN



ELEVATION

END OF WING PARAPET DETAIL

NO SCALE

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
ABUTMENT A WINGWALLS

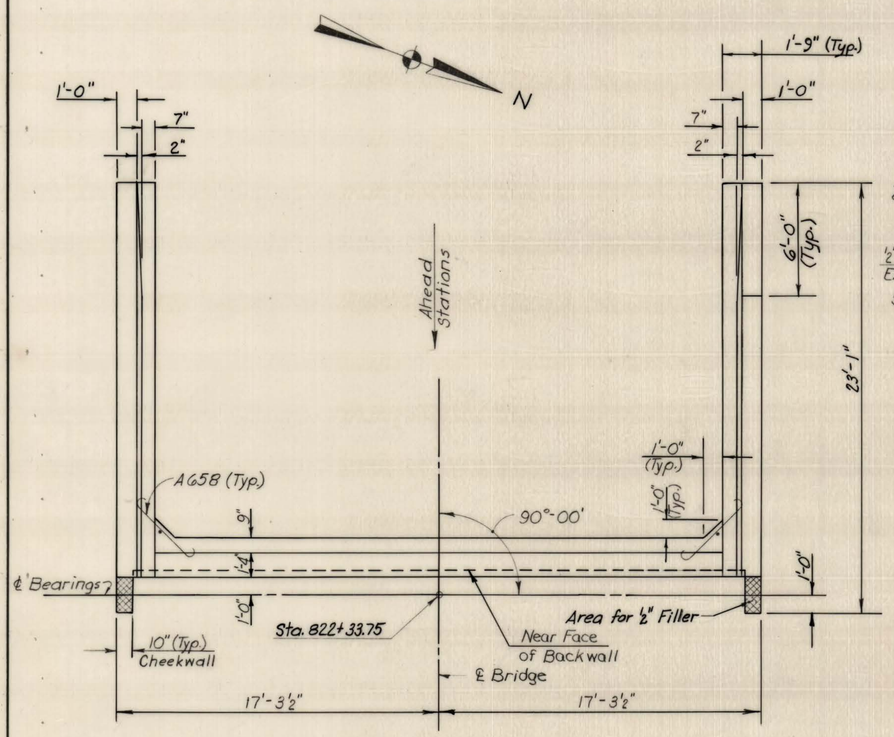
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY LAG	CHECKED BY TJS	DATE 6/24/75
DETAILED BY TJS	CHECKED BY PFS/LAG	DATE 3/20/75
TRACED BY TJS	CHECKED BY PFS/LAG	DATE 6/24/75

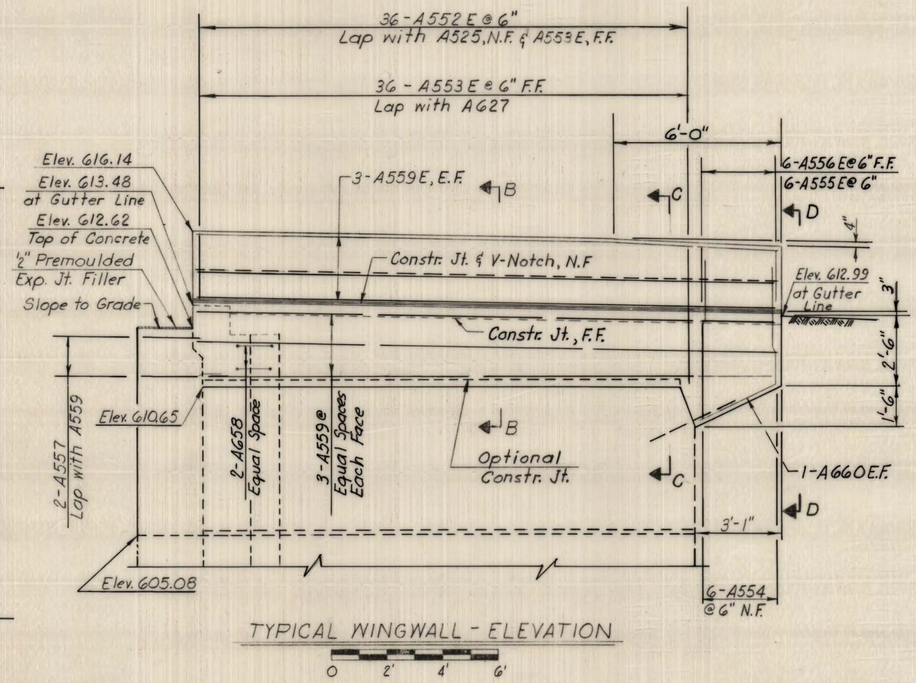
DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972	6 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	47	125



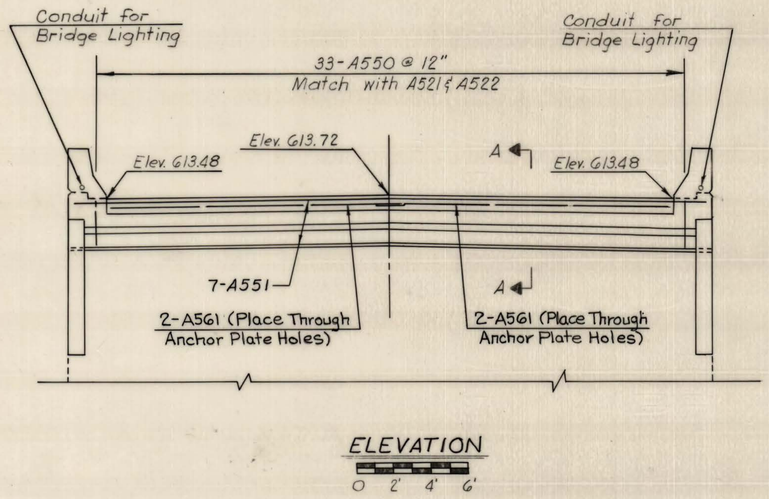
PLAN

0 2' 4' 6'



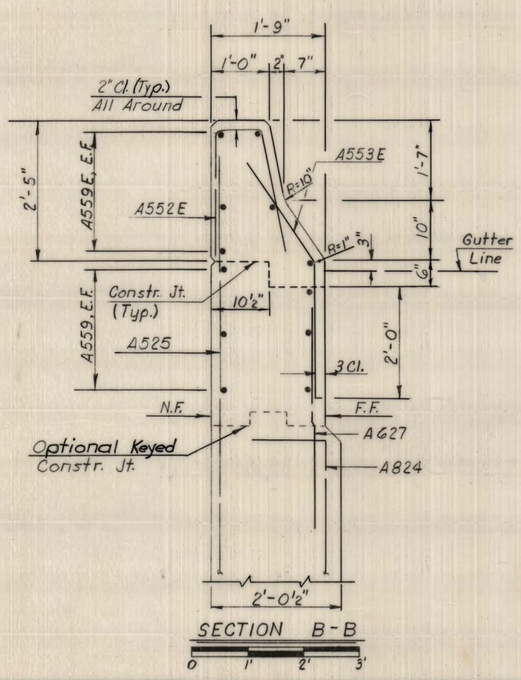
TYPICAL WINGWALL - ELEVATION

0 2' 4' 6'



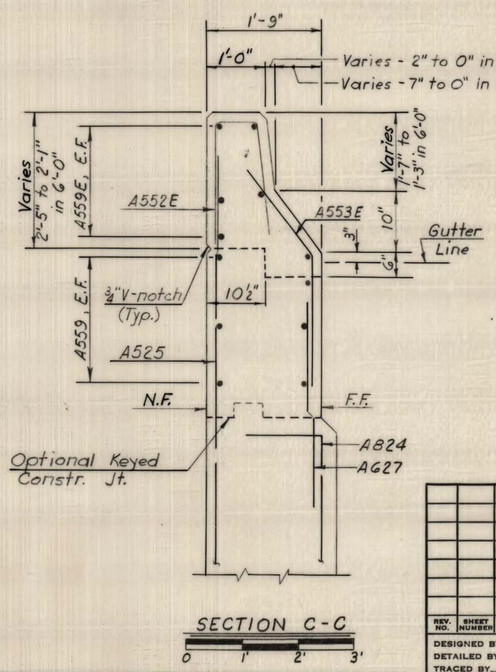
ELEVATION

0 2' 4' 6'



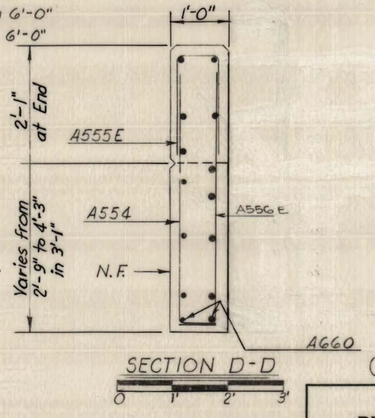
SECTION B-B

0 1' 2' 3'



SECTION C-C

0 1' 2' 3'



SECTION D-D

0 1' 2' 3'

NOTES:
- For Section A-A, see "Abutment B Parapets and Backwall" Dwg.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
ABUTMENT A PARAPETS
AND BACKWALL

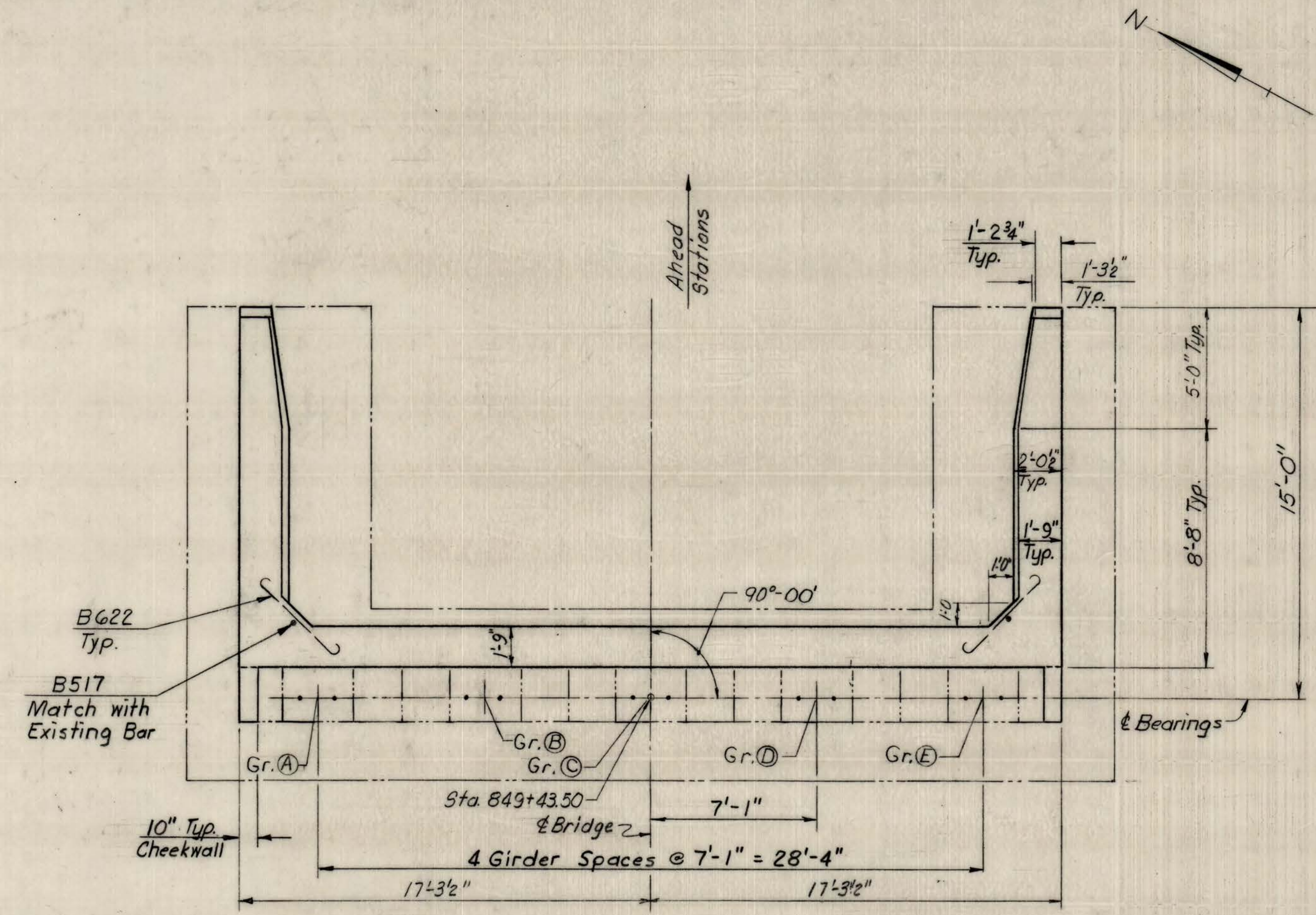
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY E.E.S. CHECKED BY LAG DATE JAN 14, 76
DETAILED BY E.E.S. CHECKED BY LAG/RAR DATE 3/26/76
TRACED BY T.M.K. CHECKED BY LAG DATE JAN 14, 76

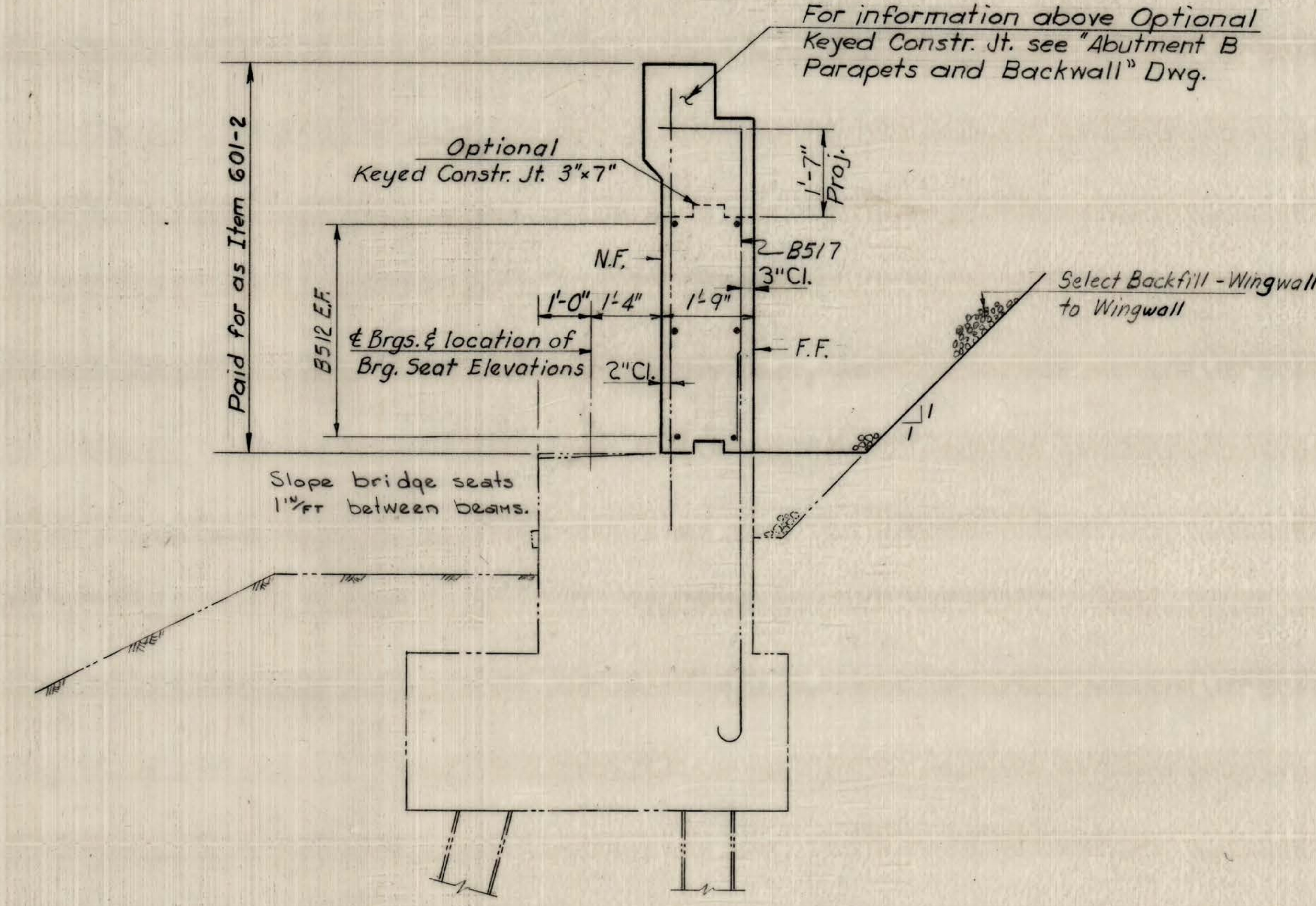
DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972	7 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W. VA	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	48	125



PLAN

0 2' 4' 8'

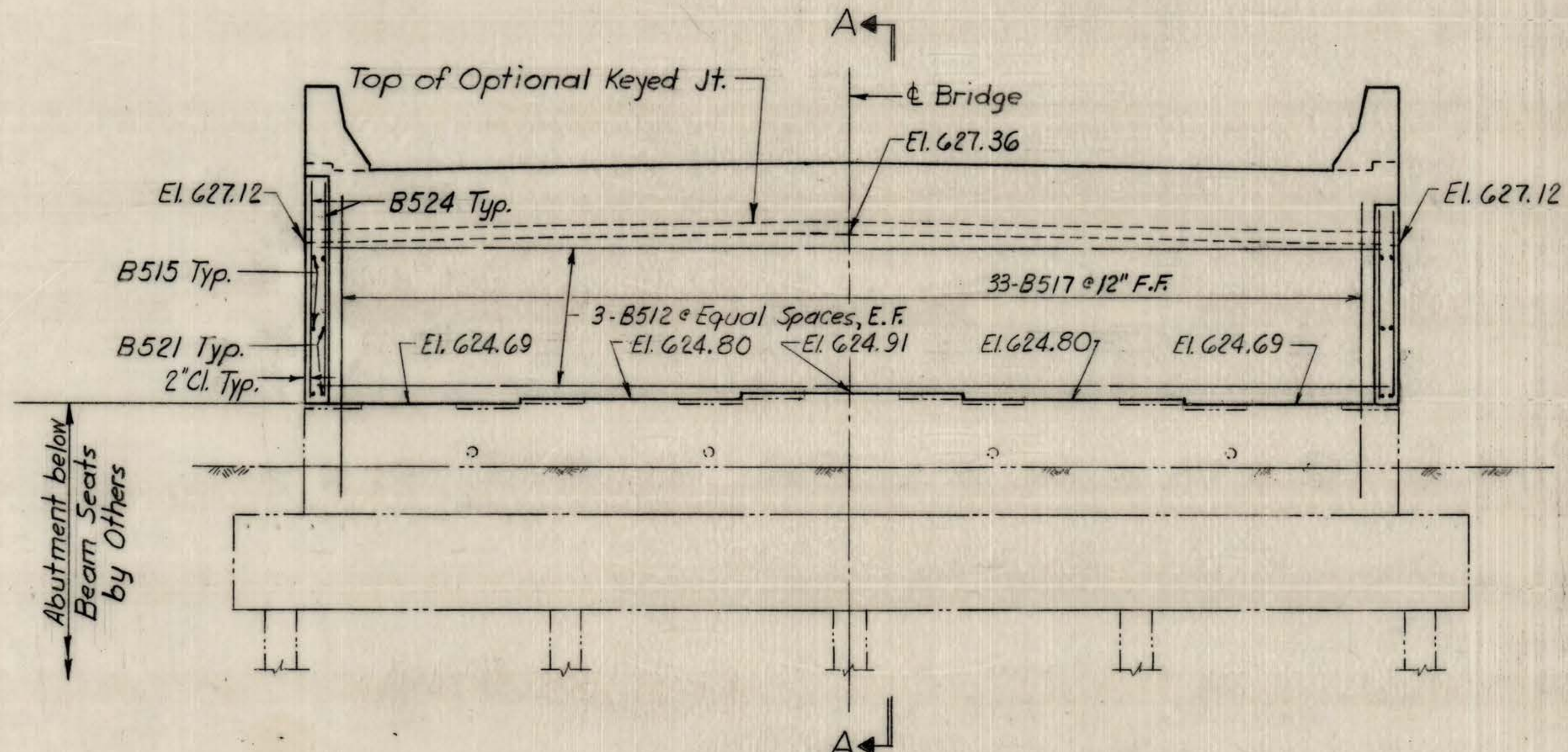


SECTION A-A

0 1' 2' 4'

LEGEND

F.F. = Far Face
N.F. = Near Face
E.F. = Each Face



ELEVATION

0 2' 4' 8'

NOTES:

- For Reinforcement Bar Schedule, See Drawing "Abutment Bar Schedules."
- The Abutment Backwall above the Bridge Seat Construction Joint shall not be poured until the Deck Slab is in place.

CONTRACT NO. 4

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY LAG — CHECKED BY P.F.S. — DATE 4/24/75
DETAILED BY TJS/RTB — CHECKED BY P.F.S./LAG — DATE 3/20/75
TRACED BY TJS — CHECKED BY P.F.S./LAG — DATE 4/24/75

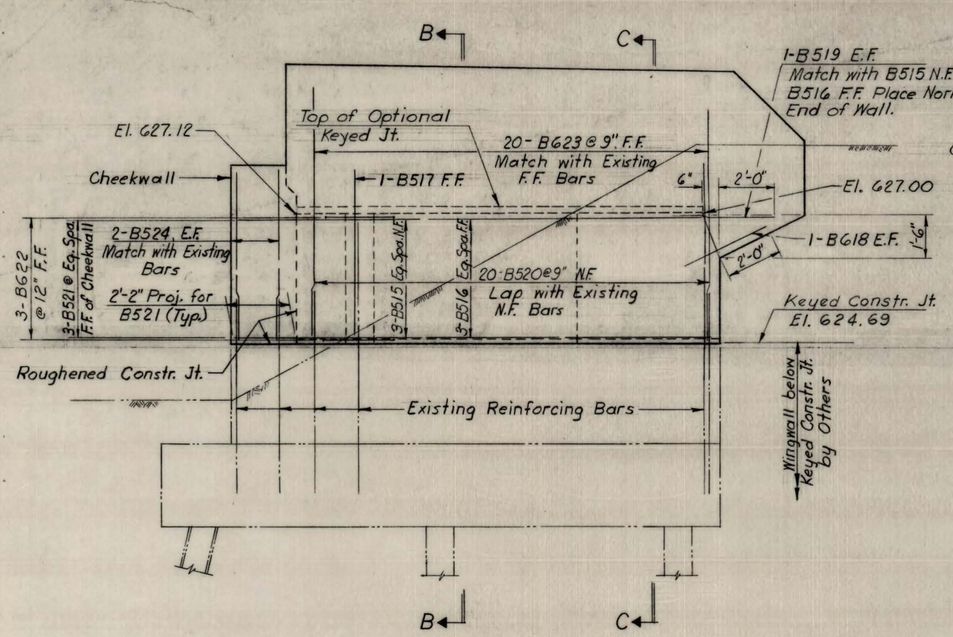
WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
ABUTMENT B

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. — BEAVER, PA.

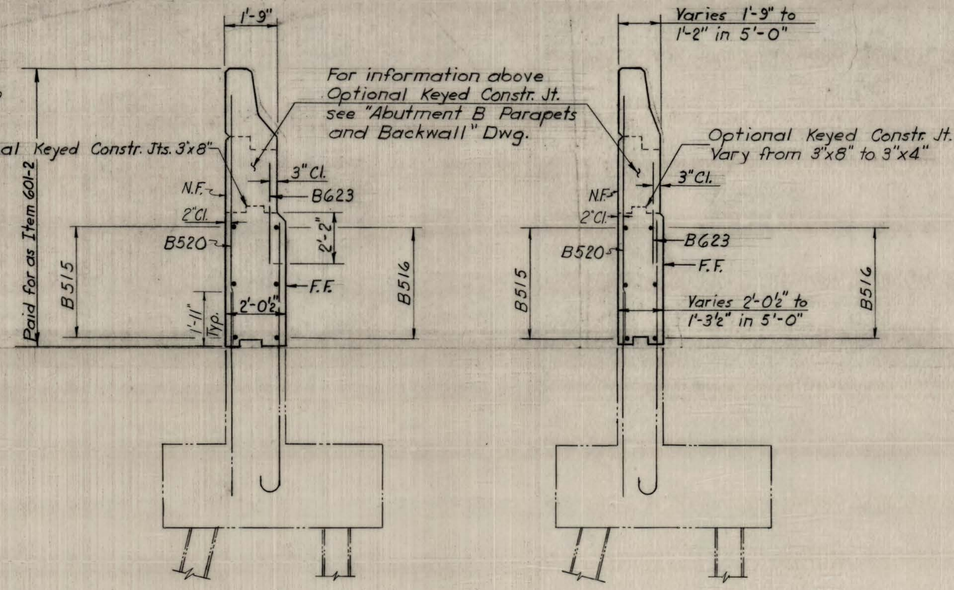
DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972	8 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs Ohio	49	125



WINGWALL ELEVATION

NO SCALE



SECTION B-B

NO SCALE

SECTION C-C

NO SCALE

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
ABUTMENT B WINGWALLS

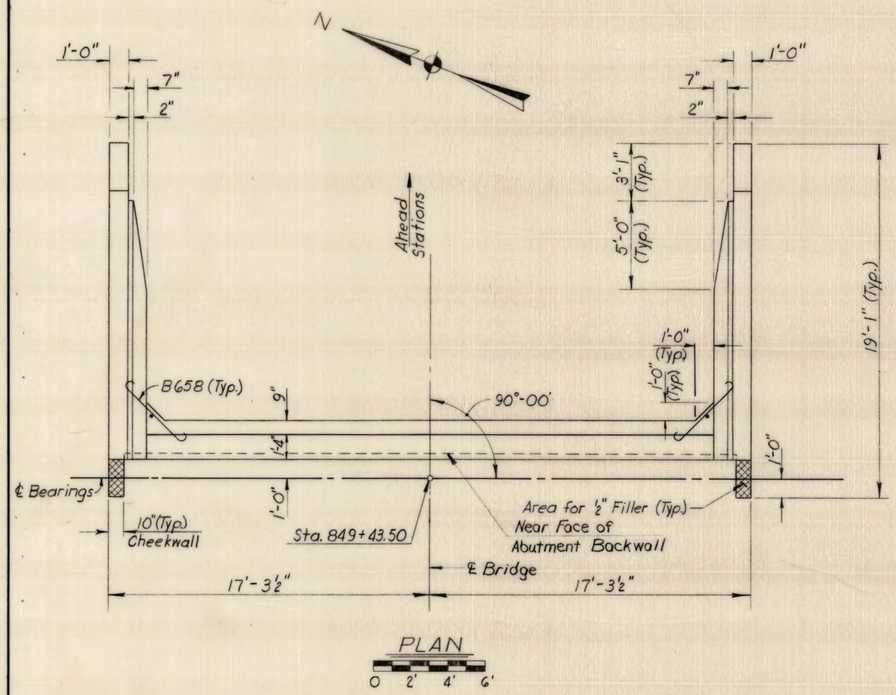
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY LAG CHECKED BY T.J.S. DATE 4/24/75
DETAILED BY T.M.K. CHECKED BY P.F.S. / LAG/MAB DATE 3/20/78
TRACED BY T.M.K. CHECKED BY P.F.S. / LAG DATE 4/24/75

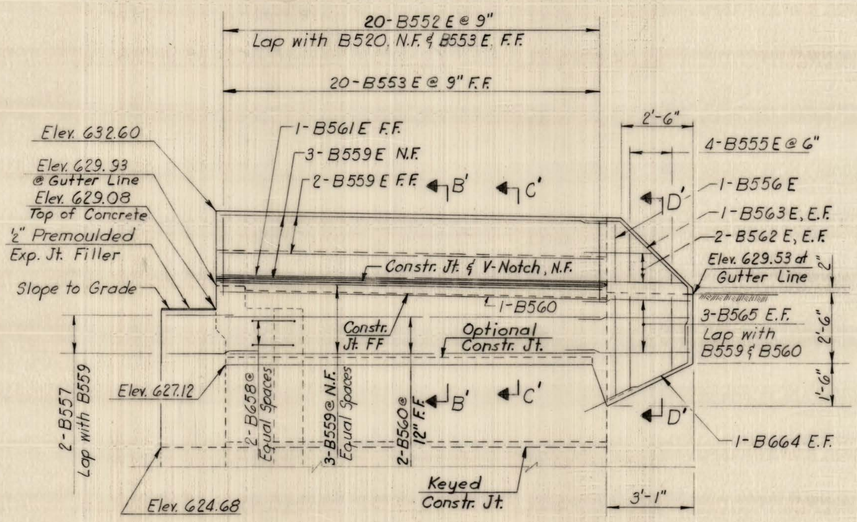
DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972	9 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56 0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	50	125



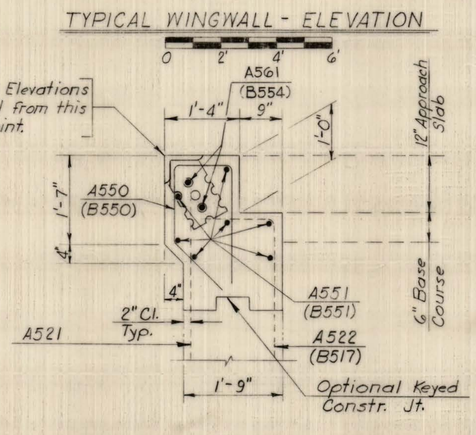
PLAN

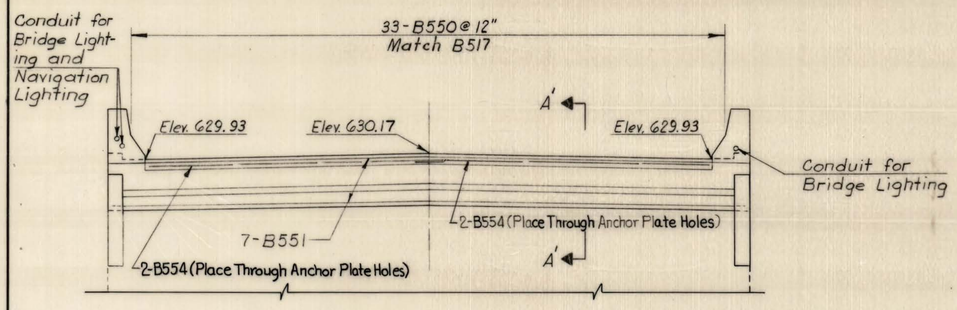
0 2' 4' 6'



TYPICAL WINGWALL - ELEVATION

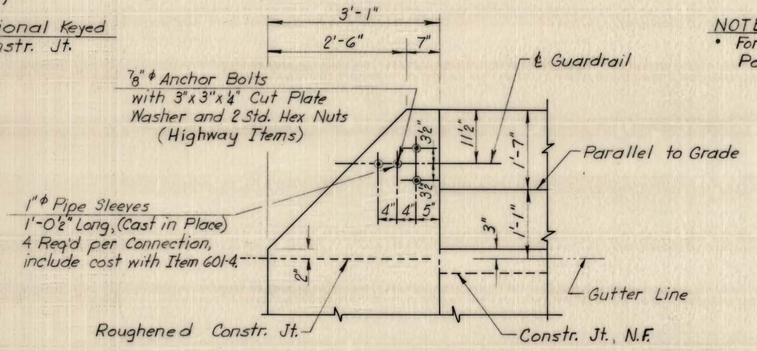
0 2' 4' 6'





SECTION A-A

A'-A' similar except as noted thus ( ).
No Scale

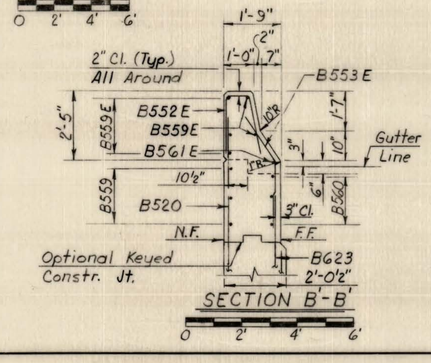


NOTE

- For Section A-A, see "Abutment A Parapets and Backwall" Dwg.

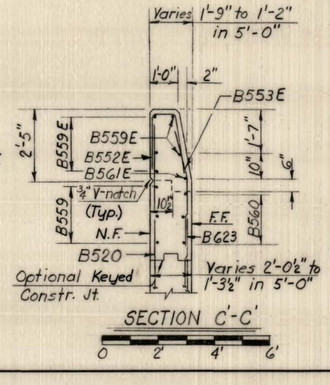
ELEVATION

0 2' 4' 6'



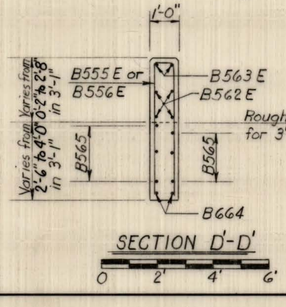
SECTION B'-B'

0 2' 4' 6'



SECTION C'-C'

0 2' 4' 6'



Roughened Constr. Jt. (level) at Gutter Line for 3'-1" Length at End of Parapet

SECTION D'-D'

0 2' 4' 6'

END OF WING PARAPET DETAIL

No Scale

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
ABUTMENT B PARAPETS
AND BACKWALL

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

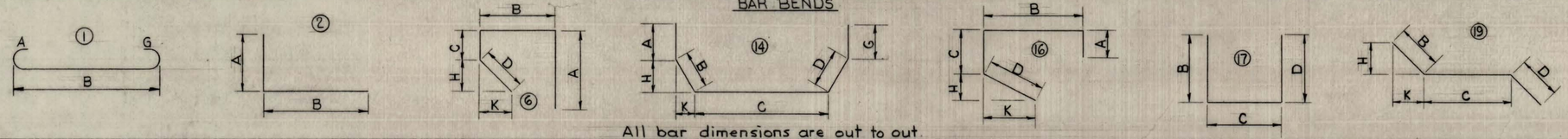
DESIGNED BY P.F.S. CHECKED BY LAG DATE JAN. 14, 76
DETAILED BY P.F.S./RAR CHECKED BY LAG/RAR DATE 3/20/78
TRACED BY T.M.K. CHECKED BY LAG DATE JAN. 14, 76

DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972	10 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	51	125

BAR SCHEDULE

BAR BENDS



All bar dimensions are out to out.

ABUTMENT A

MARK	NO.	SIZE	LENGTH	TYPE	A	B	C	D	G	H	K	REMARKS
A514	12	5	34'-0"	Str								
A517	12	5	19'-6"	Str								
A518	12	5	15'-10"	Str								
A519	12	5	3'-9"	Str								
A620	12	6	5'-3"	①	8"	3'-11"			8"			
A521	41	5	7' 3"	Str								
A522	35	5	8'-7"	②	1'-7"	7'-0"						
A523	4	5	4'-2"	Str								
A824	36	8	6'-5"	②	1'-4"	5'-1"						
A525	36	5	10'-3"	Str								
A626	4	6	4'-0"	Str								
A627	36	6	4'-4"	Str								
A550	33	5	5'-11"	⑥	2'-4"	1'-0"	1'-6"	1'-1"		9¼"	9¼"	
A551	7	5	34'-0"	Str.								
A552E	72	5	4'-4"	⑯	0"	1'-10"	8"	1'-10"		2¼"	1'-9⅞"	Bend D in Field
A553E	72	5	4'-7"	⑲		2'-2"	2'-5"	0"		1'-3"	1'-9¼"	Bend B in Field
A554	12	5	5'-3" to 6'-10"	⑯	0'-8" to 1'-0"	4'-7" to 5'-10"	0"	0"		0"	0"	2 ea., vary B by 3"
A555E	12	5	4'-4"	⑰		1'-10"	8"	1'-10"				
A556E	12	5	5'-3" to 6'-10"	⑯	0"	0'-8" to 1'-0"	2'-7" to 3'-10"	2'-0"		1'-4"	1'-5⅞"	Adjust D in Field *
A557	4	5	7'-8"	⑰		3'-7"	6"	3'-7"				
A658	4	6	5'-3"	①	8"	3'-11"			8"			
A559	12	5	20'-9"	Str.								
A660	4	6	5'-2"	⑲		3'-0"	2'-2"	0"		3'-0"	1'-6"	
A559E	12	5	20'-9"	Str.								Bend in Field as required
A561	4	5	17'-0"	Str.								

ABUTMENT B

MARK	NO.	SIZE	LENGTH	TYPE	A	B	C	D	G	H	K	REMARKS
B512	6	5	34'-0"	Str								
B515	6	5	15'-6"	Str								
B516	6	5	12'-0"	⑲		4'-10"	7'-2"	0		8⅝"	4'-9⅜"	
B517	35	5	6'-3"	②	1'-7"	4'-8"						
B618	4	6	4'-0"	Str								
B519	4	5	4'-2"	Str								
B520	40	5	6'-9"	Str								
B521	6	5	3'-9"	Str								
B622	6	6	5'-3"	①	8"	3'-11"			8"			
B623	40	6	4'-4"	Str.								
B524	8	5	4'-0"	Str								
B550	33	5	5'-11"	⑥	2'-4"	1'-0"	1'-6"	1'-1"		9¼"	9¼"	
B551	7	5	34'-0"	Str.								
B552E	40	5	4'-4"	⑯	0"	1'-10"	8"	1'-10"		2¼"	1'-9⅞"	
B553E	40	5	4'-7"	⑲		2'-2"	2'-5"	0"		1'-3"	1'-9¼"	Bend B in Field
B554	4	5	17'-0"	Str.								
B555E	8	5	7'-3" to 11'-9"	⑰		3'-4" to 5'-7"	7"	3'-4" to 5'-7"				1 ea. vary B & D by 9"
B556	2	5	13'-1"	⑰		6'-3"	7"	6'-3"				
B557	4	5	7'-8"	⑰		3'-7"	6"	3'-7"				
B658	4	6	5'-3"	①	8"	3'-11"			8"			
B559	6	5	14'-2"	Str.								
B560	6	5	13'-3"	⑲		4'-10"	8'-5"	0"		6¾"	4'-9⅝"	
B561E	2	5	13'-7"	⑲		4'-10"	8'-9"	0"		6¾"	4'-9⅝"	
B562E	8	5	4'-9"	Str.								
B563E	4	5	7'-11"	⑭	2'-4"	3'-4"	2'-3"	0"	0"	2'-4"	2'-4"	
B664	4	6	5'-2"	⑲		3'-0"	2'-2"	0"		3'-0"	1'-6"	
B565	12	5	4'-9"	Str.								
B559E	10	5	14'-2"	Str.								

NOTES:

- * 2 each vary C by 3".
- Bar Marks with the Suffix "E" indicates Epoxy Coated Bars.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
ABUTMENT BAR SCHEDULES

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

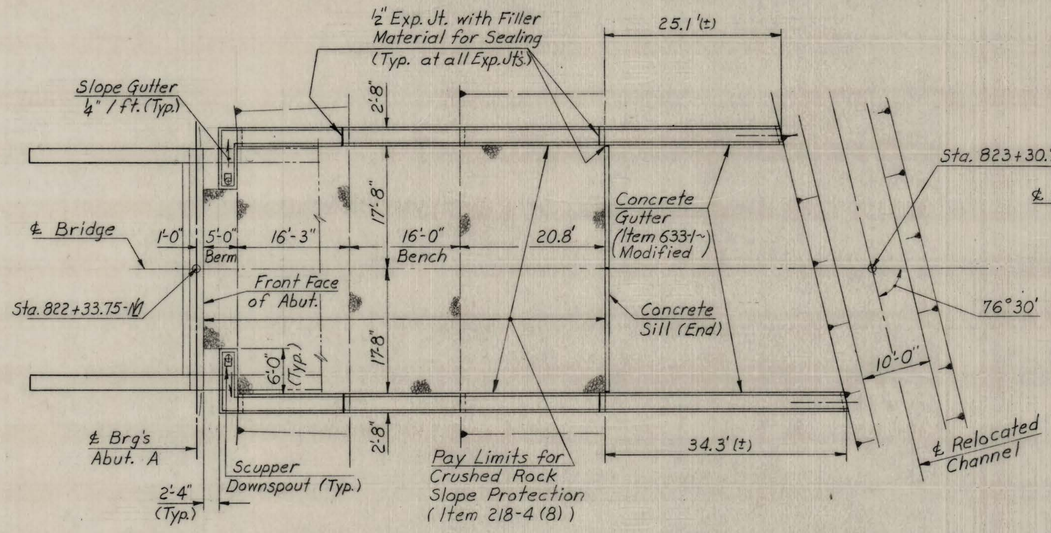
REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY LAG CHECKED BY PFS/LAG DATE 4/29/75
DETAILED BY JCE/RSH CHECKED BY PFS/LAG/RAB DATE 3/26/76
TRACED BY JCE CHECKED BY PFS/LAG DATE 4/29/75

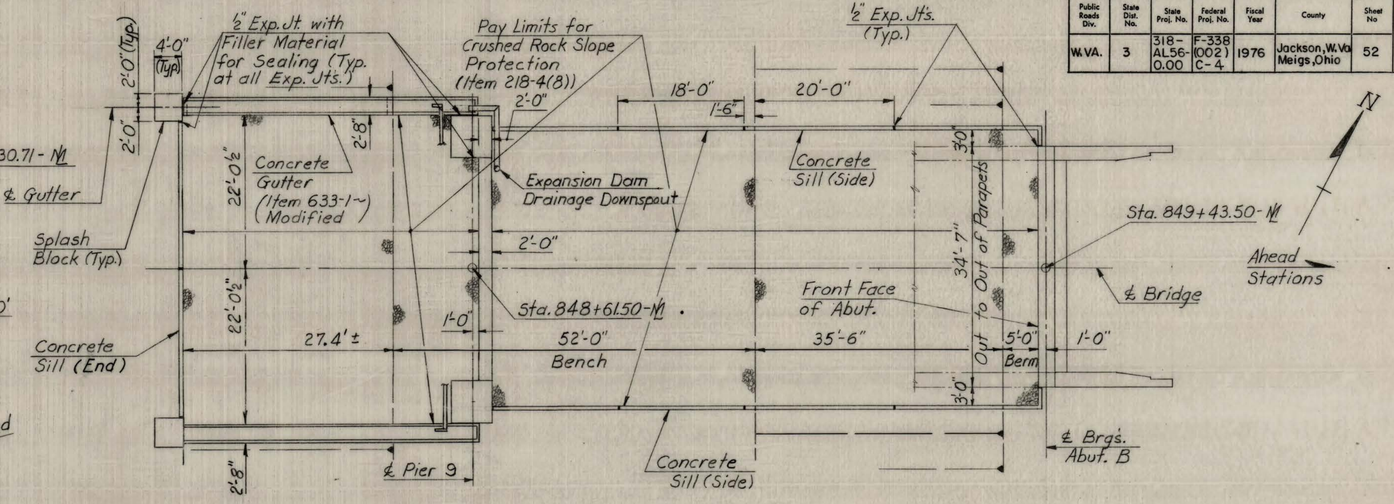
DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972	11 of 82

3/76

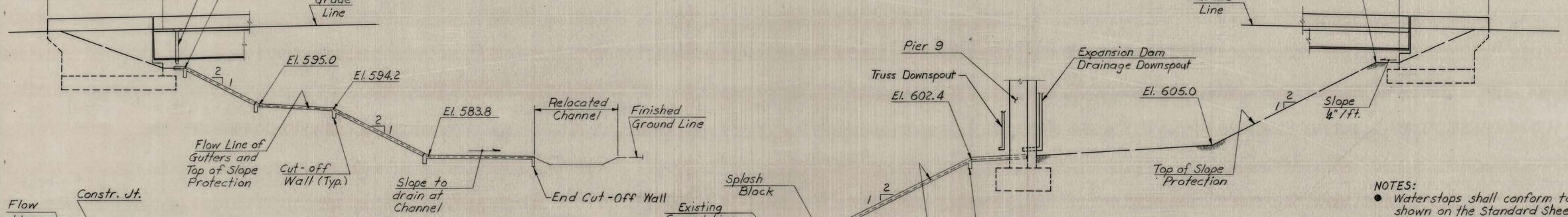
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338(002)C-4	1976	Jackson, W.Va. Meigs, Ohio	52	125



PLAN



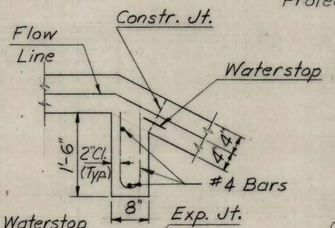
PLAN

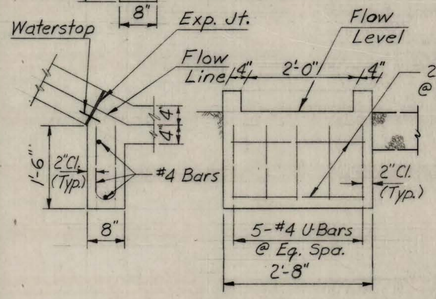


ELEVATION AT ABUTMENT A

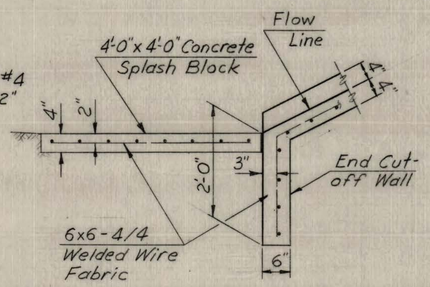
Scale: 0 5' 10' 15' 20'

ELEVATION AT PIER 9 & ABUTMENT B

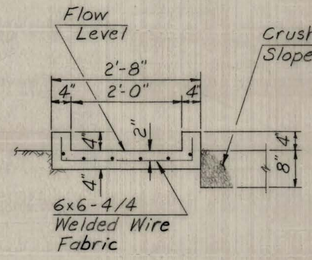




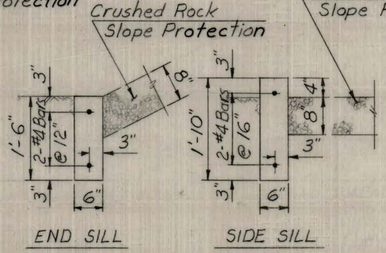
CUT-OFF WALL DETAILS



SPLASH BLOCK & END CUT-OFF WALL DETAILS



CONCRETE GUTTER DETAILS



CONCRETE SILL DETAILS

Scale: 0 6" 1'-0" 2'-0" 3'-0"

NOTES:

- Waterstops shall conform to the details shown on the Standard Sheet M.S. 7-A of the "West Virginia Department of Highways Standard Details Book".
- Waterstops, Welded Wire Fabric and Cut-off Walls including Reinforcing Bars shall be included in the cost of Concrete Gutters (Item 633-1-Modified).
- Concrete Sills including Reinforcing Bars shall be included in the cost of Crushed Rock Slope Protection (Item 218-4(8)).
- Concrete Gutters, Concrete Sills and Concrete Splash Blocks shall be "Class B Concrete".
- Splash Blocks are to be paid as "Class B Concrete".

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
SLOPE PROTECTION

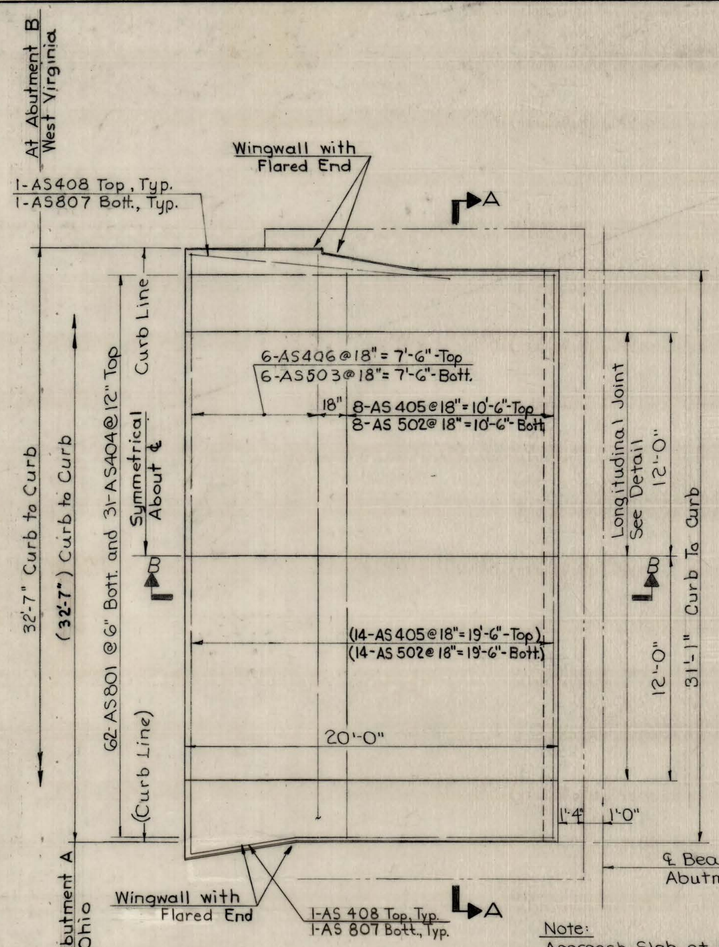
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY —	CHECKED BY —	DATE 6-30-77	
DETAILED BY [illegible]	CHECKED BY LAG	DATE 6-30-77	
TRACED BY [illegible]	CHECKED BY LAG	DATE 6-30-77	

DATE	SCALE	BRIDGE NO.	DWG. NO.
JUNE 1977	AS SHOWN	2972	12 of 82

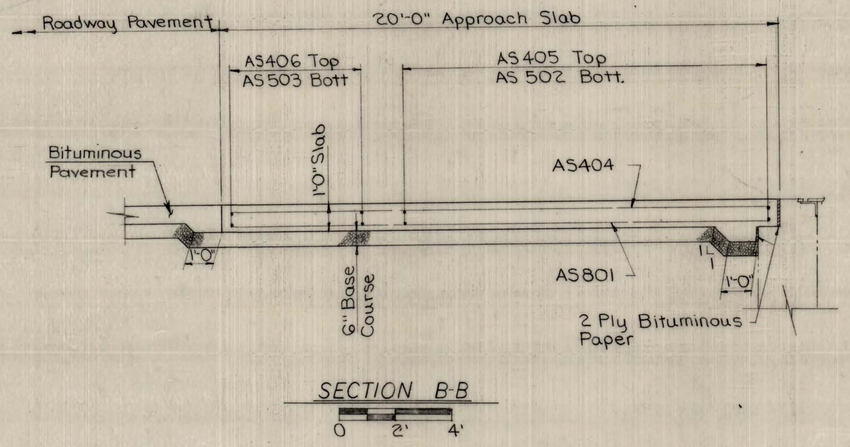
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meig, Ohio	53	125



Note:
Approach Slab at Abutment-B Shown, Approach Slab at Abutment-A Similar except as Noted thus ( ).

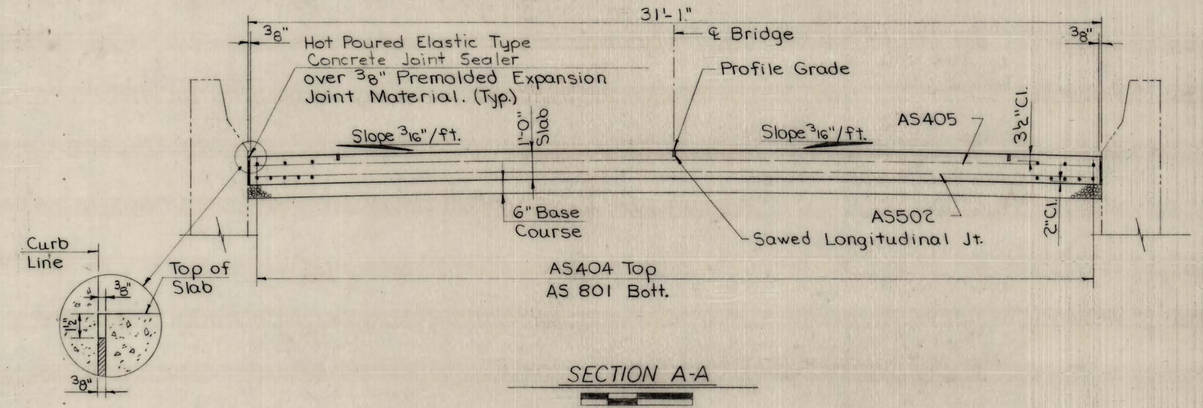
APPROACH SLAB

0 2' 4' 8'



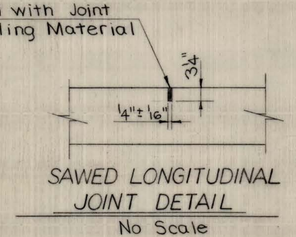
SECTION B-B

0 2' 4'



SECTION A-A

0 2' 4'



SAWED LONGITUDINAL JOINT DETAIL

No Scale

BAR SCHEDULE

MARK	NO ABUT. A	NO ABUT. B	SIZE	LENGTH	REMARKS
AS801	62	62	8	19'-6"	
AS502	14	8	5	30'-6"	
AS503	0	6	5	32'-0"	
AS404	31	31	4	19'-6"	
AS405	14	8	4	30'-6"	
AS406	0	6	4	32'-0"	
AS807	2	2	8	14'-0"	
AS408	2	2	4	14'-0"	

Note: All bars are straight.

Notes:

- The 6" base course material under the slab shall be paid for under Item 307-1, Class I aggregate base course per cubic yard. The same material as used for base on the adjacent pavement shall be used under the approach slab at the unit price bid for the roadway item.
- The cost of the concrete approach slabs, reinforcing steel, expansion joint filler, hot-poured elastic type concrete joint sealer, and sawed longitudinal joint shall be included in the unit price bid for Item 502-1(12) "Portland Cement Concrete Approach Slab" per sq. yd. method of measurement and basis of payment shall be in accordance with Article 502.7 and 502.8 of the specifications.
- Hot-poured elastic joint sealer shall conform to Article 708.3.
- Approach slab shall have sawed longitudinal joints where shown in plan. The sawed joint shall be cut to a depth of 3" and a width ¼" with a tolerance of 1/16"± and shall be sealed with joint sealer in accordance with Article 708.3.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
APPROACH SLAB AT ABUTMENTS A AND B

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY JMG/RAR CHECKED BY LAG/RAR DATE 3/20/78
DETAILED BY JMG CHECKED BY LAG DATE JAN. 12, 76
TRACED BY JMG CHECKED BY LAG DATE JAN. 12, 76

DATE	SCALE	BRIDGE NO.	DWG. NO.
APRIL 1975	AS SHOWN	2972.	13 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	54	125

N

℄ Brgs. Abutment A
(℄ Brgs. Pier 3, Span 4)

℄ Brgs. Pier 1
(℄ Brgs. Pier 4)

MATCH LINE

℄ Brgs. Pier 2
(℄ Brgs. Pier 5)

150'-0" SPAN 1 (SPAN 4)

150'-0" SPAN 2 (SPAN 5)

4'-8" SPAN 1
(4'-6") SPAN 4

145'-4" SPAN 1
(145'-6" SPAN 4)

2'-8½" SPAN 2
(2'-8½") SPAN 5

147'-3½" SPAN 2
(147'-3½" SPAN 5)

Scupper Spacing

L⁵ 3½"x3½"x⅜" ℄ L 4"x4"x⅜" End Cross Framing at Pier 3, Span 4 Only.

C12x20.7
(Typical)

4 Girder Spcs. @ 7'-1 = 28'-4"

A
B
℄ Bridge
C
Ahead Stations
D
90°
Typical
E

WT6x22.5
Lateral Bracing

WT10.5x41, L⁵ 3½"x3½"x⅜" ℄ L 4"x4"x⅜"
End Cross Framing at Abut. A Only.

L⁵ 3½"x3½"x⅜" ℄ L 4"x4"x⅜" Cross Framing at Intermediate Piers

L⁵ 3½"x 3½" x ⅜"
Intermediate Cross Frames (Typ.)

Cross Frame Spacing

6 Spaces @ 25'-0" = 150'-0"

6 Spaces @ 25'-0" = 150'-0"

FRAMING PLAN
0 10' 20'

MATCH LINE

℄ Brgs. Abutment A
(℄ Brgs. Pier 3, Span 4)

℄ Brgs. Pier 1
(℄ Brgs. Pier 4)

℄ Brgs. Pier 2
(℄ Brgs. Pier 5)

150'-0"

150'-0"

No Field Welding to Top Flange

59'-0"

℄ Optional Shop Web Splice

℄ Field Splice F.S. No. 1

6'-0"

32'-0"

45'-0"

℄ Field Splice F.S. No. 2

℄ Field Splice F.S. No. 2

45'-0"

CVN

Web Pl. ⅝" x 75"

Web Pl. ⅝" x 75"

Web Pl. 1⅛" x 75"

Web Pl. ⅝" x 75"

Web Pl. 1⅛" x 75"

Exp.

Fix

Exp.

49'-0"

32'-0"

17'-0"

17'-0"

17'-0"

17'-0"

Flanges

Pl. ⅞" x 16"

Pl. 1⅛" x 16"

Pl. ⅞" x 16"

Pl. 1" x 16"

Pl. 1½" x 16"

Pl. 1" x 16"

Pl. ¾" x 16"

Pl. 1" x 16"

Pl. 1½" x 16"

Type I Stiffeners

Type II Stiffeners

Type I Stiffeners

Type II Stiffeners

ELEVATION
0 10' 20'

℄ Brgs. Abutment A
(℄ Brgs. Pier 3, Span 4)

℄ Brgs. Pier 1
(℄ Brgs. Pier 4)

Symmetrical about
℄ Span 2 & Span 5

*Due to Concrete	0	1⅛	2 1/16	2 1/16	3	3	2 1/16	2 1/16	1 5/16	1⅜	0	-3/16	-⅜	0	⅛	3/16
Due to Steel	0	5/16	3/16	¾	⅞	⅞	¾	5/8	⅜	3/16	0	-1/16	-1/16	0	1/16	1/16
Total	0	1 7/16	2⅝	3 3/16	3⅞	3⅞	3 3/16	2 1/16	1 11/16	¾	0	-¼	-3/16	0	3/16	¼

DEAD LOAD DEFLECTION DIAGRAM

Deflections are in inches

*Includes Deck Slab, Stay-in-place Forms, Integral Wearing Surface & Parapets.

Notes:

- The make up of Girders, which includes Web, Flanges, Bearing Stiffeners and Field Splices shall conform to ASTM A572. All other material to be ASTM A36 unless **other**wise noted.
- Top flange plates and bottom flange plates are of the same size
- All girder flange plates, where indicated thus: (CVN), shall be subject to the Charpy V-Notch testing as per specifications.
- For attachment of stay-in-place metal forms see Dwg. "Deck Slab Details For Truss Spans".
- For End Cross Framing at Pier 3, Span 4 see Dwg. "Tooth Expansion Dam at Pier No. 3".

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
STEEL FRAMING - SPANS 1, 2, 4 & 5

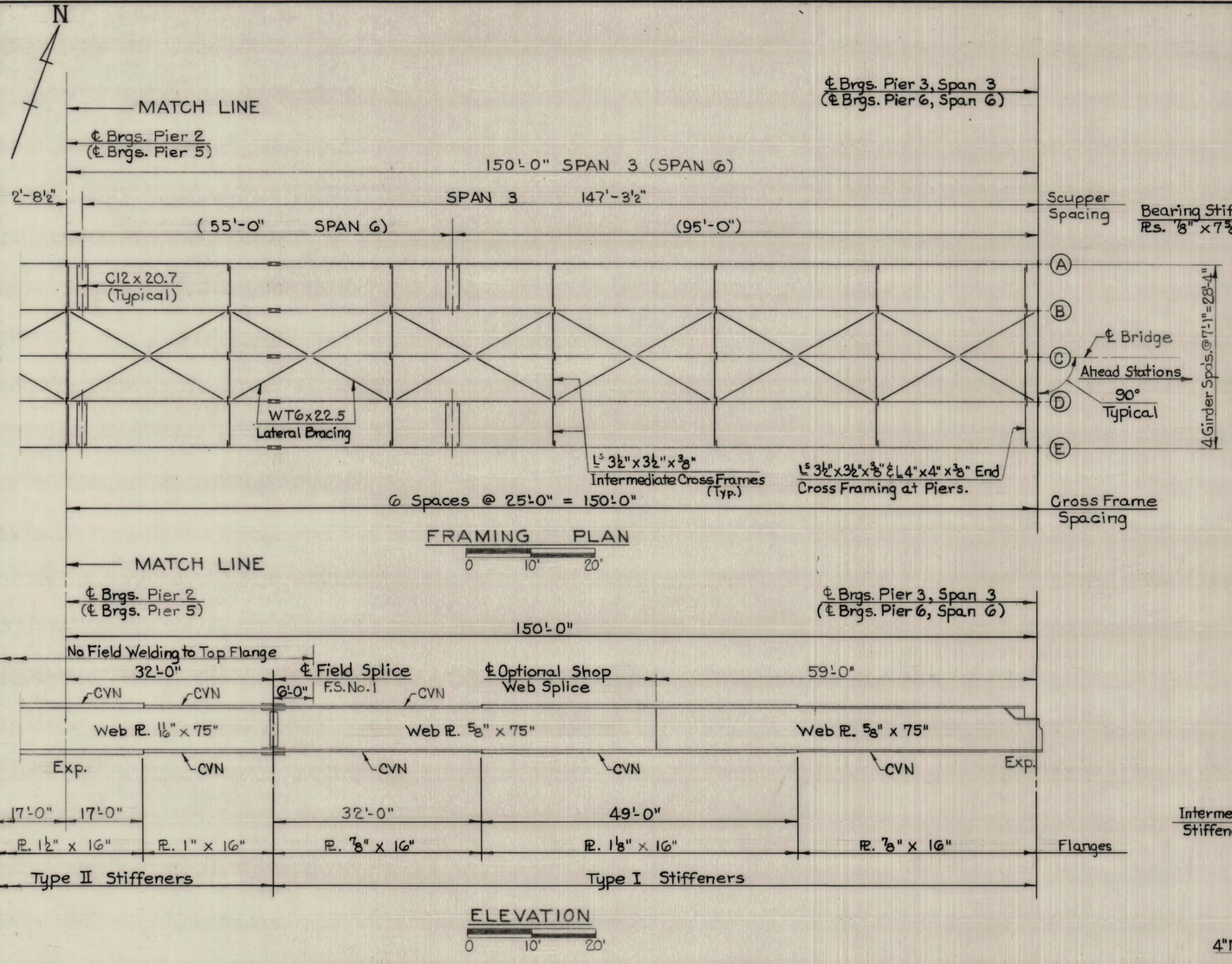
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

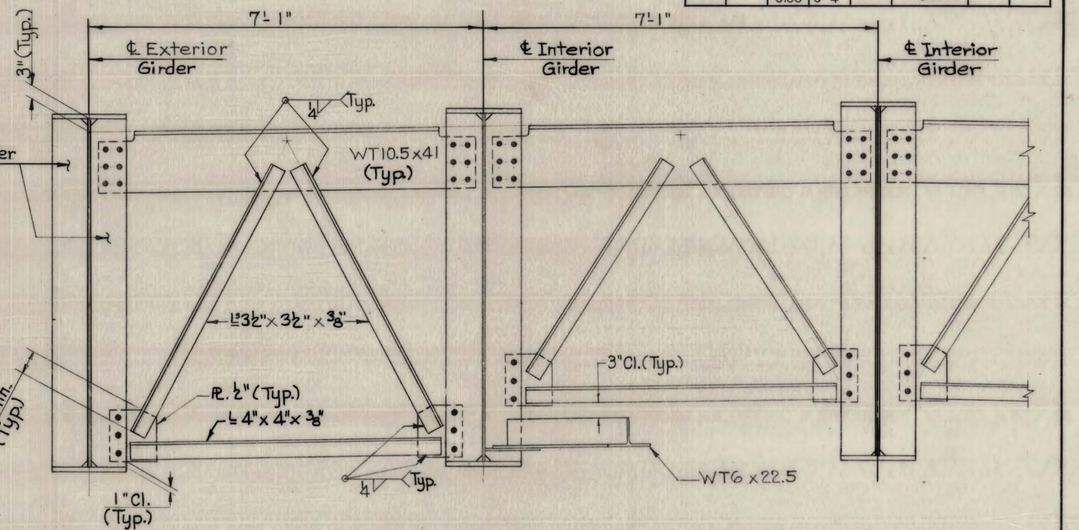
REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY P.T.S. CHECKED BY G.G.B. DATE 3/1/76
DETAILED BY G.H.H. CHECKED BY G.G.B. DATE 3/1/78
TRACED BY T.M.K. CHECKED BY G.G.B. DATE 3/1/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	14 of 82

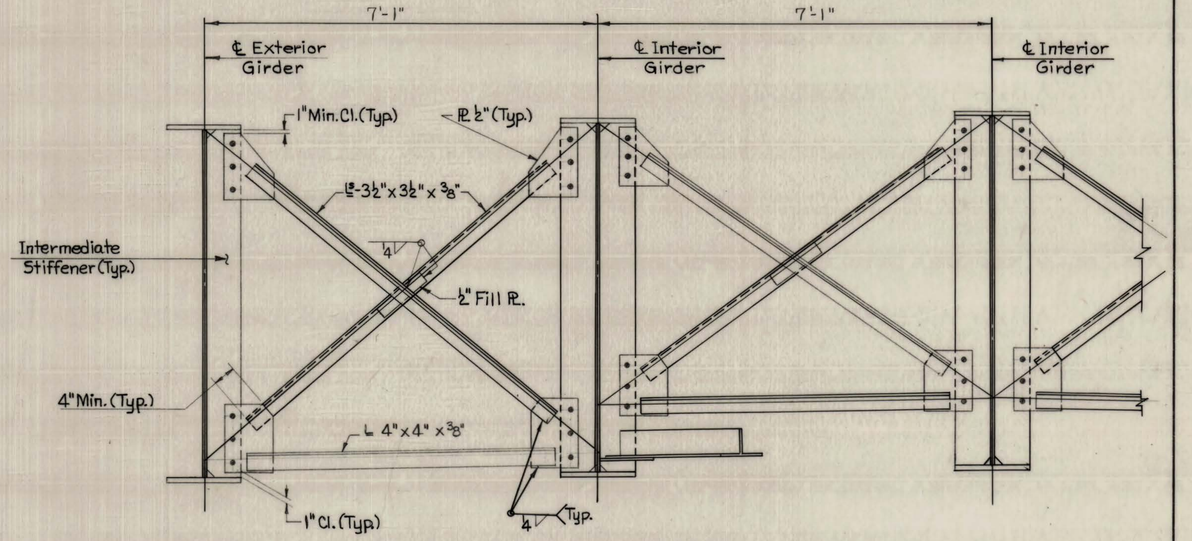
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W. VA.	3	318-AL.56-0.00	F-338 (002) C-4	1976	Jackson, W. Va. Meigs, Ohio	55	125





END CROSSFRAME AT ABUTMENT A

0 1' 2' 4"



INTERMEDIATE CROSSFRAME

0 1' 2' 4'

Note:

- For End Cross Framing at Pier 3 and Pier 6 see Dwgs. "Tooth Expansion Dam at Pier No. 3" and "Tooth Expansion Dam at Pier No. 6."

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD

STEEL FRAMING – SPANS 3 & 6

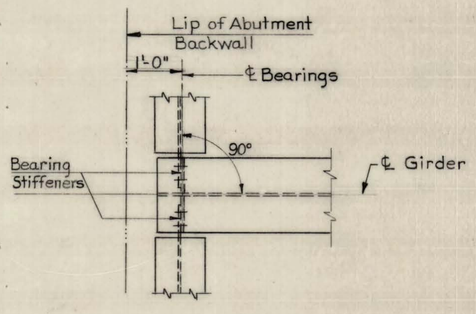
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

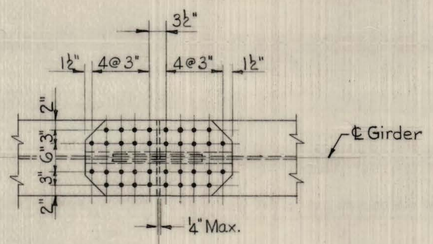
REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

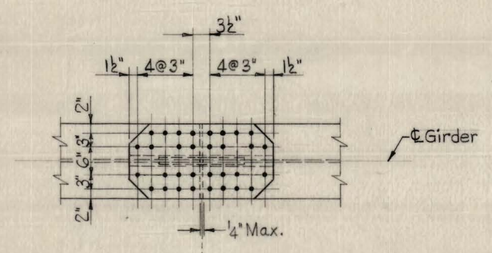
DESIGNED BY P.E.S.	CHECKED BY G.G.B.	DATE 3/1/76	
DETAILED BY G.H.H.	CHECKED BY G.G.B.	DATE 3/1/76	
TRACED BY —	CHECKED BY G.G.B.	DATE 3/1/76	

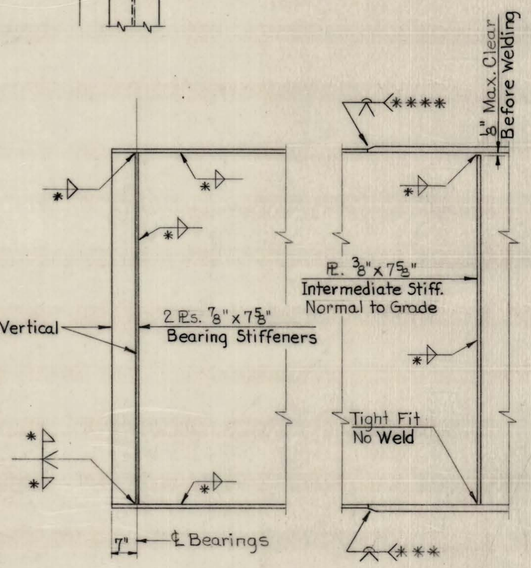
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	15 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318 AL56-0.00	F-339 (002) C-4	1976	Jackson W.Va. Meigs, Ohio	56	125

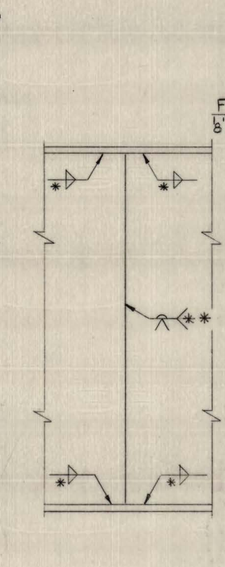




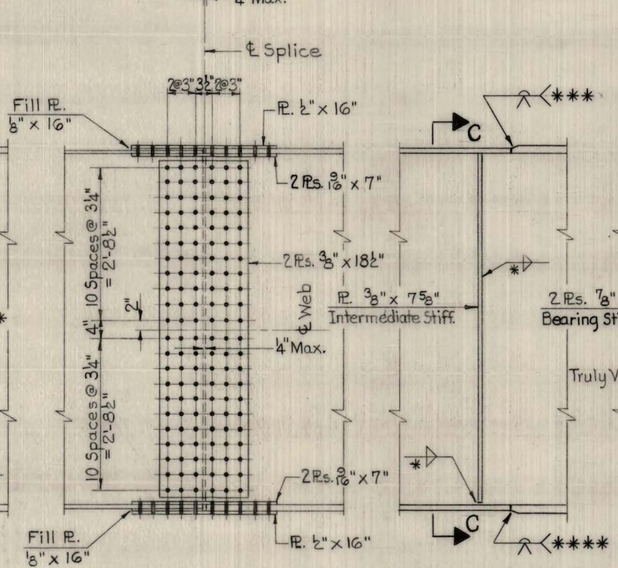




AT ABUTMENT A



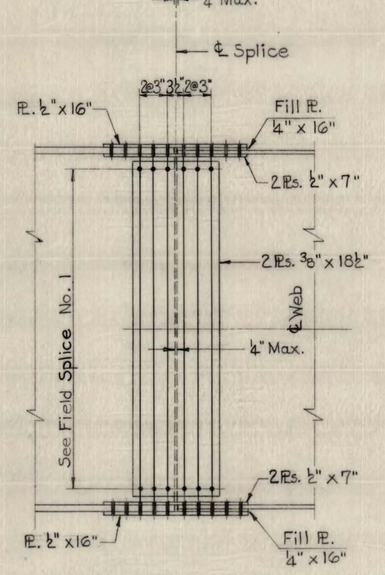
AT TYPE I STIFFENER



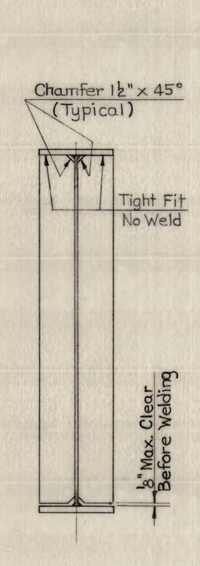
AT FIELD SPLICE NO. 1

AT TYPE II STIFFENER

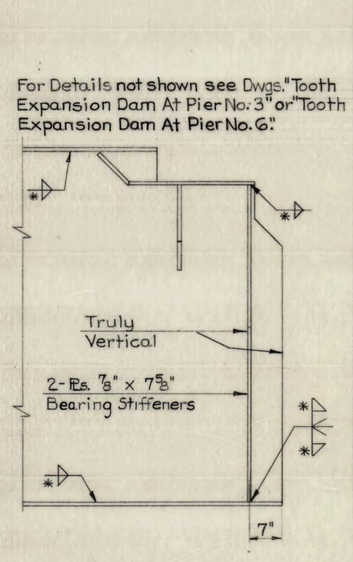
AT PIERS 1,2,4 & 5



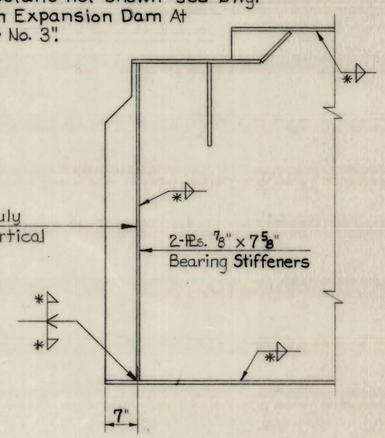
AT FIELD SPLICE NO. 2



SECTION C-C



AT PIER 3, SPAN 3
AT PIER 6, SPAN 6

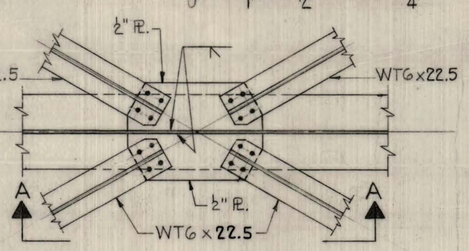


AT PIER 3, SPAN 4

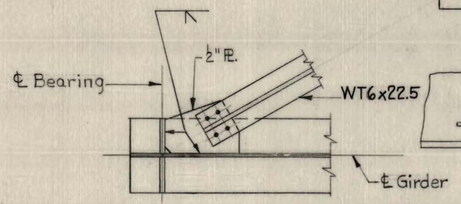
GIRDER DETAILS

0 1' 2' 4'

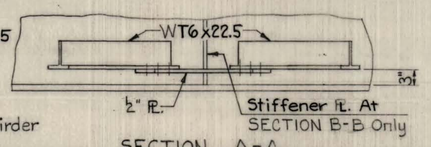
** *** **** See Dwg. "Girder Details - Span 10".



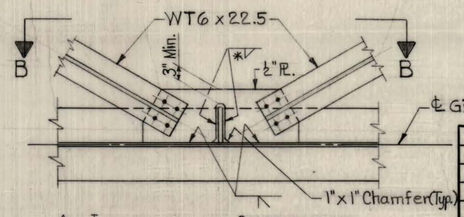
AT GIRDER LINE ©



AT END BEARINGS



SECTION A-A
SECTION B-B



AT INTERMEDIATE CROSSFRAMES AND OVER PIERS 1,2,4 & 5

LATERAL BRACING DETAILS

0 1' 2' 4'

*FILLET WELD TABLE	
MATERIAL THICKNESS OF THICKER PART JOINED (INCHES)	MINIMUM SIZE OF FILLET WELD (INCHES)
To ¾ Incl.	¼
Over ¾ To 1½ Incl.	⅝
Over 1½ To 2¼ Incl.	⅜

NOTE: The Weld Size shall not exceed the thickness of the thinner part joined.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
GIRDER DETAILS - SPANS 1 THRU 6

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

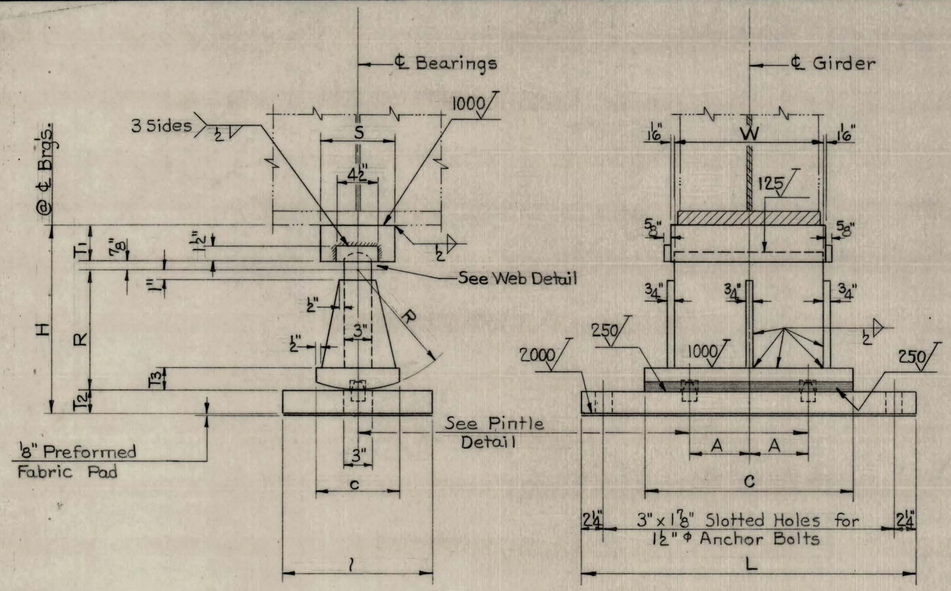
DESIGNED BY P.E.S. CHECKED BY GSA DATE 3/1/76
DETAILED BY G.H.H. CHECKED BY GSA DATE 3/1/78
TRACED BY CHECKED BY GSA DATE 3/1/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	1-6 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318 AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	57	125

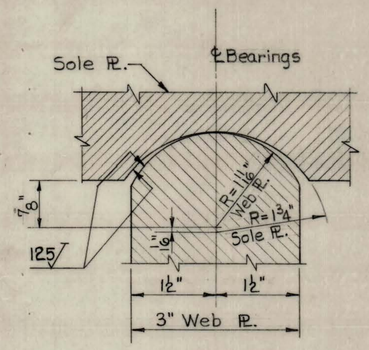
EXPANSION BEARINGS

LOCATION	S	W	c	C	L	?	R	T1	T2	T3	H	A	No. Req'd
Abutment A	7"	17"	7"	20½"	30"	10½"	9¾"	2½"	1¾"	2"	14⅞"	7"	5
Pier 2 & Pier 5	8"	17"	9"	24"	36"	16"	13¾"	3½"	2½"	2½"	20⅝"	7"	10
Pier 3, Span 3	7"	17"	9"	20½"	30"	14"	12¾"	2½"	1¾"	2¾"	17⅞"	7"	5
Pier 3, Span 4	7"	17"	7"	20½"	30"	10½"	9¾"	2½"	1¾"	2"	14⅞"	7"	5
Pier 6, Span 6	7"	17"	9"	20½"	30"	14"	12¾"	2½"	1¾"	2¾"	17⅞"	7"	5

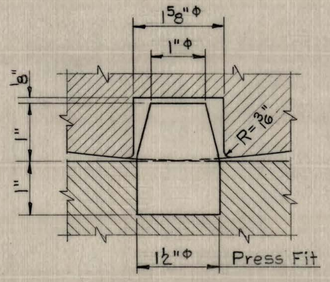


EXPANSION BEARINGS

0 6" 1' 2'

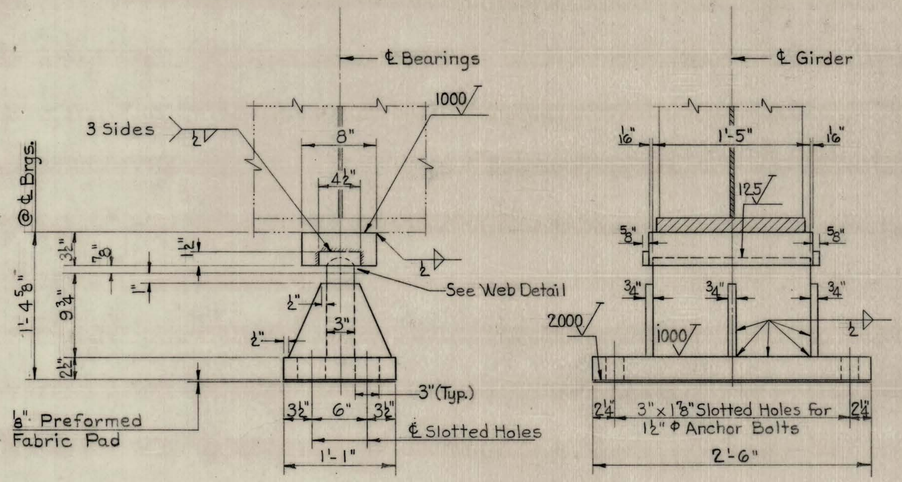


WEB DETAIL



PINTLE DETAIL

NOTE: Finish All Over.



