STATE OF OHIO
DEPARTMENT OF HIGHWAYS

FED. PROJ.
DF-458(16)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	DF-458 (16)	

MED - 224 - 16.07

1/42

MED-224-16.07

GRADE SEPARATION WITH THE BALTIMORE AND OHIO RAILROAD

MEDINA COUNTY

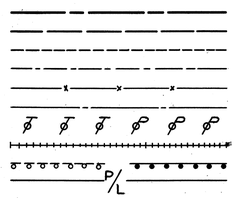
WESTFIELD AND GUILFORD TOWNSHIPS

LIMITED ACCESS

This improvement is especially designed for through traffic and has been declared a limited access highway or freeway by action of the Director of Highways in accordance with the provisions of Section 5511.02 of the Revised Code of Ohio

CONVENTIONAL SIGNS

COUNTY LINE
TOWNSHIP LINE
SECTION LINE
CORPORATION LINE
FENCE LINE
CENTER LINE
POLE LINE (TELEPHONE & POWER)
RAILROAD
GUARD RAIL (EXISTING & PROPOSED)
PROPERTY LINE

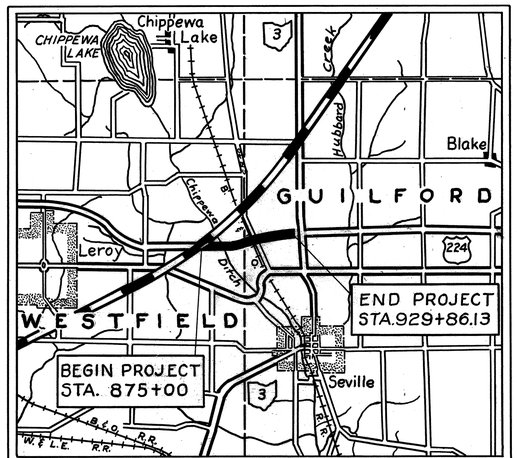


INDEX OF SHEETS

TITLE SHEET	1
TYPICAL SECTIONS	2
SPECIAL CONSTRUCTION DETAILS	3
GENERAL NOTES & SCHEMATIC PLAN	3
SUPERELEVATION TABLES	3
GENERAL SUMMARY	4
PLAN AND PROFILE SHEETS	5-11
CROSS SECTIONS	12-29
COUNTY ROAD #40 DETAILS	30-31
STRUCTURES OVER 20' SPAN	32-39
RIGHT OF WAY AND FENCE	40-42

LINE DATA

	PROJECT DF-458(16)	WORK
BEGIN	STA. 875+00	STA. 874+50
END	STA. 929+86.13	STA. 930+50
GROSS LENGTH	5486.13 LIN. FT.	5600.00 LIN. FT.
ADD. COUNTY RD. # 40	-0-	600.00 LIN. FT.
NET LENGTH	5486.13 LIN. FT.	6200.00 LIN. FT.
	OR 1.039 MILES	OR 1.174 MILES



DELIVERY POINT SEVILLE
AVERAGE HAUL 2.4 Miles

LOCATION MAP

Scale 1 in. = 1 mi.

PORTION TO BE IMPROVED
STATE HIGHWAYS
OTHER ROADS
PROPOSED S. R. 1

SCALES

PLAN	1" = 50'
PROFILE HORIZONTAL	1" = 50'
PROFILE VERTICAL	1" = 5'
CROSS SECTIONS	1" = 10'
OTHER SHEETS AS SHOWN	

The Standard Specifications of the State of Ohio, Department of Highways, including changes and supplemental specifications in the proposal shall govern this improvement

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

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

Approved W R Hauserman
Date 3-10-58 Division Deputy Director

Approved C. H. Makeever
Date 5-19-58 Deputy Director of Planning and Programming

Approved M Overman
Date 4-1-58 Engineer of Bridges

Approved R. E. Shultz
Date 4-3-58 Engineer of Location and Design

Approved P. E. Masheter
Date 4-3-58 Deputy Director of Design and Construction

Approved
Date First Assistant Director

Approved Clump J. Thomas
Date 5/19/58 Acting Director of Highways

JUN 8 1961
GROUND PHOTOLAB

FILE Nº	MED-224-16.07
221-M	DATE OF LETTING ____
	CONTRACT Nº ____

STANDARD CONSTRUCTION DRAWINGS

L-3	4-1-50	I-1,2,3,4 & 5	4-24-58	RB-1-55		3-1-55
L-3-A	4-1-50	I-8 CB 2-2-A & B	8-1-56	CSB-1-55 (Sh. 2 of 8)		12-3-56
RI-1	1-3-55	I-15 No. 1	8-1-55	CS-1-54 (2 Sheets)		7-16-56
B-T-71R	3-2-53	I-15 No. 2-A	6-1-57	A-1-54		12-1-54
L.J. No. 1	7-1-55	G-7.07	6-1-56	P-1-54		12-1-54
T.J.	5-1-56	F-1	4-1-57			
B-T-50-70-71E No. 1	10-1-47	AS-1-54	12-1-54			
S-27 P.C. 3.	2-20-45	SP-53	7-21-53			
S-27 P.C. 4	1-4-54					

SUPPLEMENTAL SPECIFICATIONS

B-119	Rev.	8-11-57				
E-101		1-1-57				
5		6-8-55				
18	Rev.	2-6-57				
S-114	Rev.	8-1-57				

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED:

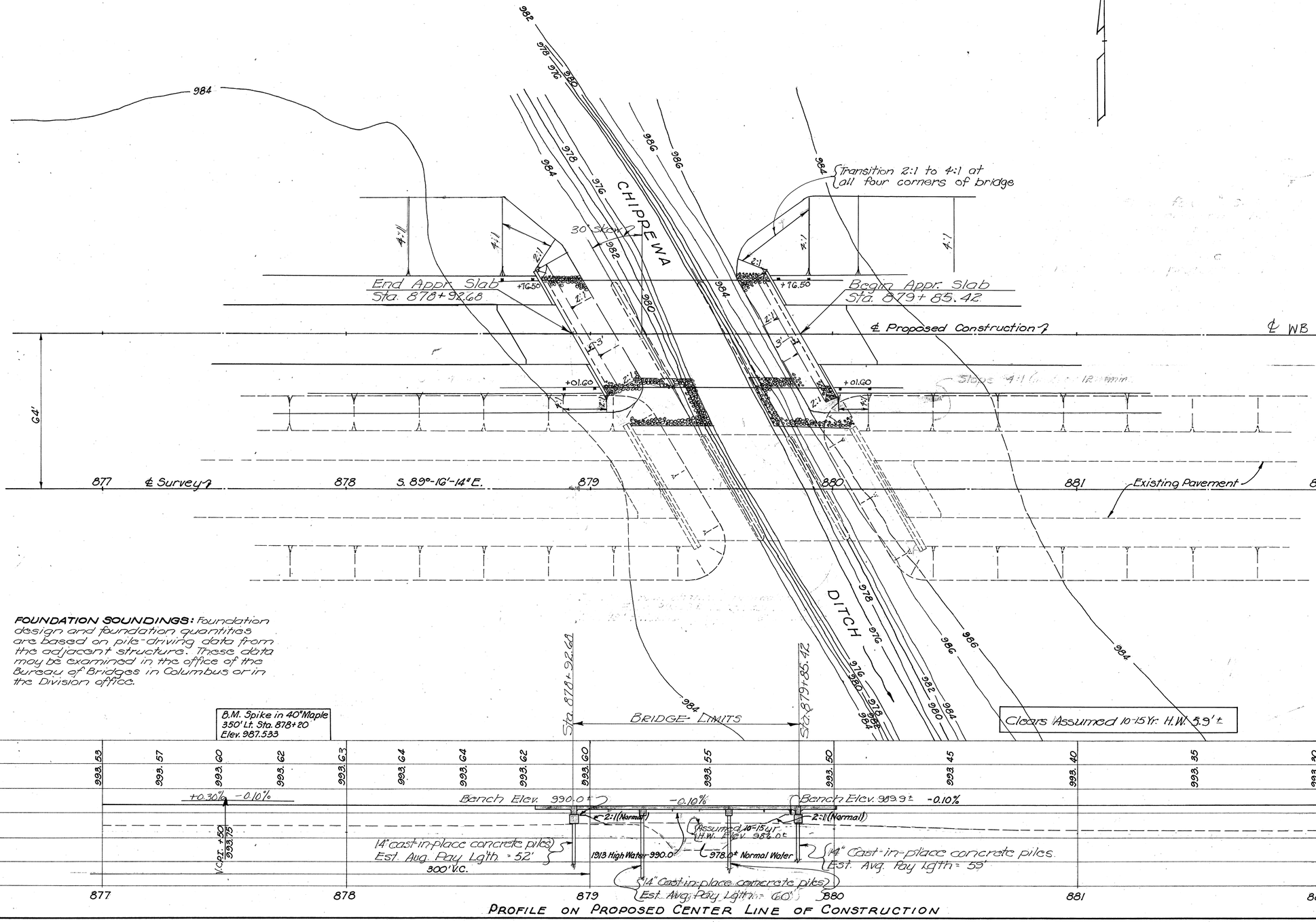
DIVISION ENGINEER ____ DATE ____

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

32.
42.

