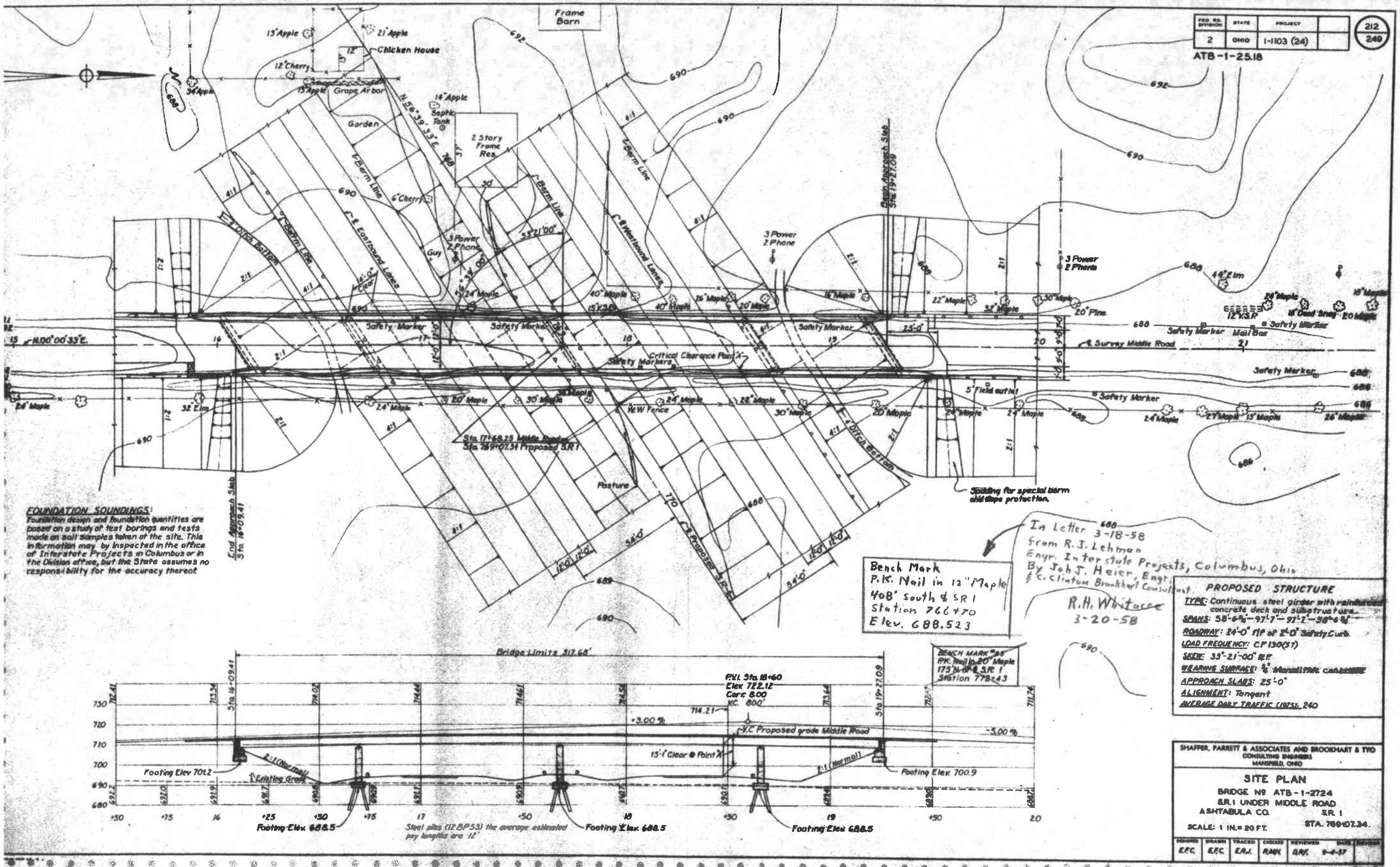
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	1-1103 (24)	

212
249

ATB-1-25.18



FOUNDATION SOUNDINGS:
Foundation design and foundation quantities are based on a study of test borings and tests made on soil samples taken at the site. This information may by inspected in the office of Interstate Projects in Columbus or in the Division office, but the State assumes no responsibility for the accuracy thereof.

Bench Mark
P.K. Nail in 12" Maple
408' South ℄ S.R. 1
Station 766+70
Elev. 688.523

~~BENCH MARK "85"~~
~~P.K. Nail in 20" Maple~~
~~175' N. of ℄ S.R. 1~~
~~Station 772+43~~

In Letter 3-18-58
from R.J. Lehman
Engr. Interstate Projects, Columbus, Ohio
By Joh J. Heier, Engr.
& C. Clinton Brookhart Consultant

R.H. Whitacre
3-20-58

PROPOSED STRUCTURE
TYPE: Continuous steel girder with reinforced concrete deck and substructure.
SPANS: 58'-6¾"–97'-7"–97'-7"–58'-6¾"
ROADWAY: 24'-0" f/f of 2'-0" Safety Curb.
LOAD FREQUENCY: C.F. 130(57)
SKEW: 33°-21'-00" R.F.
WEARING SURFACE: ¾" Monolithic concrete
APPROACH SLABS: 25'-0"
ALIGNMENT: Tangent
AVERAGE DAILY TRAFFIC (1975): 240