FIXED BEARINGS AT PIERS 1 & 4

0 6" 1" 2"

Fixed Bearings, 10 Each Required.

NOTES:

- Rockers shall be shop assembled and match marked to insure free movement of Rockers with pintles in place.
- ℄'s of all Bearings shall be truly vertical at 68° F under full dead load.
- Holes in Masonry Plates shall be filled with Molten Zinc after Anchor Bolts are set and deck slab has been poured.
- Preformed Fabric Pad Material shall conform to requirements of Section 715.13.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

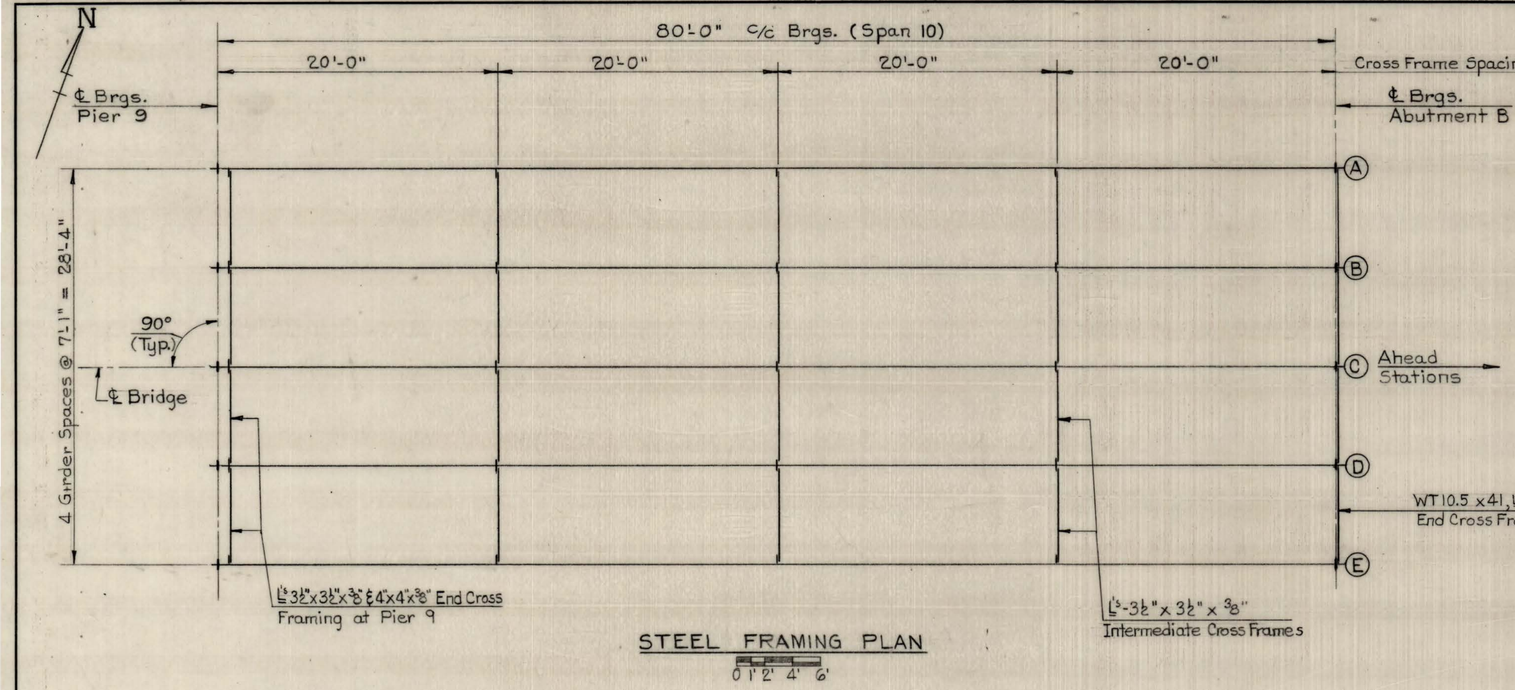
OHIO RIVER BRIDGE AT RAVENSWOOD
SHOES - GIRDER SPANS 1 THRU 6

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

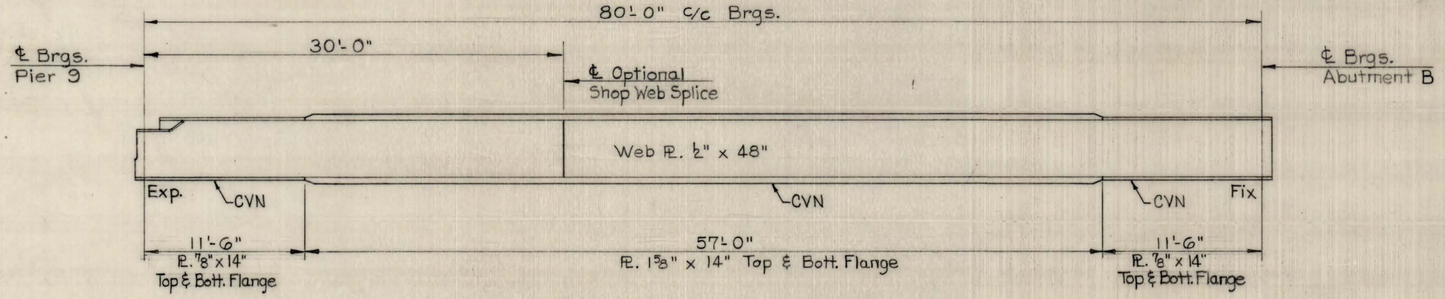
DESIGNED BY P.F.S. CHECKED BY S.G.B. DATE 3/1/76
DETAILED BY G.H.H. CHECKED BY S.G.B. DATE 3/1/78
TRACED BY — CHECKED BY S.G.B. DATE 3/1/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	17 of 82



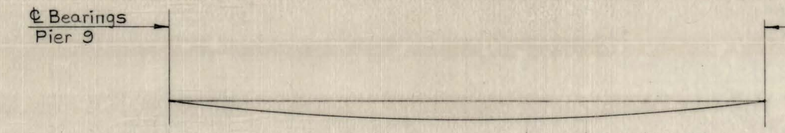
STEEL FRAMING PLAN

0 1' 2' 4' 6'



GIRDER ELEVATION

0 1' 2' 4' 6'



* Due to Concrete	0	3/8	5/8	7/8	1	1 1/16	1	7/8	5/8	3/8	0
Due to Steel	0	1/16	1/8	3/16	1/4	1/4	1/4	3/16	1/8	1/16	0
Total	0	1/16	3/4	1 1/16	1 1/4	1 5/16	1 1/4	1 1/16	3/4	1/16	0

DEAD LOAD DEFLECTION DIAGRAM

Deflection in inches

* Includes Deck Slab, Stay-In-Place Forms, Integral Wearing Surface & Parapets.

Notes:

- All Material Shall be A-36.
- For End Cross Framing at Pier 9 See Dwg. "Tooth Expansion Dam At Pier No. 9".
- All girder flange plates indicated thus: (CVN) shall be subject to the Charpy V-Notch testing as per specifications.
- For additional notes see Dwg. "Steel Framing-Spans 1,2,4 & 5".

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	58	125

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
STEEL FRAMING - SPAN 10

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

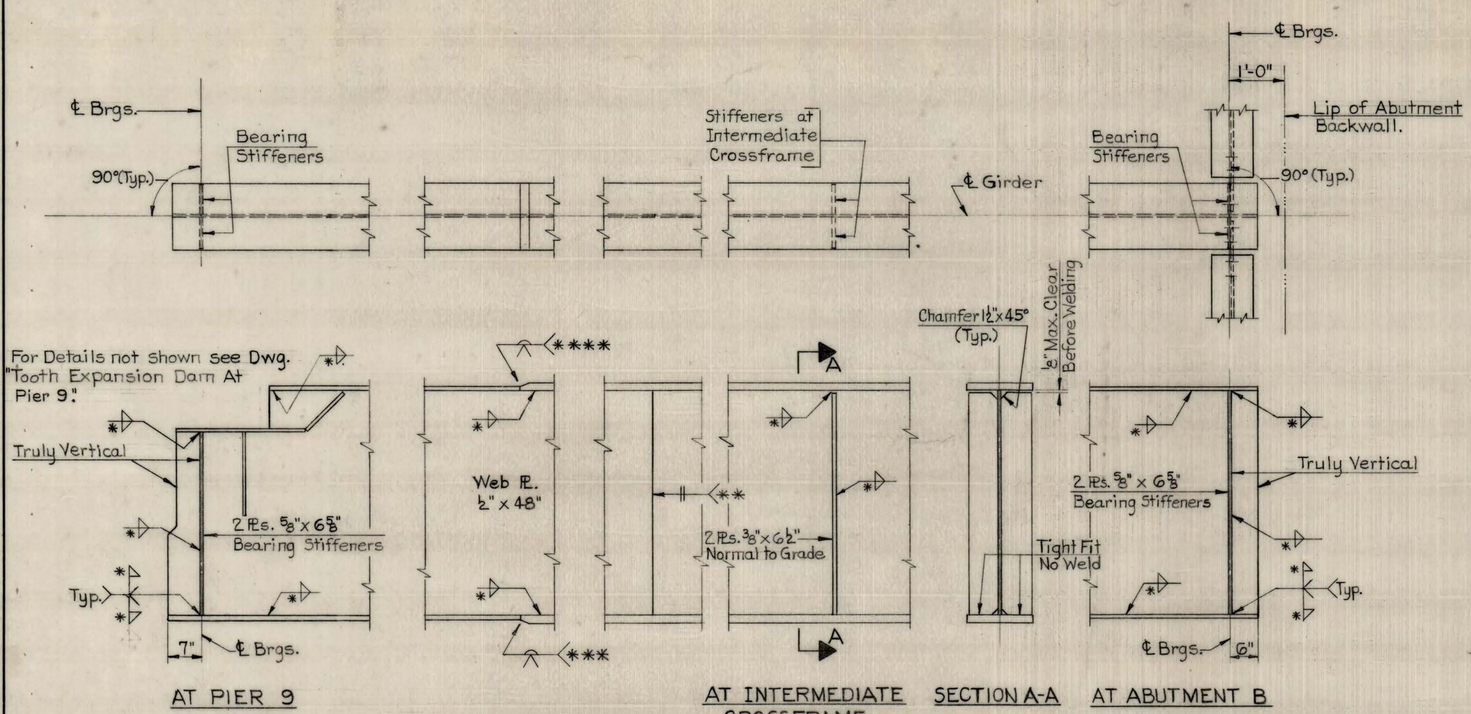
DESIGNED BY P.F.S. CHECKED BY G.G.B. DATE 3/1/76
DETAILED BY G.H.H. CHECKED BY G.G.B. DATE 3/1/76
TRACED BY — CHECKED BY G.G.B. DATE 3/1/76

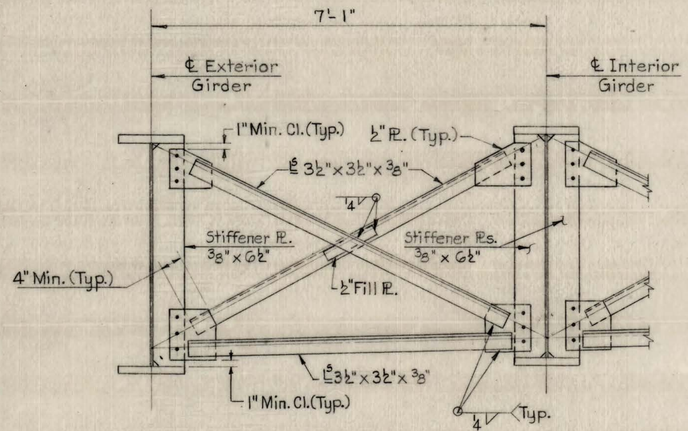
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	18 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338(002) C-4	1976	Jackson, W. Va. Meigs, Ohio	59	125

BEARING SHOE NOTES:

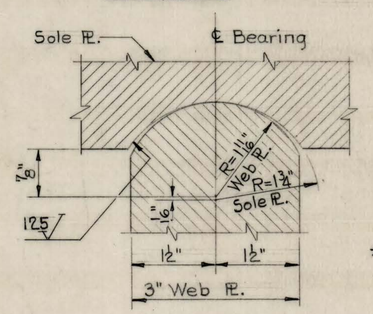
- Rockers shall be shop assembled and match marked to insure free movement of Rockers with pintles in place.
- ℄'s of all Bearings shall be truly vertical at 68°F under full dead load.
- Holes in Masonry Plates shall be filled with Molten Zinc after Anchor Bolts are set and deck slab has been poured.
- Preformed Fabric Pad Material shall conform to requirements of Section 715.13.





INTERMEDIATE CROSSFRAME

0 1' 2' 3'



WEB DETAIL

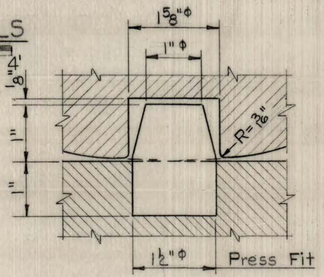
GIRDER DETAILS

0 1' 2'

* * Grind welds flush with grinding in direction of stress.

* * * Bevel base metal and grind welds to provide thickness transition slopes no greater than 1 to 2½; with grinding in direction of stress.

* * * * Bevel base metal to provide thickness transition slopes no greater than 1 to 2½.

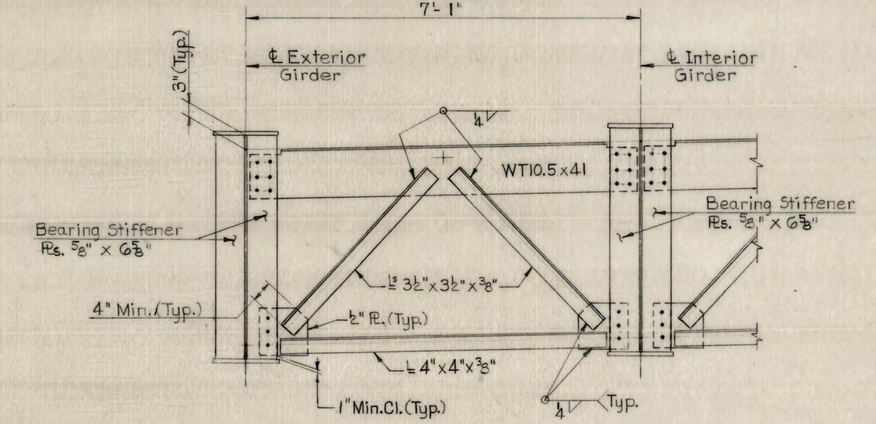


PINTLE DETAIL

NOTE: Finish All Over.

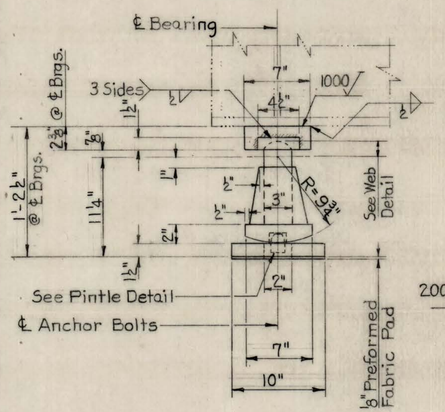
✱FILLET WELD TABLE	
MATERIAL THICKER PART JOINED (INCHES)	MINIMUM SIZE OF FILLET WELD (INCHES)
To ¾ Incl.	¼
Over ¾ To 1½ Incl.	5/16
Over 1½ To 2¼ Incl.	⅜

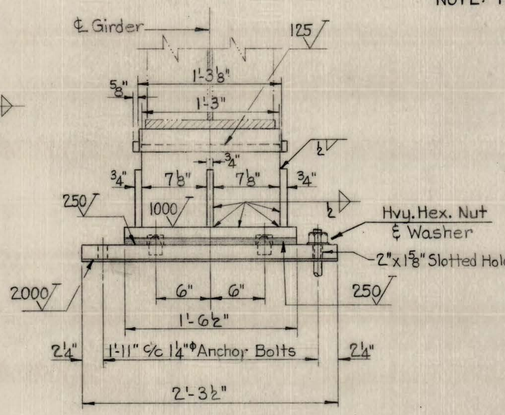
NOTE: The Weld Size shall not exceed the thickness of the thinner part joined.



END CROSSFRAME AT ABUTMENT B

0 1' 2' 3'

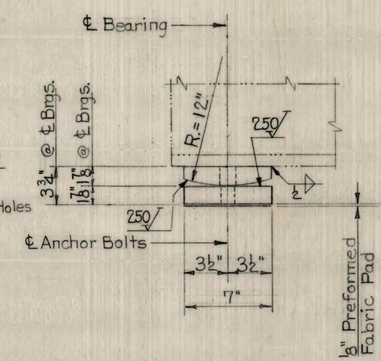


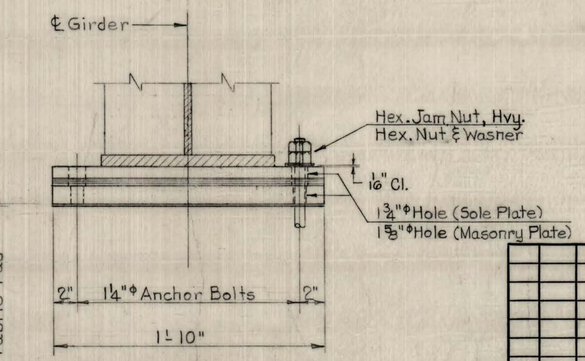


EXPANSION BEARING DETAIL @ PIER 9

0 6" 1' 2'

5 Expansion Bearings Req'd.





FIXED BEARING DETAILS @ ABUTMENT B

0 6" 1' 2'

5 Fixed Bearings Req'd.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
GIRDER DETAILS - SPAN 10

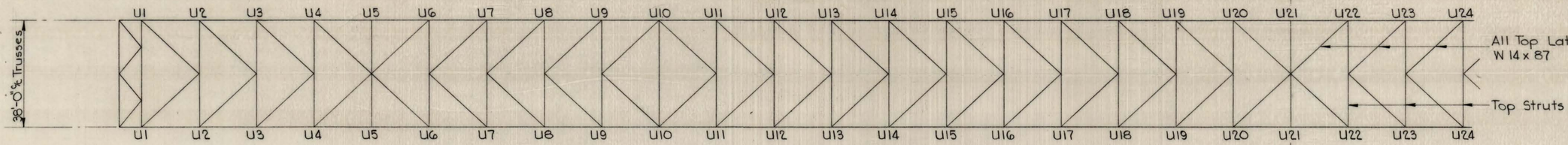
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

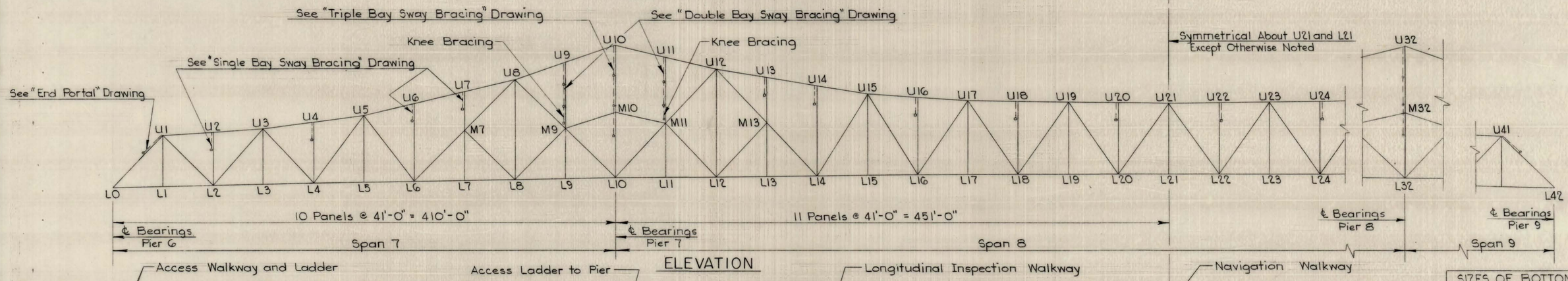
DESIGNED BY P.T.S. CHECKED BY G.G.B. DATE 3/11/76
DETAILED BY G.H.H. CHECKED BY G.G.B. DATE 3/11/78
TRACED BY — CHECKED BY G.G.B. DATE 4/11/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	19 of 82

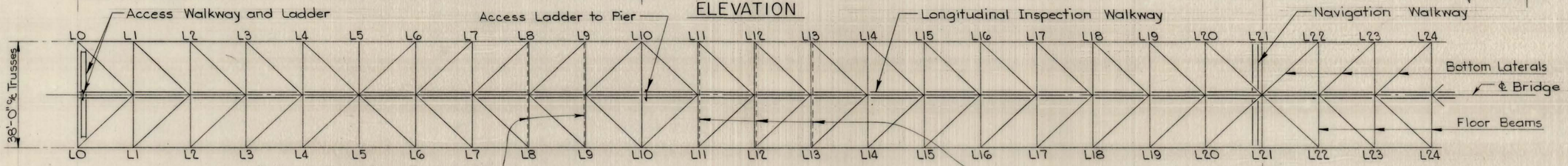
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL 56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	60	125



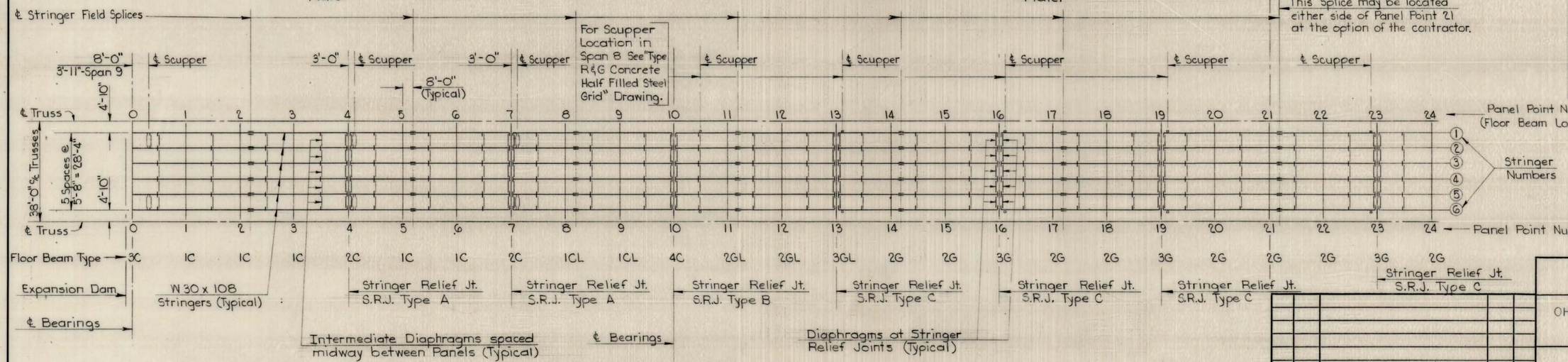
TOP CHORD LATERAL BRACING SYSTEM



ELEVATION



BOTTOM CHORD LATERAL BRACING SYSTEM



DECK STEEL FRAMING PLAN

SIZES OF BOTTOM LATERALS	
PANEL POINT TO PANEL POINT	SIZE
L0 to L6	W 14 x 87
L6 to L8	W 14 x 119
L8 to L10	W 14 x 142
L10 to L12	W 14 x 167
L12 to L14	W 14 x 142
L14 to L16	W 14 x 119
L16 to L25	W 14 x 87
L25 to L27	W 14 x 119
L27 to L29	W 14 x 142
L29 to L31	W 14 x 167
L31 to L32	W 14 x 176
L32 to L34	W 14 x 142
L34 to L36	W 14 x 119
L36 to L42	W 14 x 87

NOTES:
- All stiffeners and diaphragms shall be perpendicular to grade.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRUSS FRAMING PLAN

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY B.F.S. DATE 3/1/76
DETAILED BY PPA CHECKED BY LAG DATE 3/1/76
TRACED BY T.M.K. CHECKED BY LAG DATE 3/1/76

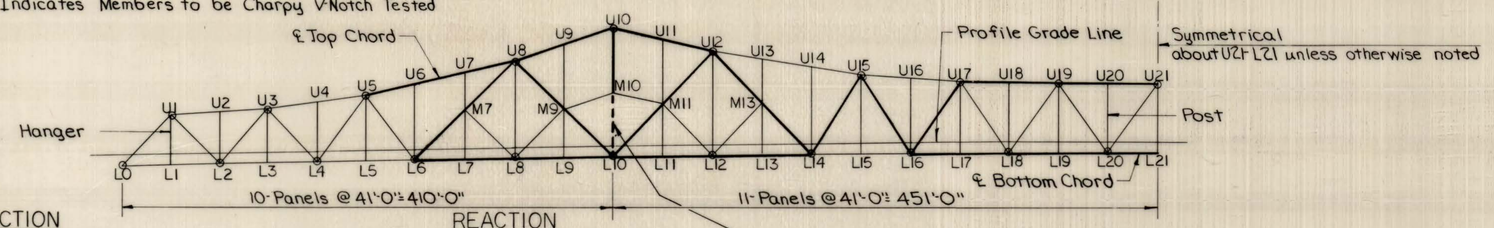
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	—	2972	20 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W. Va. Meigs, Ohio	61	125

FORCES IN MEMBERS IN KIPS

	MEMBER	ACTUAL PANEL LENGTH in "FT."	DEAD LOADS: STRUCTURAL STEEL	DEAD LOADS: CONCRETE *	DEAD LOADS: FUTURE WEARING SURFACE	DEAD LOADS: TOTAL	LIVE LOAD: L.L.	LIVE LOAD: IMPACT	GROUP III WIND LOADS: WI	GROUP III WIND LOADS: W2	GROUP III WIND LOADS: WL	GROUP III L.F due to L.L.	DESIGN FORCE	GOVERNING A.A.S.H.T.O. GROUP LOADINGS	MATERIAL FURNISHED: SECTION SHAPE	MATERIAL FURNISHED: WEB MATERIAL	MATERIAL FURNISHED: COVER PL. MATERIAL	SECTION PROPERTIES: GROSS AREA in IN²	SECTION PROPERTIES: NET AREA in IN²	SECTION PROPERTIES: r in INCHES	SECTION PROPERTIES: l/r	ALLOWABLE FORCE in KIPS	UNIT STRESSES: ALLOWABLE UNIT STRESS in KIPS/in²	UNIT STRESSES: ACTUAL UNIT STRESS in KIPS/in²
TOP CHORDS	⊕ U1-U3	41.0805	–	247	–	112	273	14					399 C	I	"B"	2-Pls ¾"x33"	2-Pls ½"x23"	72.50	–	10.31	47.8	1145	15.79	5.5
			134	–	1	–	255	12					155 T					72.50	54.13			1083	20.0	2.9
	⊕ U3-U5	41.3766	–	65	–	–	341	18					– C	I		2-Pls ¾"x33"	2-Pls ½"x23"	–	–	10.31	48.0			
			506	–	56	497	445	22					964 T					72.50	55.25			1105	20.0	17.5
	⊕ U5-U8	42.1538	–	–	–	–	246	13					– C	I		2-Pls 13/16"x33"	2-Pls ½"x23"	–	–	10.36	48.8			
			953	346	128	1427	535	26					1988 T					76.66	75.17			2030	27.0	26.5
	⊕ U8-U10	43.2196	–	–	–	–	48	5					– C	I		2-Pls 1⅛"x33"	2-Pls 5/8"x23"	–	–	10.38	50.0			
			1786	1228	259	3273	667	23					3963 T					148.38	148.38			4006	27.0	26.7
	⊕ U10-U12	42.0727	–	–	–	–	47	4					– C	I		2-Pls 1¾"x33"	2-Pls 5/8"x23"	–	–	10.39	48.6			
			1739	1195	252	3186	649	23					3858 T					144.25	144.44			3895	27.0	26.8
	⊕ U12-U15	41.4731	–	–	–	–	133	8					– C	I		2-Pls ¾"x33"	2-Pls ½"x23"	–	–	10.31	48.4			
			224	277	40	541	219	10					770 T					72.50	53.6			1072	20.0	14.4
	U15-U17	41.1466	570	222	76	868	321	13					1202 C	I		2-Pls 1"x33"	2-Pls 5/8"x23"	94.75	–	10.27	48.1	1497	15.8	12.7
			–	–	–	–	121	8					– T					–	–					
	U17-U19	41.0132	1213	639	171	2023	549	27					2599 C	I		2-Pls 1 1/16"x33"	2-Pls 5/8"x23"	123.63	–	10.39	47.4	2630	21.25	21.0
			–	–	–	–	124	6					– T					–	–					
	U19-U21	41.0000	1546	854	220	2620	669	33					3322 C	I	"B"	2-Pls 1 15/16"x33"	2-Pls 5/8"x23"	156.63	–	10.36	47.5	3329	21.25	21.2
			–	–	–	–	127	6					– T					–	–					
BOTTOM CHORDS	⊕ L0-L2	41.0082	27	–	–	–	131	6	20	–	67	8	51 C	III	"B"	2-Pls ¾"x33"	2-Pls ½"x23"	72.50	–	10.31	47.7	1145	15.79	0.7
			–	188	8	169	162	9	20	–	67	8	348 T					72.50	56.3			1126	20.0	6.2
	⊕ L2-L4	41.0082	304	–	23	118	364	18	13	–	151	18	540 C	III		2-Pls ¾"x33"	2-Pls ½"x23"	72.50	–	10.31	47.7	1145	15.79	7.5
			–	209	–	–	335	18	13	–	151	18	334 T					72.50	56.3			1126	20.0	5.9
	L4-L6	41.0082	732	122	91	945	503	25					1473 C	I		2-Pls 1 1/16"x33"	2-Pls 5/8"x23"	98.88	–	10.30	47.8	1562	15.79	14.9
			–	–	–	–	309	16					– T					–	–					
	L6-L8	41.0075	1296	742	188	2226	549	23					2798 C	I		2-Pls 1 9/16"x33"	2-Pls 5/8"x23"	131.88	–	10.39	47.4	2805	21.27	21.2
			–	–	–	–	127	8					– T					–	–					
	L8-L10	41.0055	1457	829	212	2498	586	23					3107 C	I		2-Pls 1 13/16"x33"	2-Pls 5/8"x23"	148.41	–	10.37	47.5	3155	21.26	20.9
			–	–	–	–	124	8					– T					–	–					
	L10-L12	41.0038	1087	842	167	2096	458	17					2571 C	I		2-Pls 1½x33"	2-Pls 5/8"x23"	127.75	–	10.39	47.4	2721	21.30	20.1
			–	–	–	–	84	6					– T					–	–					
	L12-L14	41.0025	955	737	146	1838	411	16					2265 C	I		2-Pls 1¼"x33"	2-Pls 5/8"x23"	111.25	–	10.37	47.5	2365	21.26	20.4
			–	–	–	–	77	6					– T					–	–					
	⊕ L14-L16	41.0014	–	22	–	–	153	8	101	–	146	29	207 C	III		2-Pls ¾"x33"	2-Pls ½"x23"	72.50	–	10.31	47.7	1146	15.79	2.9
			181	–	19	178	214	10	101	–	146	29	543 T					72.50	56.3			1126	20.0	9.7
	⊕ L16-L18	41.0006	–	–	–	–	121	7					– C	I		2-Pls 13/16"x33"	2-Pls ½"x23"	–	–	10.35	47.5			
			932	457	130	1519	448	22					1989 T					76.63	76.04			2053	27.0	26.2
	⊕ L18-L20	41.0002	–	–	–	–	127	6					– C	I		2-Pls 1 5/8"x33"	2-Pls 5/8"x23"	–	–	10.37	47.4			
			1429	774	202	2405	628	31					3063 T					115.41	115.41			3116	27.0	26.5
	⊕ L20-L22	41.0000	–	–	–	–	127	6					– C	I		2-Pls 1½"x33"	2-Pls 5/8"x23"	–	–	10.39	47.3			
			1584	877	225	2686	681	34					3401 T					127.75	126.25			3409	27.0	26.9
	⊕ L26-L28	41.0014	–	22	–	–	153	8	–	132	90	51	205 C	III		2-Pls ¾"x33"	2-Pls ½"x23"	72.50	–	10.31	47.7	1145	15.79	2.8
			181	–	19	178	214	10	–	132	90	51	540 T					72.50	56.3			1126	20.0	9.6
	L30-L32	41.0038	1087	842	167	2096	458	17	286	–	415	59	2665 C	III		2-Pls 1½"x33"	2-Pls 5/8"x23"	127.75	–	10.39	47.4	2721	21.3	20.9
			–	–	–	–	84	6	286	–	415	59	– T					–	–					
	⊕ L38-L40	41.0082	304	–	23	118	364	18	21	–	183	18	578 C	III		2-Pls ¾"x33"	2-Pls ½"x23"	72.5	–	10.31	47.7	1145	15.79	8.0
			–	209	–	–	335	18	21	–	183	18	366 T					72.5	56.3			1126	20.0	6.5
	⊕ L40-L42	41.0082	27	–	–	–	131	6	24	–	91	8	73 C	III	"B"	2-Pls ¾"x33"	2-Pls ½"x23"	72.5	–	10.31	47.7	1145	15.79	1.0
			–	188	8	169	162	9	24	–	91	8	371 T					72.5	56.3			1126	20.0	6.6

⊕ Indicates Members to be Charpy V-Notch Tested



REACTION

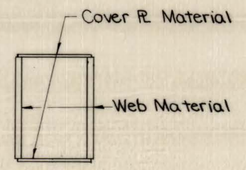
Structural Steel D.L. =	4
* Concrete D.L. =	235
F W S D.L. =	15
L.L. =	216
I =	20
Total =	490 K/Truss

REACTION

Structural Steel D.L. =	2396
* Concrete D.L. =	1631
F W S D.L. =	320
L.L. =	794
I =	28
Total =	5169 K/Truss

For M10-L10 Only:
Webs - A588
Cover Pls. - A572

—— A36
—— A572



SECTION SHAPE "B"

ELEVATIONS

PANEL POINT	PROFILE GRADE	℄ BOTTOM CHORD	℄ TOP CHORD
0	631.8425	624.1084	–
1	632.6625	624.9784	666.9784
2	633.4825	625.7484	669.4984
3	634.3025	626.5684	672.0684
4	635.1225	627.3884	677.6384
5	635.9425	628.2084	683.2084
6	636.7625	629.0284	693.0035
7	637.5712	629.8110	702.7985
8	638.3277	630.5936	712.5936
9	639.0281	631.2660	726.2660
10	639.6725	631.9383	739.9383
11	640.2608	632.4986	730.4986
12	640.7931	633.0588	721.0588
13	641.2694	633.5071	714.8124
14	641.6897	633.9554	708.5660
15	642.0539	634.2916	702.3196
16	642.3621	634.6277	698.8497
17	642.6142	634.8518	695.3798
18	642.8103	635.0759	694.3399
19	642.9504	635.1880	693.3001
20	643.0345	635.3001	693.3001
21	643.0625	635.3001	693.3001

NOTES:

- All posts and hangers are truly vertical.
- Chord lengths are straight between points marked O.
- * Includes: Grid flooring in Span 8.
  S.I.P. forms in Spans 7 and 9.
  Deck slab concrete in Spans 7, 8 and 9.
  Parapet concrete in Spans 7, 8 and 9.
- Dead Load Future Wearing Surface (F.W.S.) Forces Are Calculated Using An Allowance Of 25 Lbs. Per Sq. Foot.
- WI = 30% Effect of 0° skew wind.
- W2 = 30% Effect of 30° skew wind.
- WL = Wind load on live load corresponding to skew angle of WI or W2.
- T denotes tension force in the member.
- C denotes compression force in the member.
- Design force for members governed by AASHTO GR. III loading are reduced by 25%.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRUSS STRESS SHEET I

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY LAG/668 DATE 3/27/78
DETAILED BY JMG CHECKED BY RAK/668 DATE 3/27/78
TRACED BY JMG CHECKED BY RAK/668 DATE 3/27/78

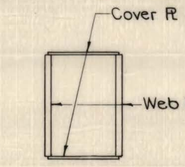
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	——	2972	21 of 82

	MEMBER	ACTUAL LENGTH in "FT."	FORCE IN MEMBERS IN KIPS: DEAD LOADS — STRUCTURAL STEEL	DEAD LOADS — CONCRETE *	DEAD LOADS — FUTURE WEARING SURFACE	DEAD LOADS — TOTAL	LIVE LOAD — L.L.	LIVE LOAD — IMPACT	GROUP II WIND LOADS: AXIAL LOAD in KIPS	GROUP II WIND LOADS: MOMENT in FT.-KIPS	DESIGN FORCE	GOVERNING A.S.H.T.O GROUP LOADINGS	MATERIAL FURNISHED: SECTION SHAPE	WEB MATERIAL	COVER PL MATERIAL	SECTION PROPERTIES: GROSS AREA in IN²	NET AREA in IN²	r in INCHES	l/r	ALLOWABLE FORCE in KIPS	UNIT STRESSES: ALLOWABLE UNIT STRESS in KIPS/in²	ACTUAL UNIT STRESS in KIPS/in²
VERTICALS	⊕ U1 - L1	42.000	—	—	—	—	—	—			- C	I	C	1-PL ½"x22¾"	2-MC 18x51.9	42.00	37.95	5.46	91.6		14.9	4.0
			44	123	18	185	77	19			281 T									N.A.	20.0	18.8
	U2 - L2	43.7500	26	—	—	26	—	—			26 C	I	C	1-PL 9/16"x22⅝"	2-MC 18x58	33.96	—	6.31	83.2	452	13.3	0.8
			—	—	—	—	—	—			- T											
	⊕ U3 - L3	45.5000	—	—	—	—	—	—			- C	I	C	1-PL ½"x22¾"	2-MC 18x51.9	42.00	37.95	5.46	99.3		14.0	4.0
			44	123	18	185	77	19			281 T									N.A.	20.0	18.8
	U4 - L4	50.2500	27	—	—	27	—	—			27 C	I	C	1-PL 9/16"x22⅝"	2-MC 18x58	33.96	—	6.31	95.6	412	12.1	0.8
			—	—	—	—	—	—			- T											
	⊕ U5 - L5	55.0000	—	—	—	—	—	—			- C	I	C	1-PL ½"x22¾"	2-MC 18x51.9	42.00	37.95	5.46	120.0		11.0	4.1
			54	118	18	190	77	19			286 T									N.A.	20.0	19.2
	U6 - L6	63.9751	32	—	—	32	—	—			32 C	I	HA	1-PL ½"x22½"	2-PLs ⅜"x18", 4-Ls 6"x4"x½"	46.00	—	6.62	116.0	451	9.8	0.7
			—	—	—	—	—	—			- T											
	U7 - M7	31.9815	49	—	—	49	9	—			58 C	I	C	1-PL 9/16"x22⅝"	2-MC 18x58	33.96	—	6.31	60.9	510	15.02	1.7
			—	—	—	—	3	—			- T											
	⊕ M7 - L7 = M9 - L9	41.0000	—	—	—	—	—	—			- C	I	C	1-PL ½"x22¾"	2-MC 18x51.9	42.00	37.95	5.46	90.1		14.5	4.1
			58	117	17	192	77	19			288 T									N.A.	20.0	19.1
	⊕ U8 - L8	82.0000	—	—	—	—	—	—			- C	I	B	2-PLs ⅝"x23"	2-PLs ½"x23"	51.75	32.72	9.26	106.3	654	20.0	17.6
			197	221	32	450	108	19			577 T											
	U9 - M9 = U11 - M11	54.0000	56	—	—	56	8	—			64 C	I	C	1-PL 9/16"x22⅝"	2-MC 18x58	33.96	—	6.31	102.7	386	11.4	1.9
			—	—	—	—	5	—			- T											
	U10 - M10	54.0000	1038	657	138	1833	323	11		* 415	2167 C	I	B	2-PLs 1¼"x33"	2-PLs 1"x23"	128.50	—	12.72	50.94	2686	20.9	16.86
			—	—	—	—	25	2			- T											
	⊕ M10 - L10	54.0000	1084	657	138	1879	373	13	313	** 2697	2192 C	II	B	2-PLs 2¼"x33"	2-PLs 1½"x23"	217.50	—	12.50	51.8	4526	20.81	10.40
			—	—	—	—	25	2	313		- T											
	⊕ M11 - L11 = M13 - L13	44.0000	—	—	—	—	—	—			- C	I	C	1-PL ½"x23"	2-MC 18x45.8	38.26	34.89	5.5	96.0	N.A.	13.5	4.0
			55	77	17	149	77	20			246 T										20.0	17.9
	⊕ U12 - L12	88.0000	—	—	—	—	—	—			- C	I	B	2-PLs ⅝"x23"	2-PLs ½"x23"	51.75	32.72	9.26	114.0	654	20.0	15.4
			202	144	32	378	108	19			505 T											
	U13 - M13	37.3053	47	—	—	47	6	—			53 C	I	C	1-PL 9/16"x22⅝"	2-MC 18x58	33.96	—	6.31	71.0	485	14.3	1.6
			—	—	—	—	—	—			- T											
	U14 - L14	74.6106	33	—	—	33	—	—			33 C	I	HA	1-PL ½"x22½"	2-PLs ¾"x24", 4-Ls 4"x4"x½"	51.0	—	8.69	103.0	579	11.3	0.7
			—	—	—	—	—	—			- T											
	⊕ U15 - L15	68.0280	—	—	—	—	—	—			- C	I	H	1-PL ½"x22"	2-PLs 1"x23"	57.0	48.00	5.96	131.0	N.A.	11.30	1.9
			50	78	17	145	77	19			241 T										20.00	11.9
	U16 - L16	64.2220	32	—	—	32	—	—			32 C	I	HA	1-PL ½"x22½"	2-PLs ¾"x18", 4-Ls 6"x4"x½"	46.0	—	6.62	116.5	451	9.8	0.7
			—	—	—	—	—	—			- T											
	⊕ U17 - L17	60.5280	—	—	—	—	—	—			- C	I	H	1-PL ½"x22"	2-PLs 1"x23"	57.0	48.00	5.96	121.9	N.A.	13.2	1.9
			49	79	18	146	77	19			242 T										20.0	12.0
	U18 - L18	59.2640	35	—	—	35	—	—			35 C	I	C	1-PL 9/16"x22⅝"	2-MC 18x58	33.96	—	6.31	112.7	348	10.3	1.0
			—	—	—	—	—	—			- T											
	⊕ U19 - L19	58.1121	—	—	—	—	—	—			- C	I	C	1-PL ½"x22¾"	2-MC 18x51.9	42.00	37.95	5.46	126.6		10.4	3.3
	U21 - L21	58.0000	54	67	15	136	77	19			232 T									N.A.	20.0	15.5
	U20 - L20	58.0000	40	—	—	40	—	—			40 C	I	C	1-PL 9/16"x22⅝"	2-MC 18x58	33.96	—	6.31	110.3	357	10.5	1.2
			—	—	—	—	—	—			- T											
	L0 - U1	59.2837	—	272	12	284	247	13			504 C	I	B	2-PLs ¾"x33"	2-PLs ½"x23"	72.5	—	10.31	69.0	1051	14.5	7.0
			40	—	—	—	195	10			- T											
	⊕ U1 - L2	58.1102	150	—	13	81	181	9			271 C	I	B	2-PLs 5/8"x26"	2-PLs ½"x23"	55.5	—	9.91	70.4	793	14.3	4.9
			—	82	—	—	175	10			103 T						42.41			849	20.0	2.5
	⊕ L2 - U3	61.8591	—	—	—	—	128	8			- C	I	H	1-PL ½"x22½"	2-PLs ⅞"x20"	—		5.03	147.6			
			257	56	32	345	191	8			544 T					46.13	42.19			844	20.0	12.9
	U3 - L4	60.6408	292	214	48	554	178	8			740 C	I	B	2-PLs ¾"x26"	2-PLs ⅝"x23"	67.15	—	10.38	74.1	995	14.1	10.9
			—	—	—	—	65	4			- T					—	—					
	⊕ L4 - U5	69.2595	—	—	—	—	43	3			- C	I	H	1-PL ½"x21⅞"	2-PLs 1¼"x23"	—		6.0	138.5			
			389	315	61	765	204	8			977 T					59.84	50.27			1005	20.0	19.5
	U5 - L6	67.9446	323	355	56	734	169	7			910 C	I	B	2-PLs ⅝"x26"	2-PLs ⅝"x23"	74.25	—	9.94	82.0	995	13.4	12.3
			—	—	—	—	8	1			- T					—	—					
	⊕ L6 - M7	58.5387	—	—	—	—	6	—			- C	I	H	1-PL 5/8"x21⅜"	2-PLs 1⅛"x23"	—		10.41	135.0			
			527	579	90	1196	250	10			1456 T					65.11	54.98			1484	27.0	26.5
	⊕ M7 - U8	58.5388	—	—	—	—	4	1			- C	I	H	1-PL 5/8"x21⅜"	2-PLs 1 5/16"x23"	—		10.41	135.0			
			604	643	99	1346	274	10			1630 T					73.73	61.92			1672	27.0	26.3
	M7 - L8	57.4321	76	63	9	148	53	15			216 C	I	C	1-PL 9/16"x22⅝"	2-MC 18x58	33.96	—	6.31	109.2	363	10.7	6.4
			—	—	—	—	2	—			- T											
	L8 - M9	58.4602	100	83	12	195	57	16			268 C	I	C	1-PL 9/16"x22⅝"	2-MC 18x58	33.96	—	6.31	111.2	353	10.4	7.9
			—	—	—	—	—	—			- T											
	U8 - M9	57.5093	483	530	72	1085	236	13			1334 C	I	B	2-PLs ⅝"x26"	2-PLs ⅝"x23"	74.25	—	9.94	69.4	1381	18.6	18.0
			—	—	—	—	78	4			- T											
	M9 - L10	57.5092	582	612	84	1278	261	14			1559 C	I	B	2-PLs 1 1/16"x26"	2-PLs ⅝"x23"	84.00	—	9.88	69.9	1562	18.6	18.6
			—	—	—	—	44	2			- T											
	M9 - M10	43.2196	—	—	—	—	—	—			- C	—	C	1-PL ½"x23"	2-MC 18x45.8	38.26	—	5.48	94.6	—	—	—
			—	—	—	—	—	—			- T											
	M10 - M11	42.0727	—	—	—	—	—	—			- C	—	C	1-PL ½"x23"	2-MC 18x45.8	38.26	—	5.48	92.1	—	—	—
			—	—	—	—	—	—			- T											
DIAGONALS	L10 - M11	60.5526	1117	646	150	1913	400	20			2333 C	I	B	2-PLs 1 5/16"x26"	2-PLs ¾"x23"	135.25	—	9.36	77.6	2350	17.4	17.3
			—	—	—	—	29	2			- T											
	M11 - U12	60.5526	1014	593	138	1745	372	18			2135 C	I	B	2-PLs 1 1/16"x26"	2-PLs ¾"x23"	122.28	—	9.53	76.3	2152	17.6	17.5
			—	—	—	—	51	3			- T											
	M11 - L12	59.7328	101	52	12	165	55	13			233 C	I	C	1-PL 9/16"x22⅝"	2-MC 18x58	33.96	—	6.31	113.6	343	10.10	6.9
			—	—	—	—	1	—			- T											
	L12 - M13	60.4702	79	39	9	127	53	15			195 C	I	C	1-PL 9/16"x22⅝"	2-MC 18x58	33.96	—	6.31	115.0	338	9.97	5.8
			—	—	—	—	2	—			- T											
	⊕ U12 - M13	59.8143	—	—	—	—	24	1			- C	I	H	1-PL 15/16"x20"	2-PLs 2"x23"	110.76	92.76	10.21	140.6	2505	27.0	26.8
			1147	713	165	2025	440	23			2488 T											
	⊕ M13 - L14	59.8143	—	—	—	—	24	1			- C	I	H	1-PL 15/16"x20"	2-PLs 1⅞"x23"	105.01	88.14	10.30	139.4	2380	27.0	26.5
			1070	675	156	1901	416	22			2339 T											
	L14 - U15	79.7162	782	490	114	1386	314	17			1717 C	I	B	2-PLs 15/16"x26"	2-PLs ⅞"x23"	124.75	—	9.82	97.4	1722	13.8	13.8
			—	—	—	—	20	1			- T					—	—					
	⊕ U15 - L16	79.1403	—	—	—	—	28	2			- C	I	H	1-PL 5/8"x21⅜"	2-PLs 1 5/16"x23"	—		6.00	158.3			
			748	471	108	1327	310	13			1650 T					73.73	61.92			1672	27.0	26.7
	L16 - U17	73.2927	650	421	97	1168	281	12			1461 C	I	B	2-PLs 13⅜"x26"	2-PLs ⅝"x23"	100.25	—	9.54	92.2	1484	14.8	14.6
			—	—	—	—	35	2			- T					—	—					
	⊕ U17 - L18	72.9215	—	—	—	—	51	3			- C	I	H	1-PL 9/16"x21½"	2-PLs 1¼"x23"	—		6.04	144.9			
			500	324	74	898	244	11			1153 T					69.60	58.35			1167	29.0	19.7
	L18 - U19	71.2113	376	234	53	663	216	10			889 C	I	B	2-PLs ⅞"x26"	2-PLs ⅝"x23"	74.25	—	9.94	85.9	973	13.1	12.0
			—	—	—	—	14	4			- T					—	—					
	⊕ U19 - L20	71.0282	—	—	—	—	97	5			- C	I	H	1-PL ½"x22¼"	2-PLs ⅝"x20"	—		5.03	169.3			
			202	140	31	373	152	7			532 T					46.13	40.22			804	20.0	13.2
	⊕ L20 - U21	71.0282	66	40	9	115	147	7			269 C	I	B	2-PLs ⅝"x26"	2-PLs ½"x23"	55.5	—	9.91	84.00	727	13.1	4.9
			—	—	—	—	124	7			16 T					55.5	43.88			818	20.0	0.4

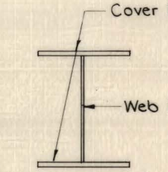
⊕ Indicate Members to be Charpy V-Notch Tested

BEAVER VALLEY ENGINEERING SUPPLIES CO. REORDER 15062

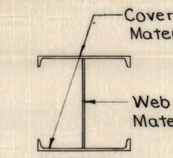
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338(002) C-4	1976	Jackson, W. Va. Meigs, Ohio	62	125



SECTION SHAPE "B"



SECTION SHAPE "H"



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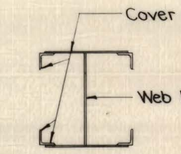


SECTION SHAPE "HA"

NOTES FOR VERTICAL AND DIAGONALS

- For verticals U1-L1, U3-L3, U5-L5, M7-L7, M9-L9, M11-L11, M13-L13, U15-L15, U17-L17, U19-L19 and U21-L21 the allowable and actual unit stresses are calculatated for axial tension and bending values from floor beam reactions. Due to this combination of stresses the allowable force for these members is marked as "NA" (Not Applicable).
- For verticals U2-L2, U4-L4, U6-L6, M7-U7, M9-U9, M11-U11, M13-U13, U14-L14, U16-L16, U18-L18, U20-L20 and diagonals M7-L8, L8-M9, M11-L12 and L12-M13 the area of web is ignored in calculating the member properties.
- For diagonals L6-M7, M7-U8, U12-M13 and M13-L14 the length used to calculate the least "r" is from panel point L6 to U8 and U12 to L14 respectively.
- Design force and moment for post M10-L10 are for AASHTO GR II Loading and are not reduced by 25%.
- The allowable and actual unit stresses for post U10-M10 and M10-L10 shown are for AASHTO Gr I loads only. For Gr II loads when axial comp. and bending stresses exist members are proportioned to satisfy combined stresses formula.

* Indicates Moment About Longitudinal Axis.
** Indicates Moment About Transverse Axis.

- For Additional Notes see "Truss Stress Sheet I"

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRUSS STRESS SHEET II

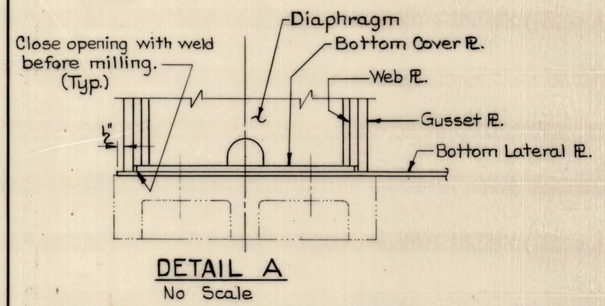
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA — CHECKED BY LAG/668 — DATE 3/27/78
DETAILED BY MG — CHECKED BY RAR/668 — DATE 3/27/78
TRACED BY MG — CHECKED BY RAR/668 — DATE 3/27/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	—	2972	22 of 82

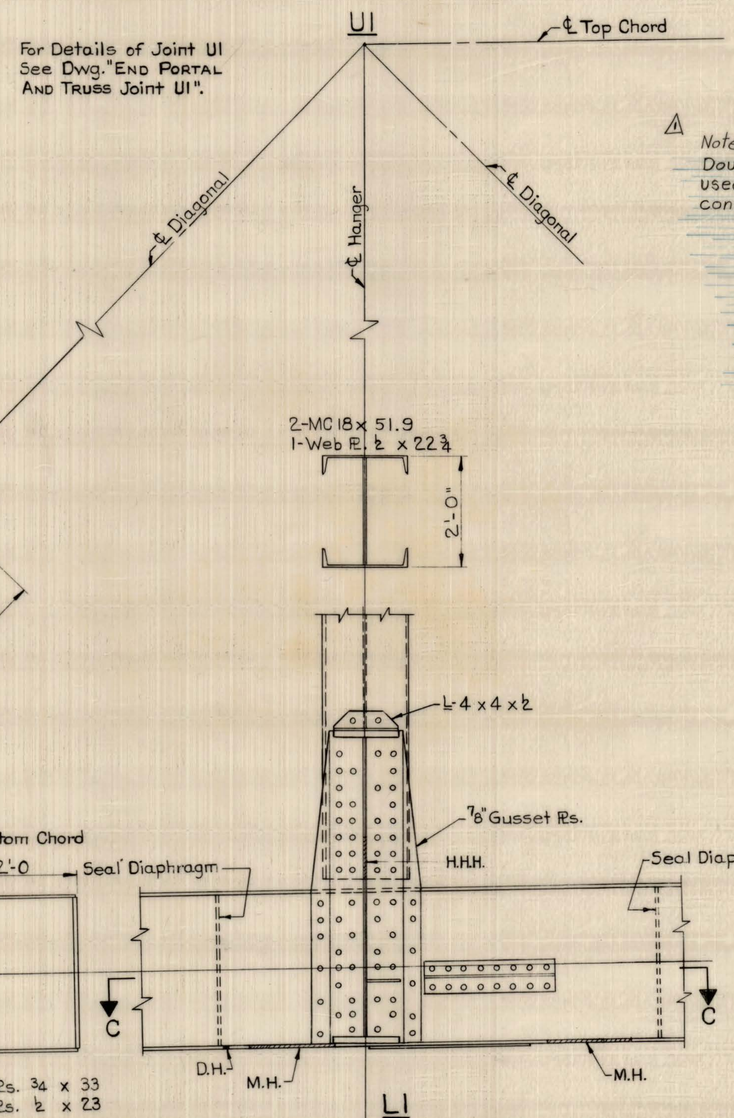
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	63	125



DETAIL A
No Scale

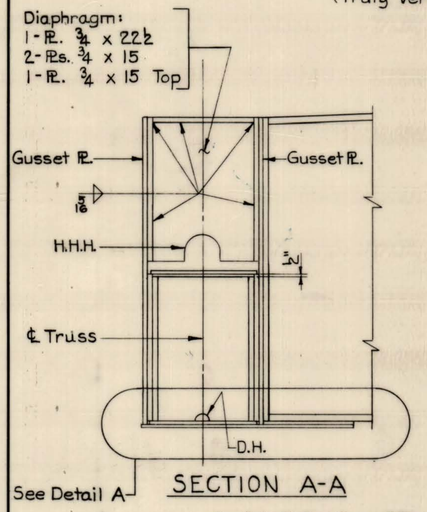
Note: Mill Gusset Pls. To Bear on Bottom Lateral Plate And Mill Diaphragm To Bear on Bottom Cover Plate.

For Details of Joint U1 See Dwg. "End Portal And Truss Joint U1".

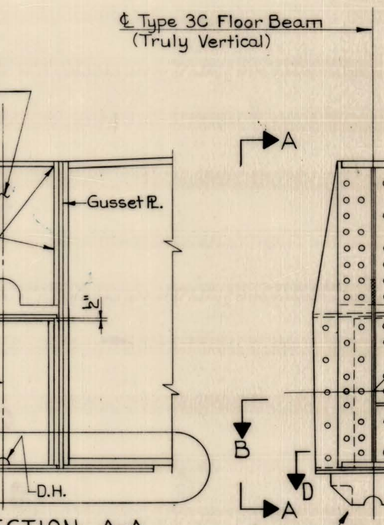


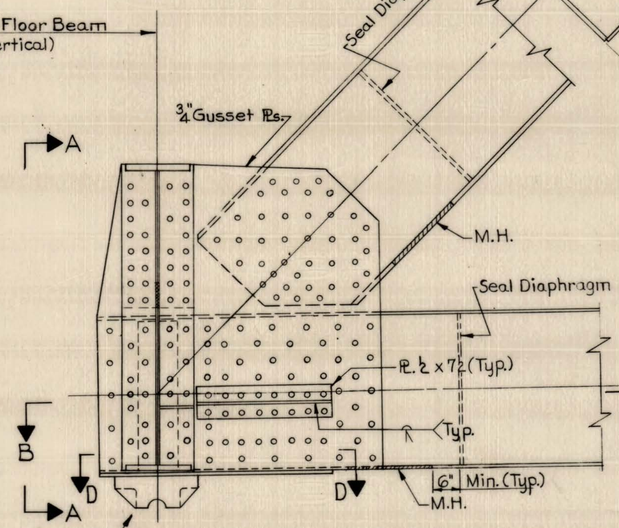
⚠ Note:
Double fillet welds, sized as shown in the table below, shall be used in lieu of the full penetration welds for the tee welds at the tee connection plates for the upper and lower lateral systems.

Plate Size	Weld Size
½	5/16
5/8	3/8
¾	7/16

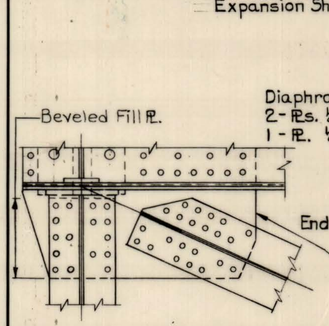


SECTION A-A

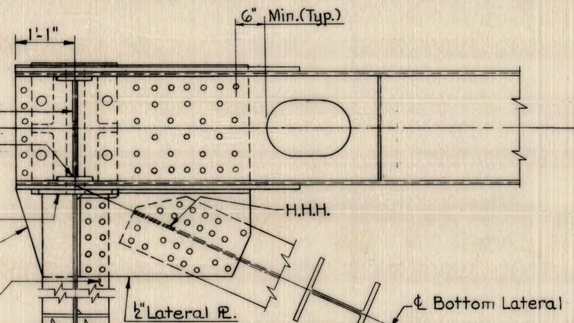




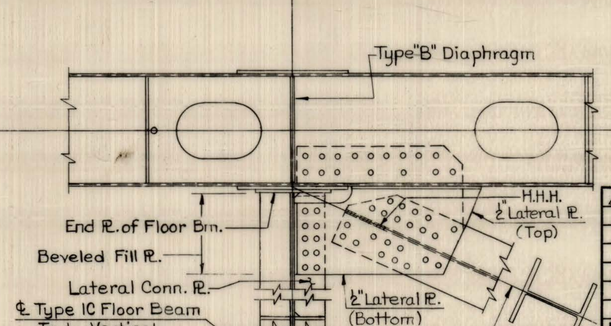
See "Common Structural Steel Details For Truss Spans" Drawing For Welds, Diaphragms, D.H., M.H. & H.H.H.



SECTION D-D



SECTION B-B



SECTION C-C

0 1' 2' 3'

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY
⚠	63	add Note	Sept 18 '78	ME

DESIGNED BY PPA CHECKED BY LHG/GGB DATE 2/27/76
DETAILED BY G.H.H. CHECKED BY GGB DATE 3/27/76
TRACED BY T.M.K CHECKED BY GGB DATE 3/27/76

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRUSS JOINTS L0, L1

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	23 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-339 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	64	125

Use Maximum Radius to Avoid Reentrant Cut at Inner Splice Pls. and Gusset Pls.

U2

U3

Miter Line (Mill)

Inner Splice Pls. ½ x 31½

℄ Top Chord

2'-0" (Typ.)

Seal Diaphragm

Pl. ½ x 7½ (Typ.)

6" Min. (Typ.)

Typ.

2-Web Pls. ¾ x 33
2-Cov. Pls. ½ x 23

D.H.

M.H.

¾" Gusset Pls.

1" Gusset Pls. (A572)

Bottom Pl.

H.H.H.

℄ Diagonal

2'-0"

2-Fig. Pls. ⅜ x 20
1-Web Pl. ½ x 22¼

2-MC18 x 58
1-Web Pl. 1⅛ x 22⅝

2-MC18 x 51.9
1-Web Pl. ½ x 22¾"

℄ Hanger

℄ Post

℄ Bottom Strut

For Connection Details See Dwg. "Single Bay Sway Bracing For Truss Spans".

2-Web Pls. ⅝ x 26
2-Cov. Pls. ½ x 23

L4x4x½

⅞" Gusset Pls.

L2

L3

Joint L3 Similar To Joint L1

℄ Type 1C Floor Beam (Truly Vertical)

℄ Bottom Chord

2'-0" (Typ.)

Miter Line (Mill)

Inner Splice Pls. ½ x 31½

SECTION E-E

SECTION F-F

SECTION D-D

SECTION C-C

SECTION G-G

SECTION A-A

SECTION B-B

Bend Line for Bottom Pl.

Gusset Pl.

℄ Truss

End Pl. of Top Strut

Stiffener Pl.

Lateral Conn. Pl.

Top Strut

½" Bottom Lateral Pl.

℄ Top Lateral

Bend Line for Top Pl. & Top Lat. Pl.

½" Top Pl.

Beveled Fill Pl.

½" Top Lateral Pl.

Beveled Fill Pl.

End Pl. of Floor Beam

℄ Bottom Lateral

Lateral Conn. Pl.

Type "A" Diaphragm

℄ Splice

Top Pl. ½ x 23

0 1' 2' 3'

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRUSS JOINTS L2, L3 U2, U3

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY LHG/GGB DATE 2/27/76
DETAILED BY G.H.H. CHECKED BY GGB DATE 3/27/76
TRACED BY T.M.K. CHECKED BY GGB DATE 3/27/76

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	24 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	65	125

Top and Bottom Lateral Pls. and Lateral Connections Similar to U2

U4

Seal Diaphragm

2'-0" (Typ.)

℄ Top Chord

Seal Diaphragm

Pl. ½ x 7½ (Typ.)

Typ.

M.H.

2-Web Pls. ¾ x 33
2-Cov. Pls. ½ x 23

D.H.

M.H.

¾" Gusset Pls.

U5

Use Maximum Radius to Avoid Reentrant Cut At Inner Splice Pls. and Gusset Pls.

Miter Line (Mill)

Bend Line for Top Lateral Pl.

Inner Splice Pls. ½ x 31½ (A572)

Web Pls. 1/16 x 33 (A572)

5/16" Fill Pls.

C

C

Seal Diaphragm

2-Web Pls. 13/16 x 33
2-Cov. Pls. ½ x 23

2'-3"

Seal Diaphragm

D.H.

M.H.

M.H.

1 7/16" Gusset Pls. (A572)

½" Bottom Pl. See Panel Point U3 For Details

Seal Diaphragm

H.H.H.

M.H.

D.H.

℄ Diagonal

2-Web Pls. 15/16 x 26
2-Cov. Pls. 5/8 x 23

℄ Post

℄ Bottom Strut
For Connection Details See Dwg. "Single Bay Sway Bracing For Truss Spans."

2'-0" (Typ.)

2-MC18 x 58
1-Web Pl. 9/16 x 22 5/8

2'-0"

℄ Diagonal

2-Fig. Pls. 1/16 x 23
1-Web Pl. ½ x 21 1/8

2-MC18 x 51.9
1-Web Pl. ½ x 22¾

℄ Hanger

2'-0" (Typ.)

2-Web Pls. ¾ x 26
2-Cov. Pls. 5/8 x 23

L4x4x½ (Typ.)

⅜" Fill Pl.

Seal Diaphragm

M.H.

1¼" Gusset Pls.

H.H.H.

½" Top Pl.

Seal Diaphragm

Seal Diaphragm

B

B

A

A

D.H.

M.H.

5/16" Fill Pls.

Inner Splice Pls. ½" x 31½

Miter Line (Mill)

M.H.

2'-3"

2-Web Pls. ¾ x 33
2-Cov. Pls. ½ x 23

2'-0" (Typ.)

2-Web Pls. 1 1/16 x 33
2-Cov. Pls. 5/8 x 23

℄ Bottom Chord

Seal Diaphragm

7/8" Gusset Pls.

H.H.H.

Seal Diaphragm

D.H.

M.H.

M.H.

D

D

L4

L5

℄ Type 2C Floor Beam
Truly Vertical

℄ Type 1C Floor Beam
Truly Vertical

Gusset Pl.

Bend Line for Top Lateral Pl.

℄ Truss

Gusset Pl.

End Pl. of Strut

½" Top Lateral Pl

Beveled Fill Pl.

Top Strut

SECTION C-C

Gusset Pl.

Type "B" Diaphragm

6" Min.

℄ Truss

Gusset Pl.

End Pl. of Floor Beam

½" Bottom Lateral Pl.

Beveled Fill Pl.

SECTION D-D

Note:
For Top Pl. Detail @ Joint L4 See Section "G-G" on Dwg. "Truss Joints L2,L3,U2,U3".

Type "A" Diaphragm

℄ Truss

⅜" Fill Pl.

½" Bottom Pl.

⅜" Fill Pl.

H.H.H.

Beveled Fill Pl.

℄ Bottom Lateral

End Pl. of Floor Beam

½" Bottom Lateral Pl.

SECTION A-A

Gusset Pl.

℄ Truss

H.H.H.

Gusset Pl.

℄ Bottom Lateral

Lateral Conn. Pl.

½" Top Lateral Pl.

SECTION B-B

0 1' 2' 3'

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRUSS JOINTS L4, L5, U4, U5

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA — CHECKED BY LAG/GGB — DATE 2/27/76
DETAILED BY G.H.H. — CHECKED BY GGB — DATE 3/27/78
TRACED BY T.M.K. — CHECKED BY GGB — DATE 3/27/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	25 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	66	125

CONTRACT NO. 4

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRUSS JOINTS L6, L7 M7 U6, U7

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. — BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY P.D.A.	CHECKED BY LAG/GGB	DATE 2/27/78
DETAILED BY G.H.H.	CHECKED BY G.G.B.	DATE 3/27/78
TRACED BY T.M.K.	CHECKED BY G.G.B.	DATE 3/27/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	26 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W. VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W. Va. Meigs, Ohio	67	125

U8
U9
M9
L8
L9
Miter Line (Mill)
Web Rs. 2 3/8" x 33 (A588)
Use Maximum Radius to Avoid Reentrant Cut at Inner Splice Rs., Gusset Rs. and Outer Splice Rs.
Web Rs. 1 1/16 x 33 (A572)
Inner Splice Rs. 1 1/16 x 31 1/2 (A572)
5/16" Fill Rs.
Bend Line For Top Lateral R.
Seal Diaphragm
2'-0" (Typ.)
℄ Top Chord
Top and Bottom Lateral Rs. and Lateral Connections Similar to U7.
Seal Diaphragm
Web Rs. 2 3/8 x 33 (A588)
R. 1/2 x 7 1/2 (Typ.)
Outer Splice Rs. 3/4 x 33 Min. (A572)
2-Web Rs. 13/16 x 33
2-Cov. Rs. 5/8 x 23
2'-3" (Min.)
M.H.
D.H.
2'-3"
3/4" Gusset Rs.
2" Gusset Rs. (A572)
1/2" Bottom R.
2-Web Rs. 13/16 x 33
2-Cov. Rs. 1/2 x 23
H.H.H.
For Connection Details See Dwg. "Double Bay Sway Bracing At Panel Points U9 and U11 For Truss Spans".
℄ Middle Strut
℄ Post
℄ Bottom Strut
2-MC18 x 58
1-Web R. 9/16 x 22 5/8
℄ Knee Brace Connection
℄ Diagonal
2'-0"
5/8" Conn. R.
6" (Min.)
2-MC18 x 45.8
1-Web R. 1/2 x 23
2-Web Rs. 7/8 x 26
2-Cov. Rs. 5/8 x 23
2" Fill Rs.
Splice Rs. 3/4 x 23
2-Rs. 1 5/16 x 23
1-Web R. 5/8 x 21 3/8
2-Web Rs. 5/8 x 23
2-Cov. Rs. 1/2 x 23
℄ Hanger
Web
L 4 x 4 x 1/2 (Typ.)
2-MC18 x 58
1-Web R. 9/16 x 22 5/8
1 1/16" Gusset Rs. (A572)
2" Top R.
R. 5/8 x 7 1/2
Typ.
℄ Bottom Chord
1/4" Fill Rs.
Miter Line (Mill)
Inner Splice Rs. 7/8" x 31 1/2 (A572)
2-Web Rs. 1 13/16 x 33
2-Cov. Rs. 5/8 x 23
2-MC18 x 51.9
1-Web R. 1/2 x 22 3/4
7/8" Gusset Rs.
2-Web Rs. 1 1/16 x 26
2-Cov. Rs. 5/8 x 23
℄ Type "ICL" Floor Beam (Truly Vertical)
Type "A" Diaphragm
℄ Truss
1/2" Bottom R.
End R. of Floor Beam
5/8" Bottom Lateral R.
℄ Bottom Lateral
5/8" Top Lateral R.
Longitudinal Flange R.
Beveled Fill R.
SECTION C-C
SECTION D-D
Miter Line (Mill)
Fill R.
Outer Splice R.
Bend Line for Top R.
Gusset R.
1/2" Top R.
Fill Void With Red Lead Paste
End R. of Top Strut
Bend Line for Top Lateral R.
1/2" Top Lateral R.
Top Strut
℄ Top Lateral
SECTION A-A
Bend Line For Bottom R.
1/2" Bottom & Fill R.
Lateral Connection R.
1/2" Bottom Lateral R.
SECTION B-B
Type "B" Diaphragm
End R. of Floor Beam
5/8" Bottom Lateral R.
5/8" Top Lateral R.
℄ Bottom Lateral
SECTION E-E
0 1' 2' 3'

Note:
Top R. Detail @ Joint L8 Similar to Section G-G on Dwg. "Truss Joints L2, L3, U2, U3".

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRUSS JOINTS L8, L9 M9 U8, U9

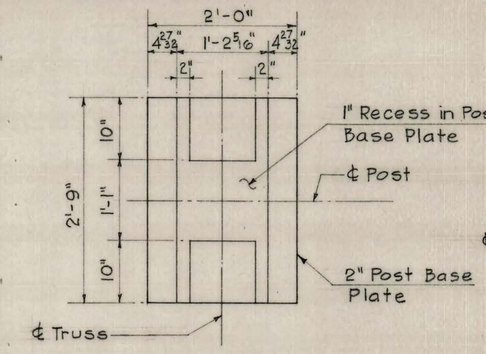
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	27 of 82

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

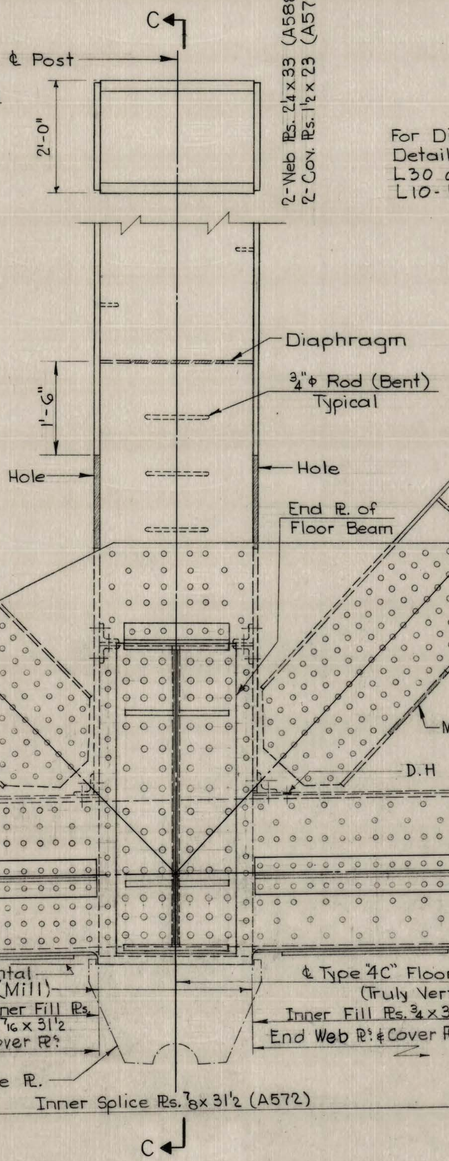
DESIGNED BY PDA CHECKED BY LAG/SGB DATE 3/22/76
DETAILED BY G.H.H. CHECKED BY SGB DATE 3/22/78
TRACED BY T.M.K. CHECKED BY SGB DATE 3/22/78

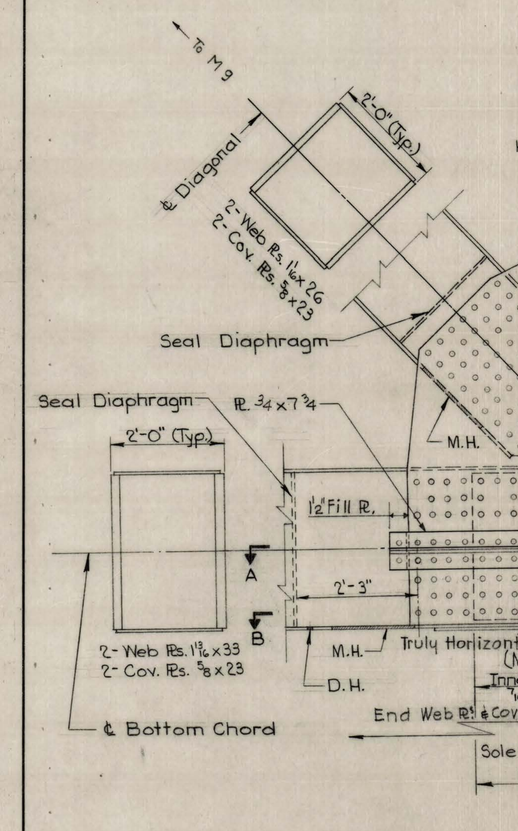
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W. Va.	3	318 AL56 0.00	F-338 (002) C-4	1976	Jackson, W. Va. Meigs, Ohio	68	125



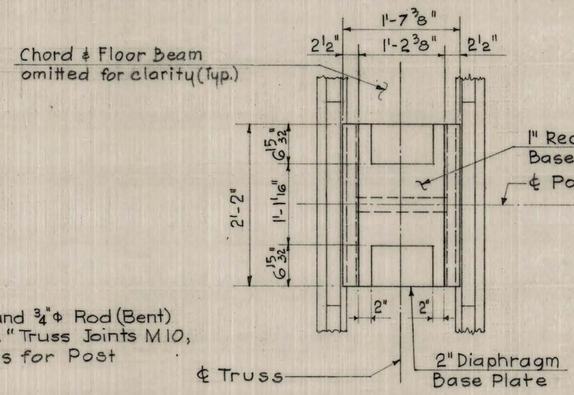
DETAIL 'X'

0' 1' 2'



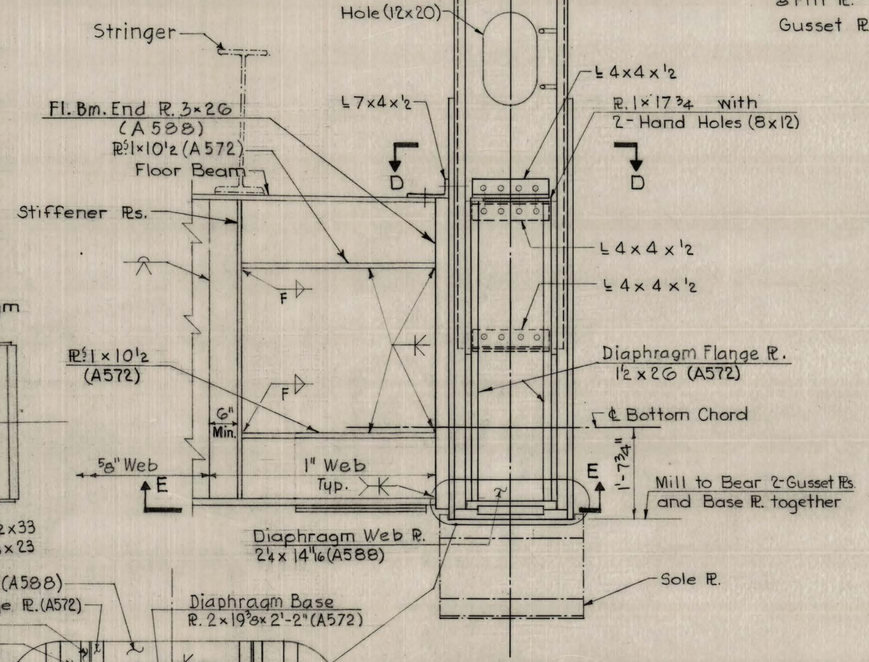


For Diaphragm and ¾"ϕ Rod (Bent) Details, see Dwg. "Truss Joints M10, L30 and Details for Post L10-U10."