MED-224-16.07

6.7± Mi. E. of LODI



PROFILE ON PROPOSED CENTER LINE OF CONSTRUCTION

FOUNDATION SOUNDINGS: Foundation design and foundation quantities are based on pile-driving data from the adjacent structure. These data may be examined in the office of the Bureau of Bridges in Columbus or in the Division office.

EXISTING STRUCTURE

TYPE: Continuous concrete slab with capped pile substructure
SPAN: 28'-35'-28' c/c brgs.
ROADWAY: 44' f/f guard rails.
LOAD FREQUENCY: CF-2000 (51)
SKEW: 30° - R.F.
WEARING SURFACE: 1" Mono. Conc.
APPR. SLAB: AS-1-54 (15' long)
ALIGNMENT: Tangent.

*Adequate for AASHO alternate loading

Drainage Area = 31.8 Sq. Mi.

PROPOSED STRUCTURE

Type: 3 Span Continuous Concrete Slab Bridge with capped pile substructure
Spans: 28'-35'-28'
Roadway: 44' clear, between guard rails
Load Frequency: CF-2000(51)*
Skew: 30°-0' R.F.
Wearing Surface: 1" Monolithic Concrete
Approach Slabs: AS-1-54 (25' long)
Substructure: Capped Pile Abutments & Piers
Alignment: Tangent.

0112L

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SITE PLAN

BRIDGE NO. MED-224-1615 1617
OVER CHIPPEWA DITCH
MEDINA COUNTY STA. 878+92.68
Sec. MED-224-16.07 879+85.42

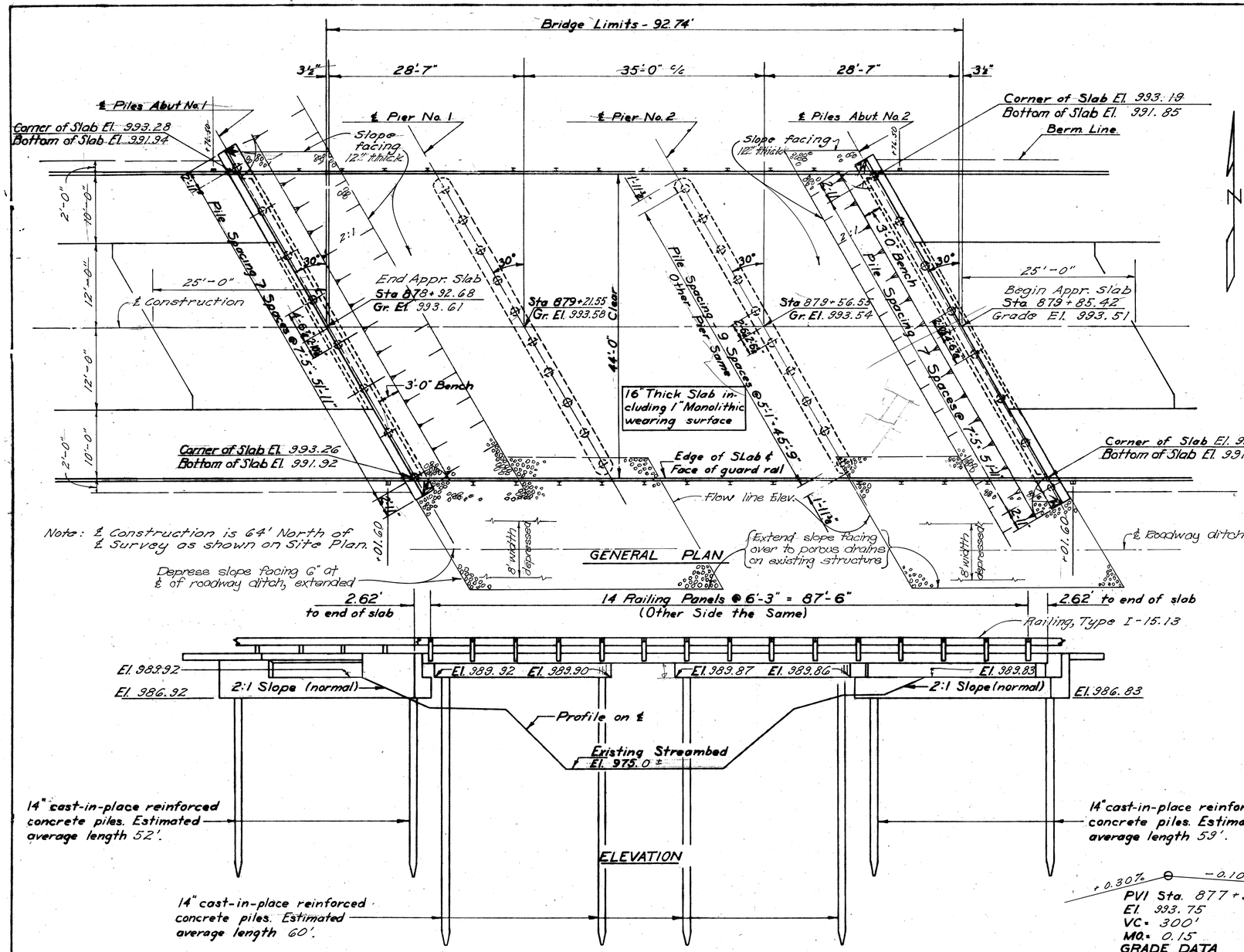
Topography		Proposed Work			
Survey	Drawn	Design	Drawn	Checked	Reviewed
		B.D.H.	B.D.H.	J.H.G.	J.H.G.

BFG 2-13-58

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

33
42

MED-224-16.07



GENERAL NOTES

Reference shall be made to the following Standard Drawings.

Slab	CS-1-54	Date 7-1-54	Revised 12-1-54 & 7-16-58
Abutments	A-1-54	Date 7-1-54	Revised 12-1-54
Piers	P-1-54	Date 7-1-54	Revised 12-1-54

Design Specifications: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways dated 10-1-51, together with revisions thereof dated 7-15-52, 4-1-54 and 2-1-55.

Piles shall be driven to a minimum bearing capacity of 26 tons for the abutments and 30 tons for the piers. The length of penetration of every pile shall be at least 80% of the estimated average length of penetration of the piles in the pertinent pier or abutment as indicated on the plans, unless a lesser penetration is approved by the Director.

POROUS BACKFILL shall be as shown on Std. Dwg. A-1-54 except that the bottom of the porous backfill shall be sloped toward the north, and, at the south end, the porous backfill shall terminate at the end of the abutment.

Provide "Slope Facing" (S-29.05 Type) over entire slope area and benches under structure and for approximately 3' beyond edges of superstructure at both abutments.

Pier Pile Encasement, as shown on Std. Dwg. No. P-1-54, shall be omitted.

The pile casings shall be similar to the casings used for the existing bridge, smooth steel not tapered (Armco or approved equal).

