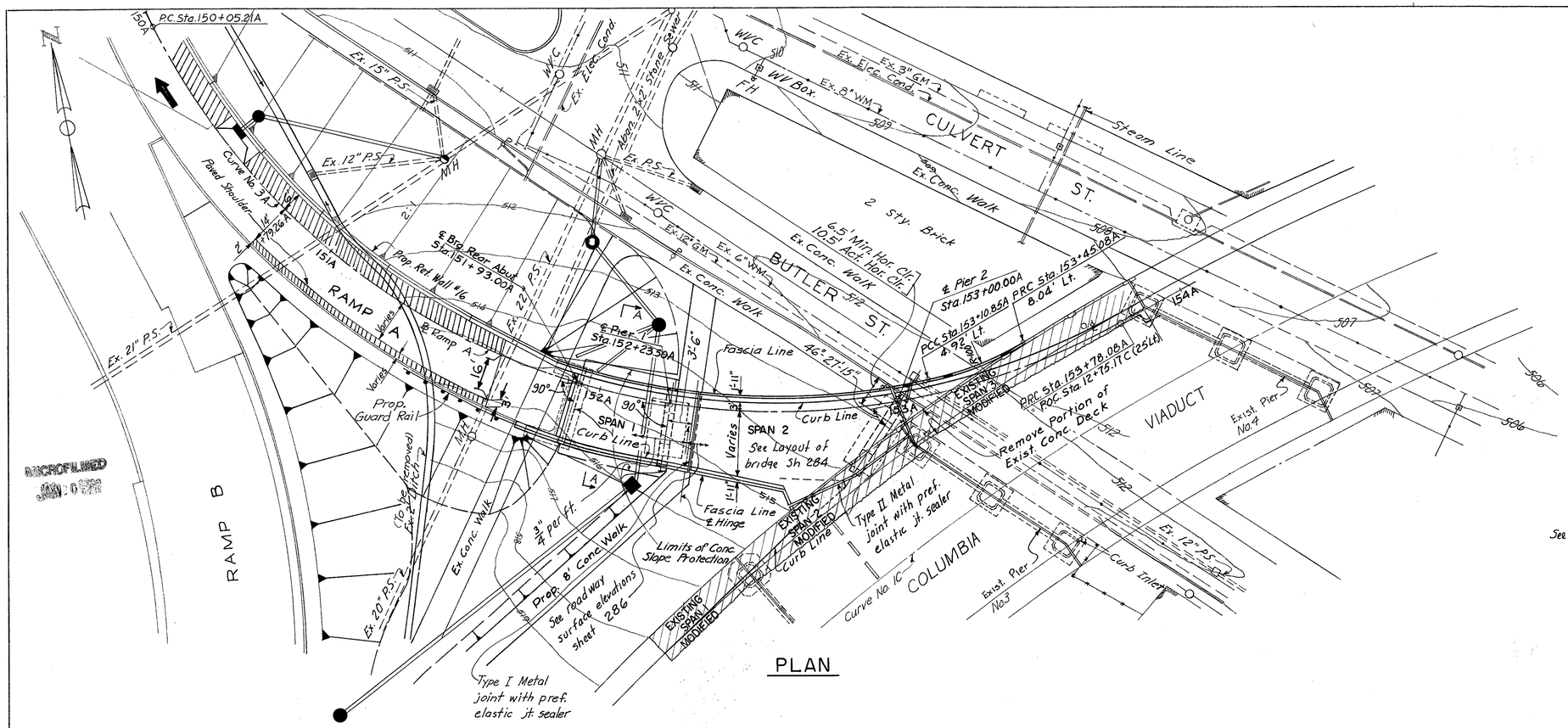

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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HAMILTON COUNTY
HAM-471-0.30

PLAN

SECTION A-A

NOTE:
Earthwork limits shown are schematic.
Actual slopes shall conform to plan cross sections.
For Bench Marks, See Sh. 33.

All piles are 12" Cast-in-place reinforced concrete piles.

PROFILE ON BASE LINE

CURVE DATA

Curve No. 3A
Δ = 92° 53' 08"
R = 230'
T = 241.89'
L = 372.87'
D = 24° 54' 40.4"

Curve No. 1C
P.C. Sta. 10+33.80C
P.I. Sta. 11+93.27C
P.T. Sta. 13+47.39C
Δ = 25° 40' 04"
D = 8° 11' 06.4"
R = 700'
L = 313.59'
T = 159.47'

EXISTING COLUMBIA VIADUCT

TYPE: Riveted Plate Girder with reinforced concrete deck
SPANS: Existing spans to be affected are simple spans
ROADWAY: 56'-0" f/f curbs with reinforced concrete sidewalk and railing
PIERS: Reinforced Concrete (on piles)
ALIGNMENT: R = 700' (℄ Viaduct)

1984 Traffic Count
ADT = 2400
DHV = 340

PROPOSED STRUCTURE

TYPE: Steel Plate Girders; span 1 simple span with 3'-6" cantilever arm in span 2; Span 2 & 3 simple spans. Reinforced Concrete deck and substructure
SPANS: Span 1 = 30.5', Span 2 = 76.5', Span 3 = 85.1' measured along Base Line Ramp A.
LIVE LOAD: HS 20-44
ROADWAY: Varies, 23.5' f/f parapet (min.)
SKEW: Varies, see Plan
WEARING SURFACE: 1" Monolithic Concrete
ALIGNMENT: See Curve Data
SUPERELEVATION: Varies, see Plan
APPROACH SLAB: AS-1-67 25' Long

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CINCINNATI, OHIO

SITE PLAN

BRIDGE NO. HAM-471-RAMP A OFF COLUMBIA VIADUCT

H & E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DEV.	DEV.	JDC 4-28-72	JHO 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER-STRUCTURE	REAR ABUTMENT	PIER 1	PIER 2	GENERAL
202		Lump Sum	Portions of Structure Removed					Lump
503		Lump Sum	Cofferdams, Cribs and Sheeting					Lump
503	247	Cu.Yd.	Unclassified Excavation		93	71	83	
504	61	Sq.Ft.	Steel ~~Sheet~~ Piling Left in Place (Min. Sect. Modulus of 7 in.^{3} per foot of wall)		61			
505		Lump Sum	Test Pile					Lump
506		Lump Sum	Pile test load					Lump
506	1	Each	Subsequent pile test load					1
507	3,510	Lin. Ft.	12" Cast-in-Place Reinforced Concrete Piles		990	1,080	1,440	
509	82,705	Lb.	Reinforcing Steel	51,229	5,959	9,712	15,805	
511	220	Cu. Yd.	*Class "C" Concrete, Superstructure	220				
511	79	Cu.Yd.	Class "C" Concrete, Pier Caps and Columns			28	51	
511	43	Cu.Yd.	Class "C" Concrete, Abutment above Footings		43			
511	86	Cu.Yd.	Class "C" Concrete, Footings		25	24	37	
513	191,000	Lb.	Structural Steel	191,000				
514	191,000	Lb.	Field Painting of Structural Steel	191,000				
516	22	Lin.Ft.	Type I Metal Joint with Preformed Elastic Joint Sealer	22				
516	63	Lin.Ft.	Type II Metal Joint with Preformed Elastic Joint Sealer	63				
517	148	Lin. Ft.	Handrail (Concrete with Concrete Posts) As Per Plan	148				
518	23	Cu.Yd.	Porous Backfill		23			
518	28	Lin. Ft.	6" Perforated, Helical Corrugated Metal Pipe, 707.01		28			
518	6	Lin. Ft.	6" Non-Perforated Helical Corrugated Metal Pipe, Including Specials, 707.01		6			
518	3	Each	Drain Inlets					3
518	46	Lin. Ft.	6" Standard Pipe Downspout, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials					46
518	17	Lin. Ft.	6" Standard Pipe Collector, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials					17
601	124	Sq.Yd.	Concrete Slope Protection		124			
625			See Sheet 143 for Lighting Summary					
808	220	Units	Chemical Admixture for Concrete, Type A, B or D	220				
838	3	Hour	Special Pile Tests					3

* 5 Cu.Yd. Class "C" Concrete, Superstructure is non-participating for Federal Funds.

QUANTITIES
BY JHO FN SL DATE 3-9-72
CHECKED FN JDC DATE 4-24-72

REFERENCE — SHALL BE MADE TO STANDARD DRAWINGS AS-1-67, REVISED 6-12-69, SD-1-69, SHEETS 1 AND 2 DATED 6-12-69, BR-1-67, SHEET 1 REVISED 10-15-71, RB-1-55, REVISED 2-2-59, AND TO SUPPLEMENTAL SPECIFICATIONS 808 DATED 1-1-71, 836 DATED 1-1-71 AND 838 DATED 3-18-70.

DESIGN SPECIFICATIONS: — THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1969, INCLUDING THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA: — DESIGN LOADING - HS 20-44

CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE
UNIT STRESS 1333 PSI FOR SUBSTRUCTURE

STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20,000 PSI.

REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20,000 PSI.
IF BARS IN ACCORDANCE WITH ASTM A616 ARE PROVIDED THEY SHALL BE SUBJECT TO BEND TESTS AS PER AASHO DESIGNATION M 42-70.

EMBANKMENT CONSTRUCTION: — THE EMBANKMENT SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE BETWEEN THE FORWARD ABUTMENT FOR BRIDGE NO. HAM-471-0047 AND THE REAR ABUTMENT FOR BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT. EXCAVATION SHALL THEN BE MADE FOR THE REAR ABUTMENT AND PIER 1.

PILES — SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 50 TONS PER PILE.

UTILITY LINES: — ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER(S). THE CONTRACTOR AND OWNER(S) ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

PLANS FOR EXISTING BRIDGE: — PRINTS OF THE PLANS OF THE DESIGN AND SHOP DRAWINGS ARE AVAILABLE FOR INSPECTION BY THE PROSPECTIVE BIDDERS AT THE ENGINEERING DIVISION, ROOM 314, CITY HALL, CITY OF CINCINNATI.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE ACCURACY OF THESE PLANS AND TO OBTAIN FIELD MEASUREMENTS OF THE EXISTING STRUCTURE IN ORDER TO INSURE A PROPER FIT BETWEEN THE EXISTING AND PROPOSED WORK.

PAINTING EXISTING STEEL: — EXISTING PAINT THAT IS DAMAGED BY THE CONTRACTOR IN THE RECONSTRUCTION OF THE EXISTING STRUCTURE SHALL BE REPAINTED IN ACCORDANCE WITH SECTION 514.06. SUCH WORK SHALL BE INCIDENTAL TO ITEM 514, "FIELD PAINTING OF STRUCTURAL STEEL".

PORTIONS OF STRUCTURE REMOVED — IN ORDER TO ATTACH NEW STRUCTURE ONTO EXISTING STRUCTURE, PORTIONS OF THE EXISTING STRUCTURE SHALL BE REMOVED.

COST OF ALL REMOVALS OF THE EXISTING STRUCTURE SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE BID FOR ITEM 202, "PORTIONS OF STRUCTURE REMOVED".

FOR INFORMATION ONLY - APPROXIMATE REMOVAL QUANTITIES ARE - CONCRETE, 83 cu. yds. STRUCTURAL STEEL, 15,000 lbs.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

2/39

ESTIMATED QUANTITIES AND GENERAL NOTES
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DH		JDC 4-26-72	JHO 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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METAL JOINT WITH PREFORMED ELASTIC JOINT SEALER:

DESCRIPTION

THIS WORK SHALL CONSIST OF THE MANUFACTURE OF SHOP PREFABRICATED JOINT SYSTEMS AS SHOWN ON THE PLANS.

THE PREFABRICATED JOINT SHALL BE CONSTRUCTED OF STRUCTURAL STEEL SECTIONS, WITH POLYCHLOROPRENE SEALERS SECURELY BONDED IN PLACE.

THE METAL SURFACES IN DIRECT CONTACT WITH THE POLYCHLOROPRENE SEALERS SHALL BE SAND BLASTED AND PROPERLY TREATED (SO AS TO PROVIDE A HIGH STRENGTH BOND BETWEEN THE SEAL AND MATING METAL SURFACES). THEN THE SEALER SHALL BE SECURELY BONDED TO THE METAL WITH AN APPROVED ADHESIVE.

ALL STEEL COMPONENTS OF THE ASSEMBLY EXCEPT THOSE AREAS NOTED ABOVE WHICH ARE IN CONTACT WITH THE SEALERS SHALL BE PAINTED IN ACCORDANCE WITH SECTION 514.

MATERIALS

PHYSICAL PROPERTIES OF PREFORMED ELASTIC JOINT SEALER AND LUBRICANT ADHESIVE.
SEE SECTION 705.11.

STEEL COMPONENTS - ASTM A 36.

BASIS OF PAYMENT

THE CONTRACT UNIT PRICE PER LINEAL FOOT BID FOR ITEM 516 TYPE I OR II METAL JOINT WITH PREFORMED ELASTIC JOINT SEALER, SHALL BE FULL PAYMENT FOR ALL STRUCTURAL STEEL, POLYCHLOROPRENE SEALERS, ADHESIVES, PAINT AND ALL LABOR AND MATERIALS NECESSARY TO FABRICATE AND INSTALL THE JOINTS IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

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CONSULTING ENGINEERS
CINCINNATI, OHIO

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GENERAL NOTES
BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT

H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DH		JDC 4-26-72	JHO 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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HAMILTON COUNTY
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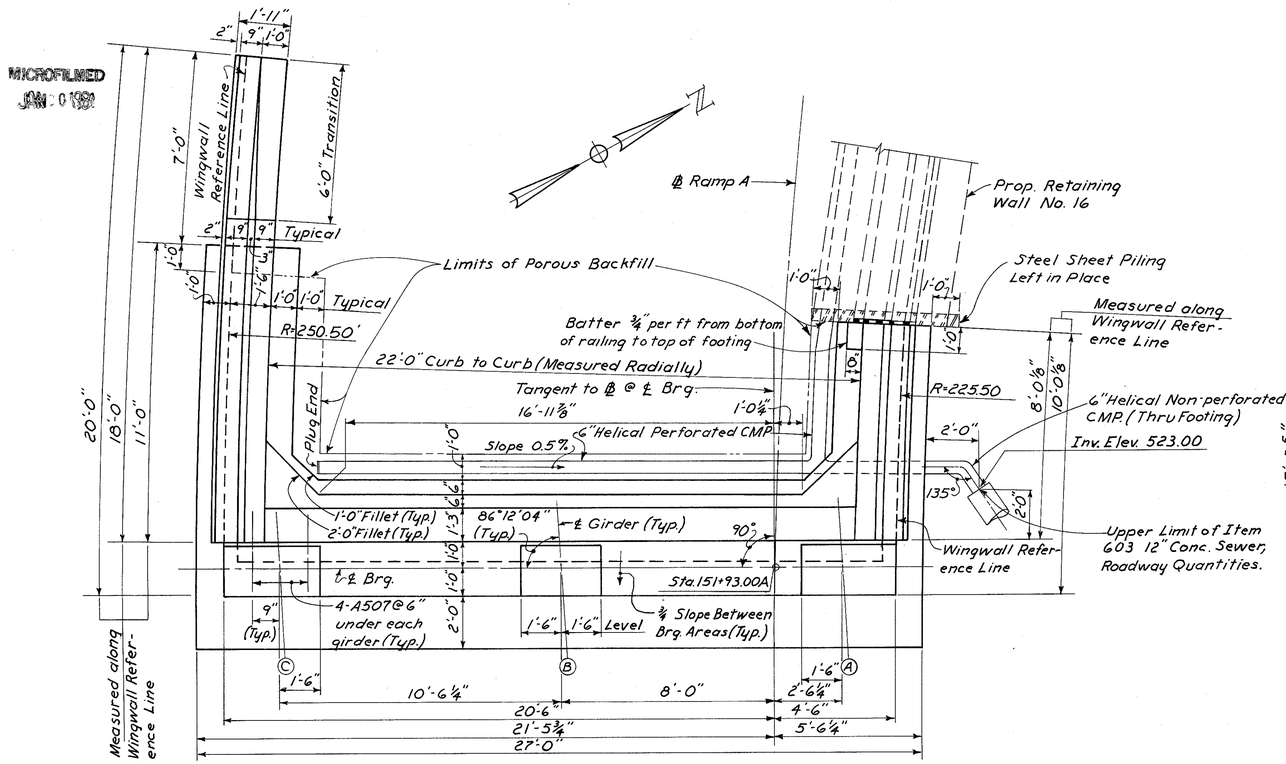
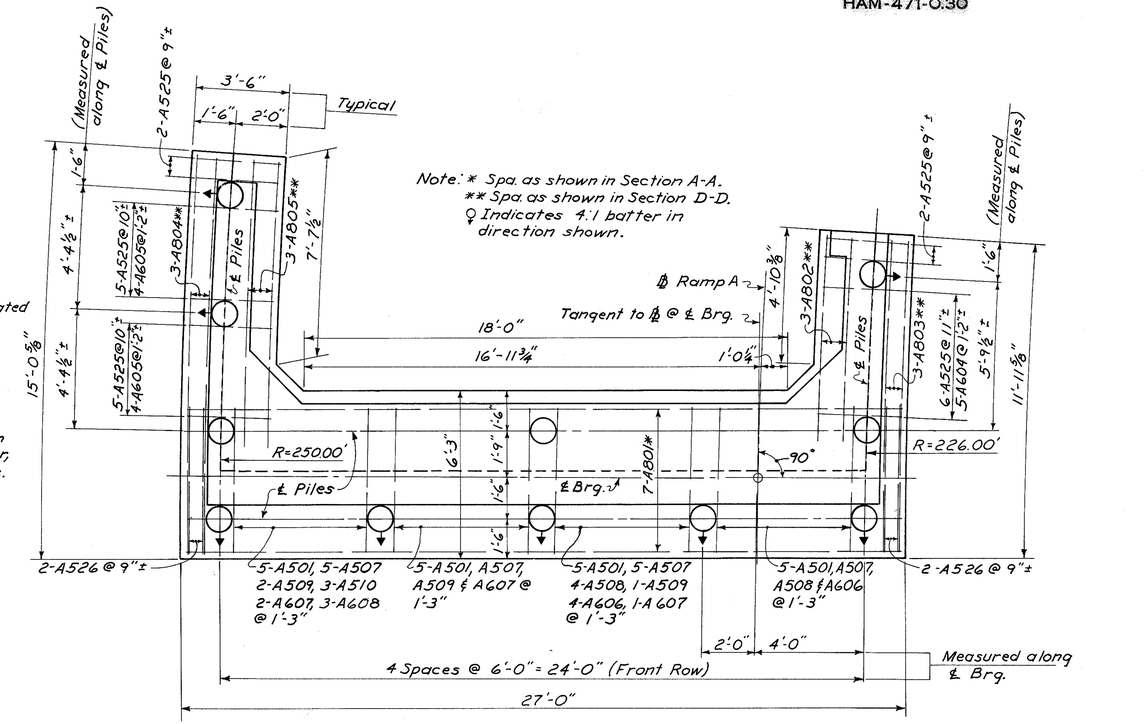
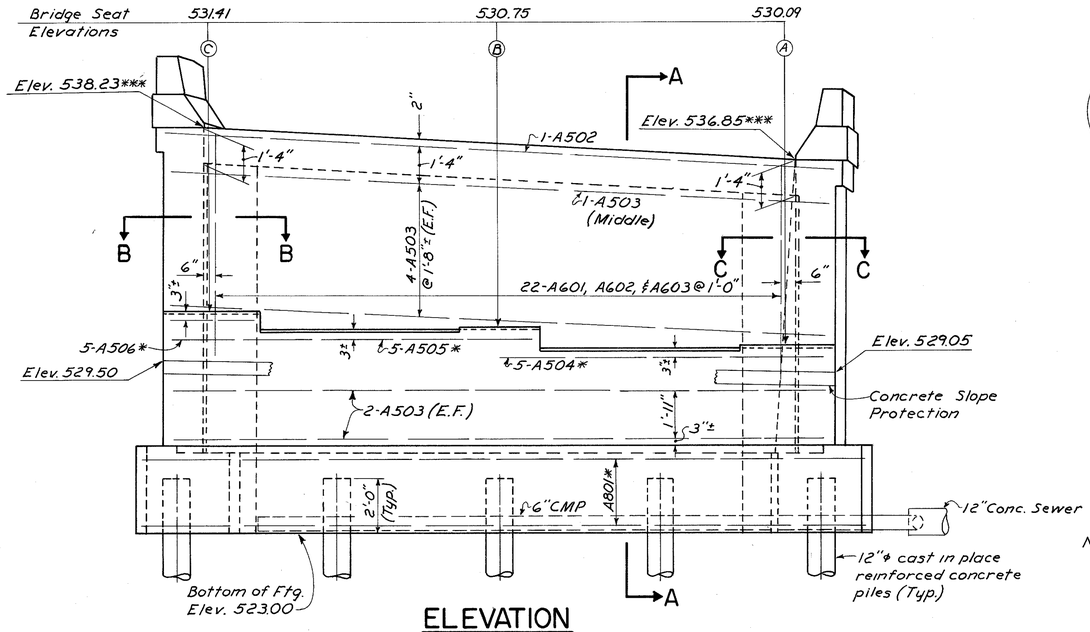


PLAN

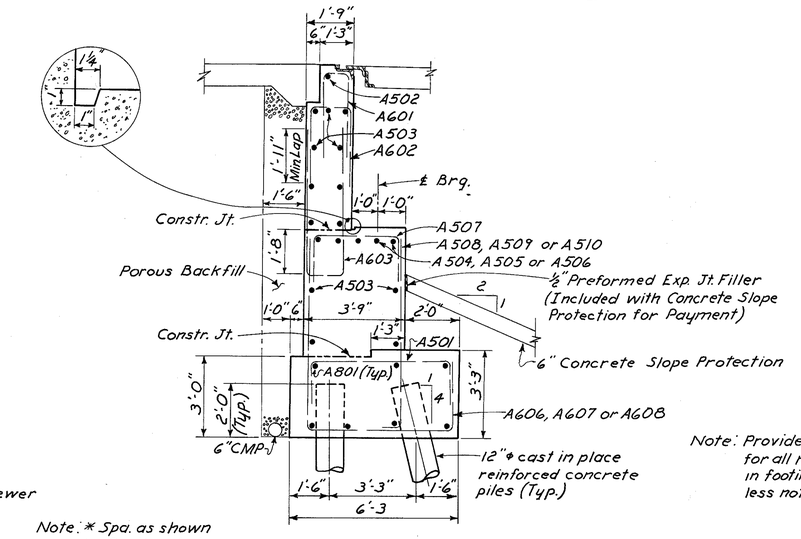


FOOTING PLAN



ELEVATION

Note: * Spa. as shown in Section A-A.
*** Elevs. shown are at Front Face of Backwall.



SECTION A-A

Notes:
Porous Backfill 1'-0" thick outside back edge of footing shall extend up to the underside of the approach slab and laterally to the limits of the Wingwalls as shown in plan.
For Section B-B & C-C, see Sh. No. 260.
For Wingwall Details, see Sh. No. 260.
For End Dam Details see Sh. No. 267.

All concrete shall be Class "C" Concrete.
E.F. denotes Each Face.

Note: Provide 3" clearance for all reinforcing steel in footing, minimum, unless noted otherwise.