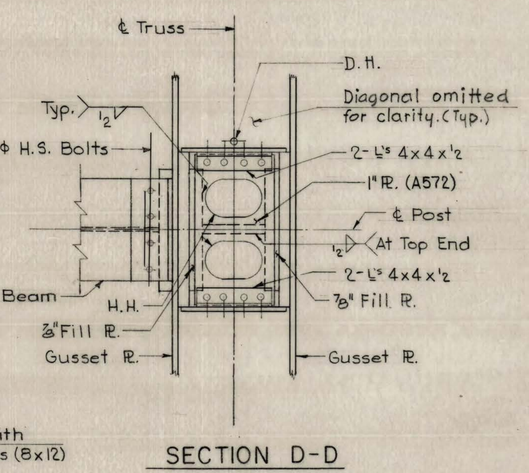


SECTION E-E

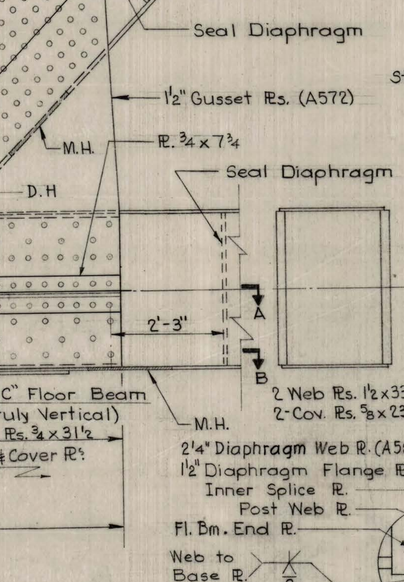
0' 1' 2'

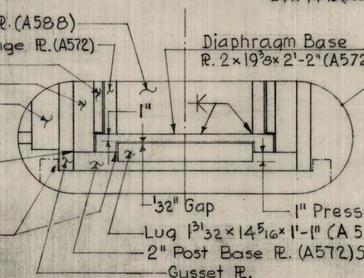


SECTION C-C



SECTION D-D





Notes:

- All fasteners in Floor Beam End Plate Connection shall be 1¼" ϕ H.S. Bolts.
- For Section A-A and B-B see Dwg. "Truss Joints L32 and L10."
- For Floor Beam Details not shown see Dwg. "Truss Spans Type C Floor Beams".

0' 1' 2' 3'

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY DPA CHECKED BY LAG/GSP DATE 2/27/76
DETAILED BY RW CHECKED BY GGP DATE 3/27/78
TRACED BY T.M.K. CHECKED BY GGP DATE 3/27/78

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

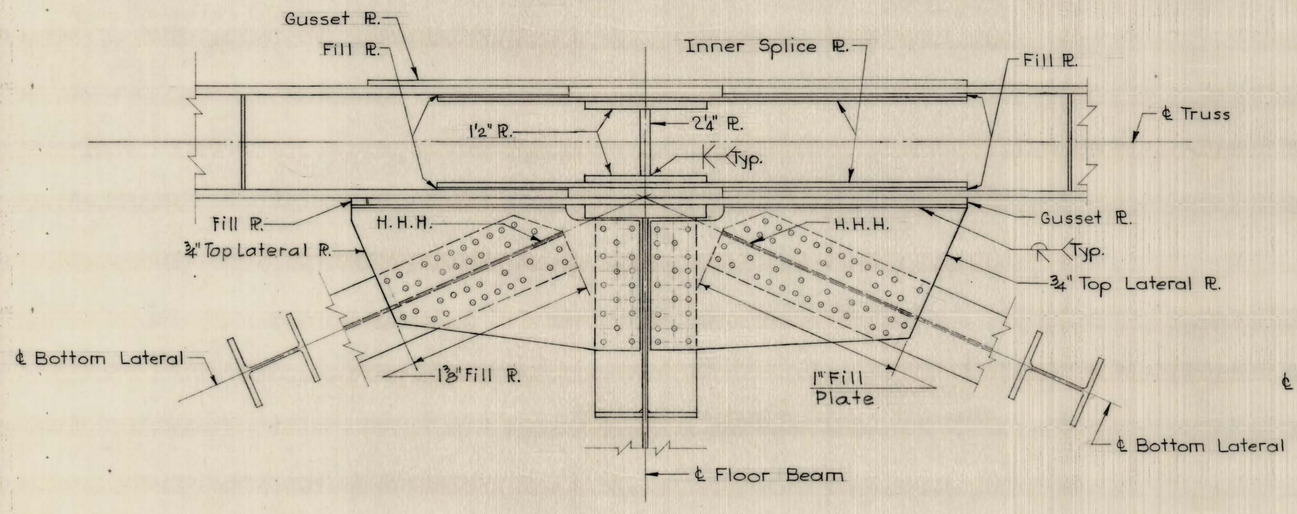
OHIO RIVER BRIDGE AT RAVENSWOOD

TRUSS JOINT L10

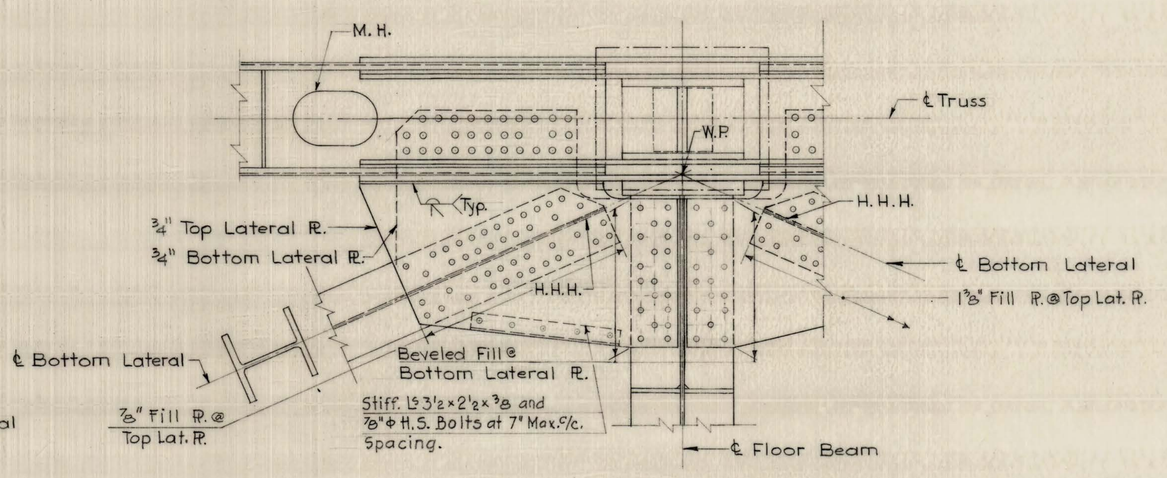
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	28 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	69	125



SECTION A-A



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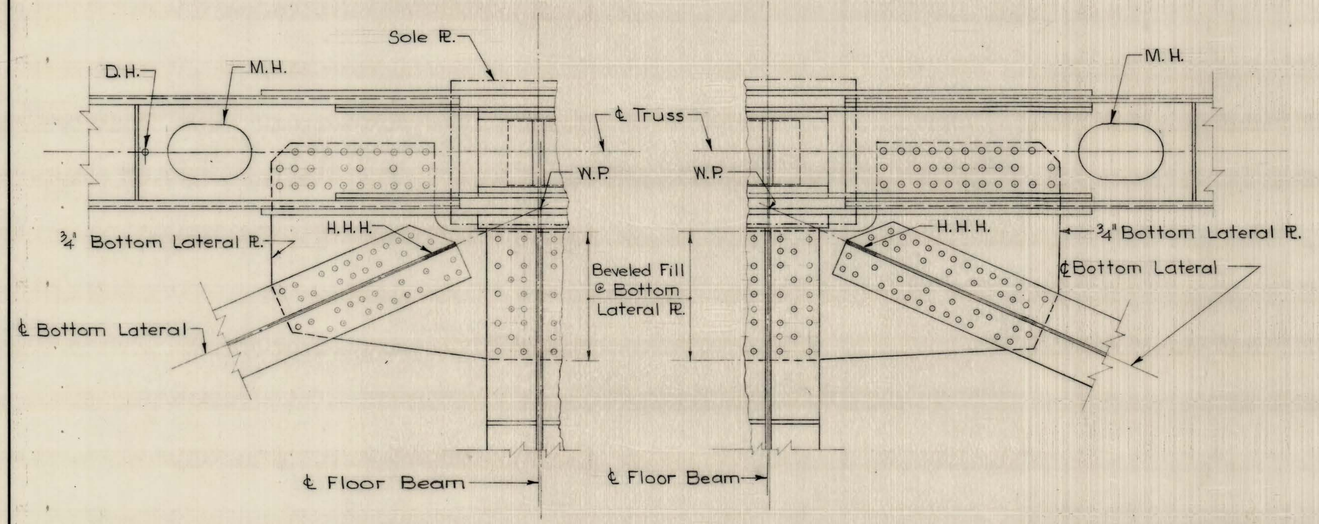
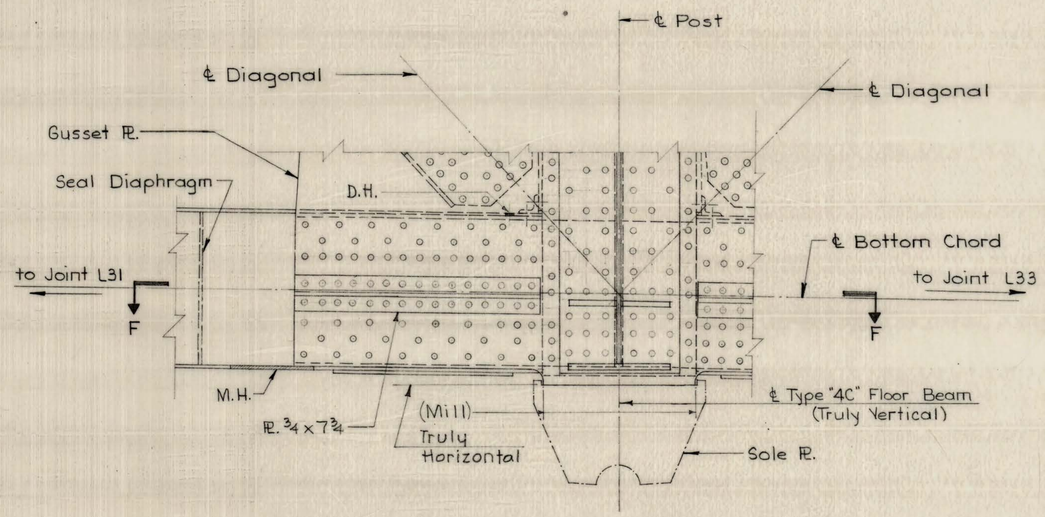


SECTION B-B

NOTE:
For location of Section A-A and B-B, see Dwg. "Truss Joint L10"



L32

NOTE:
For details not shown, see Dwg. "Truss Joint L10."

0' 1' 2' 3'

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD

TRUSS JOINTS L32 AND L10

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY LHG/GGB DATE 2/27/76
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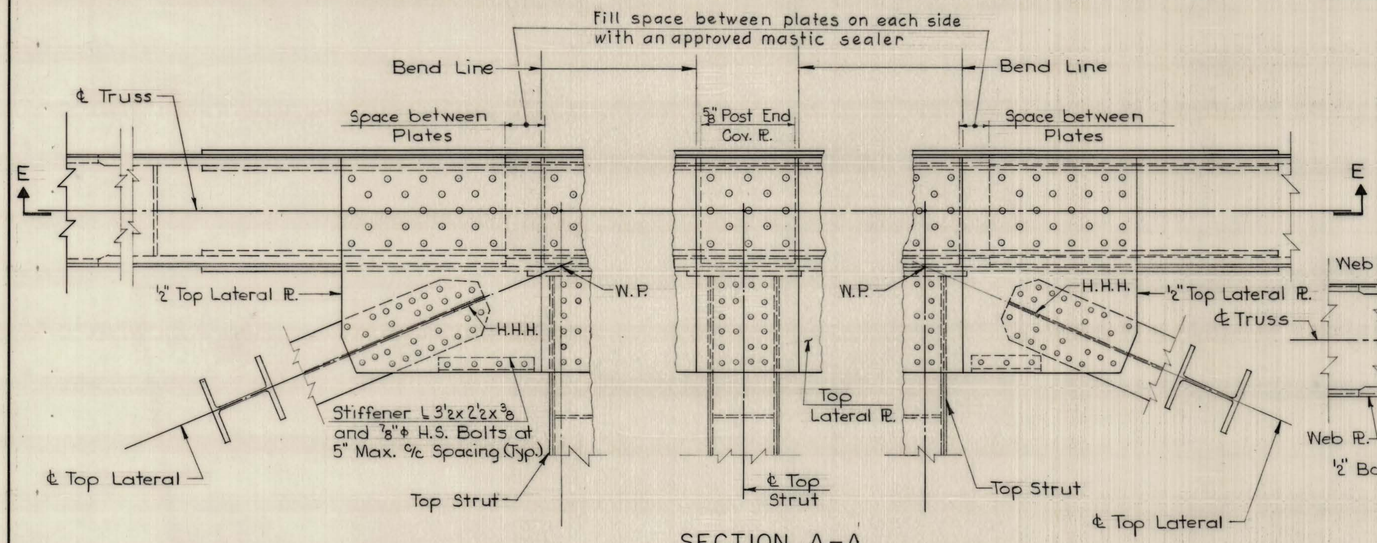
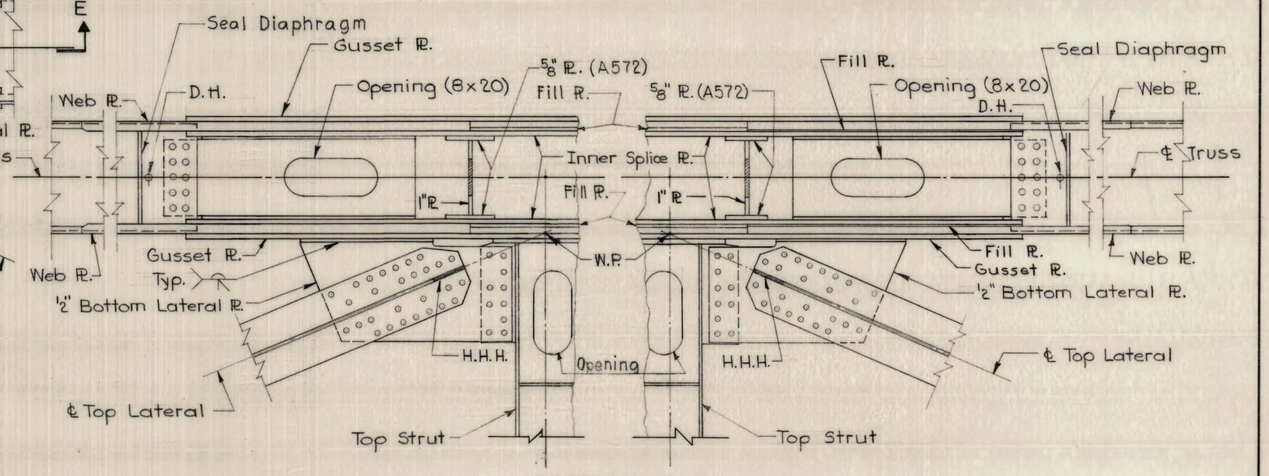
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	29 of 82

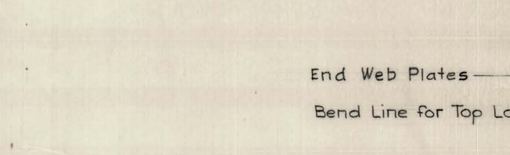
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson,W.Va. Meigs,Ohio	70	125



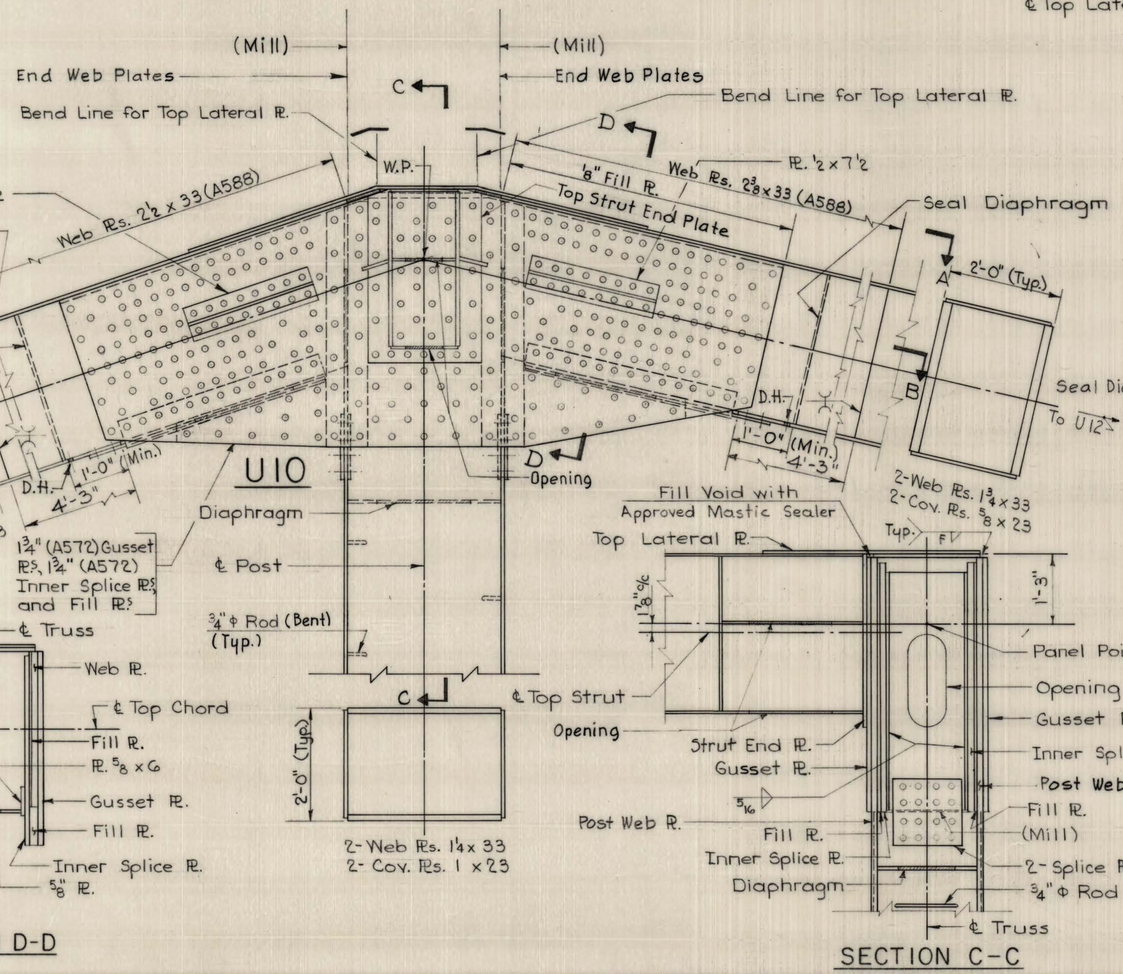
SECTION A-A

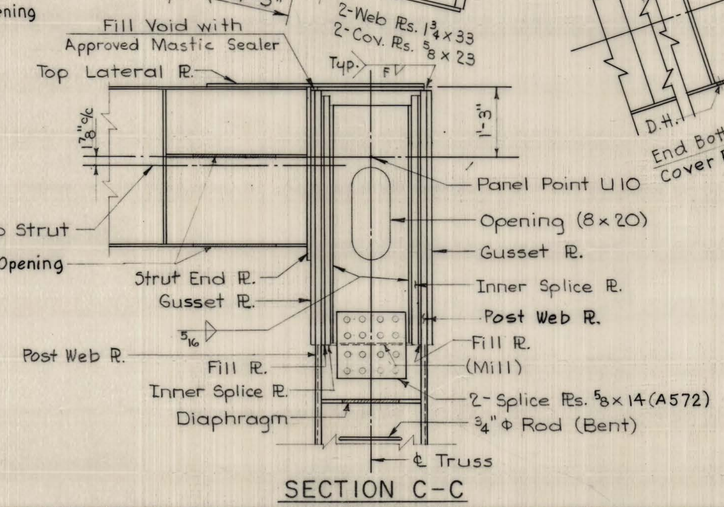


SECTION B-B

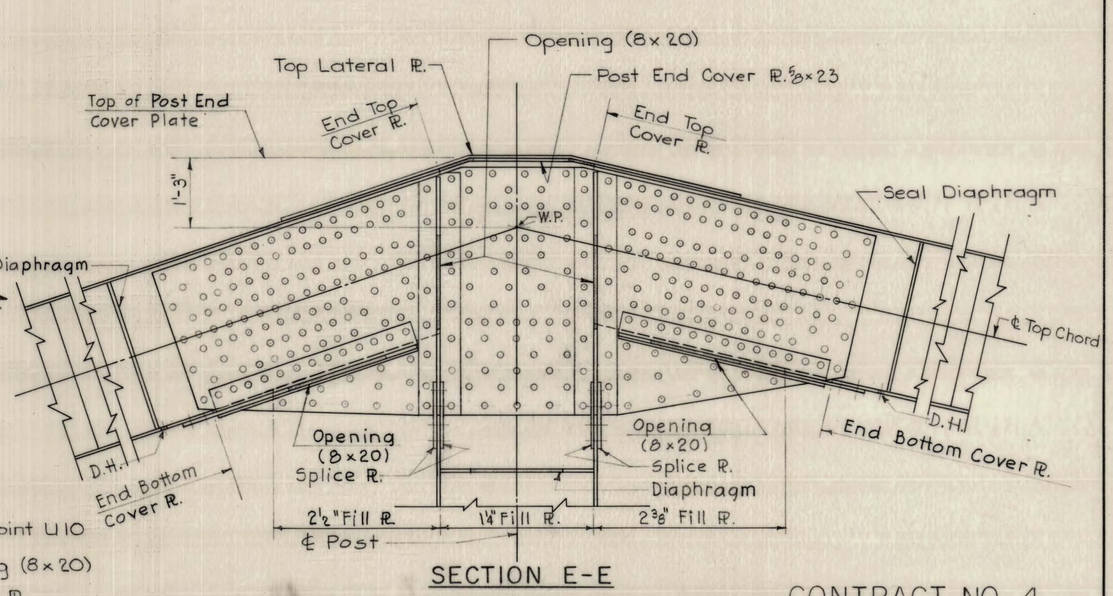


SECTION D-D





SECTION C-C



SECTION E-E

0 1' 2' 3'

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRUSS JOINT U10

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY LAG/GGR DATE 2/27/76
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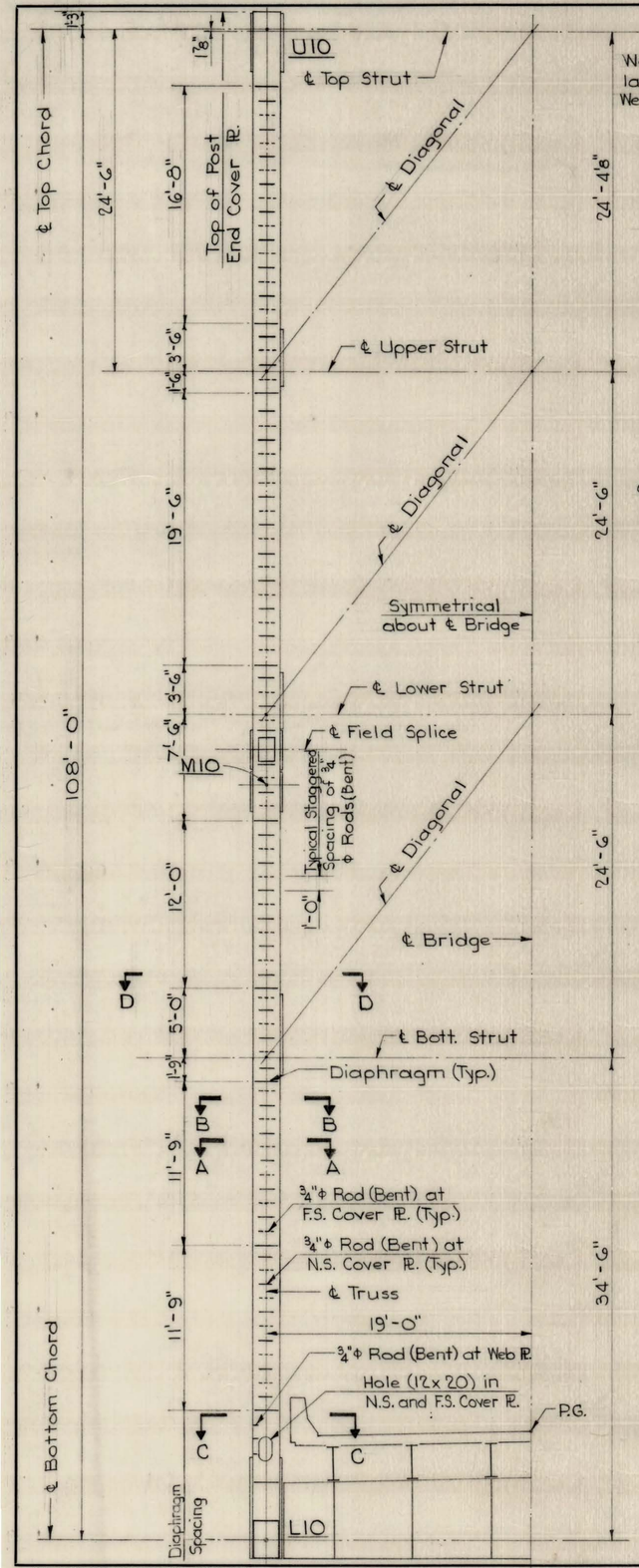
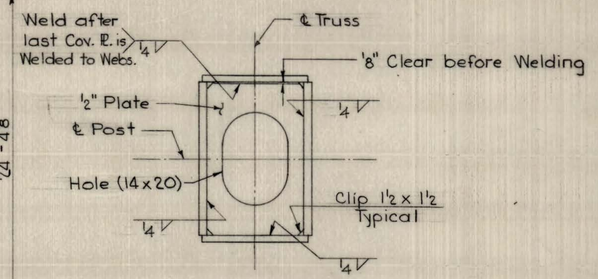
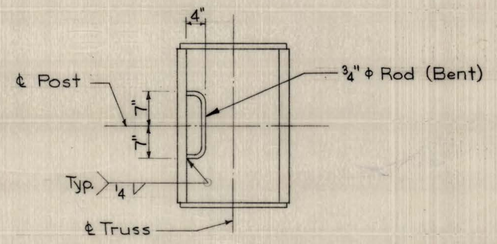
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	30 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	71	125

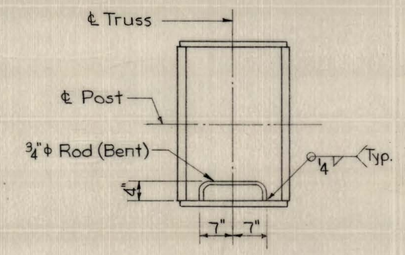




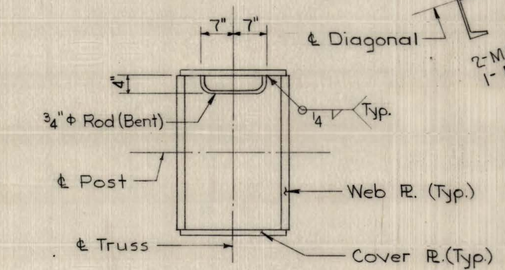
SECTION D-D
(TYPICAL DIAPHRAGM)



SECTION C-C



SECTION B-B



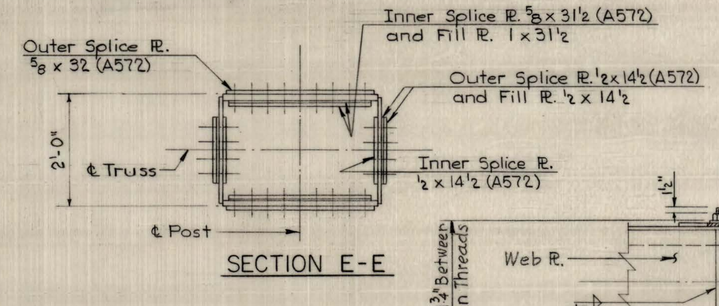
SECTION A-A

DIAPHRAGM AND BENT ROD DETAILS

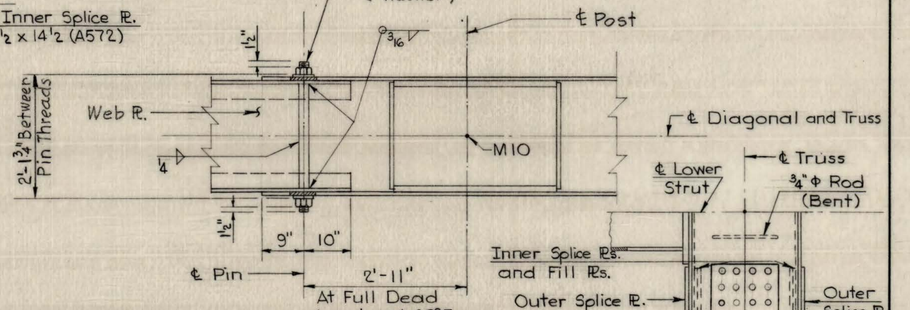
0 1' 2' 3'

POST L10 - U10
(LOOKING AHEAD STATIONS)

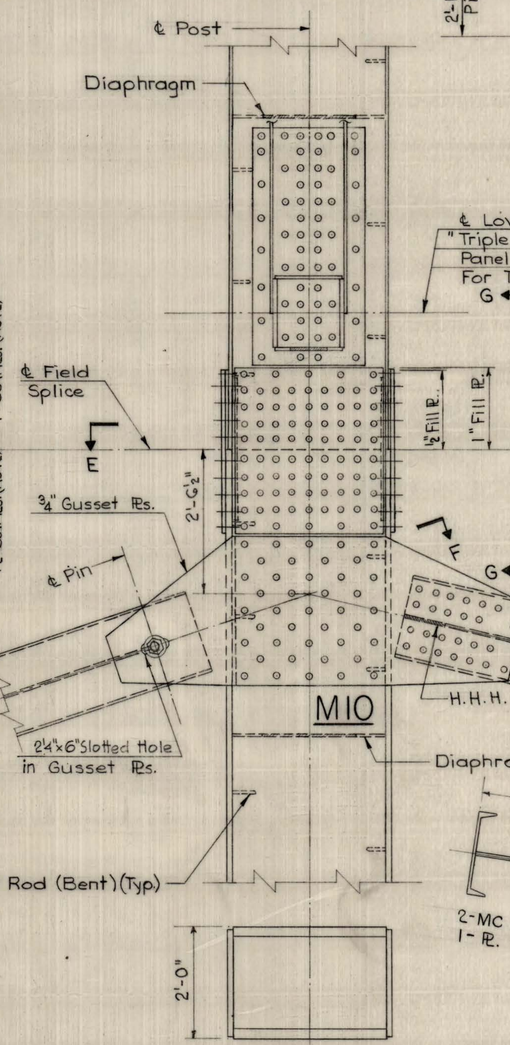
0 2' 4' 6'

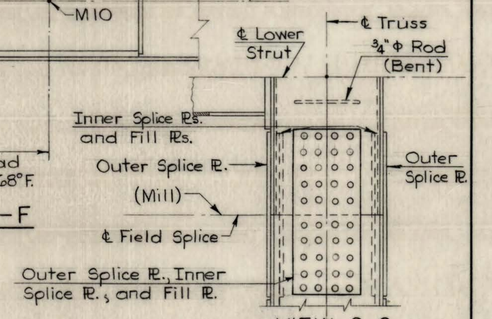


SECTION E-E

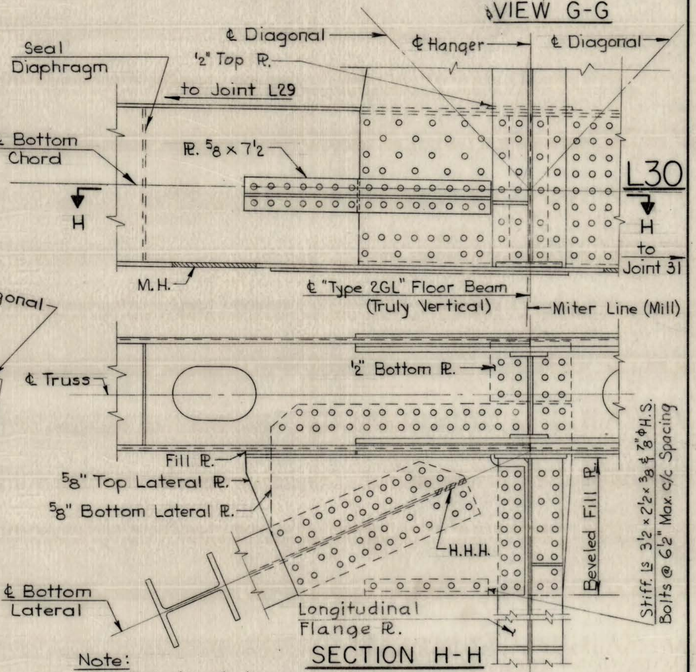


SECTION F-F





VIEW G-G



SECTION H-H

Note:
For Details not shown see Truss Joint L12.

LEGEND:
F.S. - Far Side
N.S. - Near Side

CONTRACT NO. 4

0' 1' 2' 3'

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY LAG/GGB DATE 3/20/78
DETAILED BY R.W.J/RAR CHECKED BY G.G.B DATE 3/20/78
TRACED BY T.M.K. CHECKED BY G.G.B DATE 3/27/76

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRUSS JOINTS M10, L30 AND
DETAILS FOR POST L10-U10

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	31 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	72	125

Top and Bottom Lateral Rs. and Lateral Connections Similar to U13.

U11

Web Rs. 2¼ x 33 (A588)

Seal Diaphragm

Seal Diaphragm

Rs. ½ x 7½ (Typ.)

2'-0" (Typ.)

2- Web Rs. 1¾ x 33
2- Cov. Rs. ⅝ x 23

2'-6"

M.H.

¾" Gusset Rs.

D.H.

M.H.

2'-6"

2- Web Rs. 1¾ x 33
2- Cov. Rs. ⅝ x 23

For Connection Details See Dwg. "Double Bay Sway Bracing at Panel Points U9 and U11 For Truss Spans."

℄ Middle Strut

℄ Post

℄ Bottom Strut

2- MC 18 x 58
1- Web Rs. 9/16 x 22⅝

½"

⅝" Conn. Rs.

H.H.H.

6" Min.

℄ Diagonal

℄ Knee Bracing Connection

2- MC 18 x 45.8
1- Web Rs. ½ x 23

℄ Diagonal

M.H.

Seal Diaphragm

¾" Gusset Rs.

M11

Seal Diaphragm

2'-0" (Typ.)

D.H.

M.H.

H.H.H.

2- Web Rs. 1⅝ x 26
2- Cov. Rs. ¾ x 23

℄ Diagonal

℄ Hanger

2'-0" (Typ.)

2- MC 18 x 45.8
1- Web Rs. ½ x 23

L4 x 4 x ½ (Typ.)

⅞" Gusset Rs.

Seal Diaphragm

2'-0" (Typ.)

H.H.H.

End Rs. of Floor Beam

Seal Diaphragm

Rs. ⅝ x 7½ (Typ.)

C

C

2- Web Rs. 1½ x 33
2- Cov. Rs. ⅝ x 23

D.H.

M.H.

℄ Type "2GL" Floor Beam (Truly Vertical)

M.H.

L11

℄ Bottom Chord

2- MC 18 x 45.8
1- Web Rs. ½ x 23

SECTION E-E

⅝" Bottom Lateral Rs.

End Rs. of Floor Beam

U12

Web Rs. 2¼ x 33 (A588)

Miter Line (Mill)

℄ Top Chord

A

B

Seal Diaphragm

Bend Line for Top Lateral Rs.

Inner Splice Rs. ½ x 31½

Outer Splice Rs. ⅝ x 33 Min. (A572)

1½" Fill Rs.

⅝" Fill Rs.

Use Maximum Radius to Avoid Reentrant Cut at Inner Splice Rs., Gusset Rs., and Outer Splice Rs.

2'-6" Min.

2½" Gusset Rs. (A588)

M.H.

1" Bottom Rs.

M.H.

D.H.

2- Web Rs. ¾ x 33
2- Cov. Rs. ½ x 23

Seal Diaphragm

Seal Diaphragm

2- Web Rs. 1⅛ x 26
2- Cov. Rs. ¾ x 23

M.H.

H.H.H.

2½" Fill Rs.

D.H.

D.H.

℄ Hanger

Seal Diaphragm

2- Web Rs. ⅝ x 23
2- Cov. Rs. ½ x 23

2'-0"

Web

Splice Rs. ⅞ x 23

℄ Diagonal

Seal Diaphragm

M.H.

H.H.H.

2- MC 18 x 58
1- Web Rs. 9/16 x 22⅝

2'-0" (Typ.)

2- MC 15 x 58
1- Web Rs. 9/16 x 22⅝

2'-0"

2- Flg. Rs. 2 x 23
1- Web Rs. 15/16 x 20

℄ Diagonal

1'8" Gusset Rs. (A572)

Seal Diaphragm

½" Top Rs.

Seal Diaphragm

D

D

1⅛" Fill Rs.

2- Web Rs. 1½ x 33
2- Cov. Rs. ⅝ x 23

D.H.

2'-3"

M.H.

E

E

¼" Fill Rs.

M.H.

Inner Splice Rs. 11/16 x 31½ (A572)

L12

℄ Type "2GL" Floor Beam (Truly Vertical)

Miter Line (Mill)

℄ Truss

½" Bottom Rs.

Type "A" Diaphragm

End Rs. of Floor Beam

⅝" Bottom Lateral Rs.

Beveled Fill Rs.

Fill Rs.

⅝" Top Lateral Rs.

H.H.H.

Longitudinal Flange Rs.

℄ Bottom Lateral

SECTION D-D

Note:
Top Rs. Detail at Joint L12 Similar to Section G-G on Drawing "Truss Joints L2, L3 U2, U3".

Outer Splice Rs.

Bend Line for Top Rs.

Fill Void with Red Lead Paste

℄ Truss

Bend Line for Lateral Rs.

Outer Splice Rs.

Top Strut

A

B

2- Web Rs. ¾ x 33
2- Cov. Rs. ½ x 23

Miter Line (Mill)

⅛" Fill Rs.

Gusset Rs.

½" Top Rs.

Fill Rs.

H.H.H.

1½" Top Lateral Rs.

Gusset Rs.

Beveled Fill Rs.

SECTION A-A

℄ Top Lateral

Outer Splice Rs.

Gusset Rs.

⅛" Fill Rs.

℄ Truss

½" Bott. Rs.

Fill Rs.

Gusset Rs.

Lateral Connection Rs.

Outer Splice Rs.

Top Strut

½" Bottom Lateral Rs.

H.H.H.

℄ Top Lateral

SECTION B-B

Seal Diaphragm

Gusset Rs.

Type "B" Diaphragm

℄ Truss

2- Web Rs. 1¼ x 33
2- Cov. Rs. ⅝ x 23

Gusset Rs.

Beveled Fill Rs.

End Rs. of Floor Beam

Stiff. Ls 3½ x 2½ x ⅜ ℄ ⅞" ϕ H.S. Bolts @ 6½" Max. c/c Spacing.

H.H.H.

⅝" Bottom Lateral Rs.

℄ Bott. Lateral

⅝" Top Lateral Rs.

Longitudinal Flange Rs.

SECTION C-C

0 1' 2' 3'

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD

TRUSS JOINTS L11, L12 M11 U11, U12

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PDA CHECKED BY LAG/GGR DATE 6/2/76
DETAILED BY RW CHECKED BY GGR DATE 3/31/78
TRACED BY T.M.K. CHECKED BY GGR DATE 3/31/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	32 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	73	125

U13

Seal Diaphragm

2- Web Pls. ¾ x 33
2- Cov. Pls. ½ x 23

M.H.

Pl. ½ x 7½ (Typ.)

D.H.

¾" Gusset Pls.

℄ Bottom Strut
For Connection Details See Dwg. "Single Bay Sway Bracing for Truss Spans."

℄ Diagonal

2'-0"

2- Flg. Pls. 2 x 23
1- Web Pl. 16 x 20

℄ Post

2- MC 18 x 58
1- Web Pl. 9/16 x 22⅝

M13

Stiffener Ls. 3½ x 2½ x ⅜ and ⅞" ϕ Fasteners @ 7" Max Spa.

H.H.H.

1'-0"

2'-0" (Typ.)

℄ Hanger

L 4 x 4 x ½ (Typ.)

2- MC 18 x 45.8
1- Web Pl. ½ x 23

℄ Bottom Chord

⅞" Gusset Pls.

End Plate of Floor Beam

Seal Diaphragm

Pl. ⅝ x 7½

C

M.H.

2- Web Pls. 14 x 33
2- Cov. Pls. ⅝ x 23

D.H.

Bottom Lateral Pl.

℄ Type "3GL" Floor Beam (Truly Vertical)

L13

2'-0" (Typ.)

℄ Top Chord

2- Web Pls. ¾ x 33
2- Cov. Pls. ½ x 23

U14

Seal Diaphragm

¾" Fill Pl.

M.H.

D.H.

¾" Gusset Pls.

2- Web Pls. ¾ x 33
2- Cov. Pls. ½ x 23

2'-2"

2'-0"

2- Flg. Pls. ¾ x 24
4- Ls 4 x 4 x ½
1- Web Pl. ½ x 22½

℄ Post

2'-0" (Typ.)

℄ Diagonal

2- Web Pls. 15⅞ x 26
2- Cov. Pls. ⅝ x 23

Seal Diaphragm

℄ Bottom Strut
For Connection Details See Dwg. "Single Bay Sway Bracing for Truss Spans."

⅜" Fill Pls.

⅛" Fill Pls.

℄ Diagonal

Splice Pls. ⅞ x 23

17/16" Gusset Pls. (A572)

Seal Diaphragm

2'-0" (Typ.)

H.H.H.

½" Top Pl. and ⅛" Fill Pl.

Seal Diaphragm

Pl. ⅝ x 7½

E

F

M.H.

2- Web Pls. 14 x 33
2- Cov. Pls. ⅝ x 23

D.H.

℄ Type "2G" Floor Beam (Truly Vertical)

½" Fill Pls.

Inner Splice Pls. ½ x 31½

2'-3"

L14

Miter Line (Mill)

2- Web Pls. ¾ x 33
2- Cov. Pls. ½ x 23

Type "A" Diaphragm

½" Bottom Pl. and ⅛" Fill Pl.

℄ Truss

Fill Pl.

⅝" Bott. Lateral Pl.

End Pl. of Floor Beam

Beveled Fill Pl.

H.H.H.

⅝" Top Lateral Pl.

H.H.H.

Lateral Conn. Pl.

SECTION E-E

℄ Bott. Lateral

SECTION F-F

Gusset Pl.

℄ Truss

Gusset Pl.

½" Top Lateral Pl.

Stiffener Pl.

Top Strut

H.H.H.

℄ Top Lateral

SECTION A-A As Shown
A'-A' Similar to A-A

Gusset Pl.

℄ Truss

Fill Pl. @ U14

½" Bott. Lateral Pl.

Gusset Pl.

℄ Top Lateral

Stiffener Pl.

Top Strut

H.H.H.

Lateral Conn. Pl.

SECTION B-B As Shown
B'-B' Similar to B-B

Gusset Pl.

Type "B" Diaphragm

℄ Truss

⅝" Bott. Lateral Pl.

⅝" Top Lateral Pl.

Beveled Fill Pl.

H.H.H.

Longitudinal Flange Pl.

℄ Bott. Lateral

SECTION C-C

Note:
Top Pl. Detail at Joint L14 Similar to Section G-G on Drawing "Truss Joints L2, L3 U2, U3."

0 1' 2' 3'

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRUSS JOINTS L13, L14 MI3 U13, U14

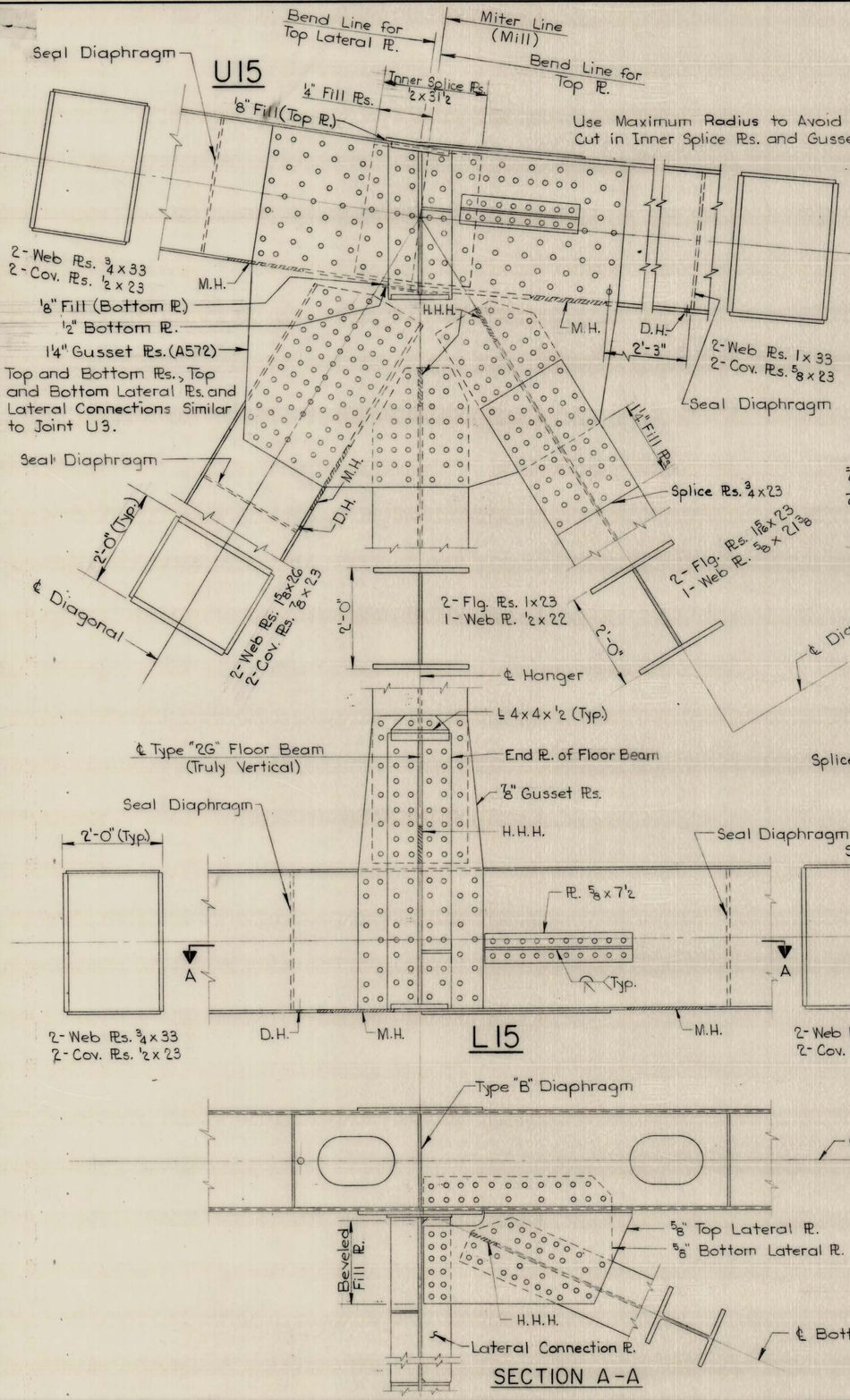
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY DPA CHECKED BY LAG/GSG DATE 2/27/78
DETAILED BY RW CHECKED BY GSG DATE 3/27/78
TRACED BY T.M.K. CHECKED BY GSG DATE 3/27/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	33 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	74	125



CONTRACT NO. 4

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD

TRUSS JOINTS L15, L16, L26 U15, U16

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PDA CHECKED BY LAG/GGB DATE 2/27/76
DETAILED BY KW CHECKED BY GGB DATE 3/27/78
TRACED BY T.W.K. CHECKED BY GGB DATE 3/27/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	34 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W. Va. Meigs, Ohio	75	125

Top and Bottom Rs., Top and Bottom Lateral Rs and Lateral Connections Similar to U3.

Bend Line for Top Lateral R. and Top R.

Inner Splice Rs. 1/2 x 31 1/2 (A572)

7/16" Fill Rs.

Miter Line (Mill)

Use Maximum Radius to Avoid Reentrant Cut in Inner Splice Rs. and Gusset Rs.

Seal Diaphragm

2'-0" (Typ)

2- Web Rs. 1 x 33
2- Cov. Rs. 5/8 x 23

M.H.

2'-3"

H.H.H.

1/2" Bottom R.

D.H.

2- Web Rs. 1 7/16 x 33
2- Cov. Rs. 5/8 x 23

Seal Diaphragm

Seal Diaphragm

M.H.

D.H.

U17

1 3/8" Gusset Rs. (A572)

2'-0" (Typ)

2'-0" (Typ)

2- Web Rs. 1 3/8 x 26
2- Cov. Rs. 5/8 x 23

2- Flg. Rs. 1 x 23
1- Web R. 1/2 x 22

2- Flg. Rs. 1/4 x 23
1- Web R. 9/16 x 21 1/2

℄ Diagonal

℄ Hanger

L 4x4x1/2

End R. of Floor Beam

7/8" Gusset Rs.

Seal Diaphragm

L17

2'-0" (Typ.)

H.H.H.

R. 1/2 x 7 1/2 (Typ.)

Seal Diaphragm

Typ.

F

F

2- Web Rs. 1 3/16 x 33
2- Cov. Rs. 1/2 x 23

D.H.

2'-3"

M.H.

℄ "Type 2G" Floor Beam (Truly Vertical)

M.H.

2'-3"

Web Rs. 1 1/8 x 33 (A572)

2- Web Rs. 1 3/16 x 33
2- Cov. Rs. 1/2 x 23

Type "B" Diaphragm

℄ Truss

1/2" Bottom Lateral R.

Beveled Fill R.

H.H.H.

1/2" Top Lateral R.

Lateral Conn. R.

℄ Bott. Lateral

SECTION F-F

U18

℄ Top Chord

Joint U18 Similar to Joint U2

℄ Post

For Connection Details See Dwg "Single Bay Sway Bracing for Truss Spans."

℄ Bottom Strut

2'-0"

2- MC 18x58
1- Web R. 9/16 x 22 5/8

L 6x4x1/2

7/8" Fill Rs.

H.H.H.

3/4" Fill R.

℄ Diagonal

Seal Diaphragm

Splice Rs. 3/4 x 23

1/2" Top R. & 1/8" Fill R.

Seal Diaphragm

M.H.

7/8" Gusset Rs. (A572)

3/4" Fill R.

2- Web Rs. 1 3/16 x 26
2- Cov. Rs. 5/8 x 23

D.H.

2'-3"

M.H.

1/8" Fill R.

℄ "Type 2G" Floor Beam (Truly Vertical)

L18

Type "A" Diaphragm

M.H.

2'-3"

Seal Diaphragm

1 1/16" Fill Rs.

Inner Splice Rs. 3/4 x 31 1/2 (A572)

Outer Splice Rs. 3/4 x 33 (A572)

Web Rs. 1 1/8 x 33 (A572)

Web Rs. 1 1/16 x 33 (A572)

Miter Line (Mill)

Top and Bottom Rs., Top and Bottom Lateral Rs. and Lateral Connections Similar to L2.

℄ Diagonal

℄ Post

℄ Diagonal

to Joint L27

℄ Bottom Chord

E

R. 5/8 x 7 1/2

E

G

G

L28

℄ "Type 2G" Floor Beam (Truly Vertical)

to Joint L29

Miter Line (Mill)

1/2" Bottom R. and 1/8" Fill R.

℄ Truss

Fill R.

5/8"

D.H.

1 1/16" Fill R.

H.H.H.

5/8" Top Lateral R.

5/8" Bottom Lateral R.

Beveled Fill R.

Lateral Connection R.

℄ Bottom Lateral

Note:
For Details not shown see Truss Joint L14.

SECTION E-E

℄ Bottom Chord

2- Web Rs. 1 5/16 x 33
2- Cov. Rs. 5/8 x 23

End R. of Floor Beam

5/8" Bottom Lateral R.

SECTION G-G

0 1' 2' 3'

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRUSS JOINTS L17, L18, L28 U17, U18

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY APA RW — CHECKED BY LAG/GGR — DATE 2/27/76
DETAILED BY T.M.K. — CHECKED BY GGR — DATE 3/27/78
TRACED BY — CHECKED BY GGR — DATE 3/27/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	35 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W. VA.	3	318 - AL-56-0.00	F-338 (002) C- 4	1976	Jackson, W. Va. Meigs, Ohio	76	125

Top and Bottom Rs., Top and Bottom Lateral Rs., and Lateral Connections Similar to U3.

Outer Splice Pls. 1/2 x 33 Min. (A572)

Inner Splice Pls. 13/16 x 31 1/2 (A572)

Bend Line for Top and Bottom Rs.

1/2" Fill Pls.

Miter Line (Mill)

1/2" Fill Pls.

Seal Diaphragm

U19

Pl: 1/2 x 7 1/2 (Typ)

Typ.

2'-0" (Typ.)

Seal Diaphragm

2- Web Pls. 1 7/16 x 33
2- Cov. Pls. 3/8 x 23

2'-3"

M.H.

7/8" Gusset Plates (A572)

Seal Diaphragm

2'-0"

℄ Diagonal

2- Web Pls. 7/16 x 26
2- Cov. Pls. 5/8 x 23

D.H.

M.H.

H.H.H.

2'-0" (Typ)

2- MC 18 x 51.9
1- Web Pl. 1/2 x 22 3/4

2'-0"

2- Flg. Pls. 7/8 x 20
1- Web Pl. 1/2 x 22 3/4

℄ Hanger

L 4 x 4 x 1/2

℄ "Type 3G" Floor Beam (Truly Vertical)

7/8" Gusset Plates

Seal Diaphragm

2'-0" (Typ.)

H.H.H.

End Pl. of Floor Beam

Pl. 1/2 x 7 1/2 (Typ)

Seal Diaphragm

Typ.

2- Web Pls. 1 5/16 x 33
2- Cov. Pls. 5/8 x 23

D.H.

2'-3"

M.H.

L19

Web Pls. 1 3/16 x 33 (A572)

M.H.

2'-3"

2- Web Pls. 1 5/16 x 33
2- Cov. Pls. 5/8 x 23

Top and Bottom Lateral Rs., Lateral Connections and Type "B" Diaphragm Similar to L1.

℄ Truss

1/2" Top Lateral Pl.

SECTION B-B

Top Strut

U20

℄ Top Chord

Joint U20 Similar to Joint U2

℄ Post

℄ Bottom Strut
For Connection Details See Dwg. "Single Bay Sway Bracing For Truss Spans"

2- MC 18 x 58
1- Web Pl. 9/16 x 22 5/8

℄ Diagonal

℄ "Type 2G" Floor Beam (Truly Vertical)

L 6 x 4 x 1/2

3/4" Fill Pl.

H.H.H.

Seal Diaphragm

M.H.

3/4" Gusset Pls. (A572)

1/2" Top Pl.

Seal Diaphragm

3/4" Fill Pl.

Type "A" Diaphragm

Seal Diaphragm

D.H.

M.H.

3/16" Fill Pls.

L20

Inner Splice Pls. 1 3/16 x 31 1/2 (A572)

Web Pls. 1 3/16 x 33 (A572)

Web Pls. 2 x 33 (A572)

M.H.

2'-3"

2'-3"

Miter Line (Mill)

Outer Splice Pls. 3/4 x 33 (A572)

2- Web Pls. 1 1/2 x 33
2- Cov. Pls. 5/8 x 23

Top and Bottom Rs., Top and Bottom Lateral Rs. and Lateral Connections Similar to L2.

℄ Truss

End Pl. of Strut

1/2" Bottom Pl.

Top Strut

SECTION A-A

U21

Symmetrical about ℄ Except as Noted

Miter Line (Mill)

Seal Diaphragm

Inner Splice Pls. 1 x 31 1/2 (A572)

Seal Diaphragm

B

A

D.H.

2'-3"

M.H.

1 3/16" Gusset Pls. (A572)

1/2" Bottom Pl.

H.H.H.

Seal Diaphragm

Seal Diaphragm

M.H.

M.H.

D.H.

℄ Diagonal

2'-0"

2- Web Pls. 5/8 x 26
2- Cov. Pls. 1/2 x 23

2- MC 18 x 51.9
1- Web Pl. 1/2 x 22 3/4

2- Web Pls. 1 1/16 x 33
2- Cov. Pls. 5/8 x 23

2'-0"

2- Web Pls. 5/8 x 26
2- Cov. Pls. 1/2 x 23

℄ Hanger

℄ Type "2G" Floor Beam (Truly Vertical)

M.H.

2'-3"

2'-3"

℄ Bottom Chord

L21

D.H. Both Sides Of Hanger.

Web Pls. 1/2 x 33 (A572)

Web Pls. 2 x 33 (A572)

Web Pls. 1/2 x 33 (A572)

Joint L21 Similar to Joint L5 Except as Noted.

0 1' 2' 3'

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRUSS JOINTS L19, L20, L21 U19, U20, U21

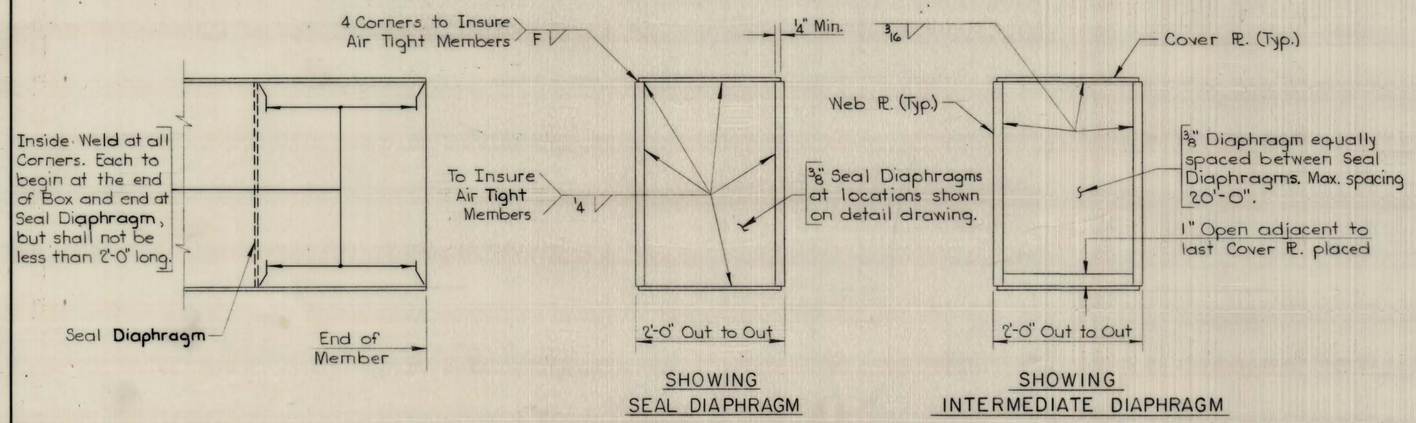
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PDA CHECKED BY LHG/GGB DATE 2/27/78
DETAILED BY RW CHECKED BY GGB DATE 3/27/78
TRACED BY T.M.K. CHECKED BY GGB DATE 3/27/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	36 of 82

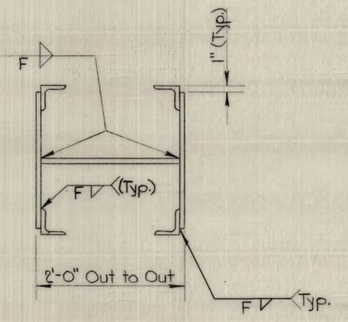
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	77	125

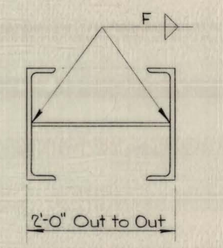


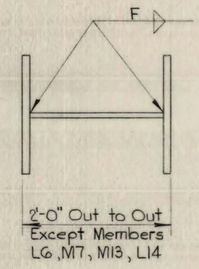
SHOWING SEAL DIAPHRAGM

SHOWING INTERMEDIATE DIAPHRAGM

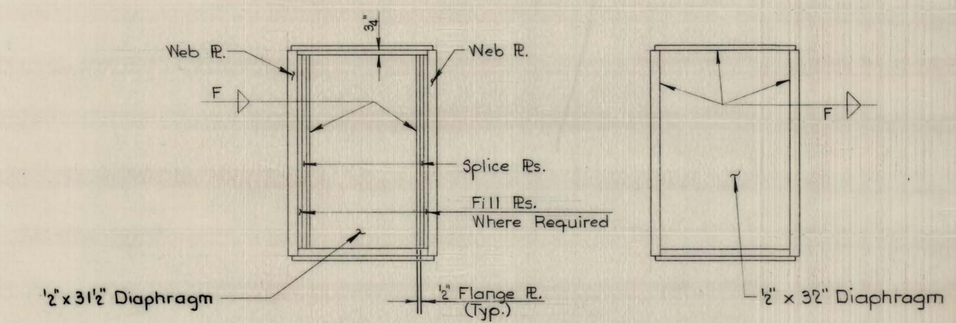
TYPICAL TRUSS BOX SECTIONS







TYPICAL TRUSS I-SECTIONS



TYPE A DIAPHRAGM AT BOTTOM CHORD SPLICE LOCATION

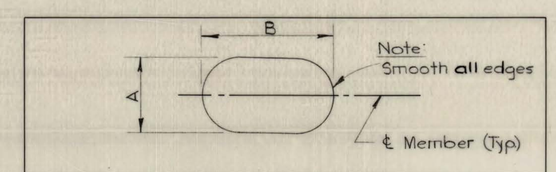
TYPE B DIAPHRAGM AT BOTTOM CHORD HANGERS

TYPES OF DIAPHRAGMS FOR TRUSS CHORDS

TABLES OF MINIMUM FILLET WELDS

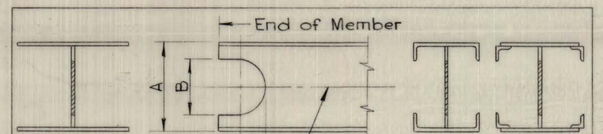
Material Thickness Of Thicker Part Joined (Inches)	Min. Size Of Fillet Weld * F (Inches)
to 1'2	5/16
over 1'2 to 2'4	3/8
over 2'4	1/2

* The Weld size shall not exceed the thickness of the Thinner Part Joined.



TYPICAL OPENINGS IN BOX SHAPED SECTIONS

Description	Abbreviation	Dimension A	Dimension B
Man Hole	M. H.	12"	18"
Hand Hole	H. H.	8"	12"
Drain Hole	D. H.	1'2"	1'2"



OPENINGS IN I-SHAPED SECTIONS

For 15" ± Deep Member	Half Hand Hole Dimensions (HHH)	For 24" Deep Member
14" To 15½"	A	24"
8"	B	12"
3"	C	3"
4"	D	6"

Note For Butt Welds:

All Butt Welded Members shall be subject to the following Notes.

(A) For Welded Splices subject to Tension and with Plates of same Width and Thickness "Grind Welds Flush with the Grinding in direction of Stress."

(B) For Welded Splices subject to Tension and with Plates of same Width but of different Thickness "Bevel Base Metal and Grind Welds to provide Thickness Transition Slopes no greater than 1 to 2'2; with Grinding in direction of Stress."

(C) For Welded Splices subject to Compression only and with Plates of same Width but of different Thickness "Bevel Base Metal to provide Thickness Transition Slopes no greater than 1 to 2'2".

Stiffener Angles for Gusset Plates shown on Drawings are Typical including Lateral Gusset Plates of Lateral Bracings. The Contractor may substitute 3/8"x3" Shop Welded Plates in Lieu of the Specified Angles. Plates may be placed on either side of the Gusset.

CONTRACT NO. 4

Rev. No.	Sheet Number	Revisions	Date	By

DESIGNED BY DPA CHECKED BY LAG/GGB DATE 3/11/78
DETAILED BY DPA/TMK CHECKED BY GGB DATE 3/11/78
TRACED BY T.M.K. CHECKED BY GGB DATE 3/11/78

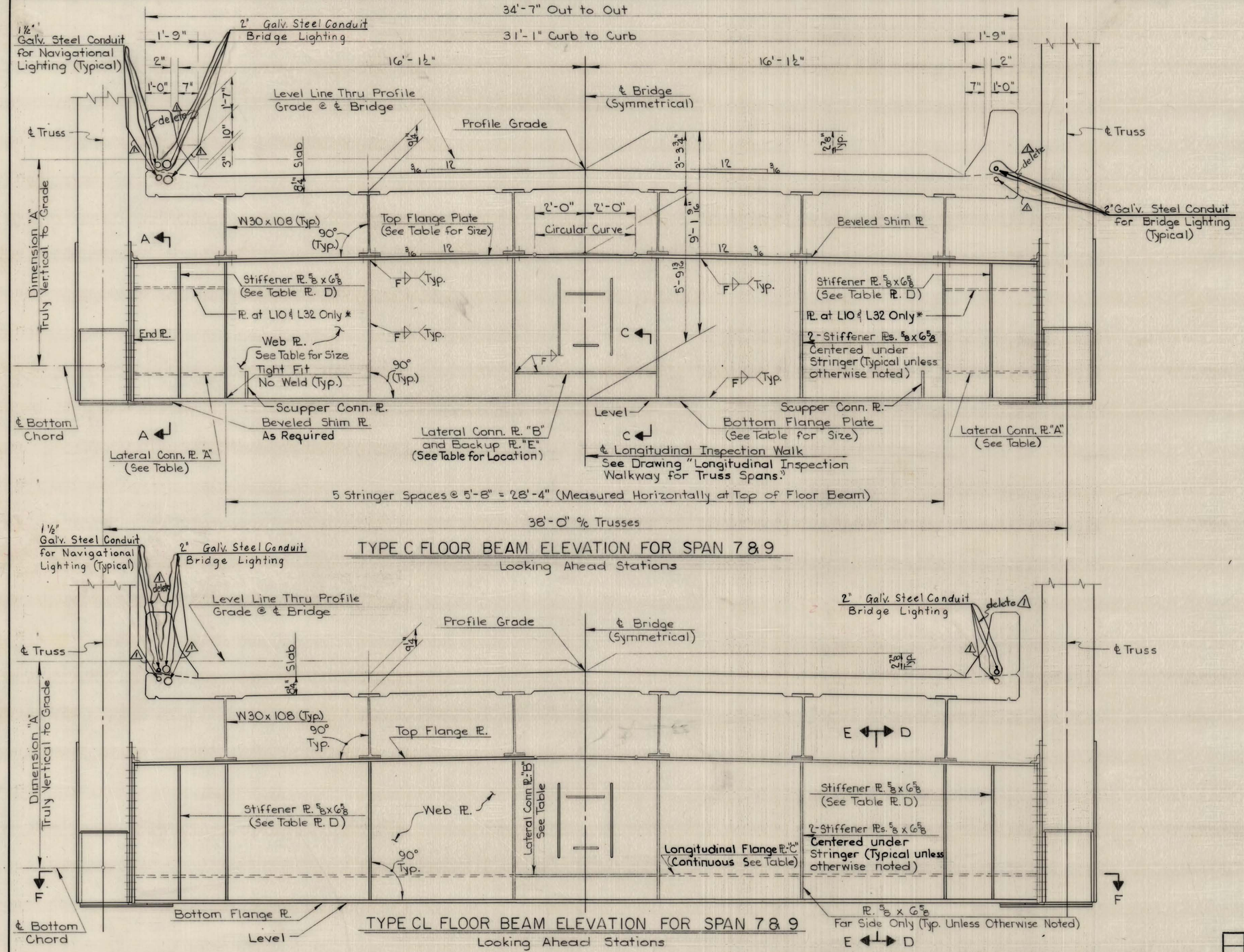
WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
COMMON STRUCTURAL STEEL DETAILS FOR TRUSS SPANS

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

Date	Scale	Bridge No.	Dwg. No.
MARCH 1976	AS SHOWN	2972	37 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL.56-0.00	F-339 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	78	125



TYPE C FLOOR BEAM ELEVATION FOR SPAN 7 & 9
Looking Ahead Stations

TYPE CL FLOOR BEAM ELEVATION FOR SPAN 7 & 9
Looking Ahead Stations

⚠2 Revision ⚠1 is to be deleted & the galvanized steel conduits run through the parapet as shown.

FLOOR BEAM DATA

PANEL POINTS	TYPE	DIMENSION "A" (Feet)	MATERIAL FURNISHED TOP FLANGE Pl.	BOTTOM FLANGE Pl.	WEB Pl.	Lat. Conn. Pl. "A"
L0 - L42	3C	7.7341	⅞ x 14	⅞ x 14	½	½
L1 - L41	1C	7.7341	1⅜ x 14	1⅝ x 14	⅝	½
L2 - L40	1C	7.7341	1⅜ x 14	1⅝ x 14	⅝	½
L3 - L39	1C	7.7341	1⅜ x 14	1⅝ x 14	⅝	½
L4 - L38	2C	7.7341	1⅜ x 14	1¼ x 14	⅝	½
L5 - L37	1C	7.7341	1⅜ x 14	1⅝ x 14	⅝	None
L6 - L36	1C	7.7341	1⅜ x 14	1⅝ x 14	⅝	½
L7 - L35	2C	7.7602	1⅜ x 14	1¼ x 14	⅝	⅝
L8 - L34	1CL	7.7341	1⅜ x 14	1⅝ x 14	⅝	⅝
L9 - L33	1CL	7.7621	1⅜ x 14	1⅝ x 14	⅝	⅝
L10 - L32	4C	7.7342	1 x 22	1¼ x 22	*	*

BOTTOM LATERAL CONNECTION PLATE LOCATION

FLOOR BEAM AT PANEL POINT	PLATE "A"	PLATE "B"	PLATE "C"	PLATE "D"	BACK-UP Pl. "E"
L0	F.S.	None	None	N.S.	None
L1, L2, L3, L4, L14, L15, L16, L17, L18, L19, L20, L35, L36	F.S.	N.S.	None	N.S.	F.S.
L5, L21, L37	None	B.S.	None	N.S. or F.S.	None
L6, L7, L22, L23, L24, L25, L26, L27, L28, L38, L39, L40, L41	N.S.	F.S.	None	F.S.	N.S.
L8, L9, L29, L30, L31	None	F.S.	N.S.	F.S.	None
L10, L32	B.S.	None	None	None	None
L11, L12, L13, L33, L34	None	N.S.	F.S.	N.S.	None
L42	N.S.	None	None	F.S.	None

LEGEND
N.S. = Near Side
F.S. = Far Side
B.S. = Both Sides

NOTES:
- For Scupper Details See Drawing "Scuppers Spans 1 Thru 6, 7 & 9".
- For Sections "A-A", "C-C", "D-D", "E-E", and "F-F", See Drawing "Truss Spans Type 6 Floor Beam."
- Notes, Dimensions, and Sections not shown on "Type CL Floor Beam Elevation For Span 7 and 9" are the same as those shown on "Type C Floor Beam Elevation For Span 7 and 9".
- * For Type 4C Floor Beam Details not shown See Drawing "Truss Joint L10".
- For Location of Floor Beam Types See Drawing "Truss Framing Plan."
- Clip Lateral Gusset Pls. As Required To Clear Fillet Welds.

CONTRACT NO. 4

0 2' 4'

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY
⚠2	73	Delete Rev. ⚠1	10/5/20	JEB
⚠1	78	Relocated Galvanized Steel Conduits	3-23-79	JEB

DESIGNED BY P.F.S. CHECKED BY LAG DATE 3/1/76
DETAILED BY G.H.H. CHECKED BY LAG DATE 3/1/76
TRACED BY T.M.K. CHECKED BY LAG DATE 3/1/76

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD

TRUSS SPANS TYPE C FLOOR BEAMS

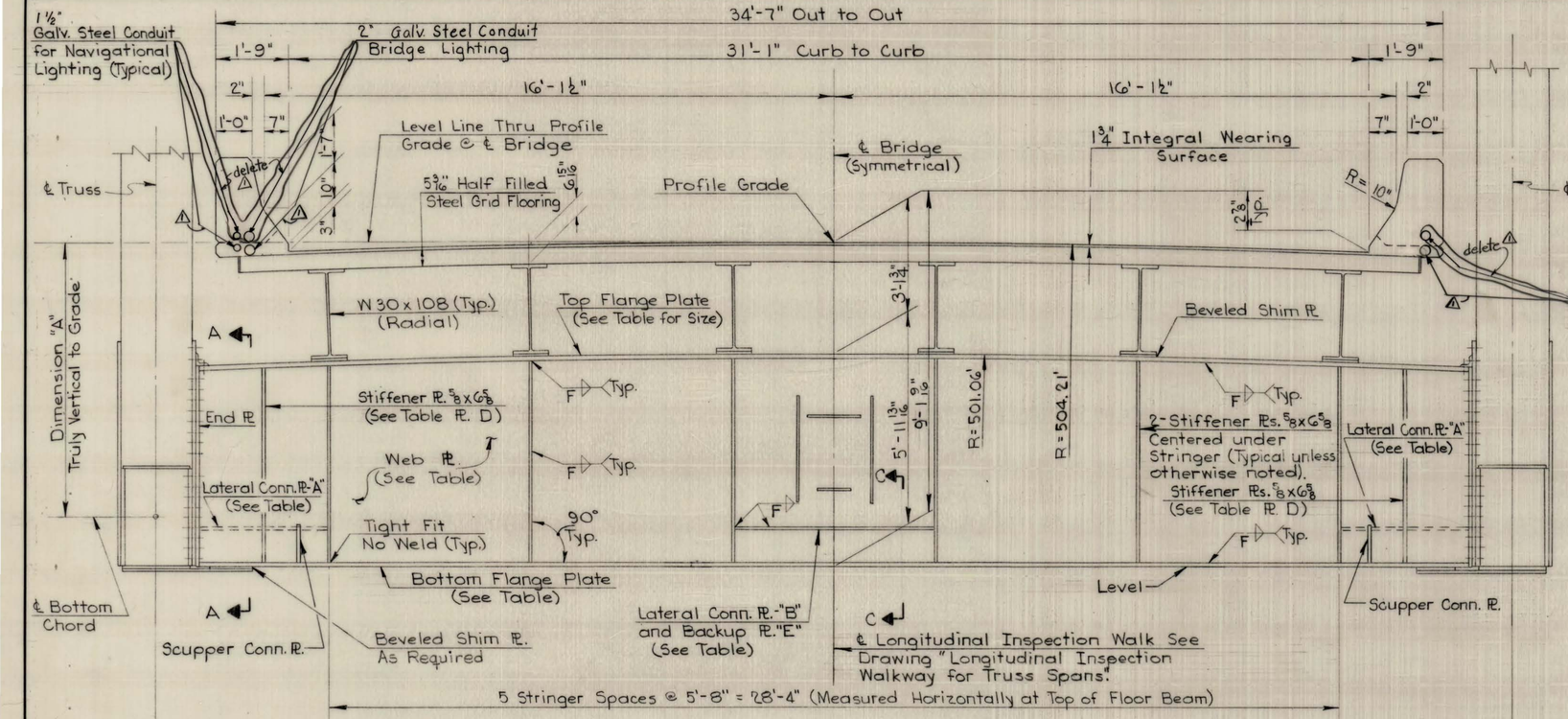
MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	38 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	79	125

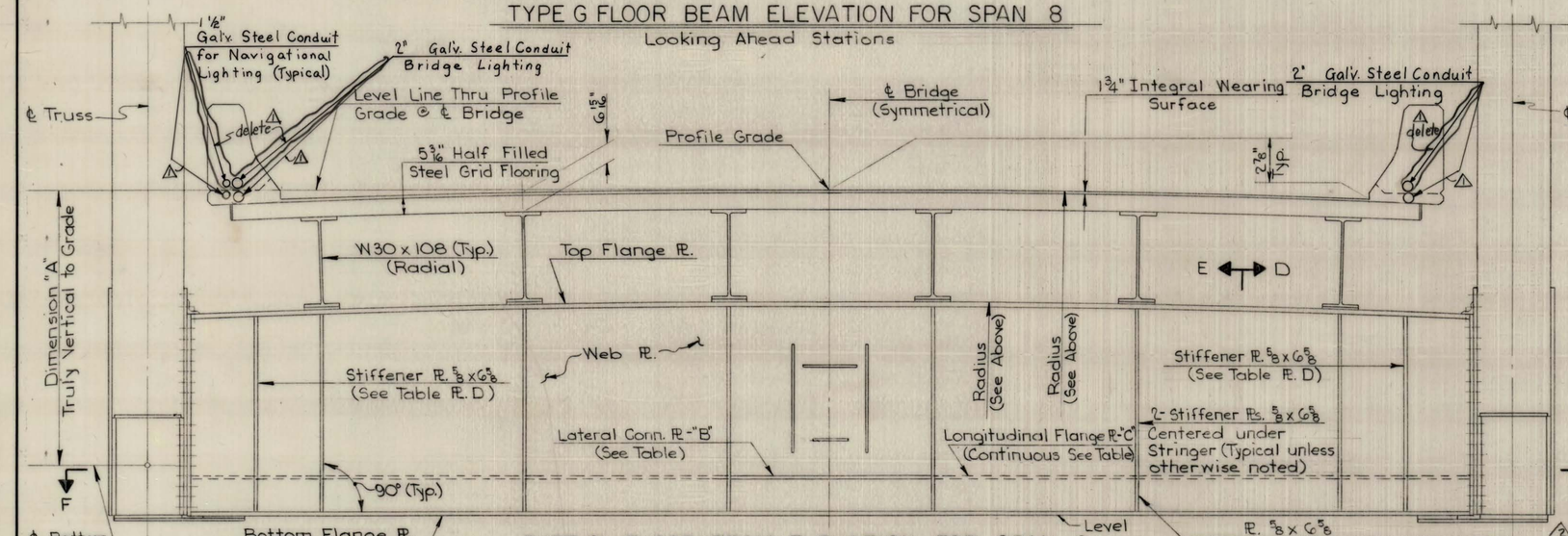
FLOOR BEAM DATA

PANEL POINTS	TYPE	DIMENSION "A" (Feet)	MATERIAL FURNISHED			
			TOP FLANGE PL	BOTTOM FLANGE PL	WEB PL	Lat. Conn. PL. "A"
L11 - L31	2GL	7.7622	1⅛ x 14	1¼ x 14	⅝	⅝
L12 - L30	2GL	7.7343	1⅛ x 14	1¼ x 14	⅝	⅝
L13 - L29	3GL	7.7623	⅞ x 14	⅞ x 14	½	⅝
L14 - L28	2G	7.7343	1⅛ x 14	1¼ x 14	⅝	⅝
L15 - L27	2G	7.7623	1⅛ x 14	1¼ x 14	⅝	⅝
L16 - L26	3G	7.7344	⅞ x 14	⅞ x 14	½	½
L17 - L25	2G	7.7624	1⅛ x 14	1¼ x 14	⅝	½
L18 - L24	2G	7.7345	1⅛ x 14	1¼ x 14	⅝	½
L19 - L23	3G	7.7624	⅞ x 14	⅞ x 14	½	½
L20 - L22	2G	7.7344	1⅛ x 14	1¼ x 14	⅝	½
L21	2G	7.7624	1⅛ x 14	1¼ x 14	⅝	None



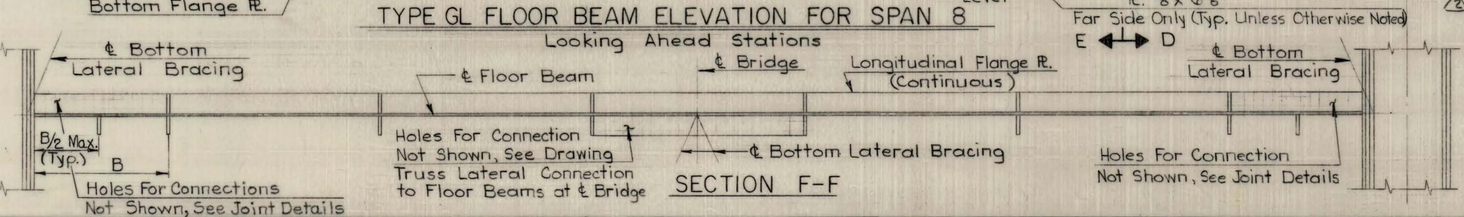
TYPE G FLOOR BEAM ELEVATION FOR SPAN 8

Looking Ahead Stations

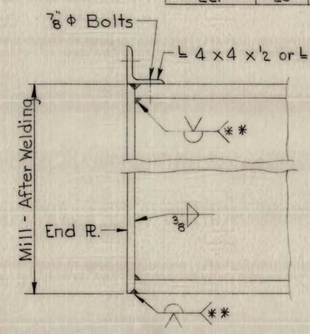


TYPE GL FLOOR BEAM ELEVATION FOR SPAN 8

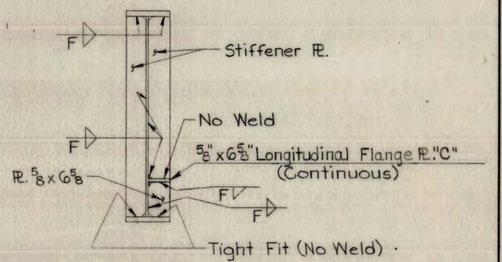
Looking Ahead Stations



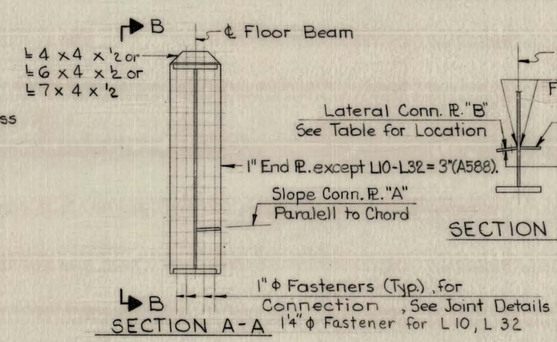
SECTION F-F



SECTION B-B



SECTION D-D (L8, L9, L29, L30, L31)
SECTION E-E (L11, L12, L13, L33, L34)



SECTION C-C

SECTION A-A

NOTES:

- For Scupper Details, See Drawing "Common Details for Type R & G Half-Filled Steel Grid Floorings - Span 8".
- ** Grind Welds Flush with the Grinding in Direction of Stress
- Camber all Floor Beams 'e' to offset Dead Load Deflection.
- Notes, Dimensions, and Sections not shown on "Type GL Floor Beam Elevation For Span 8" are the same as those shown on "Type G Floor Beam Elevation For Span 8."
- For Location of Pls. "A", "B", "C", "D", and "E", See Table on "Truss Spans Type C Floor Beams" Drawing.

