No PID
C No. 580079

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

ASD-1-3.52

MONTGOMERY TOWNSHIP
ASHLAND COUNTY

ACI-1105(31)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-1105 (31)	1/394

ASHLAND COUNTY
ASD-1-3.52

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.

Federal Project No. I-1105(31) appearing throughout these plans shall be considered to read ACI-1105(31)

CONVENTIONAL SIGNS

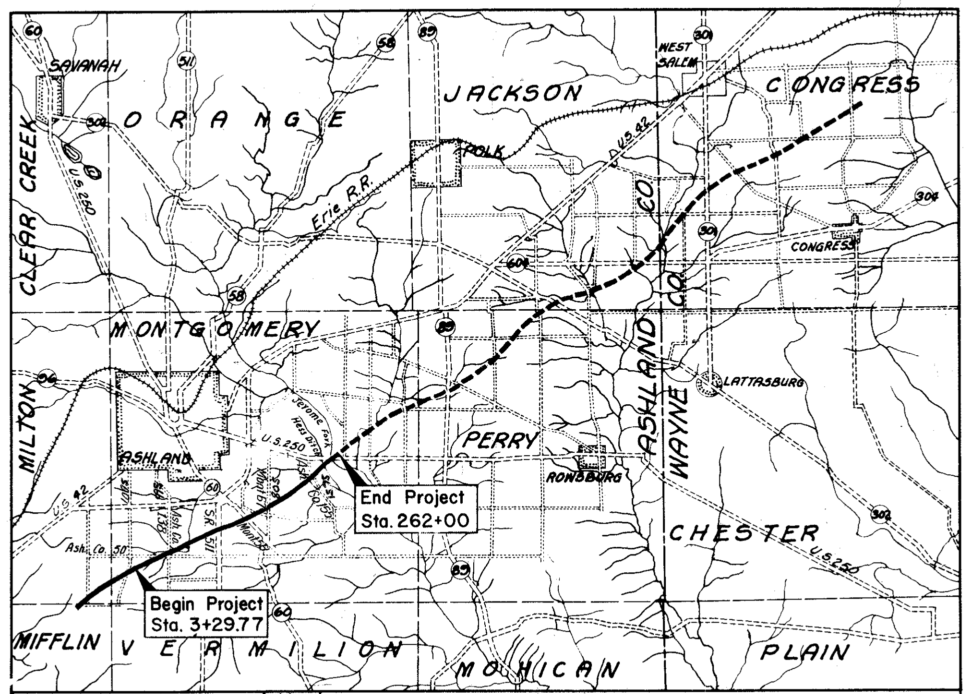
State Line
County Line
Township Line
Section Line
Center Line
Corporation Line
Fence Line
Guard Rail (Existing)
Guard Rail (Proposed)
Steam Railroad
Power Poles
Telephone Poles
Trees (Existing)

INDEX OF SHEETS

LINE DATA

Begin Project	Sta. 3+29.77	
End Project	Sta. 262+00	
Gross Length of Project	25870.23	Lin. Ft.
Add for Equation	113.91	Lin. Ft.
Net Length of Project	25984.14	Lin. Ft. or 4.921 Miles
Begin Work	Sta. 2+82	Lin. Ft.
End Work	Sta. 262+35	Lin. Ft.
Gross Length of Work	25,953.00	Lin. Ft.
Add for Equation	113.91	Lin. Ft.
Net Length of Work	26,066.91	Lin. Ft. or 4.937 Miles
Add for Approaches (See Sheet No. 12)	18,562.42	Lin. Ft.
Total Length of Work	44,629.33	Lin. Ft. or 8.453 Miles

Approved H. E. Eckhardt
Date 4/4/58 Engineer of Traffic



Delivery Point Ashland
Average haul from siding 2.5 Miles

LOCATION MAP

SCALE OF MILES

0 1 2 3 4 5

Portion to be improved
Portion Under Separate Contract
State Roads
Other Roads

SCALE

Plan — 1" = 100'
Profile: Horizontal — 1" = 100'
Profile: Vertical — 1" = 10'

The standard specifications of the State of Ohio, Department of Highways, including changes and supplemental specifications listed 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 that the making of this improvement will not require the closing of the highway to traffic and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved R. J. Lehman
Date 4-3-58 Chief Engineer, Interstate Projects

Approved Ro. W. Mahurin
Date 4-10-58 Deputy Director, Planning & Programming

Approved P. E. Masheter
Date 4/7/58 Deputy Director, Design & Construction

Approved
Date First Assistant Director

Approved George S. Lorenz
Date 4/10/58 Acting Director of Highways

Sheet No. 15 Revised 6-3-58

Sheets 237, 238 and 325 revised July 11, 1958.

Supplemental Prints of Standard Construction Drawings							
B-T-50-70-71E NO.1	10-1-47	I-8 I NO.2	12-1-54	L-3-A	4-1-50	AS-1-54	12-1-54
B-T-71R	3-2-53	I-8 M.H. NO.1	5-1-52	LJ NO.1	7-1-55	CSB-2-56 Sheet 2	12-3-56
DR-1	1-3-55	I-12	7-1-54	RI-1	1-3-55	CSB-2-56 Sheet 3	12-3-56
F-1	4-1-57	I-14 G	1-22-52	HW-A&B	7-15-57	R.B. 1-55	3-1-55
G-7.07	6-1-56	I-15 NO. 1	8-1-55	HW.-C	7-15-57	AR 1-57	4-9-57
I-1,2,3,4 & 5	2-20-45	I-15 NO. 2A	6-1-57	S-27 P.C. 2	3-15-48	SP-53	7-21-53
I-8 C.B. 2-2-A&B	8-1-56	I-15 NO. 2B	6-1-57	S-27 P.C. 4	1-4-54	I-8 C.B. NO.7	5-1-52
I-8 C.B. NO. 4	6-1-57	I-21-23	8-1-56	S-27 P.C. 3	2-20-45	I-15 NO. 5	12-9-57
I-8 C.B. NO. 5	6-1-57	L-1	4-1-50	T-35	1-2-56	I-15 NO. 6	12-9-57
I-8 C.B. NO. 6	5-1-52	L-3	4-1-30	TJ	5-1-56	I-8 M.H. NO.1-A	1-3-55

Supplemental Specifications	
E-101	1-1-57
B-119	REV. 8-11-57
5	6-8-55
18	REV. 2-6-57
S-114	REV. 8-1-57
I-127	REV. 11-16-57
M-206.6 (b)	5-25-56
I-125	REV. 11-6-57
M-206.14	7-15-49

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED

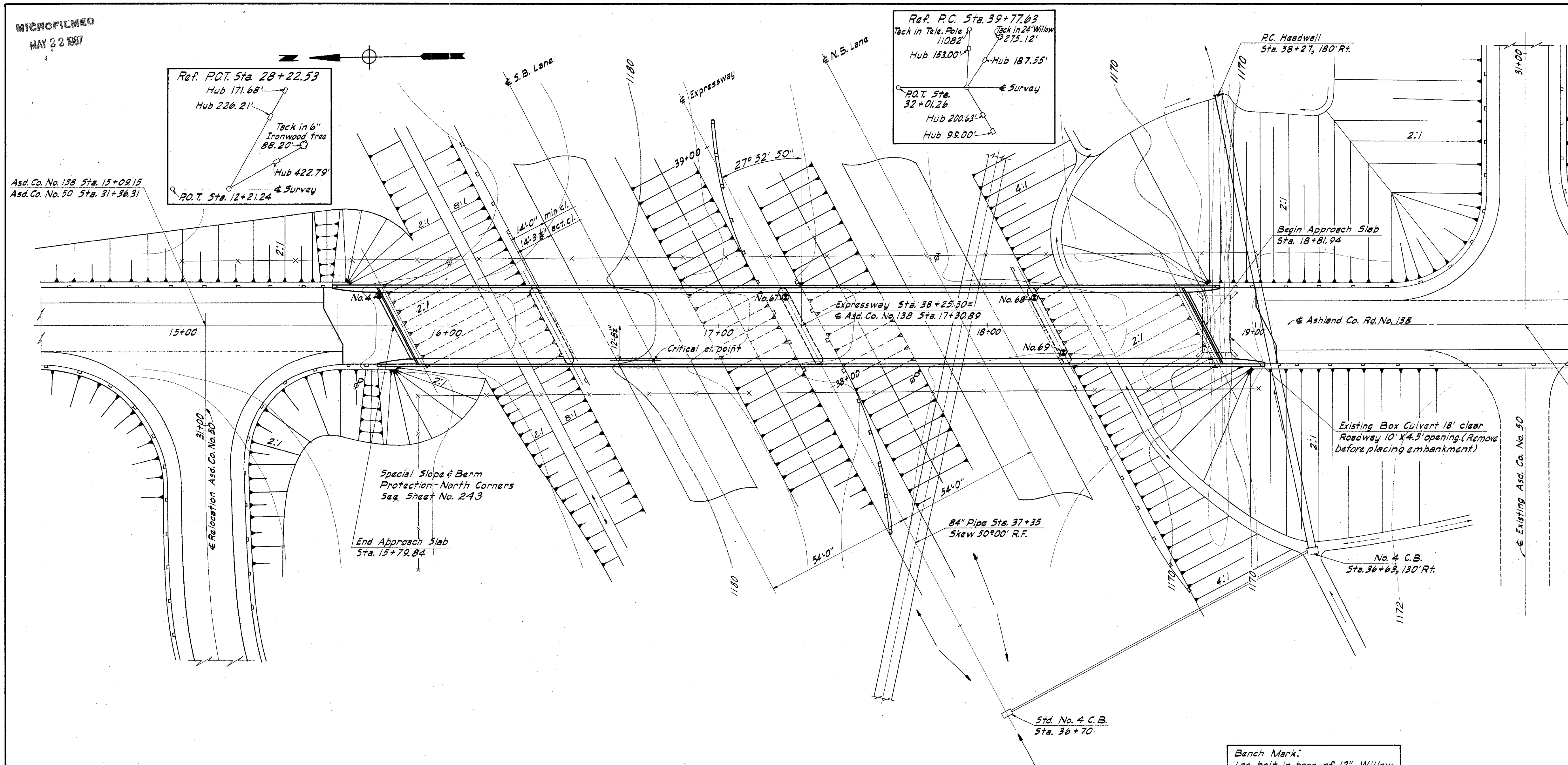
DIVISION ENGINEER — DATE

File No. 4

ASHLAND COUNTY ASD-1-3.52
Date of Letting 19
Contract No.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	I-1105 (31)	