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4/39

REAR ABUTMENT
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT
H & E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SL	RJF	RJF	JDC 12-6-71	JHD 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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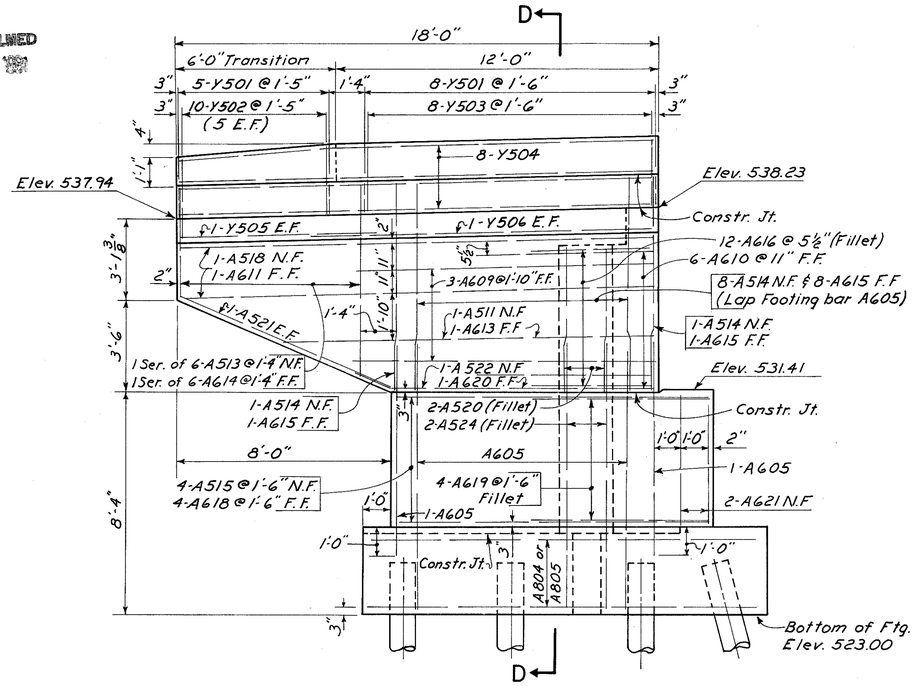
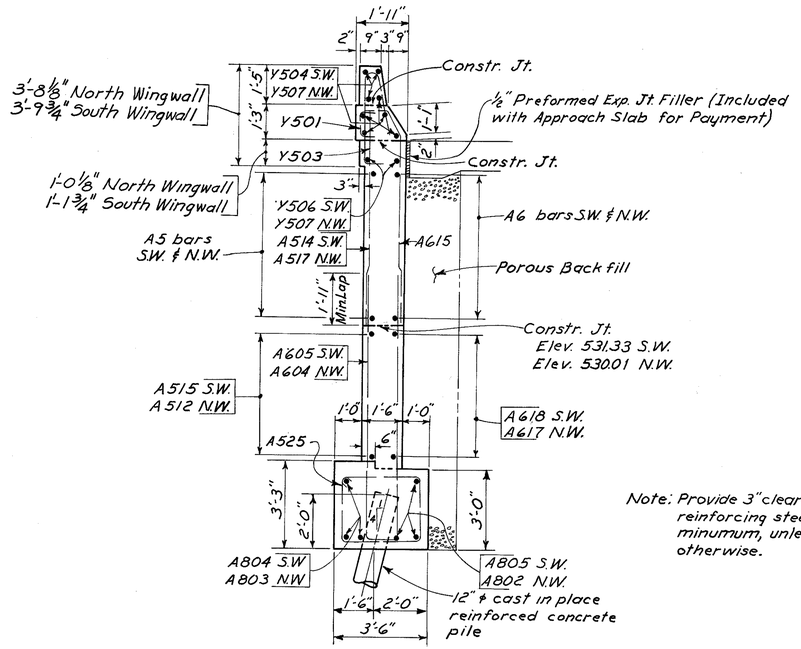
HAMILTON COUNTY
HAM-471-0.30



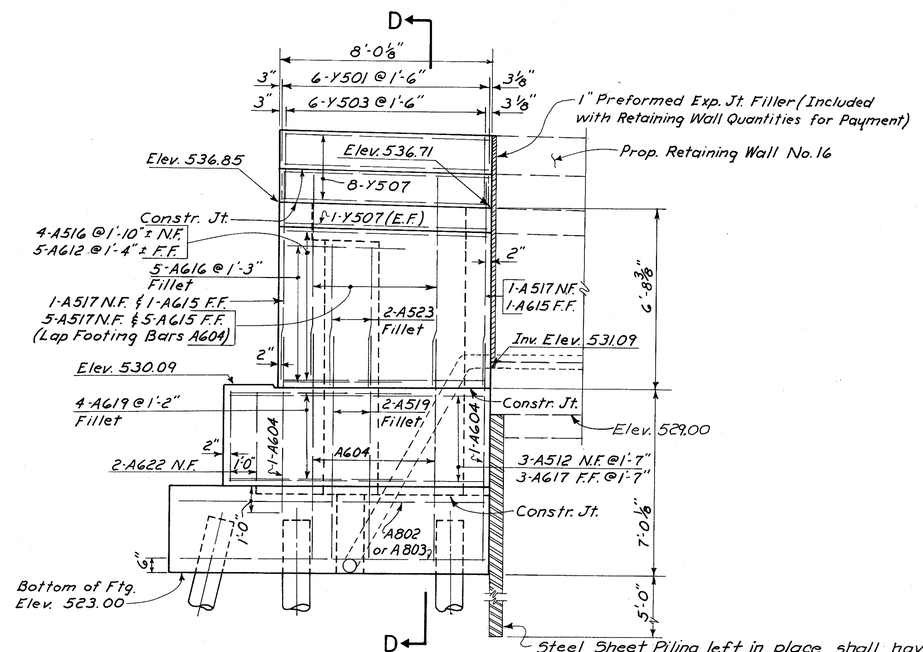
SOUTH WINGWALL ELEVATION



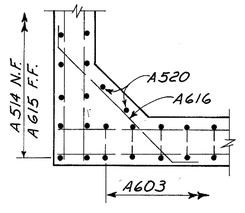
SECTION D-D

Notes:
E.F. denotes Each Face.
F.F. denotes Far Face.
N.F. denotes Near Face.
N.W. denotes North Wingwall.
S.W. denotes South Wingwall.
For detail of parpet transition see CURBS ON APPROACHES, Std. Dwg BR-1-67 Sh. No. 1

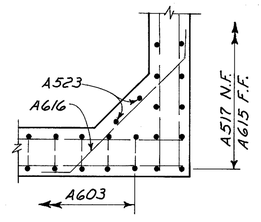
Note: Provide 3" clearance for all reinforcing steel in footing, minumum, unless noted otherwise.



NORTH WINGWALL ELEVATION



SECTION B-B



SECTION C-C

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REAR ABUTMENT
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT
H & E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SL	RJF	RJF	JDC 12-6-71	JHD 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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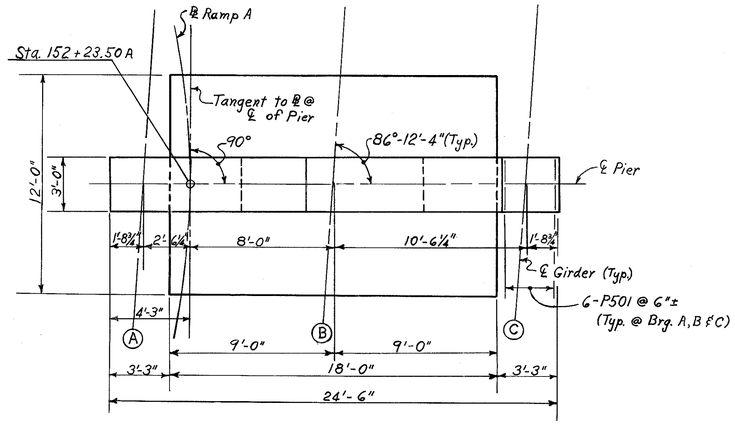
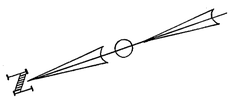
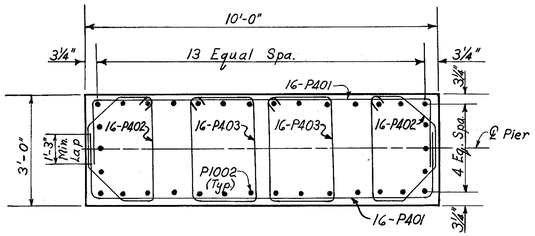
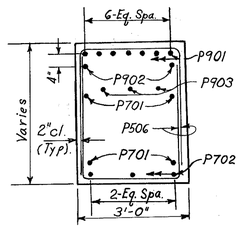


PLAN
(Piles not shown)

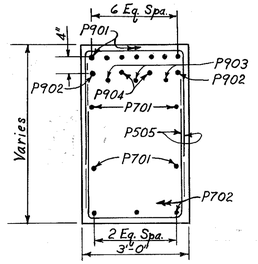




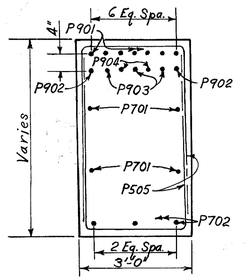
SECTION A-A



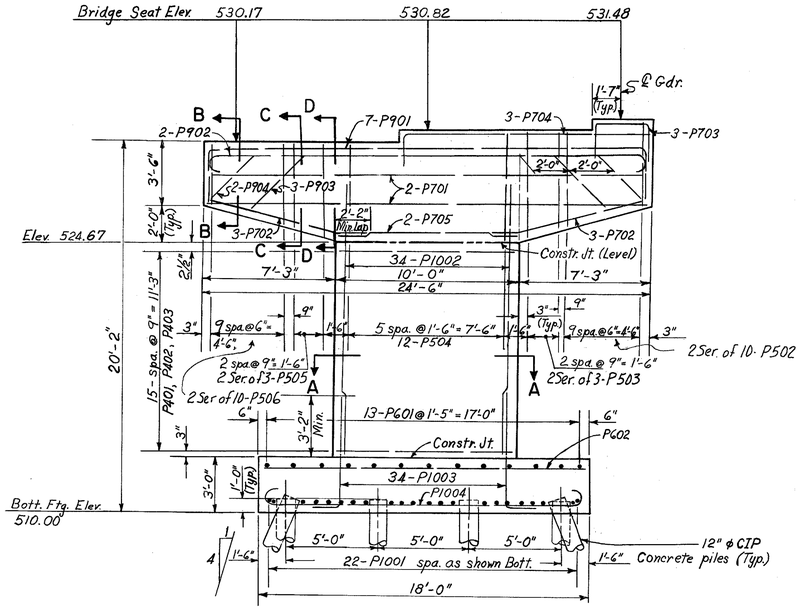
SECTION B-B



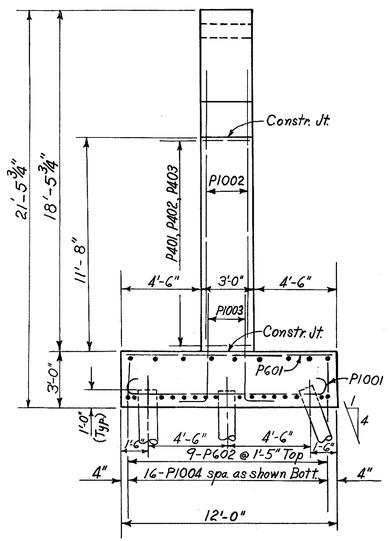
SECTION C-C



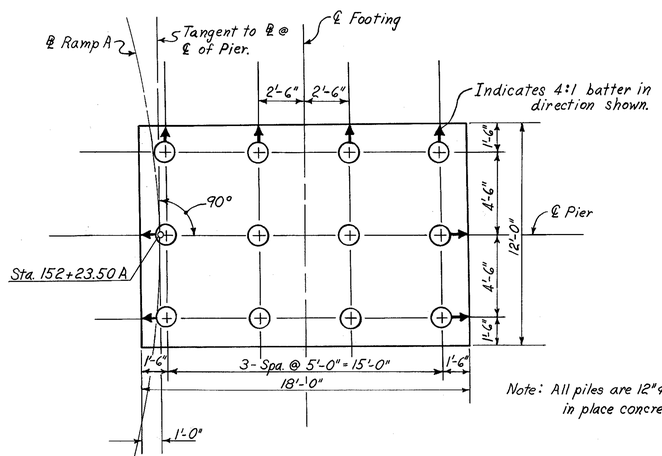
SECTION D-D



ELEVATION



END VIEW



Note: All piles are 12" ϕ cast in place concrete.

FOOTING PLAN

Notes: All concrete shall be Class "C" concrete.
Provide 3" clearance for all reinforcing steel in footing, minimum, unless noted otherwise.

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CINCINNATI, OHIO

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PIER No. 1
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT
H & E BRIDGE No. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SL	MDP	MDP	JDC 12-6-71	JHS 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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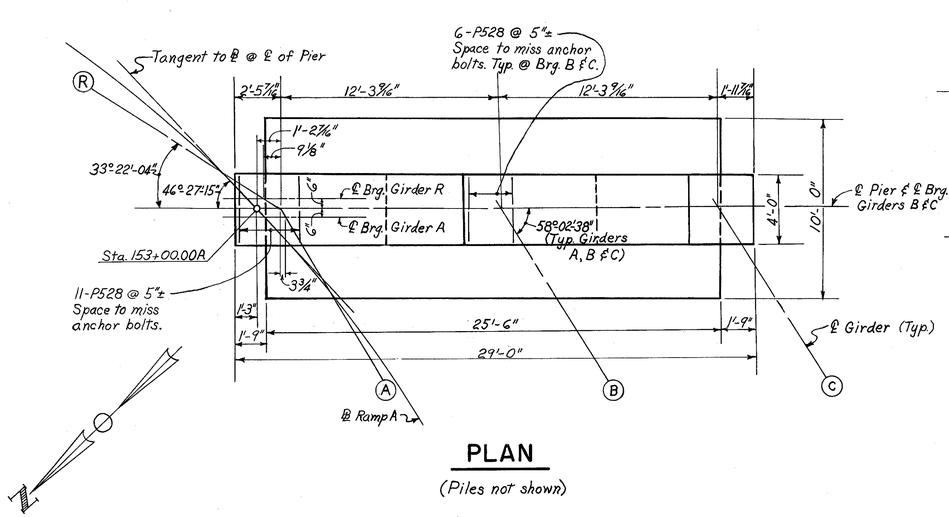
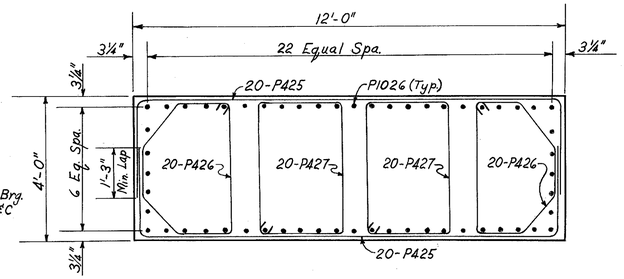
HAMILTON COUNTY
HAM-471-0.30

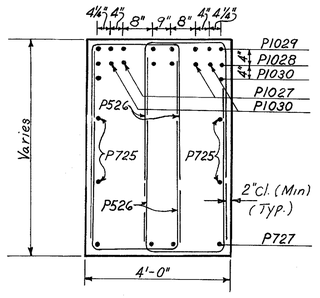


PLAN

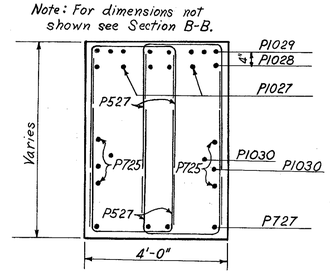
(Piles not shown)



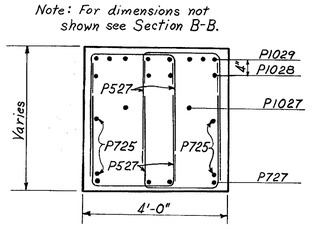
SECTION A-A



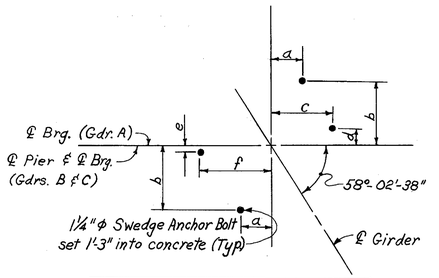
SECTION B-B



SECTION C-C

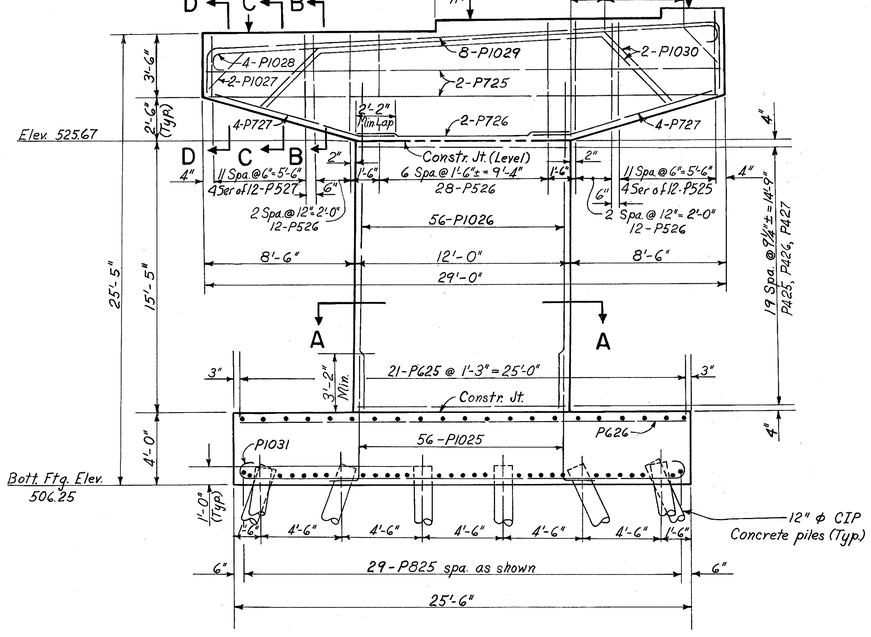


SECTION D-D

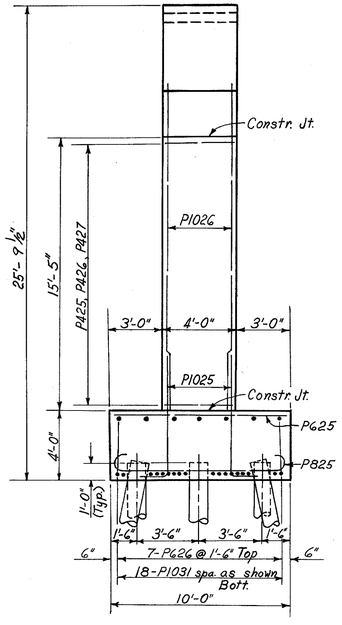


Girder	a	b	c	d	e	f
A	5½"	8¾"	7⅞"	4¾"	1⅜"	9¾"
B ℄ C	5⅝"	10⅜"	11⅞"	0¾"	0⅜"	11⅞"

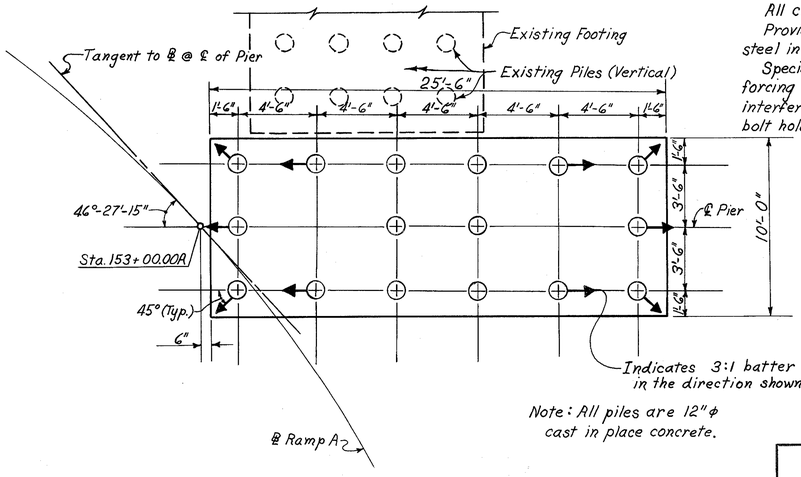
SWEDGE ANCHOR BOLT SPACING



ELEVATION



END VIEW



Note: All piles are 12" φ cast in place concrete.

FOOTING PLAN

Construction Note: The Contractor shall locate the existing footing before driving piles for the proposed footing. Care shall be exercised in driving prop. piles & constructing prop. footing so as not to damage the existing footing or piles.

Notes:
All concrete shall be Class C concrete.
Provide 3" clearance for all reinforcing steel in footing, minimum, unless noted otherwise.
Special care shall be taken in placing reinforcing steel in the pier cap so as to avoid interference with the drilling of the anchor bolt holes.

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PIER No. 2

BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA
VIADUCT

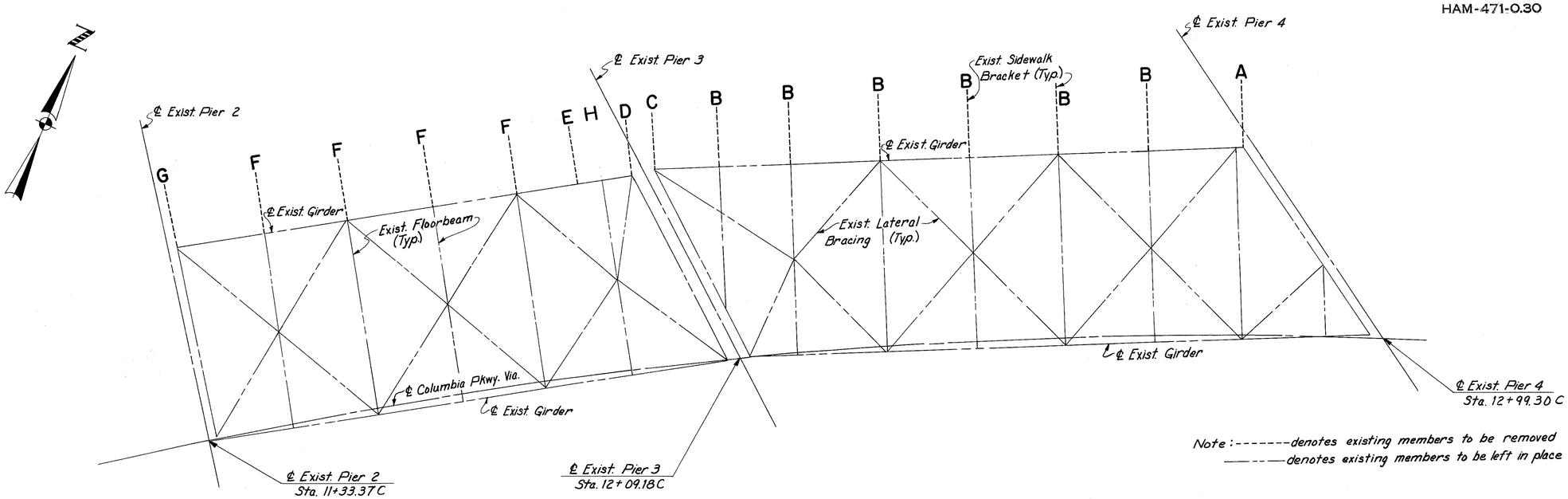
H & E BRIDGE No. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SL	MDP	MDP	JDC 12-9-71	JLO 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

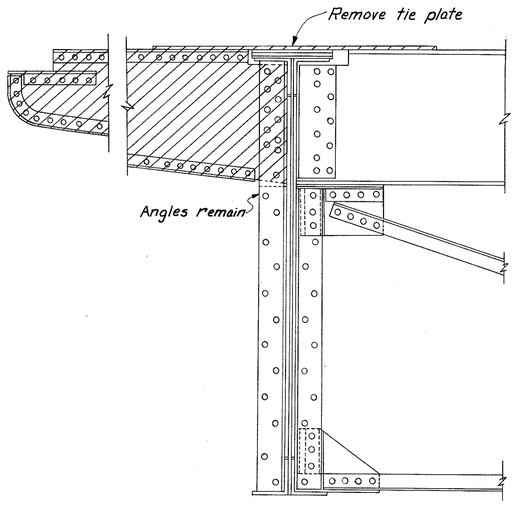
263
494

HAMILTON COUNTY
HAM-471-0.30

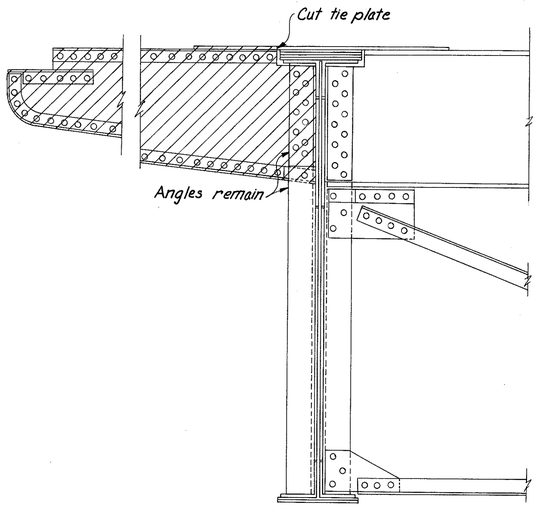


Note: -------denotes existing members to be removed
———— denotes existing members to be left in place

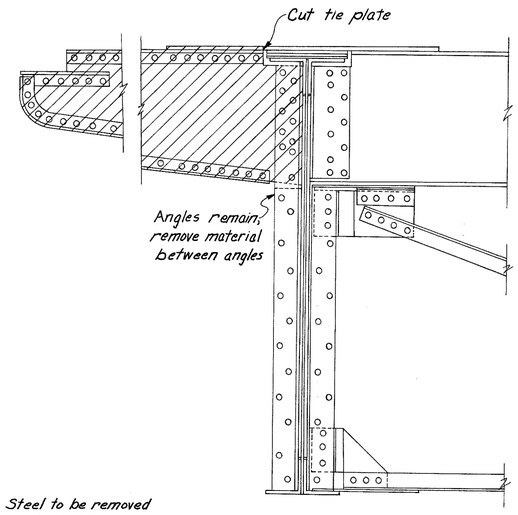
EXISTING STRUCTURE FRAMING PLAN



REMOVAL A

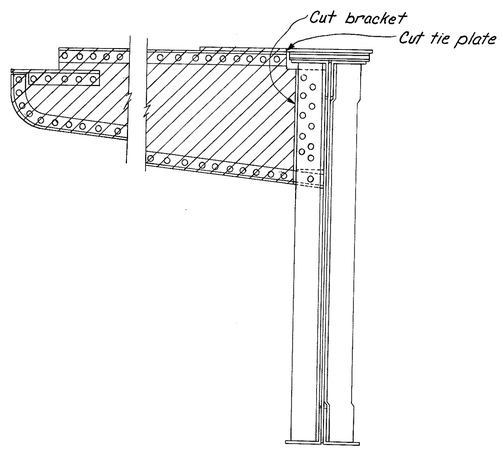


REMOVAL B



REMOVAL C

Note: Steel to be removed is indicated by cross-hatching.