SHAFFER, PARRETT & ASSOCIATES AND BROOKHART & TYO
CONSULTING ENGINEERS
MANSFIELD, OHIO

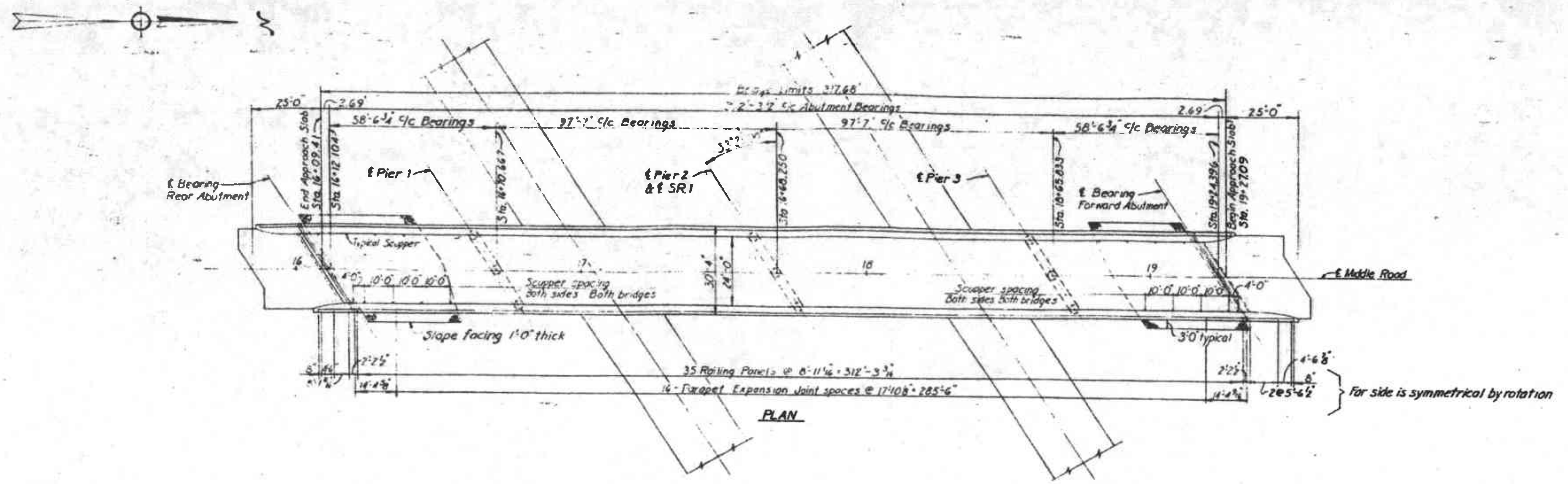
SITE PLAN
BRIDGE Nº ATB-1-2724
S.R. 1 UNDER MIDDLE ROAD
ASHTABULA CO.
S.R. 1
STA. 769+07.34
SCALE: 1 IN. = 20 FT.

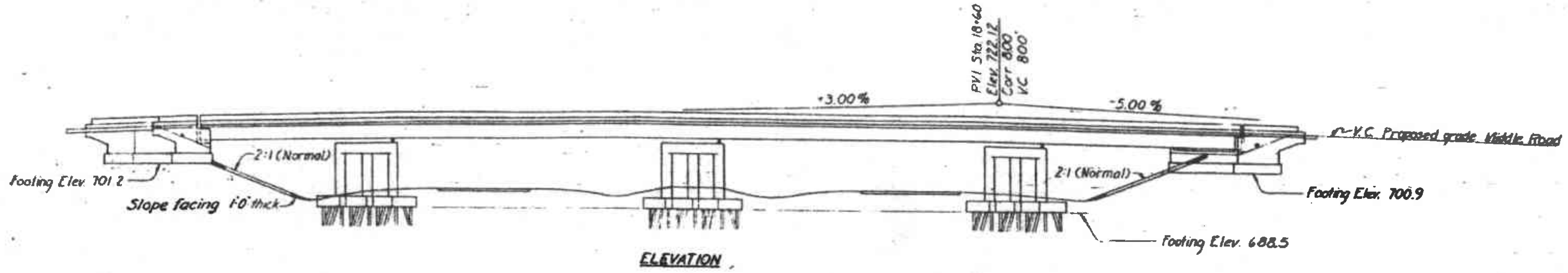
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.F.C.	E.F.C.	E.R.J.	R.M.K.	D.R.F.	9-4-57	

ATB 90-2723

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	I-1103 (24)