2.66 Miles South of Ashland
Ashland County
ASD-1-3.52

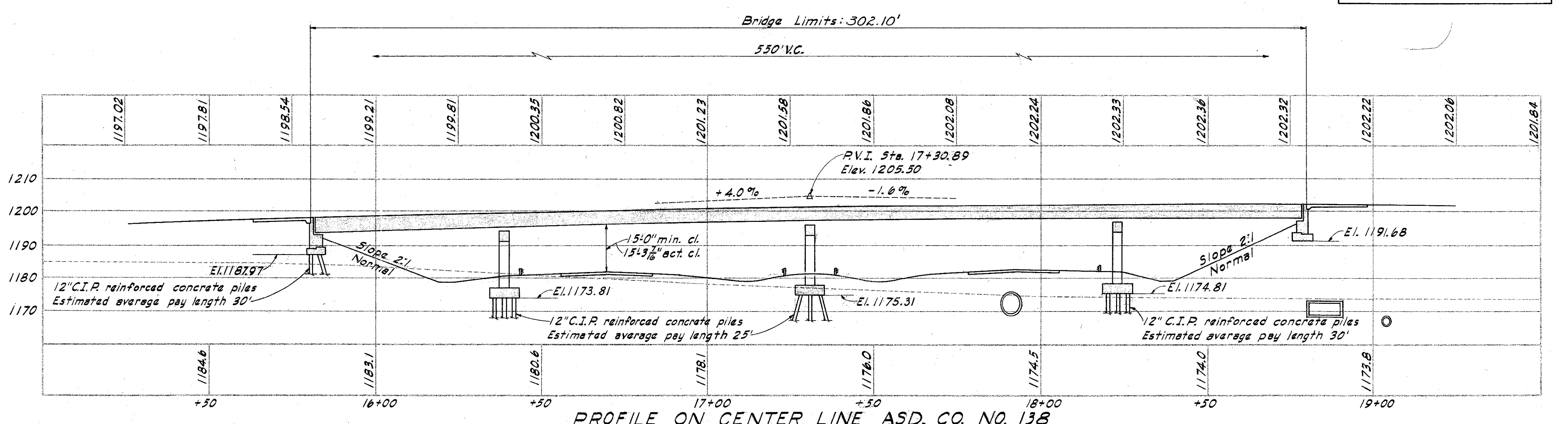


FOUNDATION SOUNDINGS: Foundation design and foundation quantities are based on a study of borings and soil-sampling soundings made at the site. This sounding information may be inspected in the Interstate Projects Office and in the Division Office, but the State does not guarantee the accuracy thereof.

Ⓑ Denotes boring location.

Bench Mark:
Leg bolt in base of 12" Willow
219' Rt. Sta. 44+70
El. 1165.50

Ashland County Rd. No. 138 A.D.T. 200 (1975)



PROFILE ON CENTER LINE ASD. CO. NO. 138

PROPOSED STRUCTURE

TYPE: Continuous steel beams with reinforced concrete deck & substructure.
SPAN: 56.0'-92.5'-92.5'-56.0' ℄ Brgs.
ROADWAY: 24'-0" f/f 2'-0" Safety Curbs.
LOAD FREQ: C.F. = 130 (57)
WEARING SURFACE: 3/4" mono. concrete.
SKEW: 27° 52' 50" R.F.
APPROACH SLAB: Special Design (25' Long).
ALIGNMENT: Tangent.

MICHAEL BAKER, JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

SITE PLAN
BRIDGE NO. ASD-1-0417
UNDER ASHLAND CO. 138

ASHLAND COUNTY

SCALE: 1" = 20' STA. 38+25.30

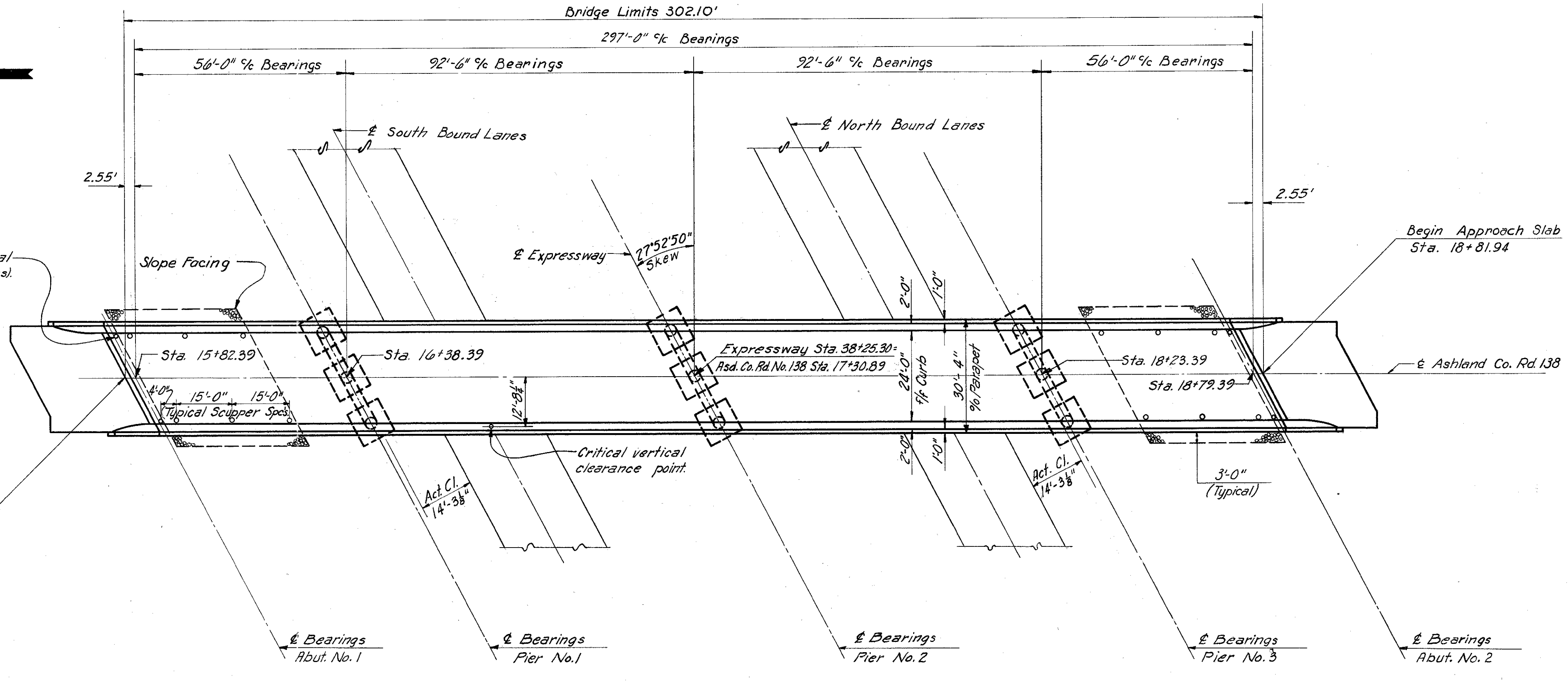
PRESENT	TOPOGRAPHY	PROPOSED	WORK		
Surveyed	Drawn	Designed	Drawn	Checked	Reviewed
	A.C.M.	C.C.	E.F.T.	D.E.B.	W.R.B. 1-14-58

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	I-1105 (31)	