REMOVAL E

Note: For Removal D, F, G, and H see sheet 264.

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CINCINNATI, OHIO

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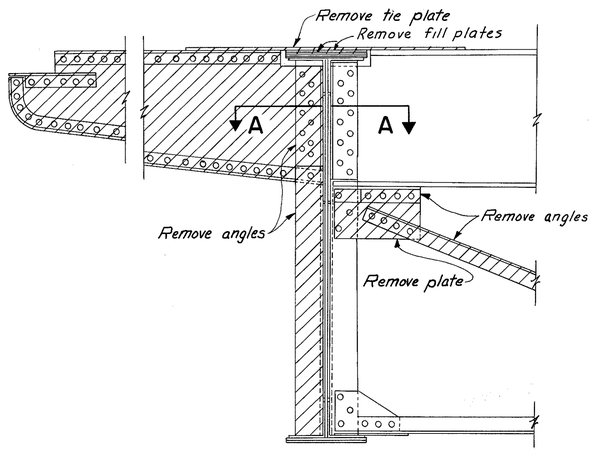
STRUCTURAL STEEL
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA
VIADUCT
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.E.M.		J.O.	J.H.O. 11-15-72	

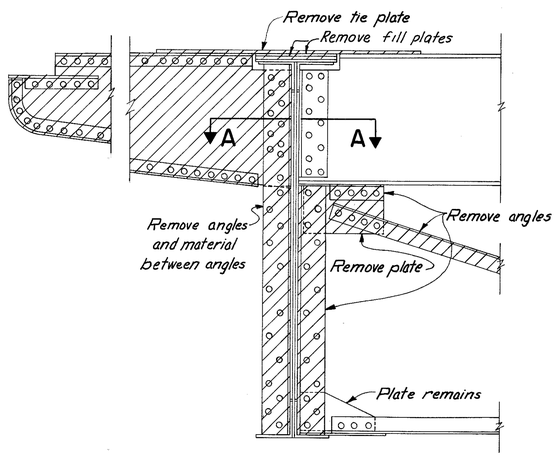
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

264
494

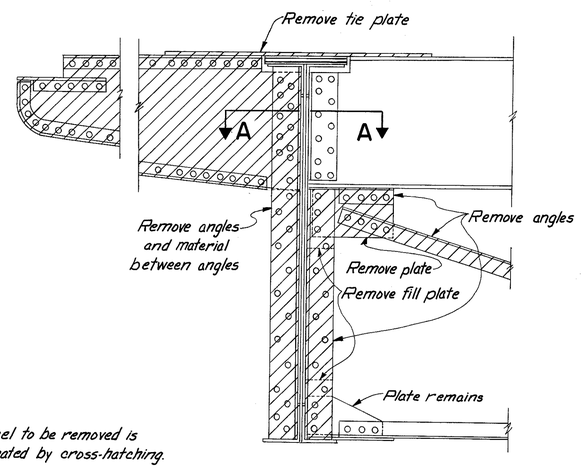
HAMILTON COUNTY
HAM-471-0.30



REMOVAL F

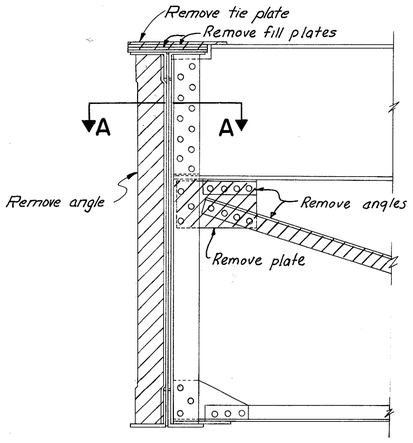


REMOVAL G



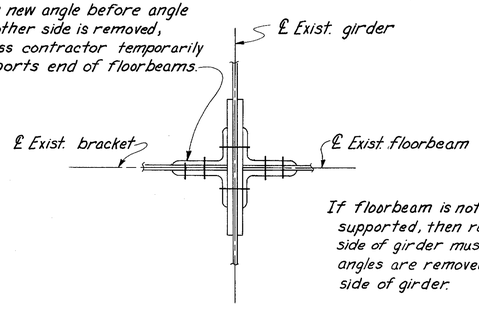
Note: Steel to be removed is indicated by cross-hatching.

REMOVAL D



REMOVAL H

Angle on one side of bracket must be removed and replaced with new angle before angle on other side is removed, unless contractor temporarily supports end of floorbeams.



If floorbeam is not temporarily supported, then revisions on floorbeam side of girder must be made before angles are removed from bracket side of girder.

SECTION A-A

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CINCINNATI, OHIO

9/39

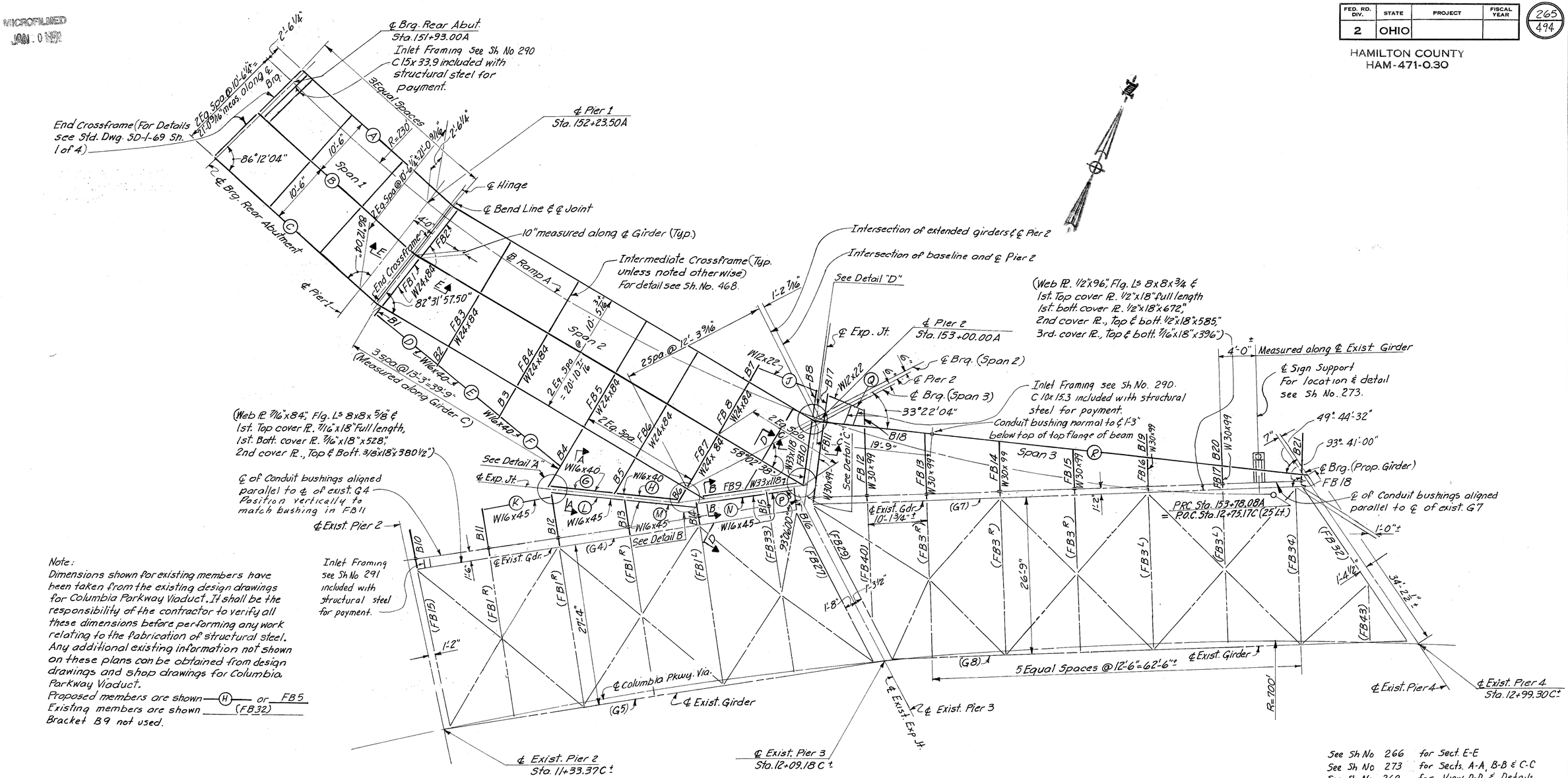
STRUCTURAL STEEL
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.E.M.		J.O.	JHO 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

265
494

HAMILTON COUNTY
HAM-471-0.30



Note:
Dimensions shown for existing members have been taken from the existing design drawings for Columbia Parkway Viaduct. It shall be the responsibility of the contractor to verify all these dimensions before performing any work relating to the fabrication of structural steel. Any additional existing information not shown on these plans can be obtained from design drawings and shop drawings for Columbia Parkway Viaduct.
Proposed members are shown —(H)— or FB5
Existing members are shown (FB32)
Bracket B9 not used.

FRAMING PLAN

LEGEND FOR ALL STRUCTURAL STEEL SHEETS

+ Indicates new bolts in new members
○ Indicates existing rivets or bolts (to remain)
⊕ Indicates new bolts in existing holes
✳ Indicates new bolts in existing members (new holes)

See Sh No 266 for Sect. E-E
See Sh No 273 for Sects. A-A, B-B & C-C
See Sh No 268 for View D-D & Details A, B, C & D.
Work this sheet with sheet 284.

HAZELET & ERDAL
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CINCINNATI, OHIO

10/39

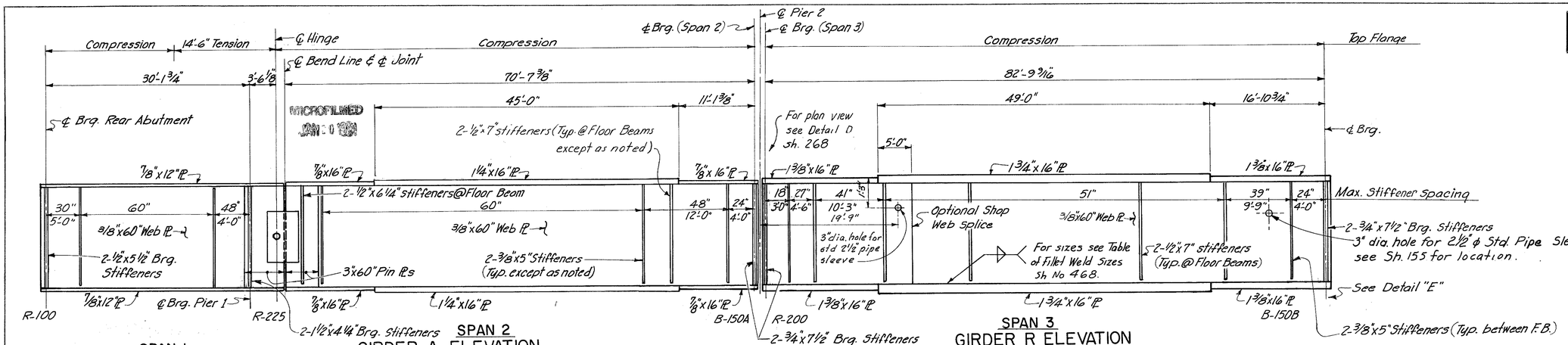
STRUCTURAL STEEL
BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	FN	VWS	J.O.	JHO 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

266
494

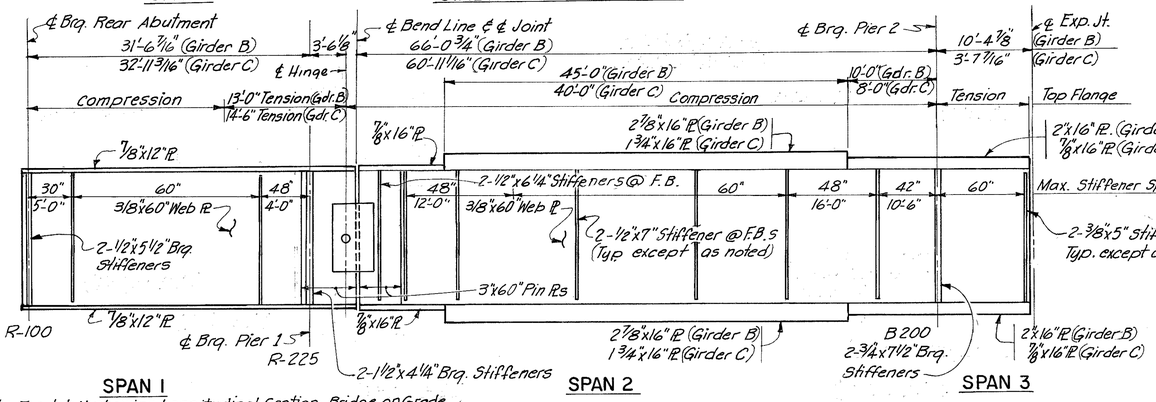
HAMILTON COUNTY
HAM-471-0.30



SPAN 1 — SPAN 2 — SPAN 3

GIRDER A ELEVATION

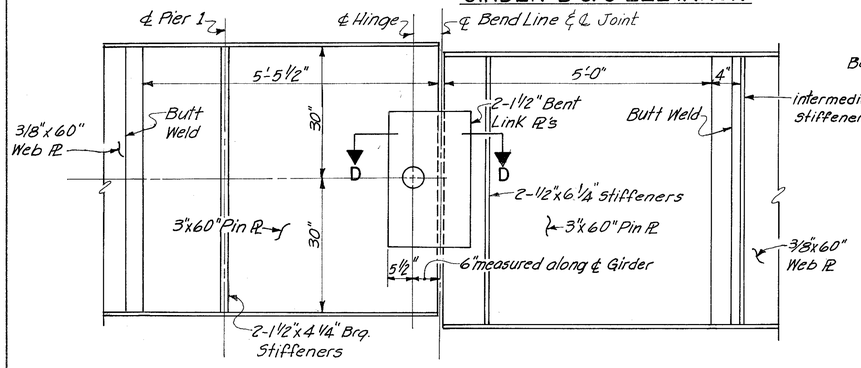
GIRDER R ELEVATION



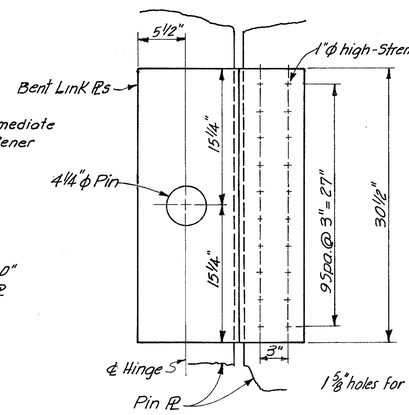
SPAN 1 — SPAN 2 — SPAN 3

Note: For detail showing Longitudinal Section, Bridge on Grade, see Std. Drawing SD-1-69 Sh. No. 1

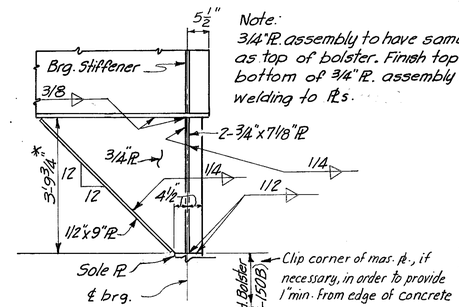
GIRDER B & C ELEVATION



HINGE DETAIL



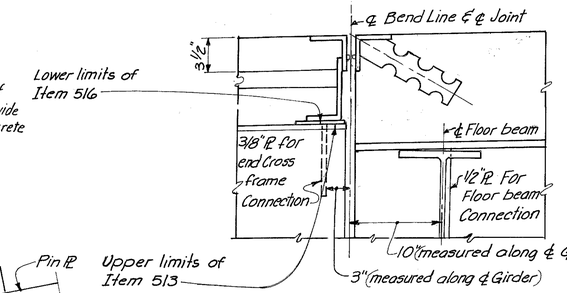
LINK PL. DETAIL



DETAIL E

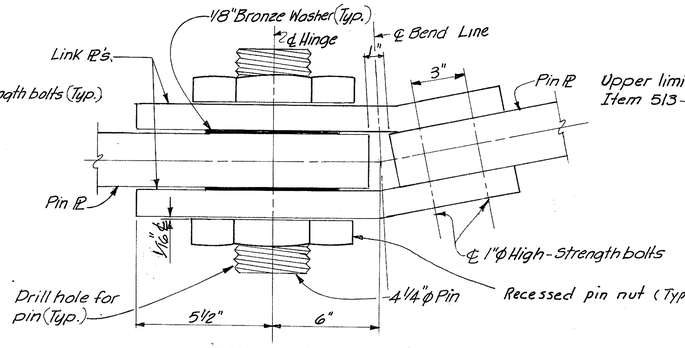
Note:
3/4" PL assembly to have same width as top of bolster. Finish top and bottom of 3/4" PL. assembly before welding to PLs.

*Before fabrication of 3/4" plate assembly the contractor must first determine the existing bridge seat elevation. The 3'-9 3/4" dimension was calculated by using elev. 530.11 as pier bridge seat elevation. However this dimension may have to be revised, once the contractor determines the existing bridge seat elevation.

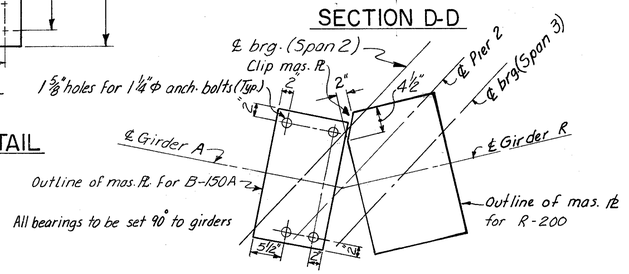


SECTION E-E

For location See Sh. No. 265.



SECTION D-D



MASONARY PLATES AT PIER 2

Bearing No.	Dimensions K	R	H	L
R-100	10 1/2"			
B-150A	14 1/2"	13 3/16"	18 3/16"	
B-150B	15"			23"
R-200	14 1/2"			
B-200	14 1/2"			
R-225				

BEARING DETAILS

For dimensions not shown, additional dimensions and locations of dimensions see Std. Drwg. RB-1-55

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11/39

STRUCTURAL STEEL
BRIDGE NO. HAM-471-RAMP A OFF COLUMBIA VIADUCT
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JL/FN	FN	VWS	J.O.	JHD 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

267
494

HAMILTON COUNTY
HAM-471-0.30

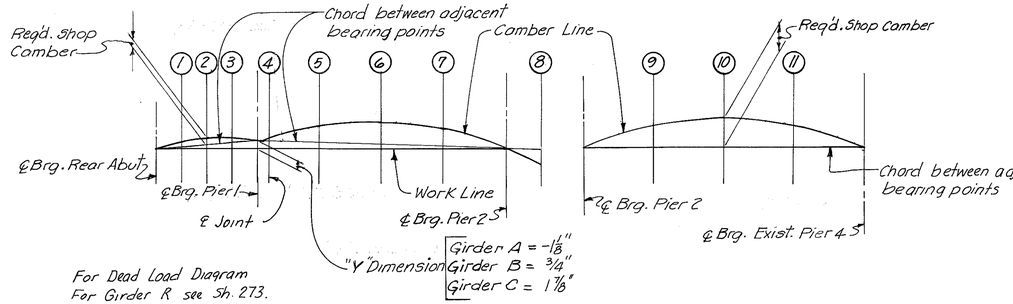
MICROFILMED
JAN. 0 '80

DEFLECTION AND CAMBER CHART (dimensions in inches)

	Girder	SPAN 1 1/4 Pt. (1)	SPAN 1 1/2 Pt. (2)	SPAN 1 3/4 Pt. (3)	℄ Joint (4)	SPAN 2 1/4 Pt. (5)	SPAN 2 1/2 Pt. (6)	SPAN 2 3/4 Pt. (7)	(8)	SPAN 3 1/4 Pt. (9)	SPAN 3 1/2 Pt. (10)	SPAN 3 3/4 Pt. (11)
Deflection due to Steel Weight	A	0	0	0	0	1/16	1/8	1/16	—	—	—	—
	B	0	0	0	0	1/16	1/16	1/16	0	—	—	—
	C	0	0	0	0	1/16	1/16	1/16	0	—	—	—
	R	—	—	—	—	—	—	—	—	3/16	1/4	3/16
Deflection due to Remaining Dead Load	A	0	0	0	0	5/16	1/2	3/8	—	—	—	—
	B	0	0	0	0	1/8	1/4	3/16	-1/8	—	—	—
	C	0	0	0	0	3/16	5/16	1/4	-1/16	—	—	—
	R	—	—	—	—	—	—	—	—	11/16	15/16	11/16
Adjustments required for *	A	-3/8	-1/2	-3/8	0	-3/4	-5/8	-7/16	—	—	—	—
	B	-3/8	-1/2	-3/8	3/8	-7/16	-7/16	1/8	1 7/8	—	—	—
	C	-1/2	-5/8	-1/2	5/8	-1/8	-1/4	-1/16	-7/16	—	—	—
	R	—	—	—	—	—	—	—	—	-5/8	-9/16	-7/8
Required Shop Camber	A	-3/8	-1/2	-3/8	0	-3/8	0	0	—	—	—	—
	B	-3/8	-1/2	-3/8	3/8	-1/4	-1/8	3/8	1 3/4	—	—	—
	C	-1/2	-5/8	-1/2	5/8	1/8	1/8	1/4	-1/2	—	—	—
	R	—	—	—	—	—	—	—	—	1/4	5/8	0

Note: Negative (–) deflection denotes upward deflection
Negative (–) camber is measured below chord between brgs.
Negative (–) superelevation & V.C. correction is measured below chord between brgs.