ATB -1-25.18





ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTR	ABUTS	PIERS	GENERAL		
E 2	282	Cu.Yds.	Unclassified excavation	-	251	31	-	-	-
E 2	Lump	Sum	Cofferdams, cribs and sheeting	-	-	-	Lump Sum	-	-
				-	-	-	-	-	-
S 1	286	Cu.Yds.	Class "C" concrete, superstructure	286	-	-	-	-	-
S 1	64	Cu.Yds.	Class "C" concrete, pier caps and columns	-	-	64	-	-	-
S 1	105	Cu.Yds.	Class "E" concrete, abutments above footings	-	105	-	-	-	-
S 1	163	Cu.Yds.	Class "E" concrete, footings	-	55	108	-	-	-
S 4	106,860	Lbs.	Reinforcing steel	68,693	10,955	27,212	-	-	-
S 7	264,000	Lbs.	Structural steel	264,000	-	-	-	-	-
S 8	264,000	Lbs.	Field painting of structural steel	264,000	-	-	-	-	-
S14	693	Lin.Ft.	Railing (aluminum rail and supports, concrete parapet and guard rail connections)	693	-	-	-	-	-
S 16	Lump	Sum	First test pile	-	-	Lump Sum	-	-	-
S 18	1068	Lin.Ft.	Steel piles (12 BP 53)	-	-	1068	-	-	-
S29	28	Cu.Yds.	Porous backfill	-	28	-	-	-	-
S29	112	Cu.Yds.	Slope facing (S-29.05 Type)	-	-	-	112	-	-

NOTES:

LOADING: C.F. 130 (57)

PILES: shall be driven to firm contact with shal
the length of penetration is approximately eq
to the depth to shale according to the bridge
foundation investigation report, the firm ca
shall be considered as attained when the
capacity according to the formula in Sec. S-18
is not less than the following value for a
hammer of the indicated energy rating:
For the pier piles
44 tons per pile using a 7000 ft. lb hammer
37 tons per pile using a 11000 ft. lb hamme
35 tons per pile using a 15000 ft. lb. or greater ham
If the energy rating of the hammer is between
ratings as shown above, the required formula
capacity shall be determined by interpolatio
The design is 25 tons per pile for the pier pi

GENERAL NOTES: See sheet 198

REFERENCE shall be made to Standard Drawings RB-1-55 dated 3-1-55 and CSB-2-56, sheets 2 and 3 of 6 dated 12-3-

SHAFFER, PARRETT & ASSOCIATES AND BROOKHART &
CONSULTING ENGINEERS
MANSFIELD, OHIO

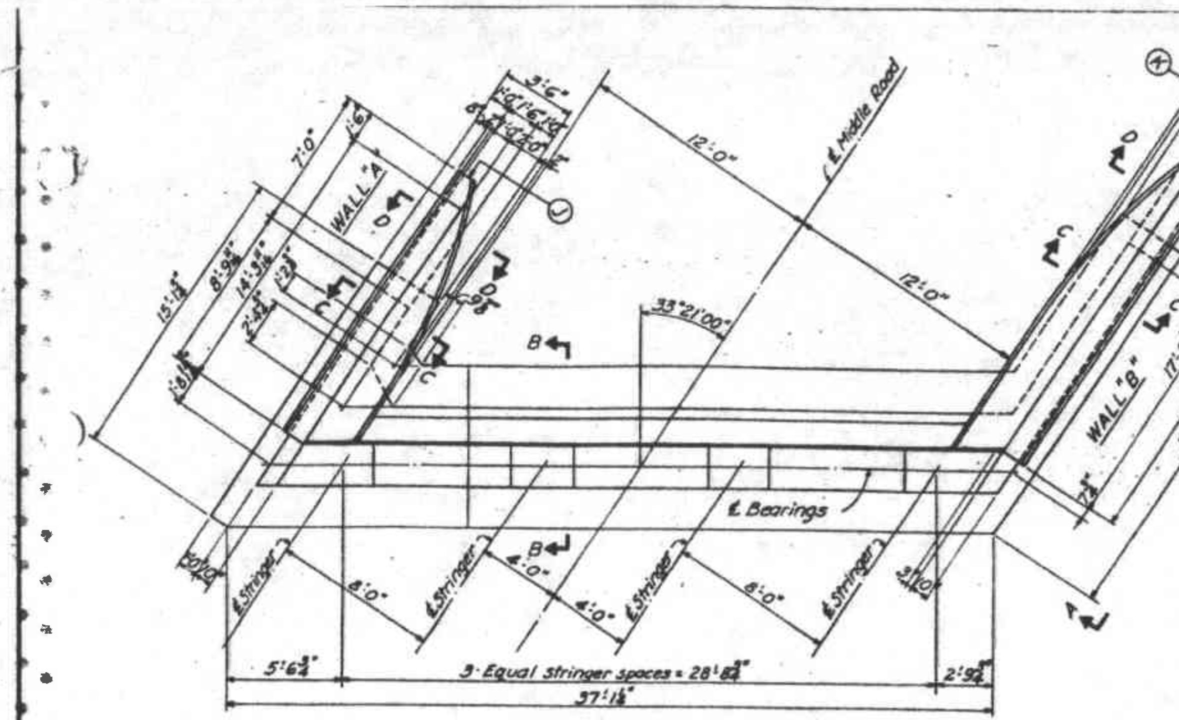
GENERAL PLAN
BRIDGE Nº ATB-1-2724
S.R.1 UNDER MIDDLE ROAD
ASHTABULA CO. S.R.1
STA. 769+07.3

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
C.W.F.	E.R.J.	E.R.J.	E.F.C.	G.C.B.	1-3-58