Painting of the piles shall extend to low water Elevation or if the proposed surface of the ground is above low water, it shall extend at least one foot below the proposed surface of the ground.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	PIERS	ABUTS	GEN.
E-2	66	Cu.Yds.	Unclassified Excavation			66	
S-1	222	Cu.Yds.	Class "C" concrete, superstructure & Pier Caps	222			
S-1	59	Cu.Yds.	Class "E" concrete abutments			59	
S-4	63830	Lbs.	Reinforcing Steel	52330	5,088	6,285	127
S-14	185.48	Lin.Ft.	Railing (Type I-15.13 with Galvanized Steel Posts and Bolts	185.48			
S-16	Lump	Sum	First test pile				
S-18	2090	Lin.Ft.	14" Cast-in-place Reinforced Concrete piles		1200	890	
S29	19	Cu Yds.	Porous Backfill				19
S-29	195	Cu.Yds.	Slope facing (S-29.05 type)				195

REINFORCING STEEL LIST

SUPERSTRUCTURE

MARK	NO.	LENGTH	WEIGHT	TYPE
A966	123	32'-8"	13,663	Str.
B966	40	23'-10"	3241	Bent
C966	40	21'-1"	2,867	Bent
D966	20	22'-0"	1,496	Str.
E966	20	17'-2"	1,168	Str.
F1066	76	32'-6"	10,628	Str.
G1066	38	18'-2"	2,971	Str.
H1066	36	14'-9"	2,285	Str.
J601	38	16'-6"	941	Str.
K601	19	7'-9"	221	Str.
M701	81	50'-3"	8,320	Str.
N801	60	50'-3"	4,529	Str.

BENDING DIAGRAM

B966 22'-9" c/c

C966 20'-0" c/c

TWO ABUTMENTS

MARK	NO.	LENGTH	WEIGHT	TYPE
R1001	16	26'-6"	1,824	Str.
R801	16	30'-1"	1,285	Str.
R501	16	29'-6"	492	Str.
R502	156	6'-7"	1,071	Bent
R503	8	25'-6"	213	Str.
R504	24	5'-4"	133	Str.
R505	38	7'-11"	314	Bent
R506	8	14'-8"	122	Str.
R507	16	5'-8"	95	Str.
R508	32	6'-8"	223	Bent
R509	32	8'-5"	281	Bent
R401	64	5'-5"	232	Bent

BENDING DIAGRAM

1'-11" 2'-1" 3'-3" 3'-0" 3'-3"

R401 1'-9" c/c

R502 2'-8" c/c

R505 1'-8" c/c

R508 0'-11" c/c

R509 2'-2" c/c

TWO PIERS

MARK	NO.	LENGTH	WEIGHT	TYPE
P1001	8	50'-3"	1,730	Str.
P901	8	46'-9"	1,272	Str.
P701	120	4'-0"	981	Str.
P501	4	46'-9"	195	Str.
P502	68	8'-0"	567	Bent
P503	8	6'-4"	53	Bent
P401	80	5'-5"	290	Bent

BENDING DIAGRAM

1'-11"

P401

1'-9" c/c

P503 R=1'-3"

1'-7"

2'-0½" c/c

2'-4" c/c

P502

2'-2" c/c

REPLACEMENT BARS

MARK	NO.	LENGTH	WEIGHT	TYPE
RE1001	1	7'-2"	31	Str.
RE901	2	6'-10"	47	Str.
RE801	1	6'-6"	17	Str.
RE701	1	6'-2"	13	Str.
RE601	1	5'-11"	9	Str.
RE501	1	5'-7"	6	Str.
RE401	1	5'-5"	4	Bent

BENDING DIAGRAM

1'-11"

RE401

1'-9" c/c

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

GENERAL PLAN & ELEVATION

BRIDGE NO. MED-224-16.15
OVER
CHIPPEWA DITCH
MEDINA COUNTY STA. 878+92.68
879+85.42

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
R.F.S. H.L.C.	R.F.S. H.L.C.	M.F. Prose	J.D. J.V.G.	B.F.G.	11/21/58	

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

34
42

MED-224-16.07
0.8± Miles East of Leroy

LIGHTLY WOODED

30" CIP CULVERT

4 CH. 40 (GRAVEL)

Critical Clearance point "A"
245+89.7
Top Rail El. 1010.17

Ctr. of Gas Main

LANE

West Bound Lanes
℄ Proposed Construction

End Approach Slab Sta. 903+83.44

Begin Approach Slab Sta. 906+03.94
(on ℄ proposed construction)

20'-0" Clear Roadway on Column ℄ Tracks

Sta. 905+20.86 U.S 224

BM
Nail in Twin 15" Elm
200' Rt. 905+45
Elev. 1005.358

Existing Pavement

N. 72°01'01"E.

East Bound Lanes

℄ Survey

B & O. R.R.

Exist. 30"x2" Storm Sewer ?

STONE BOX CULVERT

TWIN 36" CMP EXTENSIONS

48" CONC. PIPE CULVERT

Bridge Limits

800' V.C.
El. 1036.60
@ Sta. 904+00
El. 1033.25

Bench El. 1028.4± + 3.00 %

0.00 %

Proposed Grade

Bench Elev. 1031.3±

Elev. 1027.3

El. 1024.4±

2:1 (Normal)

Top of Rail
El. 1010.15

El. 999.00

El. 995.50

El. 1001.50

75 Estimated average pay length for 12" Cast-in-place Reinforced Concrete Piles

Profile on ℄ Proposed Construction

Existing Profile on ℄ Proposed Construction

EXISTING BRIDGE DATA

Type: 4 Span Continuous Steel Beam Bridge with Conc. Deck and Conc. Substructure
Span: 48'-60'-60'-48' ℄ Brgs.
Roadway: 30' Clear between 2' Nominal Safety Curbs
Load Frequency: C.F. 2000-51
Skew: 0°
Wearing Surface: 1" monolithic concrete
Approach Slabs: AS-1-54 (20' long)
Alignment: Tangent

* Adequate for AASHO alternate loading

PROPOSED STRUCTURE

Type: 4 Span Continuous Steel Beam Bridge with conc. deck and conc. substructure
Span: 48'-60'-60'-48' (Nominal
Roadway: 30' Clear between 2' Safety Curbs
Load Frequency: C.F. 2000-57 *
Skew: 0°
Wearing Surface: 1" monolithic concrete
Approach Slabs: AS-1-54 (25' long)
Alignment: Tangent

FOUNDATION SOUNDINGS: Foundation design and foundation quantities are based on a study of pile-driving data from the adjacent structure. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in the Division office.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SITE PLAN 76-158 L

BRIDGE NO. MED-224-1662 (1683)
OVER BALTIMORE & OHIO R.R. & C.H. NO. 40
MEDINA COUNTY
STA. 903+83.44
906+03.94

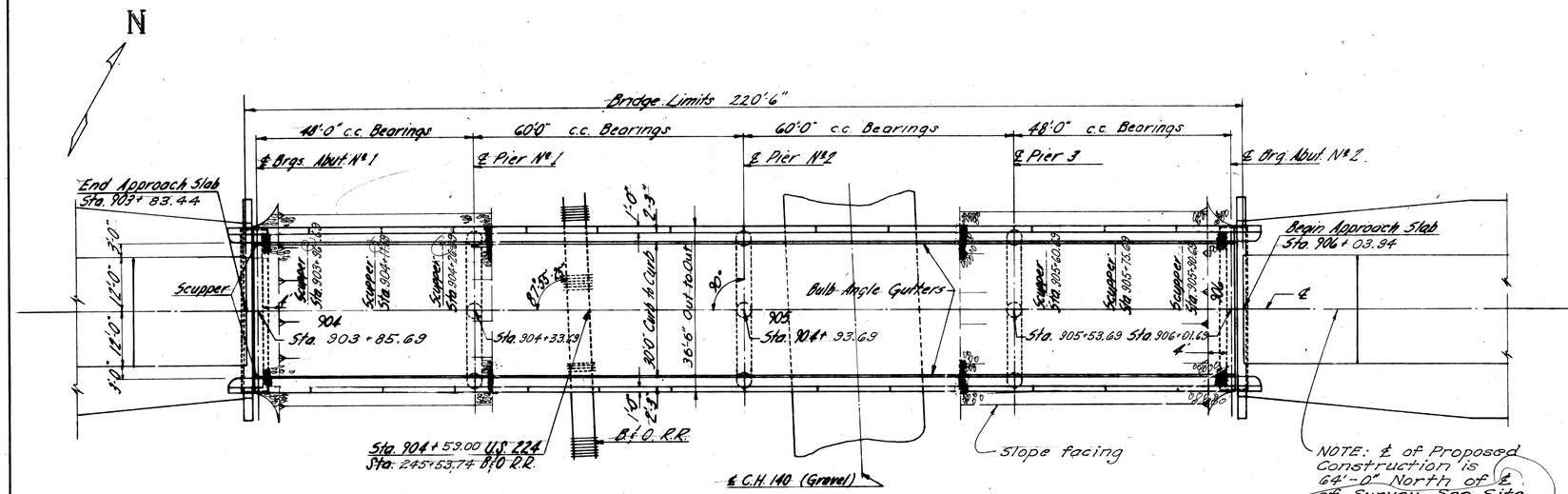
Topography		Proposed Work			
Survey	Drawn	Design	Drawn	Checked	Rev.
V.F.	V.F.	J.H.G.	J.H.G.	J.G.R.	P.E.S.