230/394

ASHLAND COUNTY
ASD-1-3.52

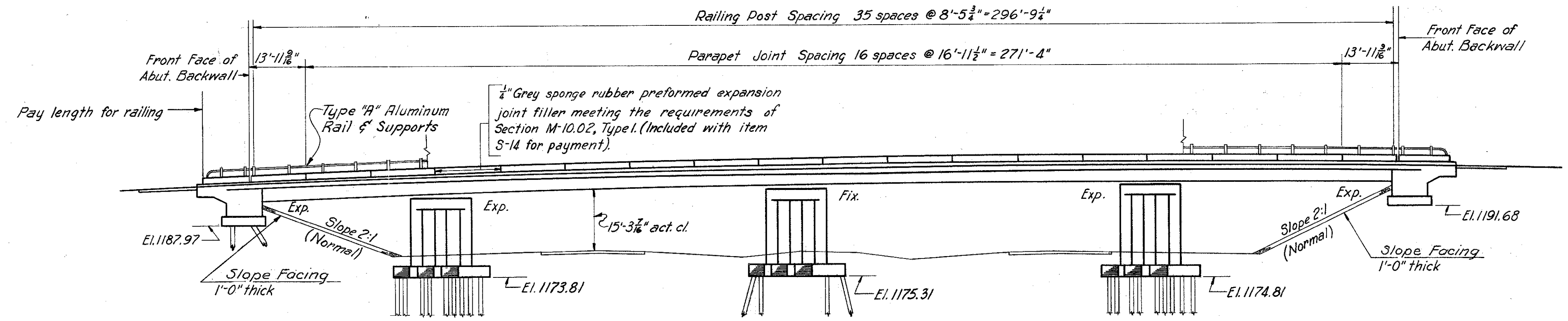
MICROFILMED
MAY 22 1987



GENERAL PLAN

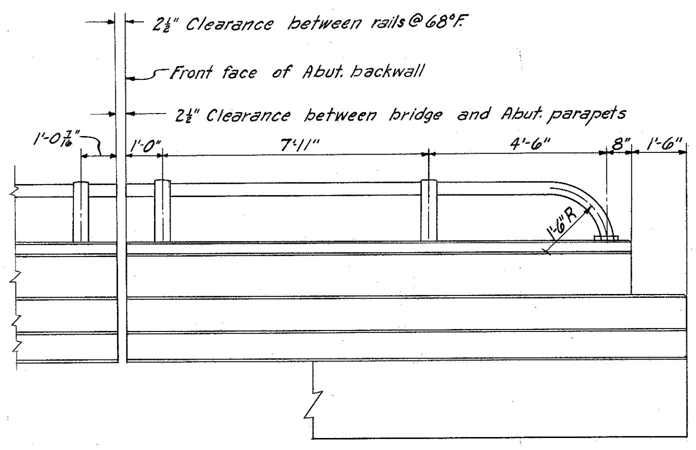
GENERAL NOTES

- Reference shall be made to Standard Drawings CSB-2-56, sheet 2 & 3 of 6 dated 12-3-56, RB-1-55 dated 3-1-55, AR-1-57 dated 4-9-57 and to Supplemental Specification S114 Revised 8-1-57
- Design Specifications: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57.
- Loading: C.F.=130 (57)
- Excavation quantity includes the removal of fill material between surface of proposed embankment and bottom of abutment; for Pier 3 the top surface of the excavation is 6" above the bottom of the footing.
- Welding of structural steel shall be Class "A", unless otherwise shown (—⊀B).
- Slope Facing shall be provided under the structure at both abutments. The slope facing shall be 12" thick and shall extend from the face of the abutment down to toe of slope and tranversely to 3 ft. outside the edge of the superstructure.
- Welded Steel: The steel for the 36 WF 230 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
- Embankments to be placed to subgrade elevation for a distance of approximately 200 feet beyond the bridge limits as early as practical in the construction procedure and before work is begun on Abutments or Piers No. 1 and No. 3. Abutments should be placed as late as practical, with a minimum time lapse of 30 days between completion of the embankment and starting work on the Abutments.
- Piles shall be driven to a minimum bearing capacity of 30 tons per pile.

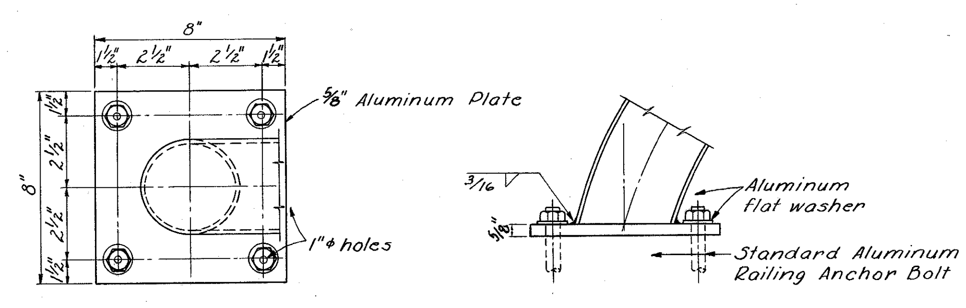


NOTE:
All piles to be 12"ϕ cast-in-place reinforced concrete.

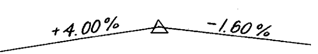
ELEVATION



ABUTMENT RAILING DETAIL



DETAIL OF RAILING ANCHOR PLATE AT END OF PARAPET



P.V.I. Sta.	17+30.89
Elev.	1205.50
V.C.	550'
M.O.	3.8500'

Grade Data

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

GENERAL PLAN & ELEVATION
BRIDGE NO. ASD.-1-0417
UNDER ASHLAND CO. 138

ASHLAND COUNTY — STA. 38+25.30

Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
C. C.	A. M.	L. M.	G. S. W.	W. R. B. 1-14-58	

Sheet 2 of 7

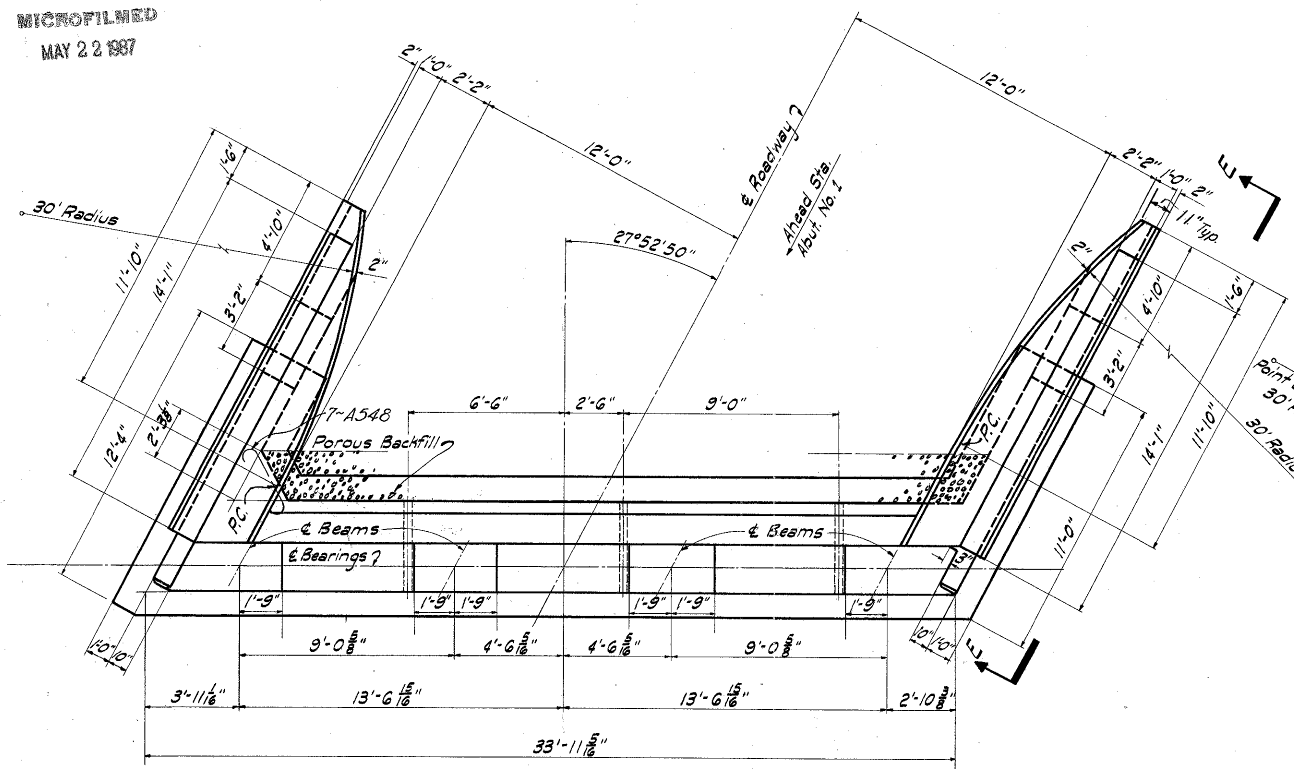
58-3-2

K+E 106 IMPERIAL TRACING CLOTH

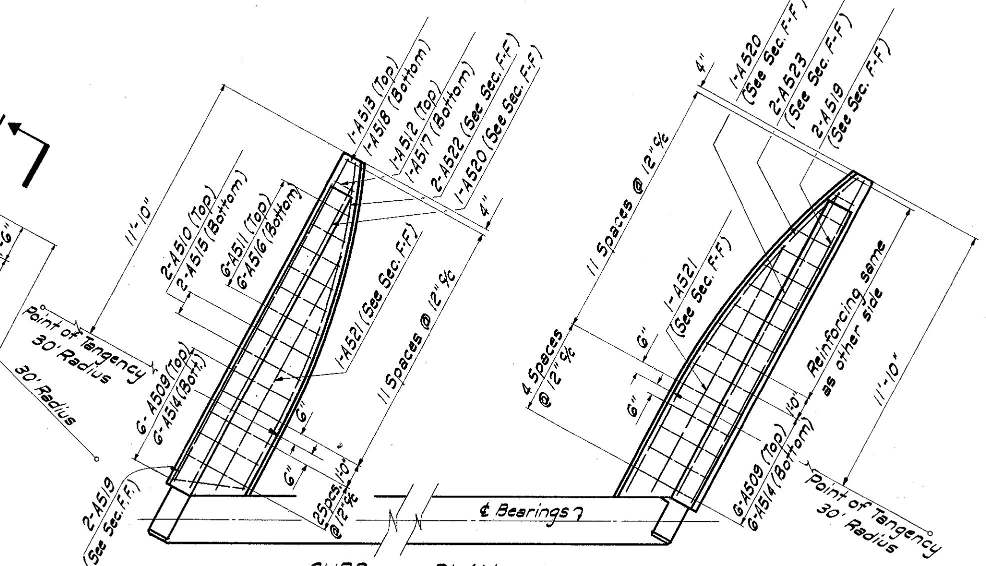
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	I-1105(31)	