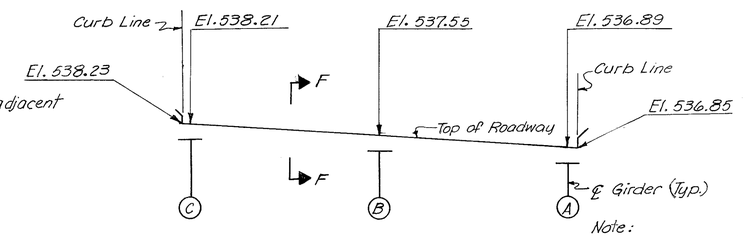
* Vertical Curve, Horizontal Curve & Superelevation Transition



For Dead Load Diagram
For Girder R see Sh. 273.

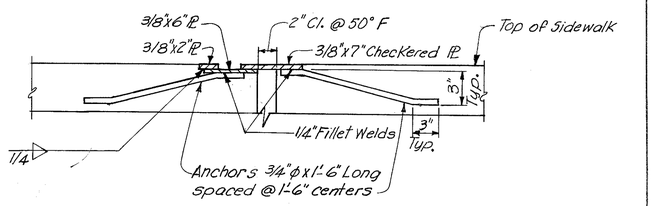
CAMBER DIAGRAM

Note: For Section F-F, see Section A-A Std. Dwg. SD-1-69 Sh. No. 1. For Curb plate detail at abutment see Std. Dwg. SD-1-69 Sh. No. 2. 1/2"x2"x18" anchor bars as shown on Std. Dwg. SD-1-69 should be revised to indicate 3 1/2" clear from top of slab.

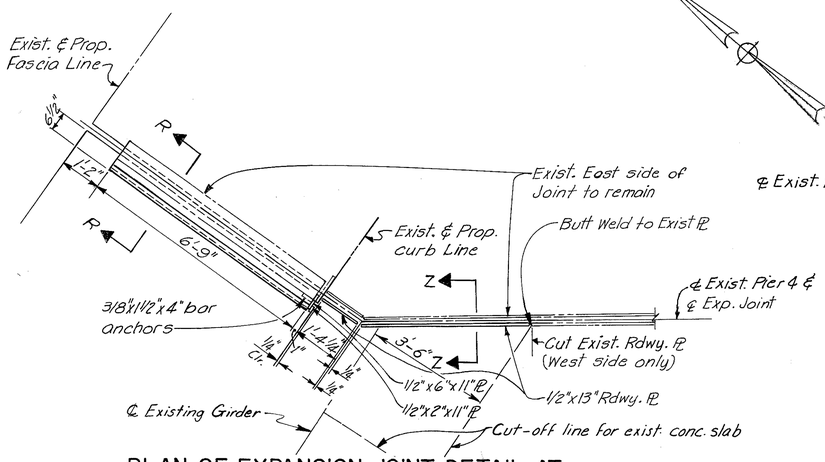


CROSS SECTION OF END DAM AT REAR ABUTMENT

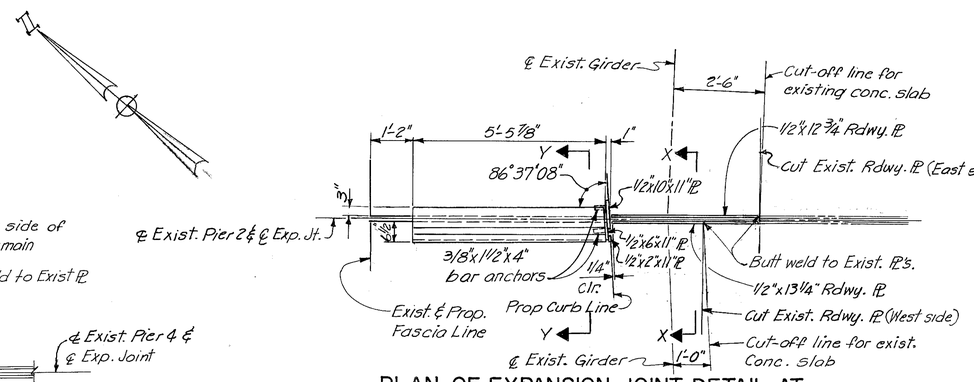
Note: Elevations given at front face of backwall (Back of 7"x4"x1/2"L)



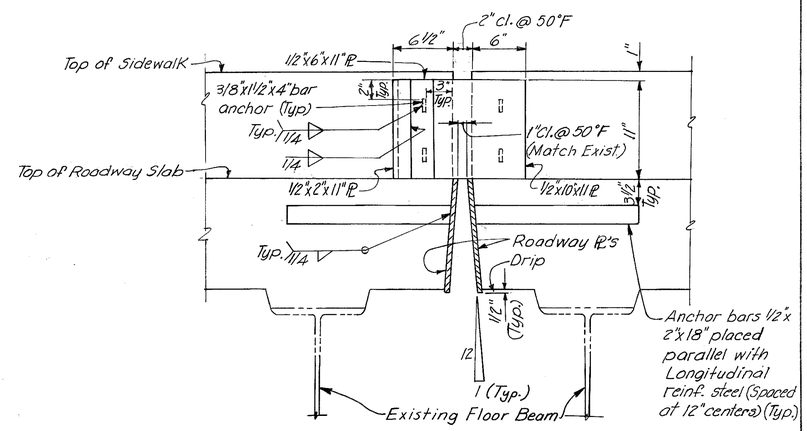
SECTION Y-Y



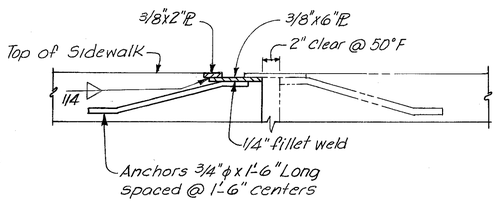
PLAN OF EXPANSION JOINT DETAIL AT EXISTING PIER 4



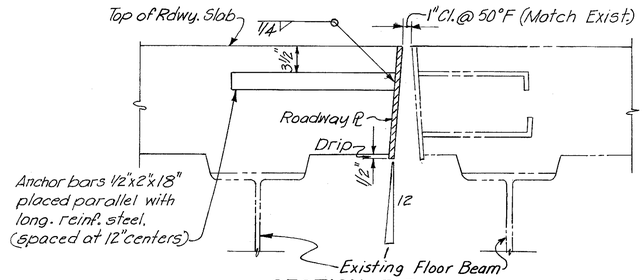
PLAN OF EXPANSION JOINT DETAIL AT EXISTING PIER 2



SECTION X-X

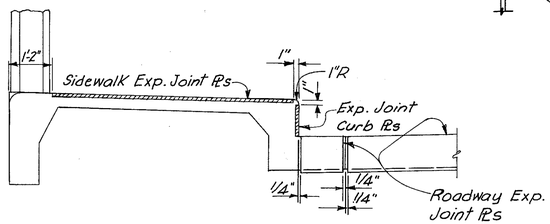


SECTION R-R



SECTION Z-Z

Note: For curb plate details see Section X-X



SECTION THRU EXP. JOINT AT EXISTING PIER 4

(Section @ Existing Pier 2 Similar)

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STRUCTURAL STEEL
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

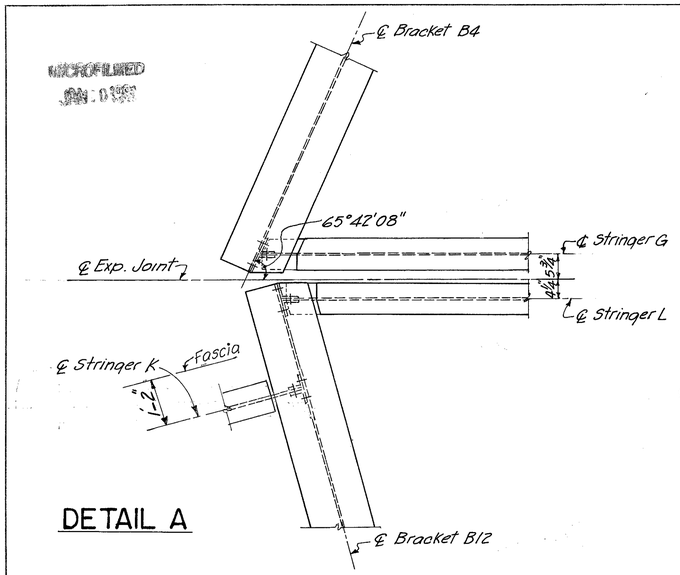
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVIS
FN	FN	VWS	JDC	JHO 11-15-72	

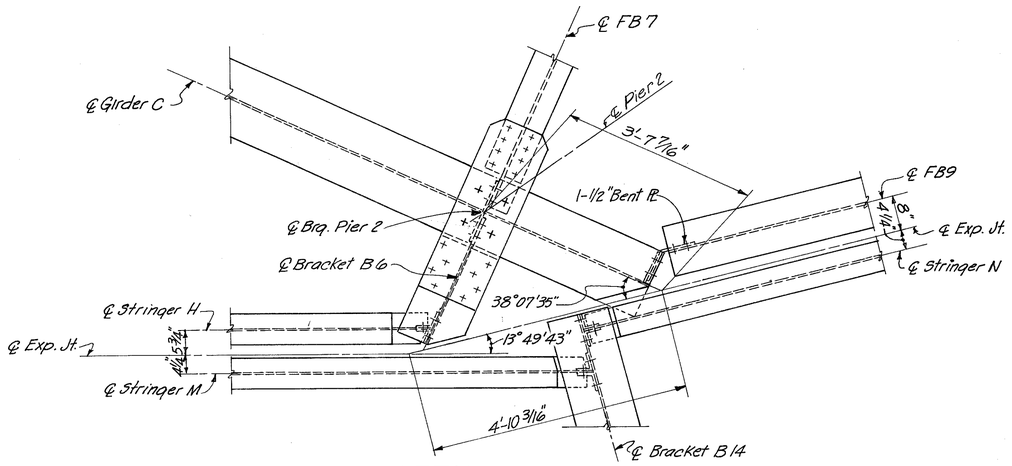
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

268
494

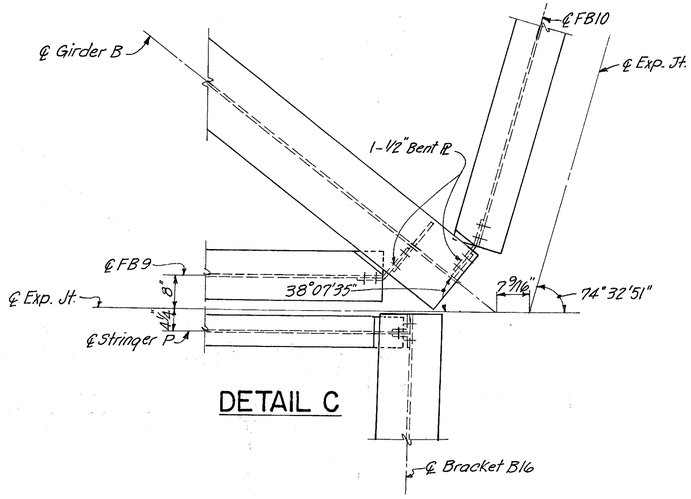
HAMILTON COUNTY
HAM-471-0.30



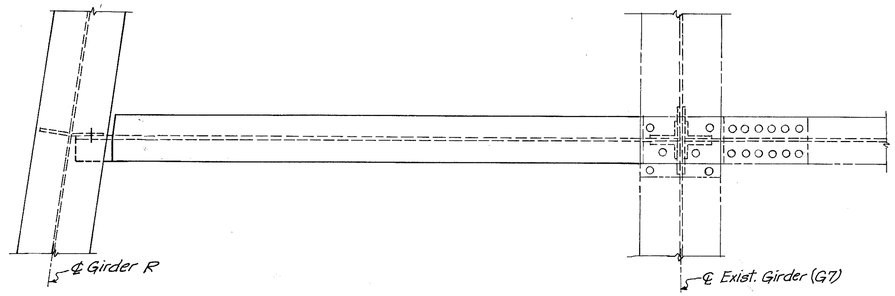
DETAIL A

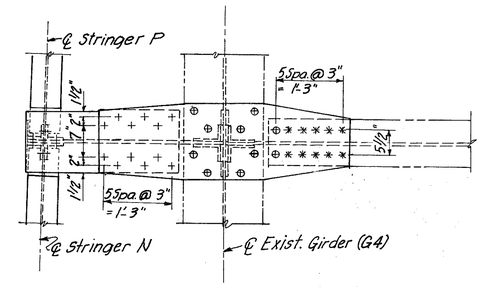


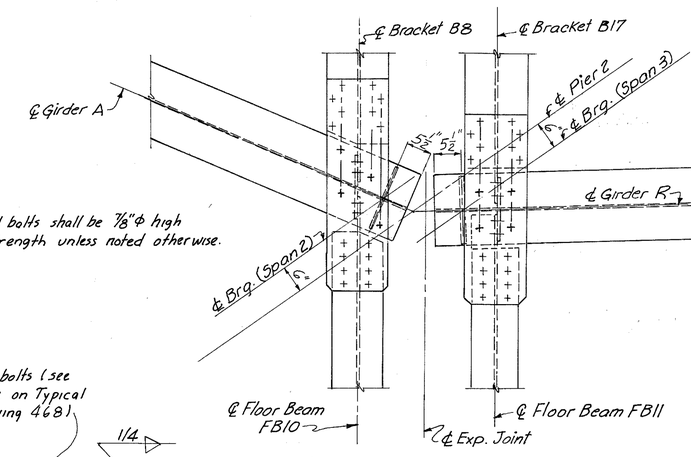
DETAIL B



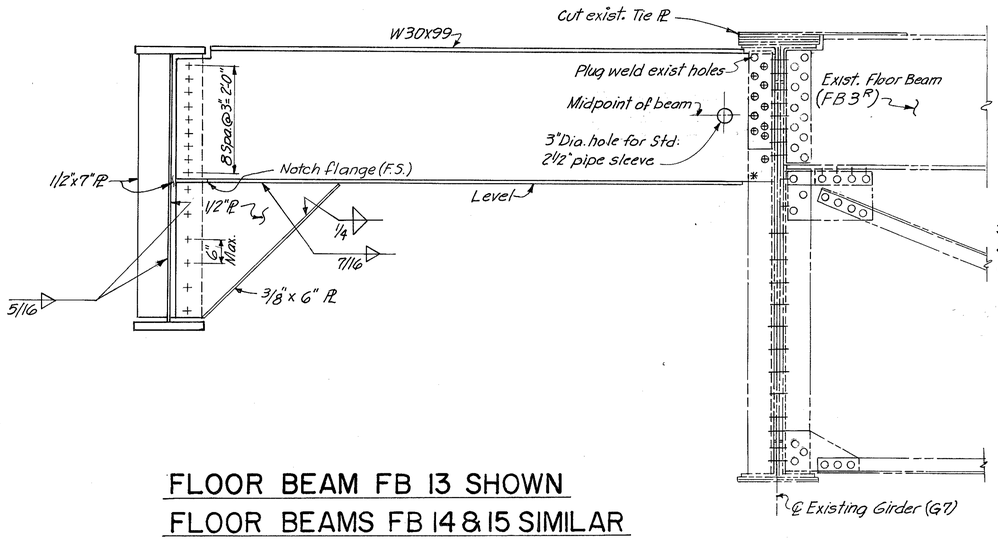
DETAIL C



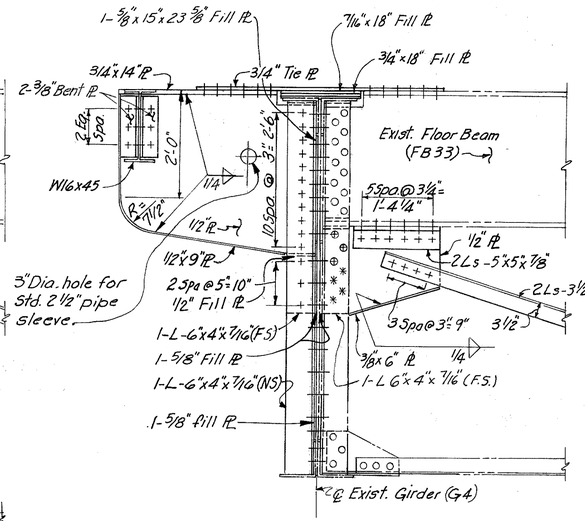




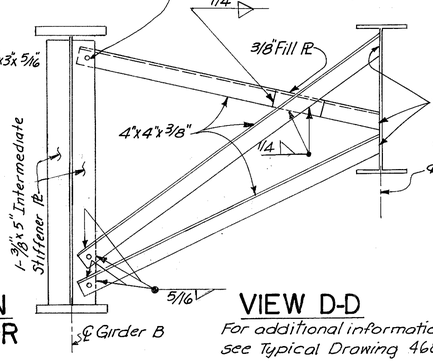
DETAIL D



FLOOR BEAM FB 13 SHOWN
FLOOR BEAMS FB 14 & 15 SIMILAR



BRACKET B15 SHOWN
BRACKET B14 SIMILAR



VIEW D-D
For additional information see Typical Drawing 468.

Weld both sides of vertical leg and top side of horizontal leg to beam with ¼" continuous fillet weld.

℄ Floor Beam FB9

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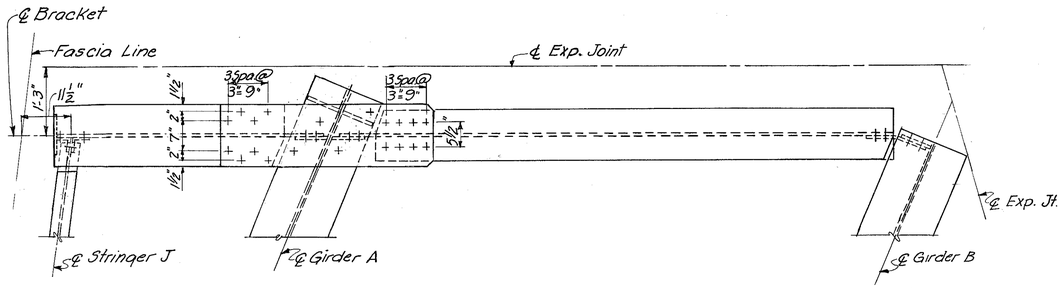
STRUCTURAL STEEL
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT
H&E BRIDGE NO. 8

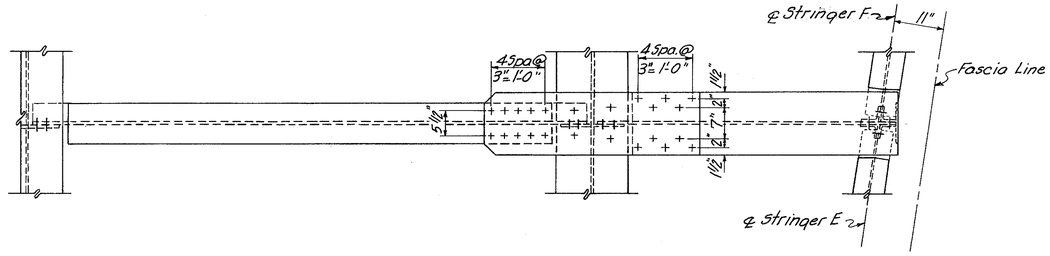
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
FN	FN	VWS	J.O.	J40 11-15-72	

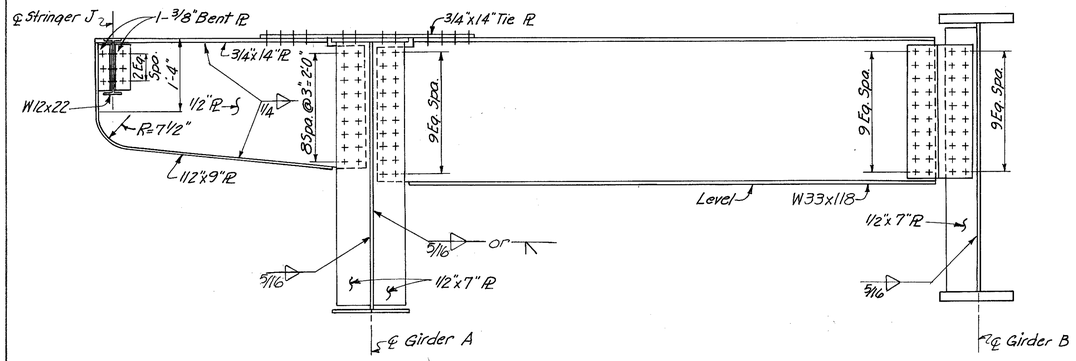
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

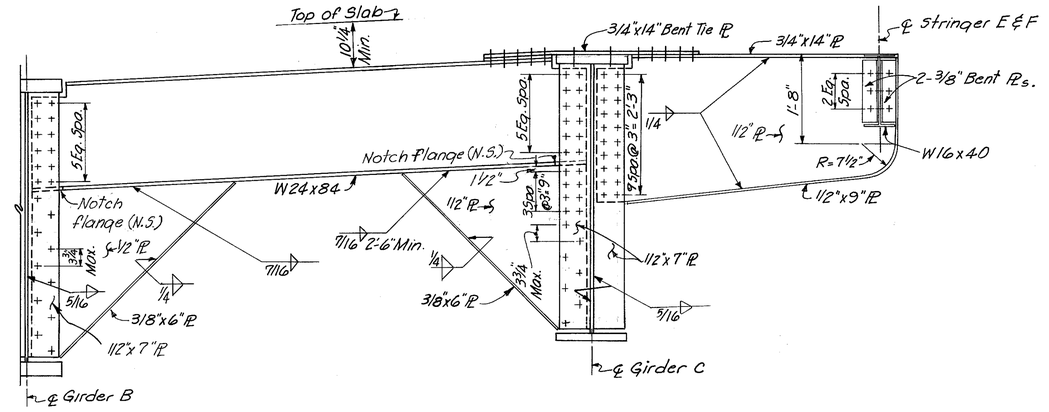
269
494

HAMILTON COUNTY
HAM-471-0.30



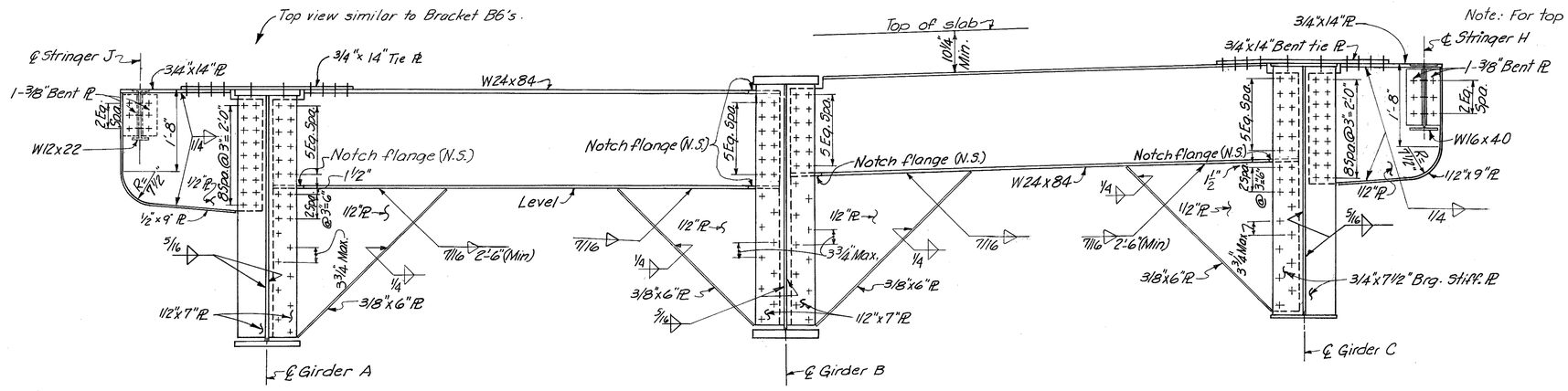






BRACKET B8 FLOOR BEAM FB 10

FLOOR BEAM FB4 BRACKET B3



BRACKET B7 FLOOR BEAM FB 8

FLOOR BEAM FB7 BRACKET B6 SHOWN
FLOOR BEAM FB3 BRACKET B2 SIMILAR

Note: All bolts shall be ⅞" ϕ high strength unless otherwise noted.