CONTRACT NO. 4

2 Revision △ is to be deleted & the galvanized stl. conduits run through the parapets as shown.

0 2' 4'

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY
△	79	Delete Rev. △	10/5/76	JEB
△	79	Relocated Galvanized Steel Conduits	3-23-77	JED

DESIGNED BY P.F.S. CHECKED BY LAG DATE 3/1/76
DETAILED BY G.H.H. CHECKED BY LAG DATE 3/1/76
TRACED BY T.M.K. CHECKED BY LAG DATE 3/1/76

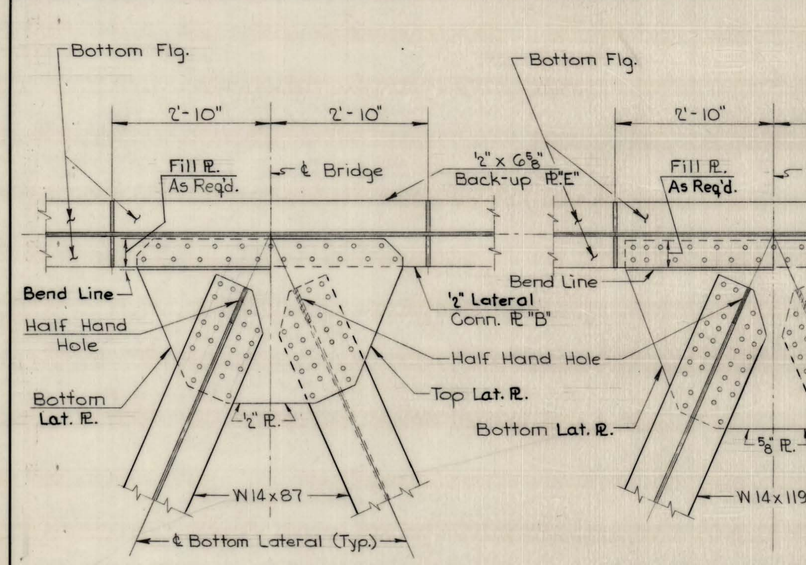
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRUSS SPANS TYPE G FLOOR BEAMS

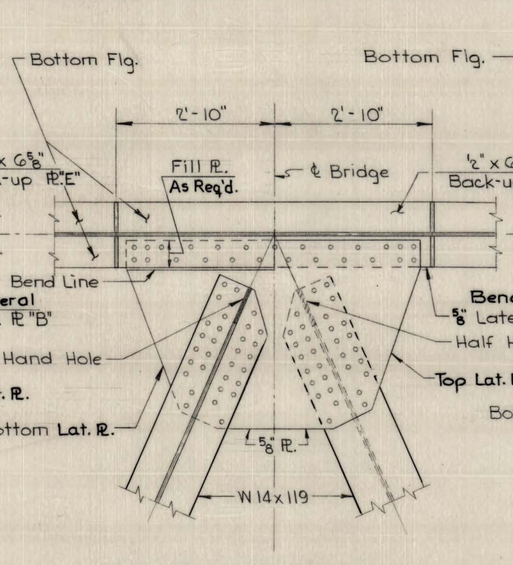
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	39 of 82

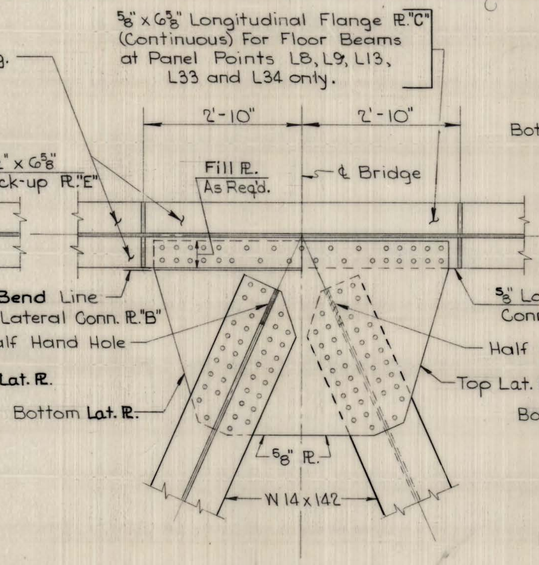
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL-56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	80	125



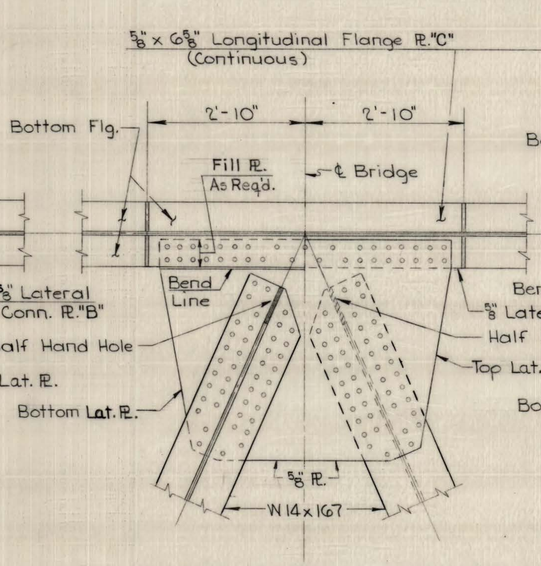
AT PANEL POINTS L1, L2, L3, L4, L17, L18, L19, L20, L22, L23, L24, L38, L39, L40, & L41



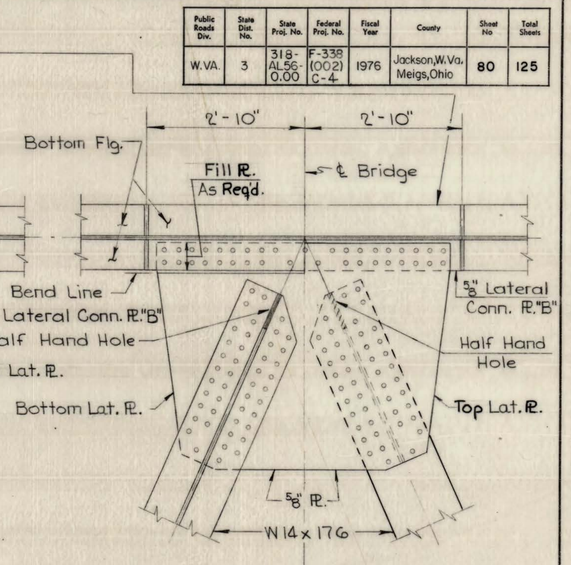
AT PANEL POINTS L6, L7, L15, L16, L25, L26, L35, & L36



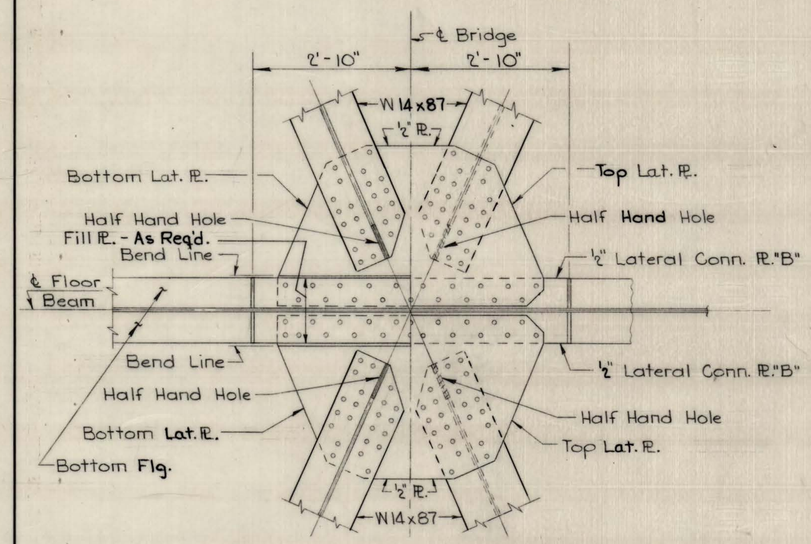
AT PANEL POINTS L8, L9, L13, L14, L27, L28, L33, & L34



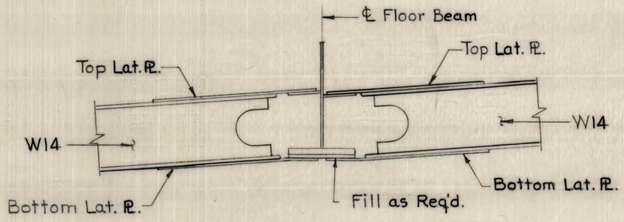
AT PANEL POINTS L11, L12; L29, & L30



AT PANEL POINT L31



AT PANEL POINTS L5, L21, & L37



TYPICAL AT BOTTOM LATERAL

PANEL POINTS L5 AND L37 SHOWN
OTHER PANEL POINTS SIMILAR

0 1' 2' 3'

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY P.F.S. CHECKED BY LAG DATE
DETAILED BY G.H.H. CHECKED BY LAG DATE 3/1/76
TRACED BY T.M.K. CHECKED BY LAG DATE

CONTRACT NO. 4

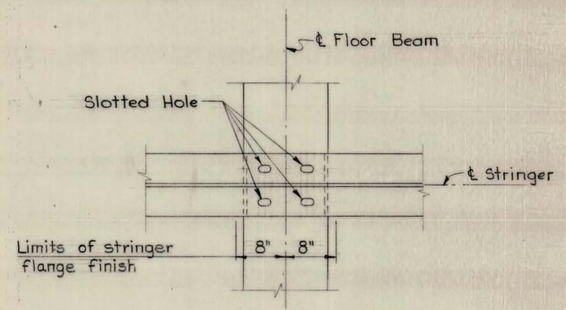
WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD TRUSS LATERAL CONNECTIONS TO FLOOR BEAMS AT ℄ BRIDGE

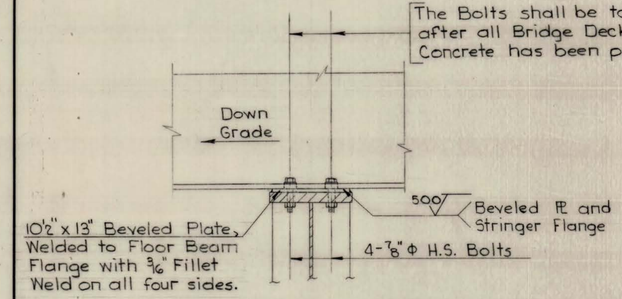
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	40 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	81	125



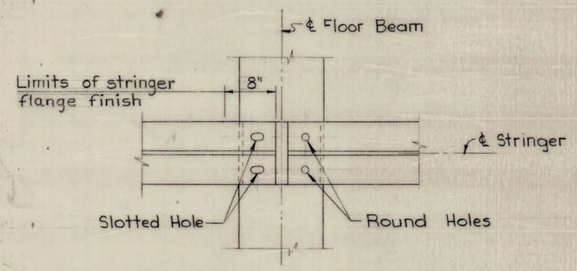
PLAN



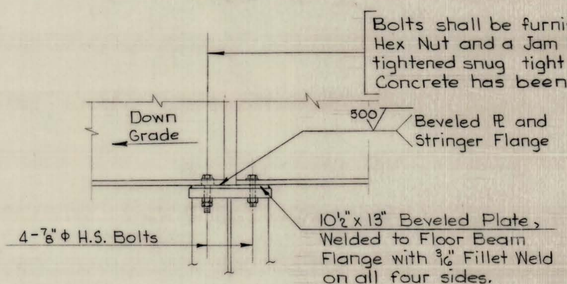
ELEVATION

EXPANSION TYPE - Stringer to Floor Beam Connection

USE AT PANEL POINTS 2-3-6-9-12-15-18



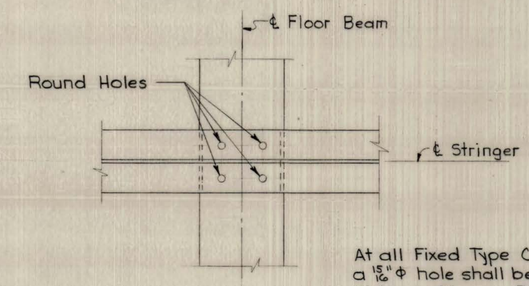
PLAN



ELEVATION

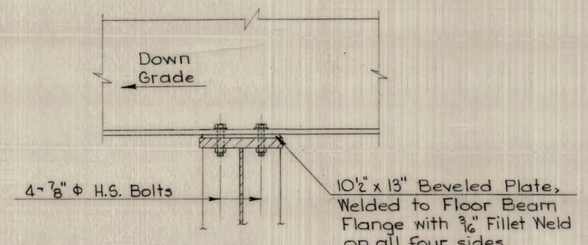
S.R.J. TYPE A & C - Stringer to Floor Beam Connection

USE TYPE A AT PANEL POINTS 4-7
USE TYPE C AT PANEL POINTS 13-16-19



PLAN

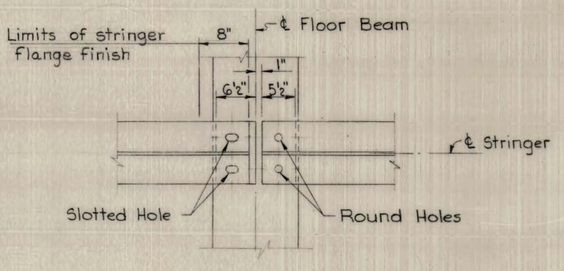
At all Fixed Type Connections, a 15/16" Φ hole shall be drilled in Stringer Flange, Beveled Plate and Floor Beam Flange. Bolts may be torqued at any time.



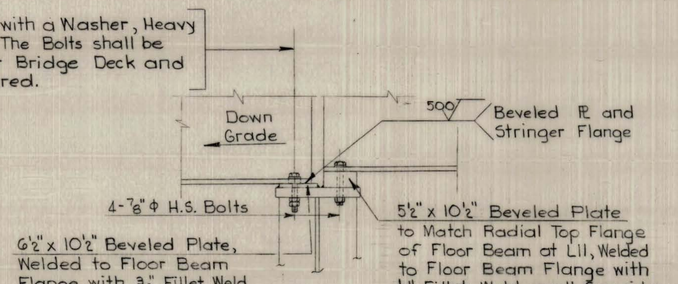
ELEVATION

FIXED TYPE - Stringer to Floor Beam Connection

USE AT PANEL POINTS 0-1-5-8-11-14-17-20-21



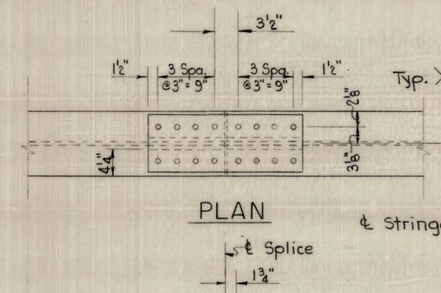
PLAN



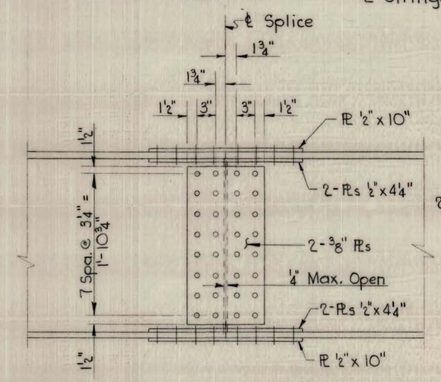
ELEVATION

S.R.J. TYPE B - Stringer to Floor Beam Connection

USE AT PANEL POINT 10

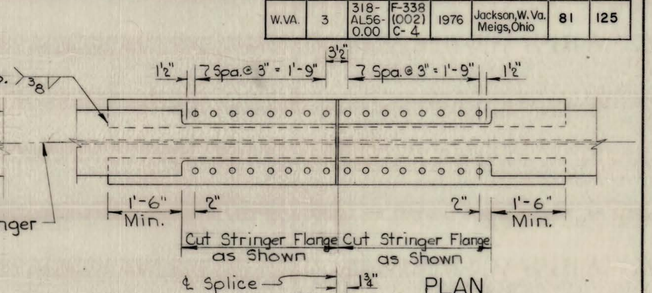


PLAN



ELEVATION

FIELD SPLICE SPANS 7 & 9



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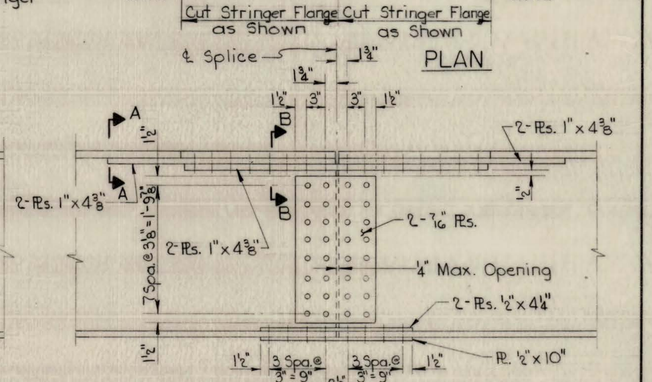
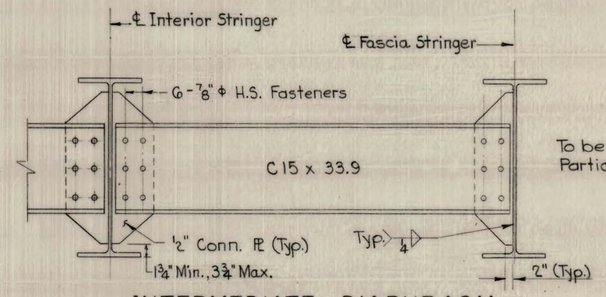


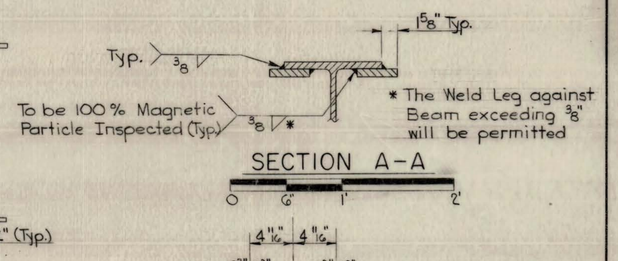
ELEVATION

FIELD SPLICE SPAN 8

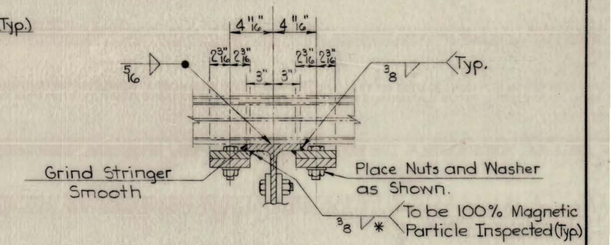


INTERMEDIATE DIAPHRAGM

(Looking Back Stations)



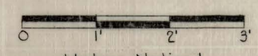
SECTION A-A



SECTION B-B

NOTES:

- All Fasteners in Stringer shall be ⅞" Φ H.S. Bolts.
- At all Expansion Type Connections, a 15/16" x 2" Slotted Hole shall be drilled in Stringer Flange and a 15/16" Φ hole shall be drilled in Beveled Plate and Floor Beam Flange.



Unless Noticed

CONTRACT NO. 4

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY LAG DATE 3/1/76
DETAILED BY MG CHECKED BY LAG DATE 3/1/76
TRACED BY T.M.K. CHECKED BY LAG DATE 3/1/76

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
STRINGER DETAILS FOR TRUSS SPANS

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	41 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338(002) C-4	1976	Jackson, W.Va. Meigs, Ohio	82	125

END PORTAL - HALF ELEVATION

SECTION E-E

SECTION C-C

SECTION B-B

SECTION A-A

No Scale

Δ- 1'-0" beyond each end of ⅝" Gusset Pl.

SECTION D-D

DETAIL "A"

Use Maximum Radius to Avoid Reentrant Cut at Inner Splice Pls. and Gusset Pls.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
END PORTAL AND TRUSS JOINT UI

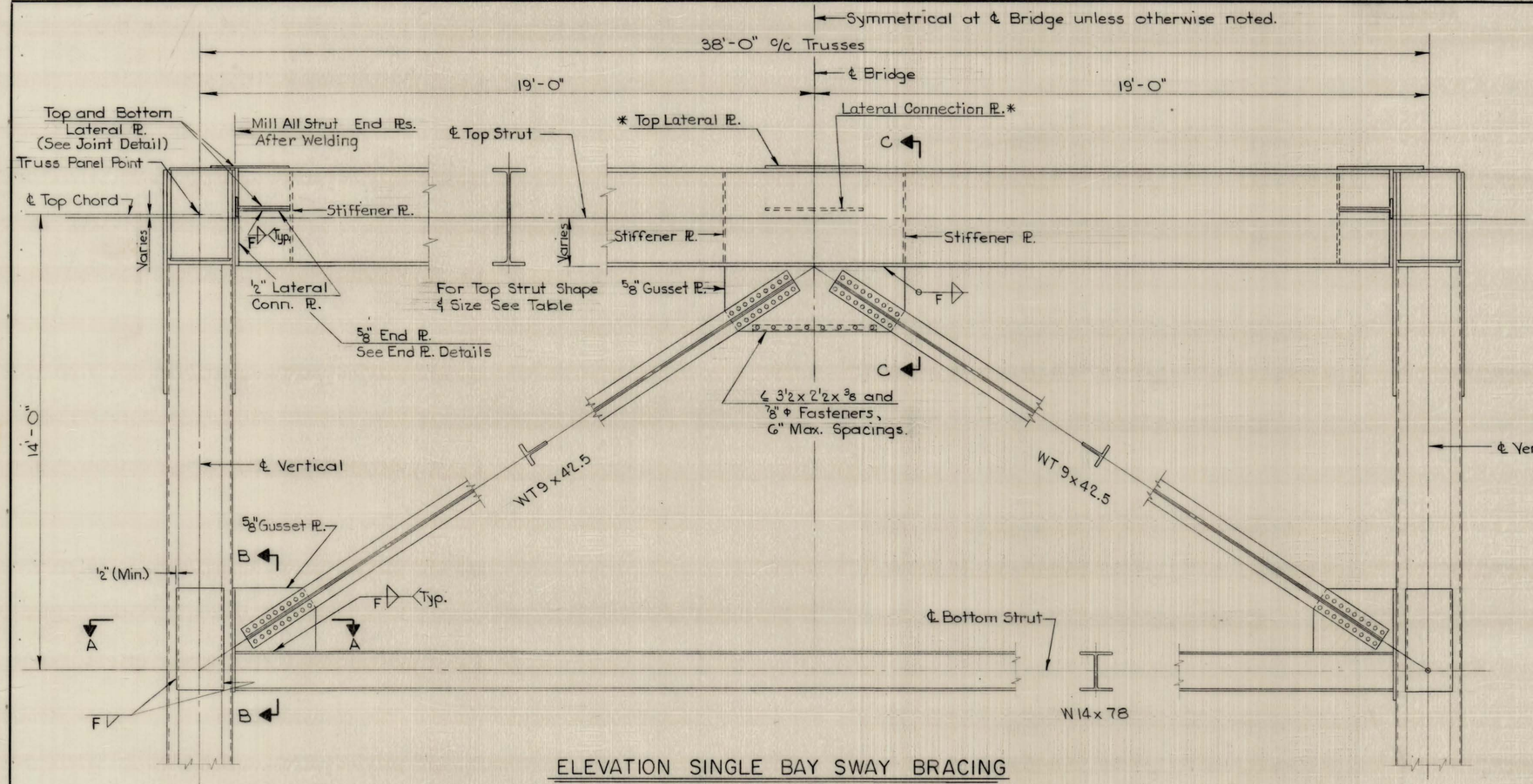
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY P.F.S./LAG CHECKED BY LAG/GGB DATE 3/1/76
DETAILED BY G.H.H. CHECKED BY LAG/GGB DATE 3/27/78
TRACED BY G.H.H. CHECKED BY LAG/GGB DATE 3/27/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	42 of 82

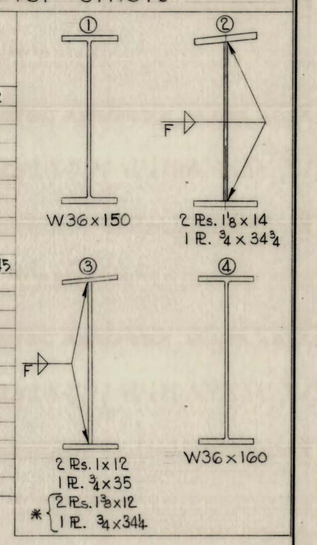
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W. Va. Meigs, Ohio	83	125

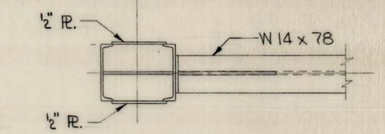


ELEVATION SINGLE BAY SWAY BRACING

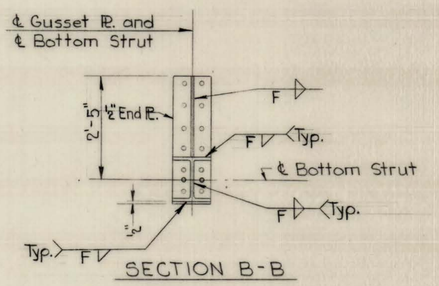
(Looking Ahead Station)
Begin Opposite Hand at Panel Point 12 to 21

SUMMARY OF TOP STRUTS		
PANEL POINT	TYPE OF SWAY	TYPE OF TOP STRUT
U1	End Portal	See Dwg. No. 42
U2	1-Bay	①
U3	Strut	②
U4	1-Bay	③
U5	Strut	②
U6	1-Bay	③
U7	1-Bay	③
U8	Strut	②
U9	2-Bay	③
U10	3-Bay	See Dwg. No. 45
U11	2-Bay	③ *
U12	Strut	②
U13	1-Bay	③
U14	1-Bay	③
U15	Strut	②
U16	1-Bay	①
U17	Strut	④
U18	1-Bay	①
U19	Strut	④
U20	1-Bay	①
U21	Strut	④

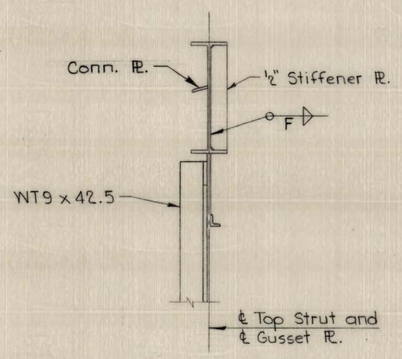




SECTION A-A
For U2, U4, U7, U13, U18 and U20

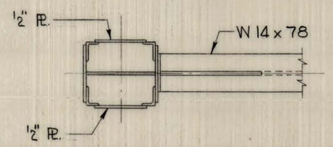


SECTION B-B

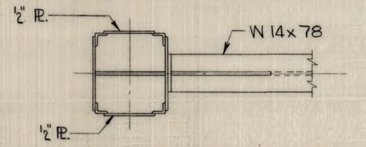


SECTION C-C

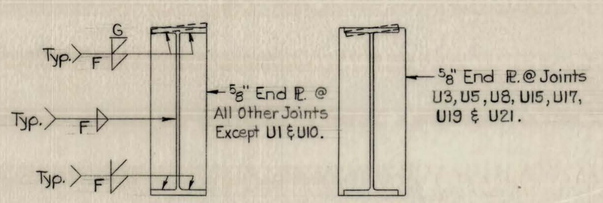
Note:
* See Dwg. "Top Lateral Connections along ℄ Bridge" for Details Connection.



SECTION A-A
For U6 and U16

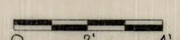


SECTION A-A
For U14



TYPICAL TOP STRUT END PLATE DETAILS

(For Bolt Location See Joint Details)



CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
SINGLE BAY SWAY BRACING
FOR TRUSS SPANS

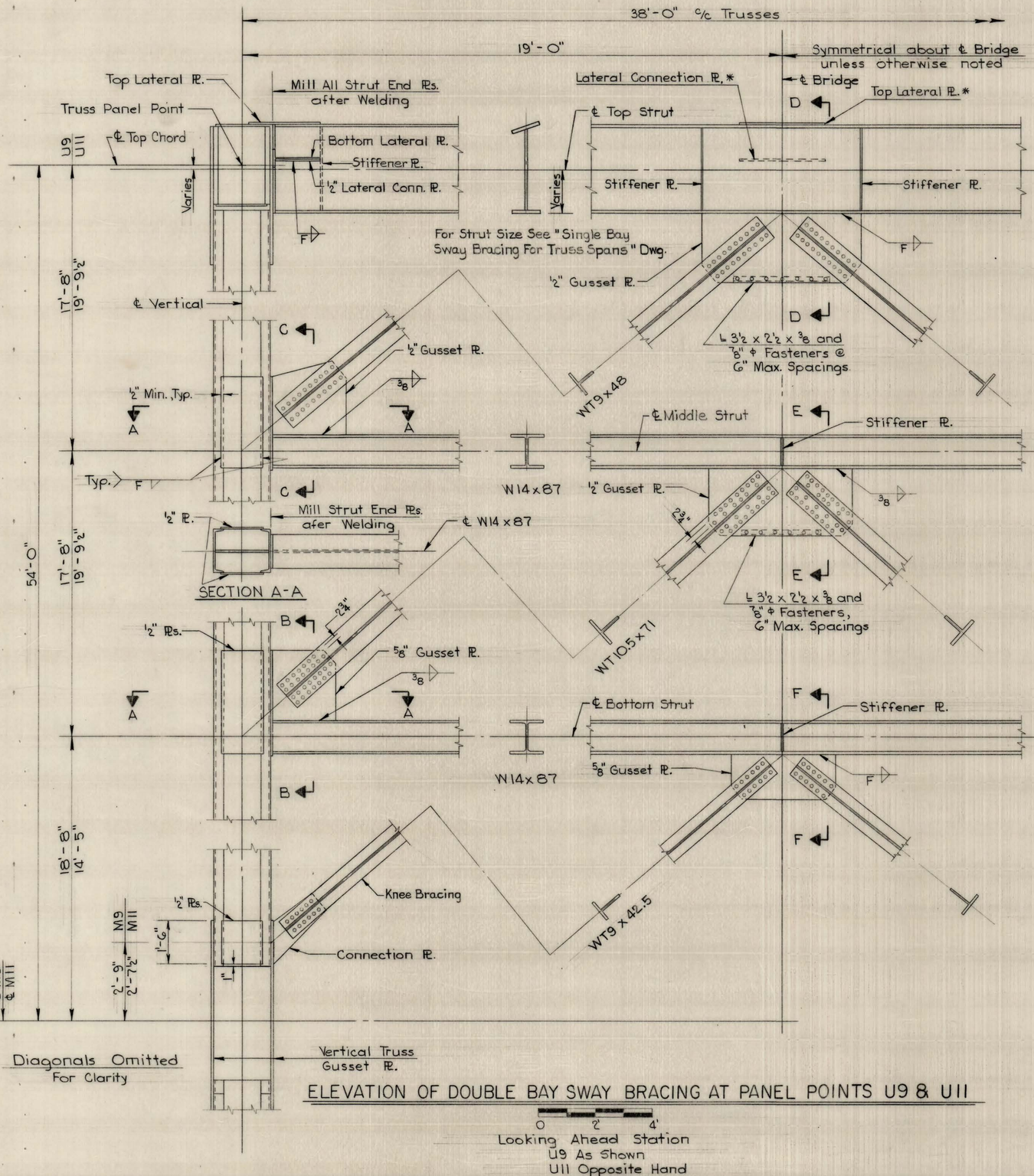
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY P.F.S. CHECKED BY LAG DATE 3/1/76
DETAILED BY G.H.H. CHECKED BY LAG DATE 3/1/76
TRACED BY T.M.K. CHECKED BY LAG DATE 3/1/76

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	43 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W. VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W. Va. Meigs, Ohio	84	125



Note:
* See Dwg. "Top Lateral Connections along ℄ Bridge" for Connection.

CONTRACT NO. 4

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
DOUBLE BAY SWAY BRACING AT PANEL POINTS U9 AND U11 FOR TRUSS SPANS

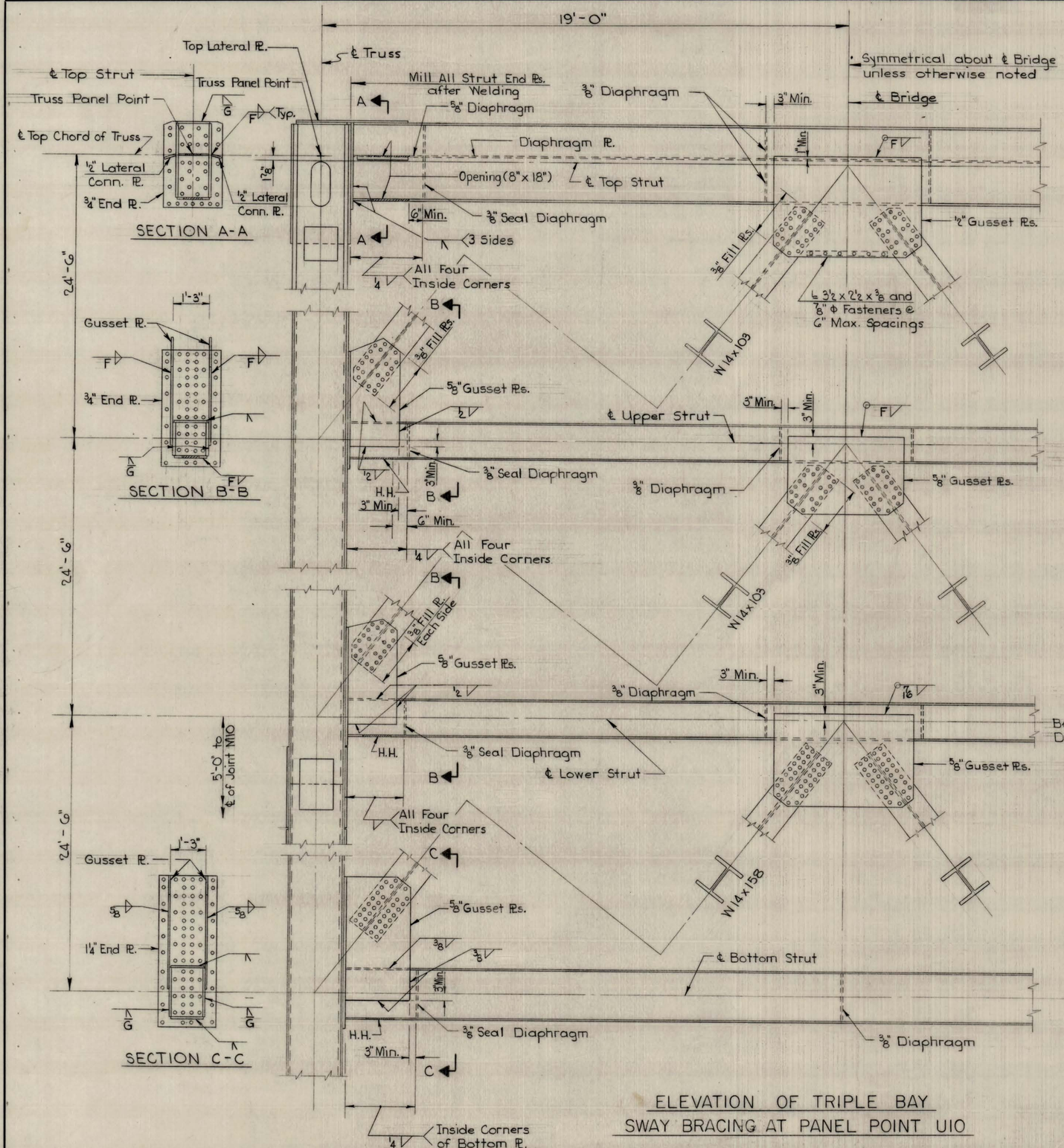
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY P.F.S.	CHECKED BY LAG	DATE 3/1/76	
DETAILED BY G.H.H.	CHECKED BY LAG	DATE 3/1/76	
TRACED BY T.M.K.	CHECKED BY LAG	DATE 3/1/76	

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	44 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	85	125



ELEVATION OF TRIPLE BAY SWAY BRACING AT PANEL POINT UIO

CONTRACT NO. 4

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRIPLE BAY SWAY BRACING AT PANEL POINT UIO FOR TRUSS SPANS

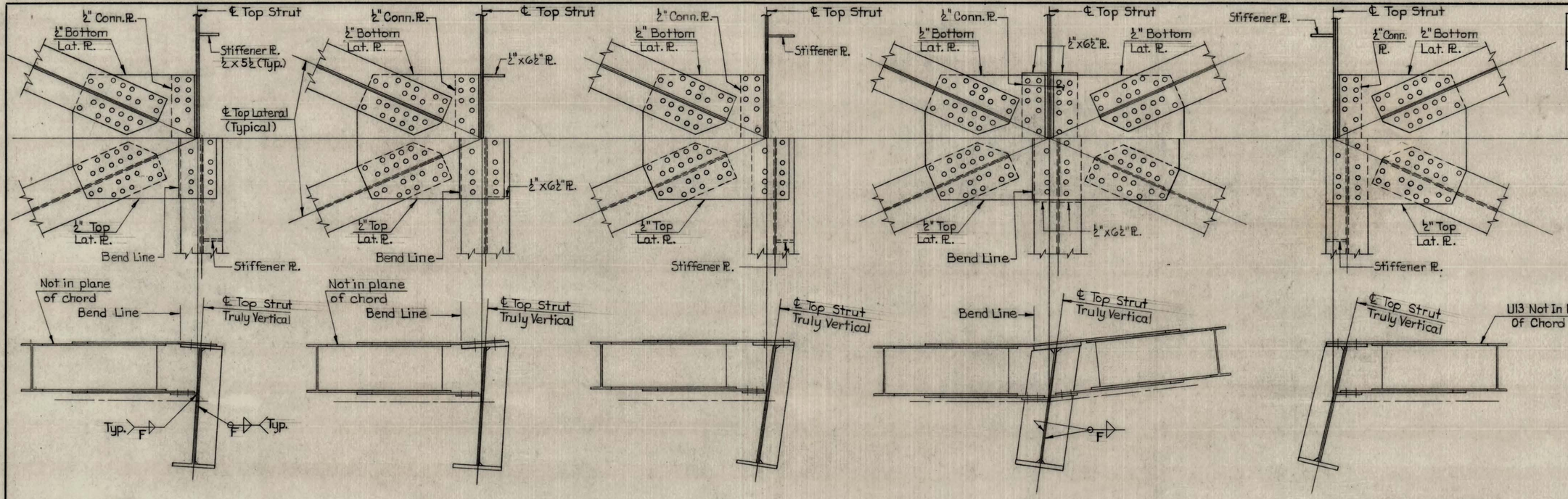
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY P.E.S. CHECKED BY LAG DATE 3/1/76
DETAILED BY G.H.H. CHECKED BY LAG DATE 3/1/76
TRACED BY L.M.K. CHECKED BY LAG DATE 3/1/76

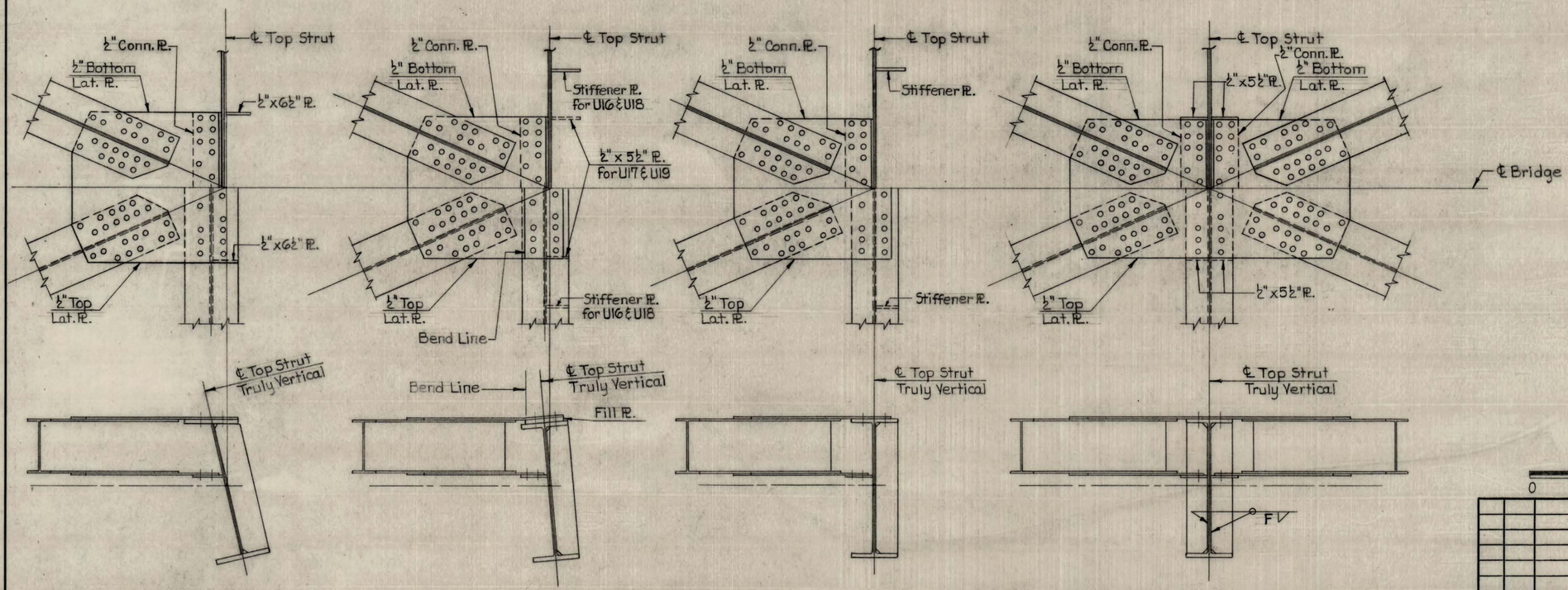
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	45 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	86	125



U2 U3 U4 U5

U6, U7, U9 (As Shown)
U11, U13, U14 (Opposite Hand)



U12, U15 (As Shown)
U8 (Opposite Hand)

U16, U17, U18, U19

U20

U21

0 1' 2' 3'

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TOP LATERAL CONNECTIONS
ALONG ℄ BRIDGE

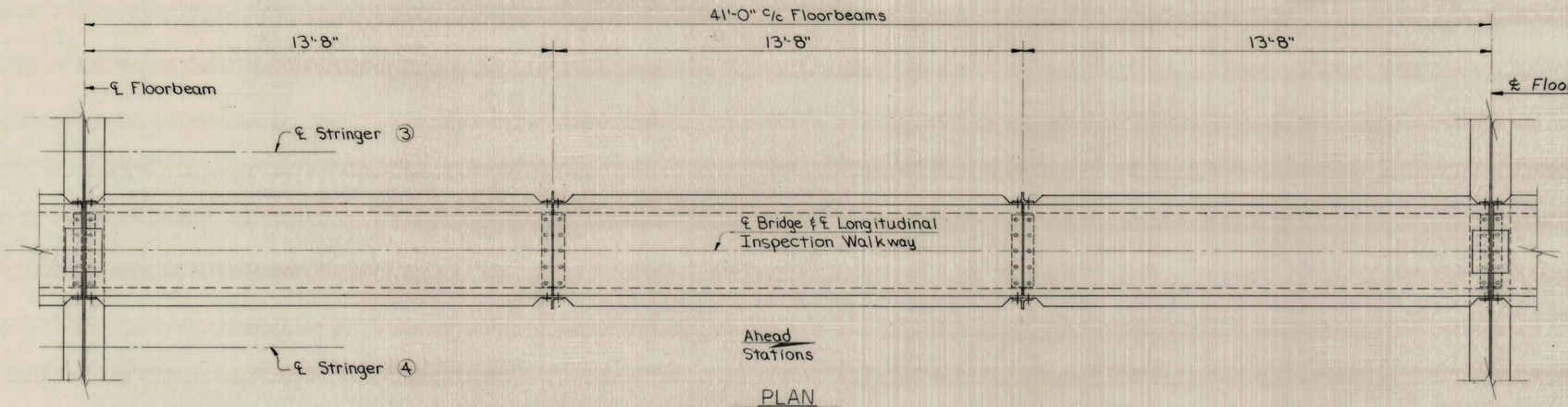
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

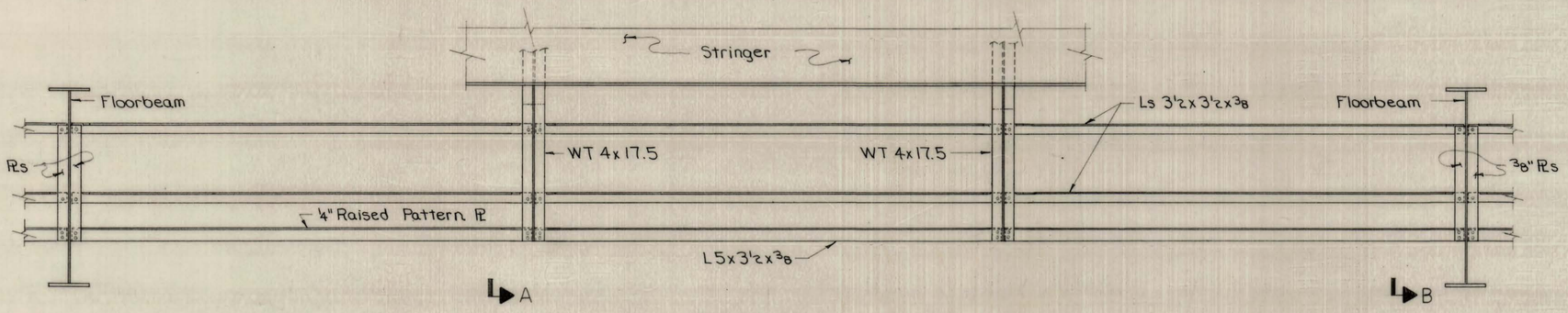
DESIGNED BY P.F.S. CHECKED BY LAG DATE
DETAILED BY G.W.H. CHECKED BY LAG DATE 3/1/76
TRACED BY G.W.H. CHECKED BY LAG DATE

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	46 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	87	125

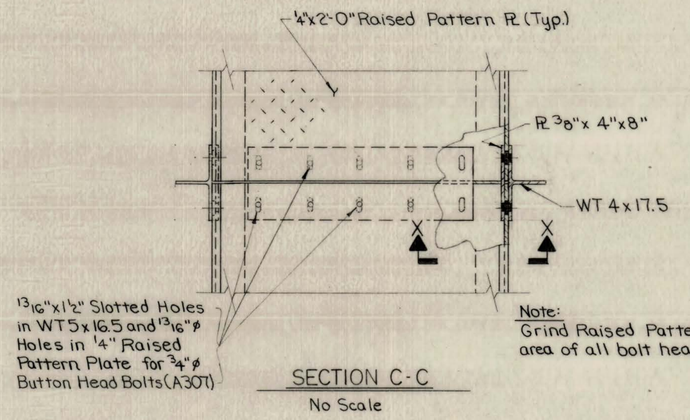


PLAN



ELEVATION

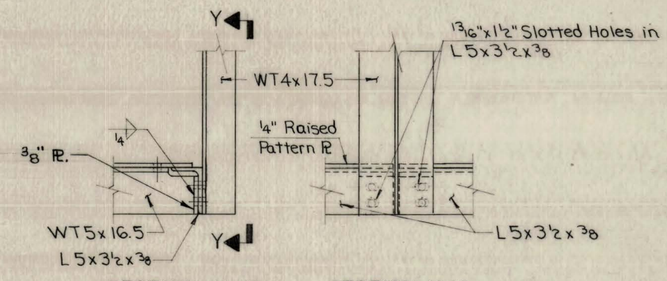
0 1' 2' 4'



SECTION C-C

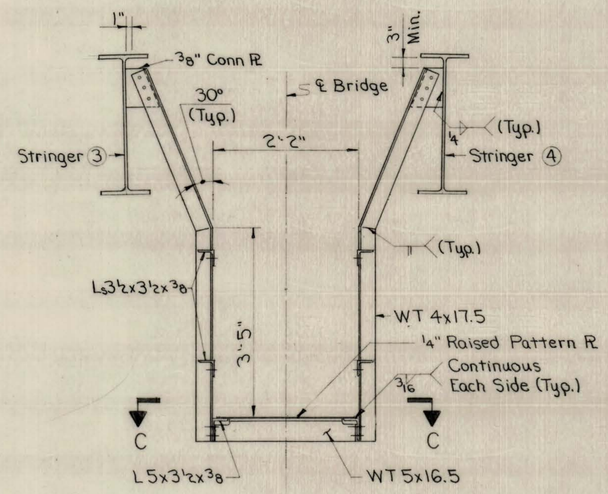
No Scale

Note:
Grind Raised Pattern in area of all bolt heads

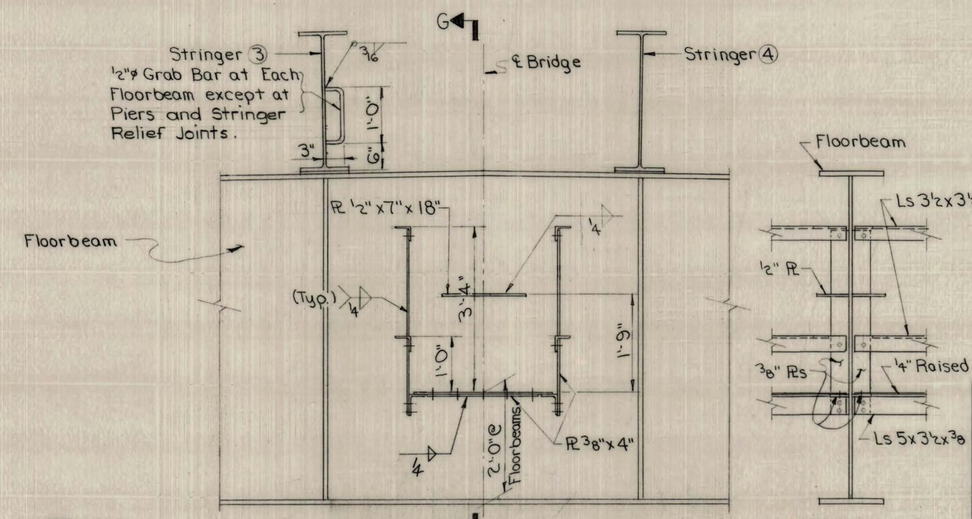


SECTION X-X SECTION Y-Y

0 3" 6" 1'



SECTION A-A



SECTION B-B

SECTION G-G

0 6" 1' 2'

NOTES:

- All fasteners shall be ¾"ø H.S. Bolts unless otherwise noted.
- Longitudinal Inspection Walkway shall be placed straight between floorbeams as shown from Pier 6 to Pier 9. For hatch and ladder details at Pier 6, 7, 8, & 9, see dwg. "Longitudinal and Access Walkway Details for Truss Spans."

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
LONGITUDINAL INSPECTION
WALKWAY FOR TRUSS SPANS

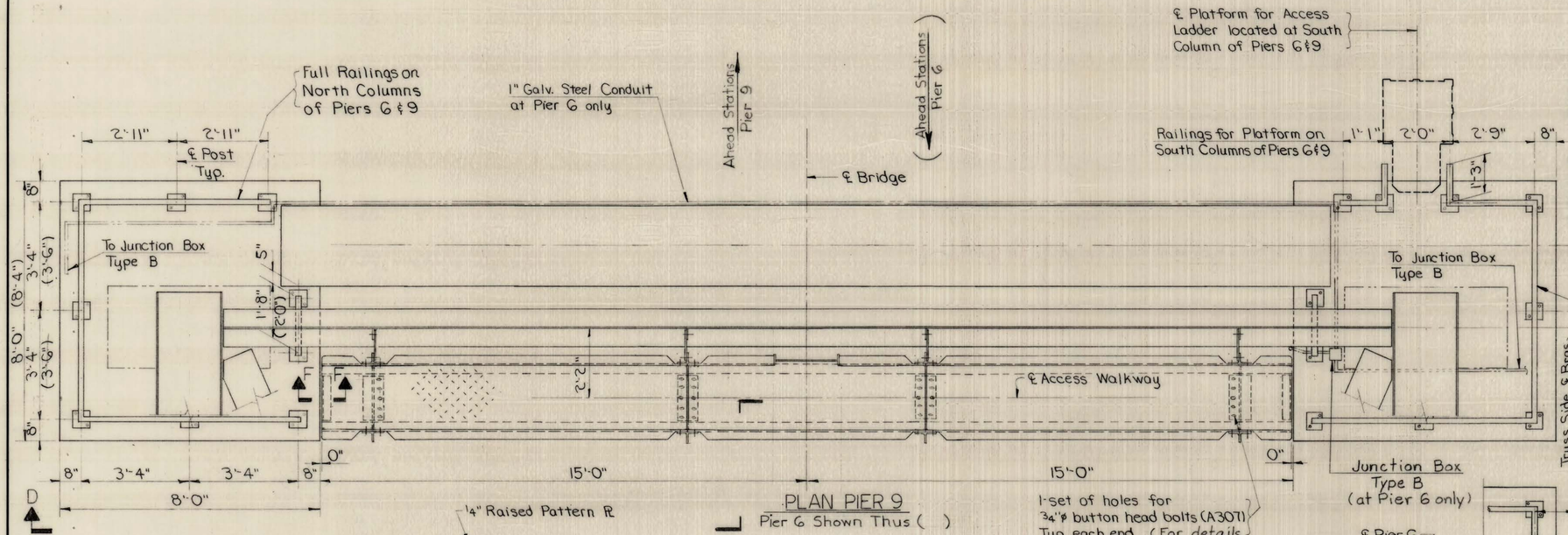
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY R.F.S. CHECKED BY [illegible] DATE
DETAILED BY M.G. CHECKED BY [illegible] DATE 12-29-76
TRACED BY M.G. CHECKED BY [illegible] DATE

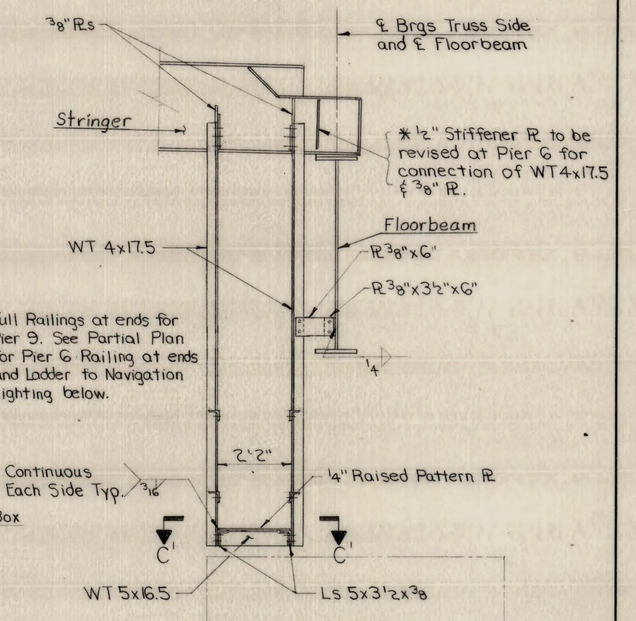
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	47 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318 AL56-0.00	F-339 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	88	125



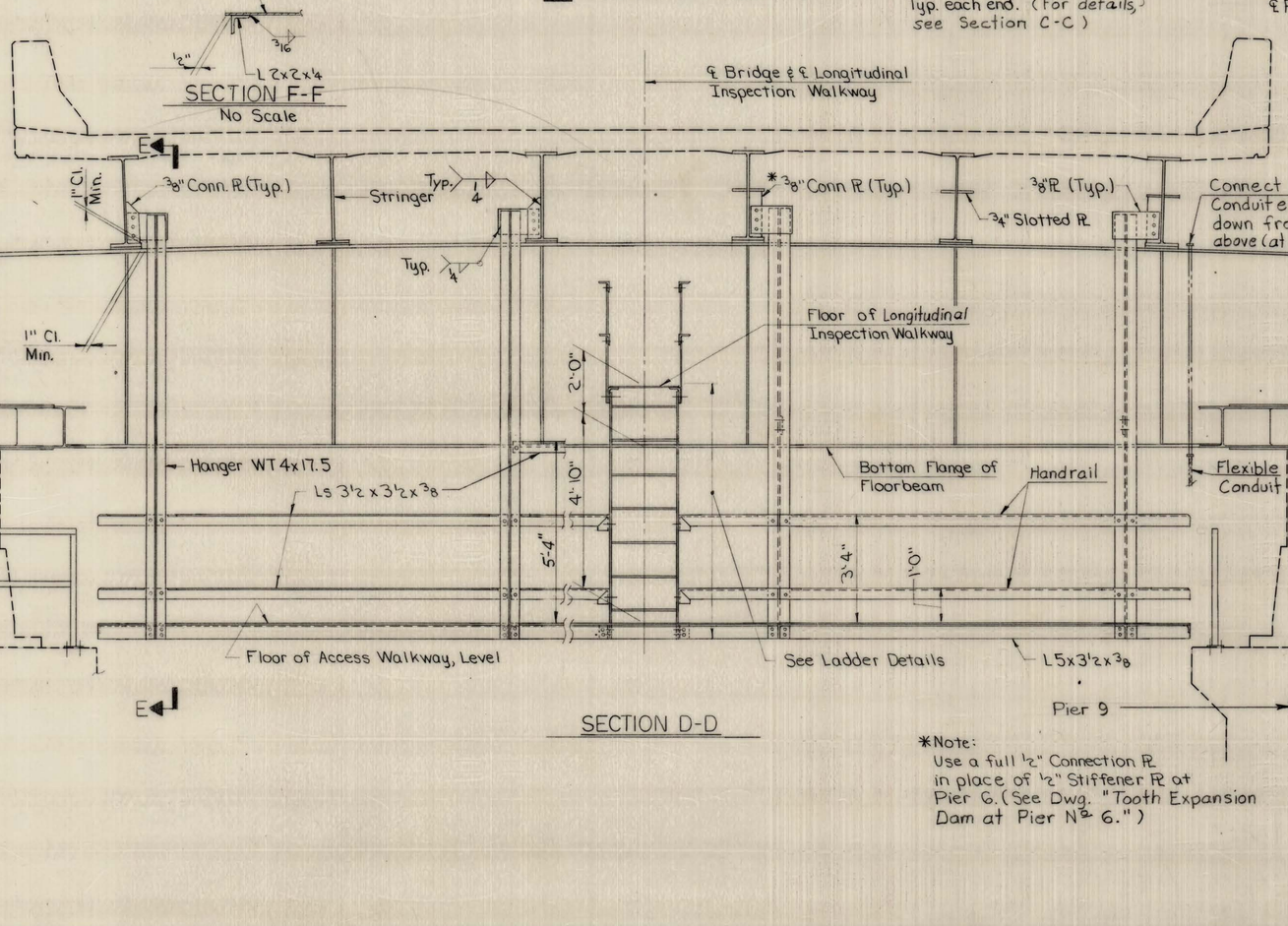
PLAN PIER 9
Pier 6 Shown Thus ( )

PARTIAL PLAN AT ENDS OF PIER 6



SECTION E-E

Section C'C' similar to Section CC.



SECTION D-D

*Note:
Use a full ½" Connection R in place of ½" Stiffener R at Pier 6. (See Dwg. "Tooth Expansion Dam at Pier N° 6.")

NOTES:

- All fasteners shall be ¾" ø H.S. Bolts unless otherwise noted.
- For ladder details and railing & post details see dwg "Longitudinal and Access Walkway Details for Truss Spans"
- For Section C-C see dwg. "Longitudinal Inspection Walkway for Truss Spans."
- All electrical conduit and junction boxes are for Navigational Lighting at Pier 6 only.
- For access ladder to navigational lighting at pier 6 see dwg. "Access Ladder at Piers 6, 7 and 8."

0 1' 2' 4'

CONTRACT NO. 4

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
ACCESS WALKWAY AT PIERS 6 & 9

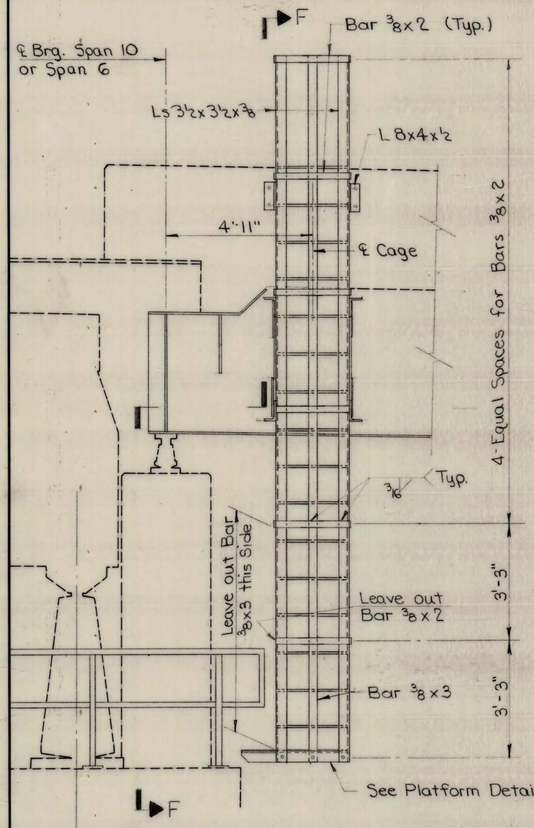
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

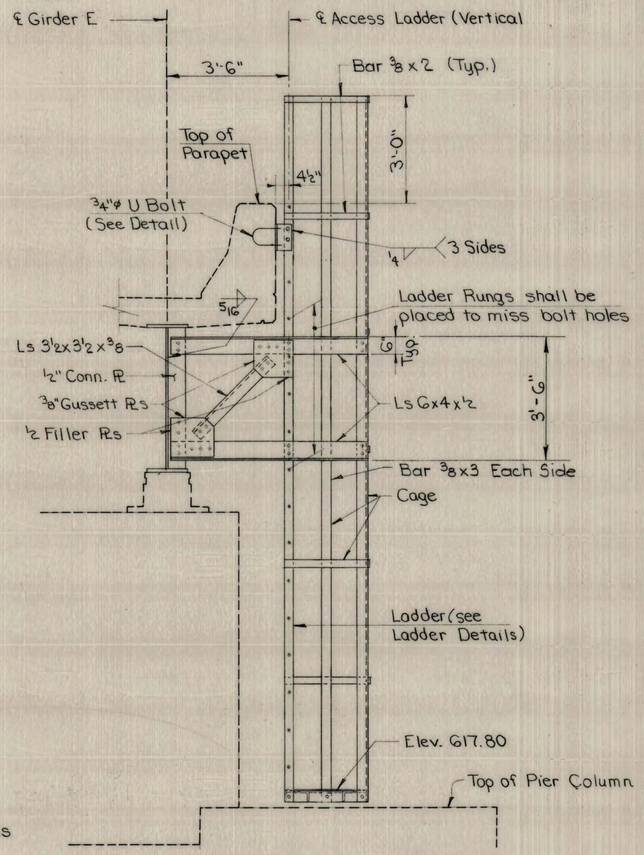
DESIGNED BY P.F.S. CHECKED BY [illegible] DATE [illegible]
DETAILED BY MG CHECKED BY [illegible] DATE 2-24-76
TRACED BY MG CHECKED BY [illegible] DATE

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	48 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	89	125



ELEVATION

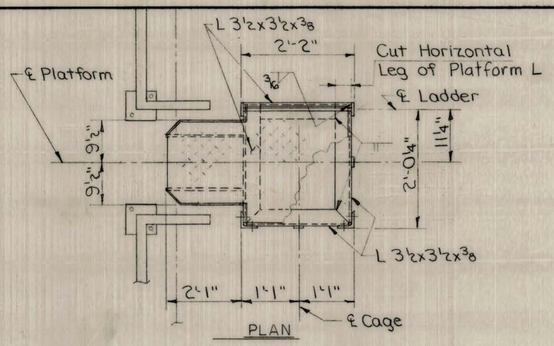


SECTION F-F

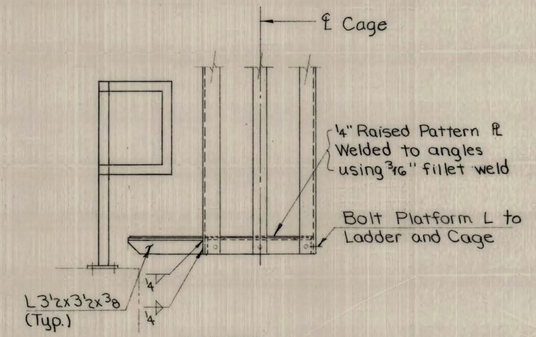
ACCESS LADDER IN SPANS 6 & 10

0 1' 2' 4'

Pier 6 Shown



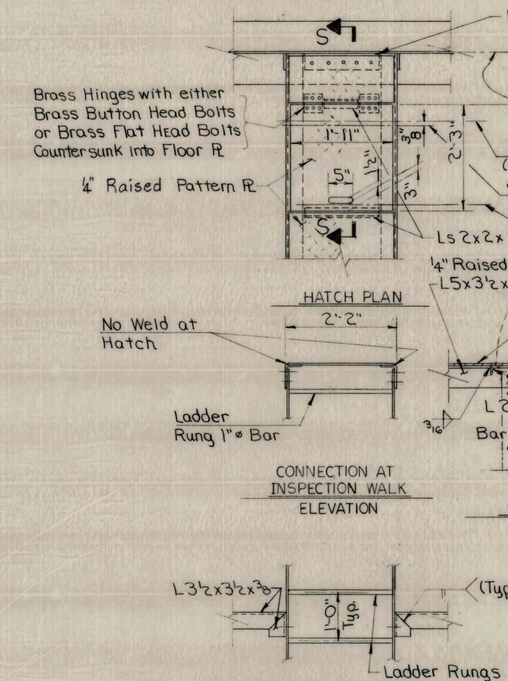
PLAN



ELEVATION

PLATFORM DETAILS

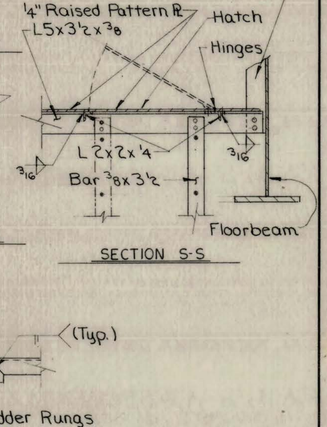
0 6" 1' 2'



HATCH PLAN

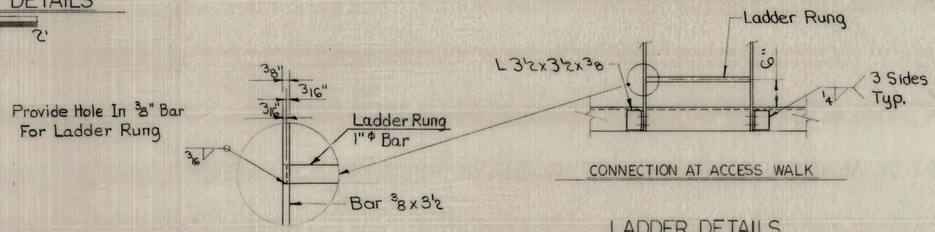
CONNECTION AT INSPECTION WALK

ELEVATION



SECTION S-S

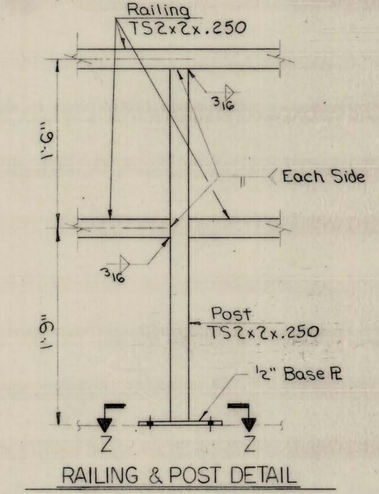
CONNECTION AT HAND RAILS



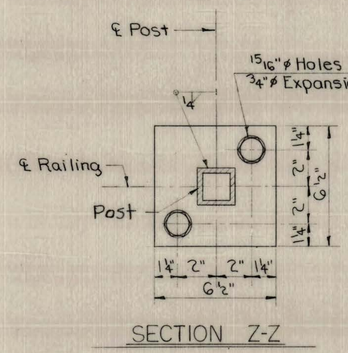
CONNECTION AT ACCESS WALK

LADDER DETAILS

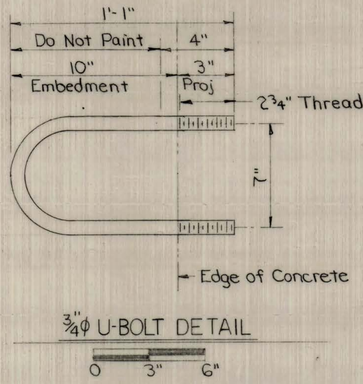
0 6" 1' 2'



RAILING & POST DETAIL



SECTION Z-Z



3/4ø U-BOLT DETAIL

0 3" 6"

NOTE:

- All fasteners shall be ¾" ø H.S. Bolts unless otherwise noted.

CONTRACT NO. 4

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

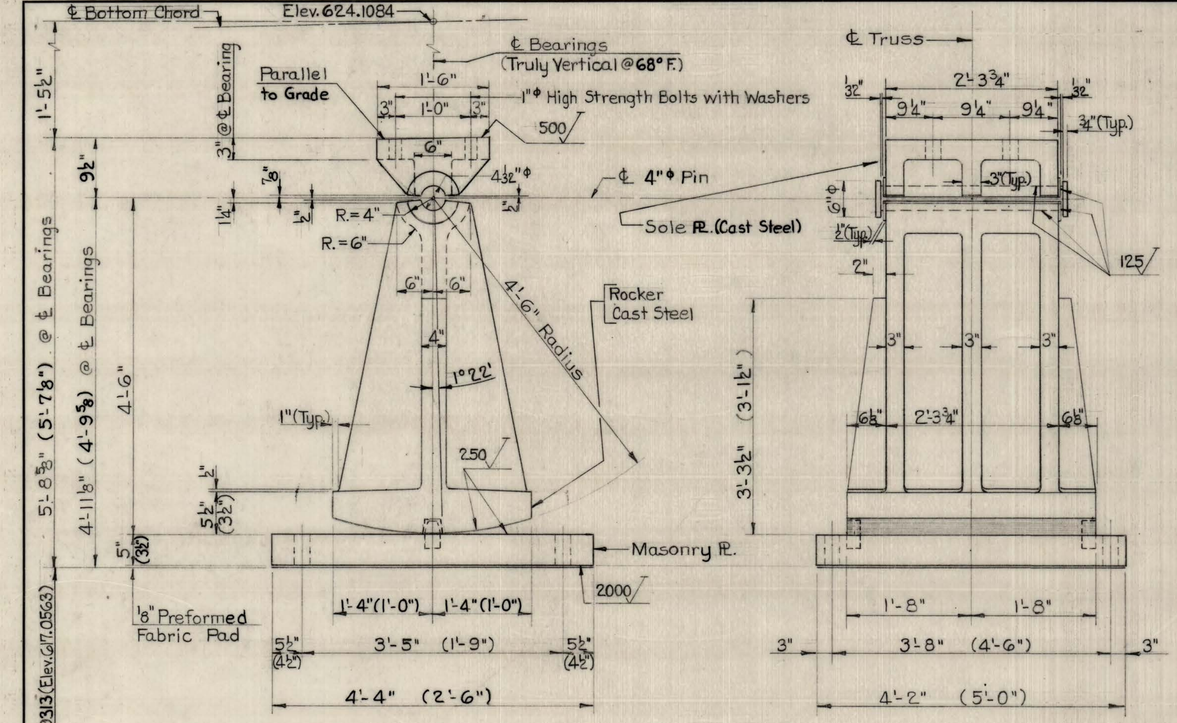
OHIO RIVER BRIDGE AT RAVENSWOOD LONGITUDINAL AND ACCESS WALKWAY DETAILS FOR TRUSS SPANS

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY P.F.S. CHECKED BY [illegible] DATE [illegible]
DETAILED BY JMG CHECKED BY [illegible] DATE 12-24-76
TRACED BY JMG CHECKED BY [illegible] DATE [illegible]

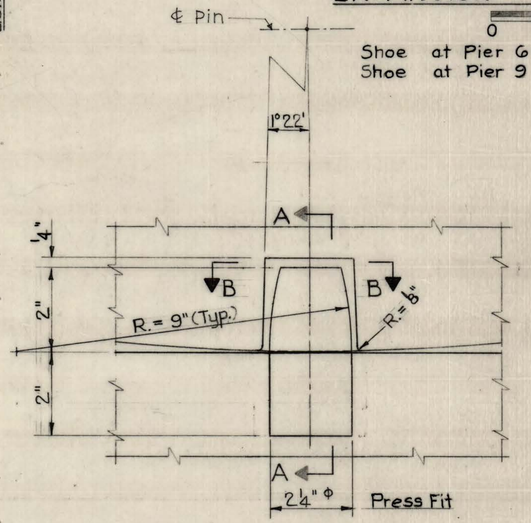
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	49 of 82



EXPANSION SHOES AT PIER 6 & PIER 9

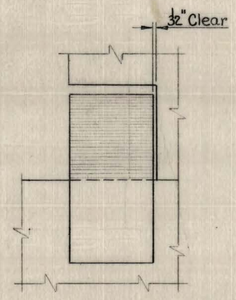
0 1' 2' 4'

Shoe at Pier 6 is shown.
Shoe at Pier 9 is similar except as noted thus ( ).



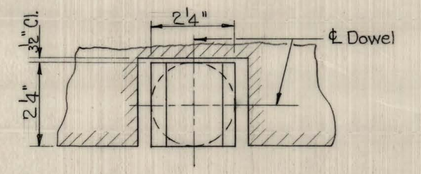
PINTLE DETAIL

Note: Finish all over.