Date 9-13-58

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

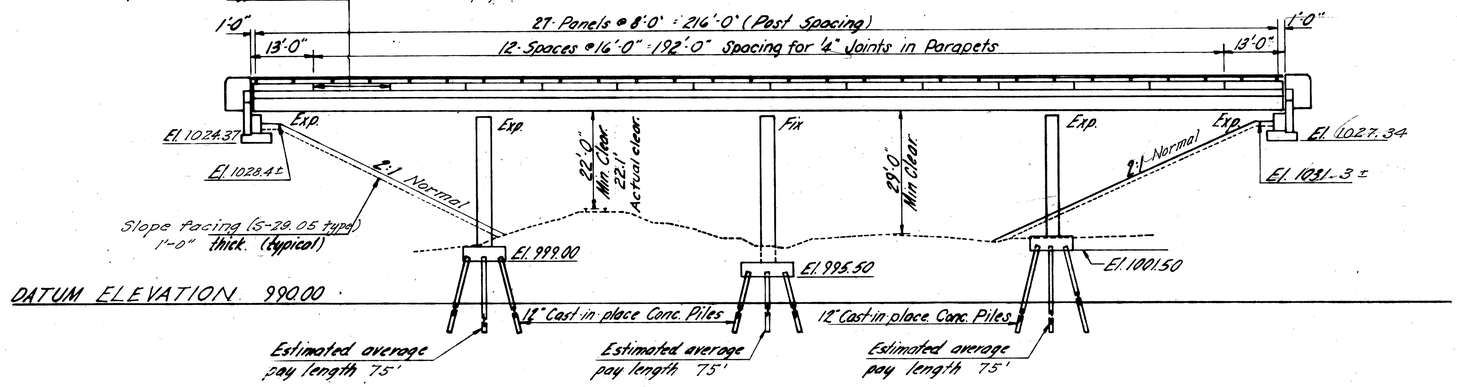
35
42

MED-224-16.07



GENERAL PLAN

Deflection Joints in parapet. Fill with ½" grey sponge rubber preformed exp. jt. filler meeting the requirements of Sec. M-10.02 Type I. Included with Item S-14 for payment.



ELEVATION

P.V.I Sta. 904+60
Elevation 1039.25
Length V.C. 800'
M.O. 30'

CURVE DATA

GENERAL NOTES (Continued)

- Construction Clearance of 19' vertically above the top of the railroad tracks and 8' horizontally from the center of tracks shall be maintained at all times.
- Sheeting & Bracing: Before construction is started, 8 sets of prints showing details of the sheeting and bracing to be used for excavation adjacent to the railroad tracks shall be submitted to the Director for approval by the Department of Highways and by the railroad company.
- Aligning Railroad Tracks: After the Contractor has completed all excavation and backfill adjacent to the railroad tracks and in compliance with Sec. E-2.04 and E-2.08 of the Construction and Material Specifications, subject to the supervision of the railroad company, nothing in Sec. E-2.04, E-2.08 or G-8.07 of the Specifications shall be construed to hold the Contractor liable for aligning and re-surfacing the railroad tracks.

- The Contractor shall safeguard the traveling public on CH. 40 by providing platforms, nets or other suitable protection above the traveled lanes. Cost of such protection to be included with cost of maintaining traffic.

REPLACEMENT BAR LIST					
Mark	N°	Size	Length	Type	Weight
RE101	1	11	7'-5"	Str.	40
RE102	1	10	7'-2"	Str.	31
RE103	2	7	6'-8"	Str.	25
RE604	3	6	5'-11"	Str.	27
RE505	1	5	5'-7"	Str.	6
RE406	1	4	5'-3"	Str.	4

GENERAL NOTES:

- Design Specifications: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, Dated 10-1-51, together with revisions thereof dated 7-15-52, 4-1-54 and 2-1-55.
- Reference shall be made to Standard Drawings RB-1-55, dated 3-1-55 and sheet N° 2 of 8 C.S.B.-1-55 dated 3-1-55 and revised 12-3-56 and to Supplemental Specifications N° S114 dated 8-1-57.
- Excavation Quantity includes the removal of fill material between the top of the earth bench and the bottom of the abutment footings and excavation between the finished slope and the bottom of the pier footings.
- Piles shall be driven to a minimum bearing capacity of 24 tons for the piers. The length of penetration of every pile shall be at least 80% of the estimated average length of penetration of the piles in the pertinent pier as indicated on the plans unless a lesser penetration is approved by the Director.
- Welding of structural steel shall be Class "A" except as otherwise shown.
- Surface Finish of Concrete: Railing end posts, curb faces and fascias of deck shall receive a rubbed surface finish. All other exposed surfaces shall be governed by the provisions of Item 511.
- Paint, both shop and field shall be applied by brushing. Spray application will not be permitted. Two field coats shall be applied to all spans plus one additional field coat for the span over the railroad track.
- Slope Facing (S-29.05 Type) shall be provided under the structure at both abutments. The porous drain material shall be 12" thick and shall extend from the face of the abutment down to existing ground line and transversely to 3 ft. outside the edge of the superstructure.
- Welded Steel: The steel for the 33 W 152 beams shall conform to A.S.T.M. Designation A-373. All other structural steel shall conform to either A.S.T.M. A-7 (as per Sec. M-7.4 (a) of the Construction and Material Specifications) or to A-373.

- The Embankment shall be placed and compacted up to the finished spill-thru slope and to the level of the subgrade for a distance of 200 feet back of the abutments, after which excavation shall be made for the abutments, earth benches and Piers 1 & 3.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Superstr.	Abuts.	Piers	General
E-2	312	cu.yd.	Unclassified Excavation		93	219	
511	268	cu.yd.	Class "C" Concrete, Superstructure	268			
511	99	cu.yd.	Class "C" Concrete, Pier Columns & Caps			99	
511	110	cu.yd.	Class "E" Concrete, Abutments		110		
511	97	cu.yd.	Class E Concrete, Pier Footings			97	
514	101,503	lbs.	Reinforcing Steel	11,730	4667	24,973	133
517	205,200	lbs.	Structural Steel	205,200			
518	205,200	lbs.	Field Painting of Structural Steel as per plan.				205,200
514	455	Lin.Ft.	Railing (Aluminum Rail & Supports, Concrete Parapet and End Posts.)				455
516	Lump Sum		First Test Pile				
517	Lump Sum		First Pile Test Load				
517	1 each		Subsequent pile test load.			1	
518	5,400	Lin.Ft.	12" Cast in Place Reinforced Concrete Piles.			5,400	
529	29	cu.yd.	Porous Backfill				29
529	174	cu.yd.	Slope Facing (S-29.05 type)				174
E-2	lump sum		Cofferdams, Cribs and Sheeting				lump sum