291/394

ASHLAND COUNTY
ASD-1-3.52

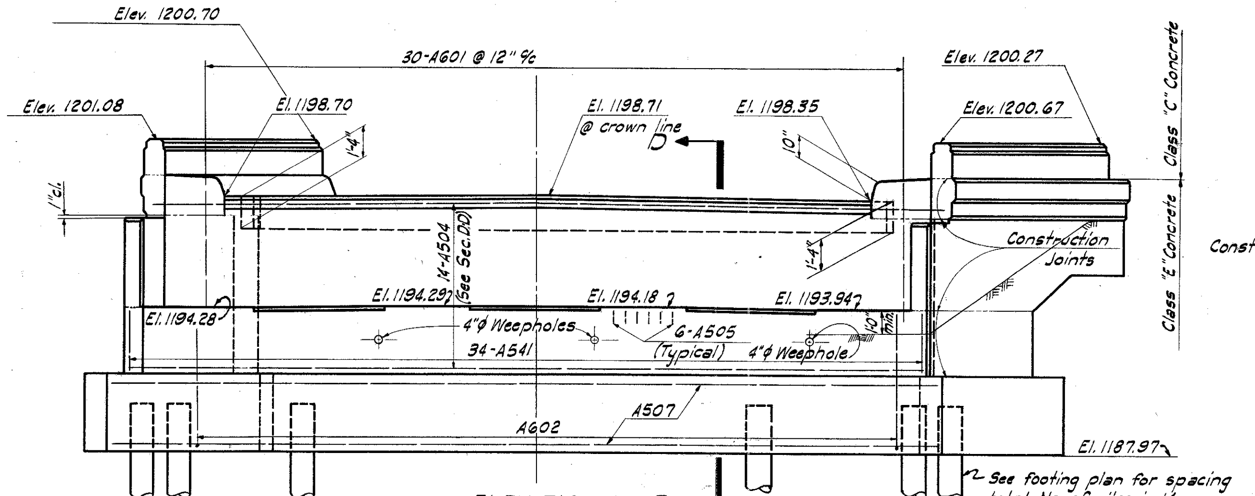


PLAN

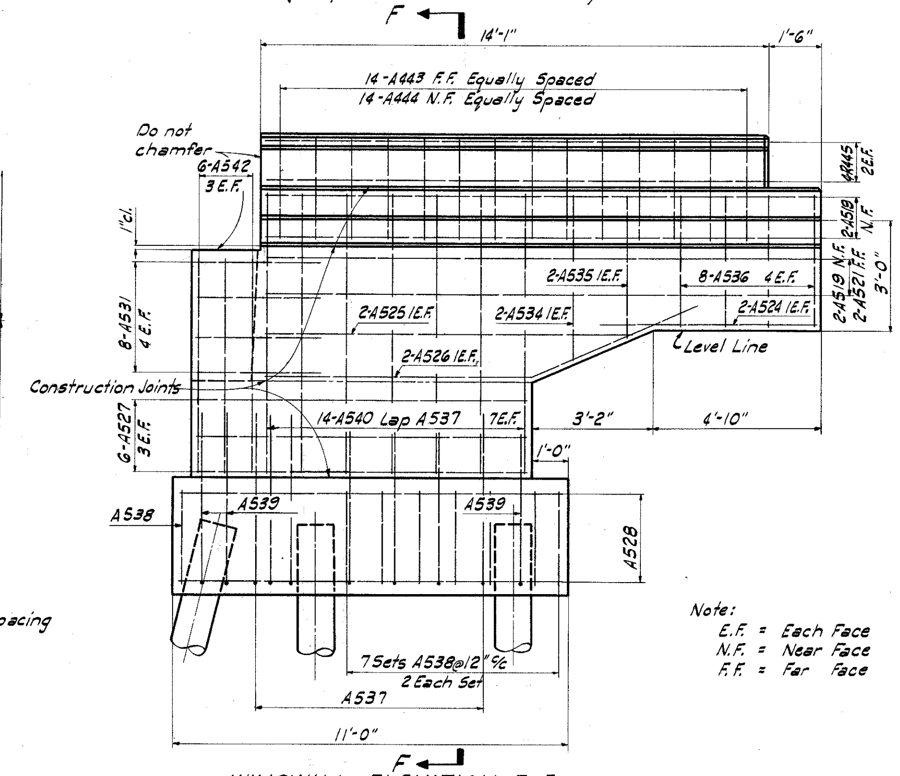


CURB PLAN

(Parapet reinforcement not shown)



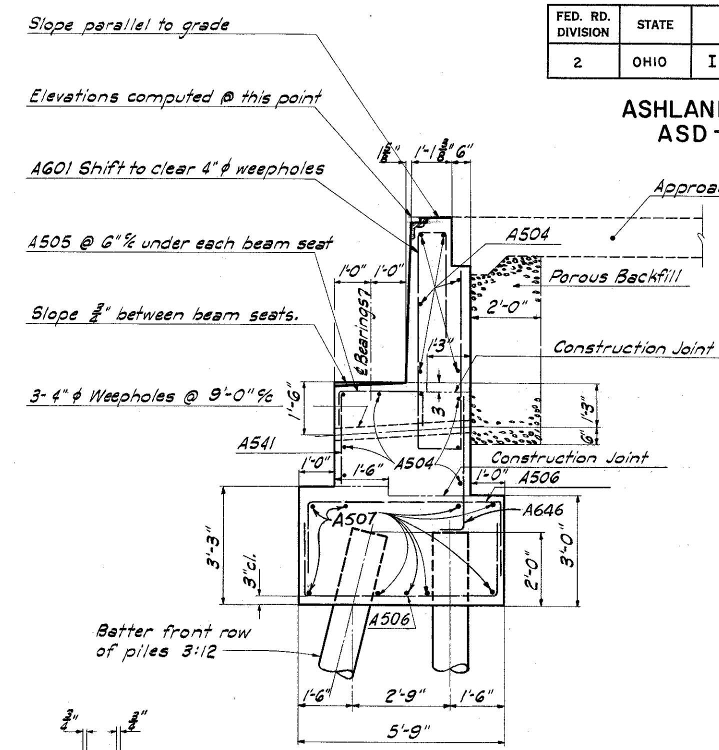
ELEVATION



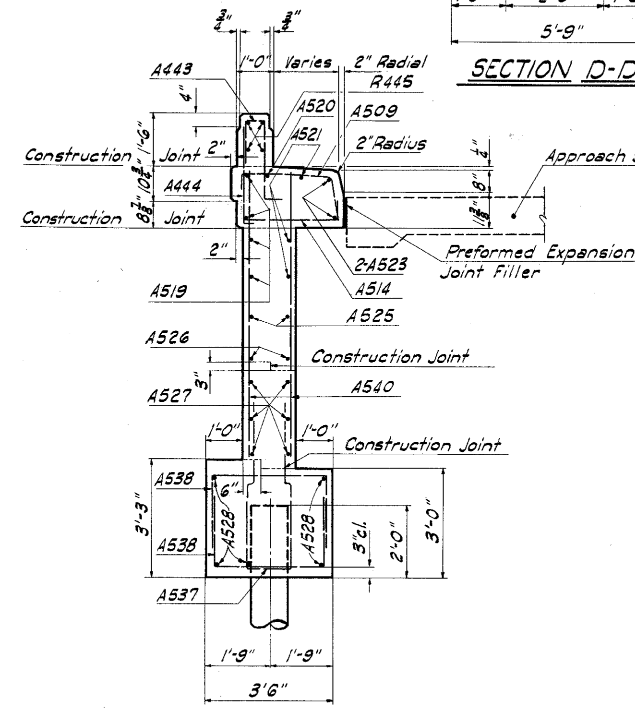
WINGWALL ELEVATION E-E

Opposite Wingwall Similar

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



SECTION D-D

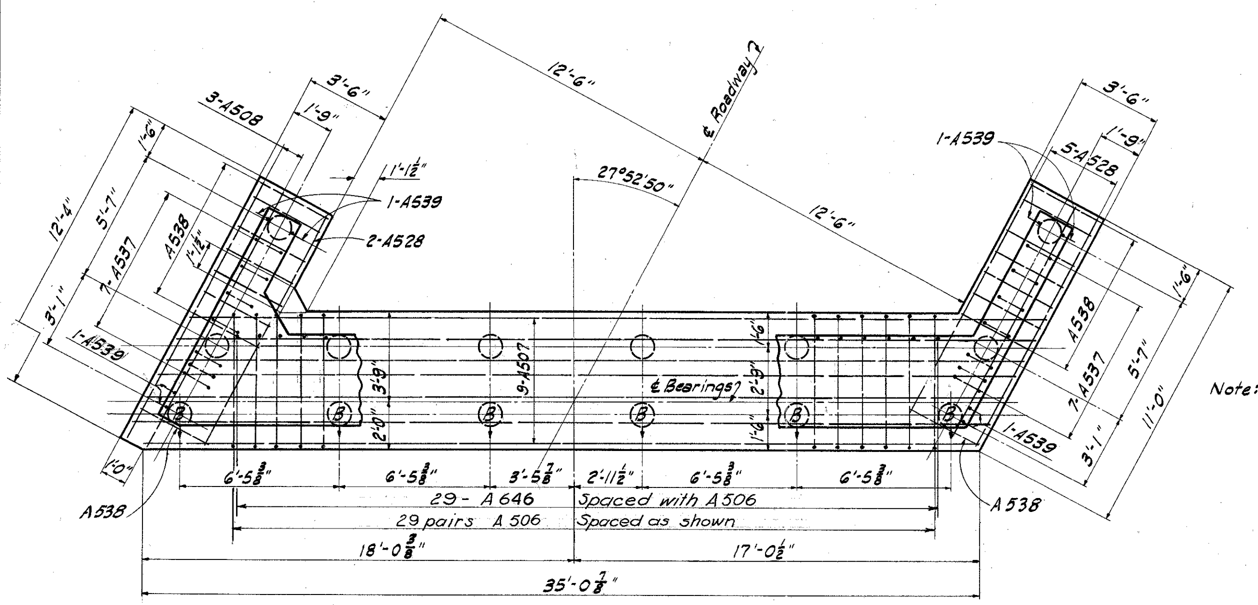


SECTION F-F

NOTES

Piles shall be driven to a minimum bearing capacity of 30 Tons per pile.