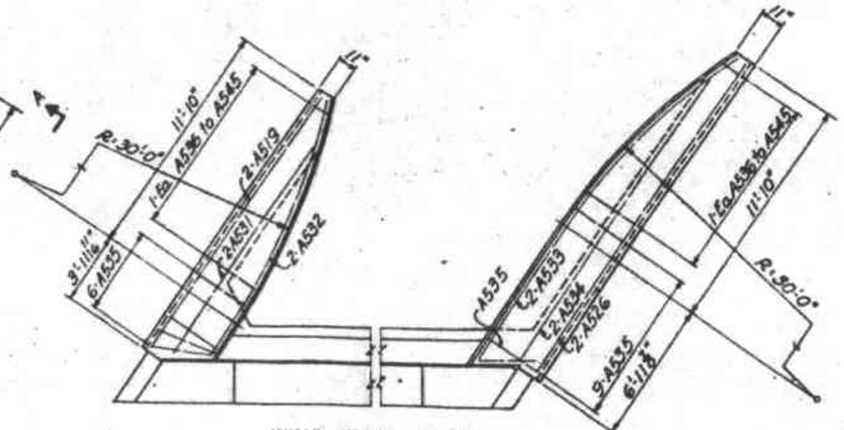
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-1103 (24)	

214
249

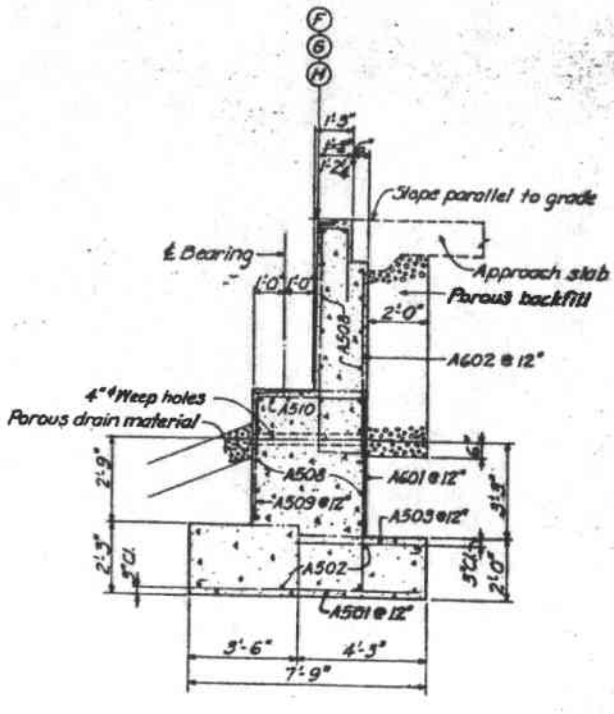
ATB-1-25.18



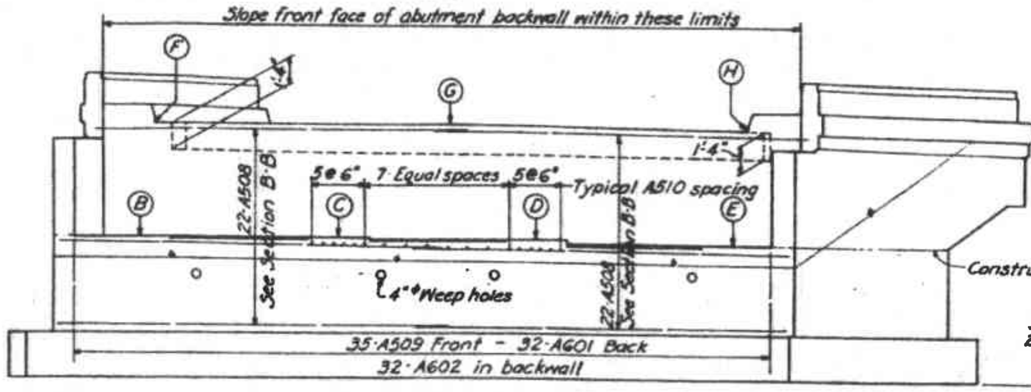
PLAN



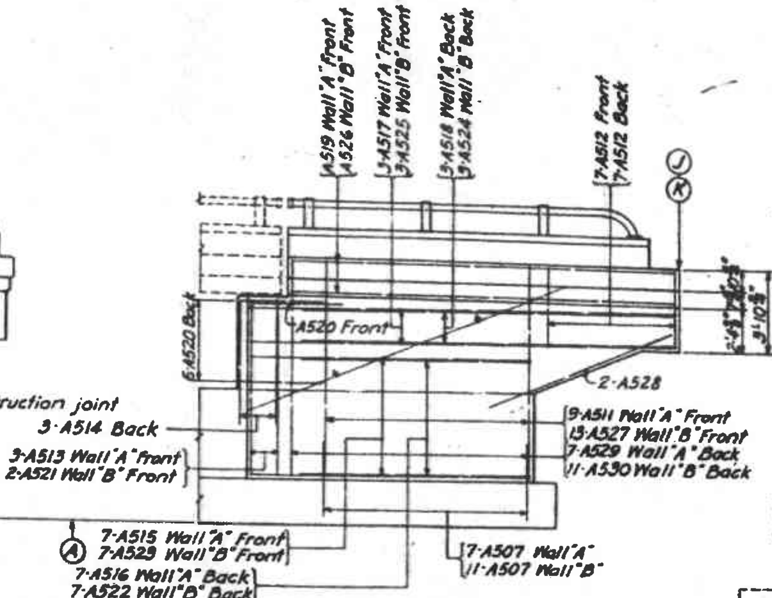
WING WALL PLAN



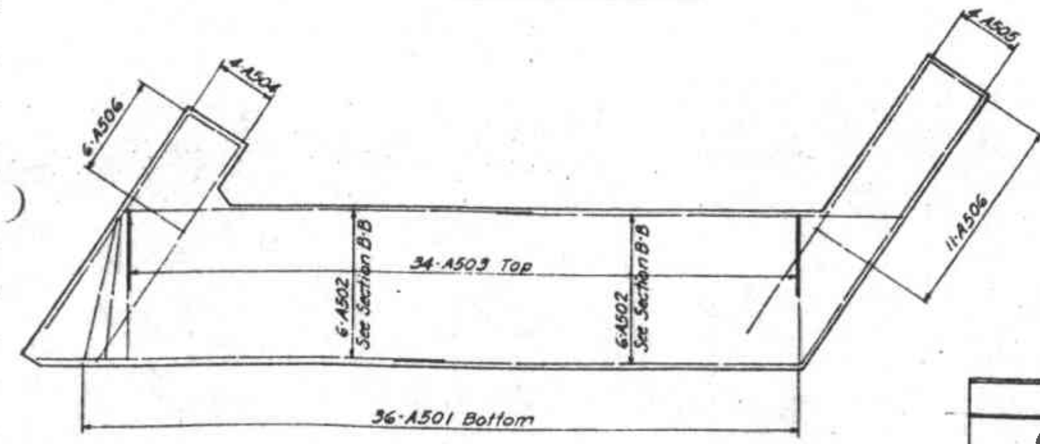
SECTION B-B



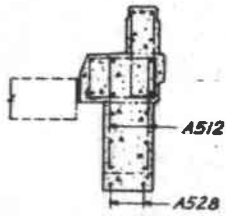
ABUTMENT ELEVATION



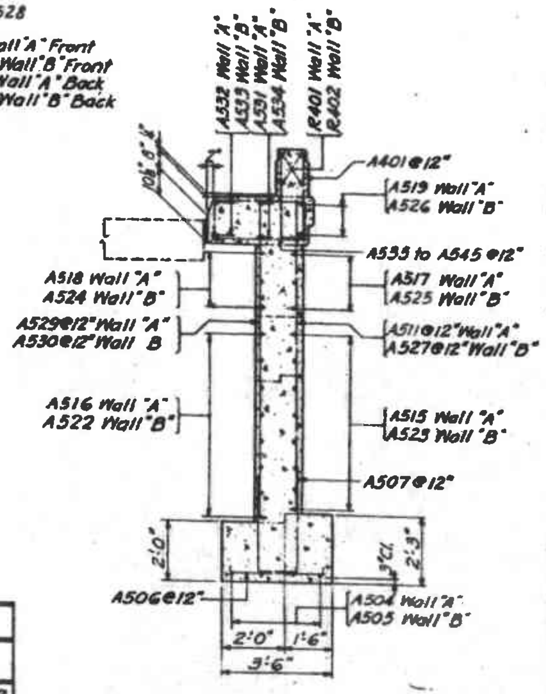
ELEVATION A-A



FOOTING PLAN



SECTION D-D



SECTION C-C

TABLE OF ELEVATIONS