HAZELET & ERDAL
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14/39

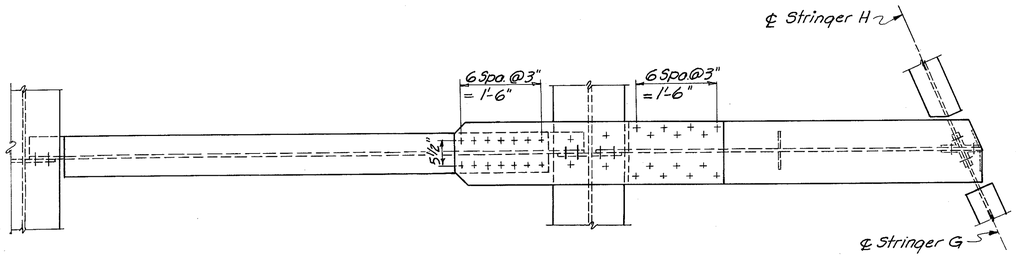
STRUCTURAL STEEL
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA
VIADUCT
H&E BRIDGE NO. 8

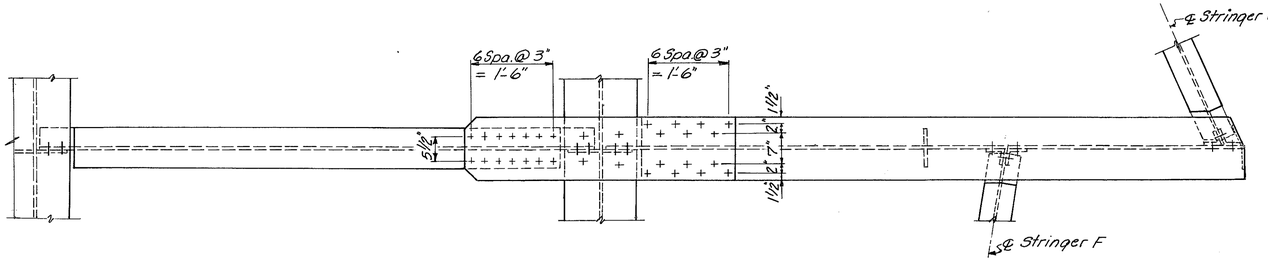
DESIGNED	DETAILED	TRACED	CHECKED	REVIEWED DATE	REVISED
FN	FN	VWS	J.D.	JHO 11-15-72	

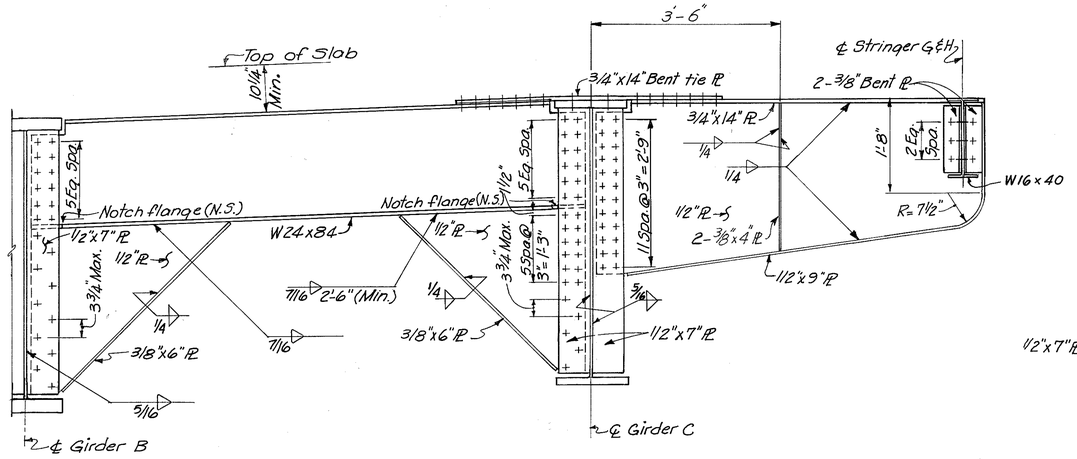
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

270/494

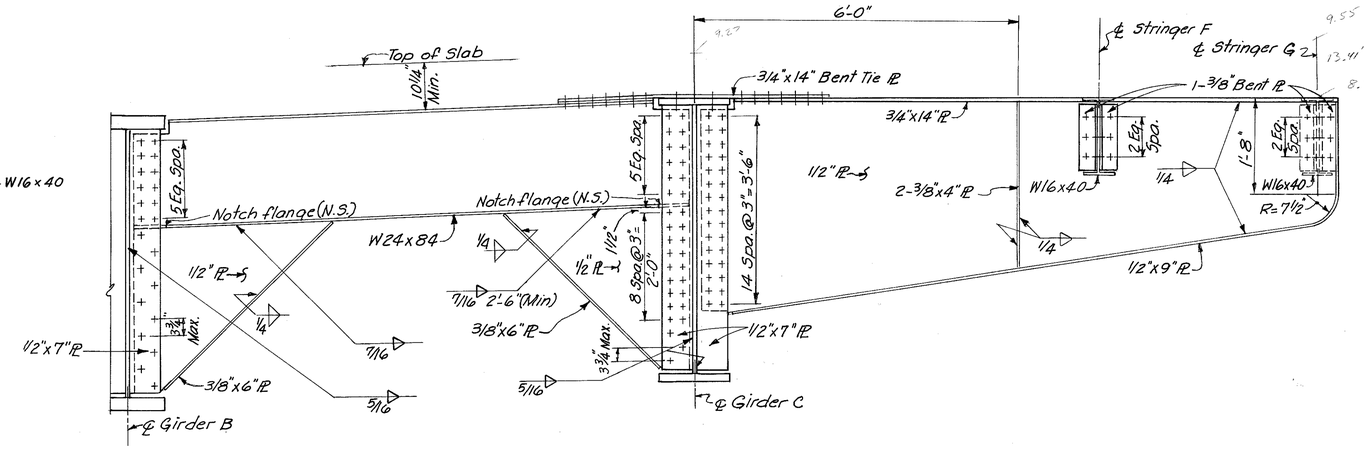
HAMILTON COUNTY
HAM-471-0.30







FLOOR BEAM FB6 BRACKET B5



FLOOR BEAM FB5 BRACKET B4

Note: All bolts shall be 7/8" ϕ high strength unless otherwise noted.

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15/39

STRUCTURAL STEEL
BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT

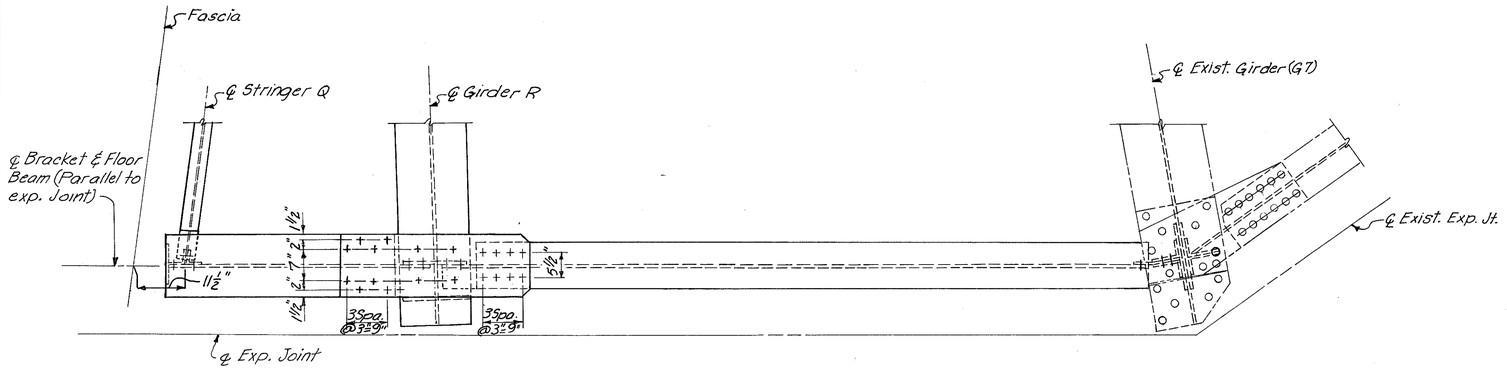
H&E BRIDGE NO. 8

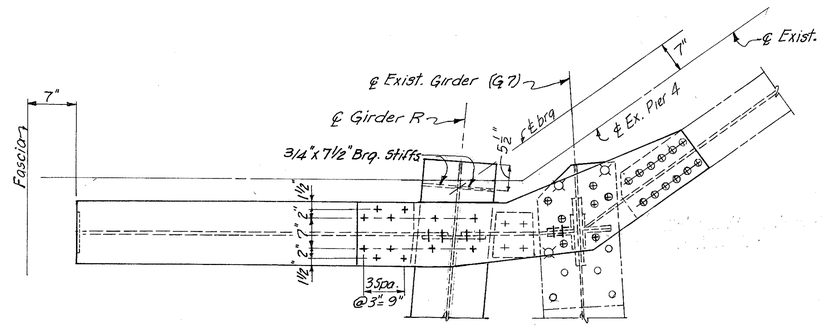
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
FN	FN	VWS	J.O.	JHO 11-15-72	

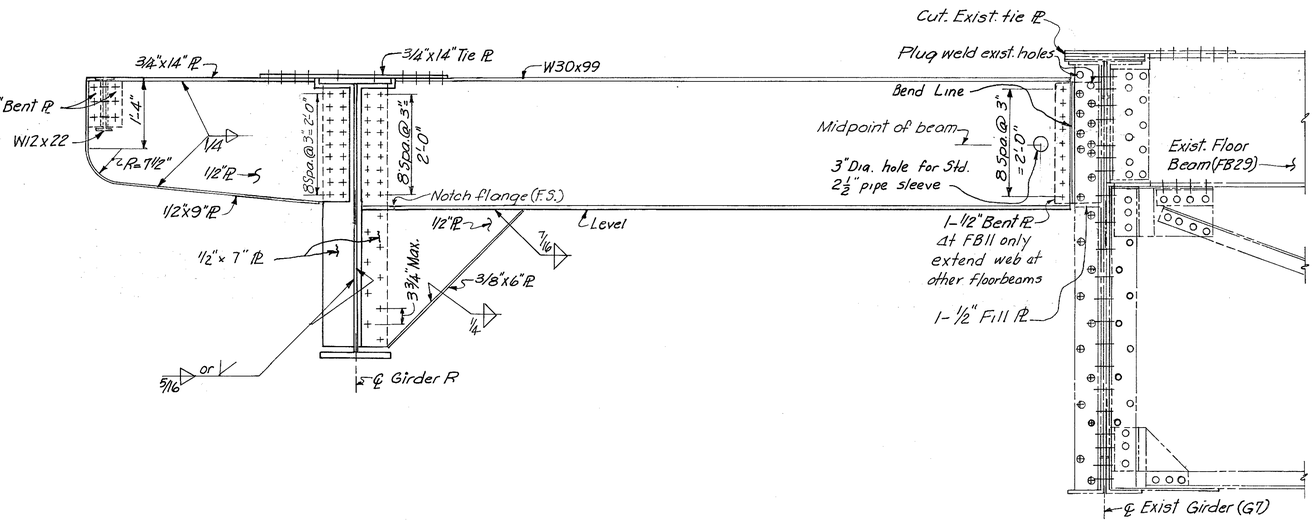
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

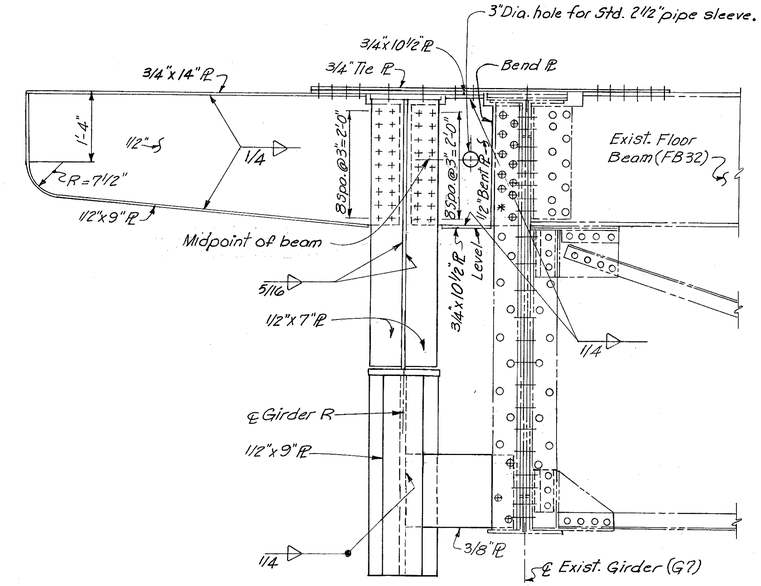
271
494

HAMILTON COUNTY
HAM-471-0.30

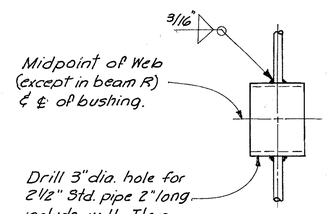








BRACKET B17 FLOOR BEAM FB11 SHOWN
BRACKET B18, B19 & B20 FLOOR BEAM FB12, FB16 & FB17 SIMILAR



DETAIL
CONDUIT BUSHING

BRACKET B21 FLOOR BEAM FB18

Note: All bolts shall be ⅞" ϕ high strength unless otherwise noted.

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STRUCTURAL STEEL
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA
VIADUCT

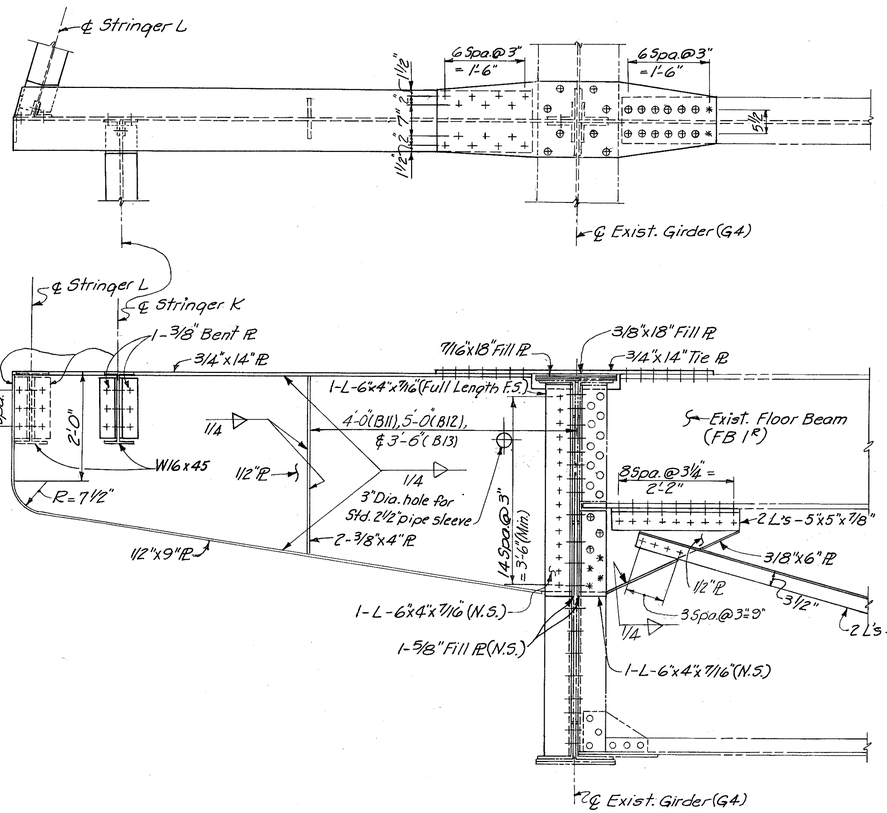
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
FN	FN	VWS	J.O.	JHO 11-15-72	

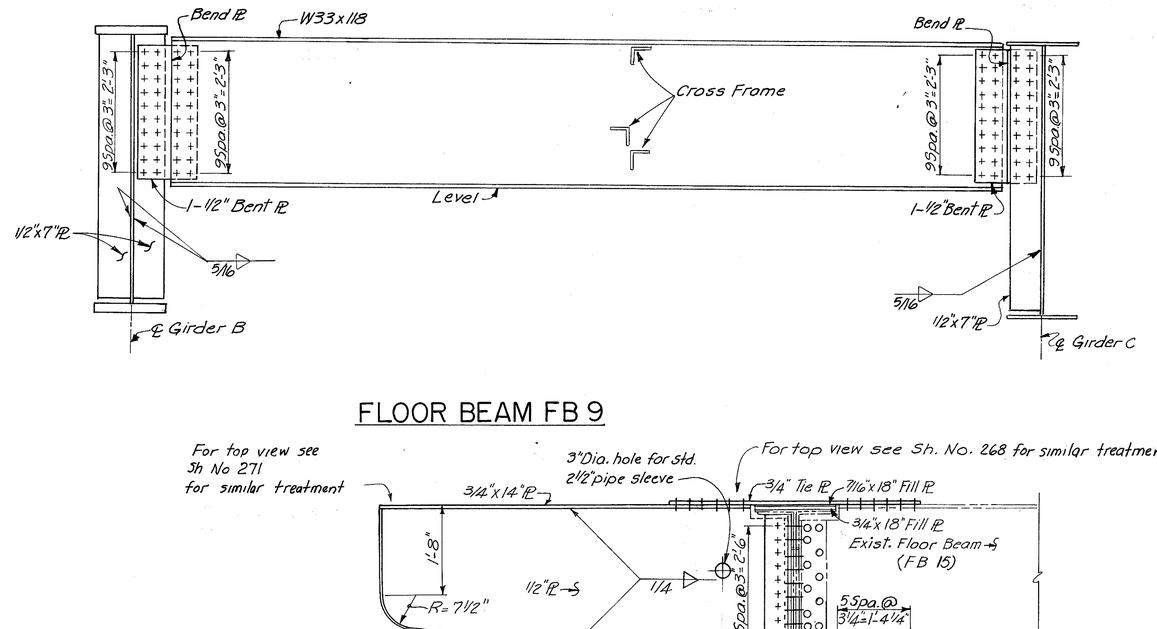
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

272/494

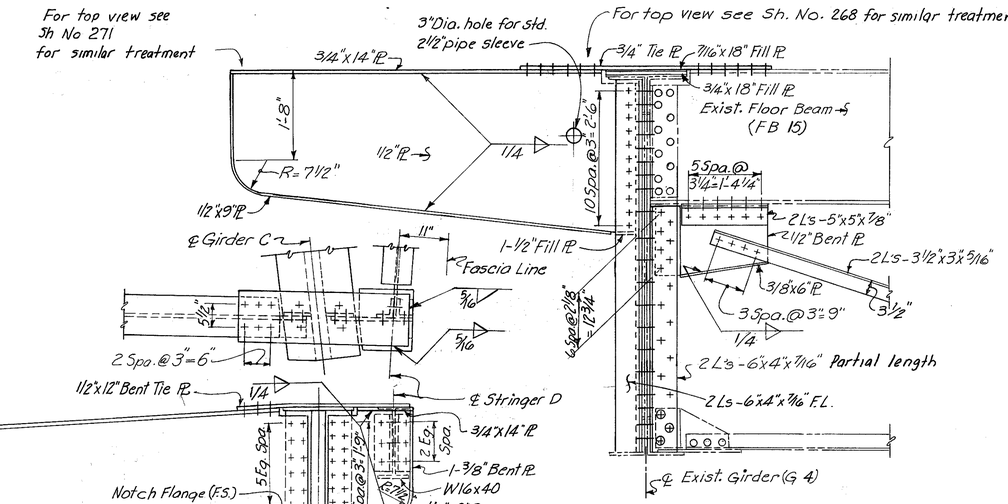
HAMILTON COUNTY
HAM-471-0.30



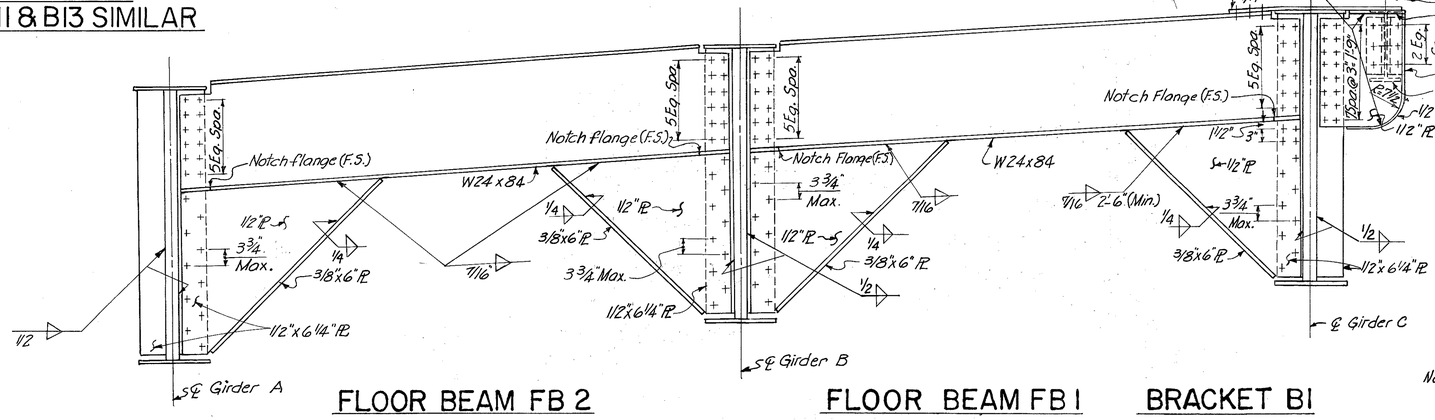
Note: For top view see Detail B & C Sh. No. 268.



FLOOR BEAM FB 9



BRACKET B12 SHOWN
BRACKET B11 & B13 SIMILAR



FLOOR BEAM FB 2

FLOOR BEAM FB 1

BRACKET B1

BRACKET B10 SHOWN
BRACKET B16 SIMILAR

Note: All bolts shall be 7/8" ϕ high strength unless otherwise noted.