See abutment No. 2 for remainder of notes and Guard Rail Detail.



FOOTING PLAN

Note: All piles are 12" cast-in-place reinforced concrete. Piles shall be driven to a minimum bearing capacity of 30 Tons per pile. Piles marked "B" are battered 3 to 12 in direction indicated.

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

ABUTMENT NO. 1
BRIDGE NO. ASD-1-0417
UNDER ASHLAND CO. 138

ASHLAND COUNTY STA. 38+25.30

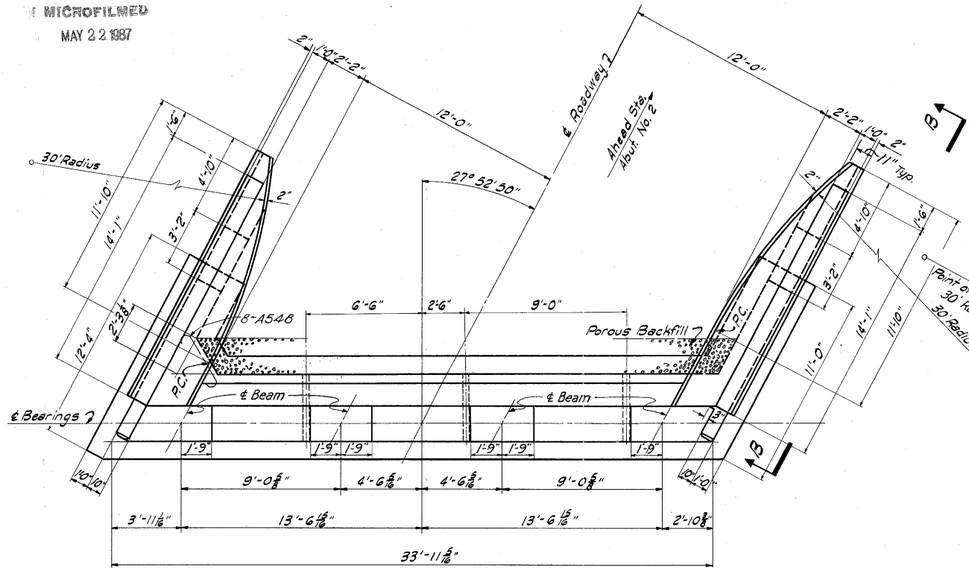
Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
C.C.	B.C.W.	B.C.W.	E.E.W.	W.R.B. 1-14-58	

58-B-3

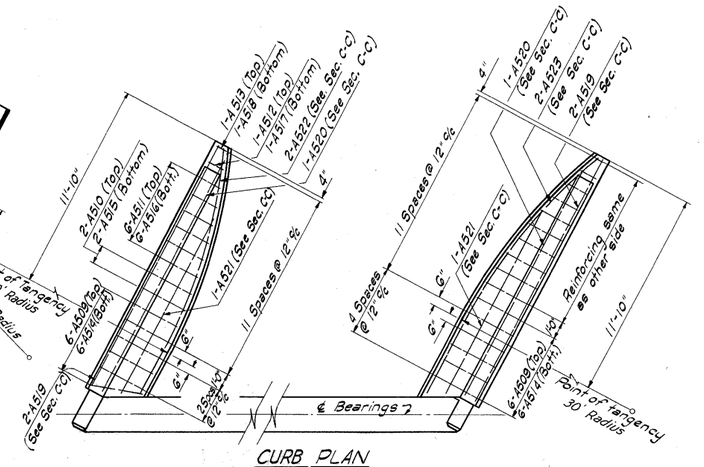
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	I-1105(31)	

292
394

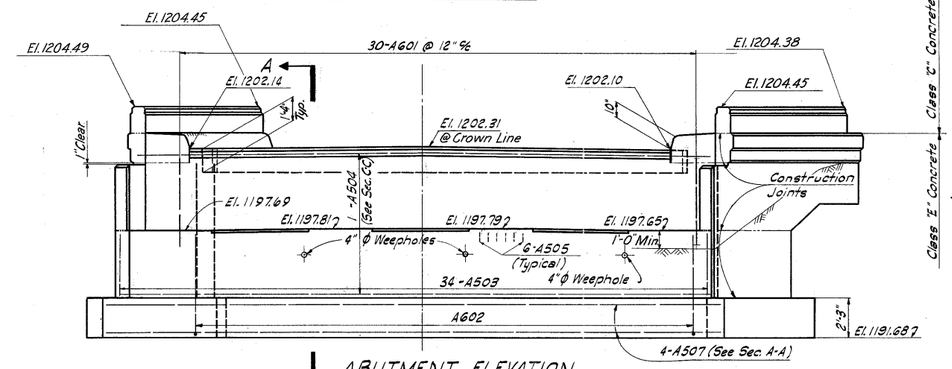
ASHLAND COUNTY
ASD-1-3.52



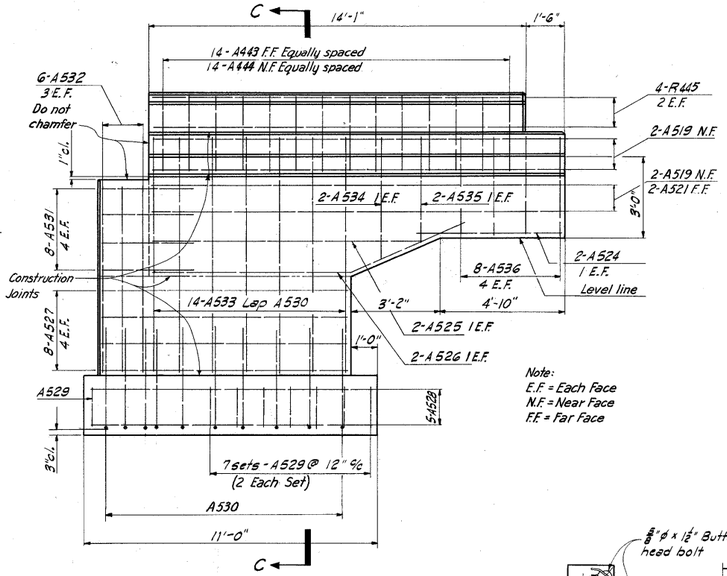
ABUTMENT PLAN



CURB PLAN
(Parapet reinforcement not shown)

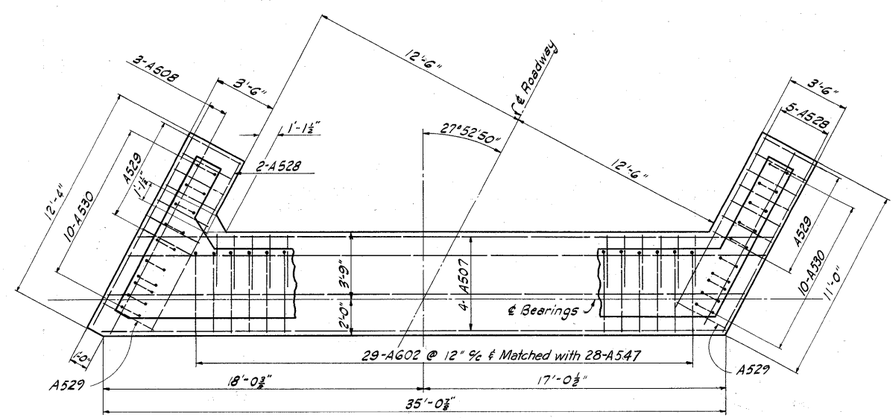


ABUTMENT ELEVATION

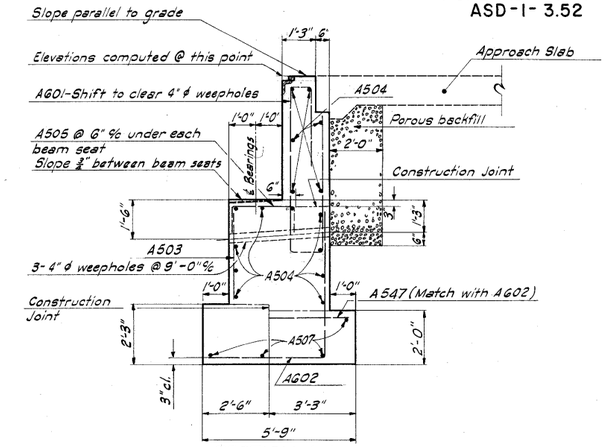


WINGWALL ELEVATION B-B
Opposite Wingwall Similar

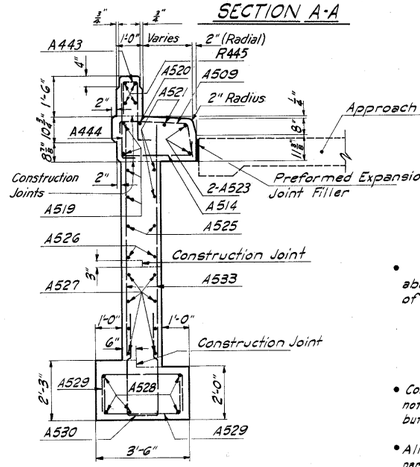
Note:
E.F. = Each Face
N.F. = Near Face
F.F. = Far Face



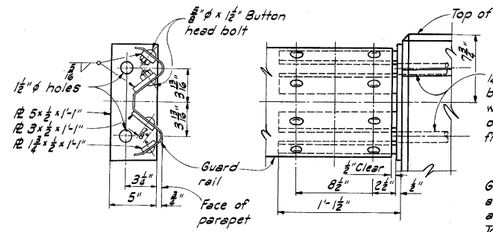
FOOTING PLAN



SECTION A-A



SECTION C-C



GUARD RAIL DETAIL
(As seen from pavement side)

½" x 20" galvanized machine bolts with square heads and with minimum thread length of 3". Bolts to project 2" from face of concrete.