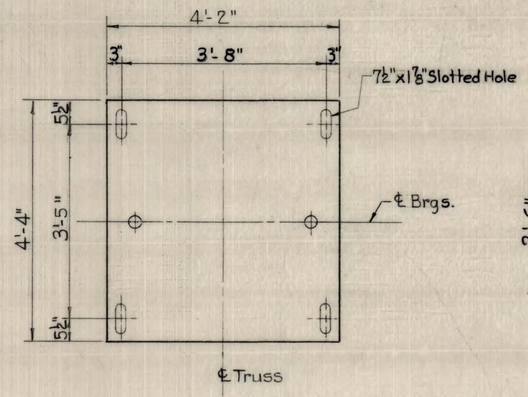
SECTION A-A

No Scale



SECTION B-B

No Scale



AT PIER 6

AT PIER 9

MASONRY PLATE DETAILS

0 1' 2' 4'

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	90	125

NOTES FOR PIER 6 AND PIER 9 SHOES

- Cast Steel Material As Noted On Drawing Shall Conform To ASTM Specifications A296, Grade CA-15.
- Masonry Plate Shall Be ASTM A588 Structural Steel.
- Dowels And Pin Shall Be ASTM A36 Structural Steel.
- Machined Surfaces Shall Be Finished To The Surface Roughness Shown On The Drawings.
- Centerline Of Rockers Shall Be Vertical Under Full Dead Load At A Temperature Of 68° Fahrenheit.
- Voids Around Anchor Bolts Shall Be Filled With Molten Zinc After The Rocker Is Set Truly Vertical Under Full Dead Load.
- Fillets On Castings Shall Have A Minimum Of 1" Radius.
- Shoes Shall Be Completely Shop Assembled, Checked For True Fit, Freedom Of Movement And Match Marked.
- Minimum Radiographs Required :
  Six For Each Cast Steel Sole Plate
  Twelve For Each Cast Steel Rocker
  In Addition To The Radiographic Inspection, Magnetic Partical Inspection Or Ultrasonic Testing Will Be Required At Areas Designated By The Inspector.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRUSS EXPANSION SHOES
AT PIERS 6 AND 9

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

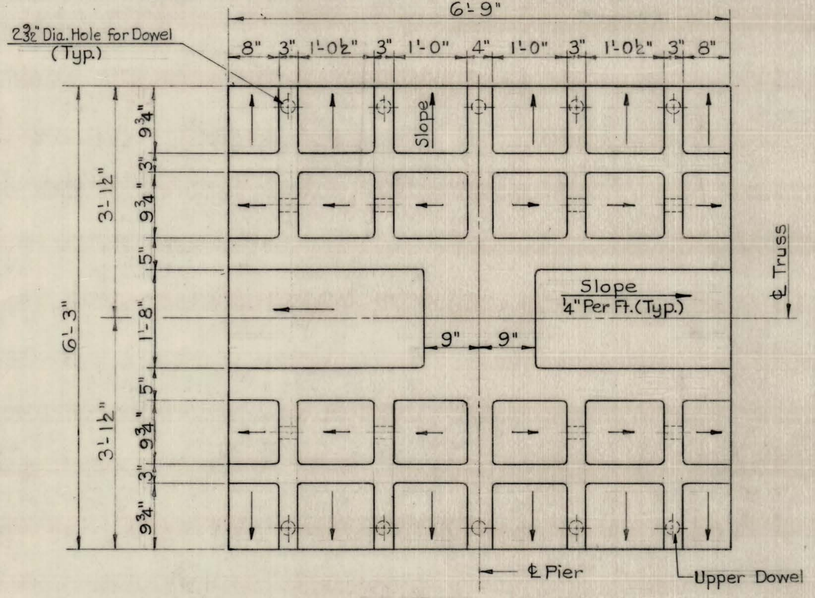
REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PPA CHECKED BY LAG DATE 3/11/76
DETAILED BY GHH CHECKED BY LAG DATE 3/11/76
TRACED BY T.M.E. CHECKED BY LAG DATE 3/11/76

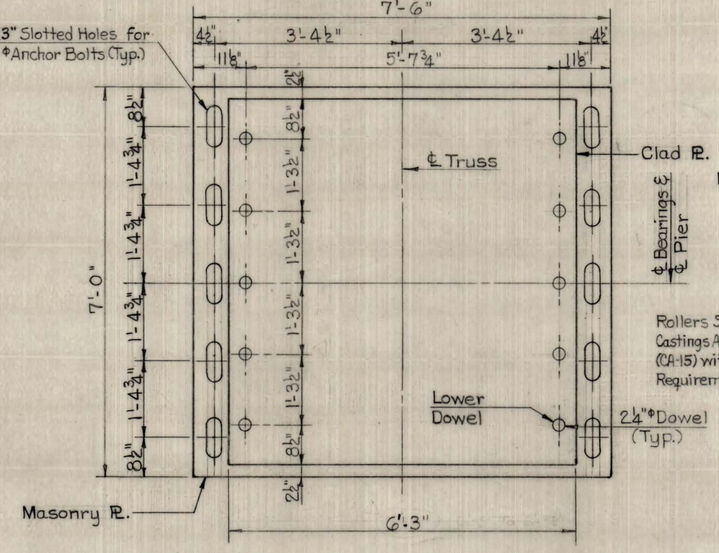
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	50 of 82

Elev. 616.9313 (Elev. Diff. 0.563)

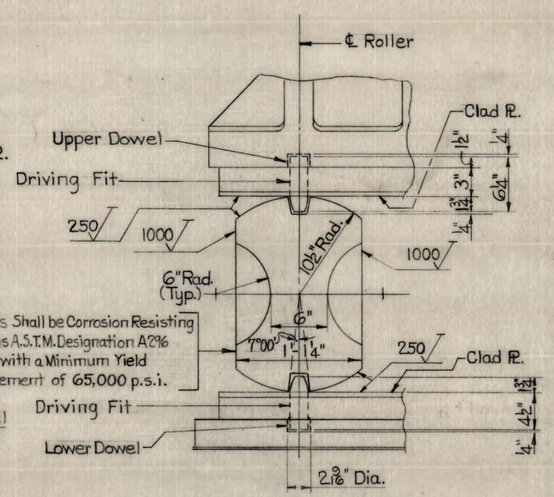
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	91	125



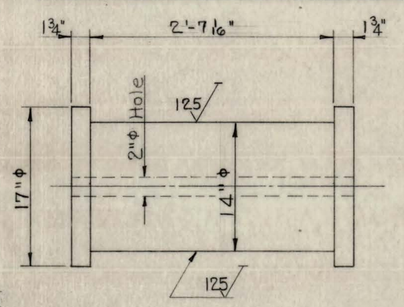
SECTION A-A



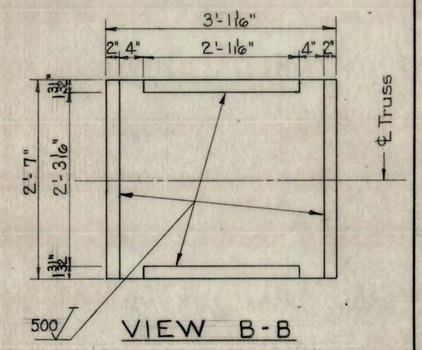
MASONRY PLATE WITH CLAD PLATE



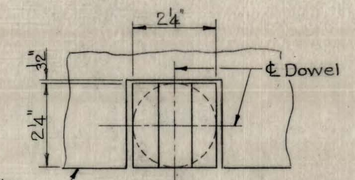
ROLLER DETAIL



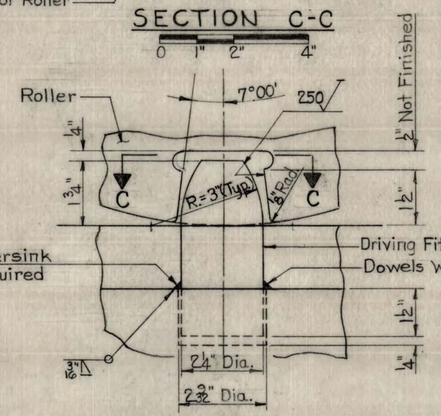
PIN DETAIL
No Scale



VIEW B-B

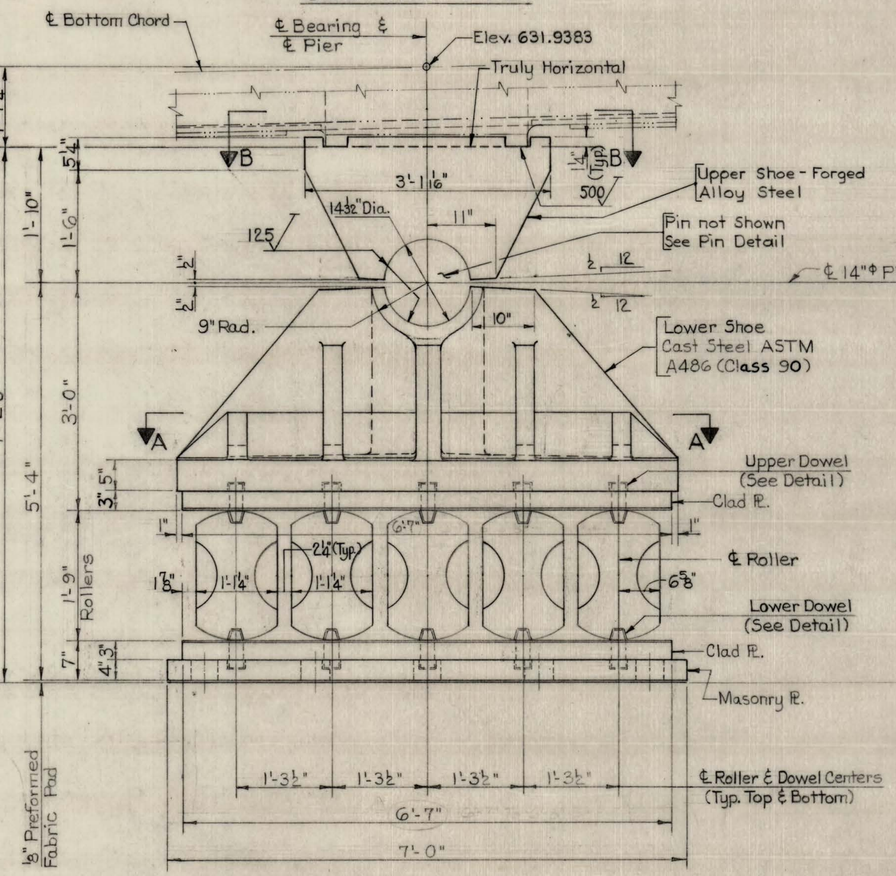


SECTION C-C

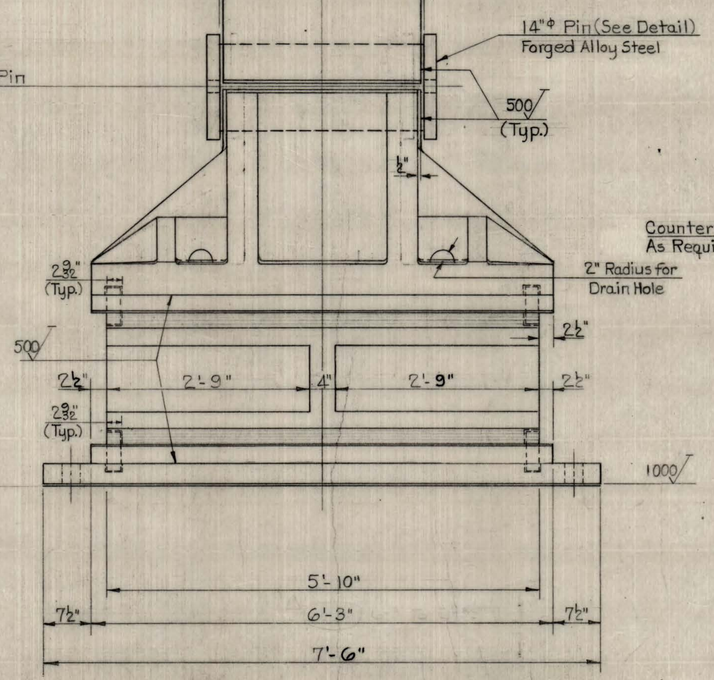


DOWEL DETAIL

Notes:
- For Notes See Dwg. of "Fixed Shoe At Pier 8".



ELEVATION



SIDE VIEW

0 1' 2' 3'
Except As Noted

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
EXPANSION SHOE AT PIER 7

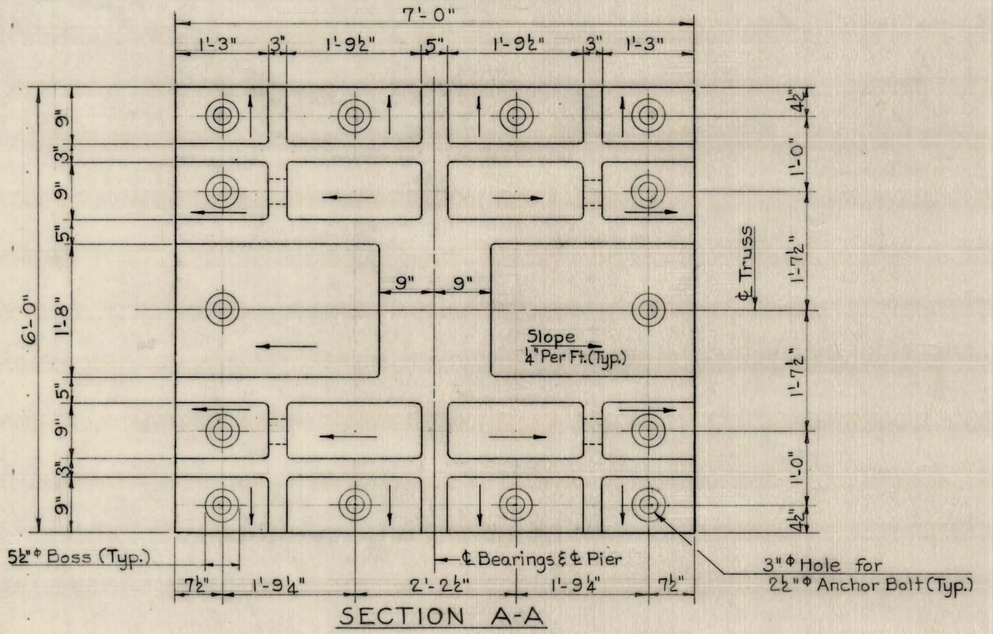
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

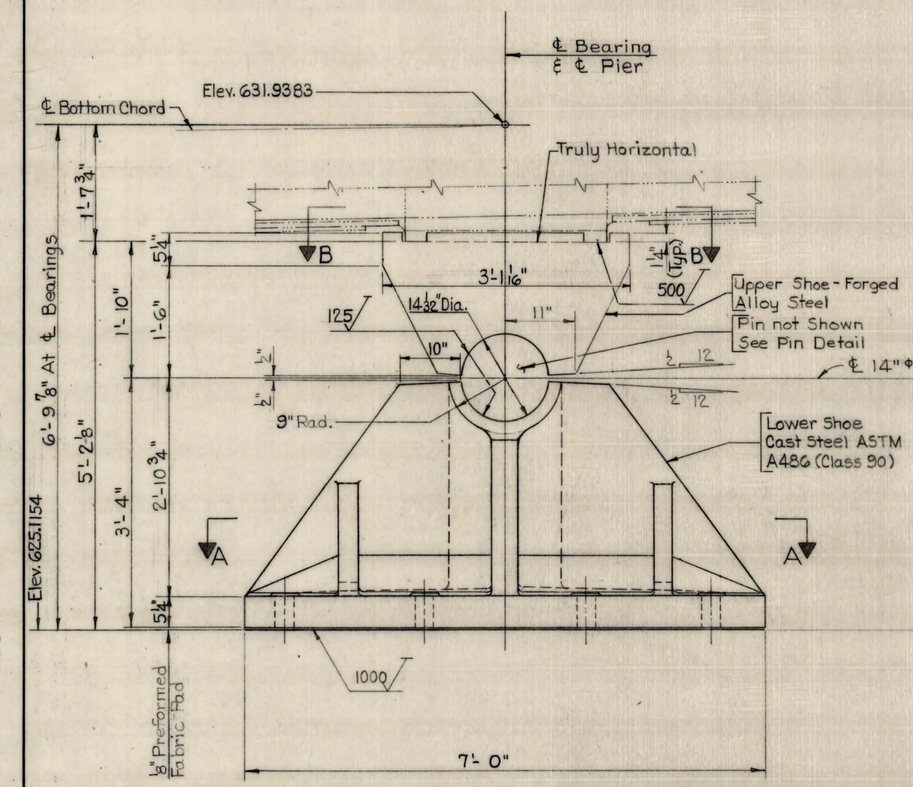
DESIGNED BY APA CHECKED BY LAG DATE 3/11/76
DETAILED BY G.H.H. CHECKED BY LAG DATE 3/11/76
TRACED BY G.H.H. CHECKED BY LAG DATE 3/11/76

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	51 of 82

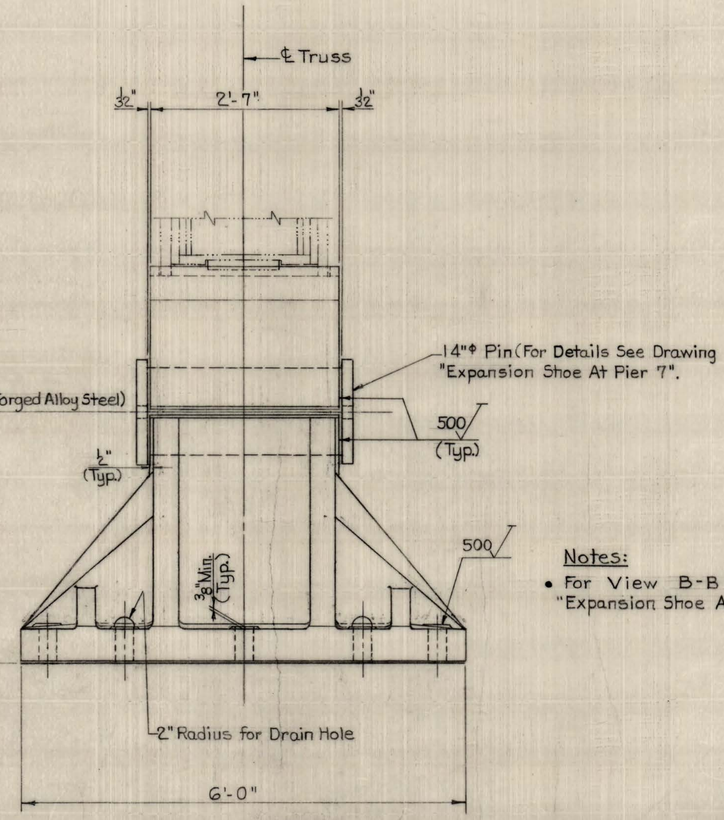
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson,W.Va. Meigs, Ohio	92	125



SECTION A-A



ELEVATION



SIDE VIEW

NOTES FOR SHOES AT PIERS 7 AND 8

- CAST STEEL MATERIAL SHALL CONFORM TO ASTM SPECIFICATIONS A296, GRADE CA15 AND A486, CLASS 90 AS NOTED ON THE DRAWINGS.
- FORGED ALLOY STEEL MATERIAL SHALL CONFORM TO ASTM SPECIFICATION A 668-72 CLASS G
- DOWELS SHALL BE ASTM A276 STAINLESS STEEL WITH A MINIMUM YIELD STRENGTH OF 80,000 PSI.
- CLAD PLATES SHALL BE INTEGRALLY BONDED BIMETALIC CHROMIUM STEEL PLATES CONFORMING TO THE ASTM A263 SPECIFICATION WITH A SINGLE CLAD 1/4" THICK ON THE SIDE IN CONTACT WITH THE ROLLERS. THE CLAD METAL SHALL CONFORM TO ASTM A666 STAINLESS STEEL, GRADE C, WITH A 75,000 PSI YIELD STRENGTH AND THE BASE MATAL SHALL CONFORM TO ASTM A588 STRUCTURAL STEEL WITH A 50,000 PSI YIELD STRENGTH. IN LIEU OF THE CLAD PLATES THE CONTRACTOR MAY SUBSTITUTE 3" STAINLESS STEEL PLATES CONFORMING TO THE ASTM SPECIFICATION A666, GRADE C, WITH A 75,000 PSI YIELD STRENGTH, AT HIS OPTION AND AT NO ADDITIONAL COST TO THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS.
- MASONRY PLATES SHALL BE ASTM A36 STRUCTURAL STEEL.
- FILLETS ON CASTINGS SHALL HAVE A MINIMUM OF 1" RADIUS.
- MACHINED SURFACES SHALL BE FINISHED TO THE SURFACE ROUGHNESS SHOWN ON THE DRAWINGS.
- SHOES SHALL BE COMPLETELY SHOP ASSEMBLED, CHECKED FOR TRUE FIT, FREEDOM OF MOVEMENT AND MATCH MARKED. CENTERLINES SHALL BE SCRIBED ON SOLE PLATE AND LOWER SHOES AND ON ENDS OF ROLLERS AND DOWELS.
- CENTERLINES OF ROLLERS IN THE EXPANSION SHOES SHALL BE VERTICAL AT 68° TEMPERATURE FAHRENHEIT.
- VOIDS AROUND ANCHOR BOLTS FOR PIER 7 SHALL BE FILLED WITH MOLTEN ZINC AFTER THE SHOE IS SET TRULY VERTICAL UNDER FULL DEAD LOAD.
- MINIMUM RADIOGRAPHS REQUIRED:
  - TWENTY FOUR FOR EACH CAST STEEL LOWER SHOE FOR PIER 7
  - SIXTEEN FOR EACH CAST STEEL LOWER SHOE FOR PIER 8
  - TWENTY-FIVE PERCENT OF THE SURFACE AREA OF EACH FORGED STEEL PIN.
  - TWENTY-FIVE PERCENT OF THE SURFACE AREA OF EACH CAST STEEL ROLLER.
- IN ADDITION TO THE RADIOGRAPHIC INSPECTION, MAGNETIC PARTICLE INSPECTION OR ULTRASONIC TESTING WILL BE REQUIRED AT AREAS DESIGNATED BY THE INSPECTOR.

Notes:

- For View B-B See Dwg. "Expansion Shoe At Pier 7."

0 1' 2' 3'

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PDA CHECKED BY LAG DATE 3/1/76
DETAILED BY G.H.H. CHECKED BY LAG DATE 3/1/76
TRACED BY — CHECKED BY — DATE —

CONTRACT NO. 4

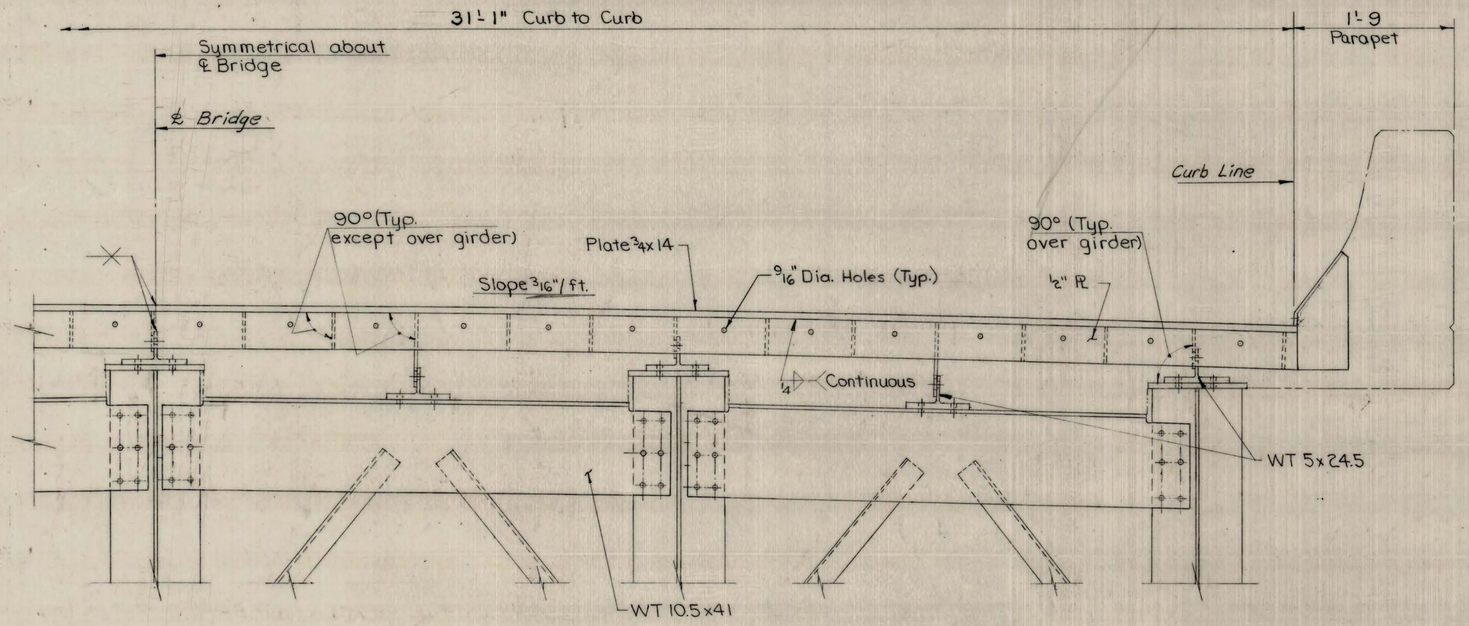
WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
FIXED SHOE AT PIER 8

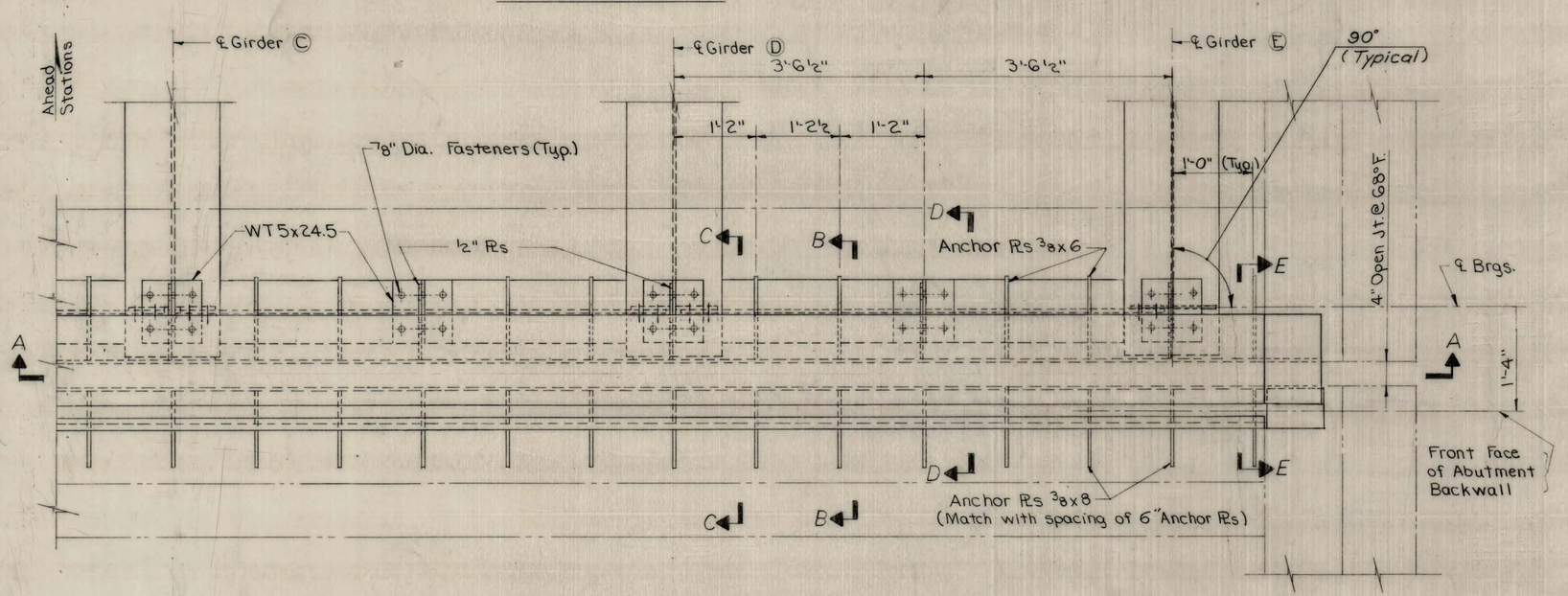
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	52 of 82

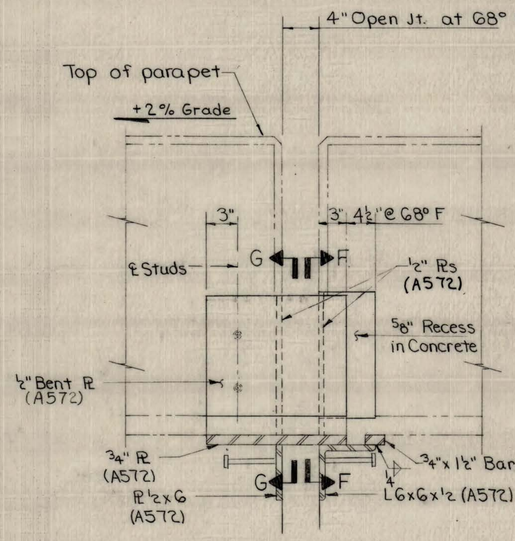
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson,W.Va. Meigs,Ohio	93	125



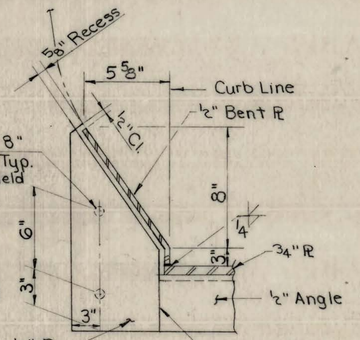
SECTION A-A



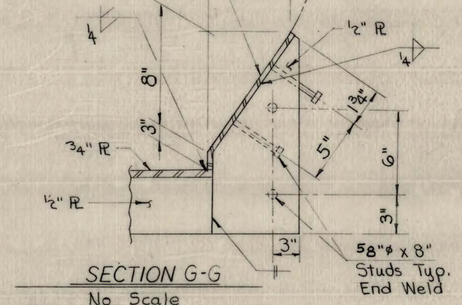
PART PLAN
No Scale



SECTION E-E



SECTION F-F



SECTION G-G
No Scale

NOTE:

- For Sections B-B, C-C and D-D, see Dwg. "Details for Plate Expansion Dam at Abutment A."

CONTRACT NO. 4

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
PLATE EXPANSION DAM
AT ABUTMENT A

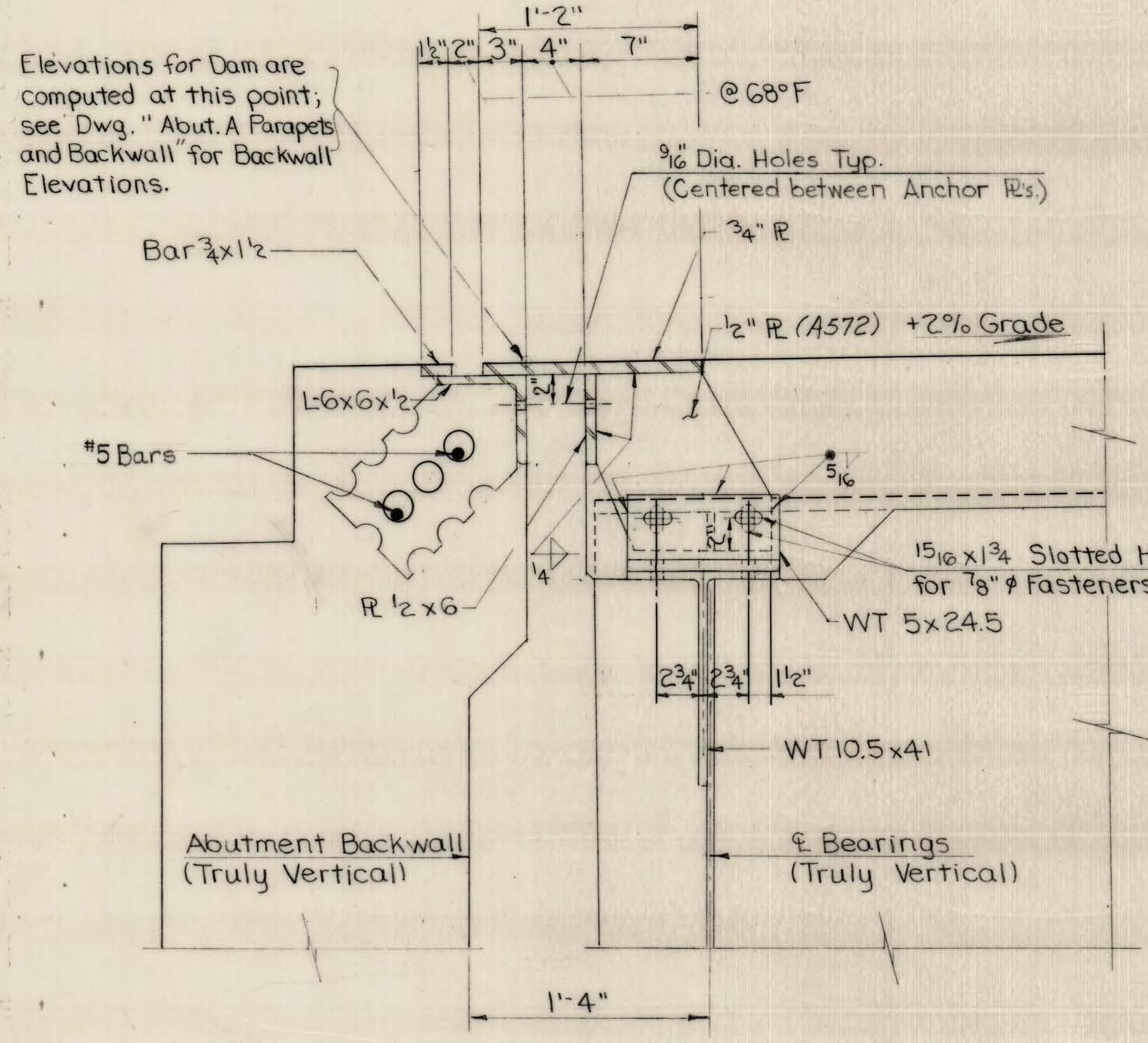
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

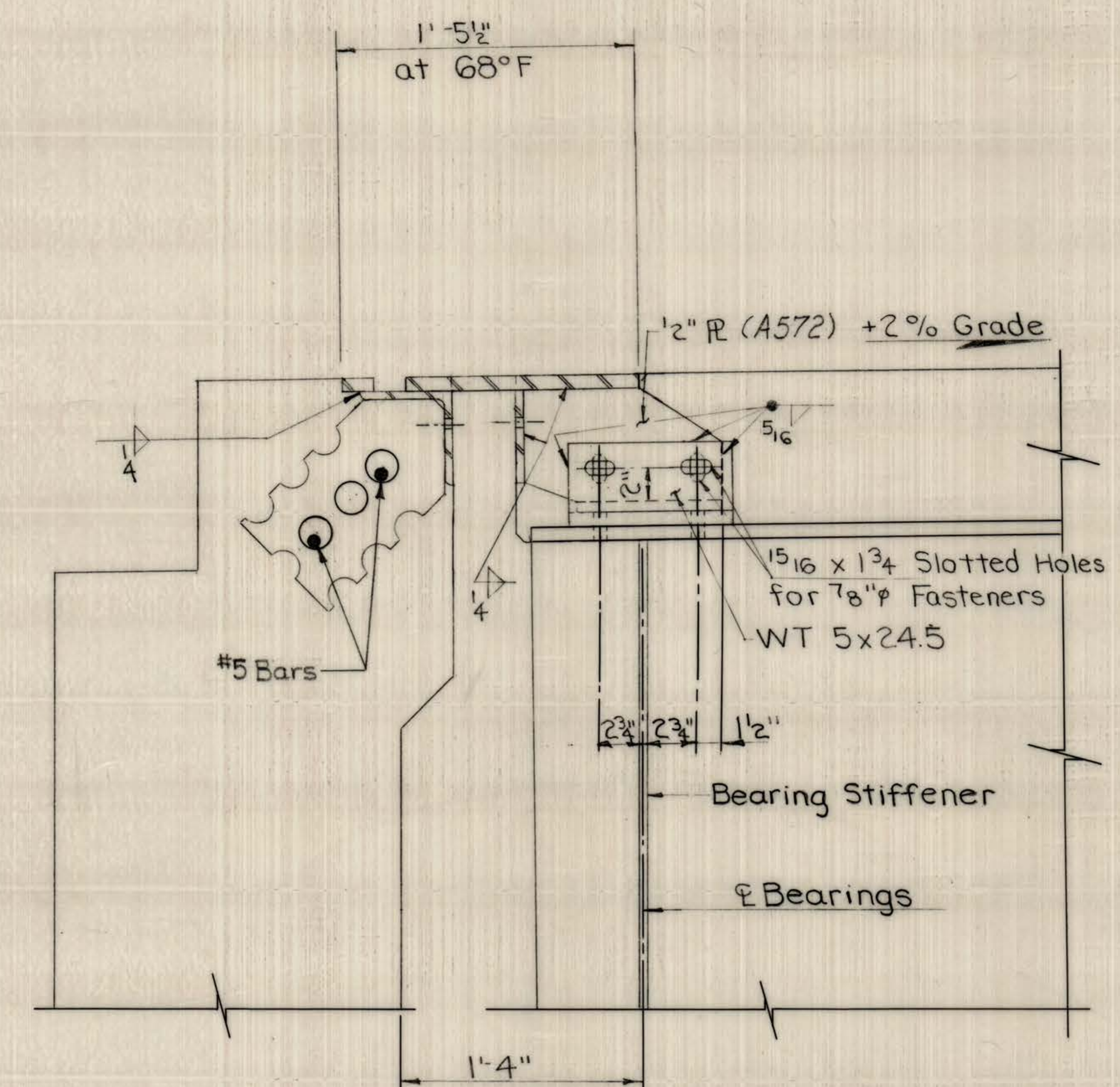
DESIGNED BY [illegible] CHECKED BY GGB DATE 2/23/76
DETAILED BY JMG CHECKED BY [illegible] DATE 3/1/78
TRACED BY JMG CHECKED BY [illegible] DATE 3/1/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	53 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson,W.Va. Meigs,Ohio	94	125

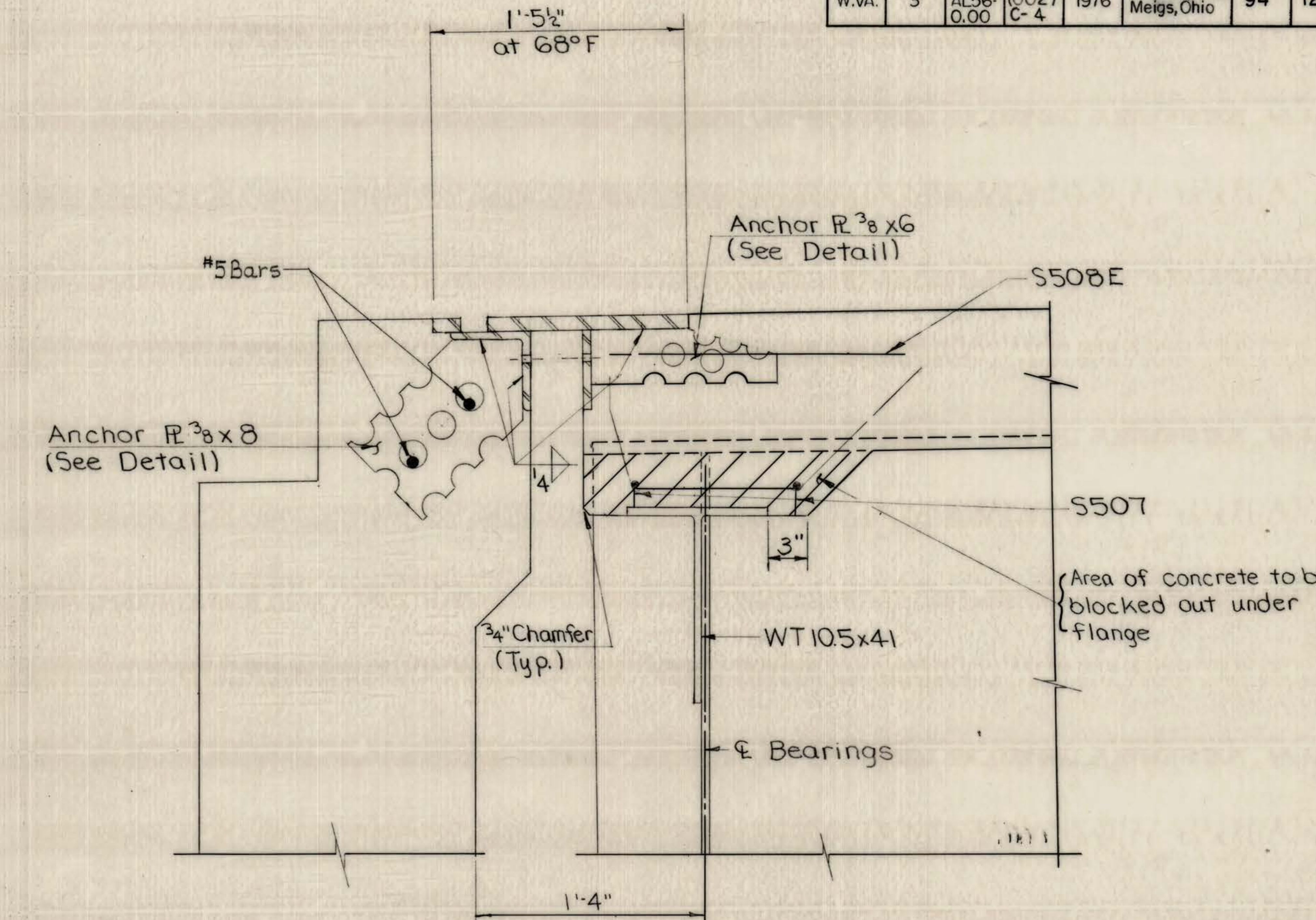


SECTION D-D

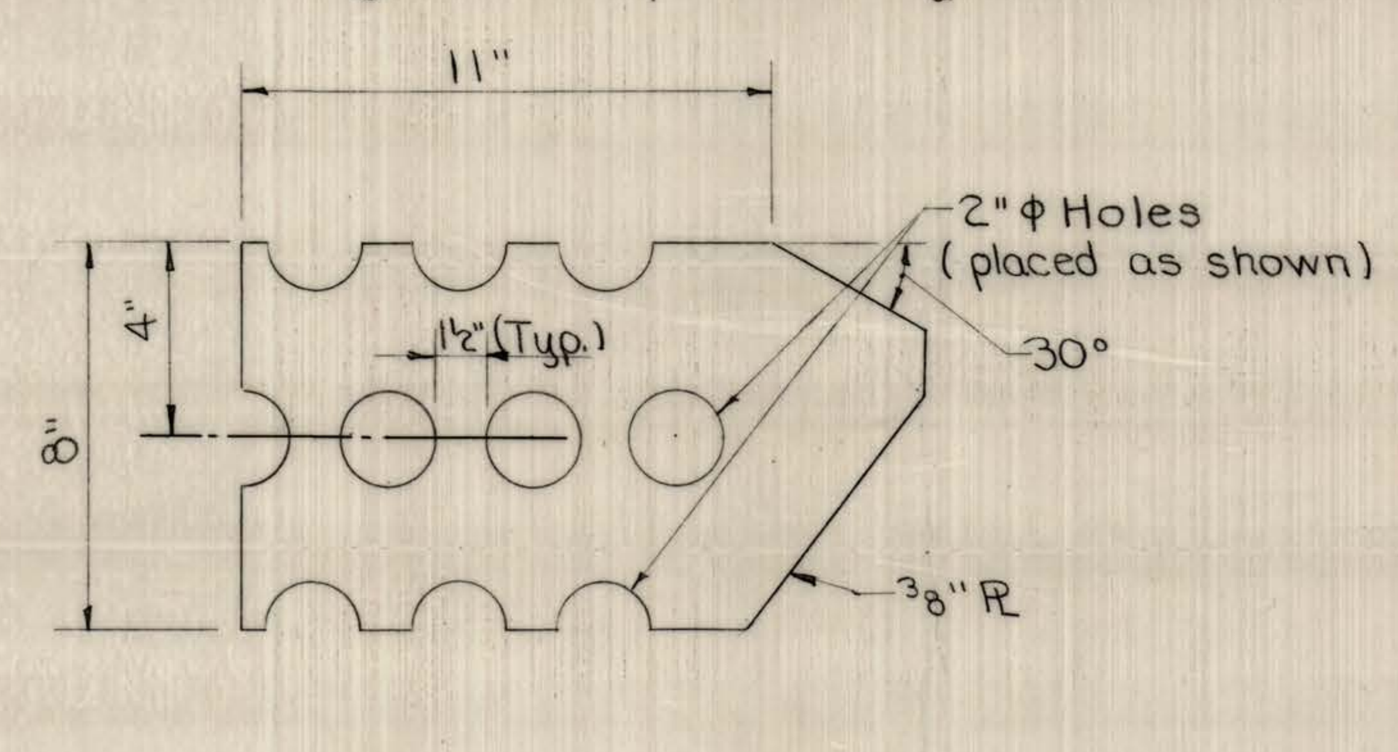


SECTION C-C

0 1' 2'

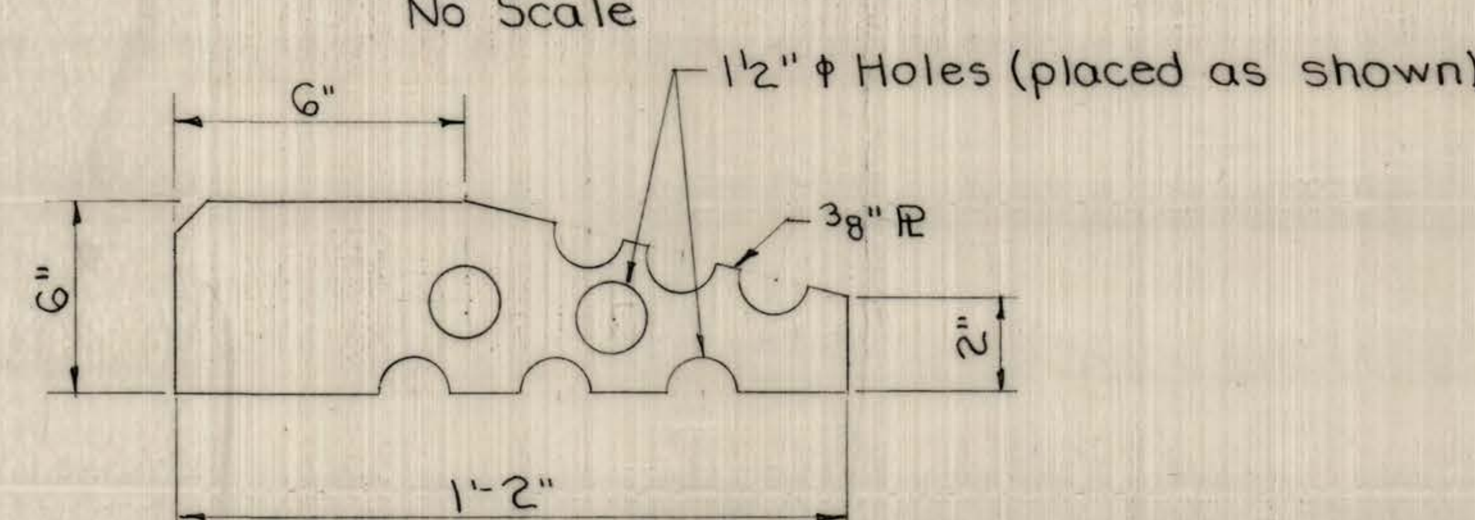


SECTION B-B



⅜"x 8" ANCHOR PLATE DETAIL

No Scale



⅜"x 6" ANCHOR PLATE DETAIL

No Scale

ERECTION and SHIPPING NOTE:

After fabrication and prior to shipment, the two main dam components shall be fastened together with angles, bars, etc., so as to conform to the roadway grade and crown. After erection and just prior to the set of the last concrete pour, the angles, bars, etc., shall be removed.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
DETAILS FOR PLATE EXPANSION DAM
AT ABUTMENT A

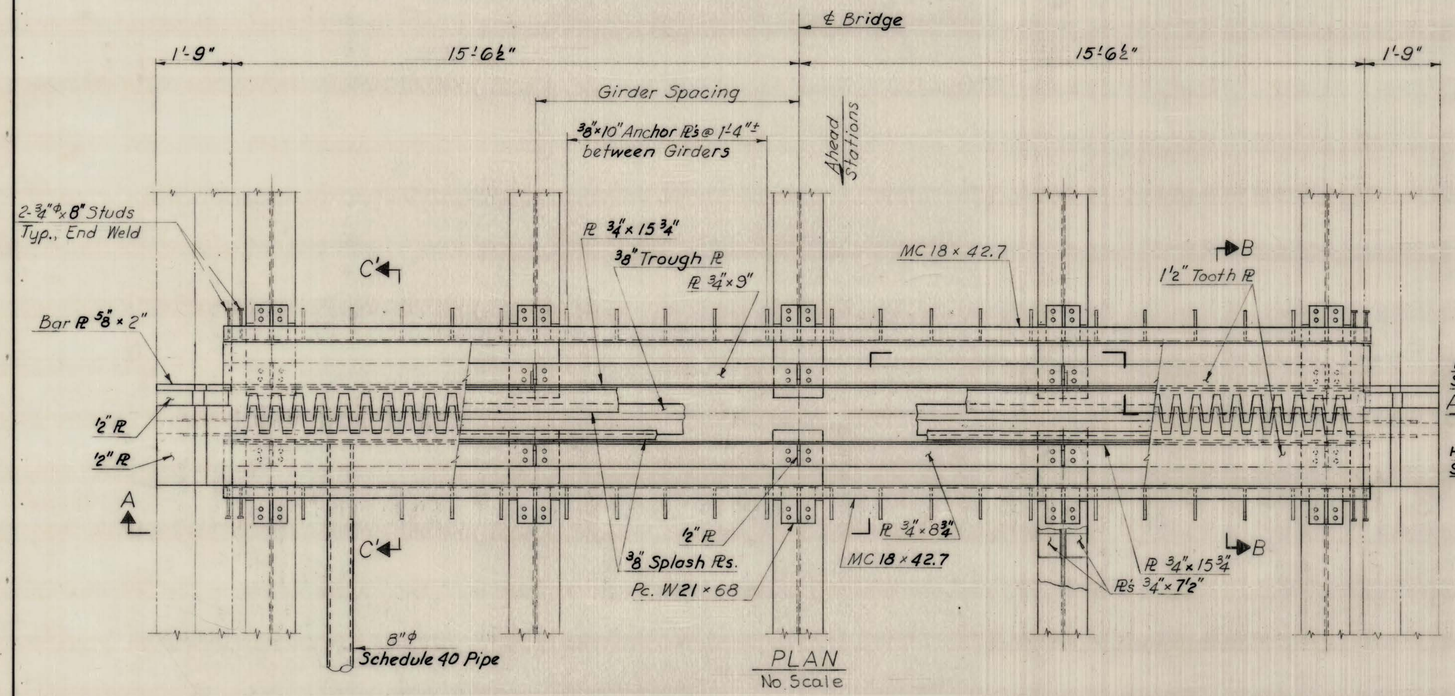
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

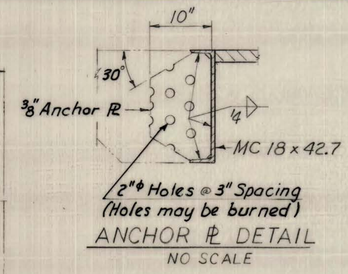
REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY RRB CHECKED BY GCR DATE 2/23/76
DETAILED BY MG CHECKED BY RB 1668 DATE 3/1/78
TRACED BY MG CHECKED BY RB 1668 DATE 3/1/78

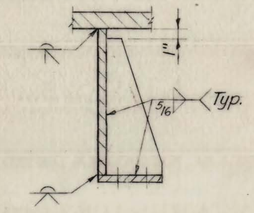
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	54 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56 0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	95	125

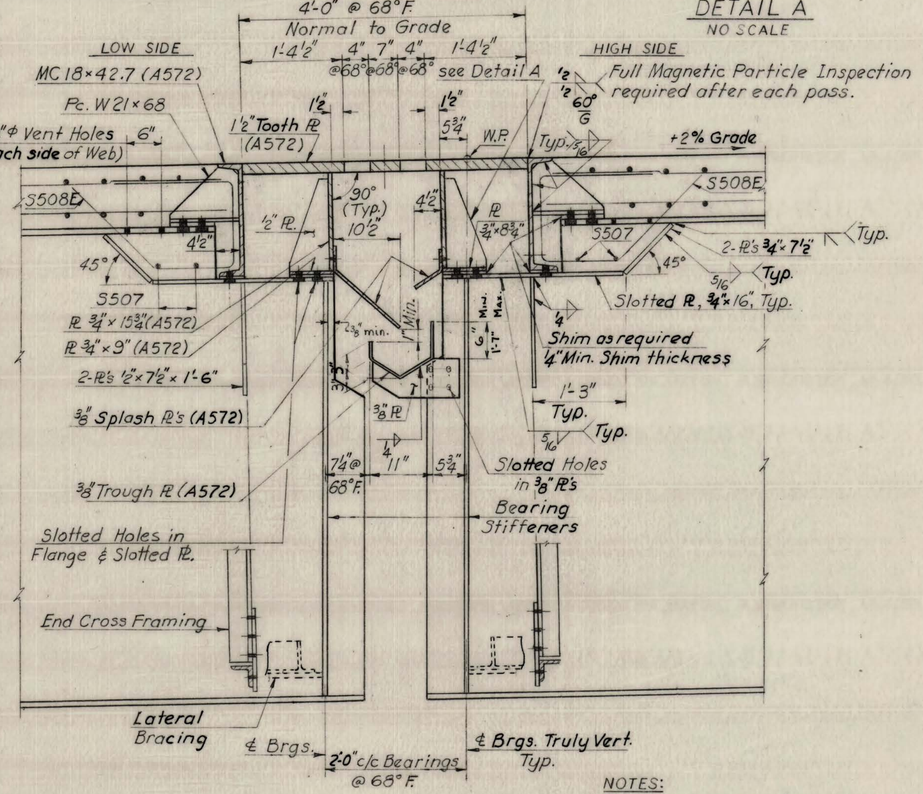




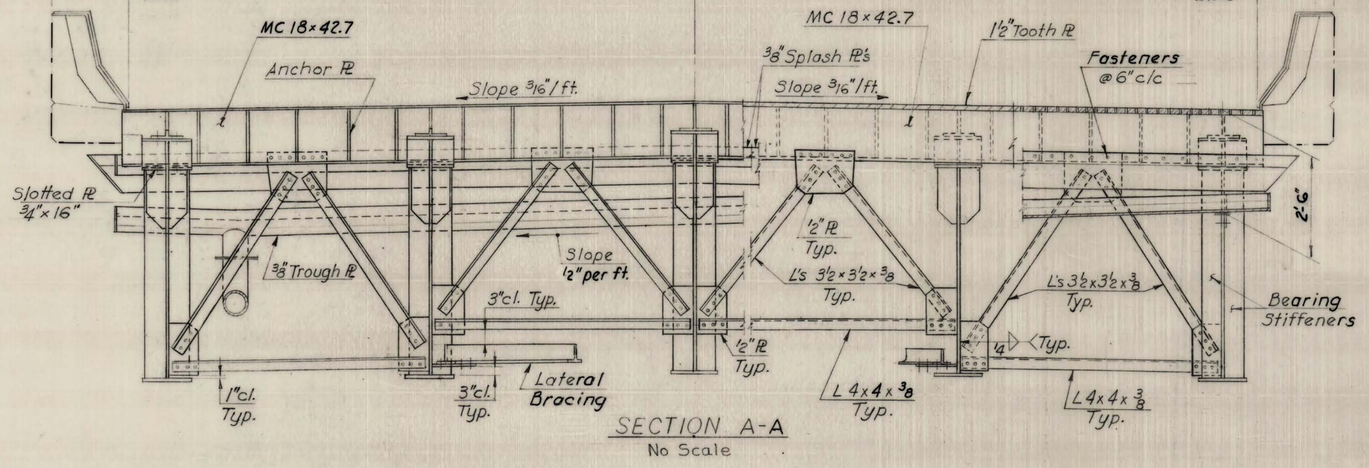
ANCHOR Pl DETAIL
NO SCALE



DETAIL A
NO SCALE



SECTION B-B
0 1' 2' 3'



SECTION A-A
No Scale

NOTES:

- For Notes see Dwg. "Tooth Expansion Dam at Pier Nº 6".
- For Section C-C' see Dwg. "Tooth Dam and Drainage Details for Dams of Piers 3, 6 & 9."

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TOOTH EXPANSION DAM AT PIER NO. 3

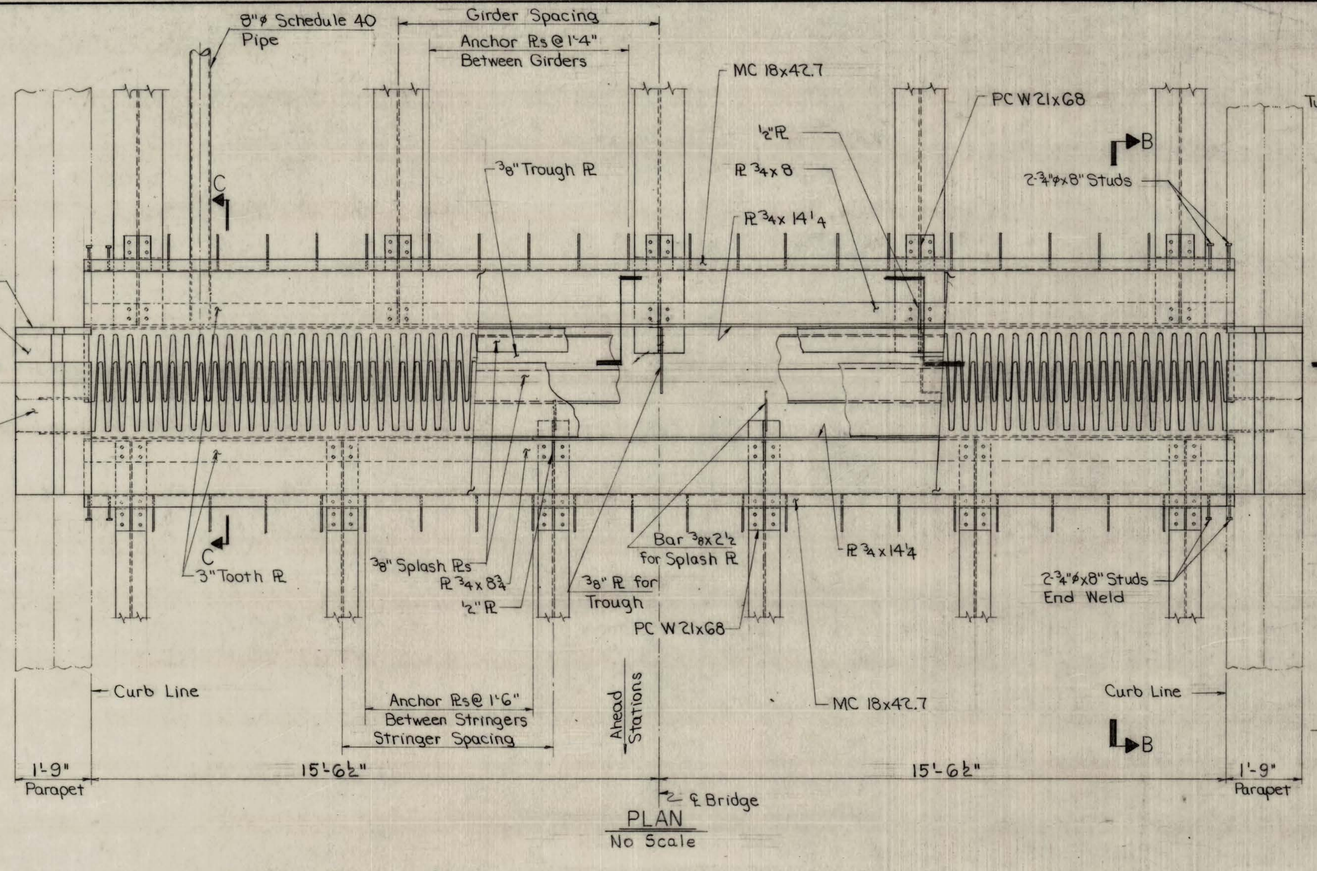
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

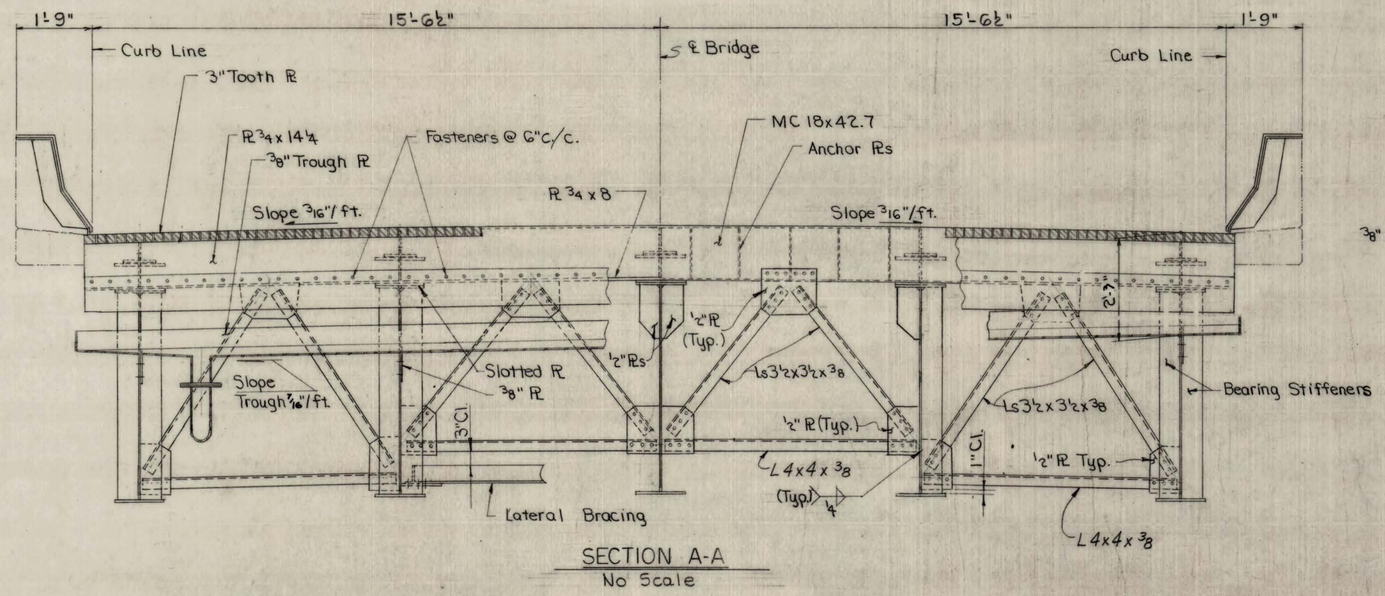
DESIGNED BY JCE CHECKED BY GSB DATE 2/23/76
DETAILED BY JCE CHECKED BY GSB DATE 3/11/76
TRACED BY JCE CHECKED BY GSB DATE 3/11/76

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	55 of 82

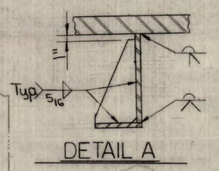
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338(002) C-4	1976	Jackson, W.Va. Meigs, Ohio	96	125

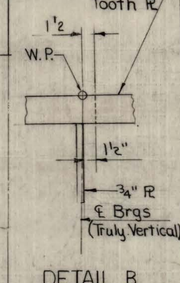


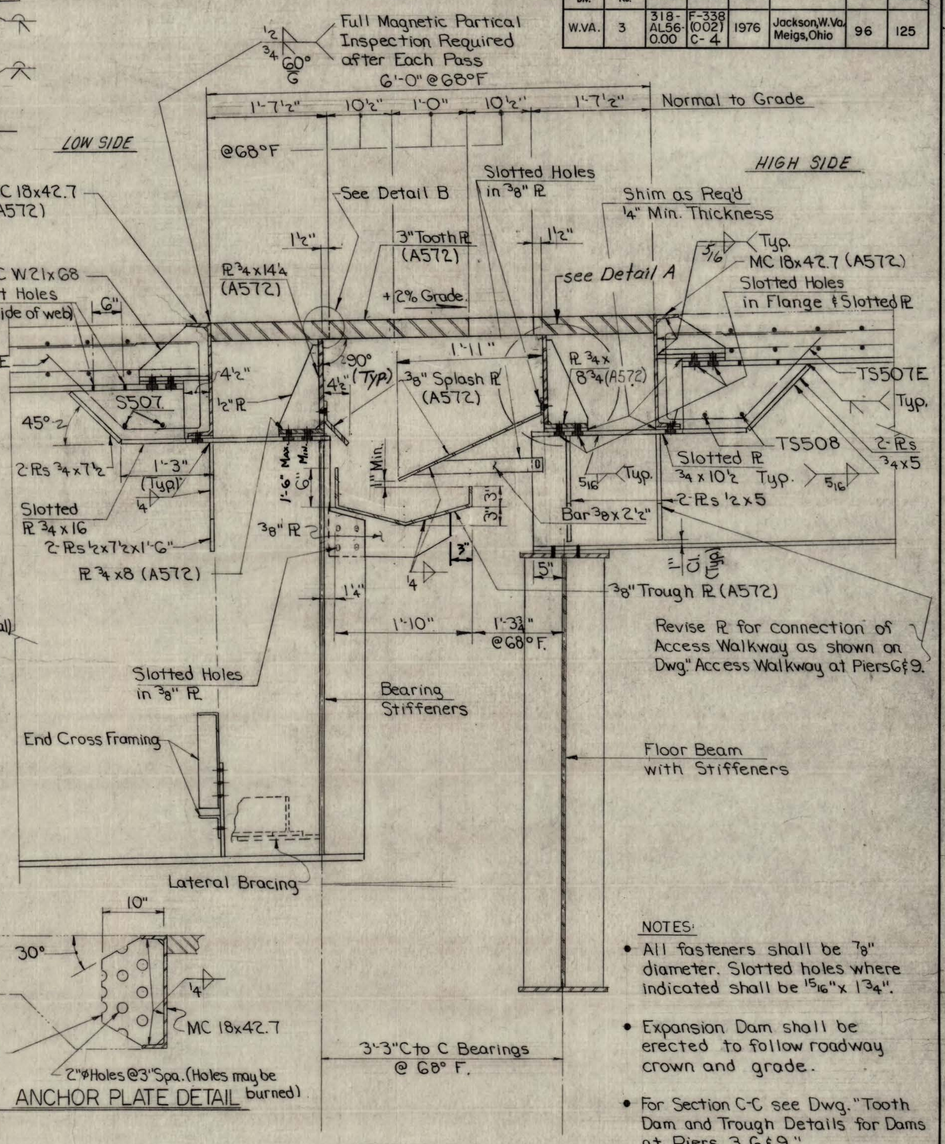
PLAN
No Scale



SECTION A-A
No Scale







ANCHOR PLATE DETAIL

3'-3" C to C Bearings @ 68° F.

SECTION B-B
0 6" 1' 2'

NOTES:

- All fasteners shall be ⅞" diameter. Slotted holes where indicated shall be 15/16" x 1¾".
- Expansion Dam shall be erected to follow roadway crown and grade.
- For Section C-C see Dwg. "Tooth Dam and Trough Details for Dams at Piers 3, 6 & 9."
- 3" Tooth Plate shall be ASTM A588 Steel with the following Design Unit Stresses: FS = 27,000 psi ; Fy = 50,000 psi.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TOOTH EXPANSION DAM AT PIER NO. 6

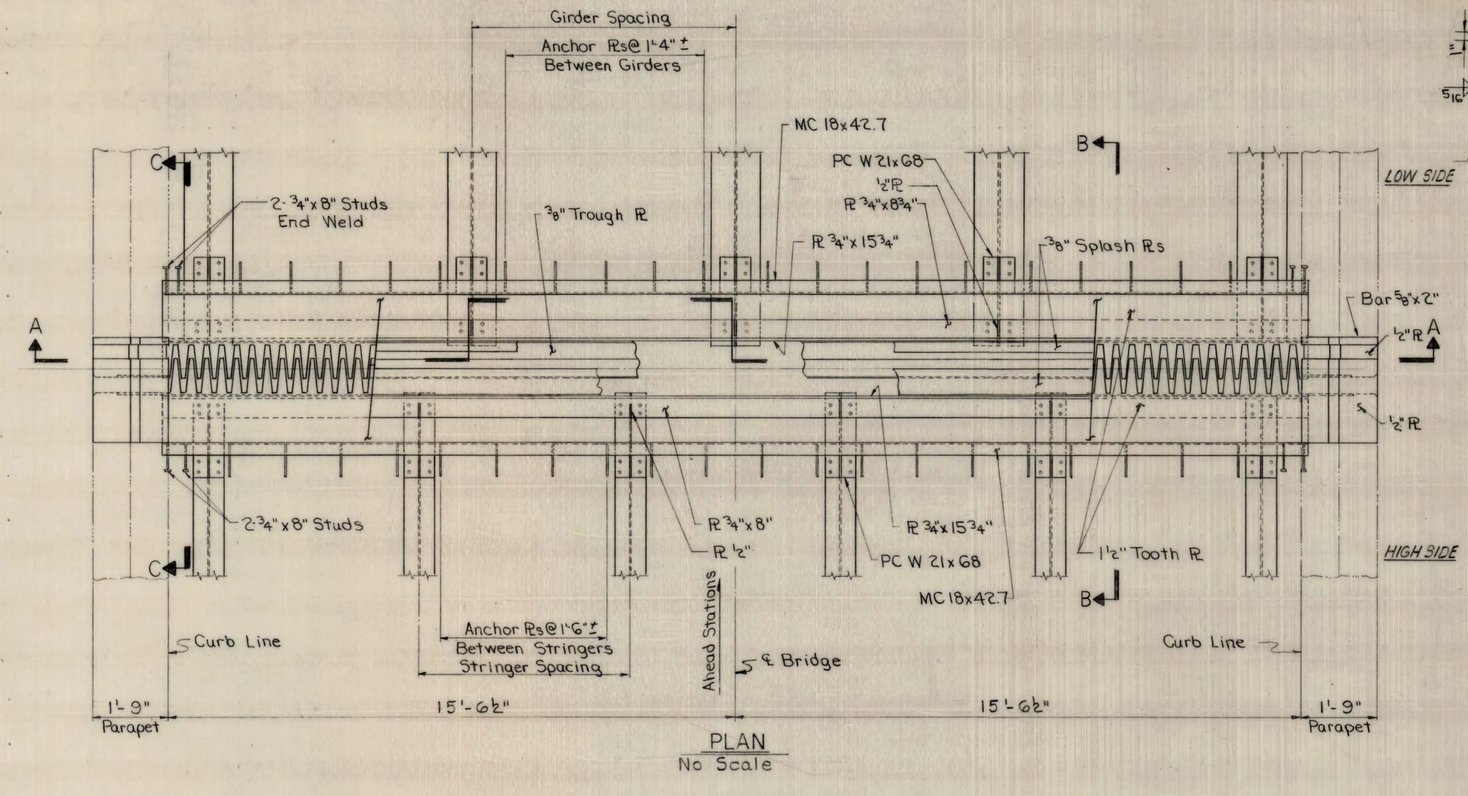
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

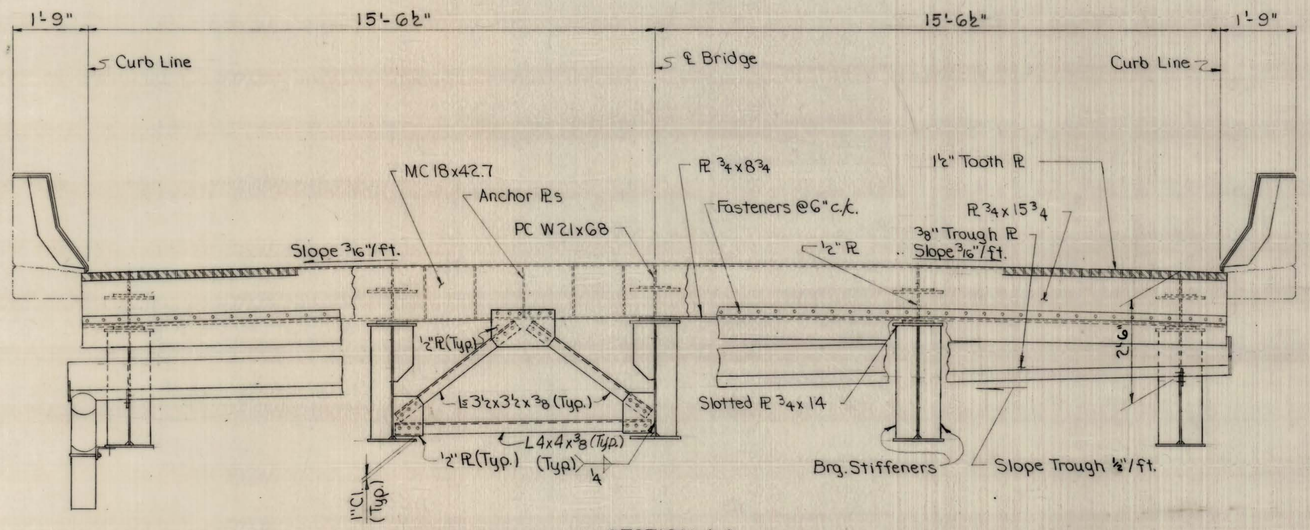
REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

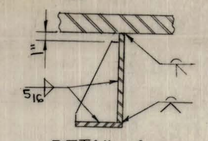
DESIGNED BY TJB CHECKED BY GGB DATE 2/23/76
DETAILED BY TJS CHECKED BY GGB DATE 3/1/76
TRACED BY ____ CHECKED BY GGB DATE 3/1/76

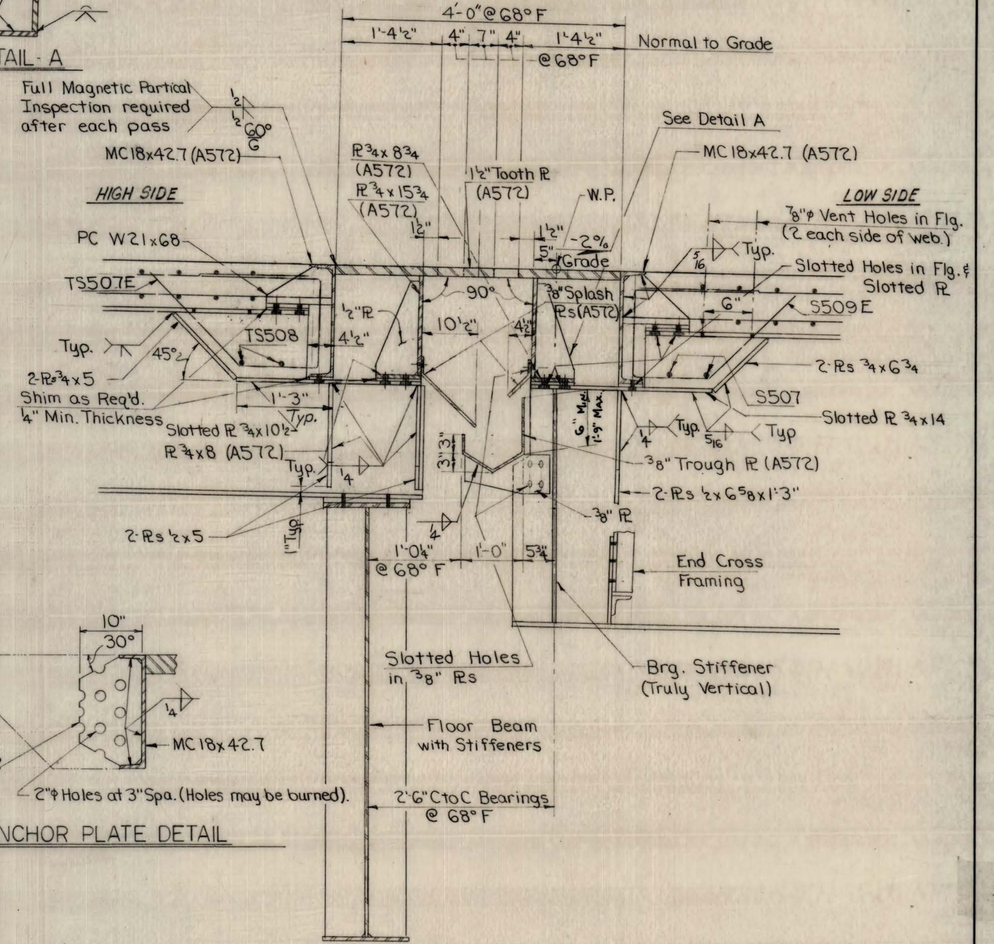
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	56 of 82

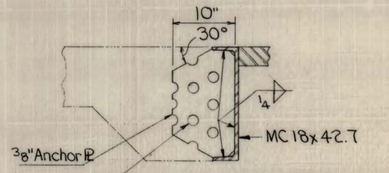
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	97	125











ANCHOR PLATE DETAIL

SECTION B-B

0 6" 1' 2'

NOTES:

- For Notes see Dwg." Tooth Exp. Dam at Pier No. 6"
- For Section C-C see Dwg. "Tooth Dam and Drainage Details for Dam at Pier 9"

CONTRACT NO. 4

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD

TOOTH EXPANSION DAM AT PIER NO. 9

MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS

CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

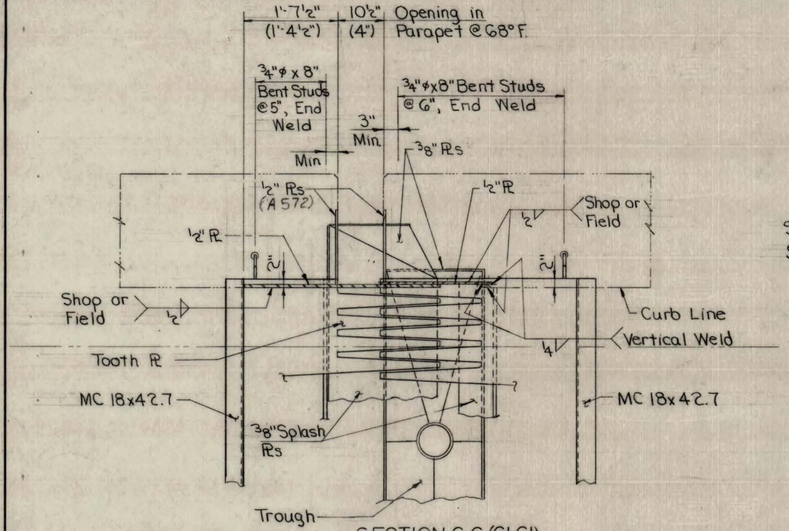
DESIGNED BY JTB CHECKED BY GGB DATE 2/23/76

DETAILED BY JTJS CHECKED BY GGB DATE 3/1/76

TRACED BY JMG CHECKED BY GGB DATE 3/1/76

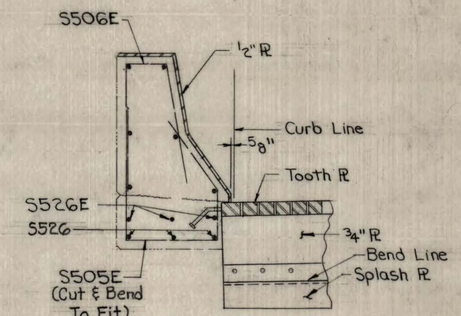
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	57 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	98	125



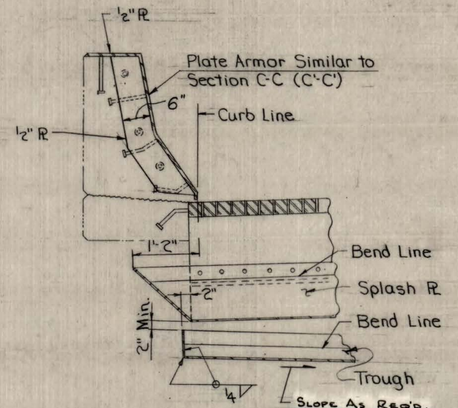
SECTION G-G (G'-G')

0 6" 1' 2'



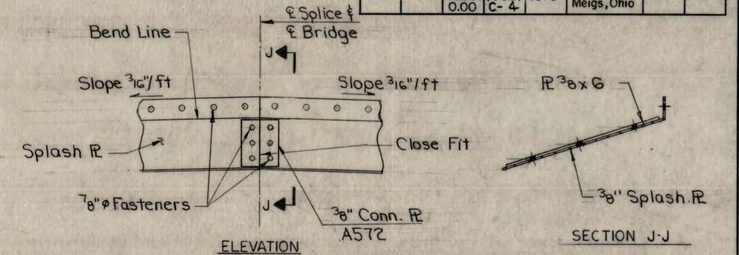
SECTION F-F

No Scale



SECTION AT HIGH END OF TROUGH

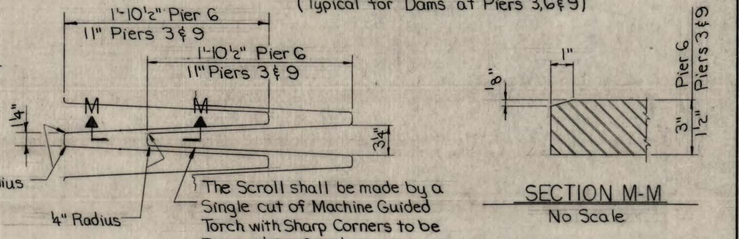
No Scale



OPTIONAL FIELD SPLICE OF SPLASH PLATES

0 6" 1' 2'

(Typical for Dams at Piers 3, 6 & 9)



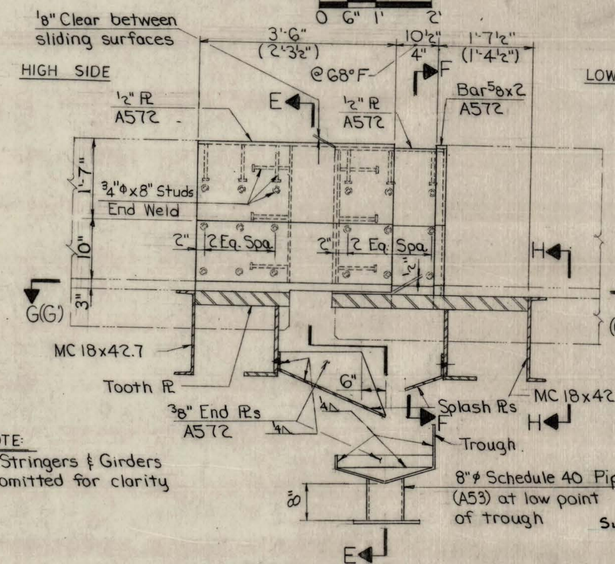
EXPANSION TOOTH DETAIL

No Scale

Typical for Dams at Piers 3, 6 & 9

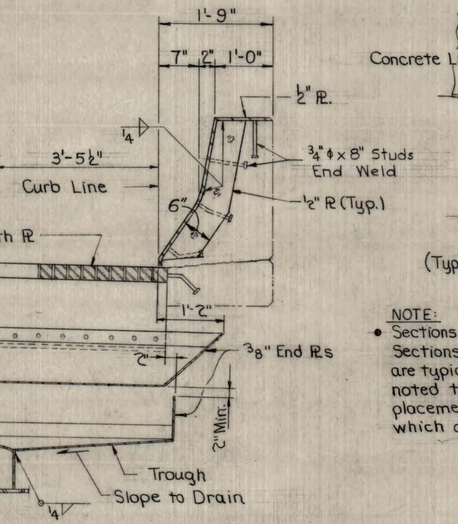
SECTION M-M

No Scale



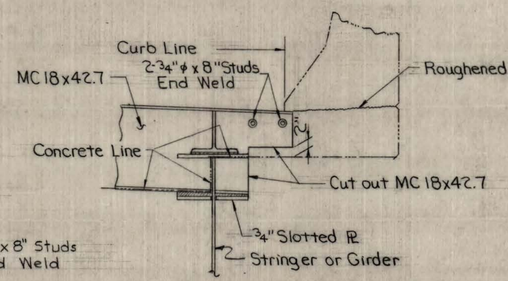
SECTION C-C (C'-C')

No Scale



SECTION E-E AT LOW END OF TROUGH

No Scale



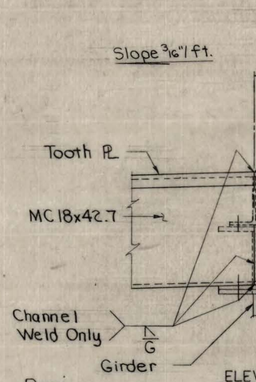
SECTION H-H

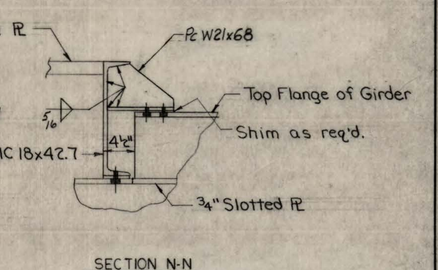
0 6" 1' 2'

(Typical for Dams at Piers 3, 6 & 9)

NOTE:

- Sections C-C and G-G are typical for Pier 6 Sections C'-C' and G'-G' are for Pier 3, and are typical to Sections C℄ and G-G except as noted thus ( ) and except for the placement of the trough and splash plates which are opposite hand than shown.