LOCATION	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ	Ⓗ	Ⓙ	Ⓚ
Rear Abutment	701.2	707.906	707.956	707.878	707.672	713.43	713.51	713.20	714.08	713.72
Forward Abutment	700.9	707.661	707.702	707.616	707.401	713.19	713.25	712.93	713.81	713.41

NOTES:

FOUNDATION BEARING PRESSURE: Abutment footings are designed for a maximum bearing pressure of 1½ tons per square foot.

CONCRETE: All abutment concrete shall be Class "E" except parapets which shall be Class "C".

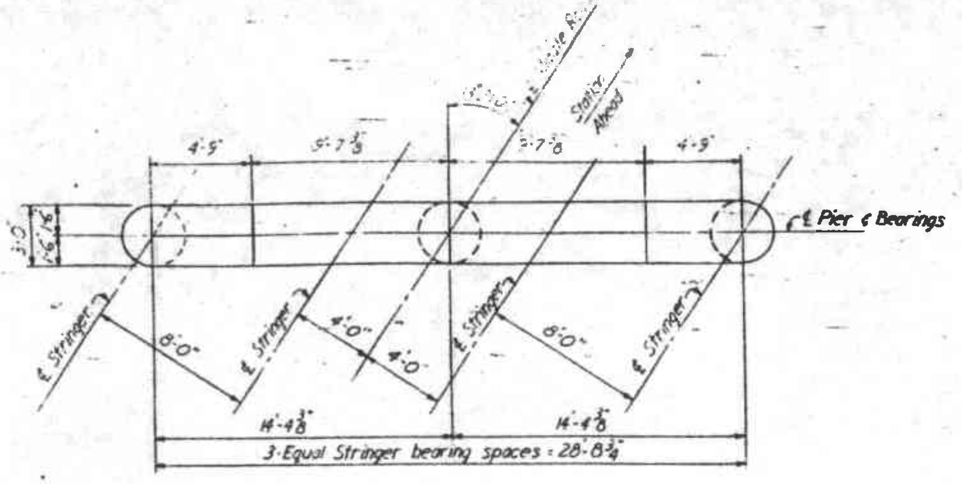
RAILING: See AR-1-57 and sheet 213.