Guard rail end connection assembly shall be galvanized after welding. To be included with Item S-14 Railing for payment

NOTES

- Porous backfill 2 feet thick full length of abutment shall extend up to the underside of the approach slab.
- Concrete above bridge seat construction joint shall not be placed until after the steelwork is erected, but before placing the deck slab.
- All abutment concrete shall be Class "E", except parapet which shall be Class "C."
- Guard rail and connection to be included in cost of bridge railing.
- Steel and finish shall be used as a template for the top of the backwall.
- Design Foundation Pressure is 2½ Tons per sq. ft.
- Clearance of reinforcing steel from face of concrete shall be 2" unless otherwise shown.

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

ABUTMENT NO. 2
BRIDGE NO. ASD-1-0417
UNDER ASHLAND CO. 138

ASHLAND COUNTY STA. 38+25.30

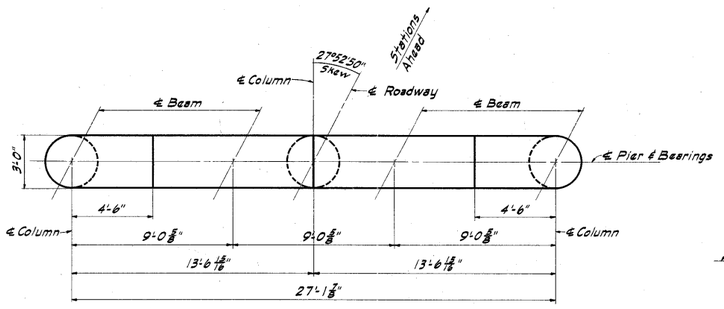
Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
C.C.	G.M.W.	B.C.W.	E.E.W.	W.R.B. 1-14-58	

5884

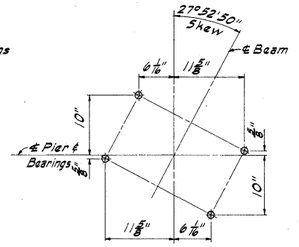
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	I-1105(31)	

293
394

ASHLAND COUNTY
ASD-1-3.52

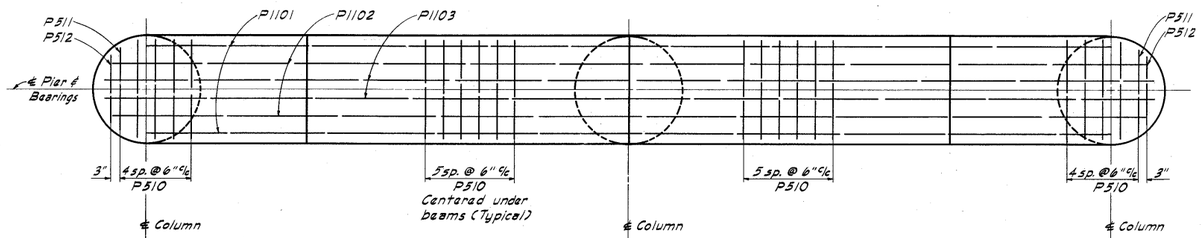


PIER CAP PLAN

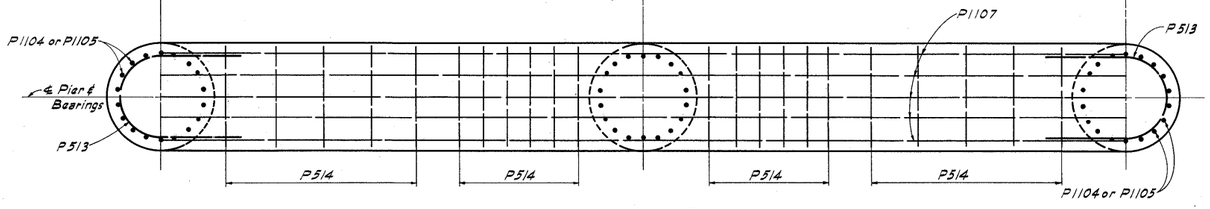


ANCHOR BOLT LAYOUT
(Pier No. 2 only)

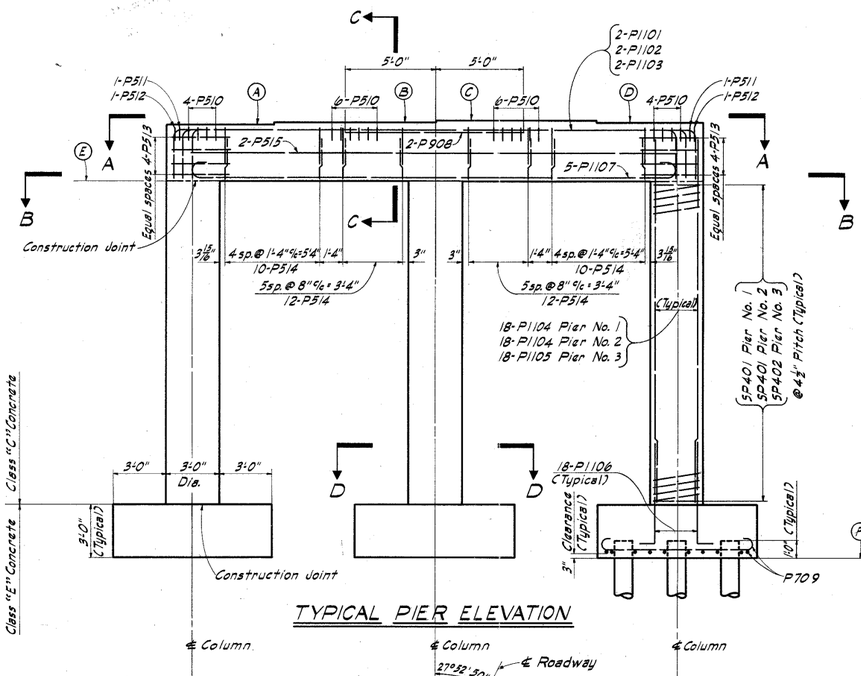
The downward leg of P1101, P1102 & P1103 bars to be placed in the periphery of vertical column bars.



VIEW A-A

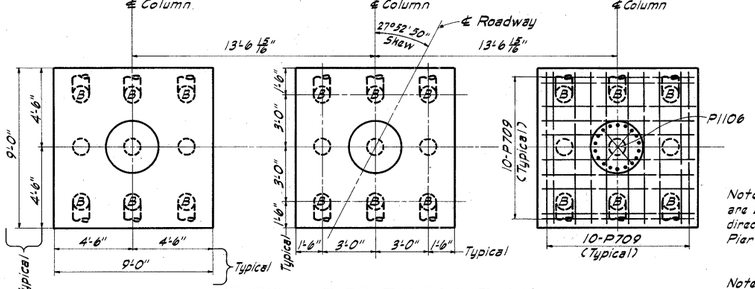


SECTION B-B



TYPICAL PIER ELEVATION

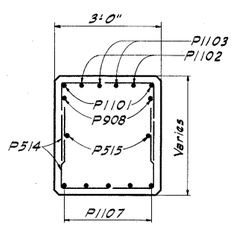
SIDE ELEVATION



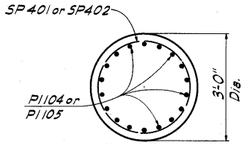
TYPICAL PIER FOOTING PLAN
(As shown for Pier No. 2 only
Piers No. 1 & 3 similar except piles which are all vertical)

Note: Piles marked "B" are battered 2:12 in the direction indicated, For Pier No. 2 only.

Note: All piles to be 12" ϕ cast-in-place Reinforced Concrete Piles driven to a minimum bearing capacity of 30 tons per pile.



SECTION C-C



SECTION D-D

TABLE OF ELEVATIONS

LOCATION	A	B	C	D	E	F
Pier No. 1	1194.81	1195.03	1195.12	1195.08	1191.81	1173.81
Pier No. 2	1196.31	1196.49	1196.54	1196.46	1193.31	1175.31
Pier No. 3	1197.15	1197.29	1197.30	1197.18	1194.15	1174.81

NOTES

- Clearance of reinforcing steel shall be 2" from face of concrete unless otherwise shown.
- Special care shall be taken in placing reinforcing steel in the bridge seat so that it will not interfere with the drilling of anchor bolt holes.
- Where the footings are to be placed in fill, the embankment shall be placed 6' above the bottom of the footing prior to driving piles.