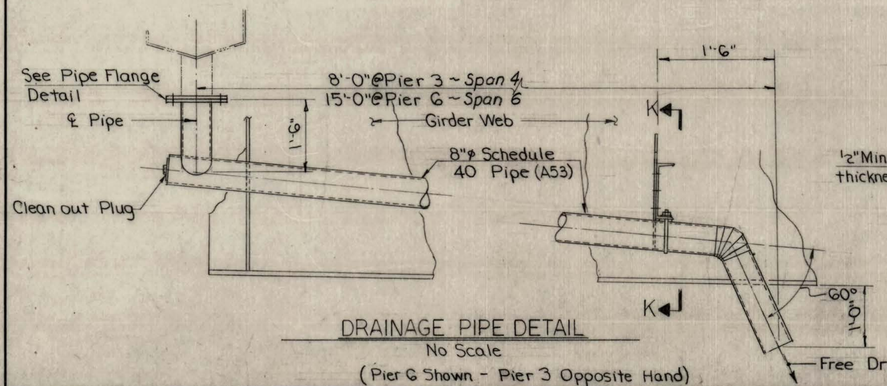
SHOP SPLICE OF CHANNEL ON GIRDER SIDE OF DAM

No Scale

(Typical for Dams at Piers 3, 6 & 9)

NOTE:

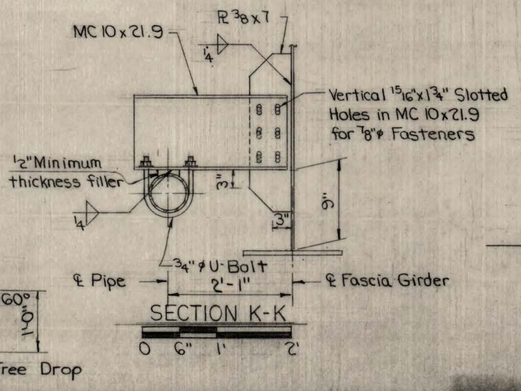
A Shop Splice of the channel on the stringer side of the dam at Piers 6 and 9 shall also be provided at the ℄ of the bridge. The web and flanges shall receive full penetration groove welds.



DRAINAGE PIPE DETAIL

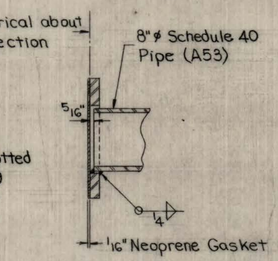
No Scale

(Pier 6 Shown - Pier 3 Opposite Hand)

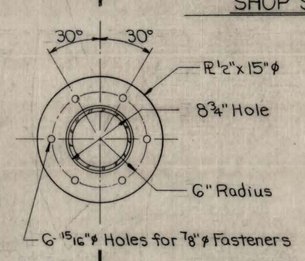


SECTION K-K

0 6" 1' 2'



SECTION D-D



PIPE FLANGE DETAIL

No Scale

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TOOTH DAM AND TROUGH DETAILS
FOR DAMS AT PIERS 3, 6 & 9

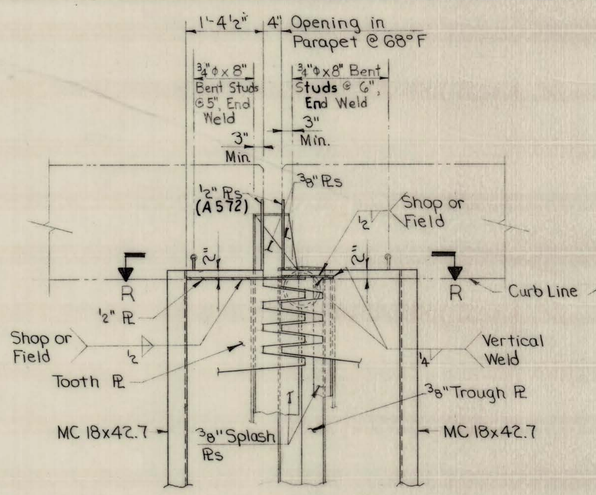
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY RAB CHECKED BY GGB DATE 2/23/76
DETAILED BY TJJ CHECKED BY GGB DATE 3/1/76
TRACED BY JMC CHECKED BY GGB DATE 3/1/76

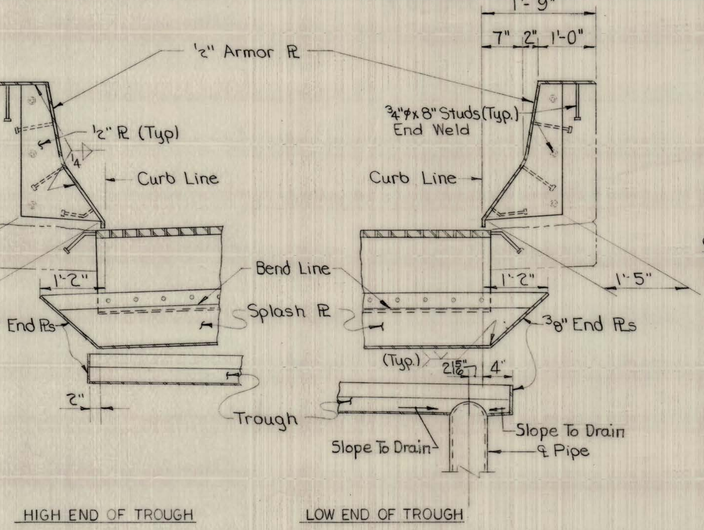
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	58 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338(002) C-4	1976	Jackson, W.Va. Meigs, Ohio	99	125



SECTION G-G

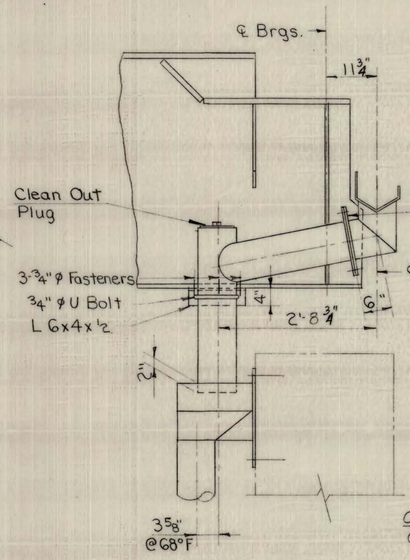
0 6" 1' 2'



PARAPET SECTIONS

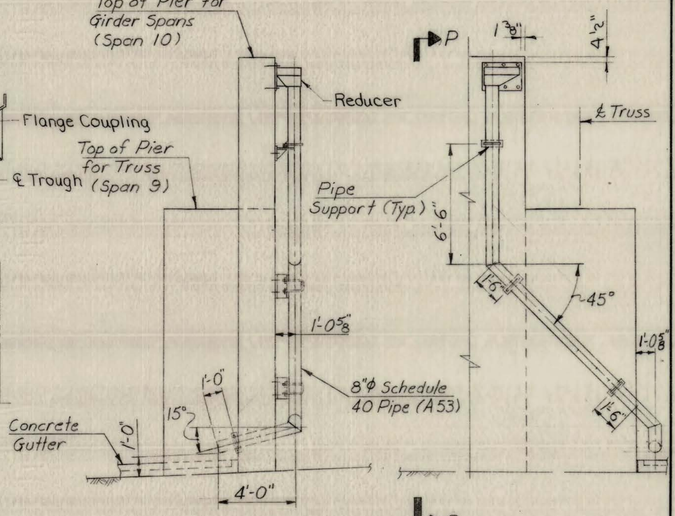
No Scale

(Looking Back Stations)



SECTION R-R

0 6" 1' 2'



VIEW P-P

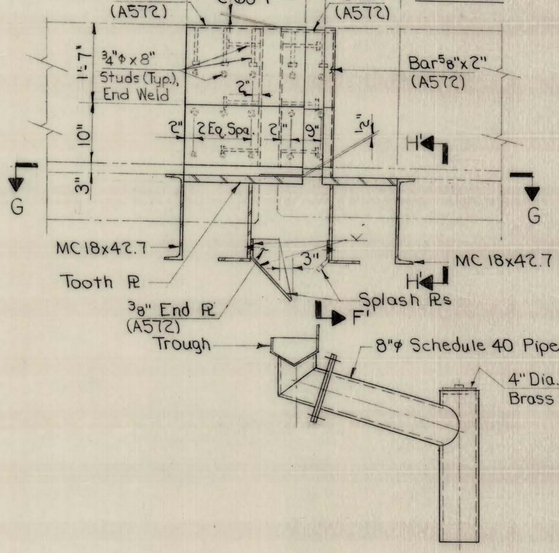
ELEVATION

(Looking Back Station)

PIER 9

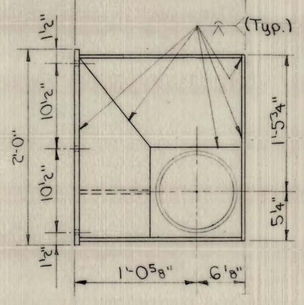
DOWNSPOUT DETAILS

0 2' 4' 6' 8'

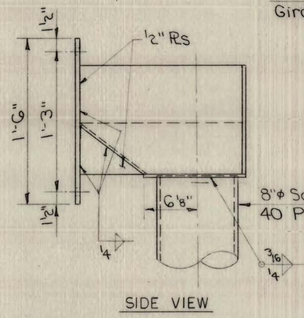


SECTION C-C

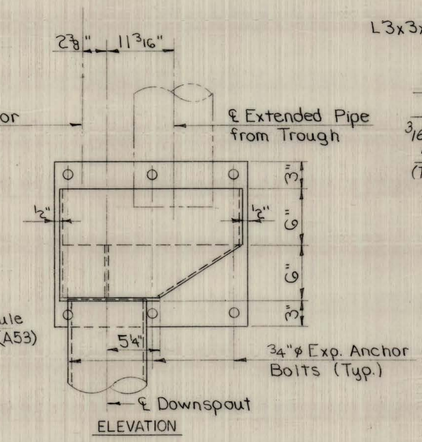
No Scale



PLAN



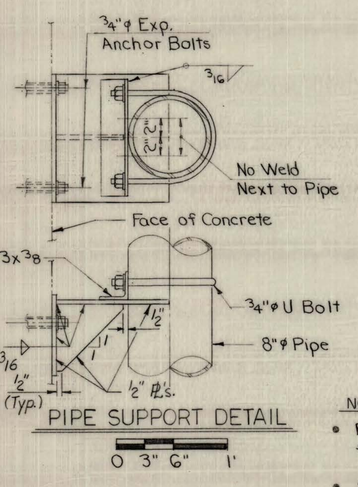
SIDE VIEW



ELEVATION

REDUCER DETAILS

0 6" 1' 2'



PIPE SUPPORT DETAIL

0 3" 6" 1'

NOTES:

- For Additional Details see Dwg. "Tooth Dam and Trough Details for Dams at Piers 3, 6 & 9.
- Section F'-F' and H'-H' are similar to Section F-F and H-H on Dwg. "Tooth Dam and Trough Details for Dams at Piers 3, 6 & 9."

Note:
For Reducer use ⅜" plates except where noted otherwise.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TOOTH DAM AND DRAINAGE DETAILS
FOR DAM AT PIER 9

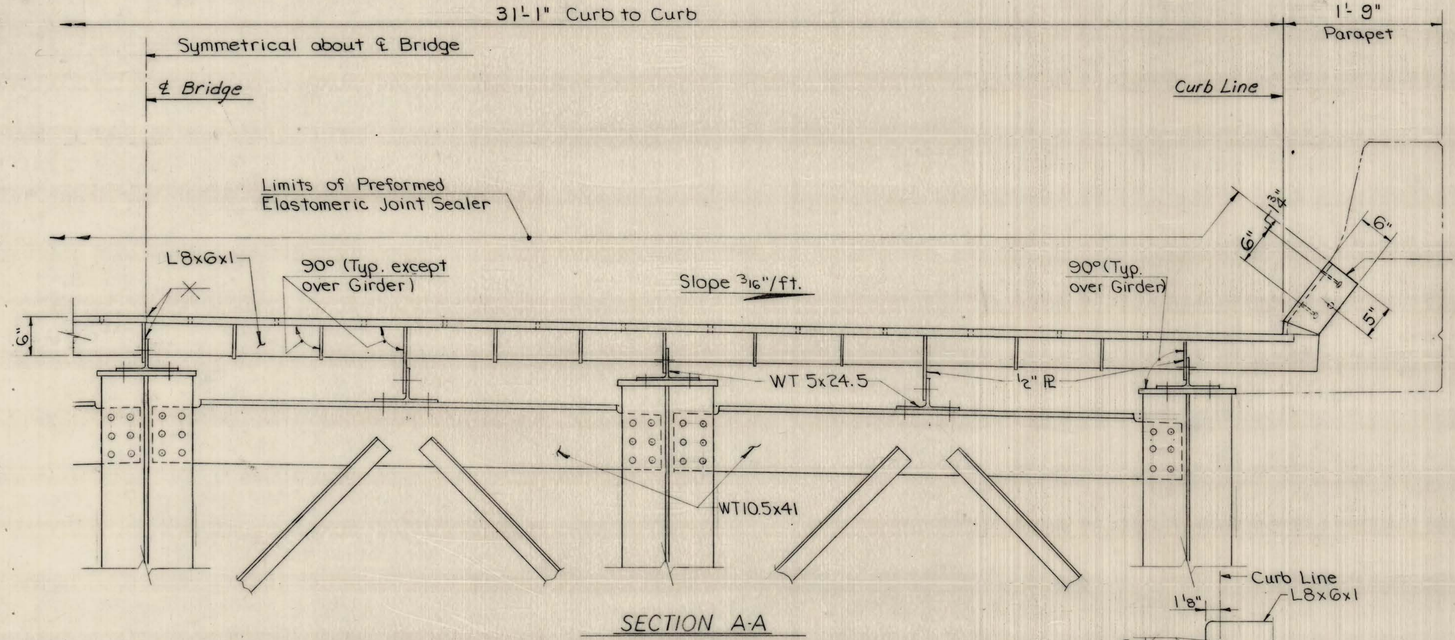
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

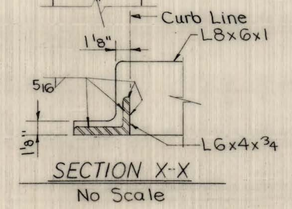
DESIGNED BY RHB CHECKED BY RAB DATE 2/23/76
DETAILED BY JMG CHECKED BY RAB/RAR DATE 3/1/78
TRACED BY MG CHECKED BY RAB/RAR DATE 3/1/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	59 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	100	125



SECTION A-A



SECTION X-X
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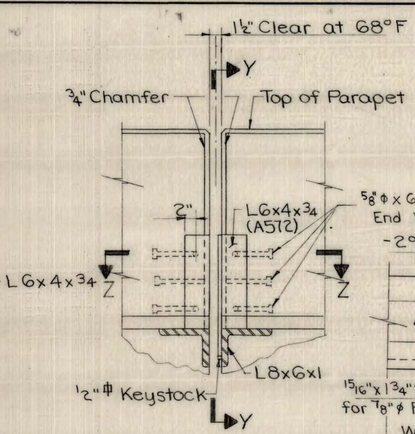
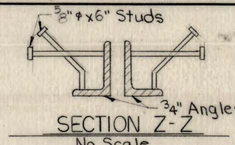


SECTION E-E
No Scale



SECTION Z-Z
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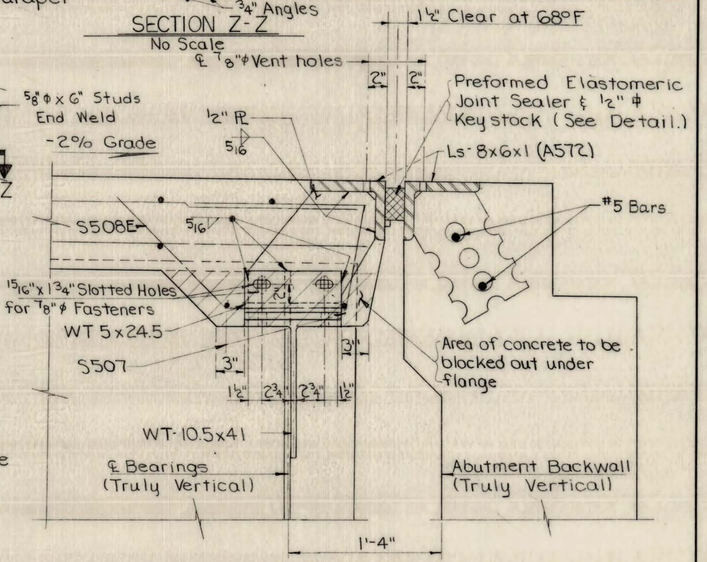
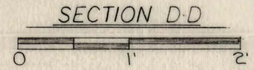
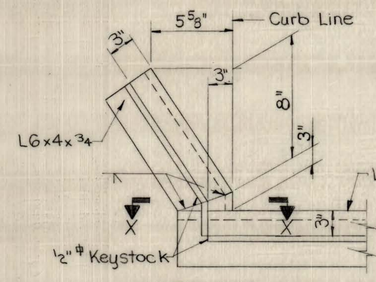
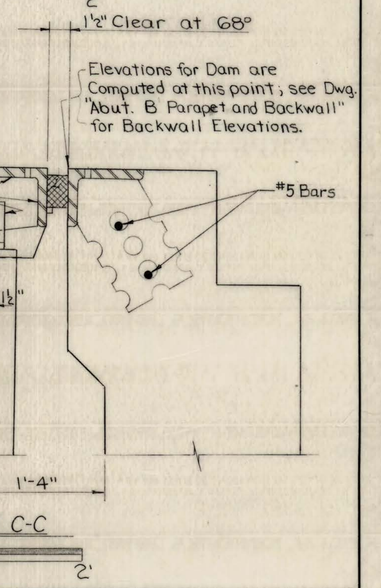


SECTION D-D

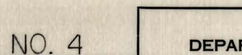


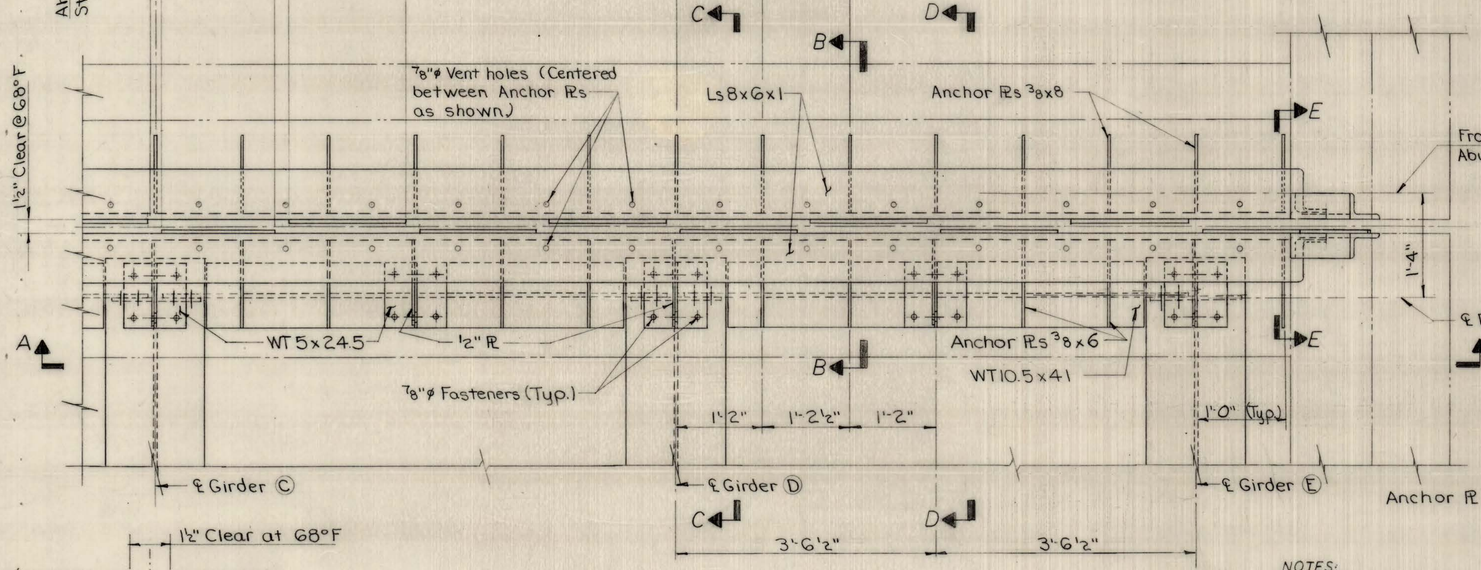


VIEW Y-Y
No Scale

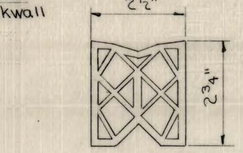


SECTION C-C

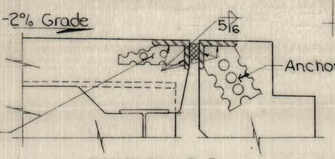




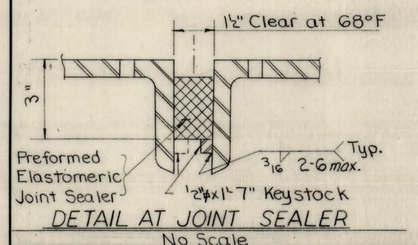
PART PLAN
No Scale



PREFORMED ELASTOMERIC JOINT SEALER
No Scale



SECTION B-B



DETAIL AT JOINT SEALER
No Scale

NOTES:
- For Erection and Shipping Notes and Detail of Anchor Plates, see Dwg. "Details for Plate Expansion Dam at Abutment A."
- Preformed Elastomeric Joint Sealer shall be Continuous and Watertight at Parapet Breaks.

CONTRACT NO. 4

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY [illegible] CHECKED BY GGB DATE 4/28/76
DETAILED BY MG CHECKED BY [illegible] DATE 3/1/78
TRACED BY MG CHECKED BY [illegible] DATE 3/1/78

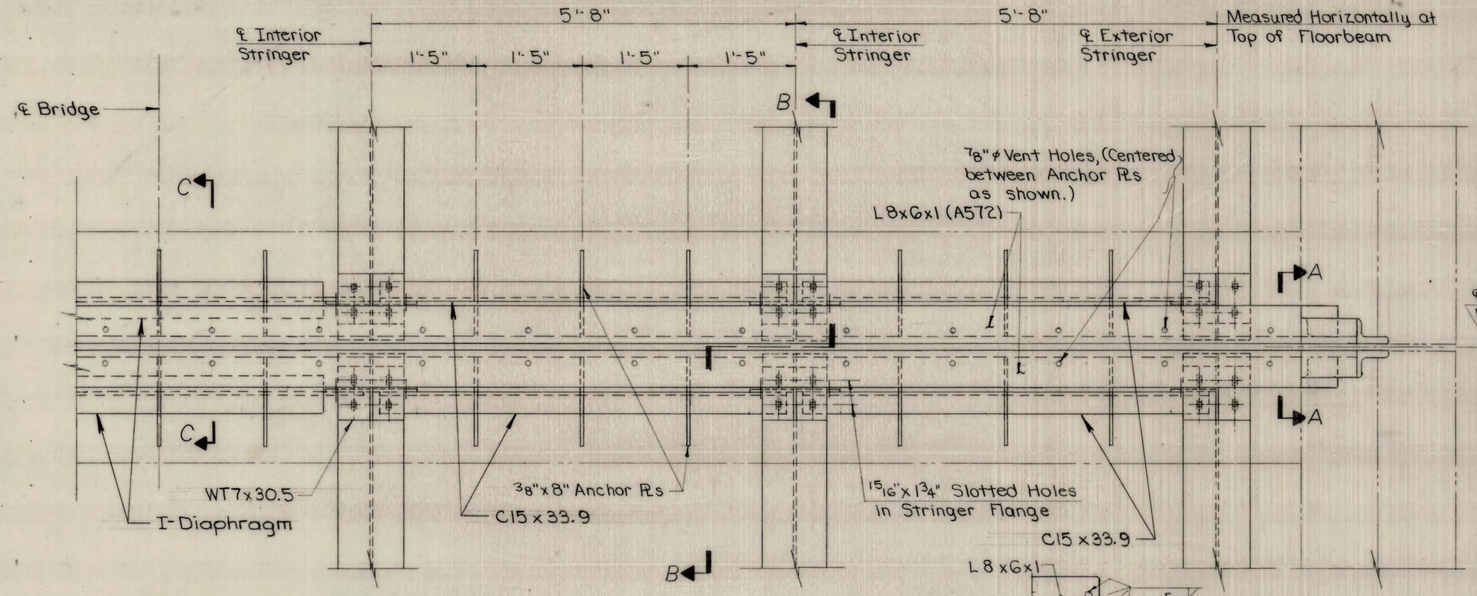
WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
ARMORED JOINT AT ABUTMENT B

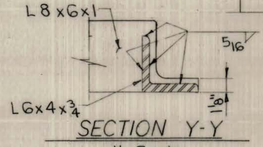
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	60 of 82

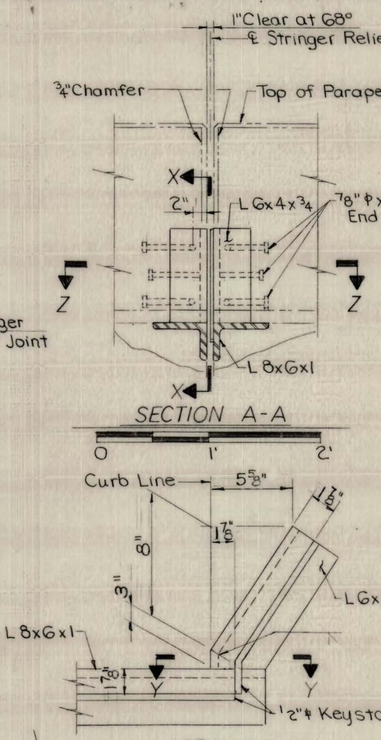
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	101	125



PART PLAN

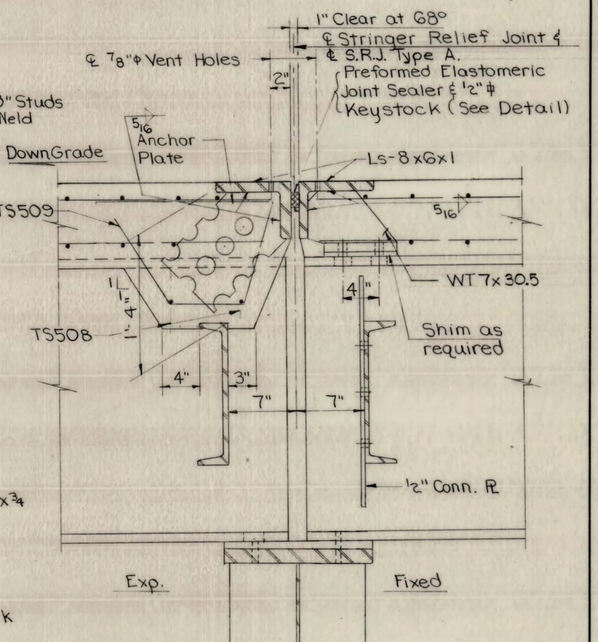


SECTION Y-Y
No Scale

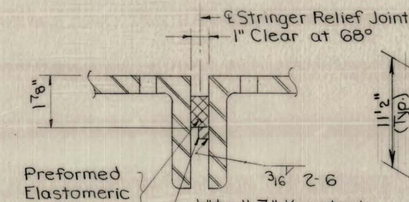


SECTION A-A
No Scale

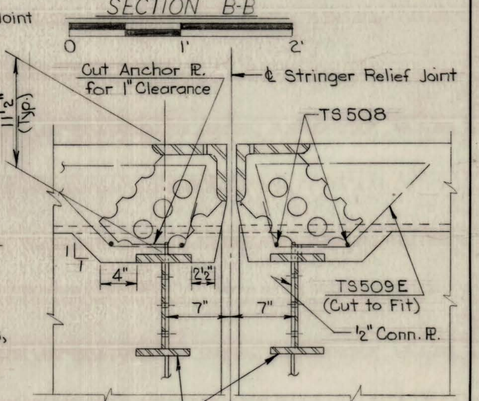
VIEW X-X
No Scale



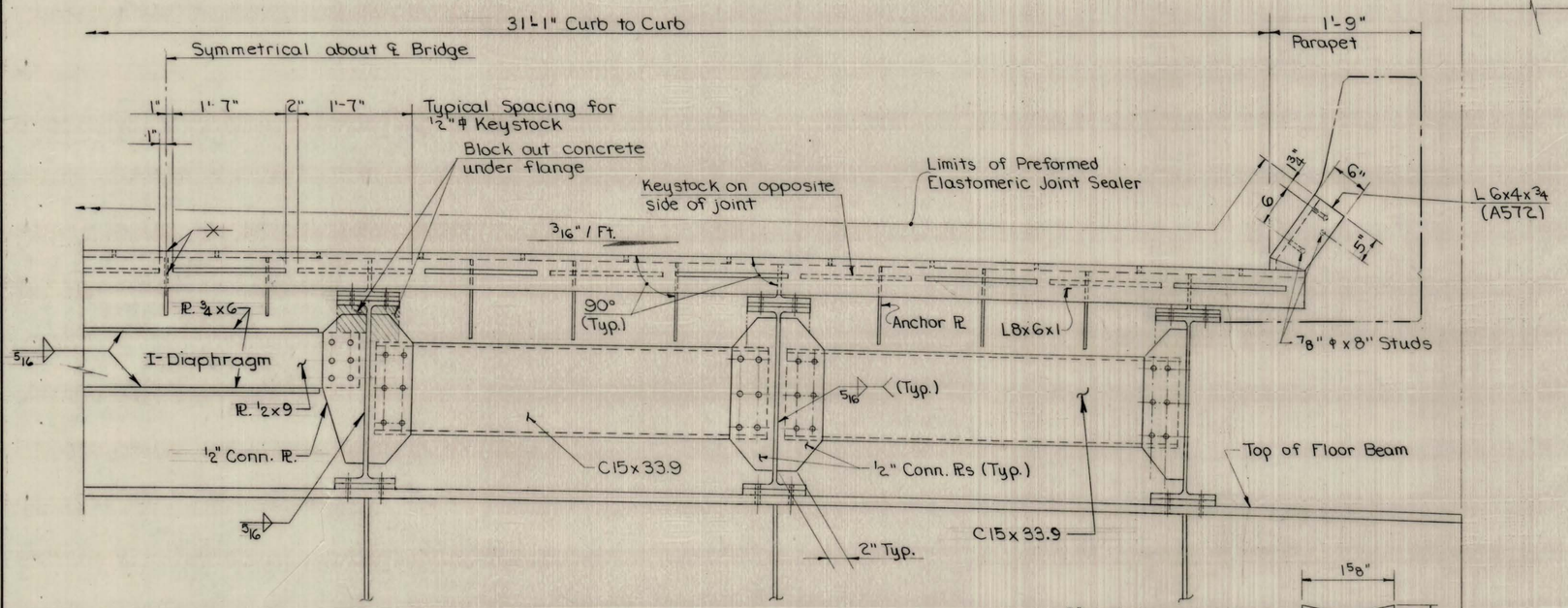
SECTION B-B
No Scale



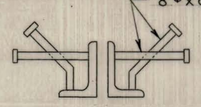
DETAIL AT JOINT SEALER
No Scale



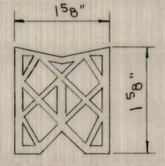
SECTION C-C
(Typical for Diaphragms at ℄ Bridge)



ELEVATION AT ℄ JOINT
No Scale



SECTION Z-Z
No Scale



PREFORMED ELASTOMERIC JOINT SEALER
No Scale

Notes:

- For locations of stringer relief joints, see Dwg. "Truss Framing Plan."
- For Anchor Plate details see drawing "Details of Plate Exp. Dam at Abut. A"
- All fasteners shall be ⅞" diameter.
- Stringer Relief Joint shall be erected to follow roadway crown and grade
- For S.R.J. Type A, see Dwg. "Stringer Details for Truss Spans."

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
STRINGER RELIEF JOINTS
IN SPANS 7 AND 9

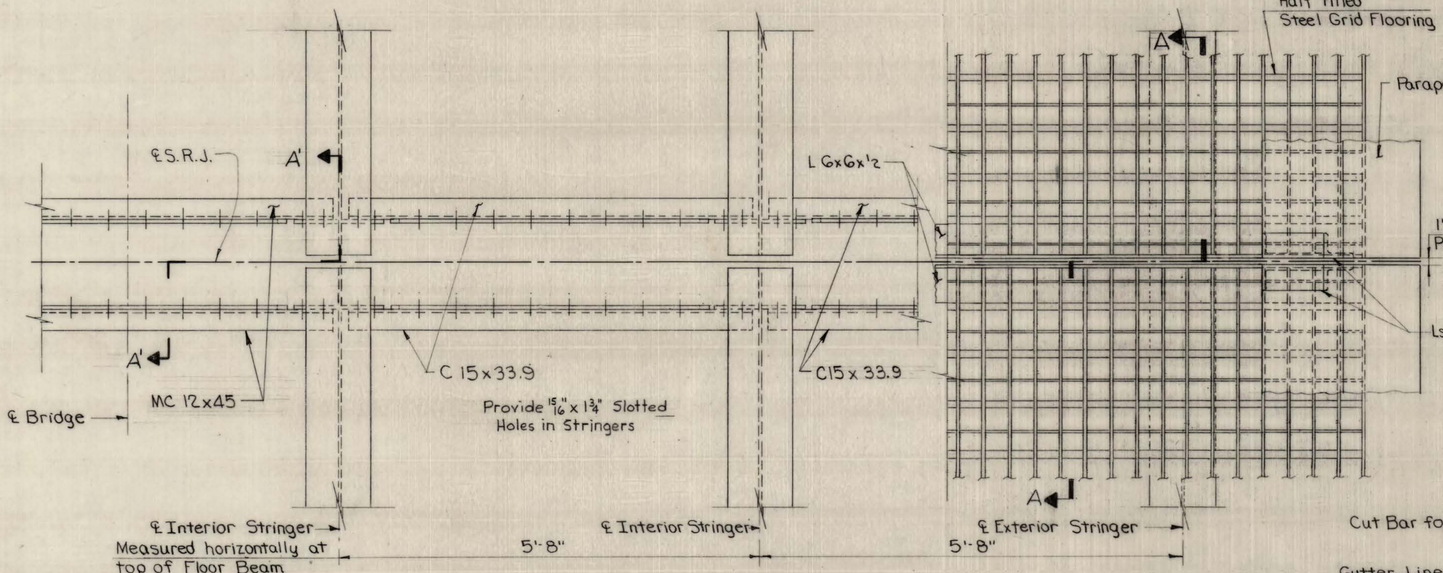
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

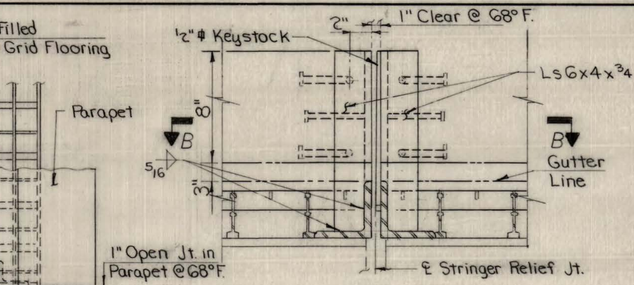
DESIGNED BY JMG CHECKED BY [illegible] DATE 2/1/78
DETAILED BY JMG CHECKED BY [illegible] DATE 2/1/78
TRACED BY JMG CHECKED BY [illegible] DATE 2/1/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	61 of 82

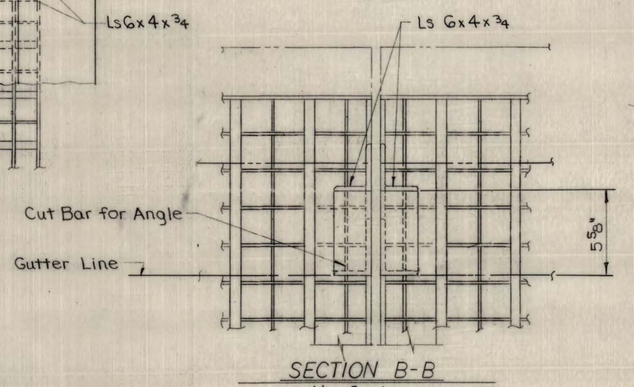
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	102	125



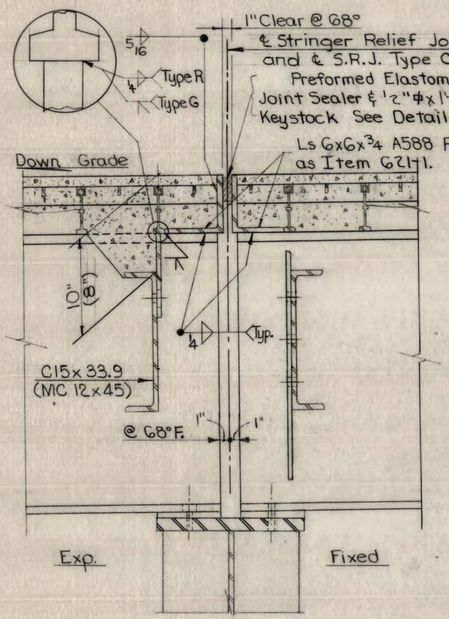
PART PLAN

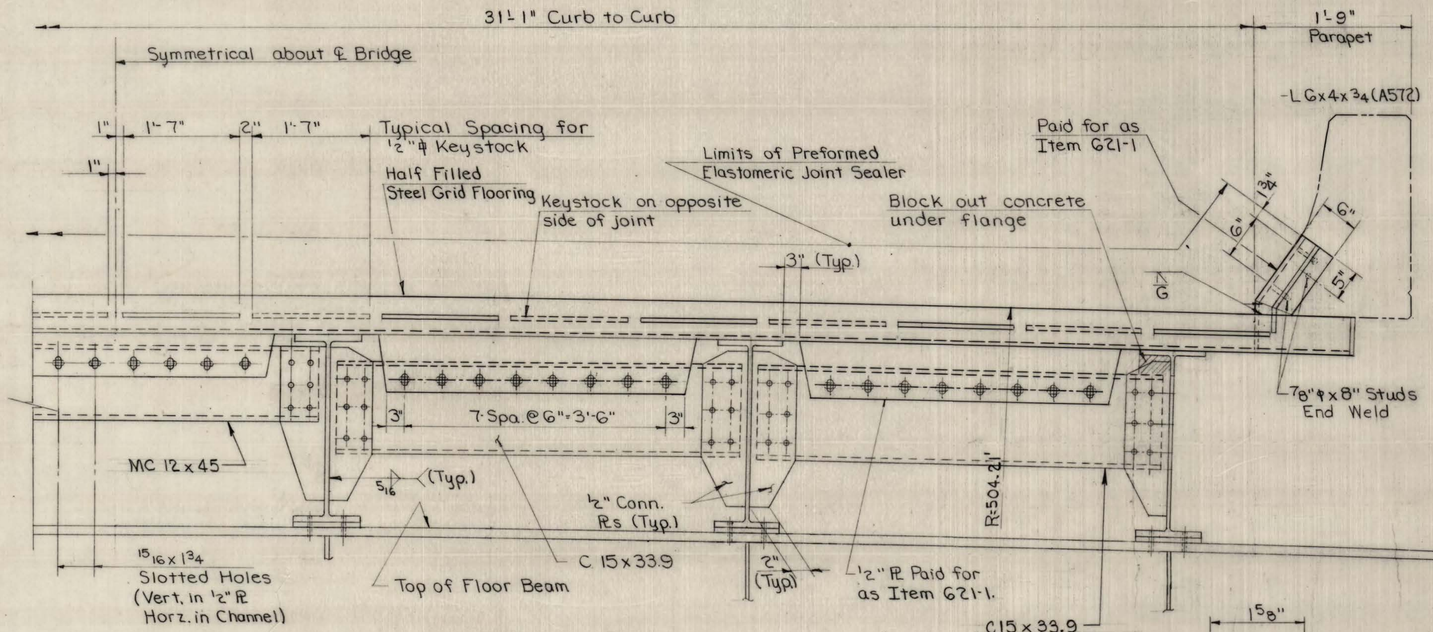


PARAPET JOINT DETAIL

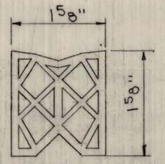


SECTION B-B
No Scale

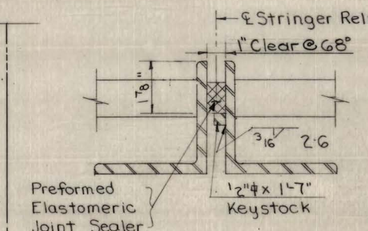




ELEVATION AT ℄ JOINT
No Scale



PREFORMED ELASTOMERIC JOINT SEALER
No Scale
(ASTM D2628)



DETAIL AT JOINT SEALER
No Scale

SECTION A-A
0 1' 2'

Note Section A'-A' is similar except as noted thus ( ), and is located at ℄ Bridge only.

Notes:

- Type R Grid Flooring is shown. Either Type R or Type G may be supplied.
- Stringer Relief Joint shall be erected to follow roadway crown and grade. Stringers are set radial to roadway crown.
- All fasteners shall be 7/8" diameter.
- For 7/8" ϕ studs and Keystock attachment, see View X-X and Section Z-Z on Dwg. "Stringer Relief Joints in Spans 7 ℄ 9."
- For S.R.J. Type C, see Dwgs. "Stringer Details for Truss Spans".

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
STRINGER RELIEF JOINTS IN SPAN 8

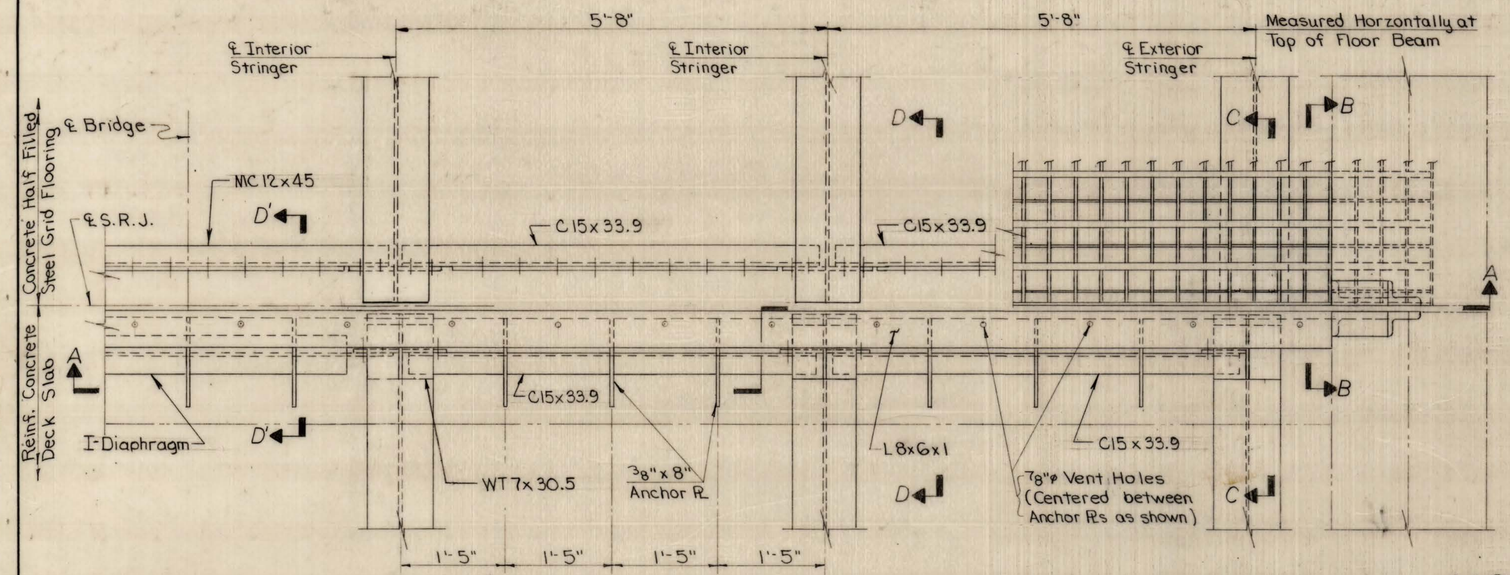
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

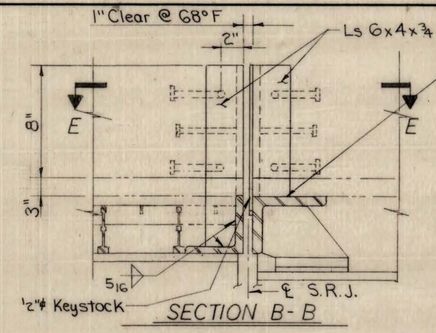
DESIGNED BY JMG CHECKED BY [illegible] DATE 3/1/76
DETAILED BY JMG CHECKED BY [illegible] DATE 3/1/78
TRACED BY JMG CHECKED BY [illegible] DATE 3/1/78

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	62 of 82

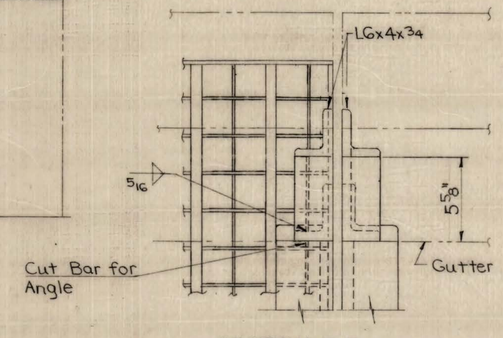
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W. Va. Meigs, Ohio	103	125



PART PLAN

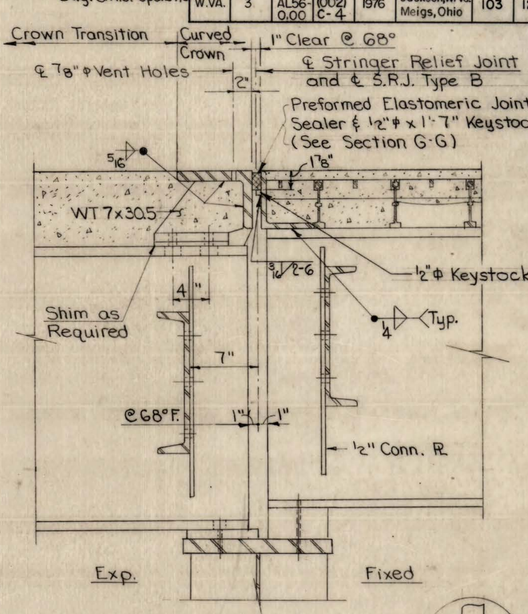


SECTION B-B

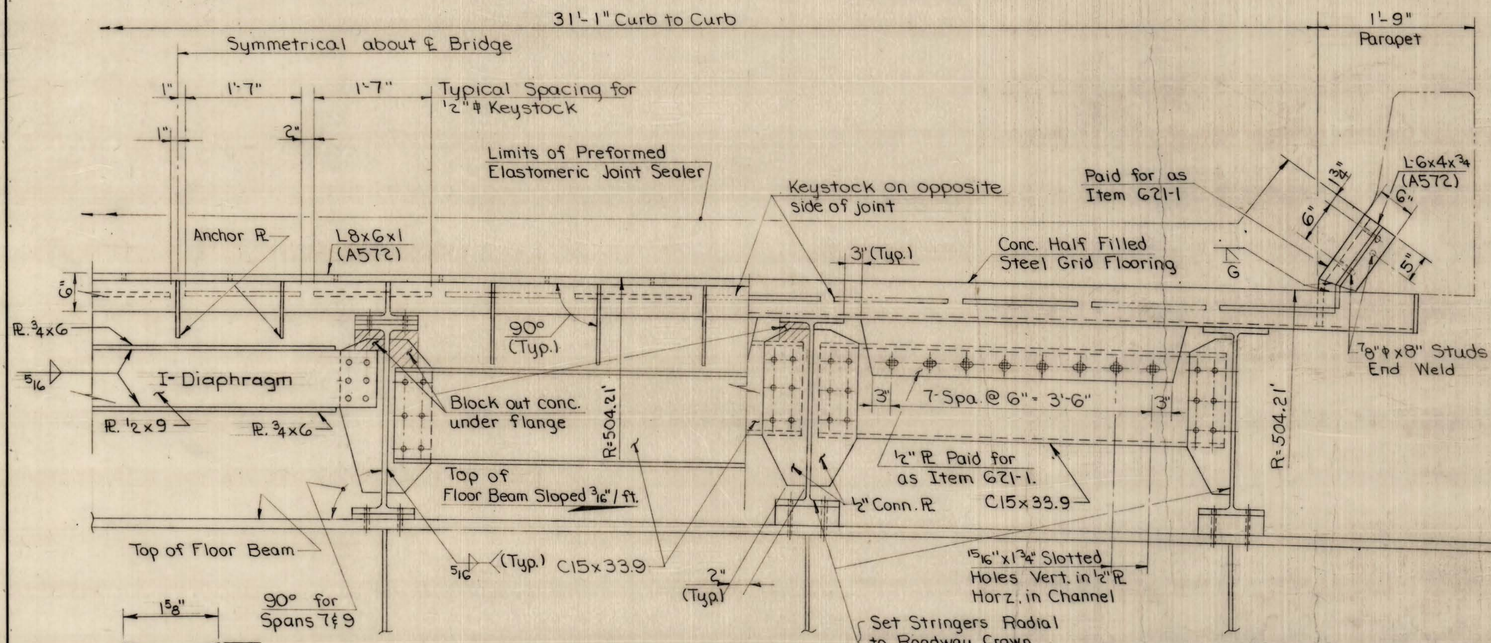


SECTION E-E

No Scale

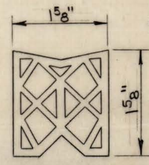


SECTION C-C



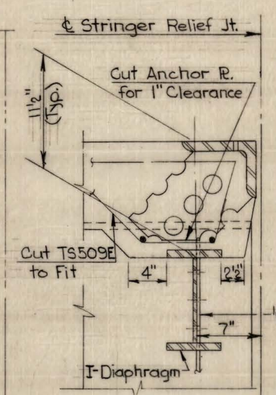
SECTION A-A

No Scale



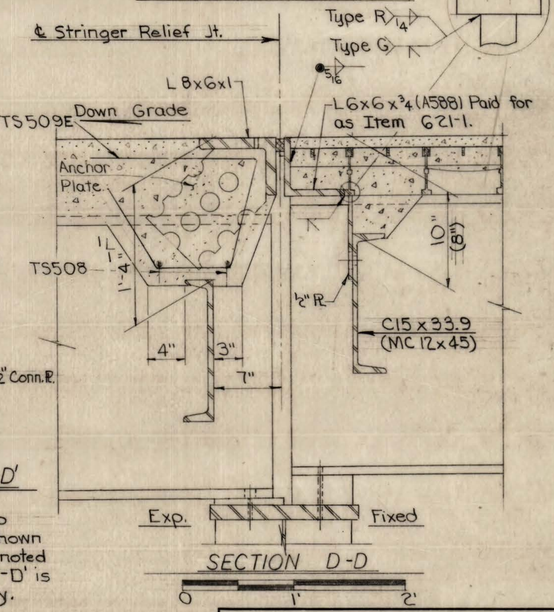
PREFORMED ELASTOMERIC JOINT SEALER

No Scale



HALF-SECTION D'-D'

Section D'-D' is similar to Section D-D except as shown in Half-Section D'-D' and noted thus ( ). Also Section D'-D' is located at ℄ Bridge only.



SECTION D-D

Notes:

- Type R Grid Flooring is shown. Either Type R or Type G may be supplied.
- Stringer Relief Joint shall be erected to follow Roadway crown and grade.
- All fasteners shall be 7/8" diameter.
- For 7/8" ϕ studs and Keystock attachment, see View X-X and Section Z-Z on Dwg. "Stringer Relief Joints in Spans 7&9.
- For S.R.J. Type B, see Dwg. "Stringer Details for Truss Spans."

CONTRACT NO. 4

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY JMG CHECKED BY [illegible] DATE 3/1/76
DETAILED BY JMG CHECKED BY [illegible] DATE 3/1/76
TRACED BY JMG CHECKED BY [illegible] DATE 3/1/76

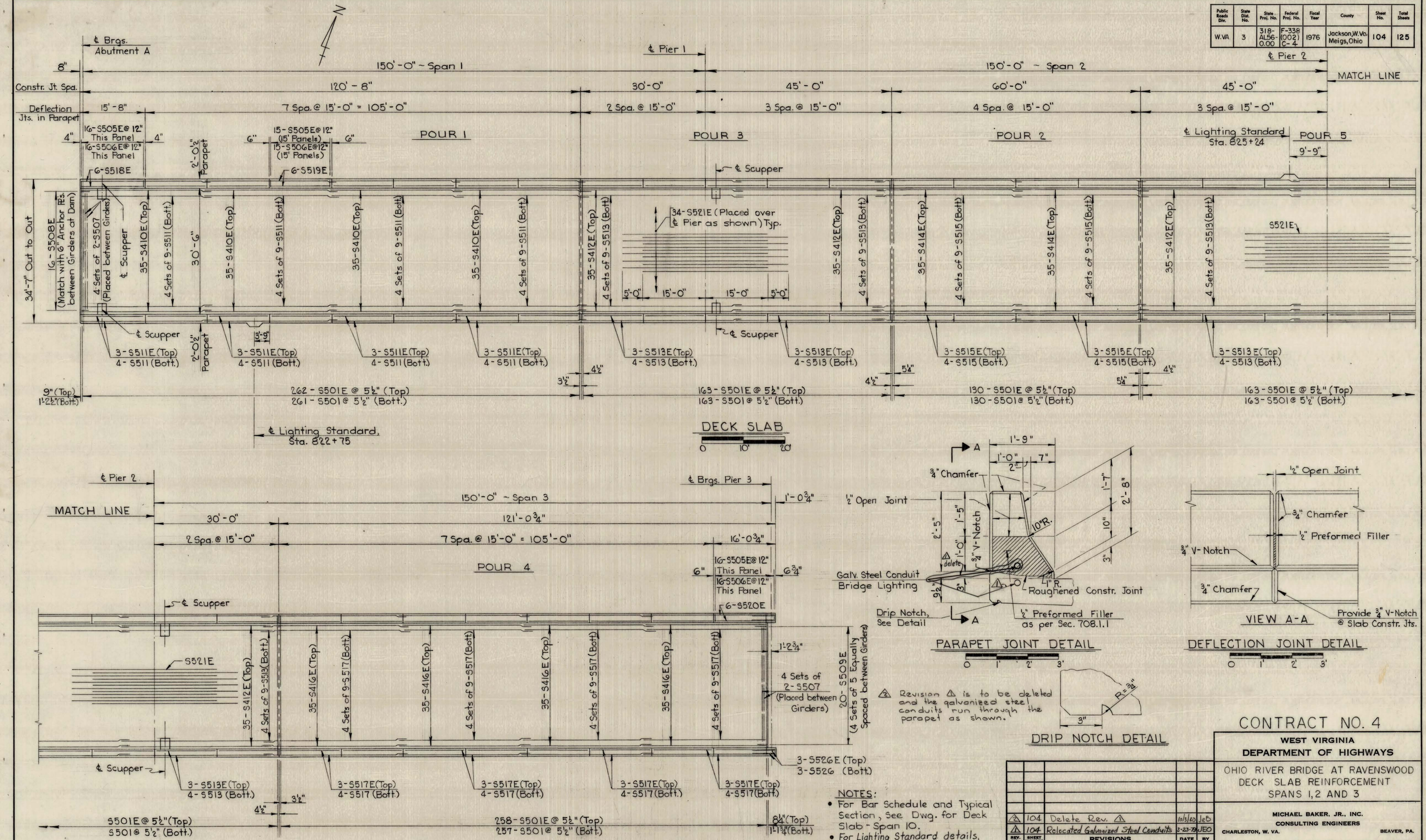
WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
STRINGER RELIEF JOINT DETAIL IN STEEL GRID FLOORING AT PIERS 7 & 8

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	63 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	104	125



DECK SLAB

0 10' 20'

PARAPET JOINT DETAIL

0 1' 2' 3'

DEFLECTION JOINT DETAIL

0 1' 2' 3'

DRIP NOTCH DETAIL

△2 Revision △ is to be deleted and the galvanized steel conduits run through the parapet as shown.

NOTES:

- For Bar Schedule and Typical Section, See Dwg. for Deck Slab - Span 10.
- For Lighting Standard details, see Dwg. "Roadway and Navigational Lighting Details In Bridge Parapets."

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY
△2	104	Delete Rev. △	10/5/20	JeB
△1	104	Relocated Galvanized Steel Conduits	2-23-78	JEO

DESIGNED BY P.F.S. CHECKED BY GSB DATE 3/1/76
DETAILED BY G.H.H. CHECKED BY GSB DATE 3/1/76
TRACED BY T.M.K. CHECKED BY GSB DATE 3/1/76

CONTRACT NO. 4

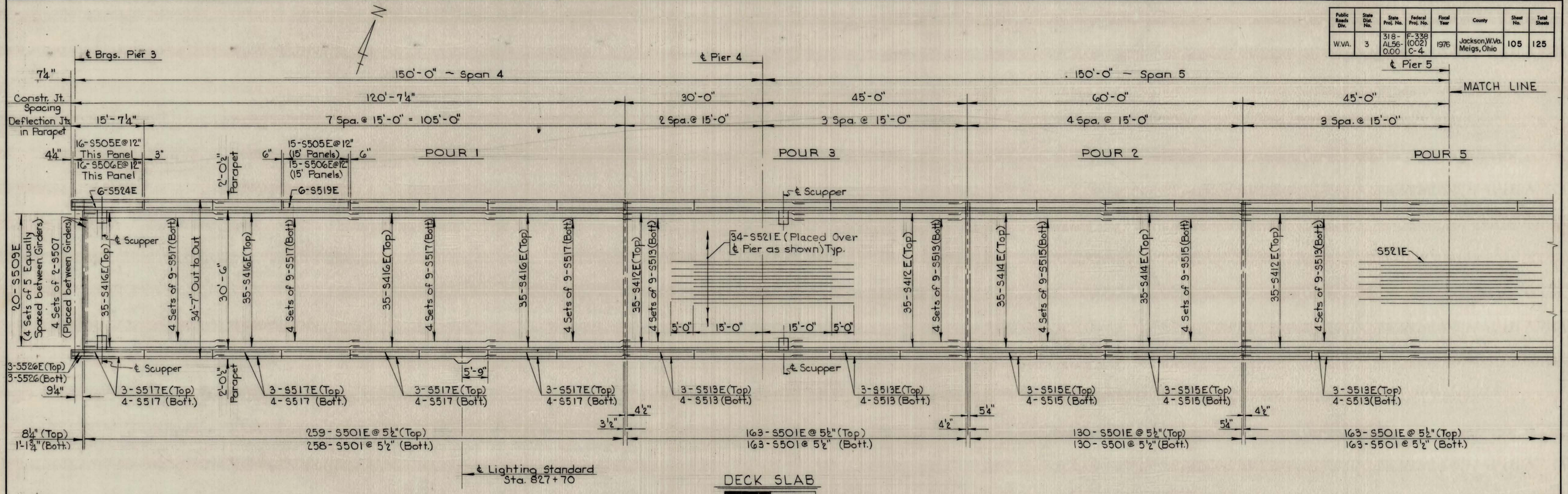
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

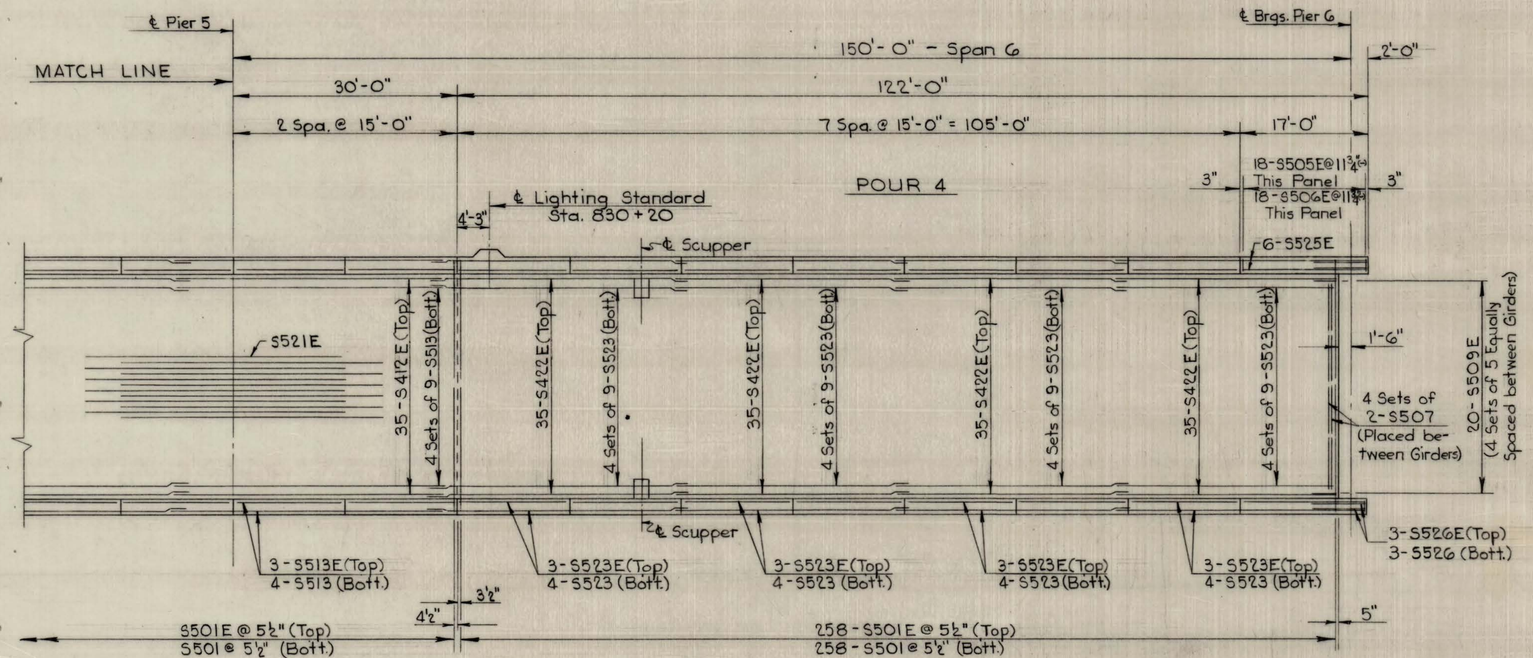
OHIO RIVER BRIDGE AT RAVENSWOOD
DECK SLAB REINFORCEMENT
SPANS 1, 2 AND 3

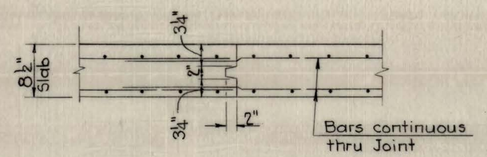
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	64 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	105	125







CONSTRUCTION JOINT DETAIL
No Scale

POURING SEQUENCE NOTE

The Intent of the shown Pouring Sequence for Spans 1 thru 3 and 4 thru 6 is to place the mid-span concrete prior to the placement of the concrete over adjacent piers. If this Sequence is not satisfactory to the Contractors operations, he may submit an alternate Pouring Sequence to the Engineer for Approval.

NOTES:

- For Bar Schedule and Typical Section, See Dwg. for Deck Slab - Span 10.
- For Lighting Standard details, see Dwg. "Roadway and Navigational Lighting Details in Bridge Parapets"

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
DECK SLAB REINFORCEMENT
SPANS 4, 5 AND 6

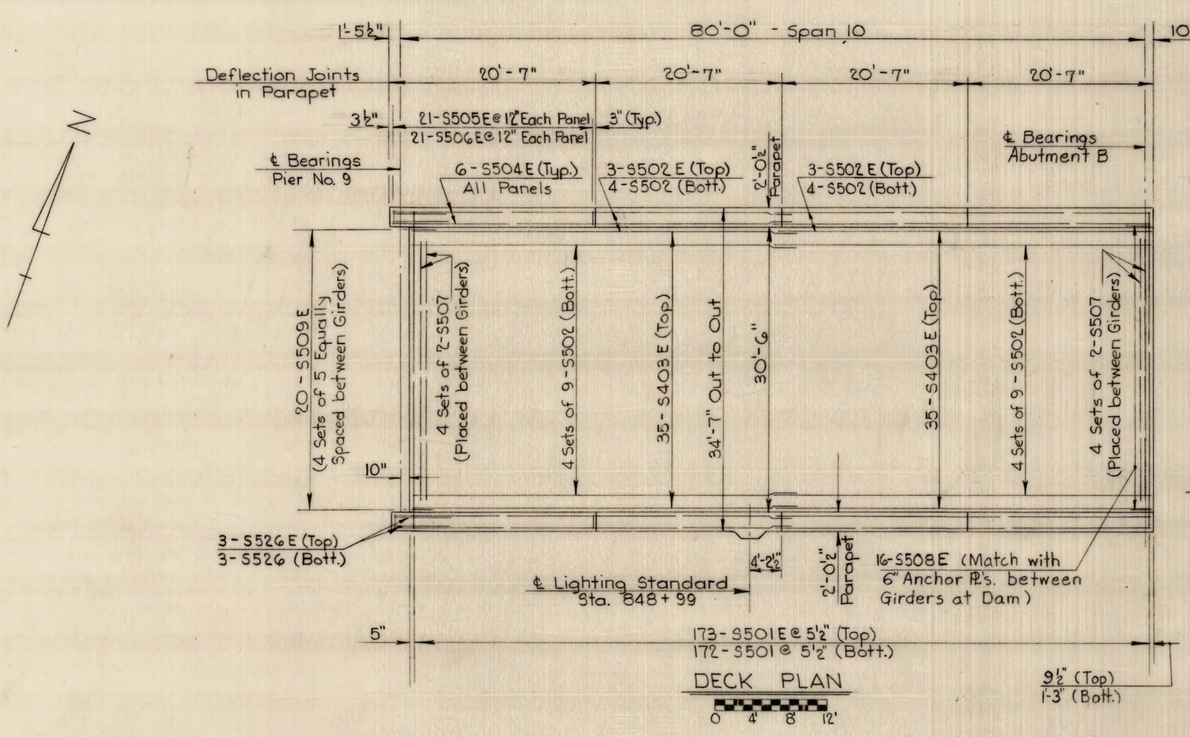
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

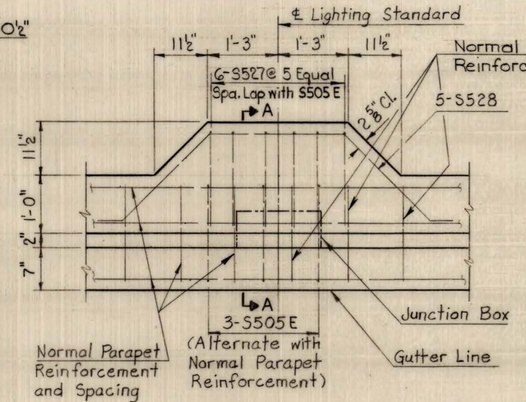
DESIGNED BY P.F.S. CHECKED BY GEE DATE
DETAILED BY G.H.H. CHECKED BY [illegible] DATE 3/11/76
TRACED BY I.M.K. CHECKED BY [illegible] DATE

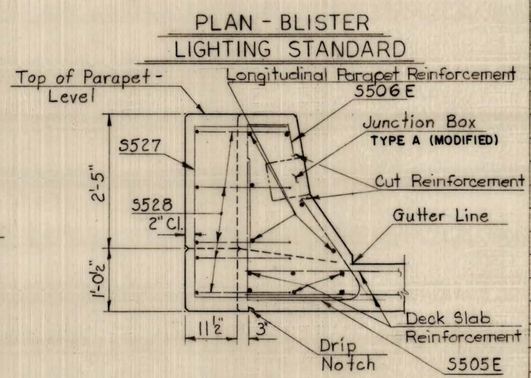
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	65 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	106	125



DECK PLAN



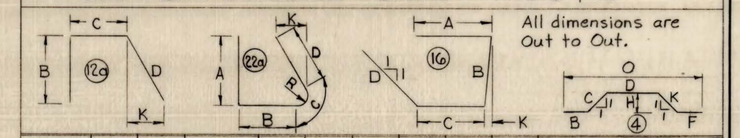


PLAN - BLISTER LIGHTING STANDARD

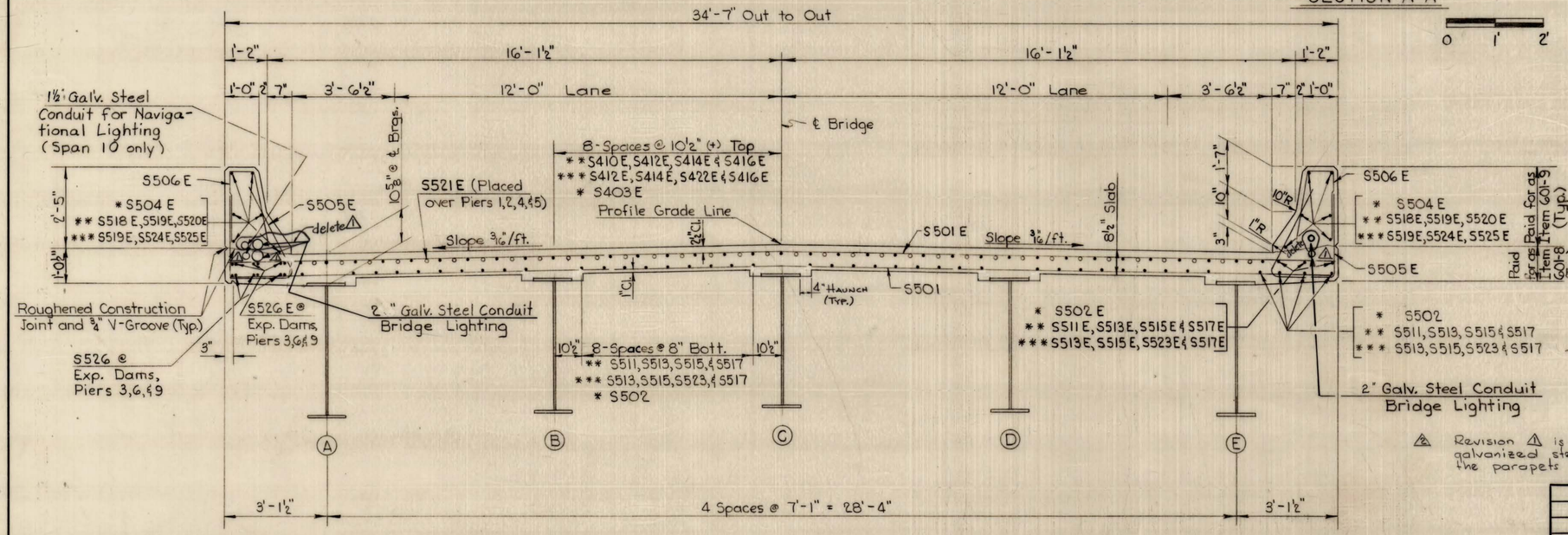
SECTION A-A

0 1' 2'

DECK BAR SCHEDULE - SPANS 1 THRU 6 & 10



MARK	NO.	SIZE	LENGTH	TYPE	A	B	C	D	K	REMARKS
S501	2118	5	34'-3"	Str.						Bend @ Center for ½"/ft. Slope
S502	88	5	41'-0"	Str.						
S403E	70	4	40'-9"	Str.						
S504E	48	5	20'-3"	Str.						
S505E	1995	5	6'-1½"	22a	1'-9"	1'-3"	7½"	2'-6"	1'-2"	R (Inside Rad.) = 3"
S506E	1980	5	5'-3"	12a		2'-2½"	8"	2'-4½"	3"	
S507	48	5	5'-3"	Str.						At Dams for Piers & Abuts.
S508E	32	5	5'-2"	16	2'-0"	10½"	1'-1½"	1'-2"	2"	At Dams for Abuts.
S509E	80	5	5'-8"	16	2'-0"	1'-2"	1'-0"	1'-6"	0"	At Dams for Piers
S410E	140	4	31'-6"	Str.						
S511	176	5	32'-0"	Str.						
S412E	280	4	38'-0"	Str.						
S513	352	5	38'-3"	Str.						
S414E	140	4	32'-0"	Str.						
S515	176	5	32'-9"	Str.						
S416E	280	4	31'-3"	Str.						
S517	352	5	31'-6"	Str.						
S518E	12	5	15'-3"	Str.						
S519E	672	5	14'-7"	Str.						
S520E	12	5	15'-8"	Str.						
S521E	136	5	35'-0"	Str.						
S422E	140	4	31'-0"	Str.						
S523	176	5	31'-3"	Str.						
S524E	12	5	15'-3"	Str.						
S525E	12	5	16'-8"	Str.						
S526	24	5	6'-0"	Str.						At Dams for Piers
#S527	30	5	7'-3"	12a		2'-6"	3'-2"	1'-7"	0"	
#S528	25	5	7'-11"	4		7"	2'-2½"	2'-4"	2'-2½"	F=7", H=1'-6¾", O=6'-7½"
S501E	2122	5	34'-3"	Str.						
S502E	12	5	41'-0"	Str.						
S511E	24	5	32'-0"	Str.						
S513E	48	5	38'-3"	Str.						
S515E	24	5	32'-9"	Str.						
S517E	48	5	31'-6"	Str.						
S523E	24	5	31'-3"	Str.						
S526E	24	5	6'-0"	Str.						