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

GENERAL PLAN & ELEVATION

BRIDGE NO. MED-224-16.62
OVER BALTIMORE & OHIO R.R. & C.H. NO. 40
MEDINA COUNTY STA. 903+83.44
906+03.94

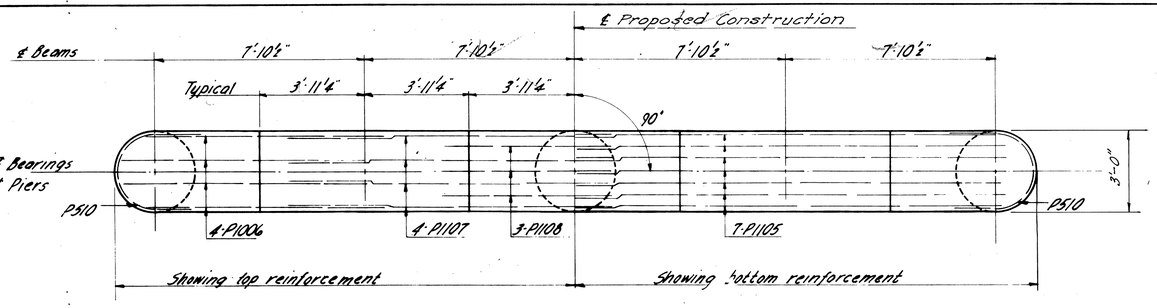
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
A.O.	A.O.	M.M.	M.L.E. J.V.G.	B.F.G.	2-13-58	

H.L.C. N.L.C. Prose

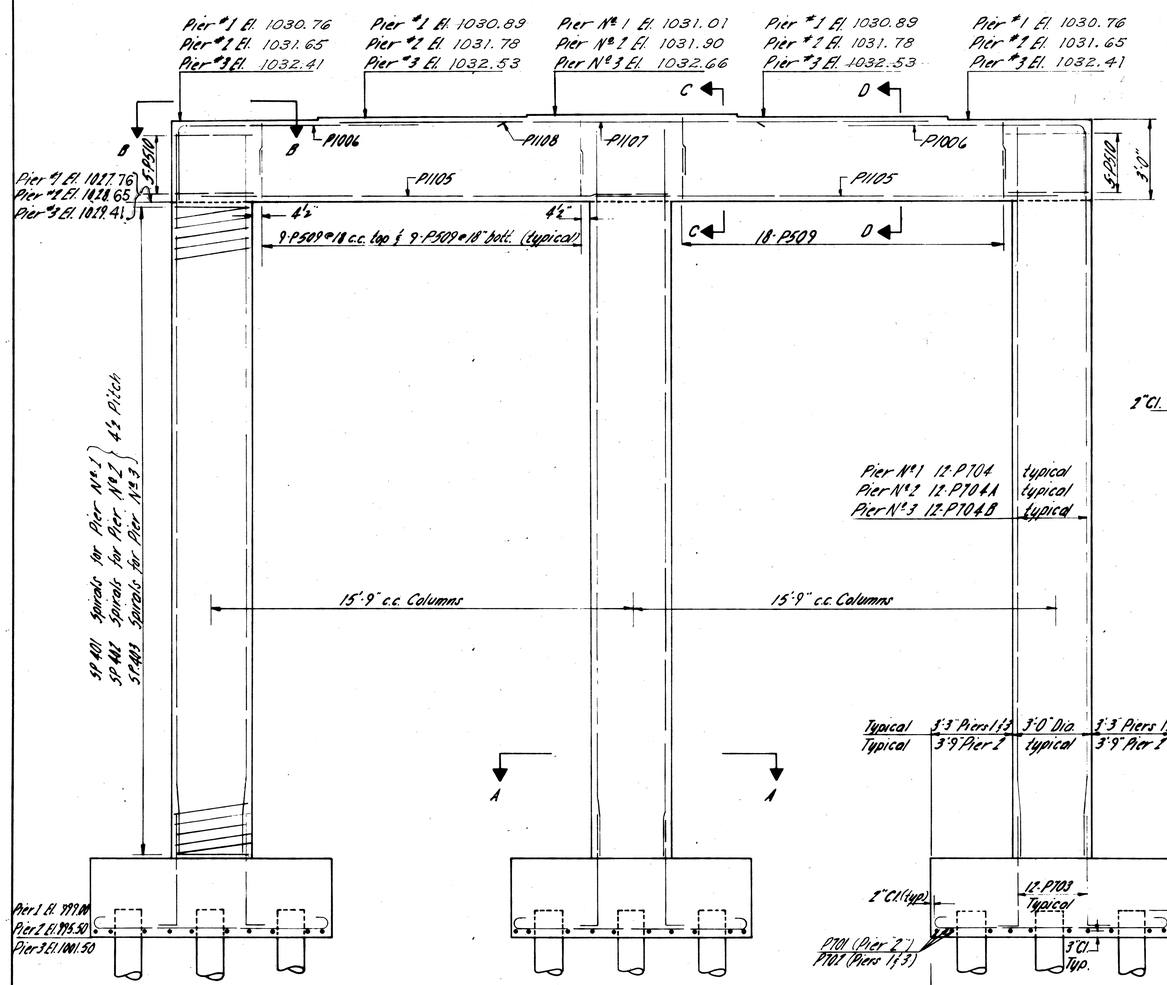
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

36
42

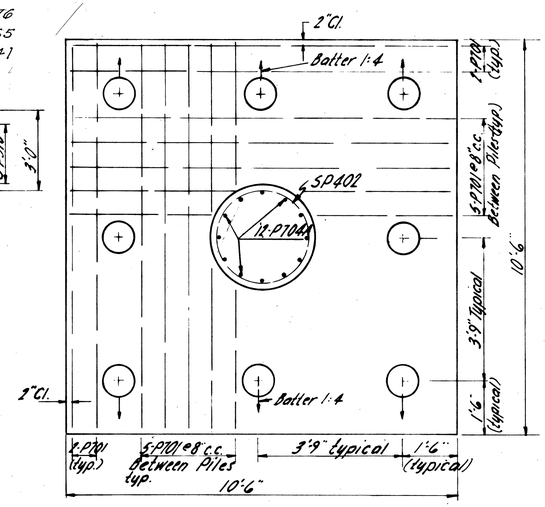
MED-224-16.07



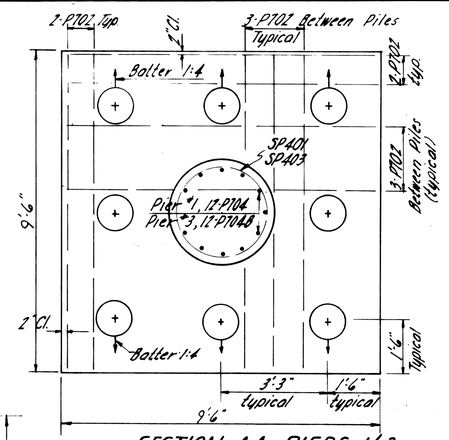
PLAN OF PIER CAP - PIERS 1, 2, & 3



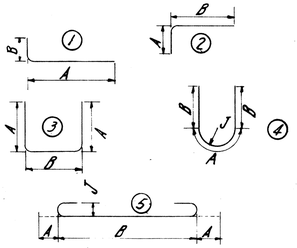
ELEVATION - PIERS 1, 2, & 3



SECTION A-A PIER 2



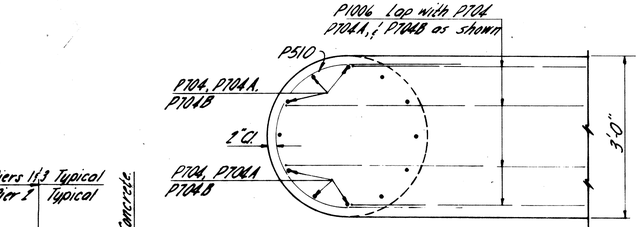
SECTION A-A PIERS 1 & 3



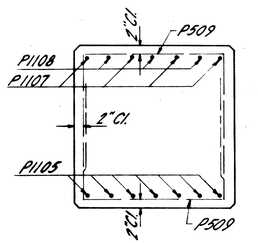
BAR SCHEDULE FOR PIERS

Mark	Pier1	Pier2	Pier3	Total	Size	Length	Type	A	B	C	J	Weight
P701		84		84	7	11'-10"	5	10"	10'-1"		7"	2032
P702	60		60	120	7	10'-10"	5	10"	9'-1"		7"	2657
P703	36	36	36	108	7	5'-5"	1	4'-11"	8"			1196
P704	36			36	7	28'-7"	Str.					2103
P704A		36		36	7	33'-0"	Str.					2428
P704B			36	36	7	27'-9"	Str.					2042
P1105	14	14	14	42	11	17'-6"	Str.					3905
P1006	8	8	8	24	10	11'-6"	2	2'-9"	9'-0"			1188
P1107	4	4	4	12	11	22'-6"	Str.					1435
P1108	3	3	3	9	11	10'-0"	Str.					478
P509	36	36	36	108	5	7'-1"	3	1'-4	2'-8			798
P510	10	10	10	30	5	8'-0"	4	4'-2	1'-11		1'-4	250
											Total:	20,512#