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

PIERS
BRIDGE NO. ASD. -1-0417
UNDER ASHLAND CO.138

ASHLAND COUNTY STA. 38+25.30

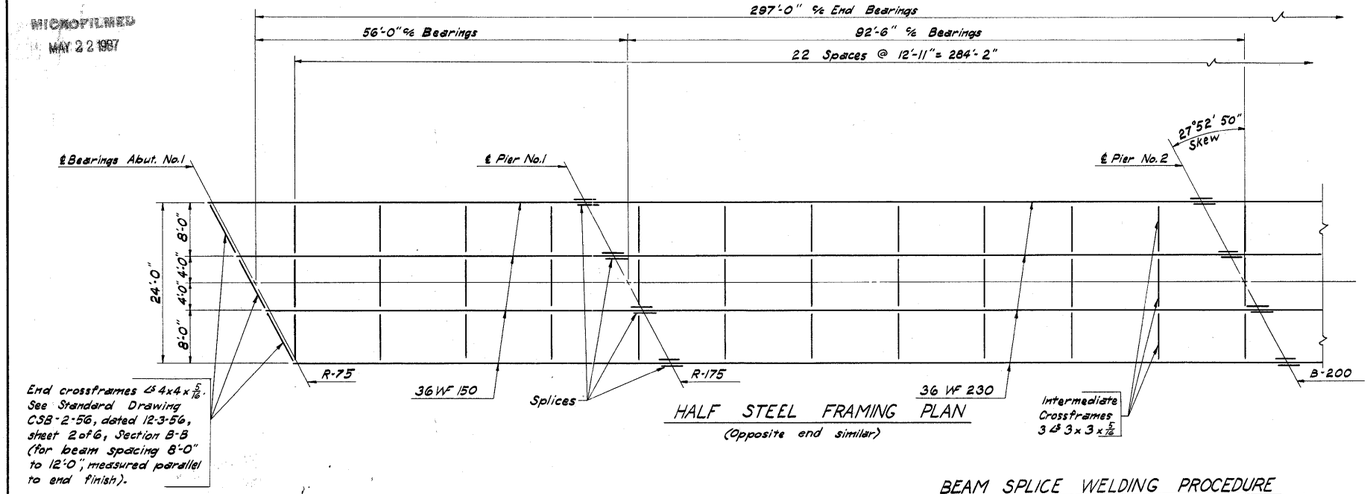
Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
C.C.	B.M.	E.F.T.	D.E.B.	W.R.B. 1-14-58	

59-B-5

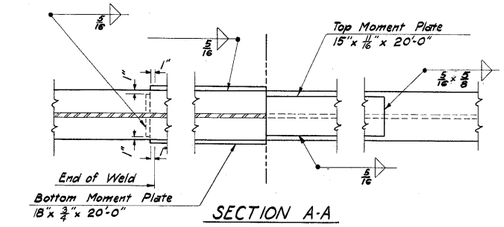
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	I-1105 (31)	

2.94
3.94

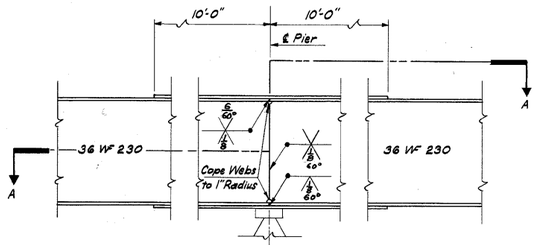
ASHLAND COUNTY
ASD-1-3.52



HALF STEEL FRAMING PLAN
(Opposite end similar)



SECTION A-A



BEAM SPLICE DETAIL
@ Pier No. 2

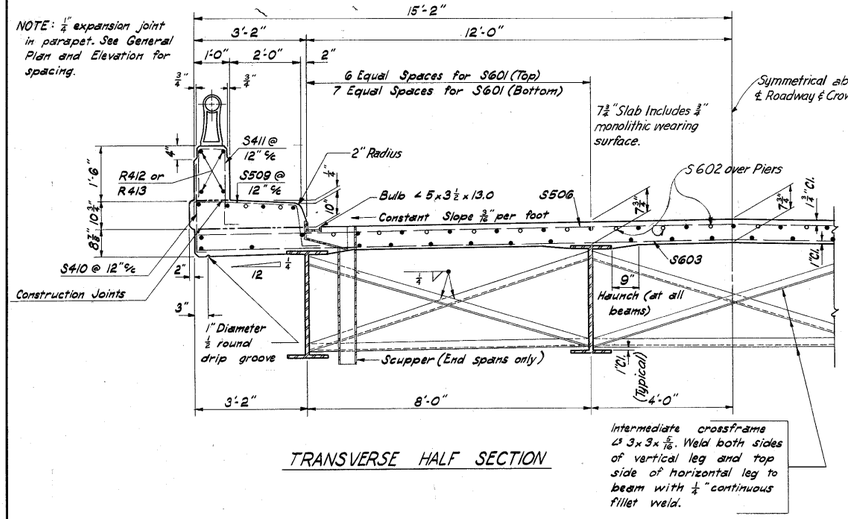
BEAM SPLICE WELDING PROCEDURE

1. Raise end of beam at Pier No.2, 3½".
2. Butt-weld beam flanges and web at Pier No.1 using this 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 No.1.
4. Lower end of beam at Pier No.2.
5. Make splices at Piers No. 2 & 3 in the same manner raising the end of the beams 3½" at Pier No. 3 and ⅞" at Abutment No.2.

Cambering of beams is required in accordance with the following table:

DEFLECTION AND CAMBER				
LOCATION	OUTSIDE BEAMS		INSIDE BEAMS	
	SPANS 1 & 4	SPANS 2 & 3	SPANS 1 & 4	SPANS 2 & 3
Deflection due to weight of steel	0"	1/4"	0"	1/4"
Deflection due to remaining dead load	3/16"	1 5/16"	1/8"	1"
Convexity required for vertical curve	1/2"	1 5/16"	1/2"	1 5/16"
Sum of deflection and convexity	11/16"	2 7/8"	5/8"	2 9/16"
Required Camber	0"	2 7/8"	0"	2 9/16"

NOTE: Where no camber is specified, beams shall be fabricated with any natural camber or bowed side up.



TRANSVERSE HALF SECTION

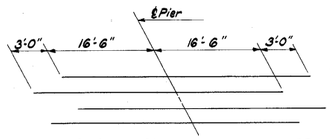
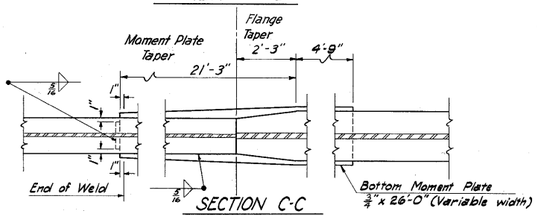
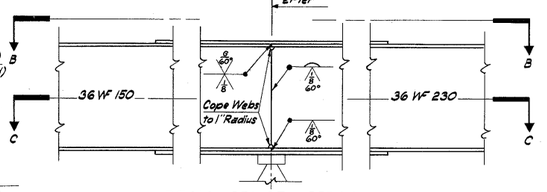


DIAGRAM SHOWING STAGGER OF S602 BARS OVER PIERS

VIEW B-B



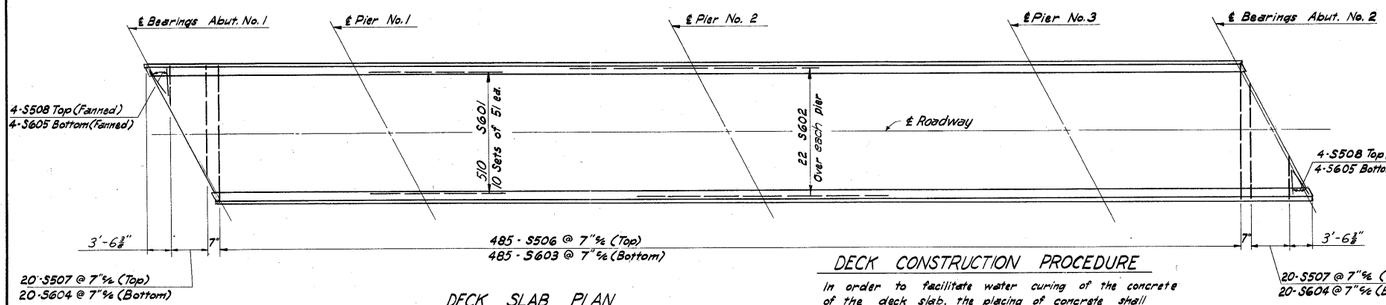
SECTION C-C



BEAM SPLICE DETAIL
@ Piers No. 1 & 3

NOTES

- Refer to Standard Drawing CSB-2-56 sheet 2 of 6 for details of end finish.
- Refer to Standard Drawing CSB-2-56 sheet 3 of 6 for gutter, scuppers, and curb plate details.
- Refer to Standard Drawing RB-1-55 for details of rockers and bolsters.
- Concrete and reinforcing steel above parapet construction joints included with railing for payment.
- Joints in End Finish: A welded butt joint in the end finish, at the center line 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".