STANDARD DETAILS AND GENERAL NOTES: See sheet 198.

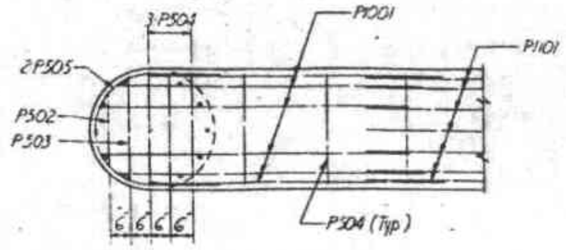
SHAFFER, PARRETT & ASSOCIATES AND BROOKHART & TYO
CONSULTING ENGINEERS
MANSFIELD, OHIO

ABUTMENTS
BRIDGE Nº ATB-1-2724
S.R.1 UNDER MIDDLE ROAD
ASHTABULA CO. S.R.1
STA. 769+07.34

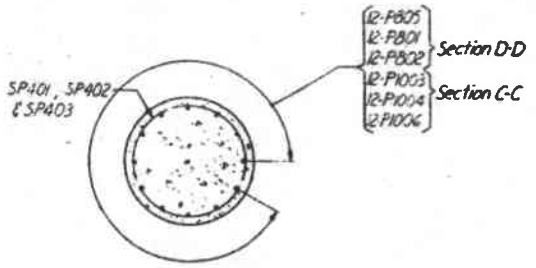
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.R.F.	C.W.F.	C.W.F.	M.M.N.	G.C.B.	1-3-58	3-24-58



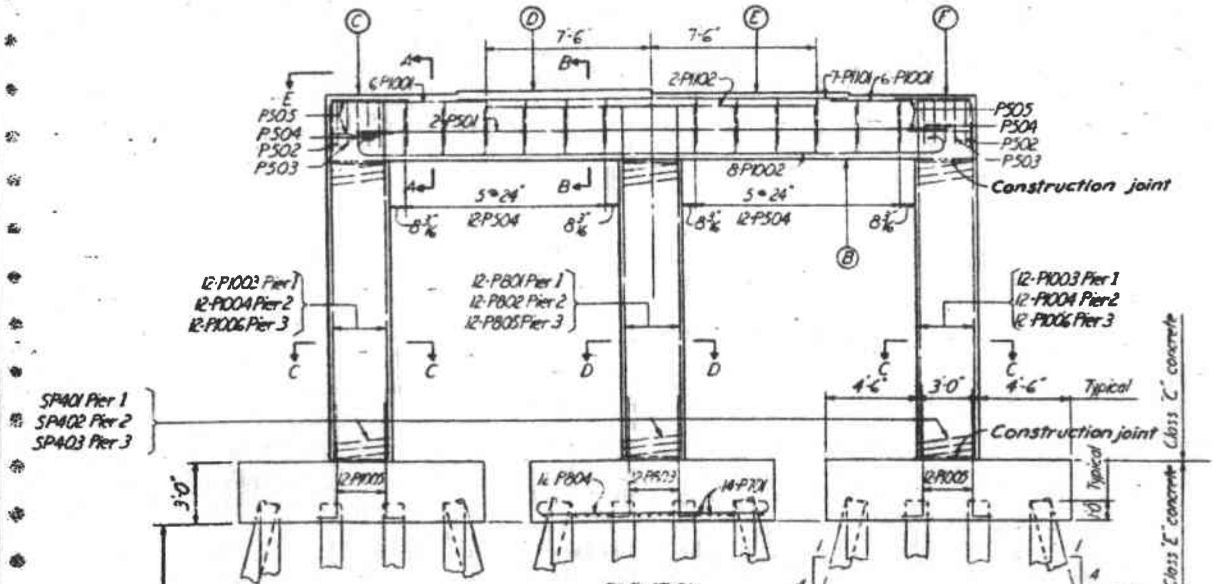
PLAN



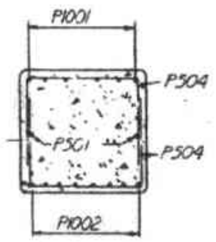
VIEW E



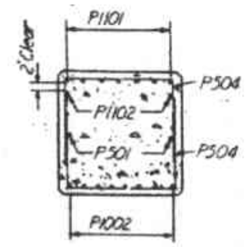
SECTION C-C
SECTION D-D



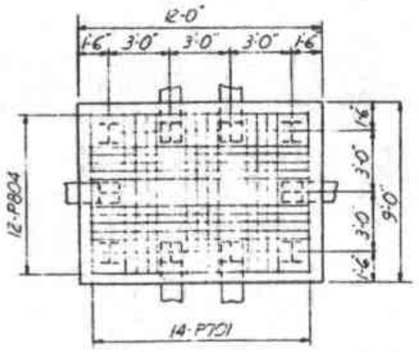
ELEVATION



SECTION A-A



SECTION B-B



FOOTING PLAN
(TYPICAL)

NOTES:

CONCRETE: All concrete for pier footings shall be Class "E" and all pier concrete above the top of footings shall be Class "C."