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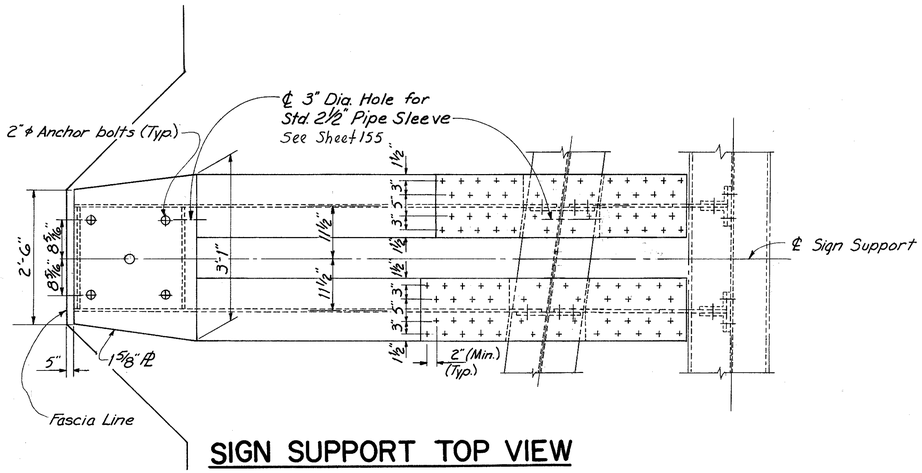
STRUCTURAL STEEL
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
FN	FN	VWS	J.O.	JJO 11-15-72

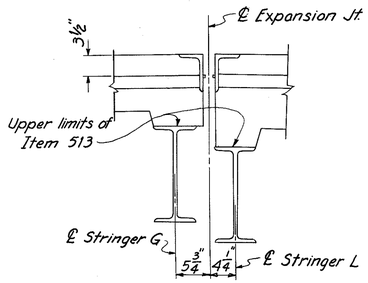
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

273
494

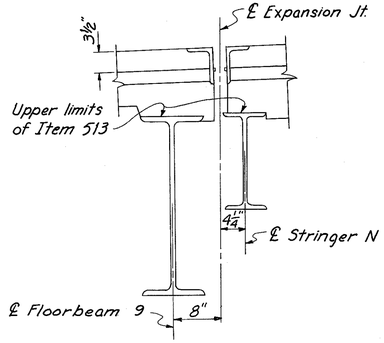
HAMILTON COUNTY
HAM-471-0.30



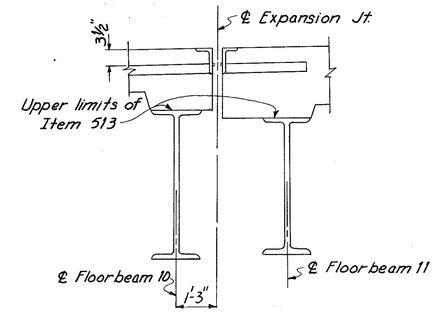
SIGN SUPPORT TOP VIEW



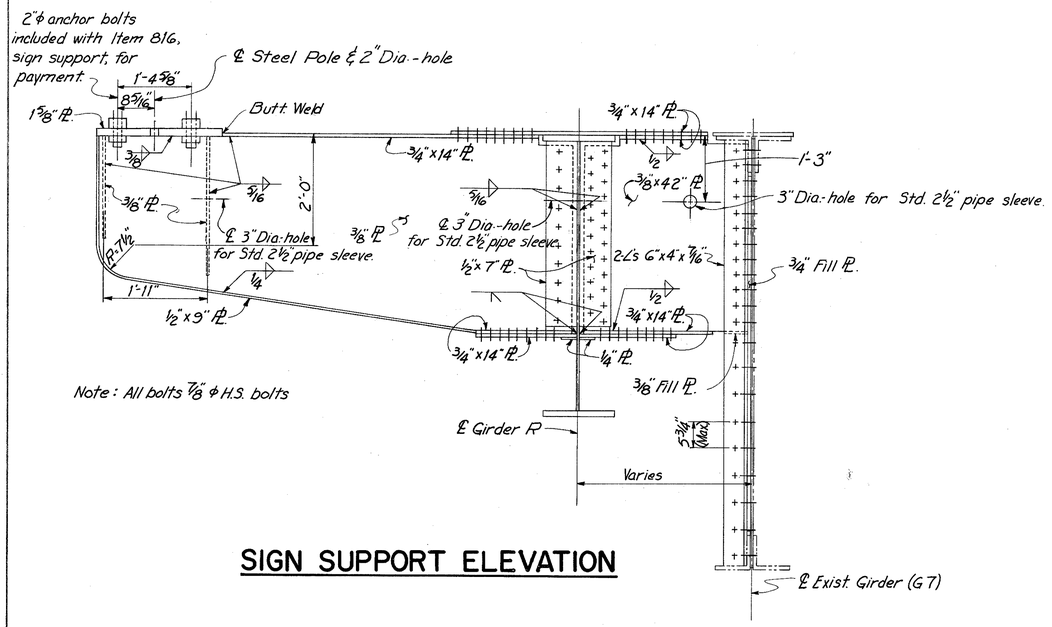
SECTION A-A



SECTION B-B

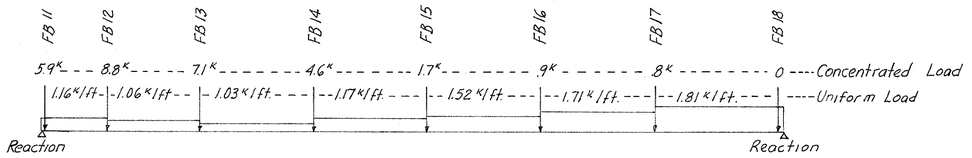


SECTION C-C



Note: All bolts ⅞" ϕ H.S. bolts

SIGN SUPPORT ELEVATION



DEAD LOAD DIAGRAM FOR GIRDER R

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18/39

STRUCTURAL STEEL
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

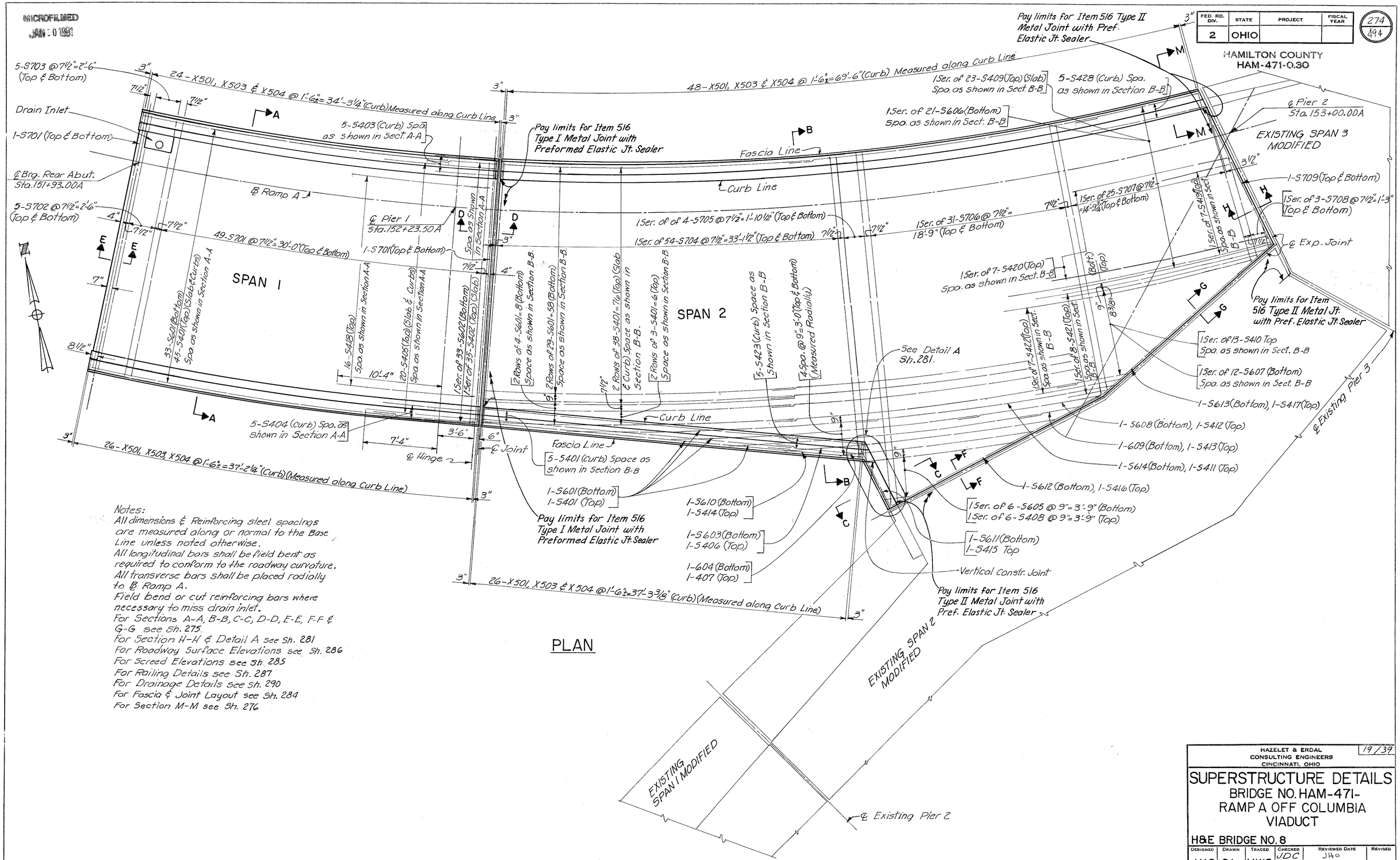
H&E BRIDGE NO.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
FN	JEM	JEM	FN	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

274
494

HAMILTON COUNTY
HAM-471-0.30



PLAN

Notes:
All dimensions & Reinforcing steel spacings are measured along or normal to the Base Line unless noted otherwise.
All longitudinal bars shall be field bent as required to conform to the roadway curvature.
All transverse bars shall be placed radially to ℄ Ramp A.
Field bend or cut reinforcing bars where necessary to miss drain inlet.
For Sections A-A, B-B, C-C, D-D, E-E, F-F & G-G see Sh. 275.
For Section H-H & Detail A see Sh. 281
For Roadway Surface Elevations see Sh. 286
For Screed Elevations see Sh. 285
For Railing Details see Sh. 287
For Drainage Details see Sh. 290
For Fascia & Joint Layout see Sh. 284
For Section M-M see Sh. 276

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CINCINNATI, OHIO

19/39

SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

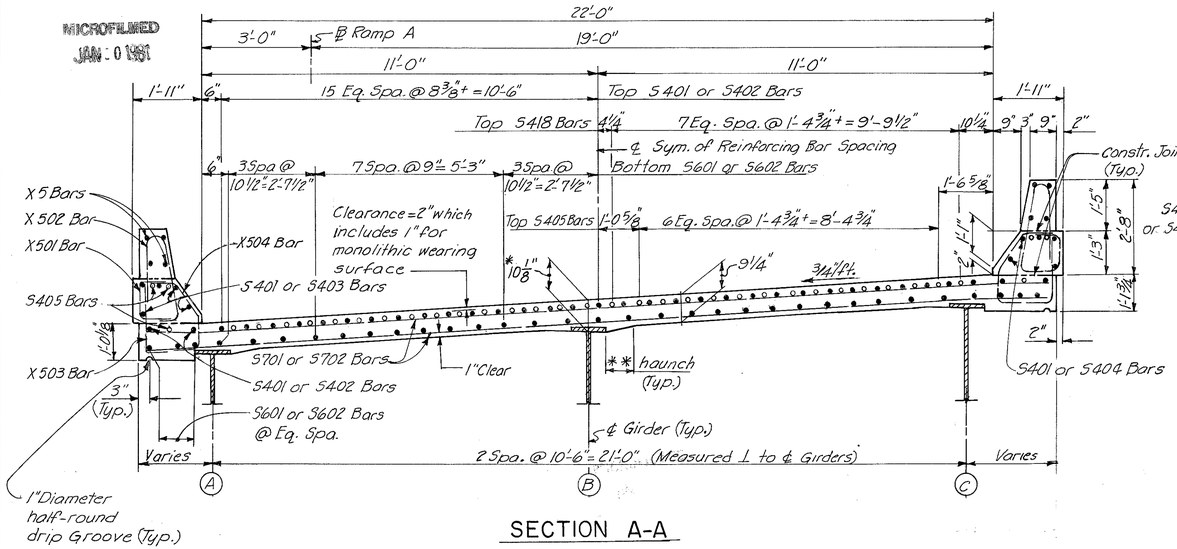
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
J.H.O.	S.L.	V.W.S.	JDC 4-3-72	JHO 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

275
494

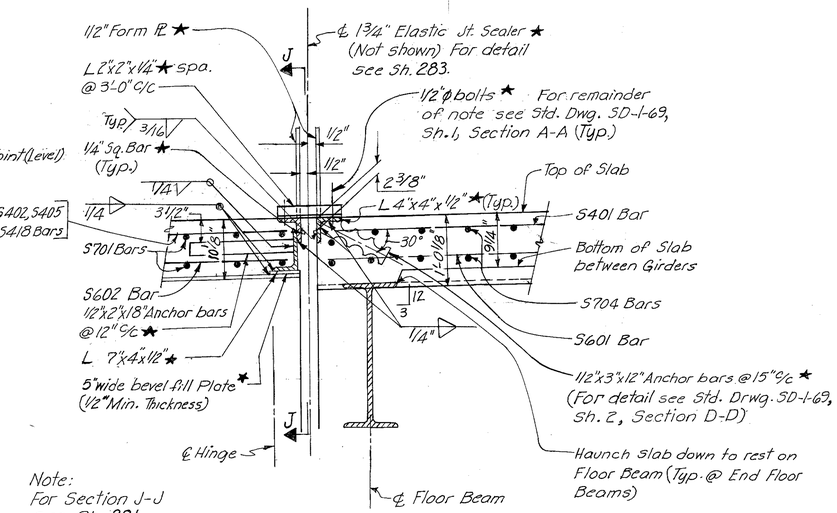
HAMILTON COUNTY
HAM-471-0.30



SECTION A-A

* This is the nominal dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per Sec. 511.18 of the Construction and Material Specifications.

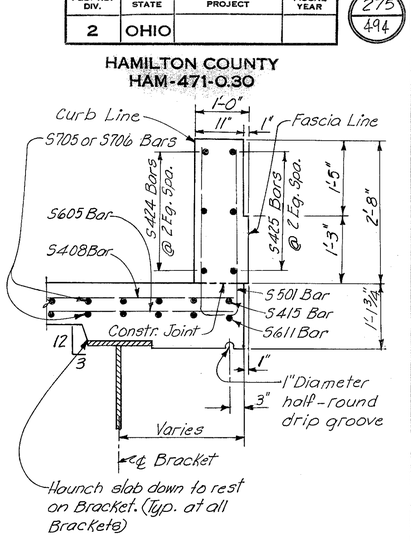
** A typical haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.



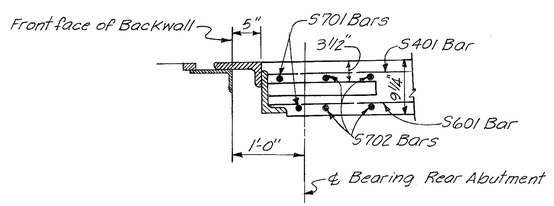
Note:
For Section J-J See Sh. 281.

SECTION D-D

Note: Items marked with a Star. (★) to be included with Item 516, Type I Metal Joint with Preformed Elastic Joint Sealer, for payment.

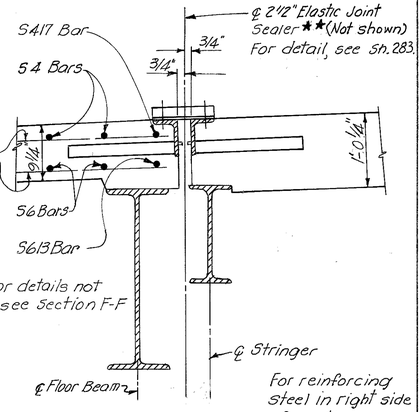


SECTION C-C

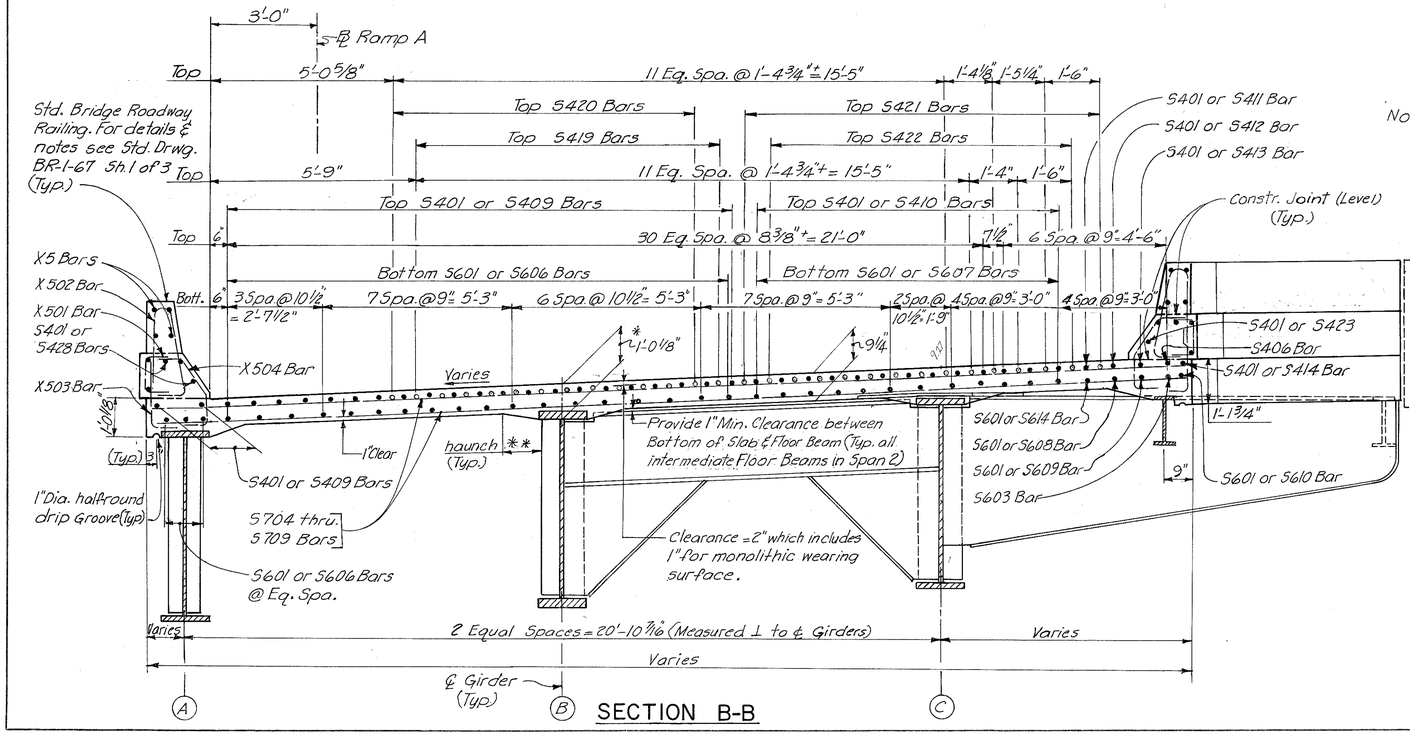


SECTION E-E

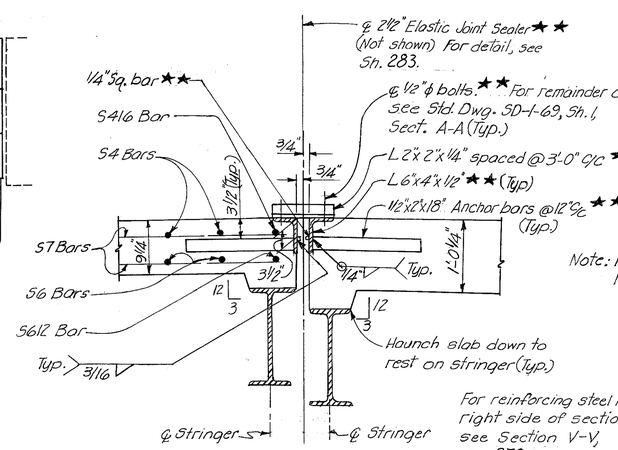
Note: For details not shown see Section A-A, Std. Dr. SD-1-69, Sh. 1



SECTION G-G



SECTION B-B



SECTION F-F

For reinforcing steel in right side of section see Section V-V, Sh. 278.

Note:
Items marked with two stars ★★ to be included with Item 516, Type II Metal Joint with Preformed Elastic Joint Sealer, for payment.

Note: For location of Sections A-A, B-B, C-C, D-D, E-E, F-F & G-G and other notes see Sh. 274.

HAZELET & ERDAL
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CINCINNATI, OHIO

20/39

SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

H&E BRIDGE NO. 8

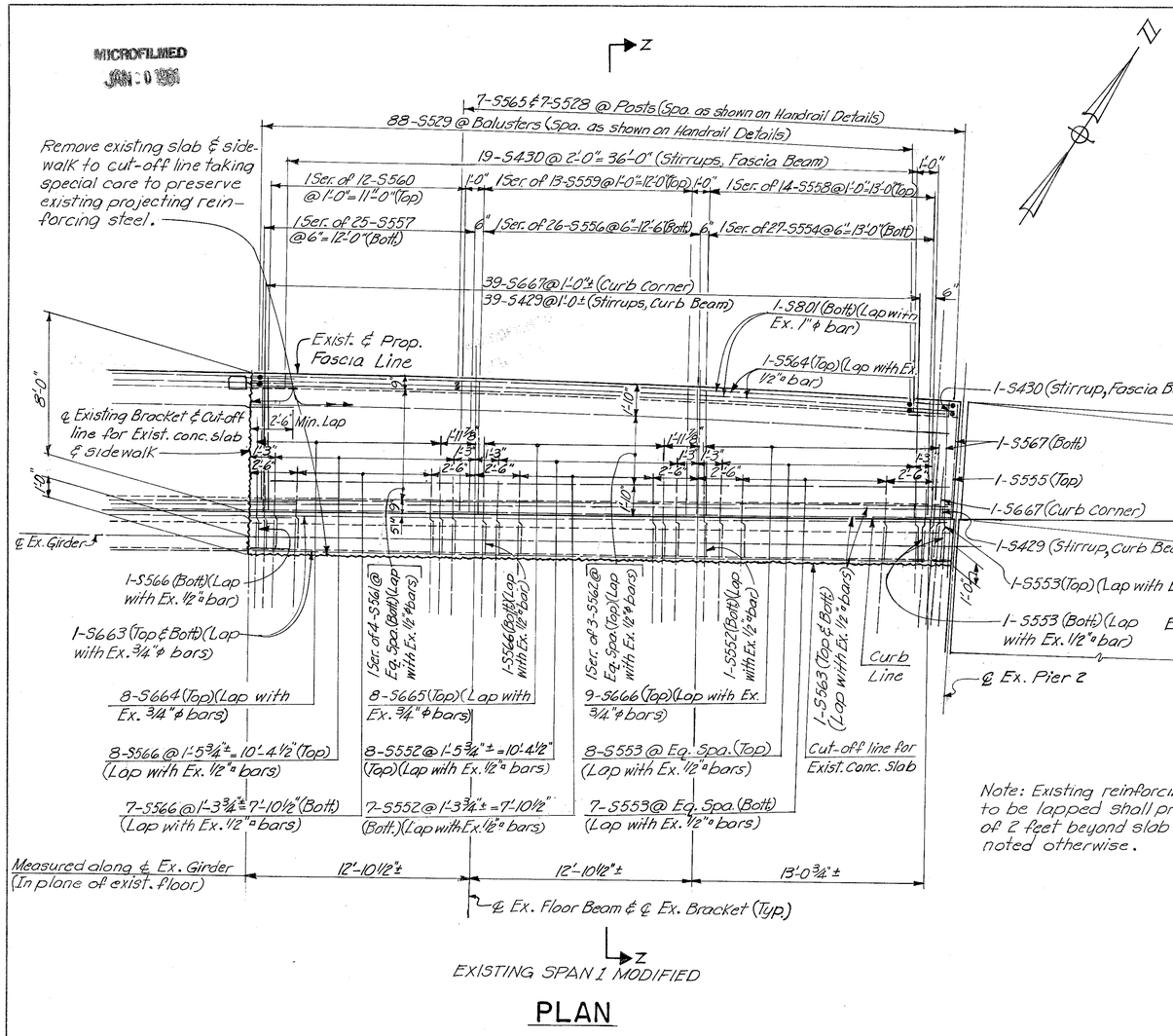
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
J.H.O.	S.L.	V.W.S.	JDC 4-3-72	JHO 11-15-72	

MICROFILMED
JAN 10 1973

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

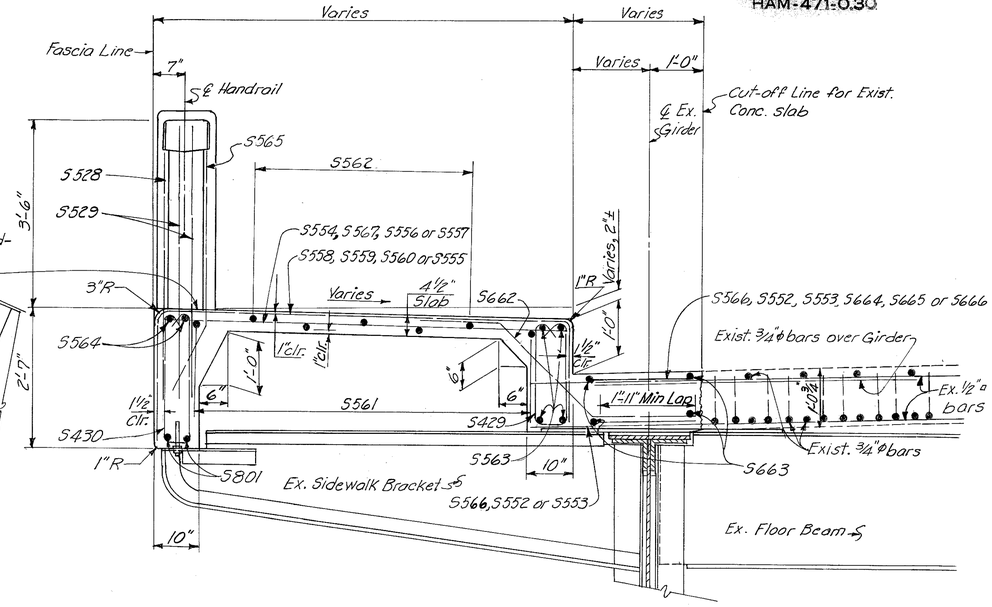
276
494

HAMILTON COUNTY
HAM-471-0.30

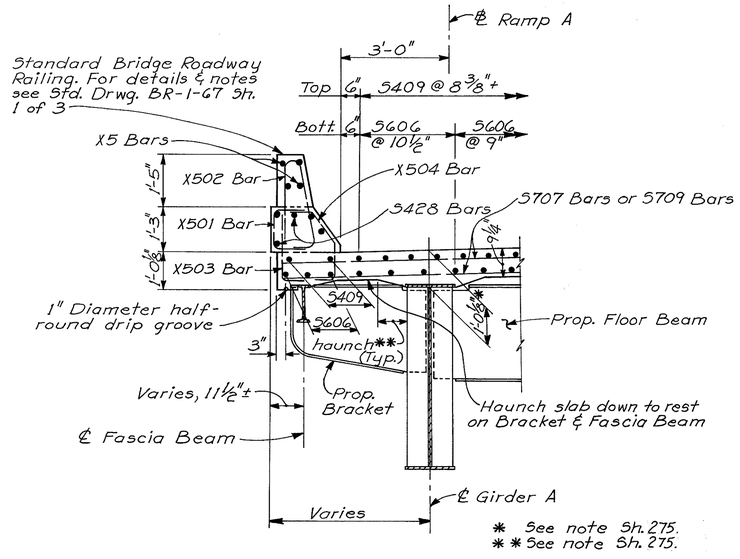


PLAN

Note: Existing reinforcing steel which is to be lapped shall project a minimum of 2 feet beyond slab cut-off line unless noted otherwise.