DECK SLAB PLAN

DECK CONSTRUCTION PROCEDURE

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

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

SUPERSTRUCTURE
BRIDGE NO. A S D.-1-0417
UNDER ASD COUNTY ROAD NO. 138

ASHLAND COUNTY — STA. 38 + 25.30

Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
C.C.	C.R.H.	C.R.H.	E.E.W.	W.R.B. 1-14-58	

58-B-6

MICROFILMED
MAY 22 1987

ASHLAND COUNTY
ASD-1-3.52

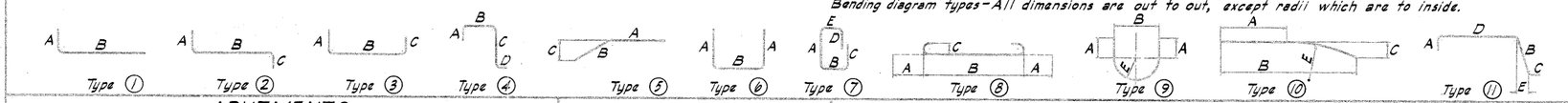
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	I-1105 (31)	

295
394

58-B-7

REINFORCING STEEL BAR SCHEDULE

Bending diagram types-All dimensions are out to out, except radii which are to inside.



ABUTMENTS

MARK	TOTAL	SIZE	LENGTH	TYPE	A	B	C	D	E	WEIGHT LBS.
A601	60	6	15'-3"	7	6'-0"	1'-5"	4'-9"	3'-0"	9"	1,374
A602	58	6	9'-6"	1	4'-5"	5'-3"				828
A503	34	5	3'-6"	Str.						124
A504	30	5	33'-6"	Str.						1,048
A505	48	5	3'-2"	6	7⅝"	2'-2"				159
A506	58	5	9'-4"	6	2'-1"	5'-5"				565
A507	13	5	35'-8"	Str.						484
A508	6	5	12'-0"	Str.						75
A509	22	5	4'-3"	11	7⅝"	1'-2"	0"	2'-9"	2"	98
A510	8	5	4'-2"	11	7⅝"	1'-2"	0"	2'-8"	2"	35
A511	24	5	2'-9" To 4'-0"	11	7⅝"	1'-2"	0"	D=1'-3" To 2'-6"★	2"	84
A512	4	5	2'-4"	11	7⅝"	1'-2"	0"	10"	2"	10
A513	4	5	1'-11"	11	7⅝"	1'-2"	0"	5"	2"	8
A514	22	5	3'-3"	1	7⅝"	2'-9"				75
A515	8	5	3'-2"	1	7⅝"	2'-8"				26
A516	24	5	1'-9" To 3'-0"	1	7⅝"	B=1'-3" To 2'-6"★				59
A517	4	5	1'-4"	1	7⅝"	10"				6
A518	4	5	11"	1	7⅝"	5"				4
A519	16	5	15'-3"	Str.						254
A520	4	5	14'-6"	Str.						60
A521	12	5	15'-8"	5	11'-6"	4'-3"	1'-0"			196
A522	4	5	14'-8"	10	2'-9"	14'-3"	2'-4"		29'-10"	61
A523	4	5	16'-6"	10	4'-6"	16'-1"	2'-4"		29'-10"	69
A524	8	5	6'-0"	Str.						50
A525	8	5	10'-2"	Str.						85
A526	8	5	12'-3"	5	7'-4"	5'-0"	2'-0"			102
A527	28	5	9'-0"	Str.						263
A528	14	5	10'-9"	Str.						157
A529	28	5	6'-3"	6	1'-8"	3'-2"				183
A530	20	5	8'-5"	6	3'-9"	1'-2"				176
A531	16	5	3'-6"	Str.						58
A532	12	5	7'-0"	Str.						88
A533	28	5	8'-6"	Str.						248
A534	8	5	4'-6"	Str.						38
A535	8	5	4'-0"	Str.						33
A536	32	5	3'-6"	Str.						117
A537	14	5	10'-5"	6	4'-9"	1'-2"				152
A538	28	5	7'-3"	6	2'-2"	3'-2"				212
A539	16	5	5'-3"	1	7⅝"	4'-9"				88
A540	28	5	7'-6"	Str.						219
A541	34	5	2'-6"	Str.						89
A542	12	5	6'-0"	Str.						75
A443	56	4	4'-2"	4	1'-4"	8"	2'-0"	6¼"		156
A444	56	4	3'-3"	1	6¼"	2'-10"				122
R445	16	4	13'-9"	Str.	Included with railing for payment					
A646	29	6	5'-11"	1	5'-3"	10"				258
A547	29	5	3'-0"	Str.						91
A548	15	5	6'-2"	8	7"	5'-0"	5"			96
								Total Weight		8,858

★ 4 sets of 6 bars, each bar in set varies by 3"

REPLACEMENT BARS

MARK	NO.	SIZE	LENGTH	TYPE	WEIGHT
RE1101	2	11	7'-6"	Str.	
RE902	1	9	6'-10"	Str.	
RE703	1	7	6'-3"	Str.	
RE604	3	6	5'-11'	Str.	
RE505	2	5	5'-7"	Str.	
RE406	1	4	5'-3"	Str.	
RE407	1	½"ø	5'-3	12	

REPLACEMENT BARS

If reinforcing bars are fabricated from stock which has previously been tested and approved by the Ohio Highway Testing Laboratory, test sample as provided in section S-4.02 need not be furnished and replacement bars will not be required.

SUPERSTRUCTURE

MARK	TOTAL	SIZE	LENGTH	TYPE	A	B	C	D	E	WEIGHT LBS.
S601	510	6	31'-6"	Str.						24,130
S602	66	6	36'-0"	Str.						3,569
S603	485	6	30'-0"	Str.						21,854
S604	40	6	28'-1" To 7'-2"	Str.	2 Sets-each vary by 1'-1¼"					1,059
S605	8	6	6'-9"	Str.						81
S506	485	5	30'-0"	Str.						15,176
S507	40	5	28'1" To 7'-2"	Str.	2 Sets-each vary by 1'-1¼"					735
S508	8	5	6'-9"	Str.						56
S509	598	5	4'-11"	11	6"	1'-3"	6"	2'-10"	3"	3,067
S410	598	4	3'-3"	1	5"	2'-10"				1,298
S411	598	4	4'-2"	4	1'-4"	8"	2'-0"	5"		1,664
R412	128	4	16'-7"	Str.						Included with railing for payment.
R413	16	4	13'-7"	Str.						
								Total Weight		72,689

PIERS

MARK	TOTAL	SIZE	LENGTH	TYPE	A	B	C	D	E	WEIGHT LBS.
P1101	6	11	32'-0"	6	2'-9"	27'-2"				1,020
P1102	6	11	34'-0"	6	2'-9"	29'-2"				1,084
P1103	6	11	34'-6"	6	2'-9"	29'-8"				1,100
P1104	108	11	17'-8"	Str.						10,137
P1105	54	11	19'-0"	Str.						5,451
P1106	162	11	7'-2"	1	6'-0"	1'-6⅛"				6,168
P1107	15	11	30'-3"	8	1'-7"	27'-1"	1'-0½"			2,411
P908	6	9	10'-0"	Str.						204
P709	180	7	10'-4"	8	10"	8'-8"	6¾"			3,802
P510	60	5	3'-8"	6	7⅝"	2'-8"				229
P511	6	5	3'-2"	6	7⅝"	2'-2"				20
P512	6	5	2'-6"	6	7⅝"	1'-6"				16
P513	24	5	8'-4"	9	2'-3"	2'-5"			1'-2"	209
P514	132	5	6'-11"	6	2'-3"	2'-8"				952
P515	6	5	27'-1"	Str.						169

SPIRAL BARS

MARK	TOTAL	SIZE	LENGTH	PITCH	NO. OF TURNS	CORE DIA.	WEIGHT LBS.
SP401	6	½"ø	15'-0"	4½"	43	32"	1,690
SP402	3	½"ø	16'-4"	4½"	47	32"	923
						Total Weight	35,585

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTR.	ABUTS.	PIERS	GENERAL
E-2	291	Cu. Yd.	Unclassified Excavation		163	128	
S-1	285	Cu. Yd.	Class "C" Concrete, Superstructure	285			
S-1	68	Cu. Yd.	Class "C" Concrete, Pier Caps and Columns			68	
S-1	78	Cu. Yd.	Class "E" Concrete, Abutments above Footings		78		
S-1	126	Cu. Yd.	Class "E" Concrete, Footings		47	79	
S-4	117,132	Lbs.	Reinforcing Steel	72,689	8,858	35,585	
S-7	292,600	Lbs.	Structural Steel	292,600			
S-8	292,600	Lbs.	Field Painting of Structural Steel	292,600			
S-14	655	Lin. Ft.	Railing (Aluminum Rail and Supports, and Concrete Parapet.)				655
S-16	Lump Sum		First Test Pile				Lump
S-18	2,580	Lin. Ft.	12"ø Cast-in-place Reinforced Concrete Piles		420	2,160	
S-24	Lump Sum		Removal of existing 10'x 4.5' Box Culvert				Lump Sum
S-29	22	Cu. Yd.	Porous Backfill		22		
S-29	109	Cu. Yd.	Slope Facing (S-29.05 Type)				109

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 "No. of 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 S-4.

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

Four steel channel, tee or angle spacers, weighing approximately 0.68 lbs. per lin. ft. 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 lbs. per lin. ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

BAR SIZE

Bar size is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, A401 is a No. 4 size bar and A1114 is a No. 11 size bar.

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

REINFORCING STEEL LIST & ESTIMATED QUANTITIES
BRIDGE NO. ASD.-1-0417
UNDER ASHLAND CO. 138

ASHLAND COUNTY STA. 38+25.30

Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
C. C.	L.M.	L.M.	D.E.B.	W.R.B. 1-14-58	