GENERAL NOTES: See Sheet 198

TABLE OF ELEVATIONS						
LOCATION	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ
PIER 1	688.5	704.892	707.892	708.067	708.114	708.033
PIER 2	688.5	705.211	708.224	708.348	708.343	708.211
PIER 3	688.5	704.718	707.885	707.957	707.902	707.718

SHAFFER, PARRETT & ASSOCIATES AND BROOKHART & TYO
CONSULTING ENGINEERS
MANSFIELD, OHIO

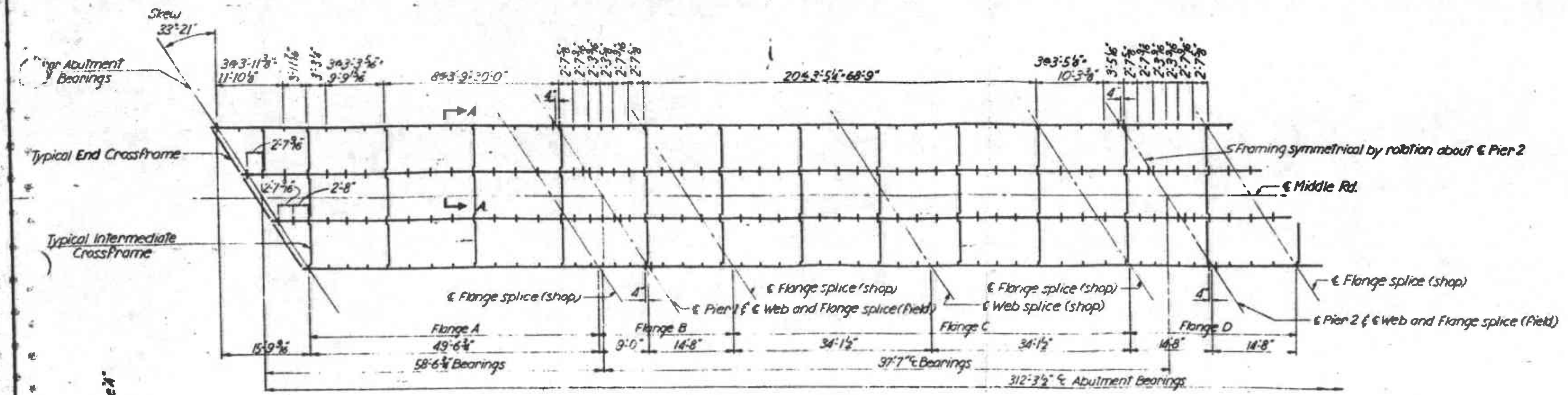
PIERS
BRIDGE № ATB-1-2724
S.R.1 UNDER MIDDLE ROAD
ASHTABULA CO. S.R.1
STA. 789+07.34

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.R.F.	W.D.G.	W.D.G.	R.H.B.	G.C.B.	1-3-58	

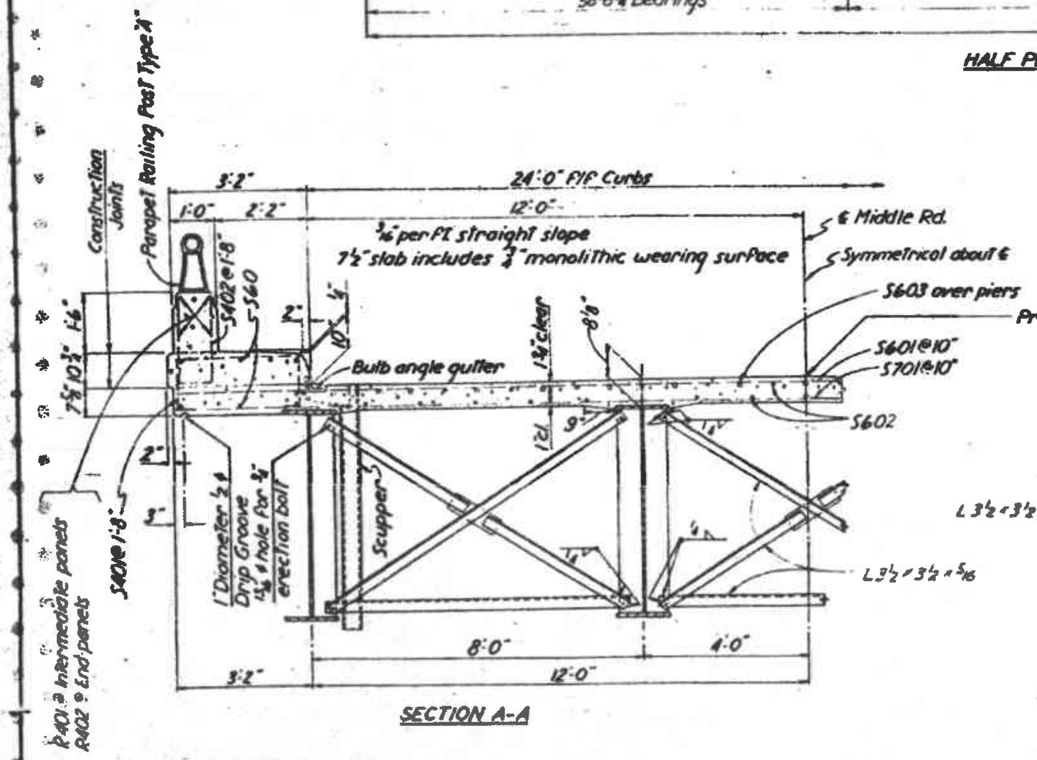
2	OHIO	I-1103 (24)	