TYPICAL SECTION - SPANS 1 THRU 6, & 10

0 2' 4'

BAR SCHEDULE NOTES:
- # Indicates Reinforcement Bars located in Blister for Lighting Standard.
- Bar Marks with the Suffix "E" indicates Epoxy Coated Bars.

NOTES FOR LIGHTING STANDARD BLISTER:
- Adjust or Cut Reinforcement Bars as required to clear Junction Box and Anchor Bolts.
- For additional details pertaining to Lighting Installation, see Dwg. "Roadway And Navigational Lighting Details in Bridge Parapets."

NOTE:
* Deck Slab - Span 10
** Deck Slab - Spans 1, 2, and 3
*** Deck Slab - Spans 4, 5, and 6

NOTES:
- For Stay-in-Place metal forms, see "Deck Slab Details for Truss Spans."
- 8½" Slab includes a 1½" Integral Wearing Surface Finished in accordance with the Specifications.

⚠ Revision ⚠ is to be deleted and the galvanized steel conduits run through the parapets as shown.

CONTRACT NO. 4

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY
⚠	106	Delete Rev. ⚠	10/30/80	JED
⚠	106	Relocated Galvanized Steel Conduits	3-23-77	JED

DESIGNED BY P.E.S. CHECKED BY G.G.B. DATE 3/1/76
DETAILED BY G.L.H. CHECKED BY [illegible] DATE 3/20/76
TRACED BY T.M.K. CHECKED BY [illegible] DATE 3/1/76

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
DECK SLAB DETAILS
GIRDER SPANS

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	66 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	107	125

ROADWAY ELEVATIONS & DEAD LOAD DEFLECTIONS

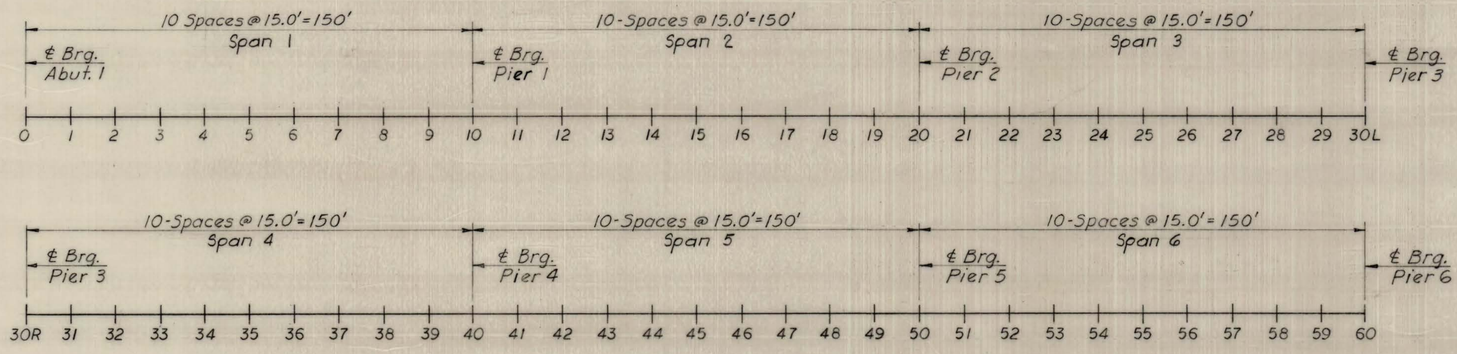
GIRDER	POINT →	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30L
A, E	Rdwy. Elev.	613.517	613.817	614.117	614.417	614.717	615.017	615.317	615.617	615.917	616.217	616.517	616.817	617.117	617.417	617.717	618.017	618.317	618.617	618.917	619.217	619.517	619.817	620.117	620.417	620.717	621.017	621.317	621.617	621.917	622.217	622.517
	Concrete Defl.	0	0.089	0.164	0.216	0.242	0.241	0.215	0.167	0.105	0.046	0	-0.015	-0.012	0	0.011	0.016	0.011	0	-0.012	-0.015	0	0.046	0.105	0.167	0.215	0.241	0.242	0.216	0.164	0.089	0
B, D	Rdwy. Elev.	613.627	613.927	614.227	614.527	614.827	615.127	615.427	615.727	616.027	616.327	616.627	616.927	617.227	617.527	617.827	618.127	618.427	618.727	619.027	619.327	619.627	619.927	620.227	620.527	620.827	621.127	621.427	621.727	622.027	622.327	622.627
	Concrete Defl.	0	0.092	0.170	0.223	0.250	0.249	0.222	0.172	0.109	0.047	0	-0.015	-0.012	0	0.012	0.016	0.012	0	-0.012	-0.015	0	0.047	0.109	0.172	0.222	0.249	0.250	0.223	0.170	0.092	0
C	Rdwy. Elev.	613.738	614.038	614.338	614.638	614.938	615.238	615.538	615.838	616.138	616.438	616.738	617.038	617.338	617.638	617.938	618.238	618.538	618.838	619.138	619.438	619.738	620.038	620.338	620.638	620.938	621.238	621.538	621.838	622.138	622.438	622.738
	Concrete Defl.	0	0.092	0.170	0.223	0.250	0.249	0.222	0.172	0.109	0.047	0	-0.015	-0.012	0	0.012	0.016	0.012	0	-0.012	-0.015	0	0.047	0.109	0.172	0.222	0.249	0.250	0.223	0.170	0.092	0

ROADWAY ELEVATIONS & DEAD LOAD DEFLECTIONS

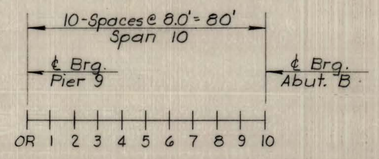
GIRDER	POINT →	30R	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
A, E	Rdwy. Elev.	622.557	622.857	623.157	623.457	623.757	624.057	624.357	624.657	624.957	625.257	625.557	625.857	626.157	626.457	626.757	627.057	627.357	627.657	627.957	628.257	628.557	628.857	629.157	629.457	629.757	630.057	630.357	630.657	630.957	631.257	631.557
	Concrete Defl.	0	0.089	0.164	0.216	0.242	0.241	0.215	0.167	0.105	0.046	0	-0.015	-0.012	0	0.011	0.016	0.011	0	-0.012	-0.015	0	0.046	0.105	0.167	0.215	0.241	0.242	0.216	0.164	0.089	0
B, D	Rdwy. Elev.	622.667	622.967	623.267	623.567	623.867	624.167	624.467	624.767	625.067	625.367	625.667	625.967	626.267	626.567	626.867	627.167	627.467	627.767	628.067	628.367	628.667	628.967	629.267	629.567	629.867	630.167	630.467	630.767	631.067	631.367	631.667
	Concrete Defl.	0	0.092	0.170	0.223	0.250	0.249	0.222	0.172	0.109	0.047	0	-0.015	-0.012	0	0.012	0.016	0.012	0	-0.012	-0.015	0	0.047	0.109	0.172	0.222	0.249	0.250	0.223	0.170	0.092	0
C	Rdwy. Elev.	622.778	623.078	623.378	623.678	623.978	624.278	624.578	624.878	625.178	625.478	625.778	626.078	626.378	626.678	626.978	627.278	627.578	627.878	628.178	628.478	628.778	629.078	629.378	629.678	629.978	630.278	630.578	630.878	631.178	631.478	631.778
	Concrete Defl.	0	0.092	0.170	0.223	0.250	0.249	0.222	0.172	0.109	0.047	0	-0.015	-0.012	0	0.012	0.016	0.012	0	-0.012	-0.015	0	0.047	0.109	0.172	0.222	0.249	0.250	0.223	0.170	0.092	0

ROADWAY ELEVATIONS & DEAD LOAD DEFLECTIONS

GIRDER	POINT →	OR	1	2	3	4	5	6	7	8	9	10
A, E	Rdwy. Elev.	631.572	631.412	631.252	631.092	630.932	630.772	630.612	630.452	630.292	630.132	629.972
	Concrete Defl.	0	0.028	0.051	0.069	0.080	0.084	0.080	0.069	0.051	0.028	0
B, D	Rdwy. Elev.	631.682	631.522	631.362	631.202	631.042	630.882	630.722	630.562	630.402	630.242	630.082
	Concrete Defl.	0	0.029	0.054	0.072	0.085	0.089	0.085	0.072	0.054	0.029	0
C	Rdwy. Elev.	631.793	631.633	631.473	631.313	631.153	630.993	630.833	630.673	630.513	630.353	630.193
	Concrete Defl.	0	0.029	0.054	0.072	0.085	0.089	0.085	0.072	0.054	0.029	0

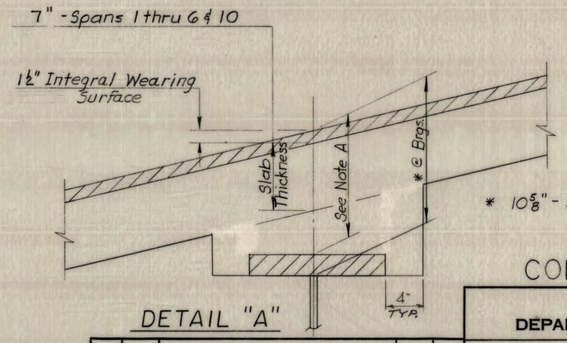


ELEVATION POINTS ALONG ℄ GIRDER



NOTE:
Deflections shown in table above are deflections (in feet) due to slab, integral wearing surface, parapets and concrete in stay-in-place metal deck forms.

NOTE A:
After all girders and crossframes have been erected and false work removed, the Contractor shall take elevations along the tops of the girders at points where the elevations are shown in the table of "Roadway Elevations". The difference between these elevations and the given top of pavement elevations plus the amount of deflection as shown in the table will be the thickness of the pavement over the girders at these points. The minimum slab thickness over the girders shall not be less than shown in Detail "A" at the center of the web. If the girders have excess camber and this minimum thickness cannot be obtained, the grade line shall be adjusted to obtain this minimum thickness.



DETAIL "A"

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
ROADWAY ELEVATIONS & DEAD LOAD DEFLECTIONS FOR GIRDER SPANS

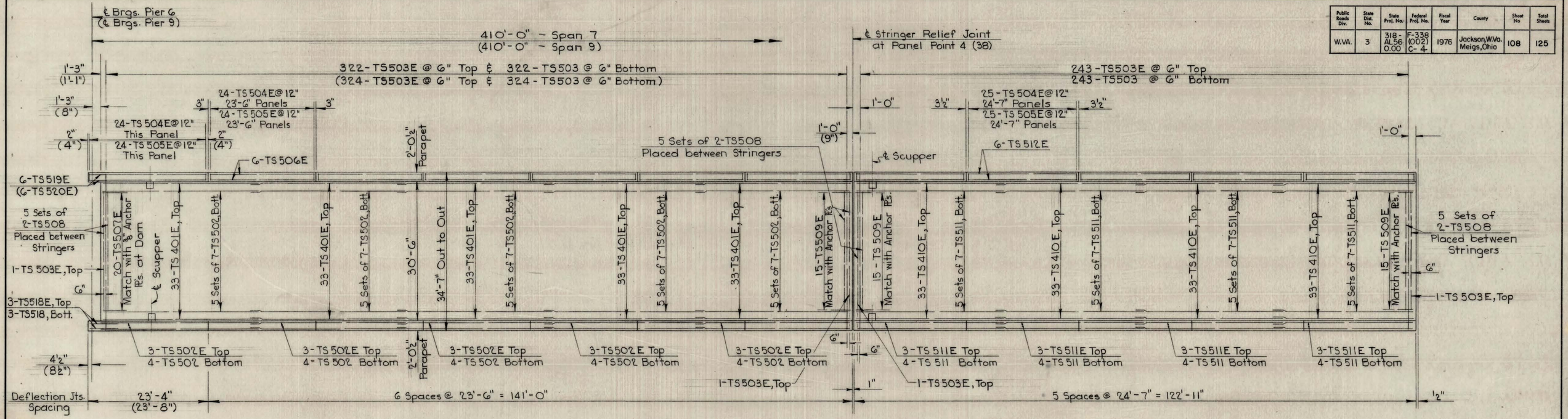
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY P.F.S. CHECKED BY [illegible] DATE)
DETAILED BY J.C.E CHECKED BY [illegible] DATE (3/11/76
TRACED BY J.C.E CHECKED BY [illegible] DATE)

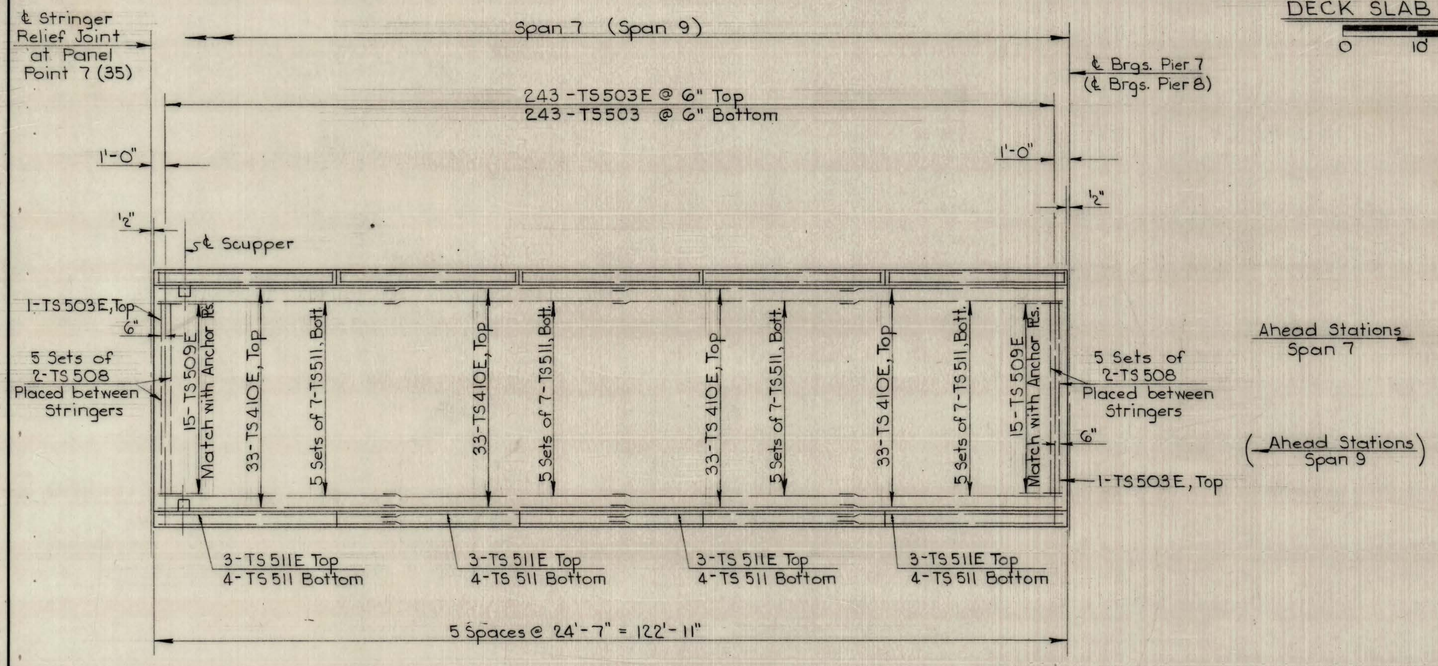
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	67 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56 0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	108	125



DECK SLAB ~ SPAN 7

0 10 20'



NOTE:
Deck Slab ~ Span 9 is similar except as noted thus ( ) and opposite hand.

CONTRACT NO. 4

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
DECK SLAB REINFORCEMENT
SPANS 7 AND 9

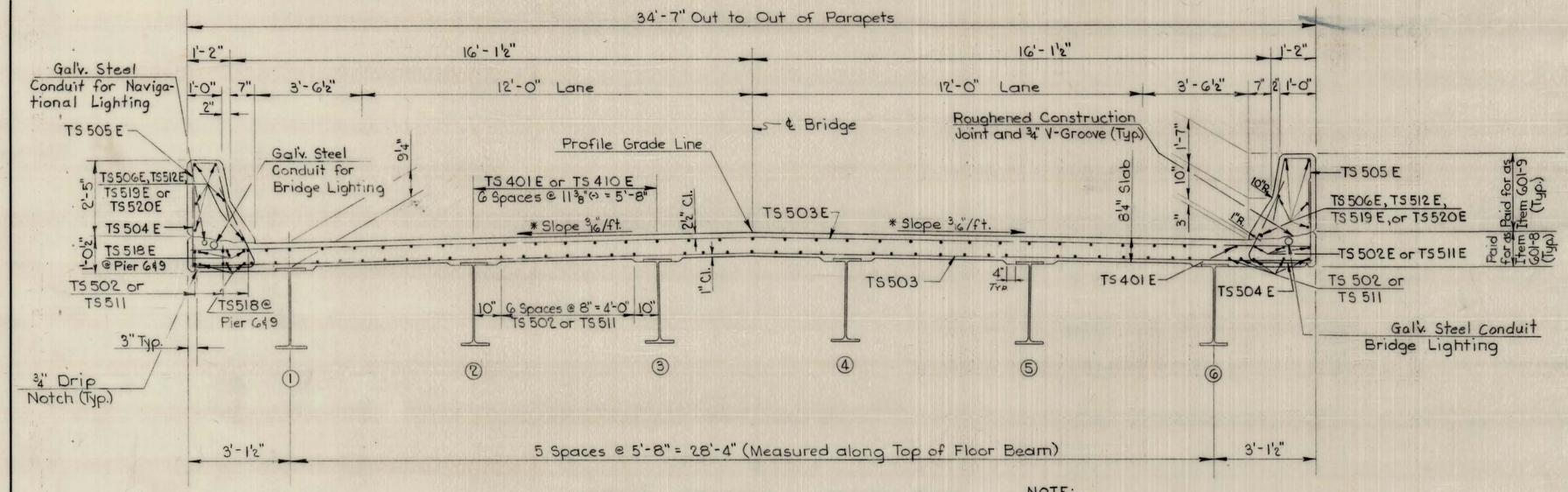
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PDA CHECKED BY P.F.S DATE 3/1/76
DETAILED BY JMG CHECKED BY J.F.S/RAR DATE 3/26/76
TRACED BY T.M.K. CHECKED BY P.F.S DATE 3/1/76

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	68 of 82

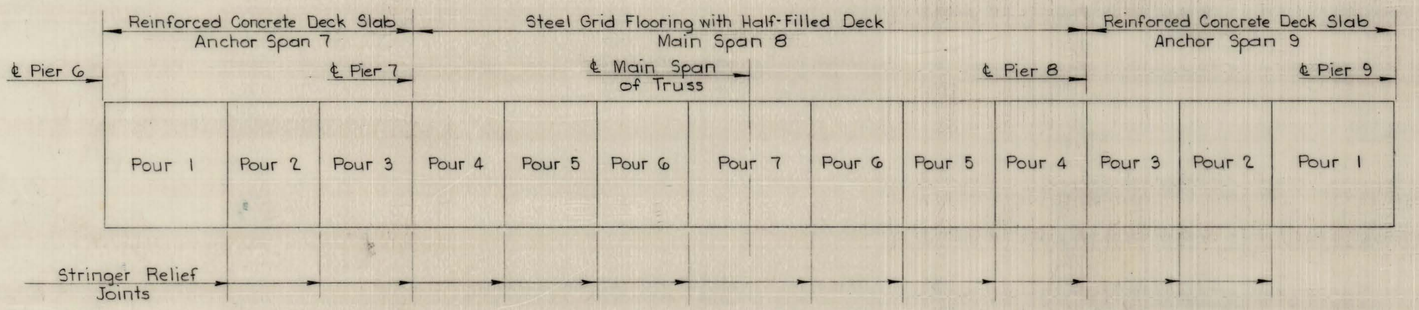
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338(002) C-4	1976	Jackson, W.Va. Meigs, Ohio	109	125



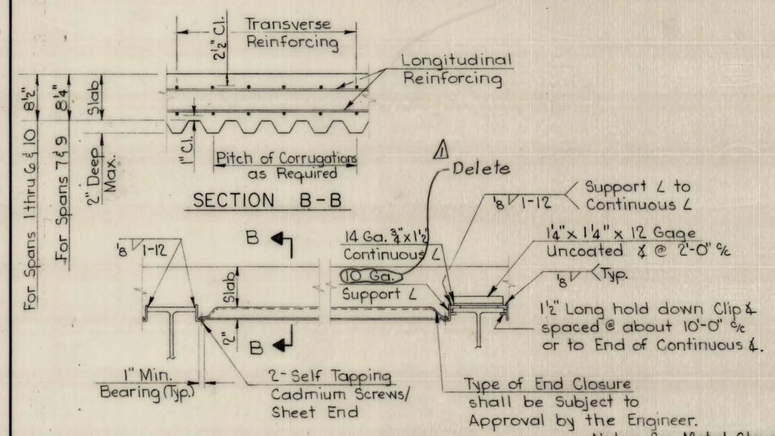
TYPICAL SECTION - SPANS 7 & 9

0 2' 4'

NOTE:
8¼" Slab includes a 1½" Integral Wearing Surface finished in accordance with the Specifications.



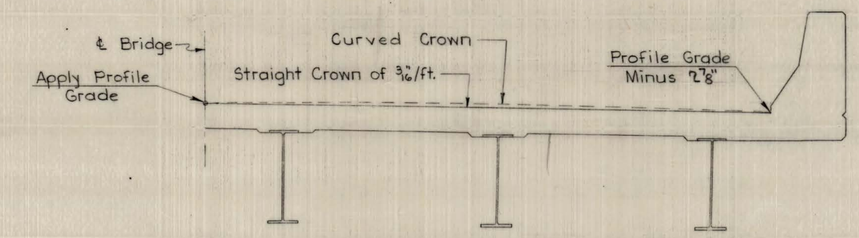
DECK SLAB CONCRETE PLACEMENT SEQUENCE FOR TRUSS SPANS



Notes for Metal Stay-in-Place Forms
- Reference shall be made to special provisions on metal stay-in-place forms.
- The tension area for the top flange of stringers in spans 7 & 9 is defined as being 8'-0" on both sides (total 16'-0") of all interior floor beams except at stringer relief joints.
- See Steel Framing drawings for the tension area in the top flange of girders in Spans 1 thru 6.

AT COMPRESSION FLANGE — AT TENSION FLANGE

METAL STAY-IN-PLACE FORMS FOR SPANS 1 THRU 6, 7, 9 & 10



* DETAIL OF DECK SLAB CROWN TRANSITION

At Pier 7 — End Straight Crown and Begin Transition - Sta. 835+28.29
End Transition and Begin Curved Crown - Sta. 835+48.29

At Pier 8 — End Curved Crown and Begin Transition - Sta. 844+51.71
End Transition and Begin Straight Crown - Sta. 844+71.71

DECK BAR SCHEDULE SPANS 7, 8, AND 9

All Dimensions are Out to Out.

NOTE:
Bar Marks with the Suffix "E" indicates Epoxy Coated Bars.

MARK	NO.	SIZE	LENGTH	TYPE	A	B	C	D	K	REMARKS
TS 502 E	60	5	34'-0"	Str.						Span 7 & 9
TS 401E	330	4	33'-9"	Str.						Spans 7 & 9
TS 502	430	5	34'-0"	Str.						Spans 7 & 9
TS 503	1618	5	34'-3"	Str.						Bend in Center - Spans 7 & 9
TS 504E	1672	5	6'-1½"	22a	1'-9"	1'-3"	7½"	2'-6"	1'-2"	R(Inside Rad.) = 3" Spans 7 & 9
TS 505E	3508	5	5'-0"	12a	—	2'-2"	8"	2'-2"	2¾"	Spans 7, 8, & 9
TS 506E	228	5	23'-1"	Str.						Spans 7, 8, & 9
TS 507E	40	5	5'-8"	16	2'-0"	1'-2"	1'-0"	1'-6"	0"	At Exp. Dams
TS 508	120	5	4'-6"	Str.						At Exp. Dams & S.R.J.
TS 509E	150	5	4'-6"	16	2'-0"	1'-0"	8"	10"	3"	At S.R.J. Jts.
TS 410E	528	4	31'-9"	Str.						Spans 7 & 9
TS 511	688	5	32'-0"	Str.						Spans 7 & 9
TS 512E	600	5	24'-2"	Str.						Spans 7, 8, & 9
TS 513E	1836	5	4'-6½"	22a	1'-6"	1'-0"	6½"	1'-6"	10¼"	R(Inside Rad.) = 3" Span 8
TS 514E	96	5	31'-10"	Str.						Span 8
TS 511E	96	5	32'-0"	Str.						Spans 7, & 9
TS 516E	24	5	28'-7"	Str.						Span 8
TS 518E	12	5	6'-0"	Str.						Spans 7 & 9
TS 518	12	5	6'-0"	Str.						Spans 7 & 9
TS 519E	12	5	22'-11"	Str.						Spans 7 & 9
TS 520 E	12	5	23'-5"	Str.						Spans 7 & 9
TS 503 E	1630	5	34'-3"	Str.						Bend in Center - Span 7 & 9

NOTES FOR THE PLACEMENT OF DECK SLAB FOR THE THRU TRUSS SPANS
- For Span 8, the Steel Grid Flooring may be placed prior to the Pouring of the Deck Slab in the Spans 7 and 9. For Spans 7 and 9, the Placement of the Deck Slab Concrete shall precede the Deck Slab Placement for the Span 8. The placing sequence of Concrete in Span 8 shall simultaneously commence at Piers 7 and 8, and uniformly progress towards the center of the main Span.
- For the Span 8 Deck Slab Pours, no additional Concrete Construction Joints between the Stringer Relief Joints will be permitted.
- For Span 8, the Concrete shall be placed and thoroughly compacted by vibrating the Steel Grid Floor in a manner satisfactory to the Engineer.
- For Spans 7 and 9, the Metal Stay-in-Place Deck Slab Forms, (if utilized) can be placed anytime. ⚠ Delete
- For Spans 7, 8 and 9, the placement sequence for the Parapet Concrete shall be at the Contractor's option.
- A 4" horizontal haunch will be provided for full length of girder wherever Stay-In-Place forms are used.

NOTES:
- For details of Parapet Joint, Deflection Joint, and Drip Notch, see drawing "Deck Slab Reinforcement - Spans 1, 2 and 3".
- For Scupper Locations, see drawing "Truss Framing Plan."
- For Reinforcing at Scuppers, see drawing "Scupper - Span 1 thru 6, 7 and 9".

CONTRACT NO. 4

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY
⚠	109	Delete Ga. #	3/19/76	MZ
⚠	109	Delete (if utilized)	3/18/76	MZ

DESIGNED BY PPA CHECKED BY P.F.S. DATE 3/1/76
DETAILED BY MG CHECKED BY [illegible] DATE 3/20/78
TRACED BY T.M.K. CHECKED BY [illegible] DATE 3/1/76

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

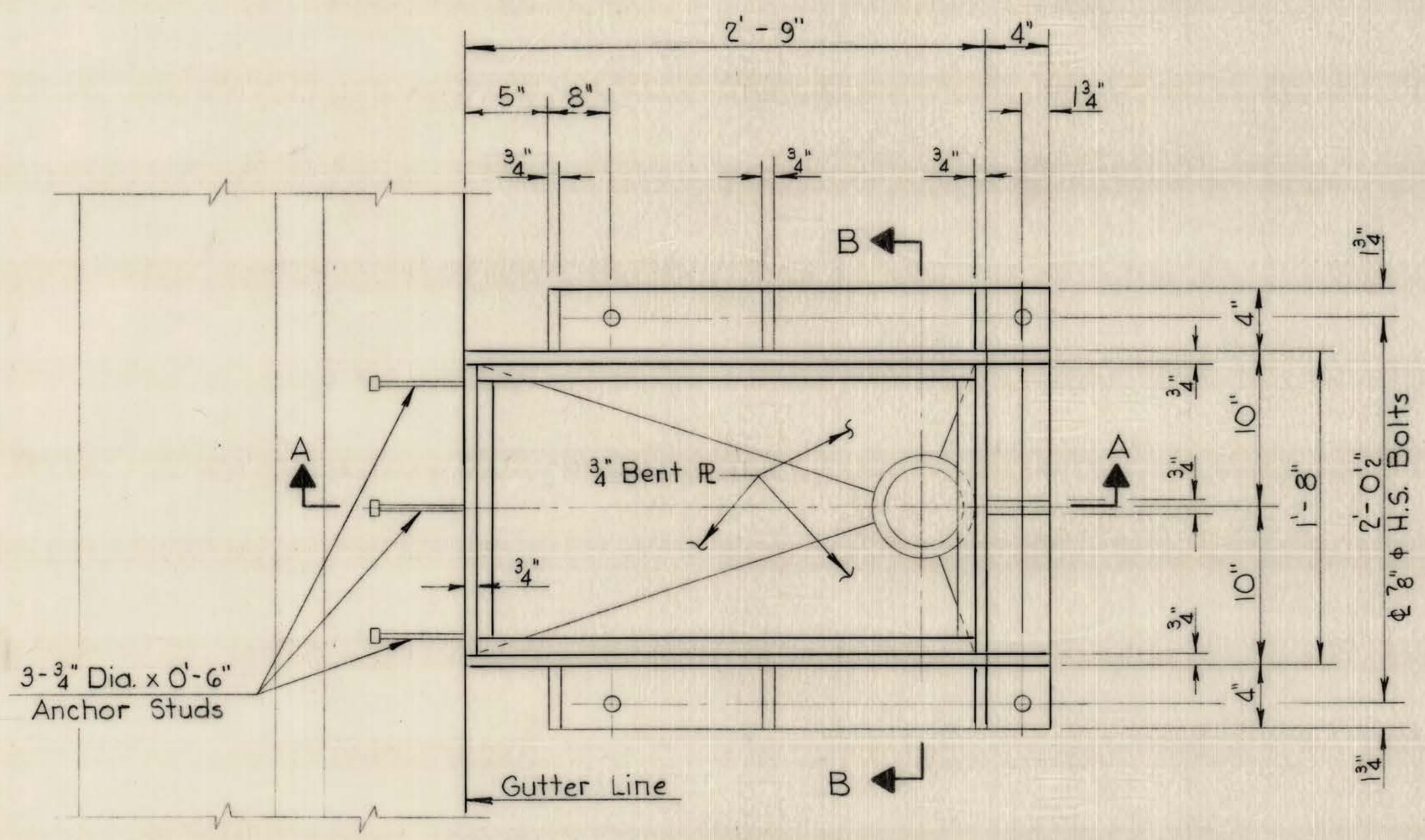
OHIO RIVER BRIDGE AT RAVENSWOOD

DECK SLAB DETAILS FOR TRUSS SPANS

MICHAEL BAKER, JR., INC. CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	69 of 82

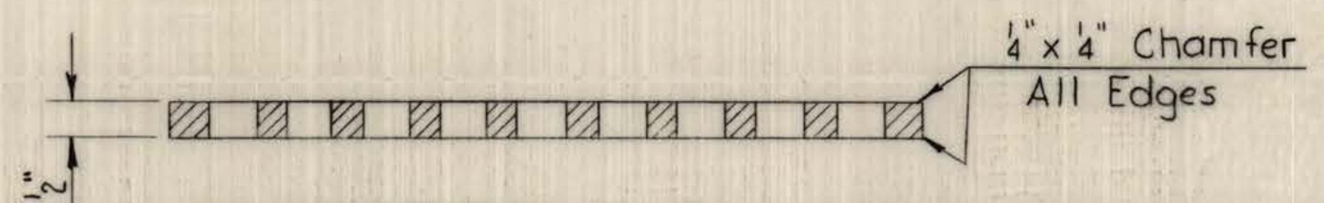
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	110	125



PLAN

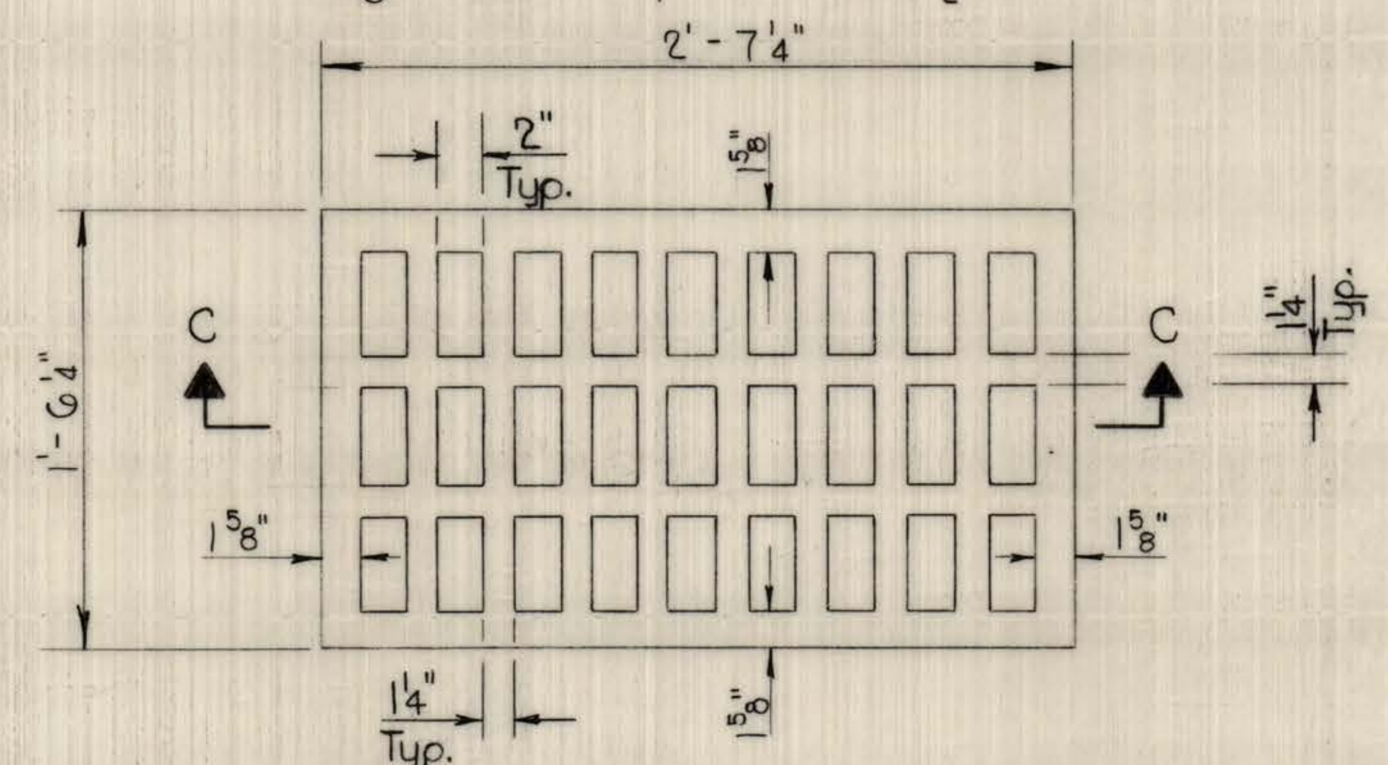
0 1' 2'

NOTE:
Weld shall be ¼" (min) continuous Fillet Weld, Inside and Outside.



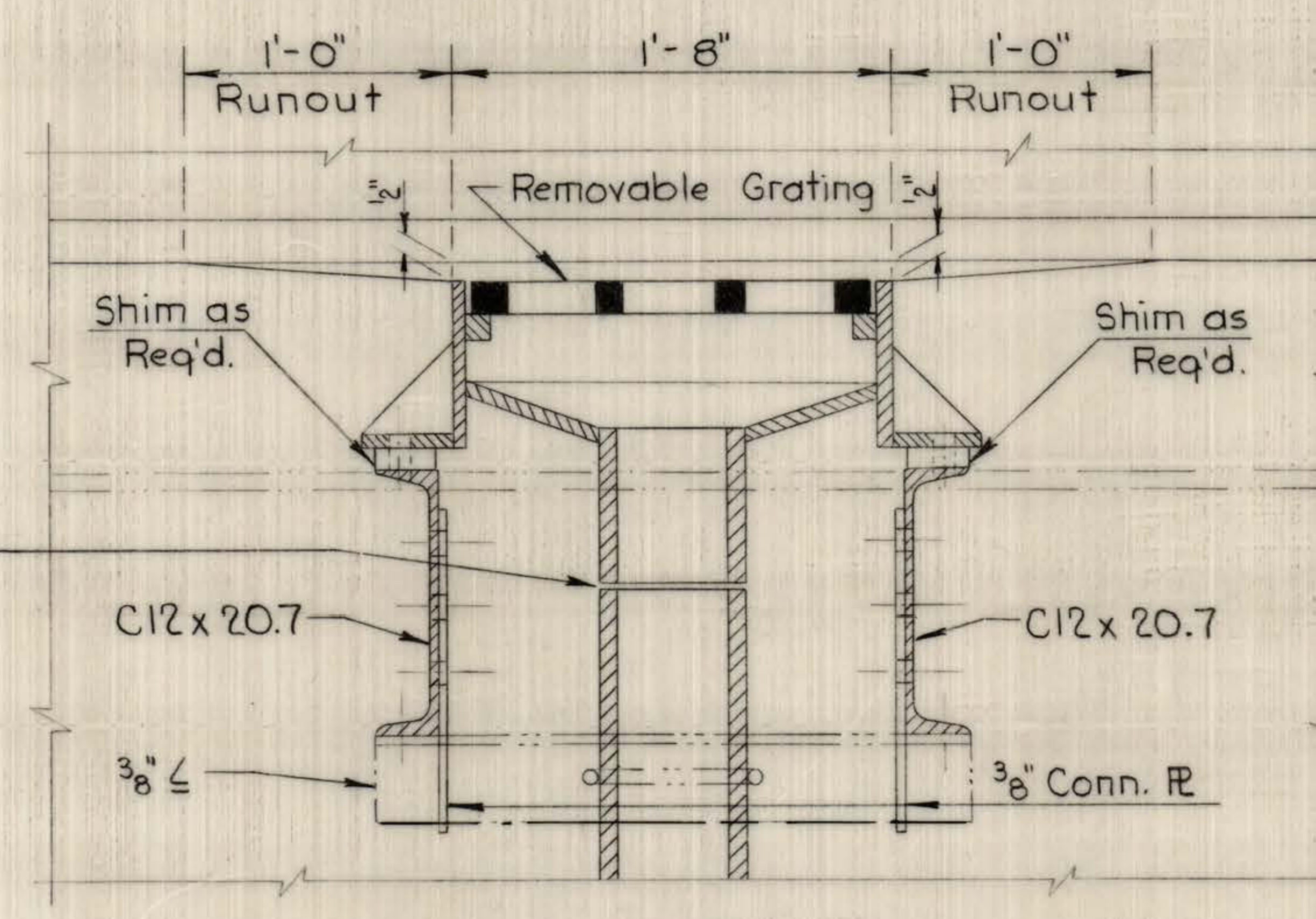
SECTION C-C

0 1' 2'



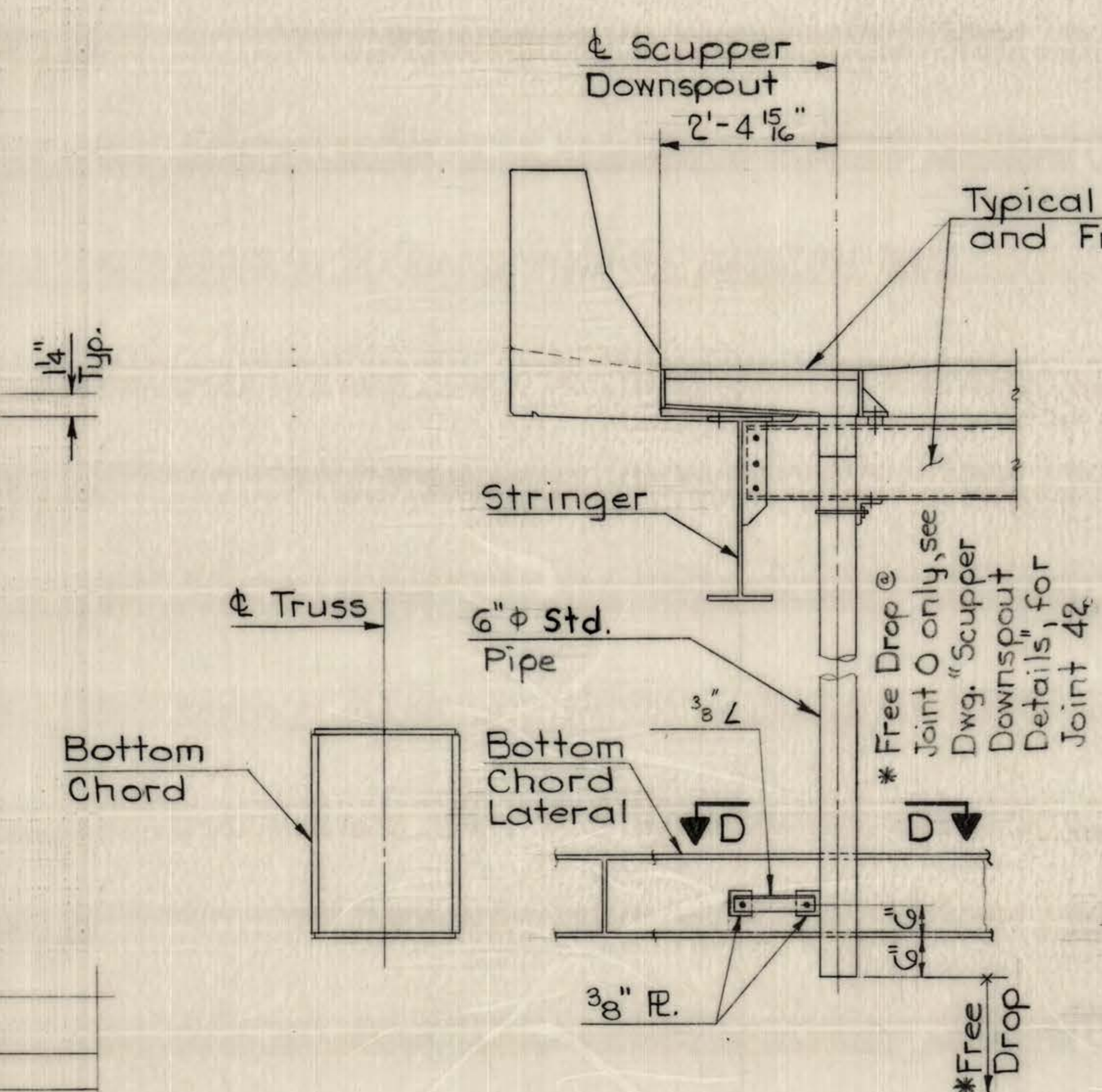
GRATING PLAN

0 1' 2'



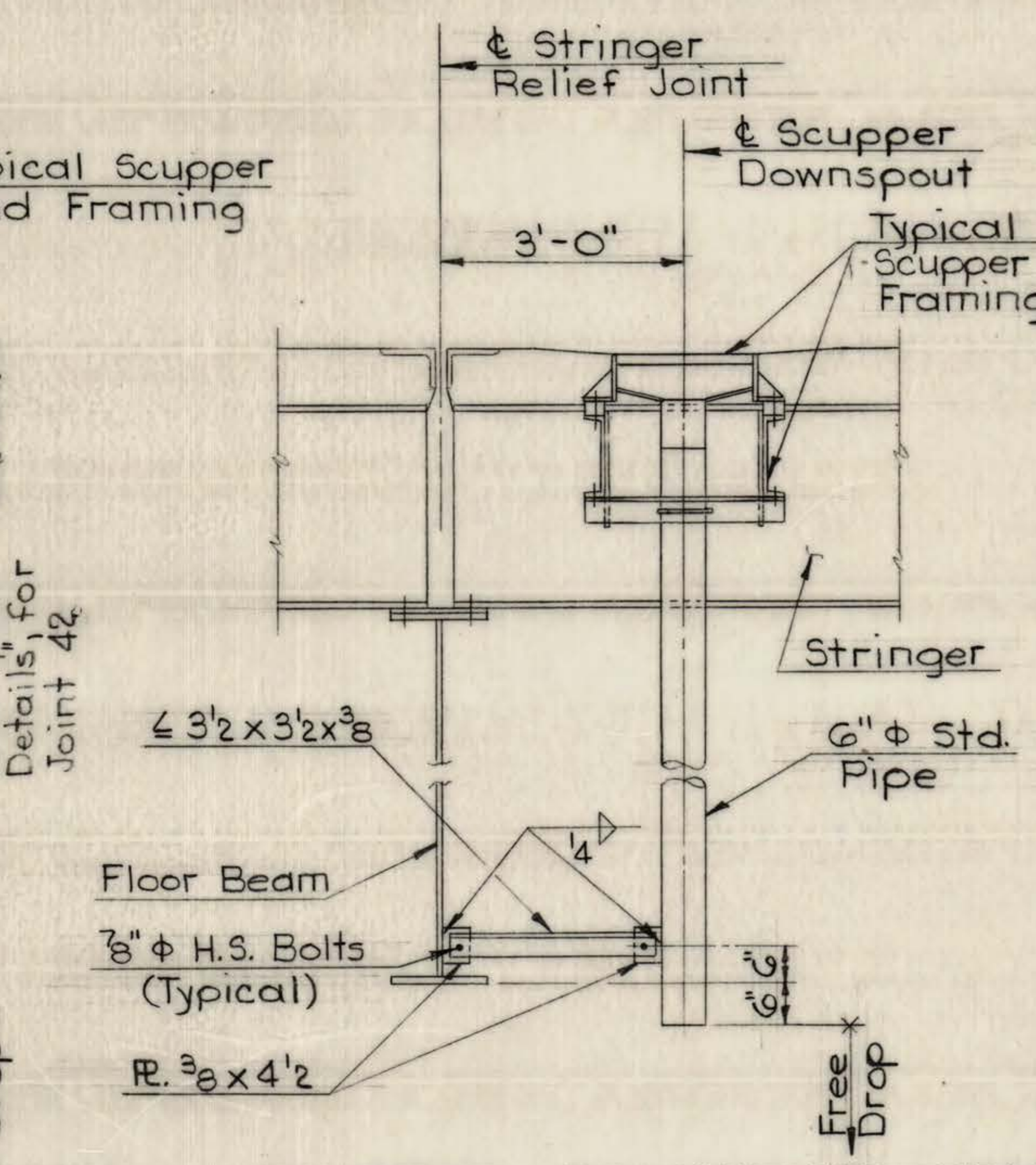
SECTION B-B

0 1' 2'



SCUPPER DOWNSPOUTS NEAR TRUSS JOINTS 0 & 42

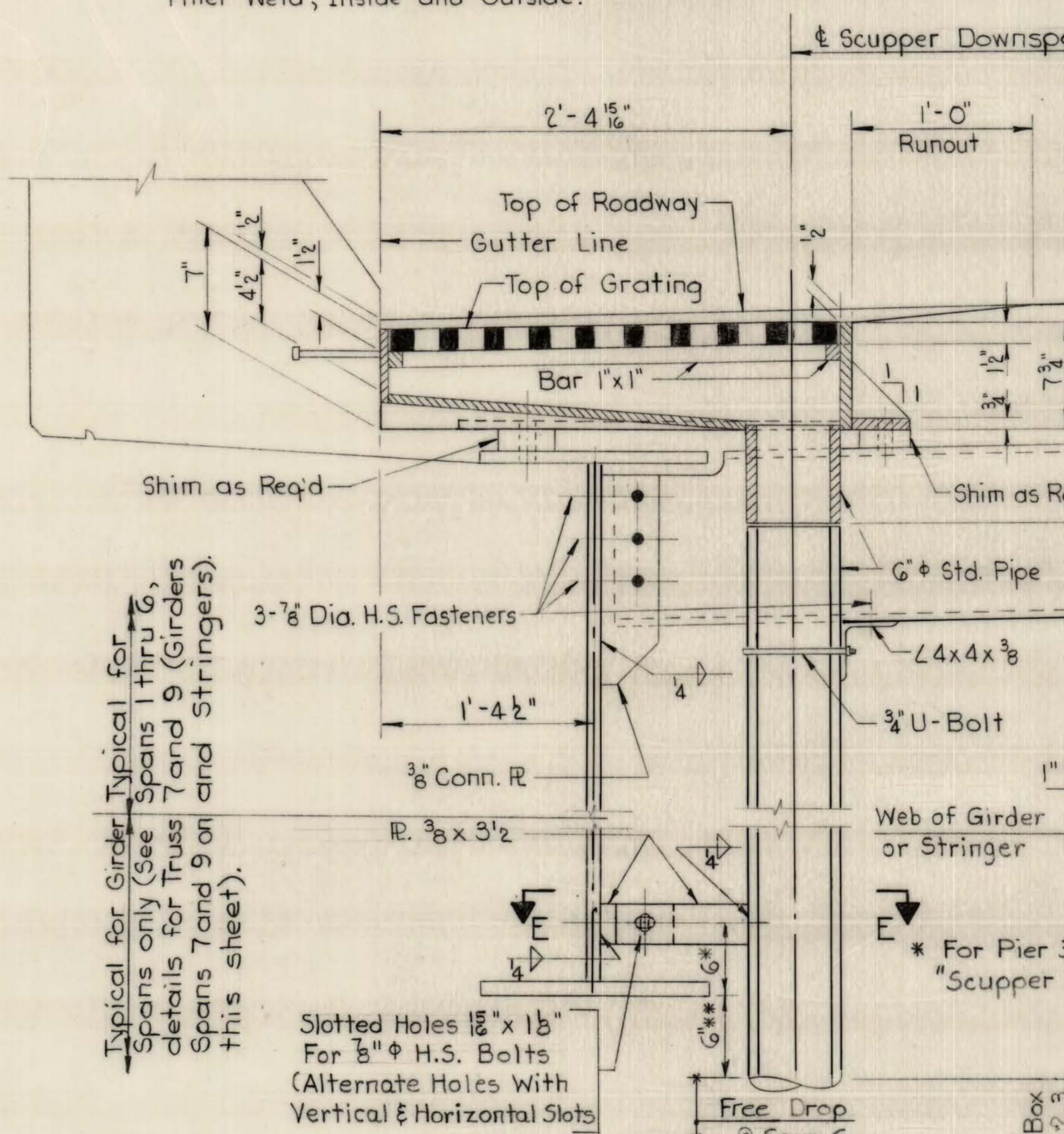
(4 Downspout Connections to Bottom Chord Lateral)



SCUPPER DOWNSPOUTS NEAR TRUSS JOINTS 4, 7, 35, & 38

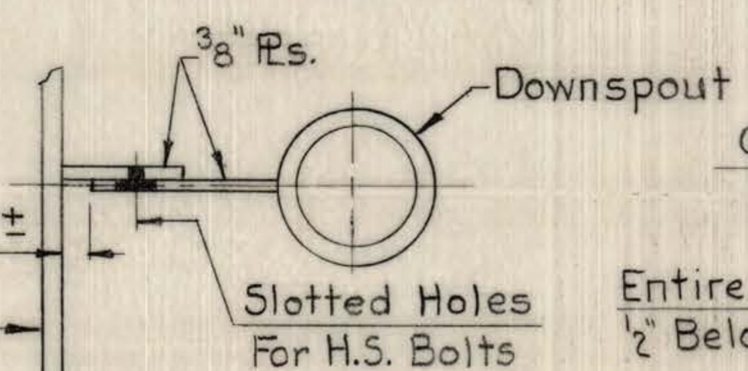
(8 Downspout Connections to Floor Beams)

0 2' 4'



SECTION A-A

0 1' 2'



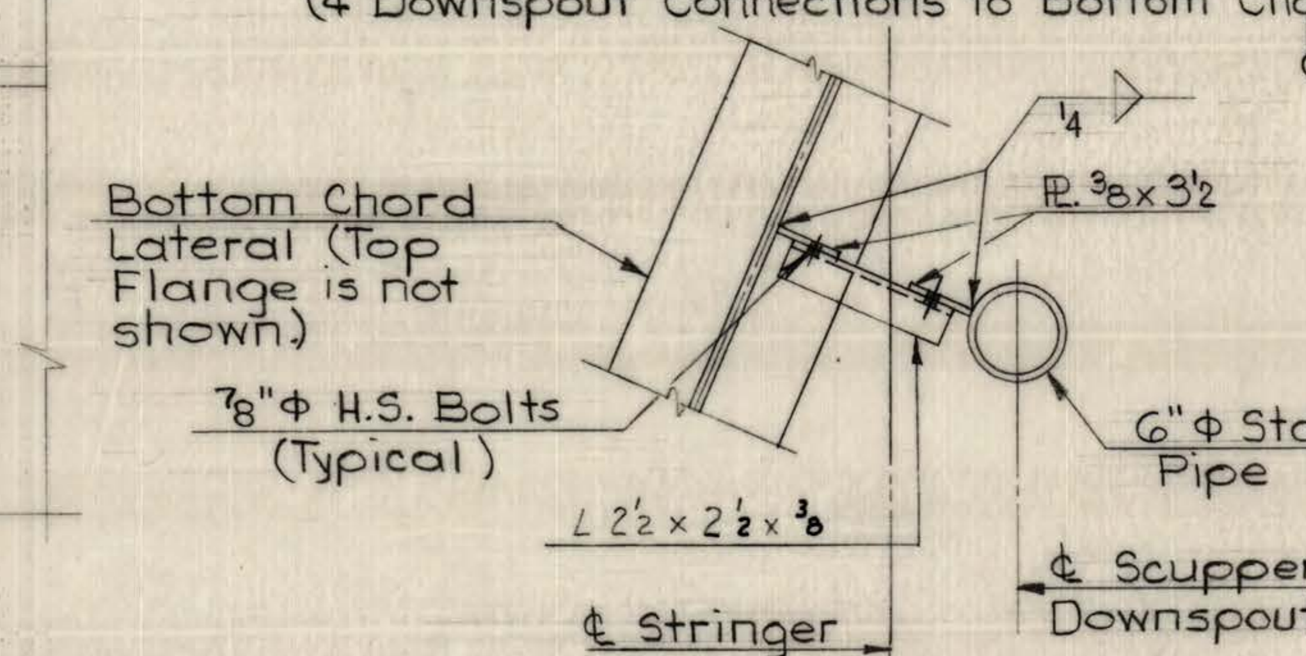
SECTION E-E

No Scale

* For Pier 3 See Drawing "Scupper Downspout Details"

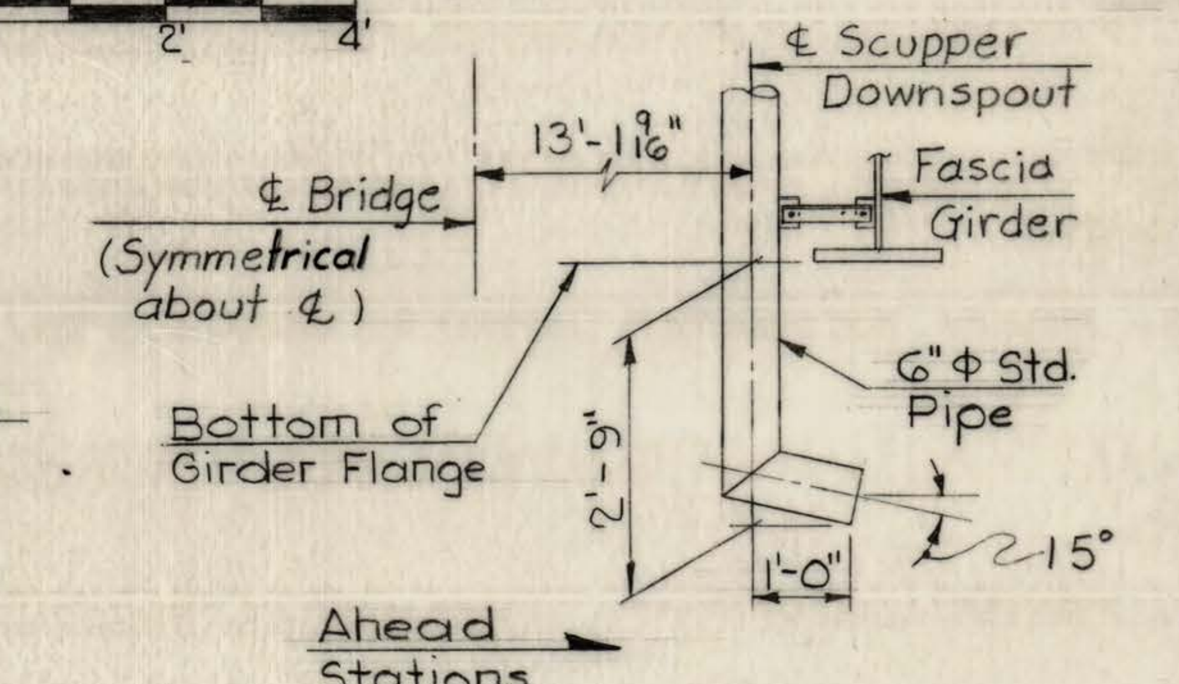
To Drain Box @ Piers 1, 2, 3 and 4. See Drawing "Scupper Downspout Details"

** This dimension is for Scupper Downspout, Span 6. For Dimension at Abutment A, see elevation detail on this sheet.



SECTION D-D

0 1' 2' 3'

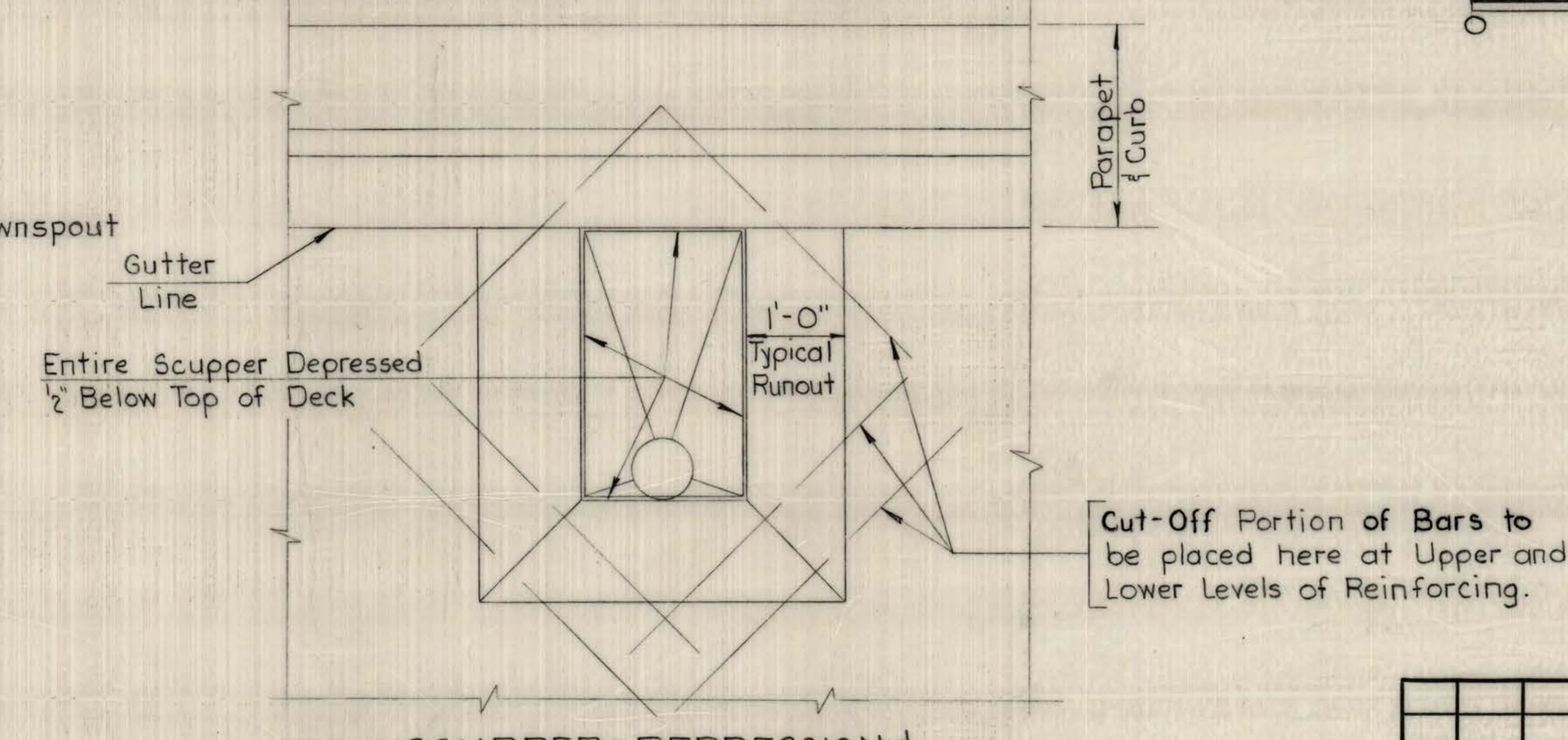


SCUPPER DOWNSPOUTS NEAR ABUTMENT A

0 2' 4'

DRAINAGE NOTES:

- Scupper Boxes, Gratings, Downspouts, Mechanical Couplings, U-Bolts and Brackets shall be painted with a Zinc Rich System, see Drawing "Scupper Downspout Details."
- A Total of 24 Scuppers are required. See the "Steel Framing Plan for Location."
- The Scupper Box shall be ASTM A36 Structural Steel. The Grating shall be ASTM A27 Grade 65-35 Cast Steel or ASTM A36 Structural Steel.



SCUPPER DEPRESSION & REINFORCEMENT DETAIL

0 1' 2' 3' 4'

NOTE:
Where Scupper interferes with Reinforcing Bars, the Bars shall be cut as directed by the Engineer and Cut-Off Portion placed across Corners of Scupper as shown.

CONTRACT NO. 4

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD

SCUPPERS – SPANS 1 THRU 6, 7 & 9

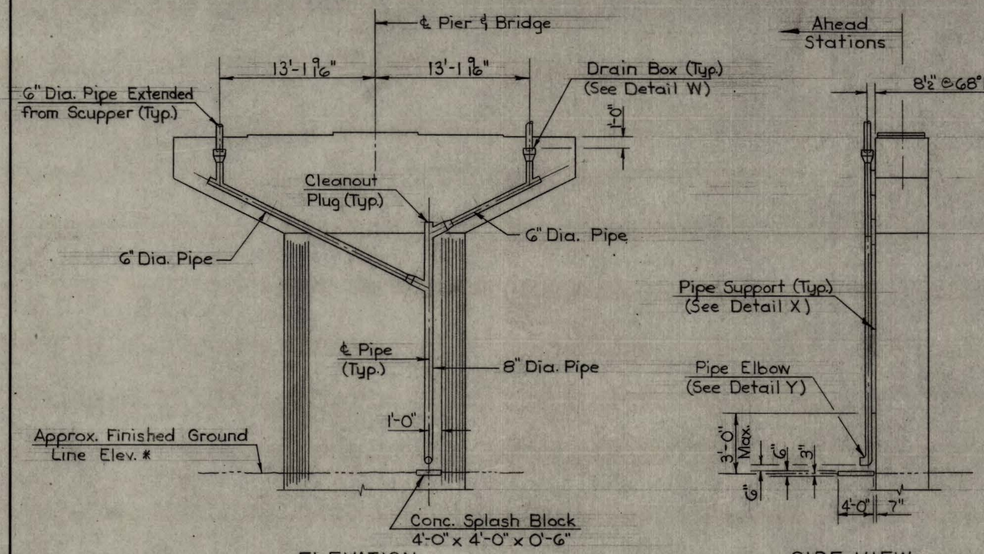
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY —	CHECKED BY —	DATE —
DETAILED BY G.H.H.	CHECKED BY [illegible]	DATE 3/20/78
TRACED BY T.M.K.	CHECKED BY [illegible]	DATE 3/11/76

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	70 of 82

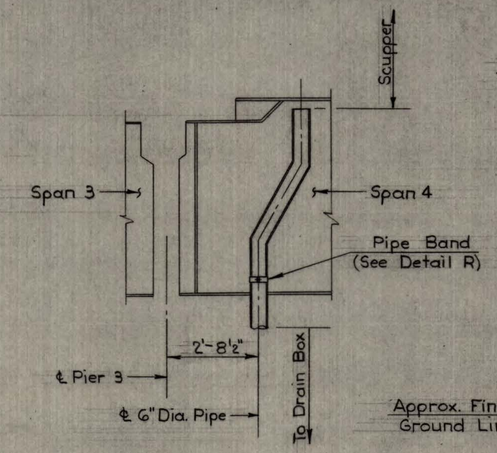
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W. VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	111	125



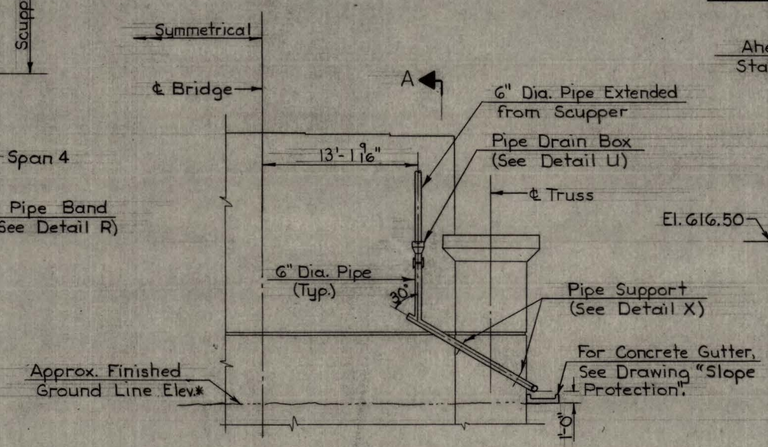
ELEVATION
Looking Back Stations

SIDE VIEW

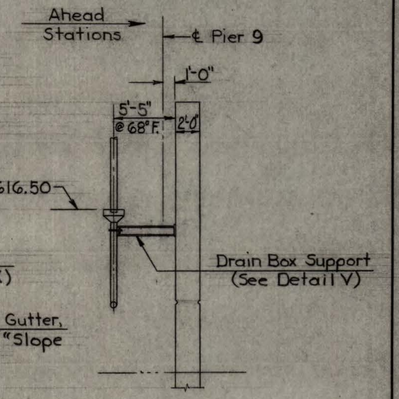
PIERS 1,2,3, AND 4



PIER 3 - SCUPPER TO DRAIN BOX DETAIL



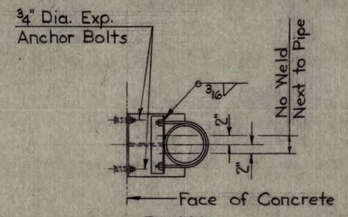
HALF ELEVATION
Looking Ahead Stations



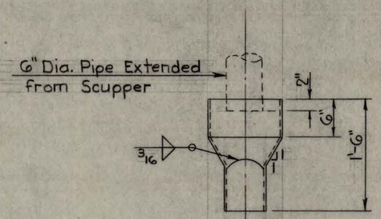
SECTION A-A

PIER 9

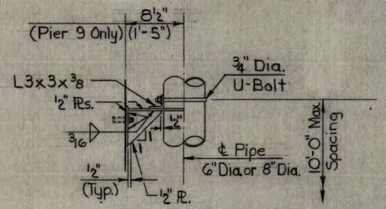
PLAN



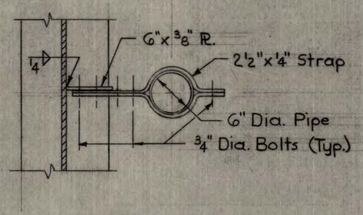
PLAN



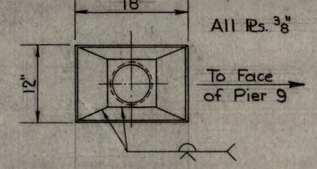
ELEVATION
DETAIL W



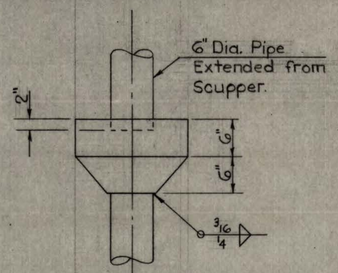
ELEVATION
DETAIL X



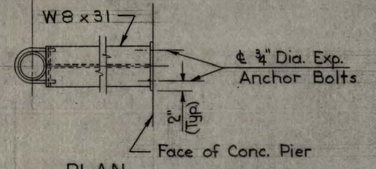
DETAIL R



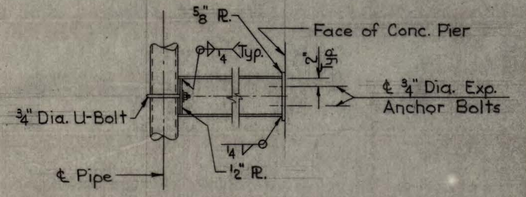
PLAN



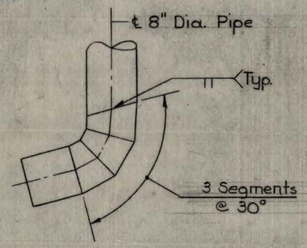
ELEVATION
DETAIL U



PLAN



ELEVATION
DETAIL V



DETAIL Y

PIER	APPROX. FINISHED GROUND ELEVATION *
P-1	584.0
P-2	582.8
P-3	584.4
P-4	583.7
P-9	602.9

(Elev.* to be Verified before Downspout is Fabricated)

NOTES:

- Drain Boxs, Downspouts, Connections, U-Bolts, Supports and Brackets shall be Painted as follows:
  Shop Primer - Section 711.20.2 Dry Film Thickness = 4 Mils.
  Intermediate Field Coat - Section 711.20.3.
  Field Top Coat - Section 711.20.4.
  Total Dry Film Thickness of Paint System = 7 Mils Minimum.
- All Pipe shall be ASTM A53, Type S, Grade B, 40 Schedule.
- Pipe Connections shall be Flange Type.
- For 8" Dia. Pipe Flange Detail See Drawing "Tooth Dam and Trough Details for Dams at Piers 3, 6, and 9". 6" Dia. Pipe Flange Similar.

CONTRACT NO. 4.

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
SCUPPER DOWNSPOUT DETAILS

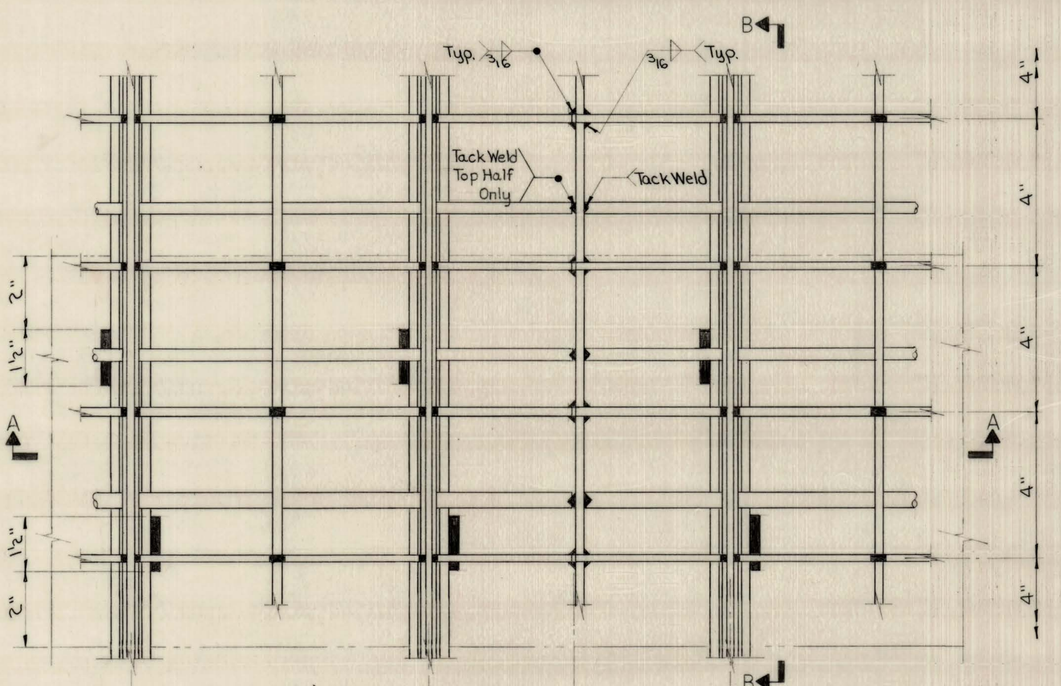
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

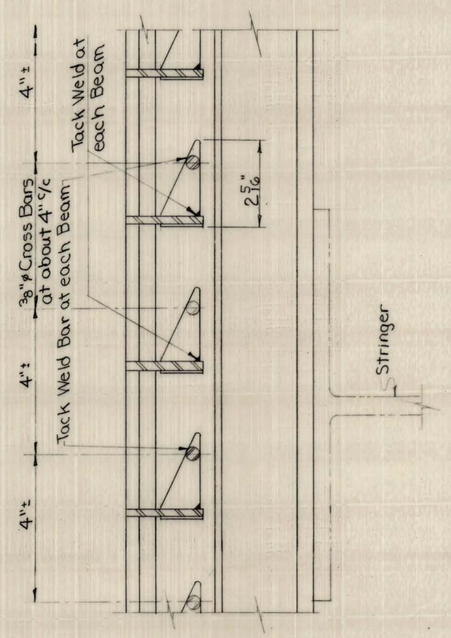
DESIGNED BY PFS CHECKED BY — DATE 6-30-77
DETAILED BY PFS CHECKED BY LAG/RAR DATE 3-20-78
TRACED BY T.M.K. CHECKED BY LAG DATE 6-30-77

DATE	SCALE	BRIDGE NO.	DWG. NO.
JUNE 1977	NO SCALE	2972	71 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W. VA.	3	318 AL56 0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	112	125

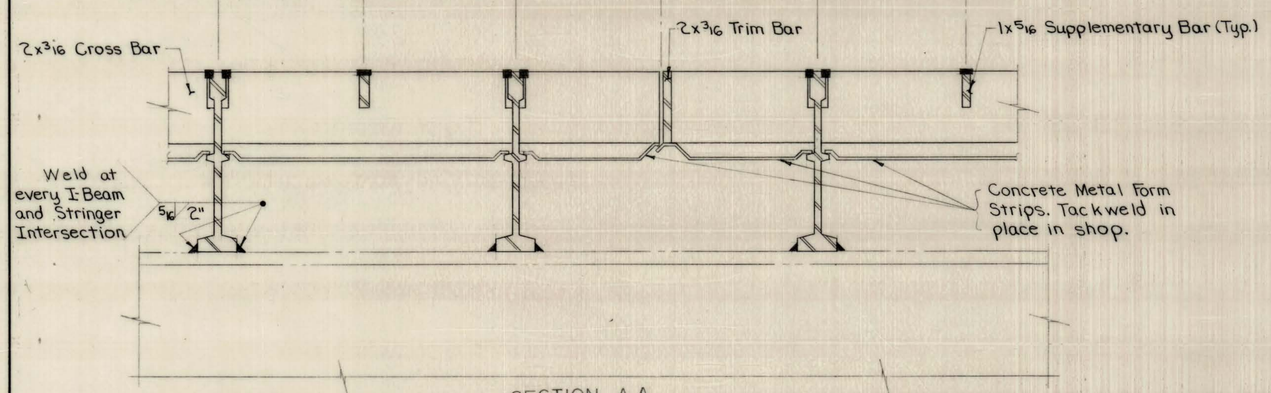


PLAN

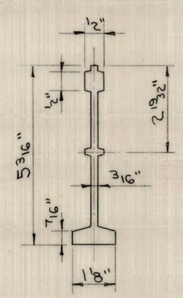


SECTION B-B

Field Splice



SECTION A-A



I-BEAM DETAIL

Weight = 5.54 lbs./ft.