SECTION Z-Z



SECTION M-M

Notes:

For Plan of Expansion Joint Detail at Existing Pier 2 see Sh. 267.

For location of Section M-M see Sh. 274

For Handrail details see Sh. 289.

For other notes see Sh. 274.

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CINCINNATI, OHIO

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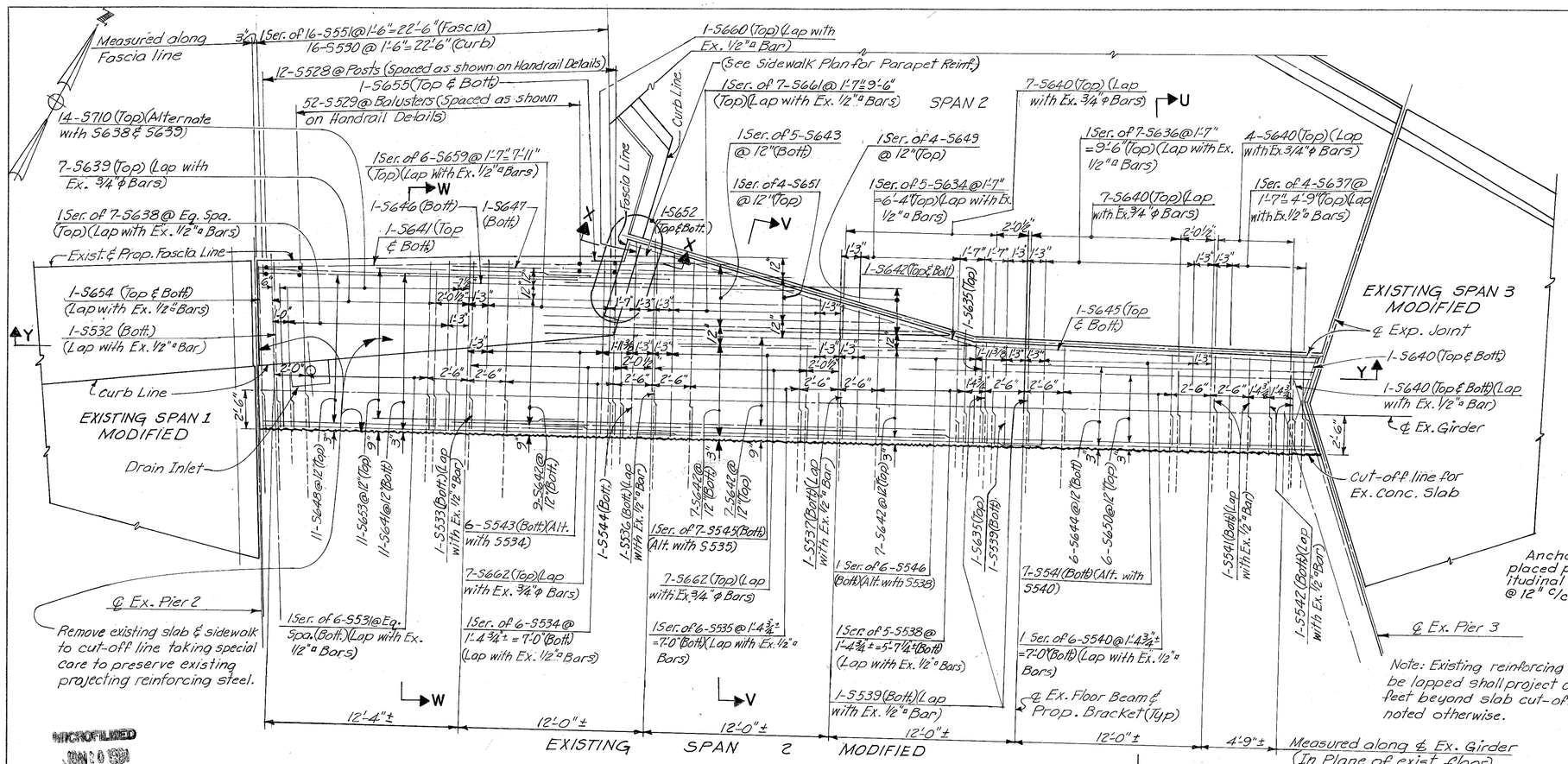
SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	S.L.	V.W.S.	JDC 4-3-72	JHO 11-13-72	

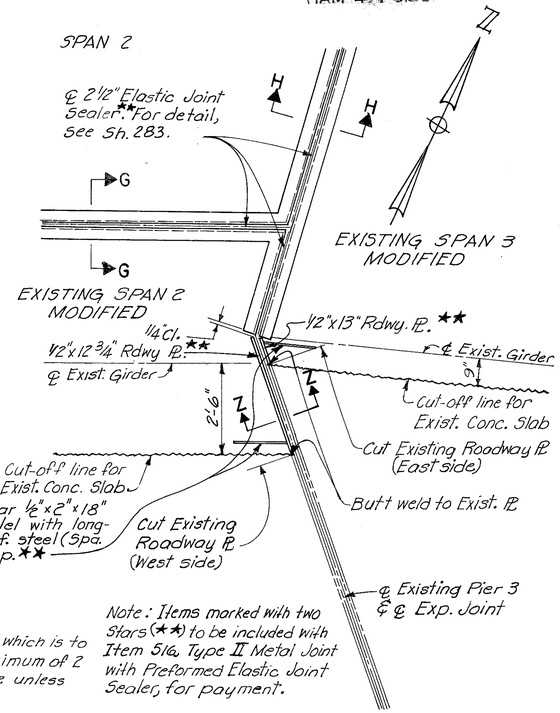
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

277
494

HAMILTON COUNTY
HAM-471-0.30

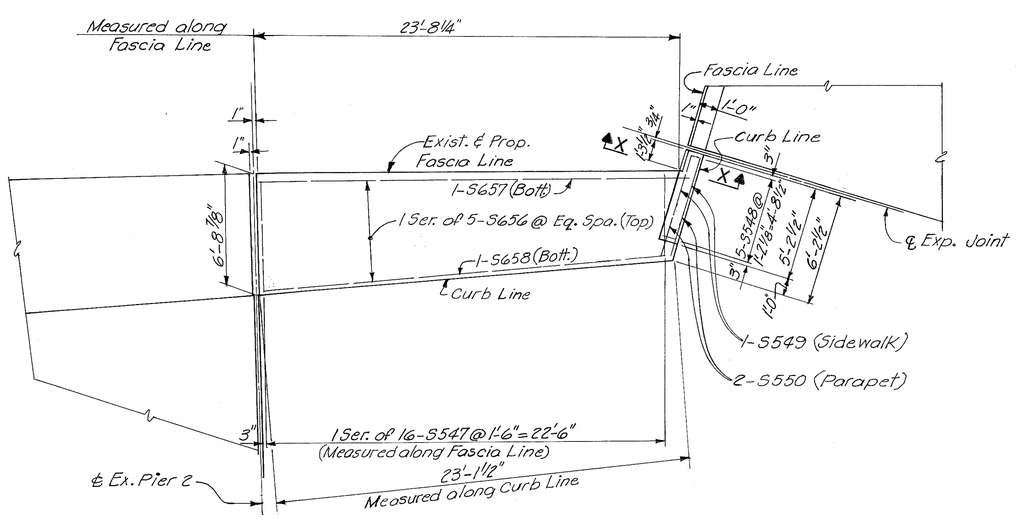


PLAN

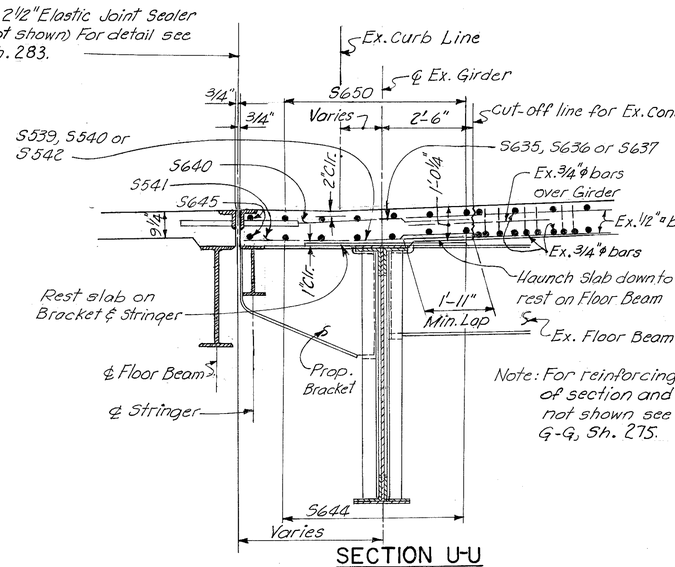


PLAN OF EXPANSION JOINT DETAIL AT EXISTING PIER 3

For Section G-G See Sh. 275.
For Section H-H See Sh. 281.
For Section Z-Z See Sh. 267.



SIDEWALK PLAN



SECTION U-U

Notes:
For Sections V-V, W-W & X-X see Sh. 278.
For Section Y-Y see Sh. 279.
For Handrail details see Sh. 289
For Drainage details see Sh. 291.
For other notes see Sh 274
For Plan of Expansion Joint Detail at Exist. Pier 2 see Sh. 267

Note: For reinforcing in left side of section and Joint details not shown see Section G-G, Sh. 275.

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CINCINNATI, OHIO

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SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

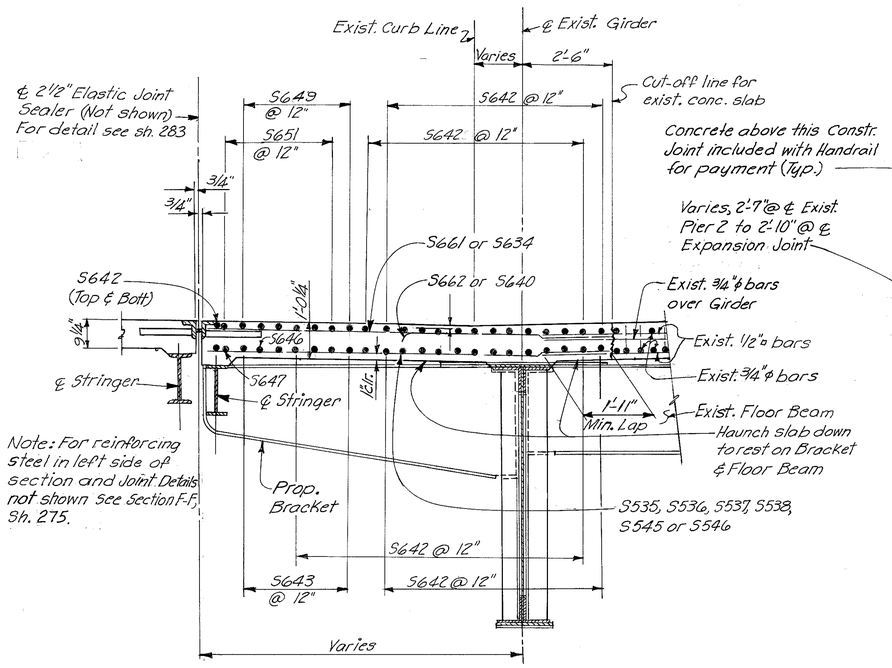
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
S.L.	S.L.	V.W.S.	JDC 4-4-72	JHO 11-15-72	

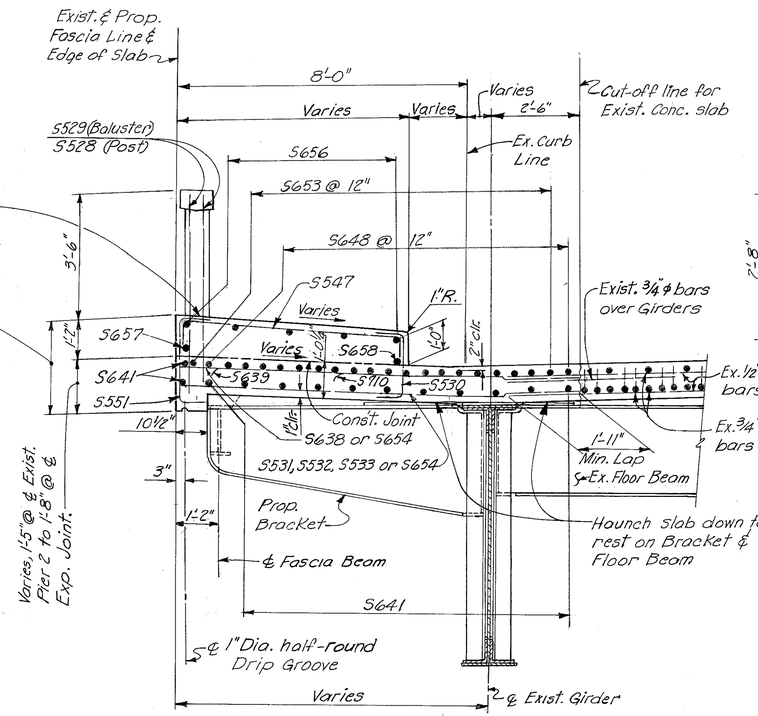
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

278
494

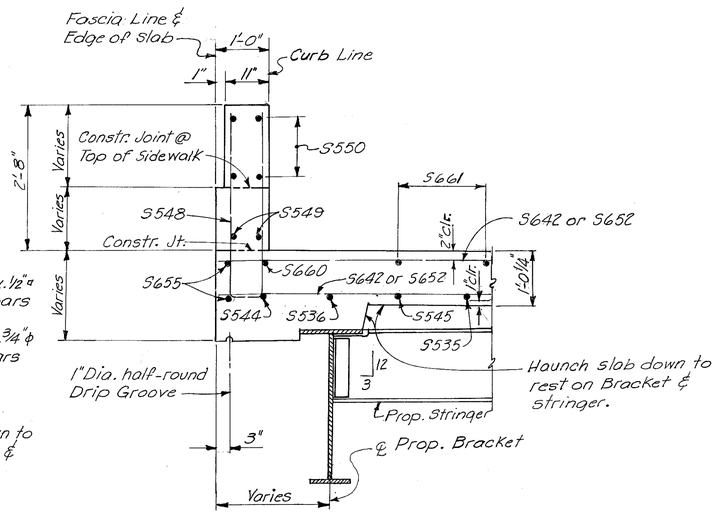
HAMILTON COUNTY
HAM-471-0.30



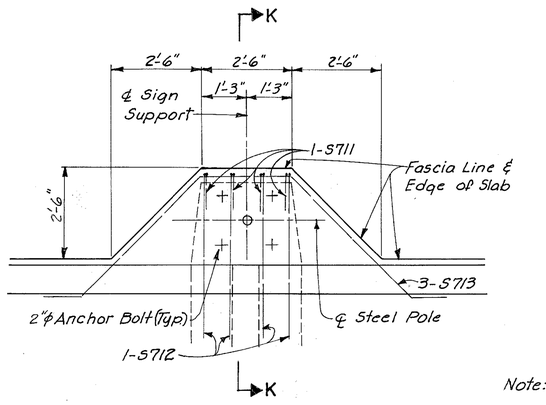
SECTION V-V



SECTION W-W

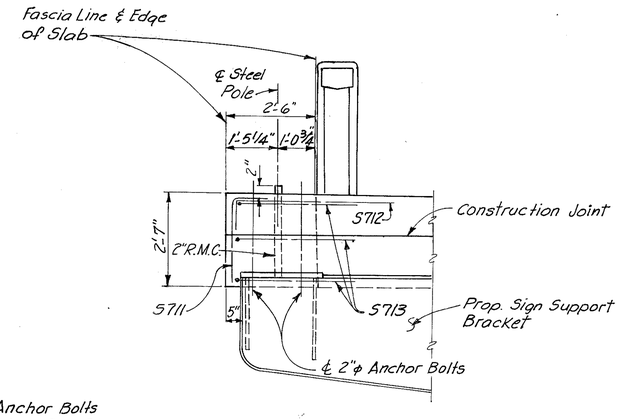


SECTION X-X



DETAIL B

Note: 2"R.M.C. & 2"ϕ Anchor Bolts included with Item 816, SIGN SUPPORT, for payment.



SECTION K-K

Notes:
For location of Detail B see Sh. 280.
For location of Sections V-V, W-W & X-X see Sh. 277.
For other notes see Sh. 274.

HAZELET & ERDAL
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CINCINNATI, OHIO

23/39

SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

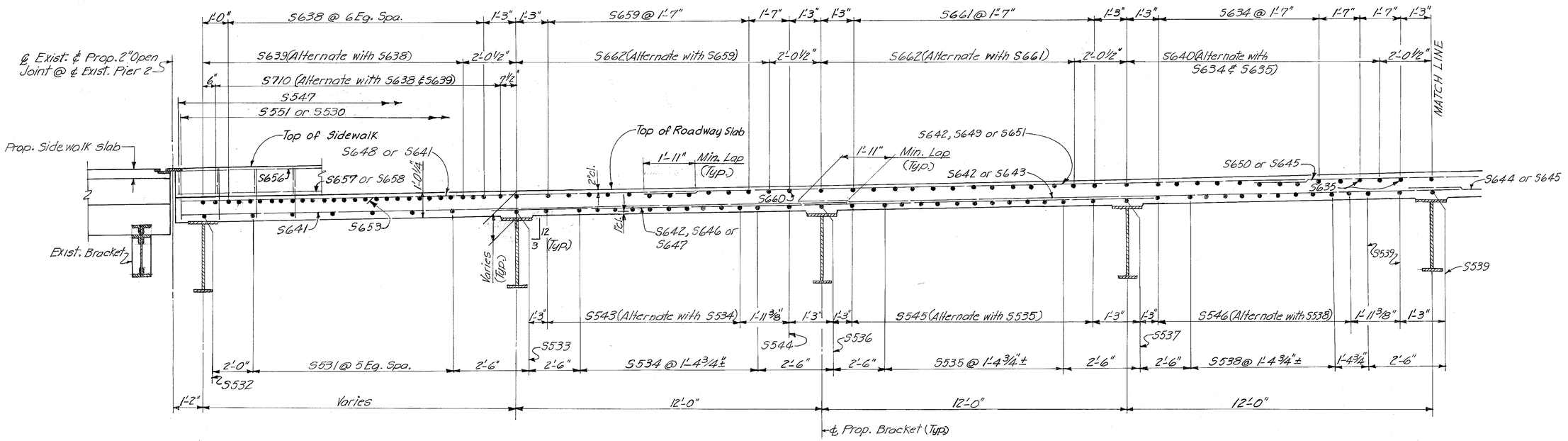
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
S.L.	S.L.	V.W.S.	JDC 4-4-72	JAO 11-15-72	

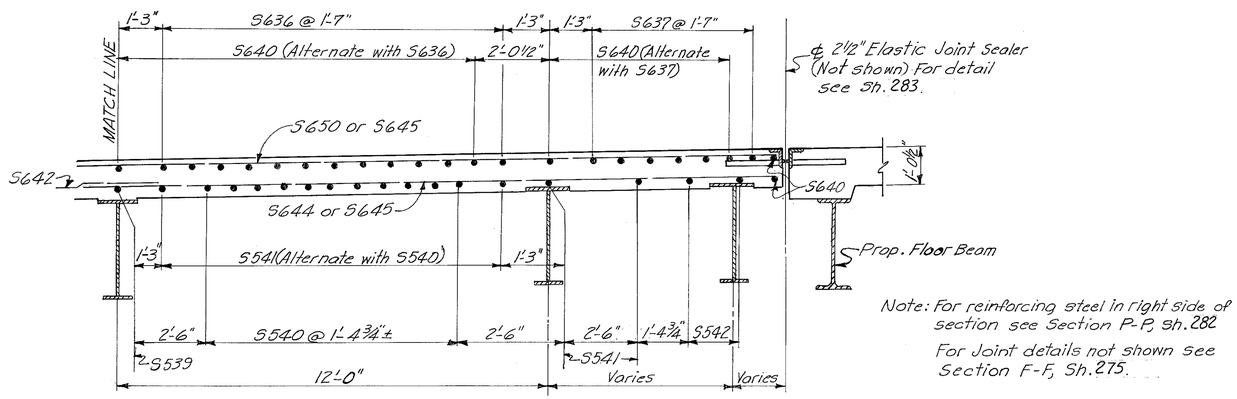
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

279
494

HAMILTON COUNTY
HAM-471-0.30



SECTION Y-Y



Note: For reinforcing steel in right side of section see Section P-P, Sh. 282
For Joint details not shown see Section F-F, Sh. 275.