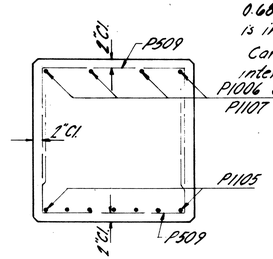
Mark	Pier1	Pier2	Pier3	Total	Size	Length	Pitch	№ turns	Core Diam	Weight
SP401	3			3	4	25'-10"	4½	72	32	1421
SP402		3		3	4	30'-3"	4½	84	32	1659
SP403			3	3	4	25'-0"	4½	70	32	1381
									Total:	4461#



SECTION B-B



SECTION C-C



SECTION D-D

— SPIRAL NOTES —

The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap.

The "№ Turns" shown in the steel list for the spiral bars is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number.

Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 54.

1½ closed coils shall be provided at the ends of each spiral unit.

Four steel channel, tee, or angle spacers weighing approximately 0.68 pounds per lin. foot of spacer shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 pounds per lin. ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

Care shall be used in placing cap reinforcement to avoid interference with anchor bolts.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

PIERS

BRIDGE NO MED-224-1662
OVER BALTIMORE & O.H.R.R. & C.H. NO. 40
STA. 903+83.44
906+03.94
MEDINA COUNTY

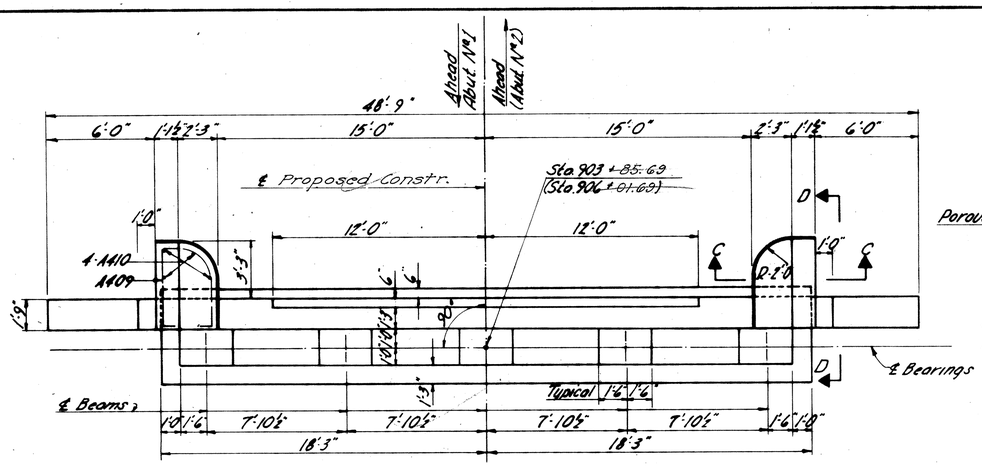
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
AFD M.C.C.	AFD M.C.C.	M.M. J.V.G.	K.K.	DRG	2-13-58	

Prose

FED. RD. DIVISION	STATE	PROJECT	TYPE & FUNDS
2	OHIO		

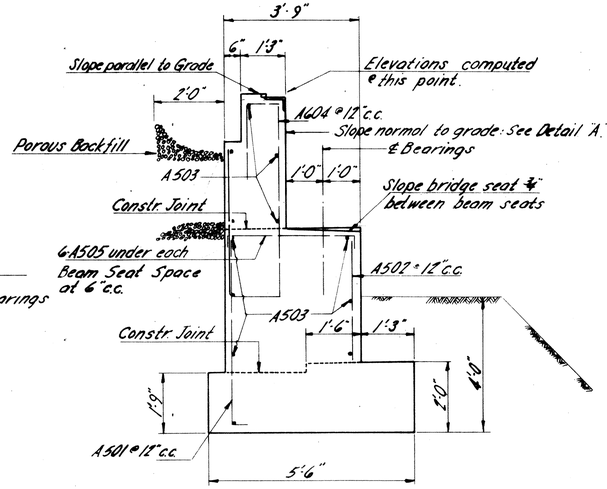
37
42

MED-224-16.07



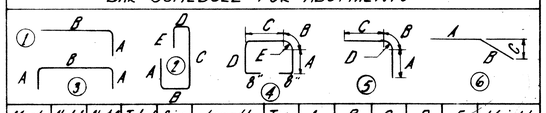
PLAN - ABUTMENT NO. 1

Abutment No. 2 similar except as noted thus: ( ).



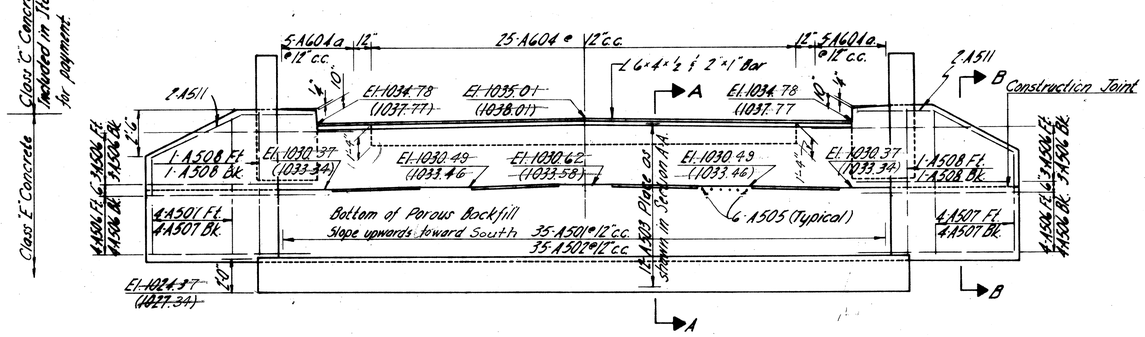
SECTION A-A

— BAR SCHEDULE FOR ABUTMENTS —



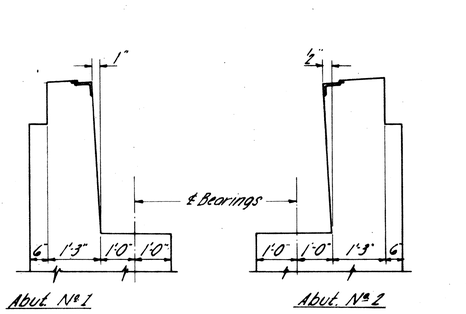
Mark	Abut 1	Abut 2	Total	Size	Length	Type	A	B	C	D	E	Weight
A501	35	35	70	5	6'-6"	1	10½	5'-9"				475
A502	35	35	70	5	3'-10"	Str.						280
A503	12	12	24	5	34'-0"	Str.						851
A604	25	25	50	6	15'-5"	2	5'-3"	1'-5"	6'-5"	11"	2'-0"	1158
A604a	10	10	20	6	16'-1"	2	6'-5"	1'-5"	6'-5"	1'-5"	1'-0"	483
A505	30	30	60	5	4'-11"	3	10½	3'-5"				308
A506	28	28	56	5	9'-0"	Str.						526
A507	16	16	32	5	6'-9" to 9'-0"	Str.	8 each vary by 9"					263
A508	4	4	8	5	9'-3"	Str.						77
A409	8	8	16	4	12'-2"	4	2'-8"	2'-11"	1'-1"	4'-6"	1'-10"	130
A410	8	8	16	4	3'-8"	Str.						39
A511	4	4	8	5	9'-3"	6	4'-0"	5'-3"	2'-6"			77
RA12	4	4	8	4	8'-3"	5	3'-3"	1'-4"	3'-8"	10"		included
RA13	12	12	24	4	4'-0"	Str.						in Item 514
RA14	8	8	16	4	4'-6"	Str.						for payment
							Total Weight:					4,667#

All Bar Dimensions are out to out.