0 1" 2" 4" 6"

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TYPE R HALF-FILLED STEEL GRID
FLOORING DETAILS - SPAN 8

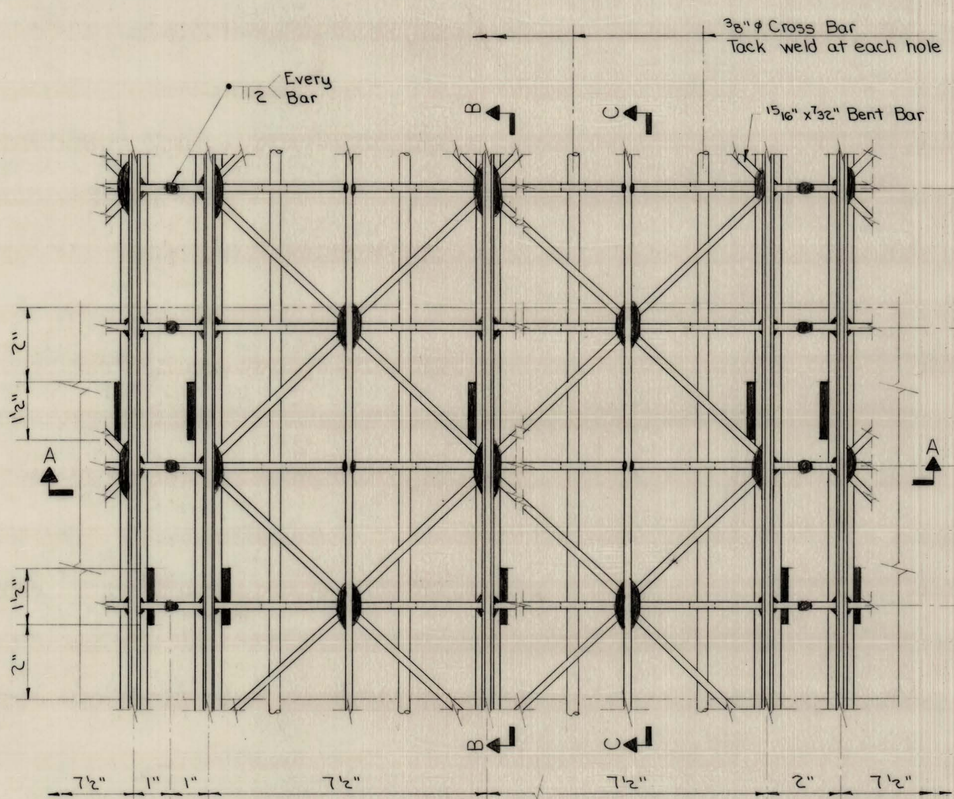
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

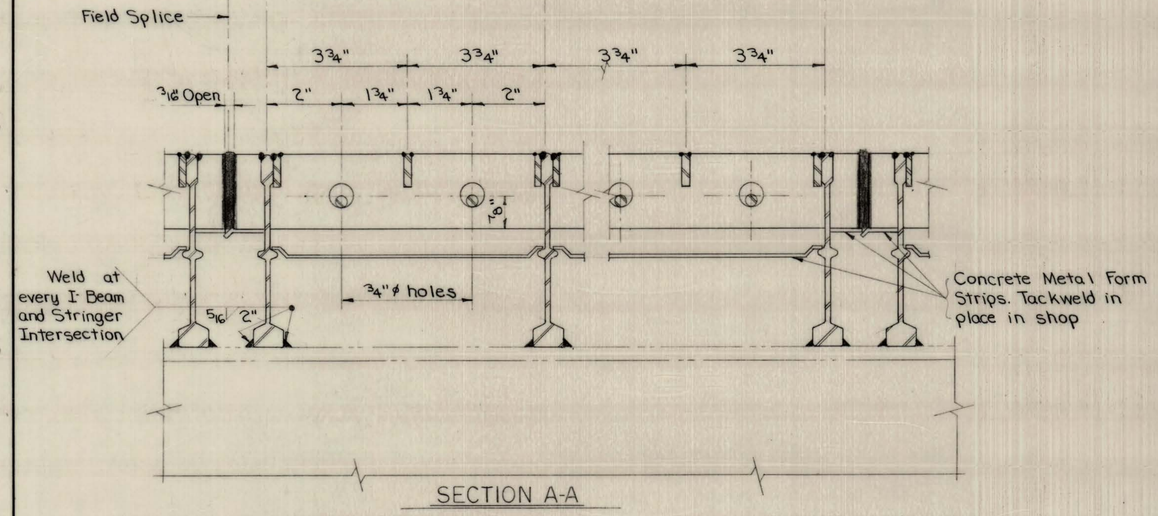
DESIGNED BY PPA CHECKED BY P.F.S. DATE 3/11/76
DETAILED BY JMG CHECKED BY P.F.S. DATE 3/11/76
TRACED BY JMG CHECKED BY P.F.S. DATE 3/11/76

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	72 of 82

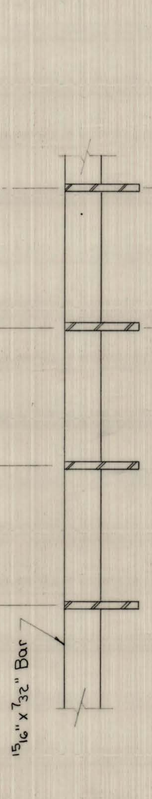
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	113	125

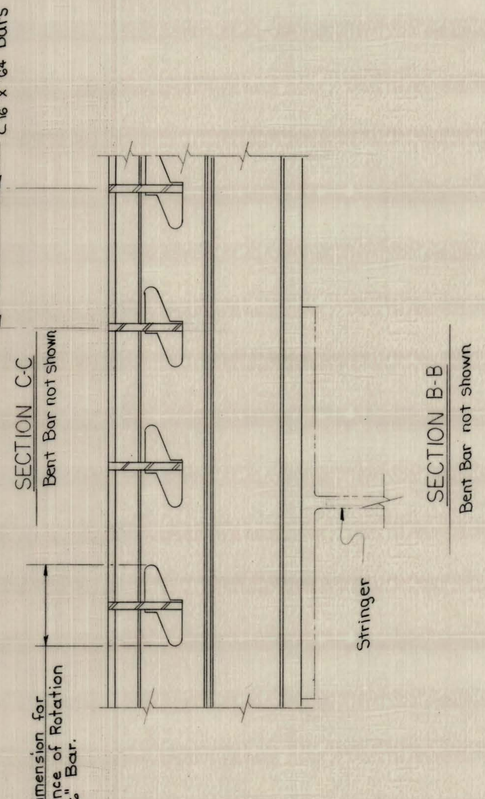


PLAN



SECTION A-A

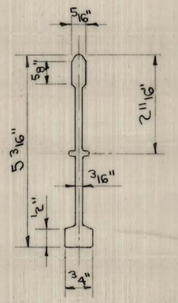




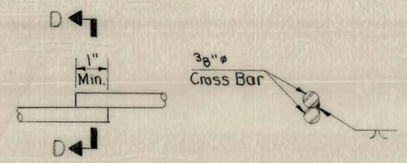
SECTION C-C
Bent Bar not shown

Min. Dimension for Clearance of Rotation of 2 1/16" Bar.

SECTION B-B
Bent Bar not shown



I-BEAM DETAIL
Weight 4.52 Lbs./ft.



CROSS BAR SPLICE DETAIL SECTION D-D
No Scale
(Optional)

0 1" 2" 4" 6"

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TYPE G HALF-FILLED STEEL GRID
FLOORING DETAILS - SPAN 8

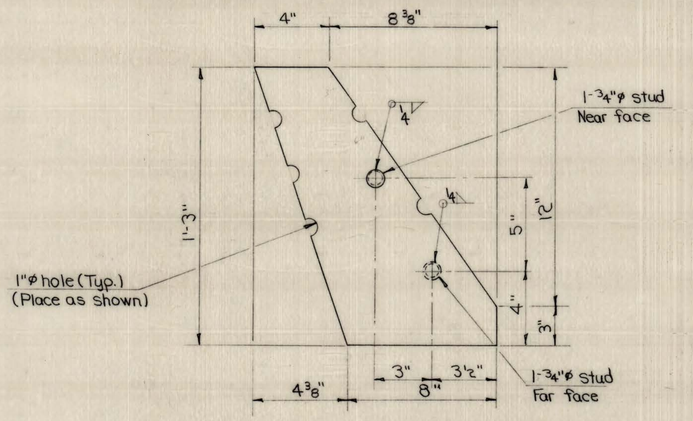
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY P.F.S. CHECKED BY PPA DATE 3/11/76
DETAILED BY JMG CHECKED BY P.F.S. DATE 3/11/76
TRACED BY JMG CHECKED BY P.F.S. DATE 3/11/76

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	73 of 82

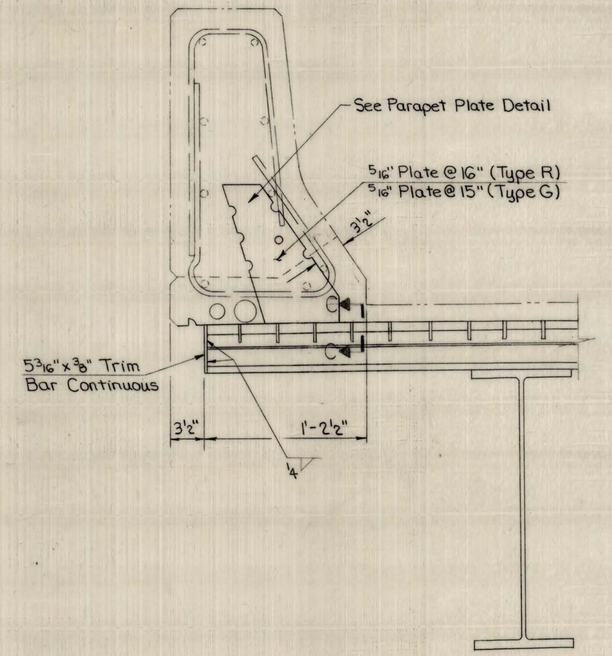
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	114	125



PARAPET PLATE DETAIL

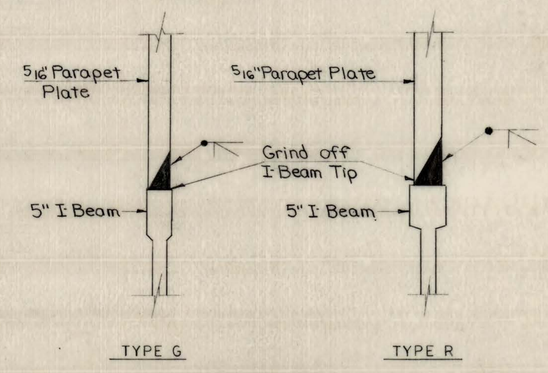
No Scale

(A572)



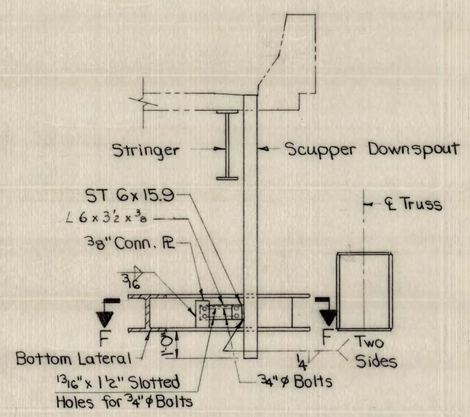
PARAPET CONNECTION DETAIL

0 6" 1' 2'



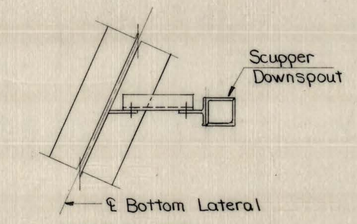
SECTION C-C

0 1/2" 1" 2"



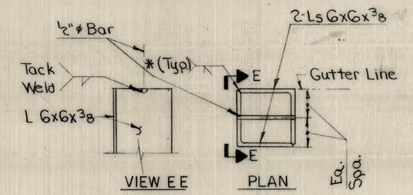
DRAINAGE ELEVATION "TYPE II"

0 1' 2' 4'

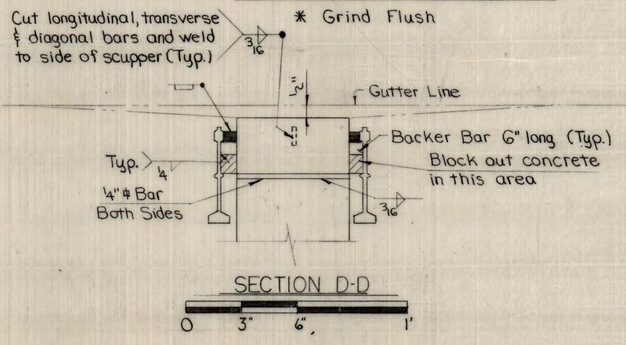


SECTION F-F

0 6" 1' 2'

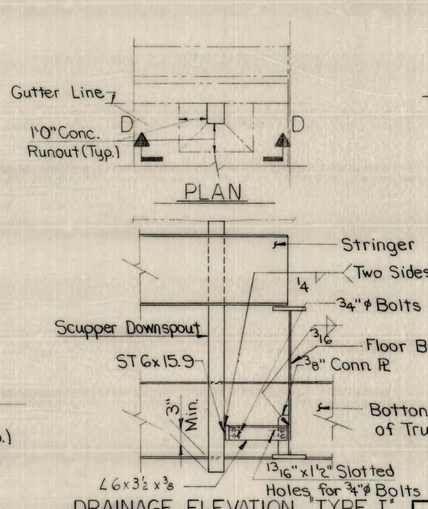


DOWNSPOUT DETAILS



SECTION D-D

0 3" 6" 1'



DRAINAGE ELEVATION "TYPE I"

0 1' 2' 4'

NOTES:

- Refer to dwg. "Stringer Relief Joints in Span 8" for grid flooring at these locations.
- All drainage metal (scuppers, downspouts, etc.) shall be ASTM A588 steel.

CONTRACT NO. 4

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD

COMMON DETAILS FOR TYPE R AND G HALF-FILLED STEEL GRID FLOORING - SPAN 8

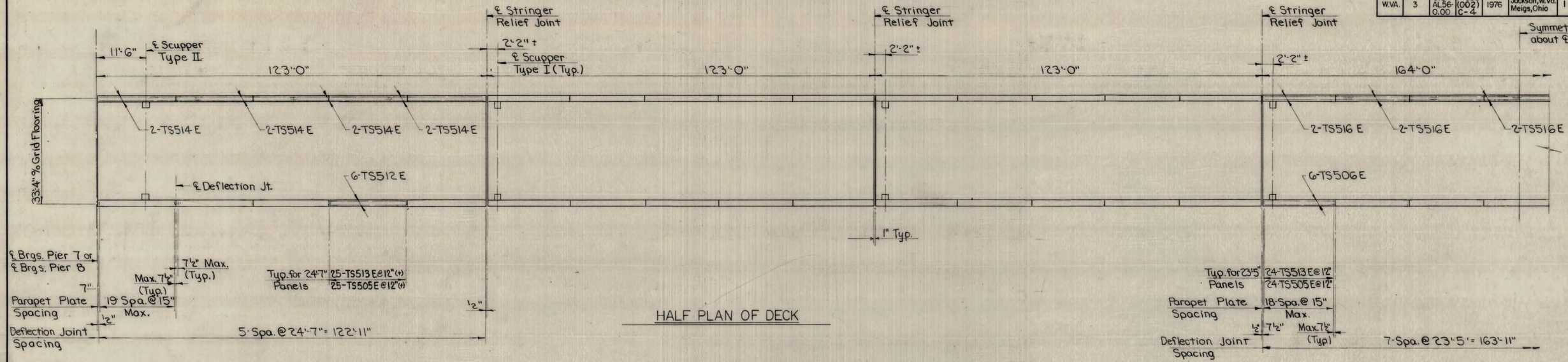
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

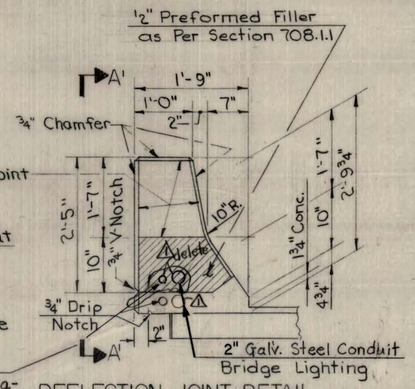
DESIGNED BY	P.F.S	CHECKED BY	PPA	DATE	3/1178
DETAILED BY	JMG	CHECKED BY	P.F.S./PPA	DATE	3/1178
TRACED BY	JMG	CHECKED BY	P.F.S./PPA	DATE	3/1178

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	74 of 82

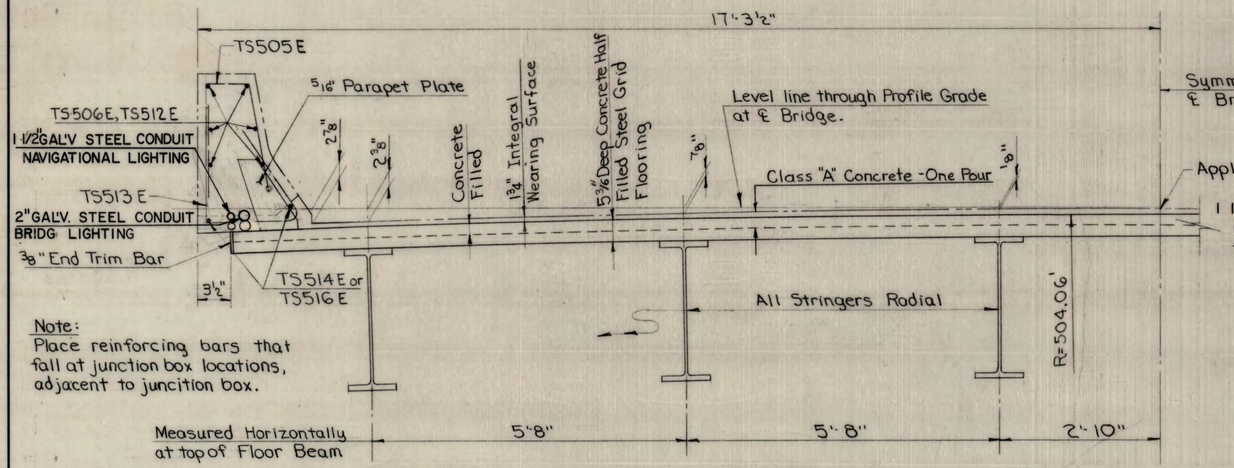
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318 AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	115	125



HALF PLAN OF DECK



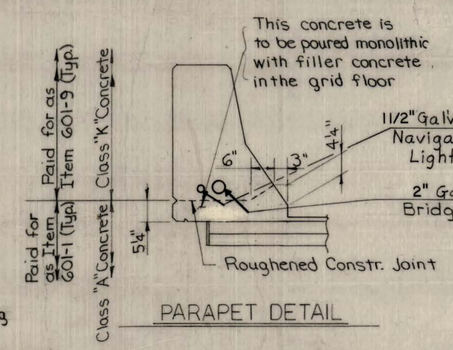
DEFLECTION JOINT DETAIL



Note:
Place reinforcing bars that fall at junction box locations, adjacent to juncition box.

TYPICAL DECK HALF CROSS SECTION

0 6" 1' 2'



PARAPET DETAIL

NOTES FOR THE SPAN 8 BRIDGE DECK:

- Either Type G or Type R steel grid flooring may be supplied.
- Refer to Section 621.2.2 of the Specs. for the concrete filler.
- The concrete metal form strips shall be 20 gage minimum and shall be paid for as Item 621-1.
- All grid flooring units shall be shop cambered to conform to the finished crown.
- The round bars in the grid flooring shall conform to ASTM A615 Grade 40, and need not be deformed.
- The scuppers attached to the steel grid flooring, the parapet plates and the stringer relief joint metal to the steel grid flooring shall be included in the per square foot payment for Item 621-1.
- Amending the Section 621.9 for painting of grid floor, the under surfaces of the units shall not be painted.
- All components of the steel grid flooring excepting metal form strips shall conform to ASTM A588 and shall provide an atmospheric corrosion resistance of at least four times that of mild carbon steel without copper.
- Metal form strips used in concrete filled grid floor shall conform to requirements of ASTM A606.
- The filler concrete for the steel grid floor shall be thoroughly compacted by vibrating the steel grid floor. The vibrating device and the manner of operating it shall be subject to the approval of the Engineer.

⚠ Revision ⚠ is to be deleted & the galvanized steel conduits run through the parapet as shown.

NOTES:

- For parapet plate details and 3/8" end trim bar see dwg. "Common Details for Type R and G Half Filled Steel Grid Flooring - Span 8
- Parapet plate spacing shown is for Type G. Type R shall be at 16" maximum.
- Parapet plates at the ends of all joints shall have both 3/4" dia. studs welded to the side of the plate facing the interior parapet plates.
- Deflection joint spacing may be modified to accomodate spacing of parapet plates, but in no case shall the spacing exceed 25'-0" and the minimum shall be approved by the engineer.
- View A'-A' is similar to View A-A on dwg. "Deck Slab Reinforcement Spans 1, 2 and 3."

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TYPE R AND G CONCRETE HALF-FILLED
STEEL GRID FLOOR - SPAN 8

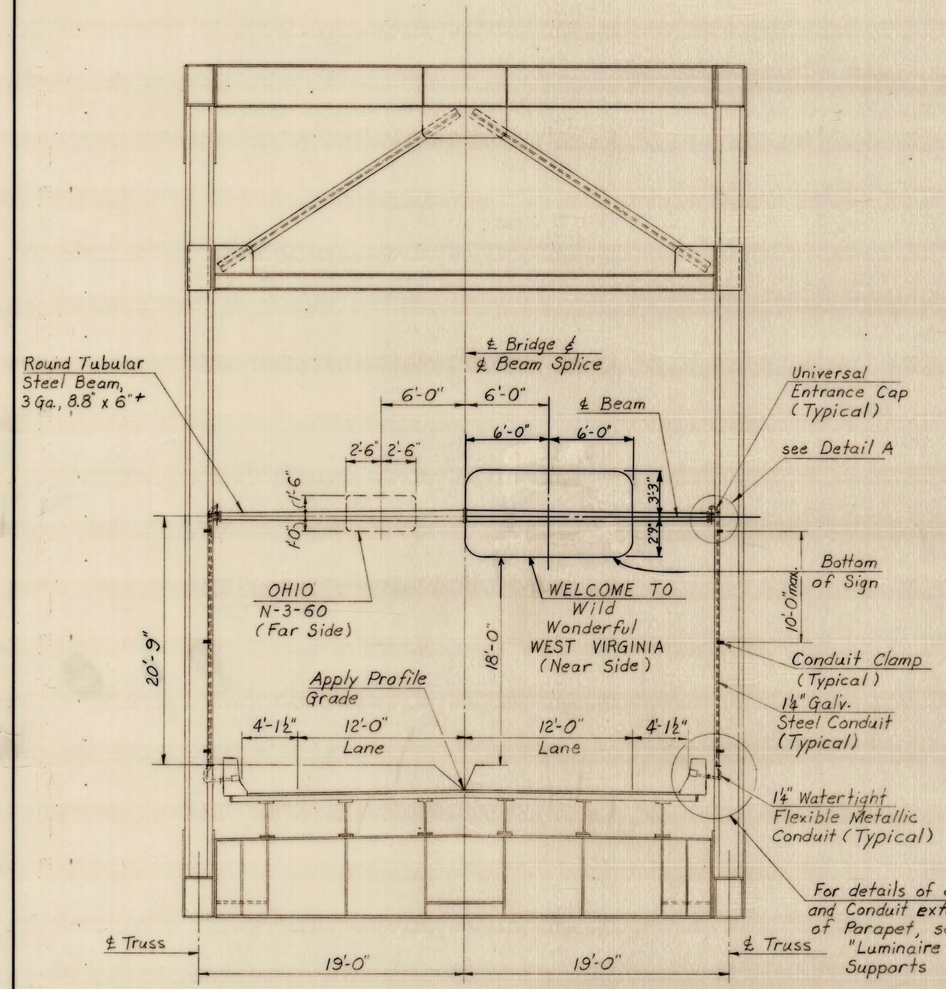
REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY
⚠	115	Delete Rev. ⚠	10/3/80	JEB
⚠	115	Relocated Galvanized Steel Conduits	3-23-79	JED

DESIGNED BY PPA CHECKED BY P.F.S. DATE 3/1/76
DETAILED BY JMG CHECKED BY P.F.S./RAR DATE 3/20/78
TRACED BY JMG CHECKED BY P.F.S. DATE 3/1/76

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

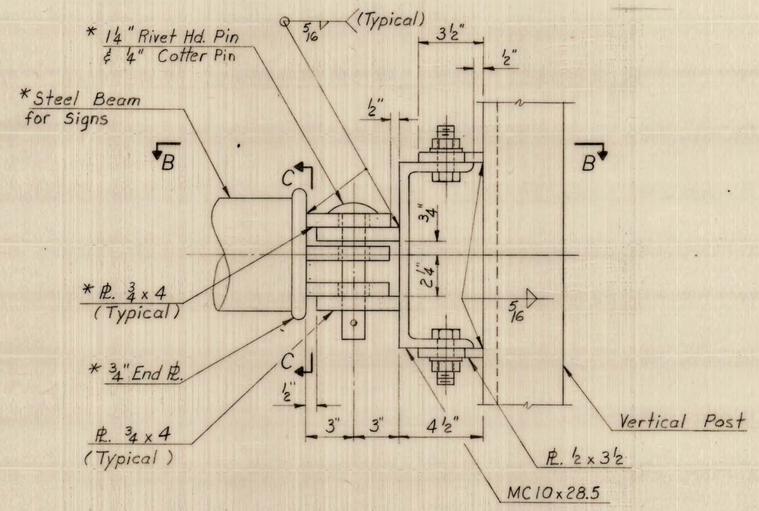
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	75 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318 AL56 0.00	F-338 (002) C-4	1976	Jackson, W.Va Meigs, Ohio	116	125

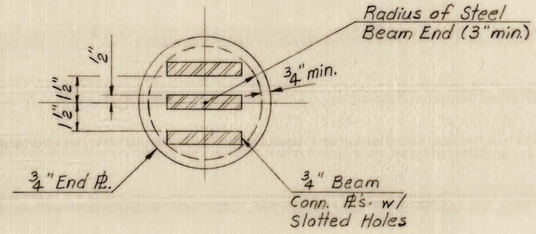


ELEVATION
TRAFFIC SIGN SUPPORT
AT PANEL POINT 20
STATION 839+59
(Looking Ahead Stations)

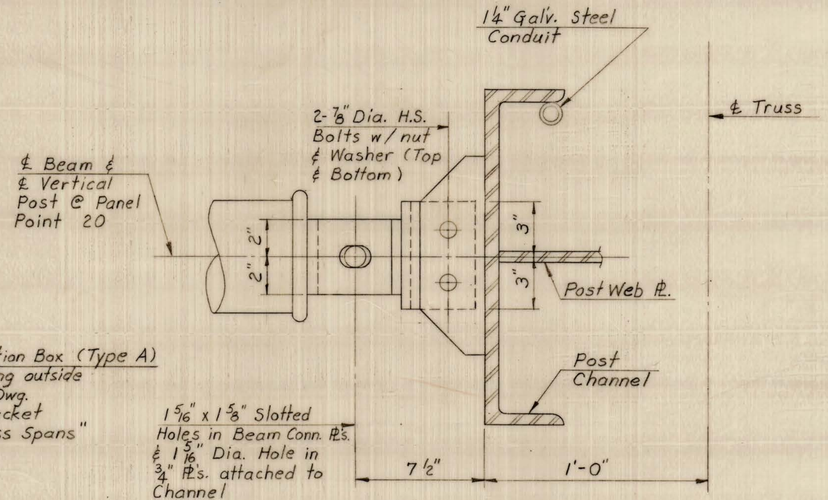
0 3' 6' 9' 12'



DETAIL A



SECTION C-C



SECTION B-B

0 3" 6" 9" 1'-0"

NOTES:

- For additional details of Traffic Sign Support see "West Virginia Department of Highways Standard Sheets TE 3-2 and TE 6-3D."
- Traffic Sign Beam, all plates, channels, bolts, nuts, washers and pins shall be painted in accordance with Structural Steel.
- * Traffic Sign Beam, Splice Plates, End Plates, Beam Connection Plates, and Rivet Head Pins shall have a minimun yield strength of 55,000 p.s.i. (Steel). All other Connection Plates and Channel Sections shall be A36 Steel.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
TRAFFIC SIGN SUPPORT - SPAN 8

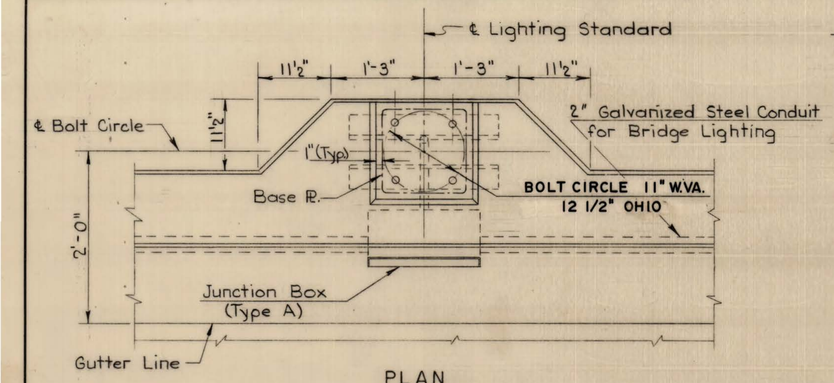
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY GAL CHECKED BY GGB DATE 3/3/76
DETAILED BY GAL CHECKED BY GGB DATE 3/4/76
TRACED BY GAL CHECKED BY GGB DATE 3/4/76

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	76 of 82

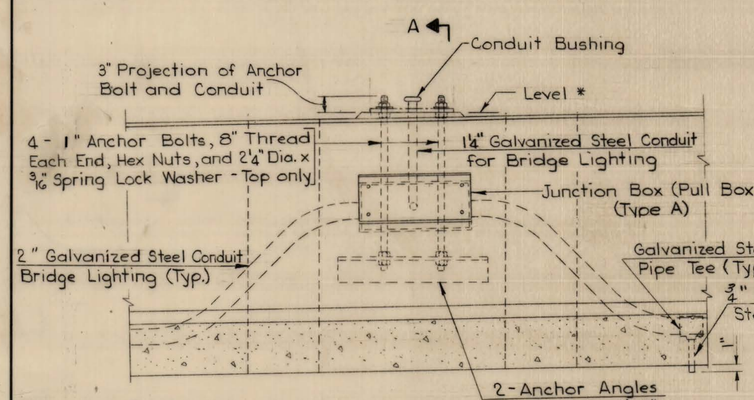
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL.56 0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	117	125



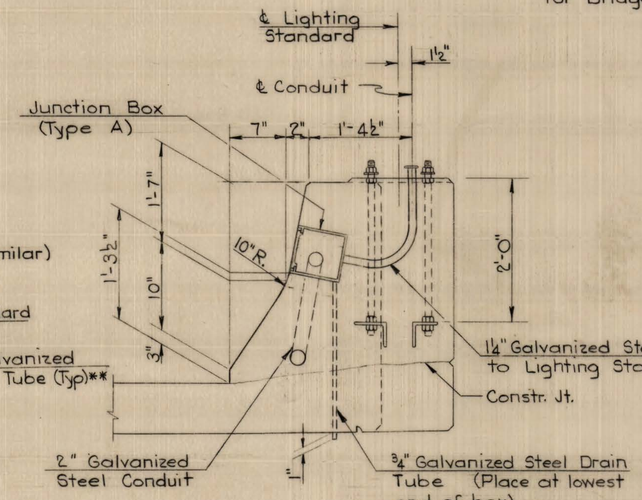
PLAN

Notes For Parapet Lighting Standard:

- Anchor Bolts shall be accurately set by Template supplied by Pole Manufacture to the correct Elevation and Alignment, and shall be securely Braced against Displacement before the Concrete is placed.
- Anchor Bolts shall conform to the Requirements of **Special Provisions Section 662.2 13.1.6 and Anchor Angles shall be ASTM A36 Steel.**
- **All above shall be bid as part of Item 662-14 for W.VA. and Item S625-22 for Ohio.**



ELEVATION



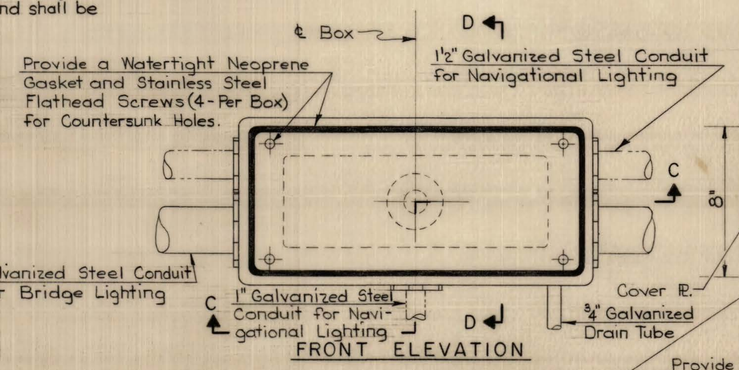
SECTION A-A

* Leveling Pad shall be poured integrally with Parapet. Minimum height of Pad shall be ½" and edges shall be Chamfered.

** Drainage Tubes shall be installed in low point of Conduit Run.

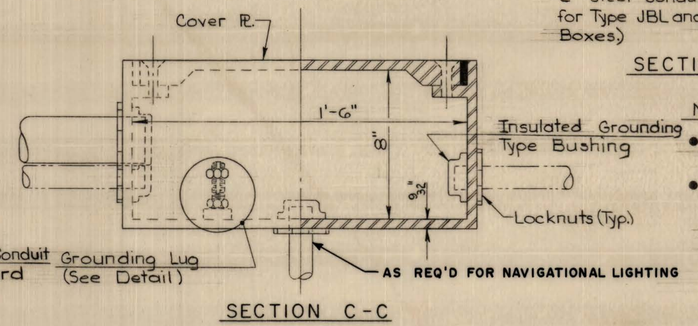
TYPICAL PARAPET LIGHTING STANDARD INSTALLATION

0 1' 2' 3'



FRONT ELEVATION

SECTION D-D



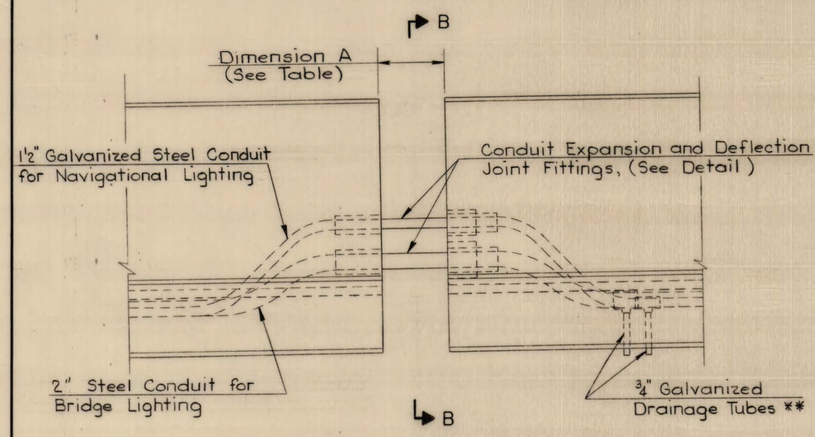
SECTION C-C

Notes For Junctions Boxes (Type A):

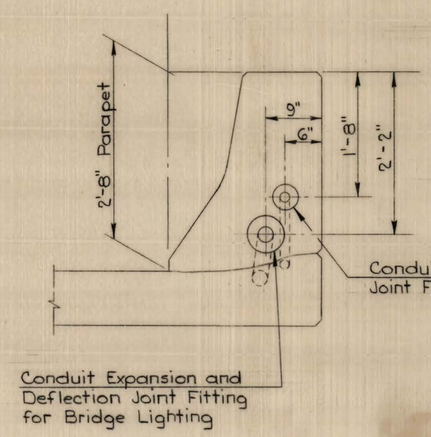
- All Boxes shall be Cast Steel and Galvanized.
- For Location of Type JBL, JBN, PBL, and PBN, see drawing "Layout for Bridge Roadway and Navigational Lighting."

TYPICAL TYPE A JUNCTION BOX AND PULL BOX DETAIL

0 6" 1'



ELEVATION

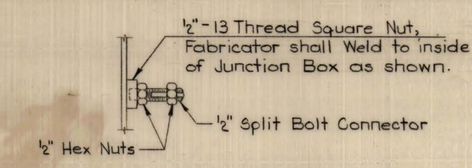


SECTION B-B

CONDUIT RUN THROUGH DECK JOINTS

(Typical at Abutments, Piers 3, 6, and 9, and Stringer Relief Jts.)

0 1' 2' 3'



GROUNDING LUG

0 6" 1'

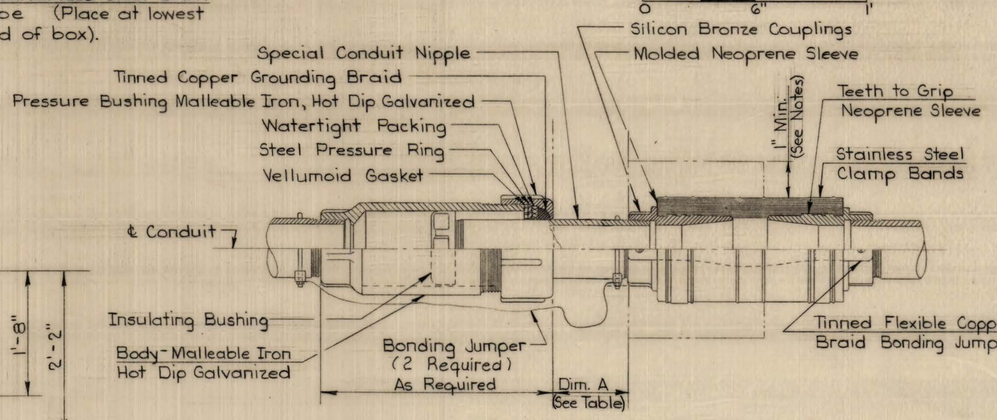


TABLE FOR DIMENSION A			
Location	Min.	Normal	Max.
Abutment A	1"	4"	6"
Abutment B	1"	1½"	4"
Piers 3 and 9	2"	4"	7"
Pier 6	4"	10½"	20½"
Stringer Relief Jts.	½"	1"	1½"

Note:

- Provide opening in Concrete all around edge of Fitting to be at least 1" to provide for ¾" maximum Deflection.

CONDUIT EXPANSION AND DEFLECTION JOINT FITTING

No Scale

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
ROADWAY AND RIVER NAVIGATION
LIGHTING DETAILS IN BRIDGE PARAPETS

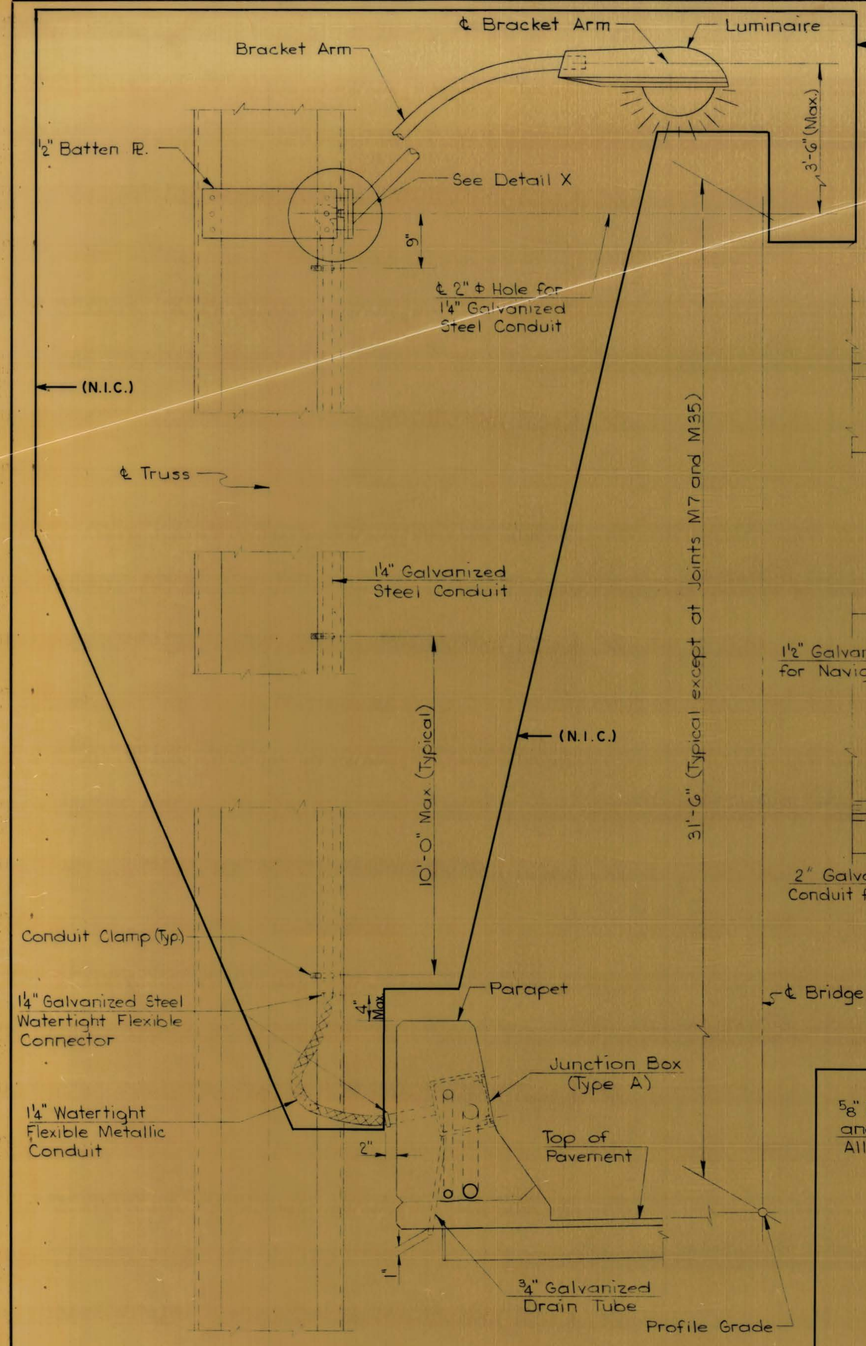
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY JAB CHECKED BY GGB DATE 3/2/76
DETAILED BY JAB CHECKED BY GGB DATE 3/11/76
TRACED BY T.M.K. CHECKED BY GGB DATE 3/11/76

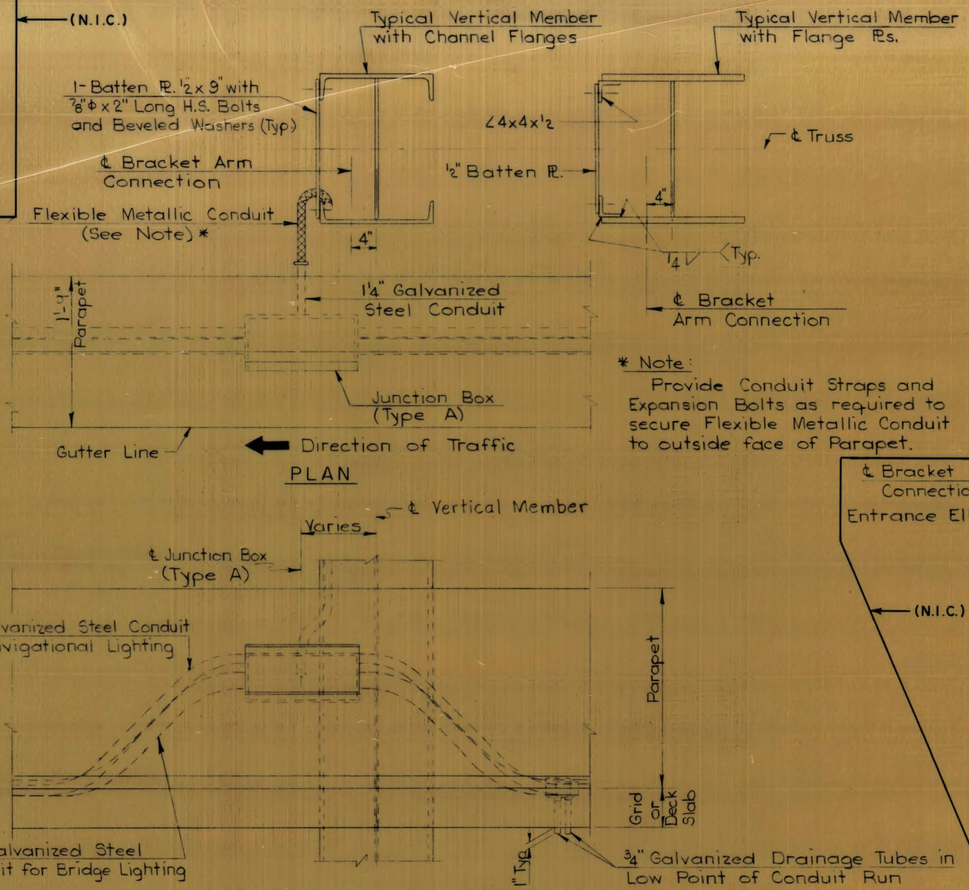
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	77 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-339 (02) C-4	1976	Jackson, W.Va. Meigs, Ohio	118	125



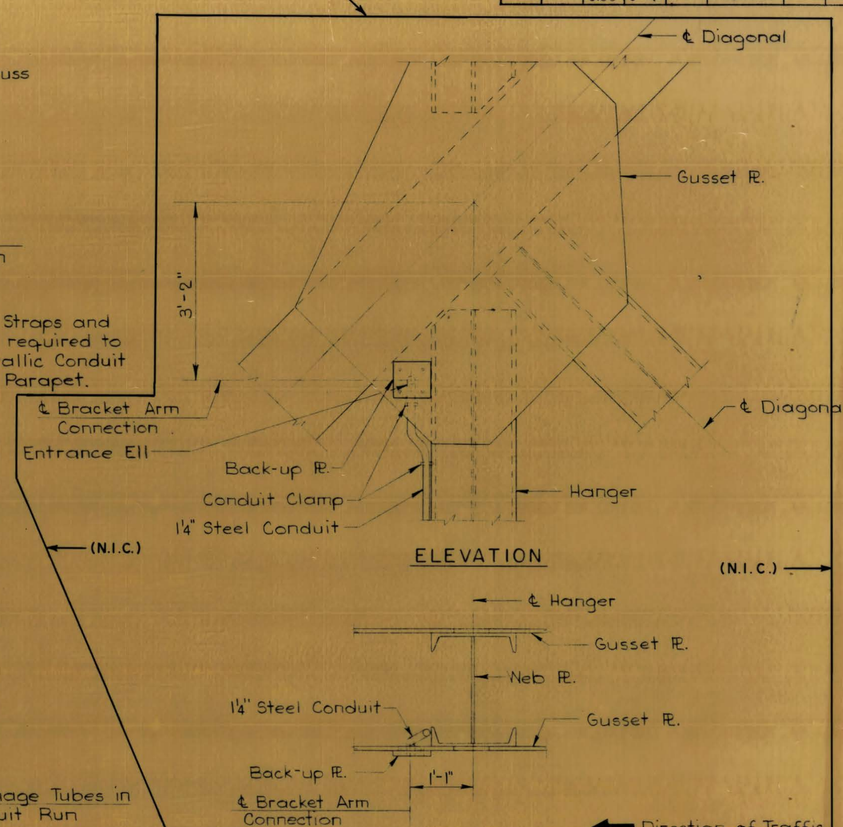
BRACKET ARM MOUNTING AND BRIDGE LIGHTING FOR TRUSS SPANS

0 1' 2' 3'



TYPICAL PARAPET JUNCTION BOXES FOR TRUSS SPANS

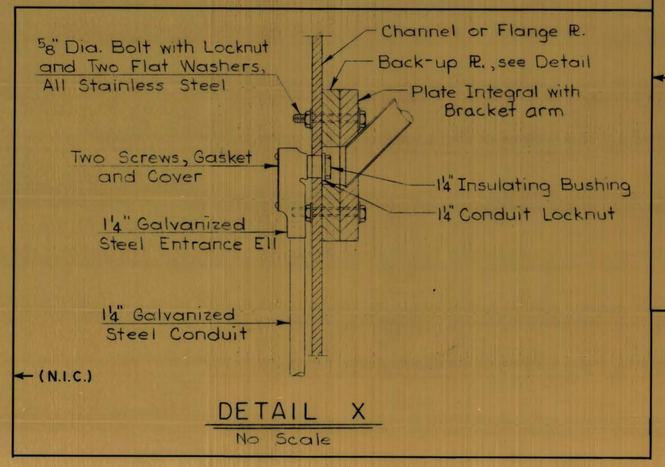
0 1' 2' 3'



BRACKET ARM MOUNTING AT JOINT M7

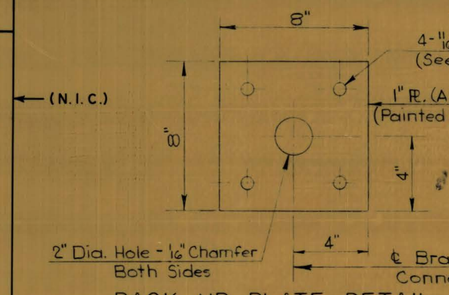
(Typical for Joint M35, except Opposite Hand and Opposite Truss)

0 1' 2' 3'



DETAIL X

No Scale



BACK-UP PLATE DETAIL

No Scale

** Note:
Spacing of 1 1/16" Dia. Holes to match with Holes in Luminare Bracket Connection Plate as supplied by Manufacturer.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
LUMINAIRE BRACKET SUPPORTS
TRUSS SPANS

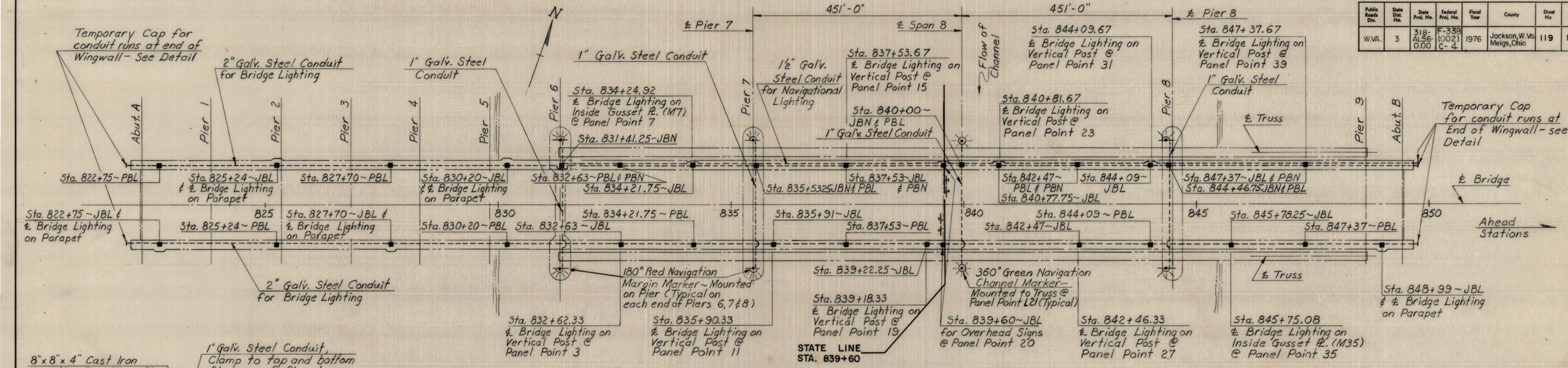
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY RB CHECKED BY DATE
DETAILED BY RB CHECKED BY DATE 1-76
TRACED BY T.M.K. CHECKED BY DATE 1-76

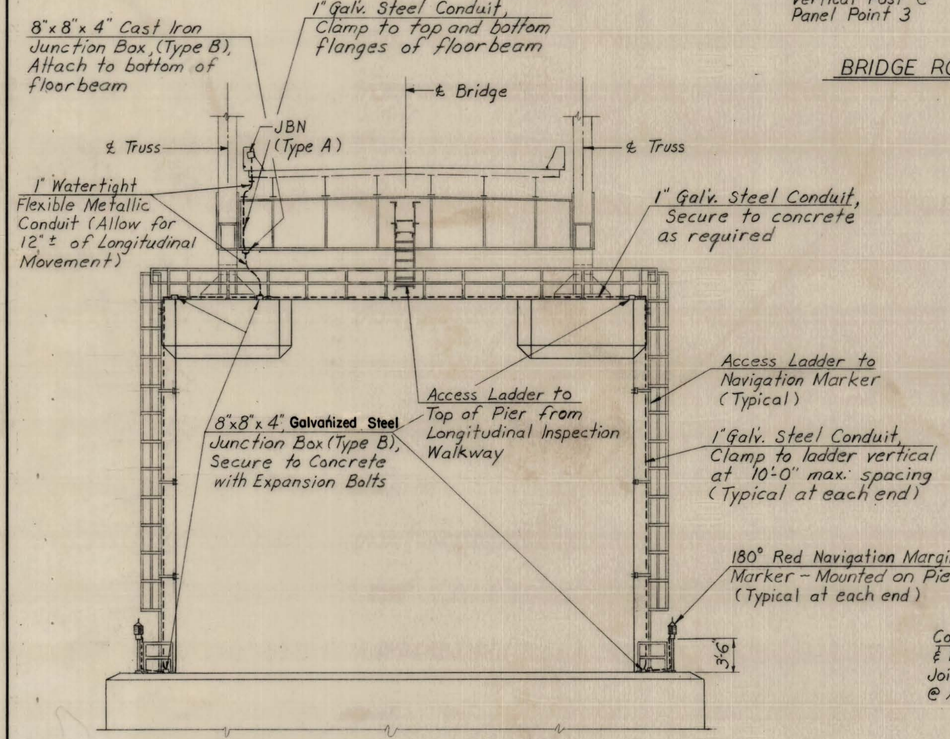
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	78 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-339 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	119	125



BRIDGE ROADWAY LIGHTING & NAVIGATIONAL LIGHTING LAYOUT

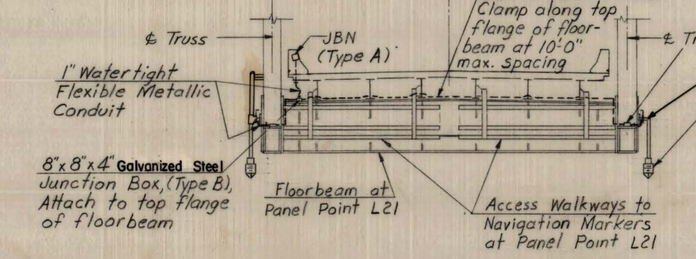
(No Scale)



CONDUIT RUN TO NAVIGATION MARKERS ON PIERS 6, 7 & 8 ELEVATION

0 4' 8' 12' 16'

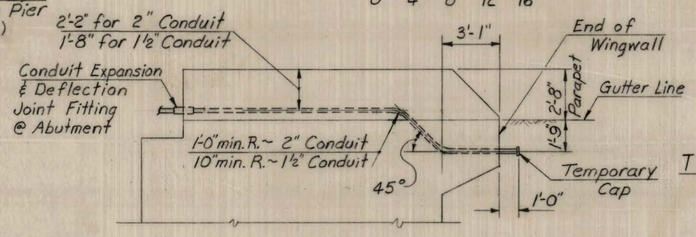
NOTE:
Pier 8 Elevation is shown; Piers 6 & 7 are similar.



CONDUIT RUN TO NAVIGATIONAL LIGHTING AT PANEL POINT L21 ELEVATION

(Looking Ahead Stations)

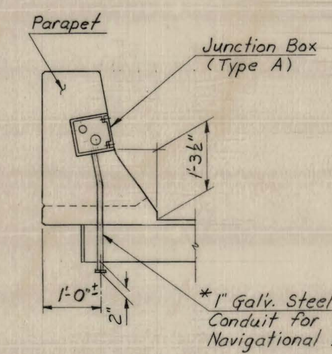
0 4' 8' 12' 16'



CONDUIT DETAILS AT END OF WINGWALLS

0 2' 4' 6' 8'

West Virginia Wingwall Shown
Ohio Wingwalls Similar.



TYPICAL PARAPET SECTION AT JUNCTION BOX FOR NAVIGATIONAL LIGHTING

0 1' 2' 3'

LEGEND
■ indicates Junction Box and / or Pull Box in parapets.

Types : (Type A size)
JBL designates Junction Box for Bridge Lighting and Sign Lighting
PBL designates Pull Box for Bridge Lighting
JBN designates Junction Box for Navigational Lighting
PBN designates Pull Box for Navigational Lighting

NOTE: Type "B" junction boxes and the "JBN" junction boxes, as well as the PBN pull boxes shall be included in the bid Item 662-20(2), "Navigation Lighting System", per lump sum. This W.Va. Item includes the Ohio portion of the Navigation Lighting System.

NOTE:
* Junction Boxes (Type A - JBN) at Piers 7 & 8, and Panel Point L21 shall be field adjusted to fit 1" Galvanized Steel Conduit between I-Beams in Steel Grid Deck Flooring.

** Navigation Markers shall be in accordance with W.Va. Special Provision Section 662.2.14, "Navigation Lighting System."

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
LAYOUT FOR BRIDGE ROADWAY and NAVIGATIONAL LIGHTING

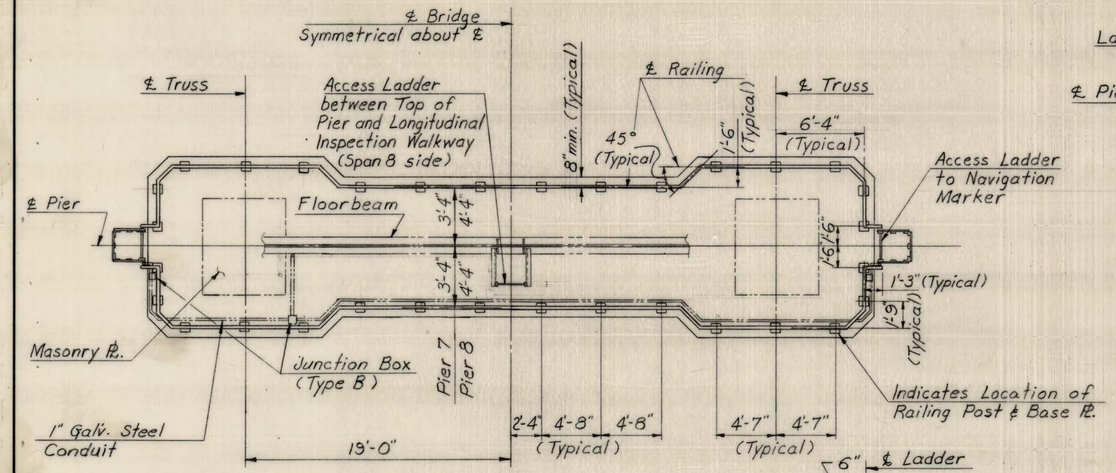
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY GAB CHECKED BY GGB DATE 3/1/76
DETAILED BY GAB CHECKED BY GGB DATE 3/1/76
TRACED BY GAB CHECKED BY GGB DATE 3/1/76

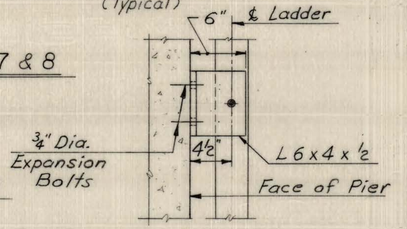
DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	79 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	319-AL56-0.00	F-338(002) C-4	1976	Jackson, W.Va. Meigs, Ohio	120	125



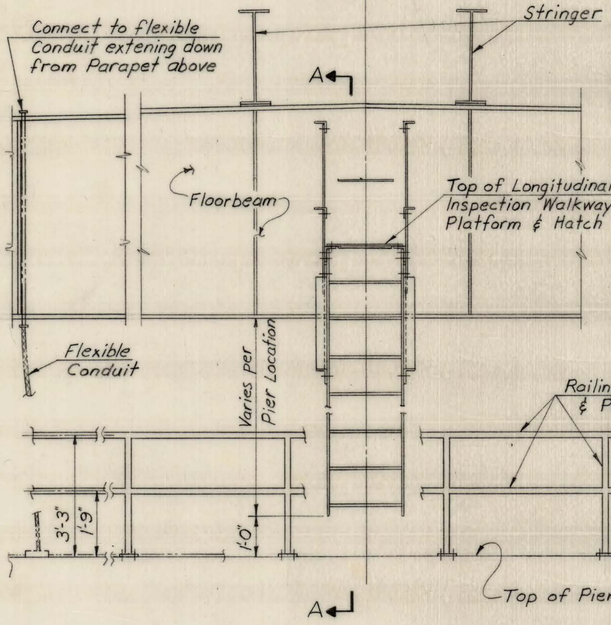
PLAN AT TOP OF PIERS 7 & 8

0 3' 6' 9'

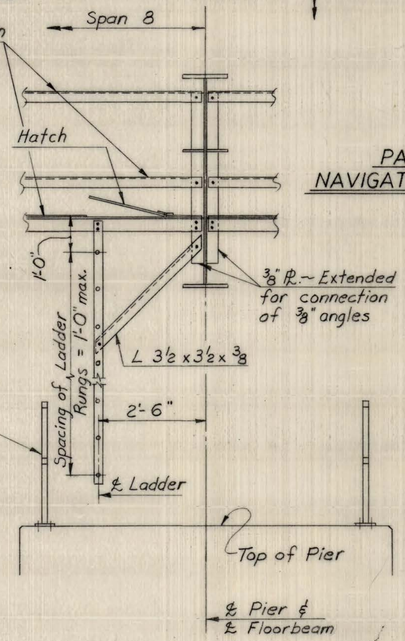


DETAIL X

No Scale



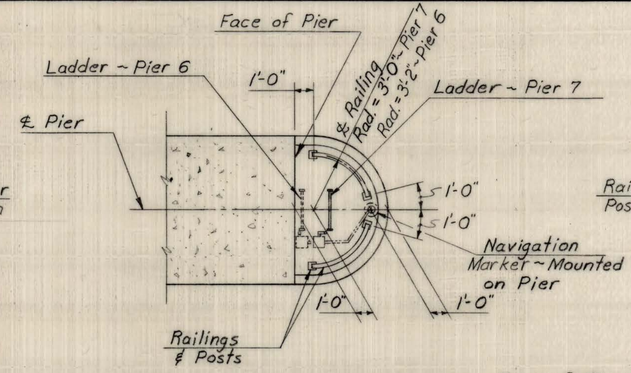
ELEVATION



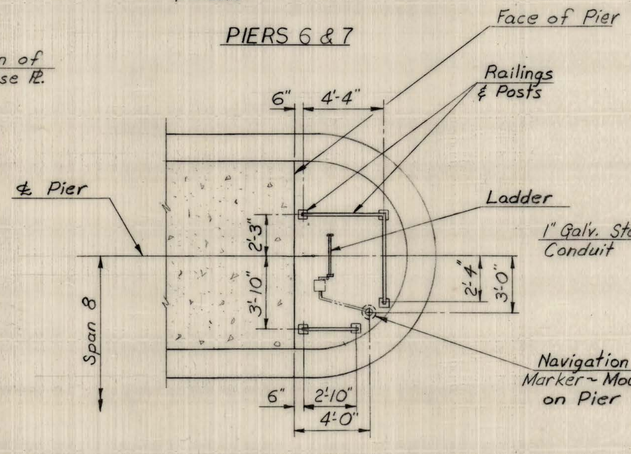
SECTION A-A

ACCESS LADDER BETWEEN TOP OF PIERS 7&8 AND LONGITUDINAL INSPECTION WALKWAY

0 2' 4'



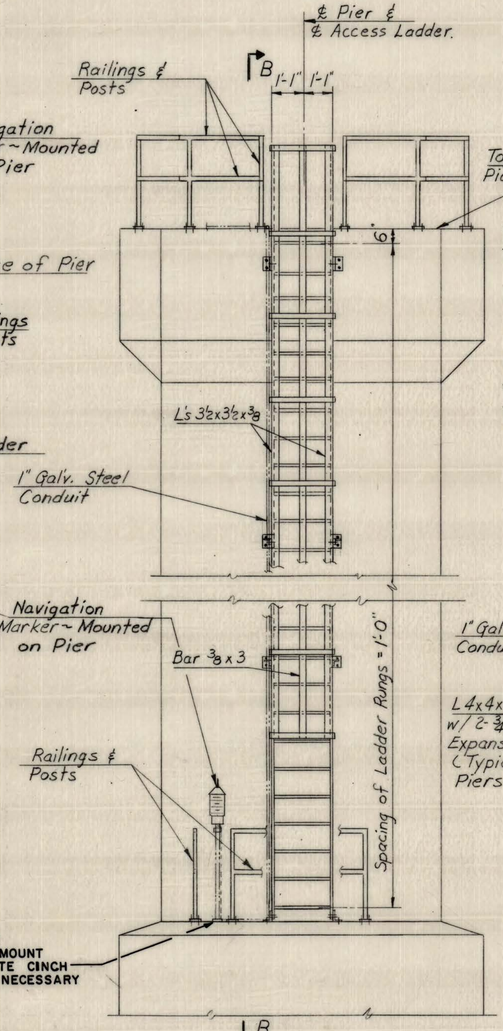
PIERS 6 & 7



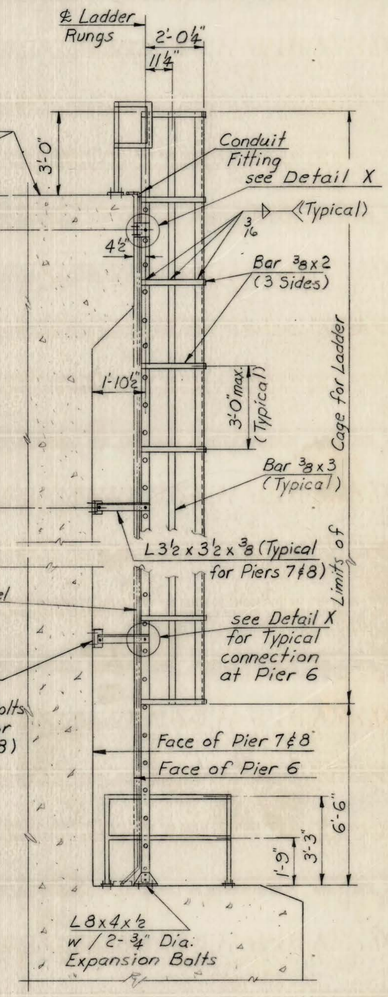
PIER 8

PARTIAL PLANS AT NAVIGATION MARKER LEVEL

0 2' 4' 6'



END ELEVATION



SECTION B-B

ACCESS LADDER TO NAVITGATION MARKERS ON PIERS 6,7&8

(Pier 8 is shown; Piers 6&7 are similar except where noted)

0 3' 6'

CONTRACT NO. 4

NOTES:

- All fasteners shall be ¾" Diameter H.S. Bolts.
- For Railings, Posts, Ladder and Hatch Details, see Dwg. "Longitudinal and Access Walkway Details for Truss Spans."
- For details of Longitudinal Inspection Walkway at Floorbeams, see Dwg. "Longitudinal Inspection Walkway for Truss Spans."
- For location of Railing Posts & Base Plates, Conduit, Junction Boxes, and Access Ladders to Navigation Markers at top of Pier 6, see Dwg. "Access Walkway At Piers 6 & 9".

- NAVIGATION MARKERS SHALL BE IN ACCORDANCE WITH THE W.VA. SPECIAL PROVISION SECTION 662.2.14, NAVIGATION LIGHTING SYSTEM
- PIERS SHOWN ARE CONSTRUCTED UNDER PREVIOUS CONTRACTS. ACCESS LADDERS SHOWN CONSTRUCTED UNDER THIS CONTRACT.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY MB CHECKED BY GGB DATE 3/3/76
DETAILED BY MB CHECKED BY GGB DATE 3/3/76
TRACED BY MB CHECKED BY GGB DATE 3/3/76

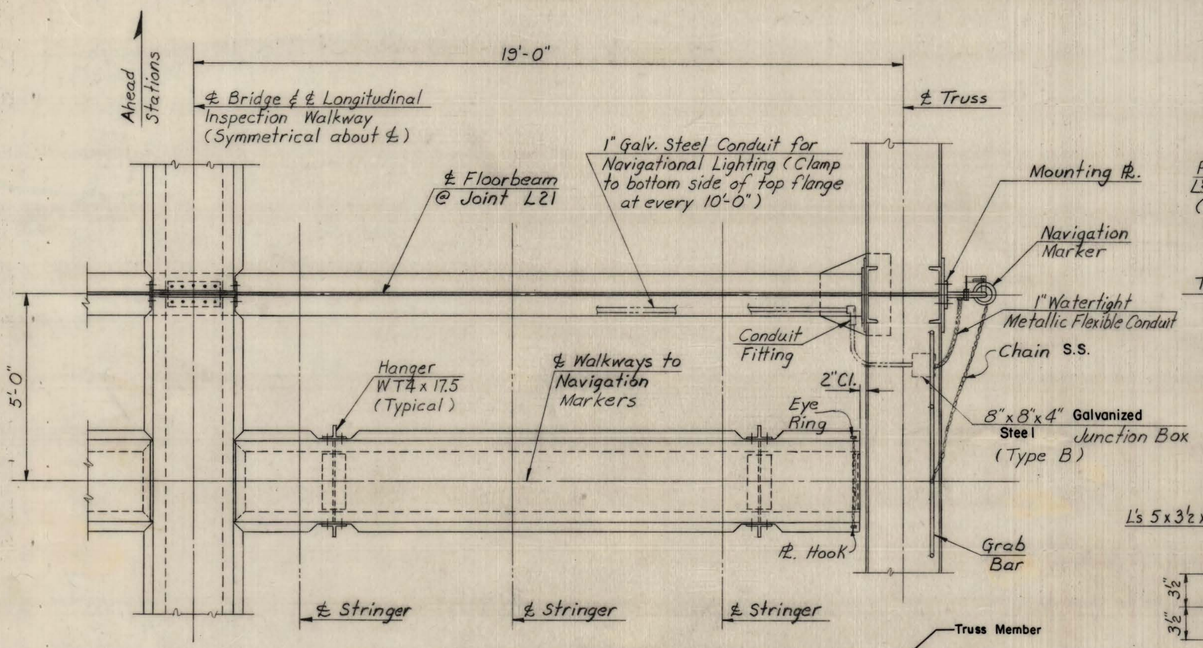
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
ACCESS LADDER AT PIERS 6,7&8

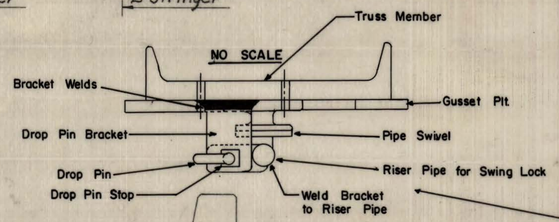
MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	80 of 82

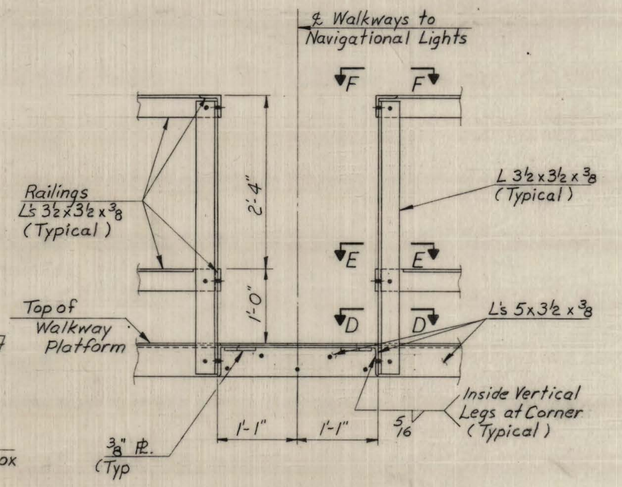
Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	121	125



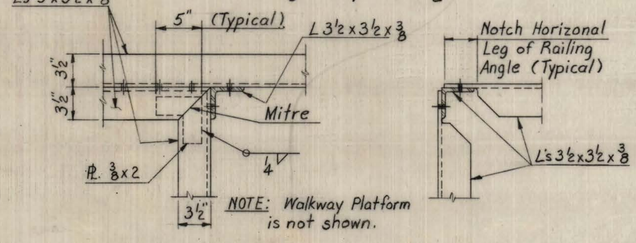
HALF PLAN



TOP VIEW NAV. LIGHT LOCKING DEVICE

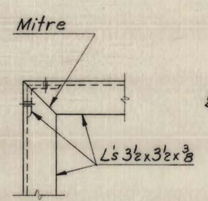


SECTION A-A

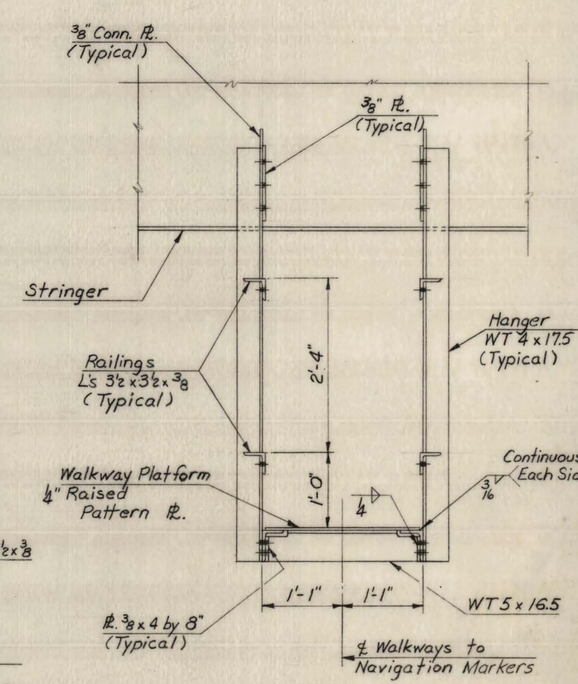


SECTION D-D

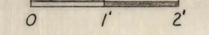
SECTION E-E

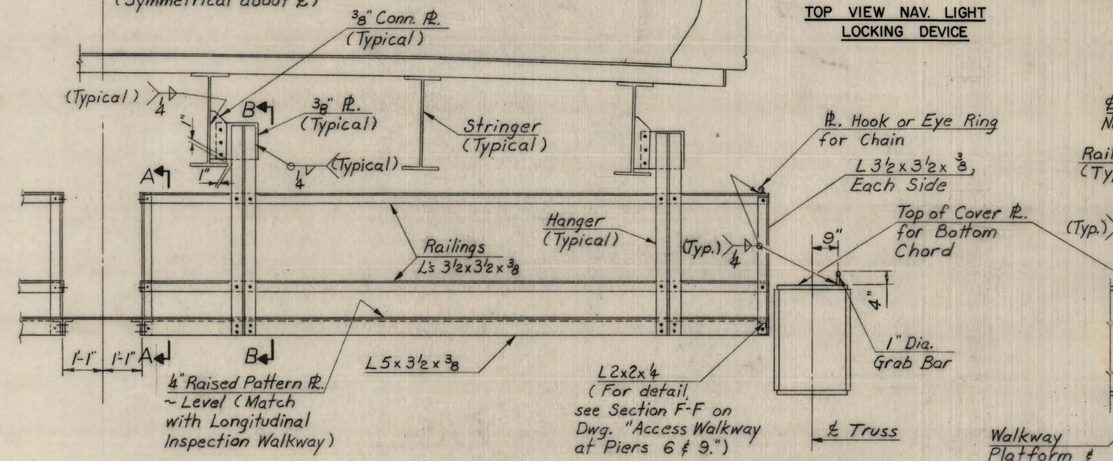


SECTION F-F

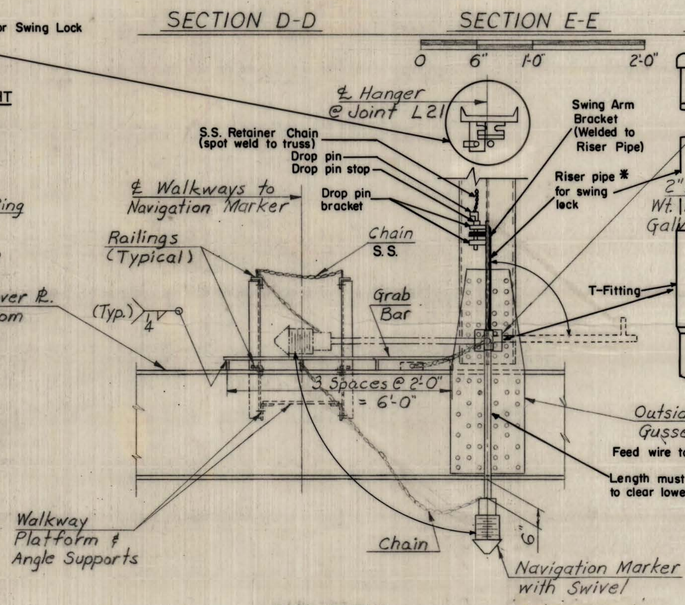


SECTION B-B

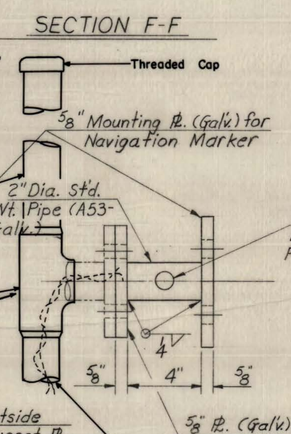




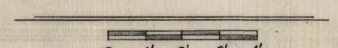
HALF ELEVATION



END VIEW



NOTES:
- All fasteners shall be ¾" Dia. H.S. Bolts.
- For details of Longitudinal Inspection Walkway, see Dwg. "Longitudinal Inspection Walkway for Truss Spans."



(*) The length of the riser pipe must be sufficient to allow the drop pin brackets to clear the gusset plate area on the main truss beam.

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
WALKWAY TO NAVIGATIONAL LIGHTS
AT CENTER OF SPAN 8

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY GBB CHECKED BY GGB DATE 3/3/76
DETAILED BY GBB CHECKED BY GGB DATE 3/3/76
TRACED BY GBB CHECKED BY GGB DATE 3/3/76

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	81 of 82

Public Roads Div.	State Dist. No.	State Proj. No.	Federal Proj. No.	Fiscal Year	County	Sheet No.	Total Sheets
W.VA.	3	318-AL56-0.00	F-338 (002) C-4	1976	Jackson, W.Va. Meigs, Ohio	122	125

B.M. Elev. 610.16
Square Cut in Headwall of
Concrete Box Culvert,
Left of Sta. 123+50.00, Reloc. S.R. 338

B.M. Elev. 586.35
Square Cut in Concrete Headwall,
West Side of W. Va. Rte. 2 at intersection
of B&O Railroad (Chessie System)
Main Line Tracks and Spur Tracks.

Relocated Channel
10' Wide Bottom

Inlet

Fence

90° Typical for all Substructure Units

Ahead Stations

OHIO RIVER

Flow

State Line
Sta. 839+71.00

℄ Bridge and P.G. Line

N. 70° 24' 33" E.

B&O Railroad
(Chessie System)

Columbia Gas
of W.Va., Inc.
(4" Line)

Remove

Existing Buried Cable
placed on Proj. No. D.P-324(1)

2-Existing 600 PR. Buried
Cable placed on Proj. No
D.P.-R.E.-324 (4).

W. Va. Rte. 2

Telegraph Line
(Overhead)

River's Edge at
Elev. 560.0

River's Edge at
Elev. 560.0

● Indicates Test Boring Locations

MEIGS COUNTY,
OHIO

JACKSON COUNTY,
WEST VIRGINIA

PLAN
100 50 0 100

150'-0"	150'-0"	151'-0"	151'-0"	150'-0"	152'-2"	411'-1"	902'-0"	410'-6"	82'-0"

℄ Brgs. Abut. A	℄ Pier 1	℄ Pier 2	℄ Pier 3	℄ Pier 4	℄ Pier 5	℄ Pier 6	℄ Pier 7	℄ Pier 8	℄ Pier 9	℄ Brgs. Abut. B
Sta. 822+33.75	Sta. 823+83.75	Sta. 825+33.75	Sta. 826+84.75	Sta. 828+35.75	Sta. 829+85.75	Sta. 831+37.92	Sta. 835+49.00	Sta. 844+51.00	Sta. 848+61.50	Sta. 849+43.50

Top of Ftg. Elev. 601.50
2:1 Slope
Elev. 580.00
Elev. 580.00
Elev. 581.00
Elev. 580.50
Elev. 551.00
Elev. 599.50
Elev. 540.00
Elev. 541.00
Elev. 601.0
2:1 Slope
Top of Ftg. Elev. 621.20
Approx. Top of Rock
Approx. Existing Ground Line Along ℄ Bridge
Steel "HP" Piles
Steel "HP" Piles

100 Yrs. Frequency Elev. 591.5
50 Yrs. Frequency Elev. 587.9
20 Yrs. Frequency Elev. 584.4
10 Yrs. Frequency Elev. 581.5
2% Flowline Elev. 574.9
Normal Pool Elev. 560.0

600
500
400
Datum Elev. 300
Stations →
825
830
835
840
845
850

ELEVATION
100 50 0 100

- The Contours of the River Bottom were obtained from Soundings taken March, 1975.
- The River Crossing is located at the U.S. Corps of Engineers Mile Point 221.31.
- The following Construction Contracts are either under Construction or have been Completed:
  - Contract No. 1 - Includes Piers 6, 7 and 8.
  - Contract No. 2 - Includes Piers 1, 2, 3, 4 and 5, Abutment A below Bridge Seats, and Ohio Side Bridge Approach.
  - Contract No. 3 - Includes Pier 9, Abutment B below Bridge Seats, and West Virginia Side Bridge Approach.

REV. NO.	SHEET NUMBER	REVISIONS	DATE	BY

DESIGNED BY PDA CHECKED BY GGB DATE 5/1/75
DETAILED BY T.M.K. CHECKED BY GGB DATE 5/1/75
TRACED BY T.M.K. CHECKED BY GGB DATE 5/1/75

CONTRACT NO. 4

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

OHIO RIVER BRIDGE AT RAVENSWOOD
SITUATION PLAN

MICHAEL BAKER, JR., INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. BEAVER, PA.

DATE	SCALE	BRIDGE NO.	DWG. NO.
MARCH 1976	AS SHOWN	2972	82 of 82