216 / 249

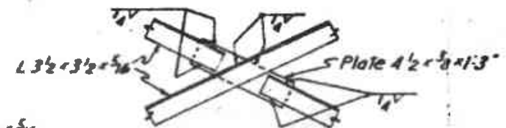
ATB-1-25.18



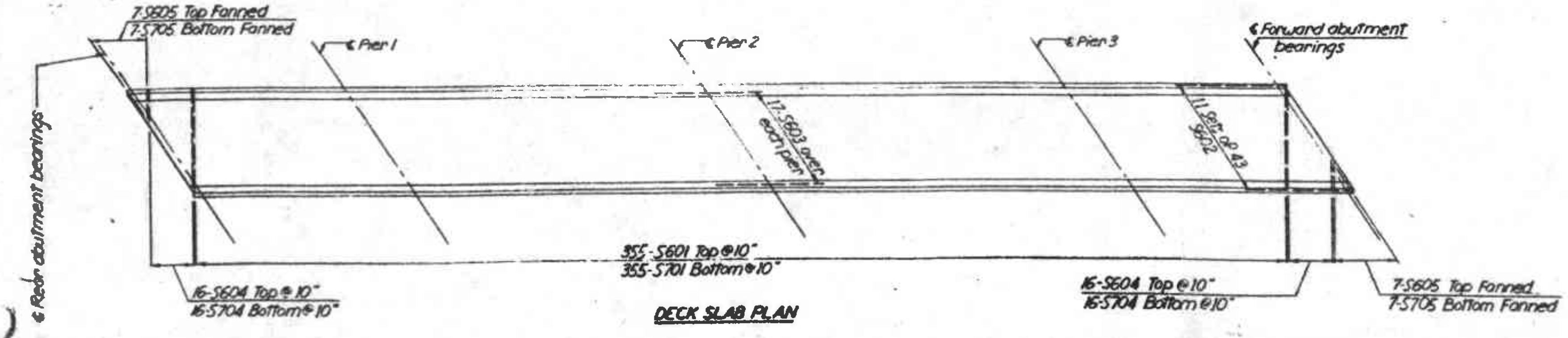
HALF PLAN OF STEEL FRAMING



SECTION A-A



CROSSFRAME DETAIL



DECK SLAB PLAN

GIRDER MATERIALS	
Web	48 × 3/8
Flange "A" Top & bottom	16 × 11/16
Flange "B" Top & bottom	20 × 15/16
Flange "C" Top & bottom	16 × 5/8
Flange "D" Top & bottom	20 × 1 3/8
Intermediate Stiffeners	6 × 3/8
End Stiffeners	2(6 × 3/8)
Pier Bearing Stiffeners	4(6 × 1/2)

NOTES:

CAMBERING of girders is required in accordance with the following table:

DEFLECTION AND CAMBER	OUTSIDE GIRDERS		INSIDE GIRDERS	
	END SPANS	MIDDLE SPANS	END SPANS	MIDDLE SPANS
Deflection due to weight of steel	0	1/4"	0	1/4"
Deflection due to remaining dead load	1/8"	1 1/4"	1/16"	1"
Convexity required for vertical curve	1/2"	1 7/16"	1/2"	1 7/16"
Sum of deflection & convexity	5/8"	2 15/16"	9/16"	2 11/16"
Required Camber	5/8"	2 15/16"	9/16"	2 11/16"

GIRDER SPLICE WELDING PROCEDURE:

1. Raise end of girder at third pier 4 5/8".
2. Butt-weld girder flanges & web at second pier, using the following sequence, make one pass on each flange, then one on the web, repeat until all welds are completed. Weld bottom plate over shoe.
3. Lower end of girder to final position at third pier.
4. Make splice at first & third piers in the same manner, raising the end of the girder 7/8" at the abut.
5. After splices are completed at first and third piers, lower the end of the girders at the abutments to final positions.

BEARINGS: See RB-1-55 for the following:
R-75 Abutments
R-175 Piers 1 & 3
B-200 Pier 2

END CROSSFRAMES, END FINISH, GUTTERS, SCUPPERS & CURB PLATE DETAILS: See CSB-2-56 Sheets 2 & 3 of 6. Use 4×4×3/8 angles in place of 4×4×5/16 angles for end crossframes.

RAILING: See AR-1-57

RAILING POST, PARAPET EXPANSION JOINT & SCUPPER SPACING: See Sheet 213

CONCRETE: All superstructure concrete shall be Class "C"

GIRDER DETAILS & GENERAL NOTES: See Sheet 198

SHAFFER, PARRETT & ASSOCIATES AND BROOKHART & TYO
CONSULTING ENGINEERS
MANSFIELD, OHIO

SUPERSTRUCTURE
BRIDGE NO. ATB-1-2724
S.R. 1 UNDER MIDDLE ROAD
ASHTABULA CO. S.R. 1
STA. 709+07.34

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.C.B.	C.W.F. M.M.N.	M.M.N.	R.H.B.	G.C.B.	1-3-58	