ELEVATION - ABUTMENT NO. 1

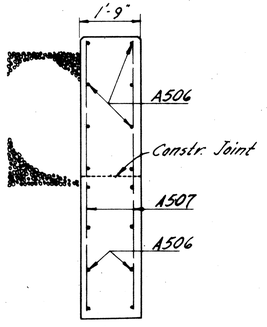
Abutment No. 2 similar except as noted thus: ( )



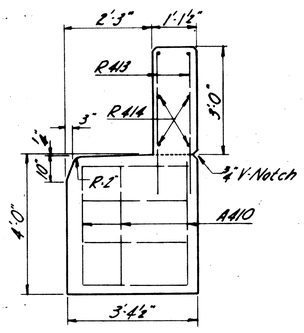
DETAIL 'A'

NOTES:

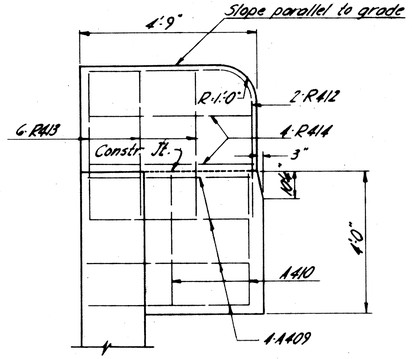
- Porous Backfill two (2) feet thick full length of the abutment & wings shall extend up to the underside of the approach slab or up to the finished ground surface.
- Clearance of reinforcing steel from face of concrete shall be 2" unless otherwise shown.
- Concrete above bridge seat construction joint shall not be placed until after steel work is erected.
- Steel end finish shall be used as a template for top of backwall.
- Maximum Foundation Pressure: 2 Tons per square foot.



SECTION B-B



SECTION C-C



SECTION D-D

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

ABUTMENTS

BRIDGE NO. MED-224-1662
OVER BALTIMORE & OHIO R.R. & C.H. NO. 40
MEDINA COUNTY
STA. 903 + 83.44
906 + 03.94

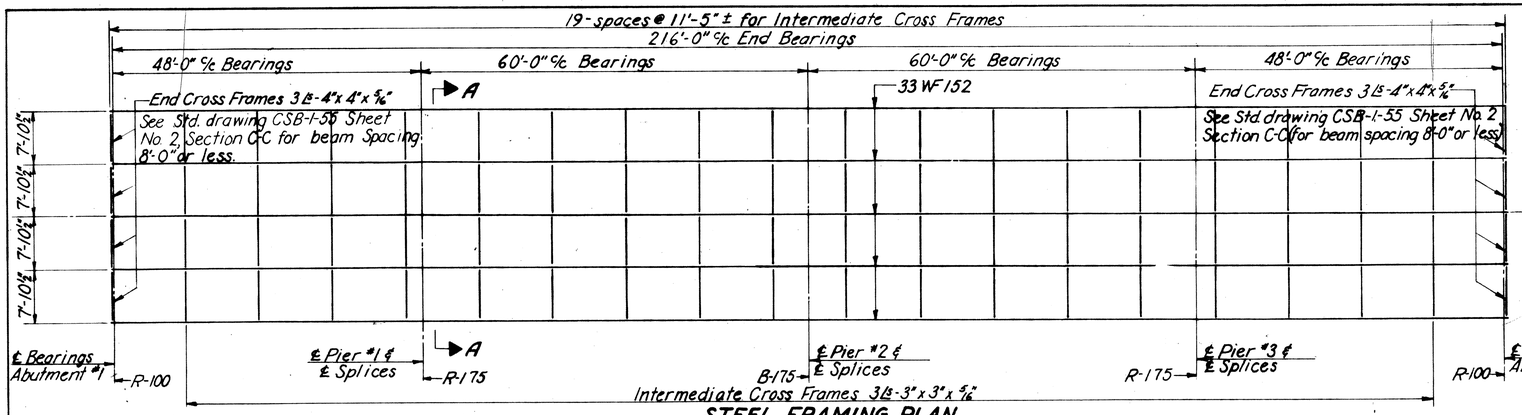
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
AFQ A.L.C.	AFQ A.L.C.	M.M.	J.V.G.	APK	2-13-58	

Proof

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

38
42

MED-224-16.07

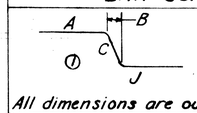


STEEL FRAMING PLAN

For details of End Finish, See Standard drawing CSB-1-55, Sheet No. 2, Section D-D (showing roadway end finish for monolithic wearing surface).

℄ Construction

BAR SCHEDULE FOR DECK

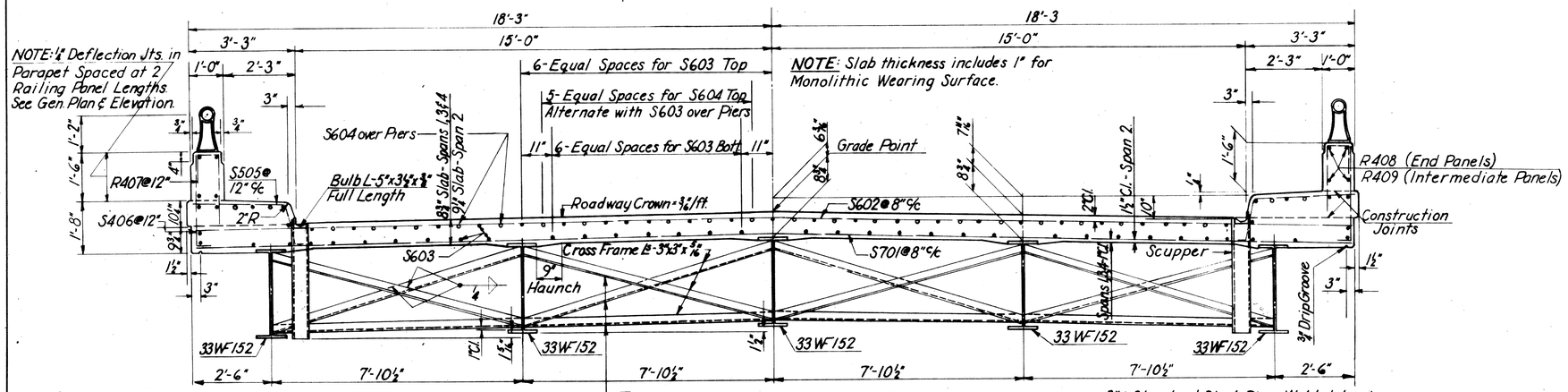


All dimensions are out to out.

Mark	No.	Size	Length	Type	A	B	C	J	Weight
S701	326	7	36'-2"	Str.					24,101
S602	326	6	36'-2"	Str.					17,710
S603	483	6	33'-0"	Str.					23,940
S604	78	6	24'-0"	Str.					2,812
S505	436	5	4'-10"	1	2'-10"	3"	1'-5"	10"	2,197
S406	436	4	3'-4"	2		2'-9"		8"	970
R407	436	4	4'-0"	3	2'-2"	8"	1'-2"		Include in
R408	16	4	12'-6"	Str.					Item S-14
R409	96	4	15'-7"	Str.					for payment.
							Total		71,730

NOTES:

- Refer to Standard Drawing CSB-1-55 (Revised 12-3-56) sheet 2 of 8 for Details of End Cross Frames and End Finish.
- Refer to Misc. Details Sheet for details of Gutter, Scupper, and Splash Guard.
- Refer to Standard Drawing RB-1-55 for Details of Rockers & Bolsters.
- Beam Splice Welding Procedure:
  1. Raise end of beam at Pier #2, 1".
  2. Butt weld beam flanges & webs at Pier #1, using the following sequence: make one pass on each flange, then one on the web; repeat until welds are completed.
  3. Weld top and bottom flange moment plates at Pier #1.
  4. Lower end of beam at Pier #2.
  5. Make splice at Piers #2 & #3 in the same manner raising the end of the beams 1" at Pier #3 and ½" at Abutment #2.
- Welding shall be Class "A". Any welds shown as field welds may, at the option of the contractor, be made in the shop.
- End Finish need not be copper-bearing steel. A welded butt joint in the end finish, at the centerline of roadway, will be required for that portion of the end finish attached to the superstructure. The portion attached to the backwall shall be placed in segments which shall be closely butted, with one of the joints at the apex of the crown, but shall not be welded.
- Concrete shall be Class "C".



Weld both sides of vertical leg of Cross Frame L's ℄ one side of horizontal leg to stringer webs with ¼" continuous fillet weld.

SECTION A-A

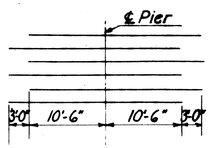
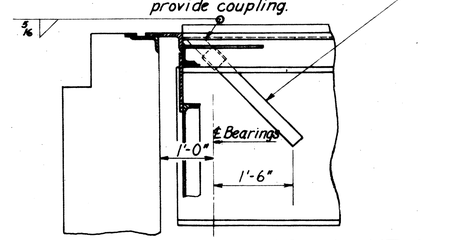
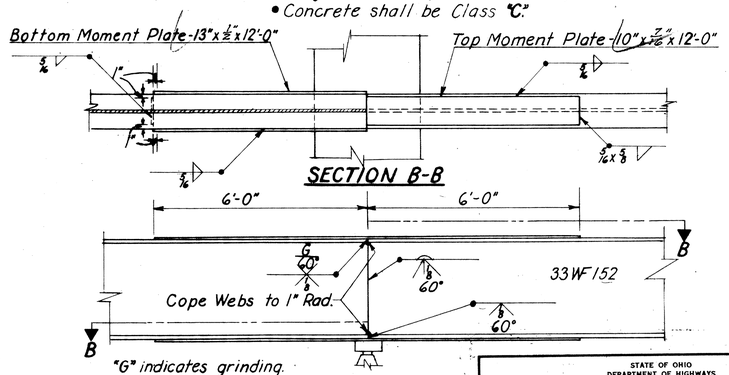


DIAGRAM SHOWING STAGGER OF S604 BARS OVER PIERS



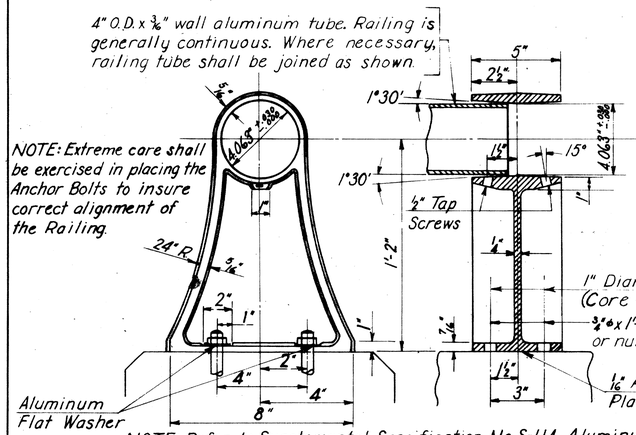
SCUPPER DETAIL AT ABUTMENT 1



BEAM SPLICE DETAILS

4" O.D. x ⅜" wall aluminum tube. Railing is generally continuous. Where necessary, railing tube shall be joined as shown.

NOTE: Extreme care shall be exercised in placing the Anchor Bolts to insure correct alignment of the Railing.



NOTE: Refer to Supplemental Specification No. S-114, Aluminum for Bridge Railing, dated Aug. 30, 1955.

RAILING POST DETAILS

CONCRETE DECK PLACING: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections, between transverse construction joints which are normal to the centerline of bridge and are located near the center of any span.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

SUPERSTRUCTURE

BRIDGE NO. MED-224-1662
OVER BALTIMORE & O. H. R.R. & C. H. NO. 40
MEDINA COUNTY STA. 903 + 83.44
906 + 03.94

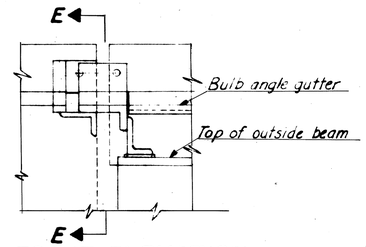
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
AO	AO	C.S.	J.V.G.	BPG	2-13-58	

M.C.C. M.L.C. Prose

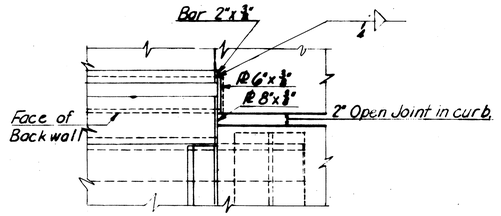
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

39
12

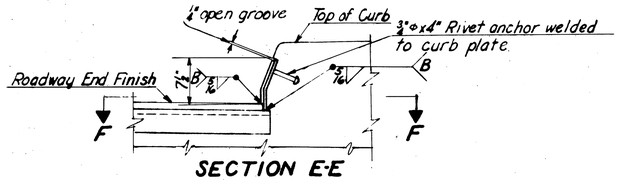
MED-224-16.07



FRONT ELEVATION



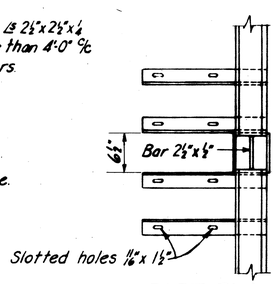
SECTION F-F



SECTION E-E

SPLASH GUARD DETAILS

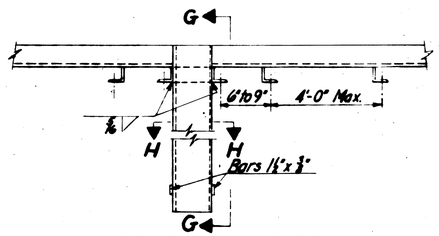
GUTTER SUPPORT



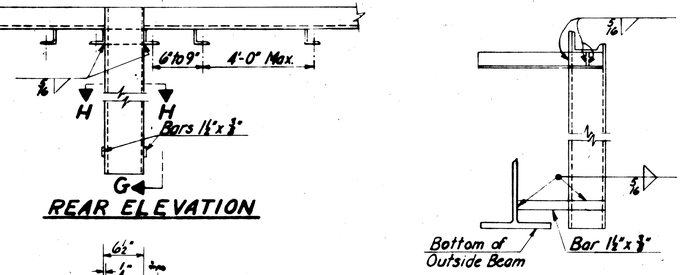
PART PLAN

GUTTER AND SCUPPER NOTES:

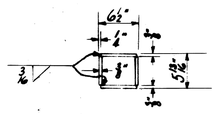
- See General Plan for spacing of scuppers. Scuppers must be spaced to clear cross frames.
- Milled joints will be permitted in bulb angles, but individual lengths shall be made as long as practicable.
- Supports shall be placed 6" to 9" on each side of joints.
- Gutters shall be accurately adjusted for alignment and grade, with allowance for dead load deflection, before concrete is placed.
- Welding shall be Class "A" except as shown. Any welds shown as field welds may, at the option of the Contractor be made in the shop.
- Gutter and Scuppers need not be copper-bearing steel.



REAR ELEVATION



SECTION G-G



SECTION H-H

GUTTER AND SCUPPER DETAILS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

MISC. DETAILS

BRIDGE NO. MED-224-1662

OVER BALTIMORE & OHIO R.R. & C.H. NO. 40

MEDINA COUNTY

STA. 903 + 83.44
906 + 03.94

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
AFO MLC	AFO MLC	C.S.	AFS JMG	DRC AFS	2-13-58	

Prose