Notes:
For location of Section Y-Y see Sh. 277
For other notes see Sh. 274

HAZELET & ERDAL
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CINCINNATI, OHIO

24/39

SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

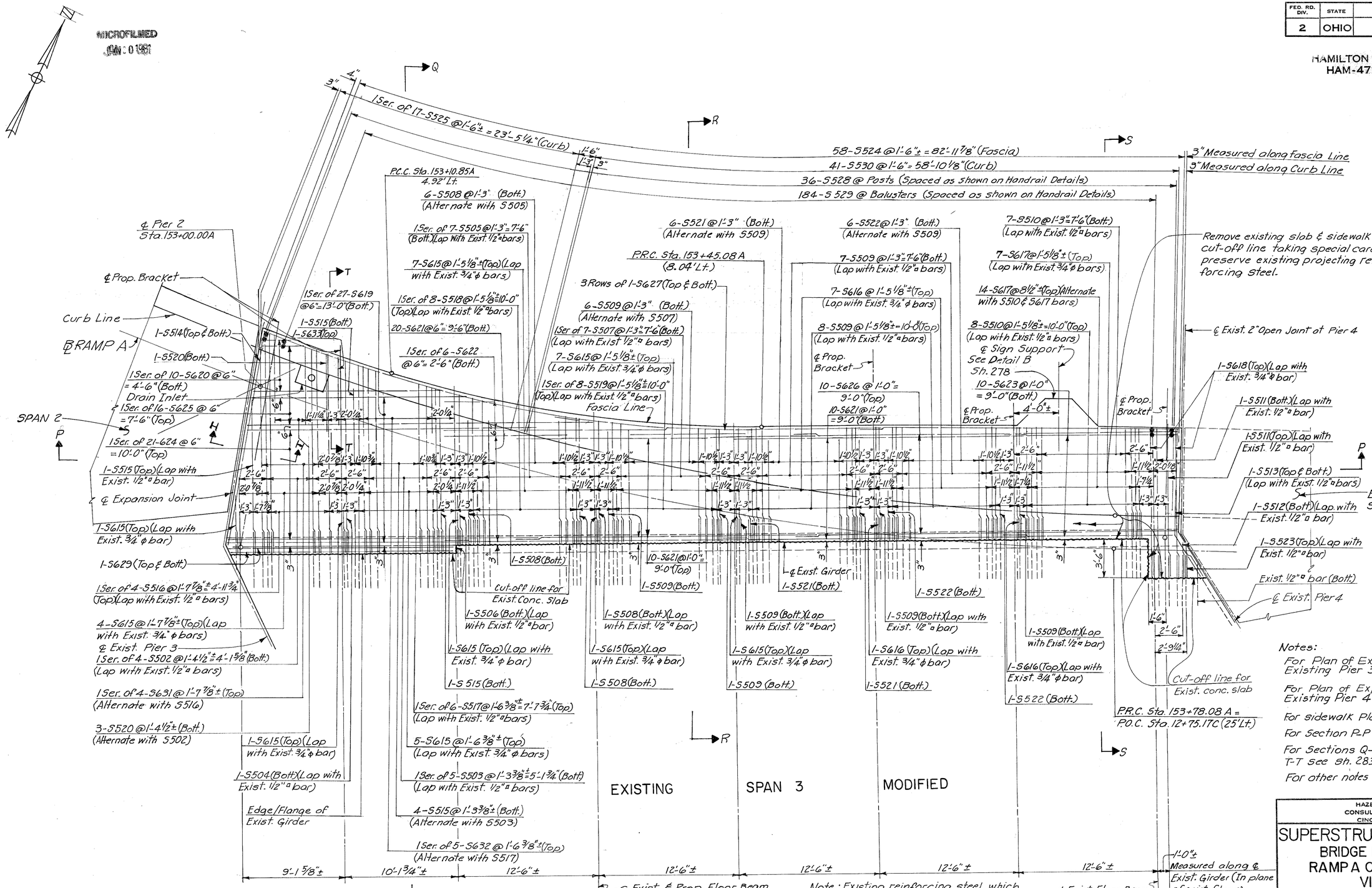
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
S.L.	S.L.	V.W.S.	JDC 4-4-72	JHO 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

280
494

HAMILTON COUNTY
HAM-471-0.30



PLAN

Notes:

For Plan of Expansion Joint Detail at Existing Pier 3 see Sh. 277.

For Plan of Expansion Joint Detail at Existing Pier 4 see Sh. 267.

For sidewalk Plan see Sh. 281.

For Section P-P see Sh. 282.

For Sections Q-Q, R-R, S-S & T-T see Sh. 283.

For other notes see Sh. 274.

HAZELET & ERDAL
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SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

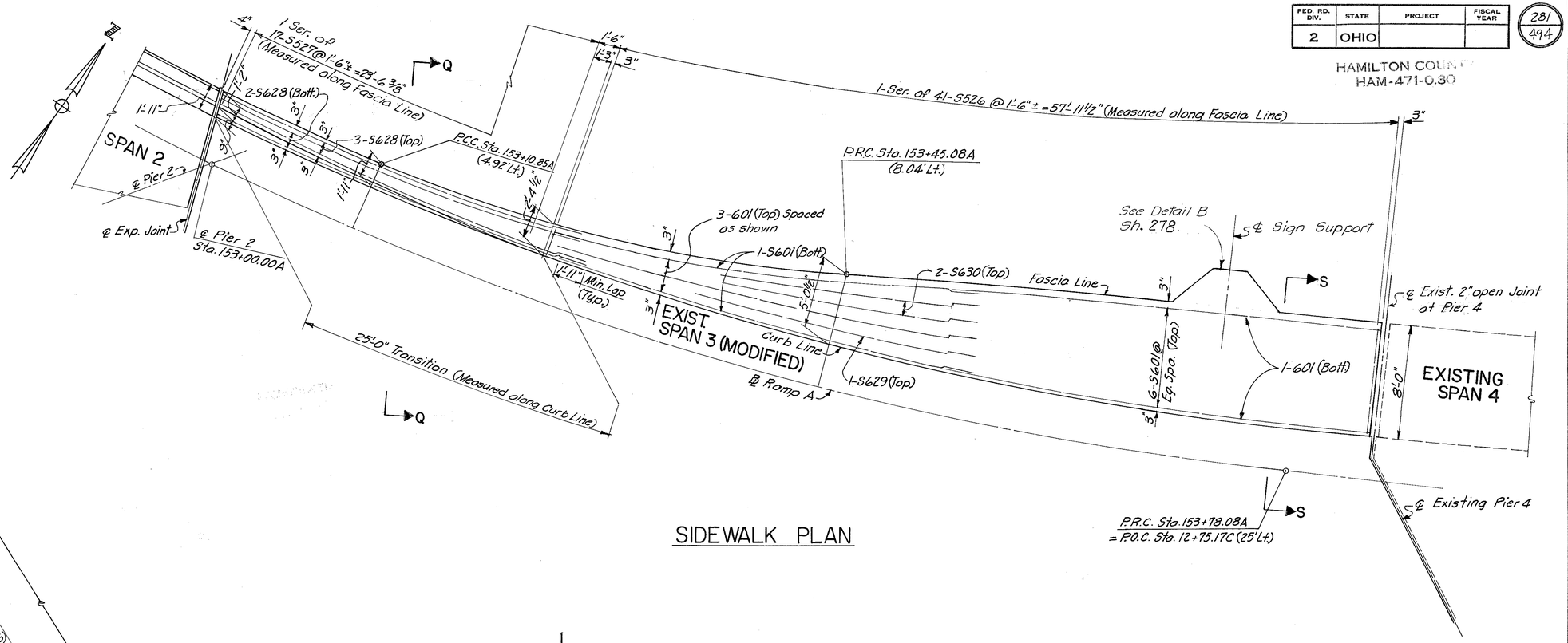
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
S.L.	S.L.	V.W.S.	VDC 4-4-72	JHO 11-13-72	

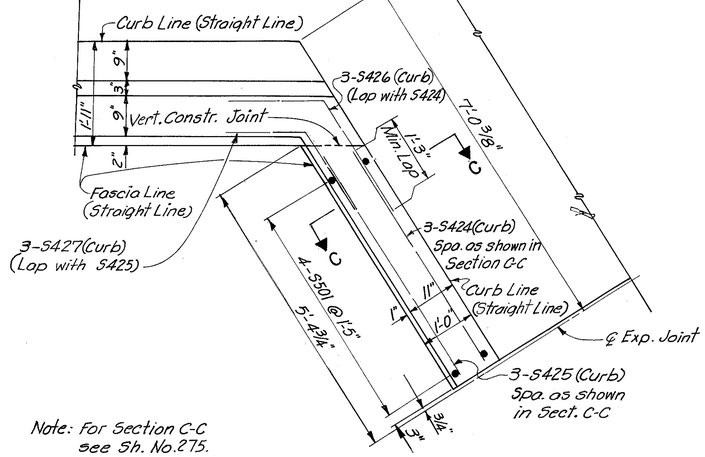
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

281
494

HAMILTON COUNTY
HAM-471-0.30

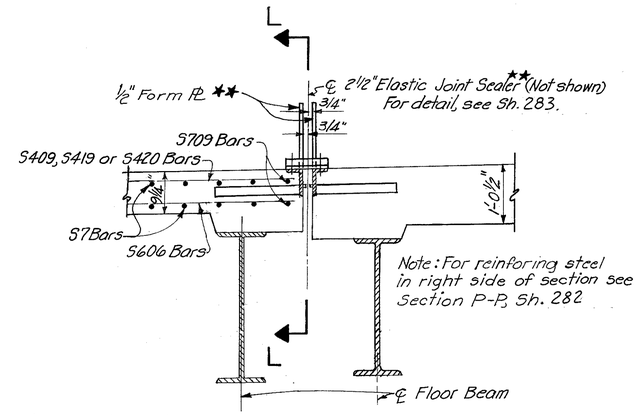


SIDEWALK PLAN



Note: For Section C-C see Sh. No. 275.

DETAIL A

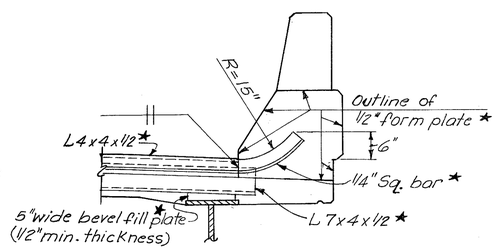


Note: For details not shown see Section F-F Sh. 275.

SECTION H-H

★★ See Note Sh. 275.

Note: Section L-L similar to Section J-J



SECTION J-J

★ See Note Sh. 275.

Notes:
For location of Detail "A" & Section H-H see Sh. 274.
For location of Section J-J see Sh. 275.
For Handrail details see Sh. 289.
For other notes see Sh. 274.

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SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

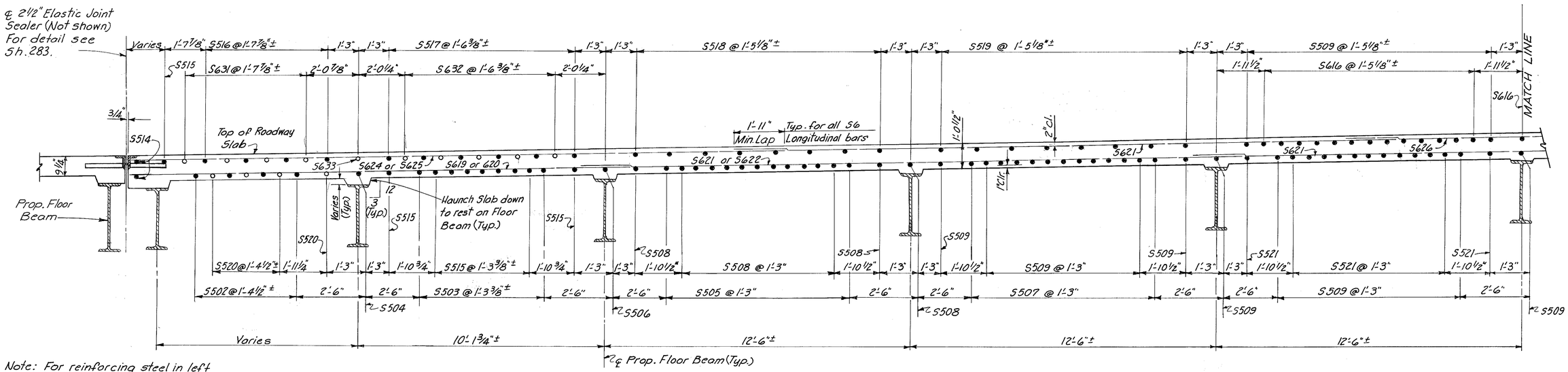
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
S.L.	S.L.	V.W.S.	UDC 4-4-72	JHG 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

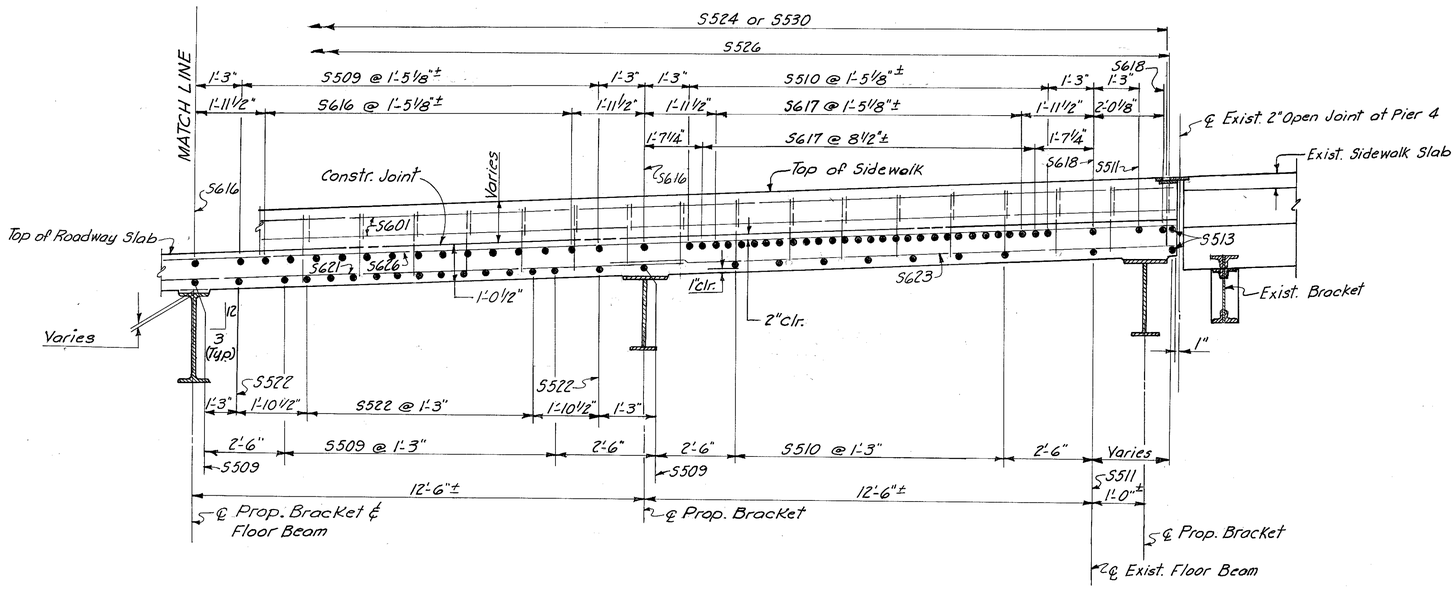
282
494

HAMILTON COUNTY
HAM-471-0.30



Note: For reinforcing steel in left side of section and joint details not shown see Section H-H, Sh. 281.

SECTION P-P



Notes:
For location of Section P-P see Sh. 280.
For other notes see Sh. 274.

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27/39

SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT

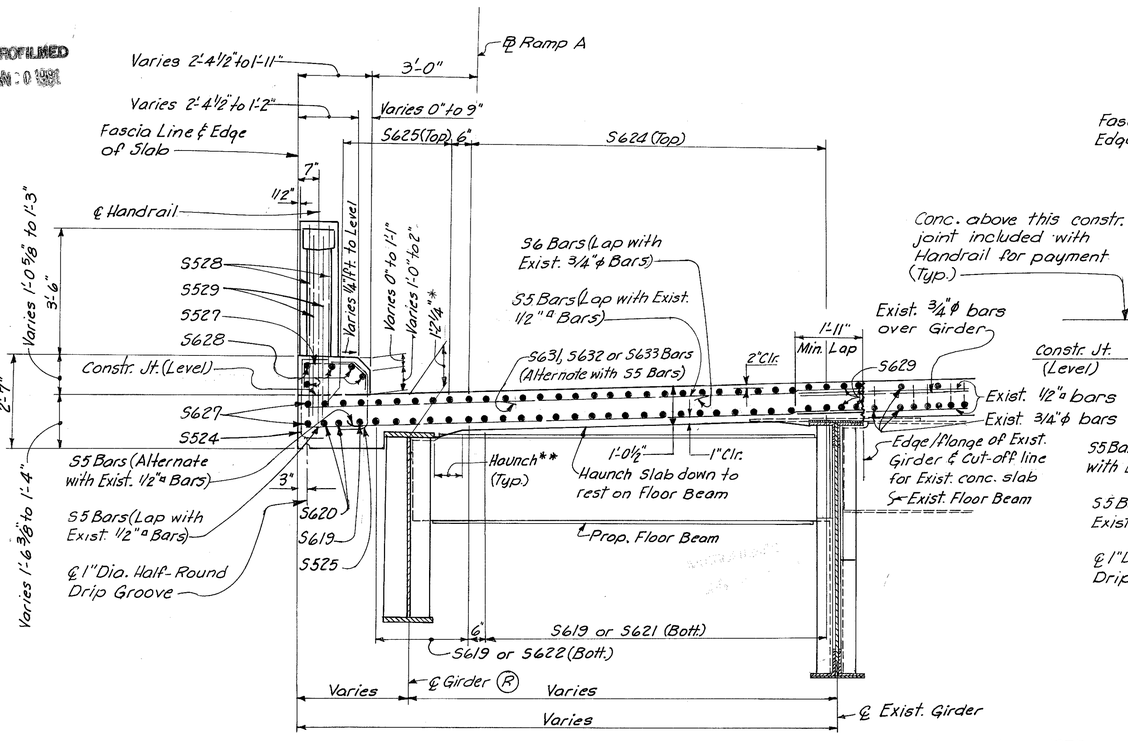
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
S.L.	S.L.	V.W.S	JDC 4-5-72	JHS 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

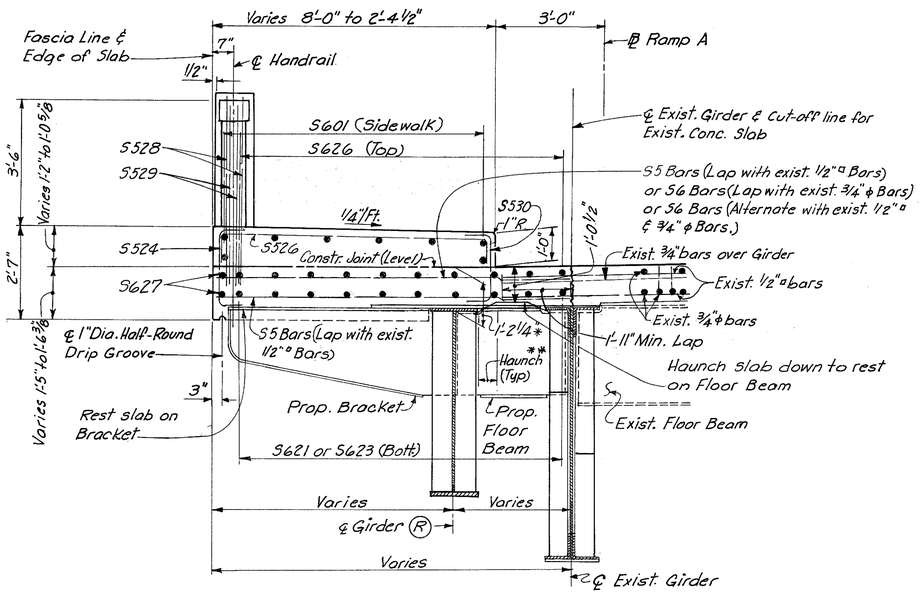
283
494

HAMILTON COUNTY
HAM-471-0.30

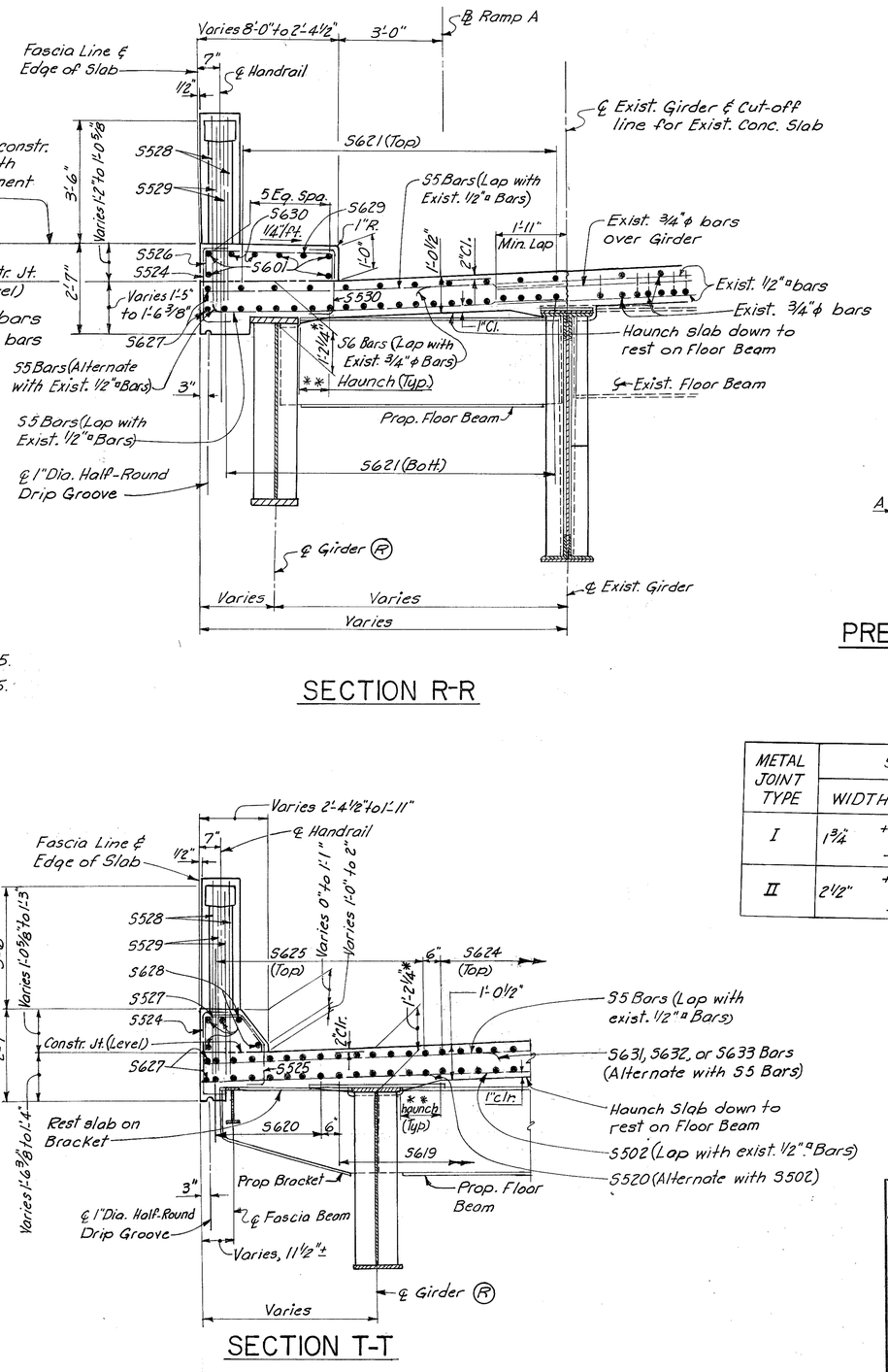


* See note 9h. 275.
** See note 5h. 275.

SECTION Q-Q
(In Transition)



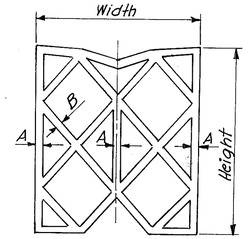
SECTION S-S



* See note 9h. 275.
** See note 5h. 275.

SECTION R-R

SECTION T-T



PREFORMED ELASTIC JOINT SEALER

METAL JOINT TYPE	SEAL TOLERANCES						
	WIDTH		HEIGHT		THICKNESS A		THICKNESS B
I	1¾"	+3/16" −0"	2"	± 1/8"	1/8"	+1/32" −1/64"	3/32" +1/32" −1/64"
II	2½"	+1/4" −0"	2¾"	± 1/8"	3/16"	+3/64" −1/64"	3/32" +1/32" −1/64"

Notes:
For location of Sections Q-Q, R-R, S-S & T-T see Sh. 280.
For other notes see Sh. 274.

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SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

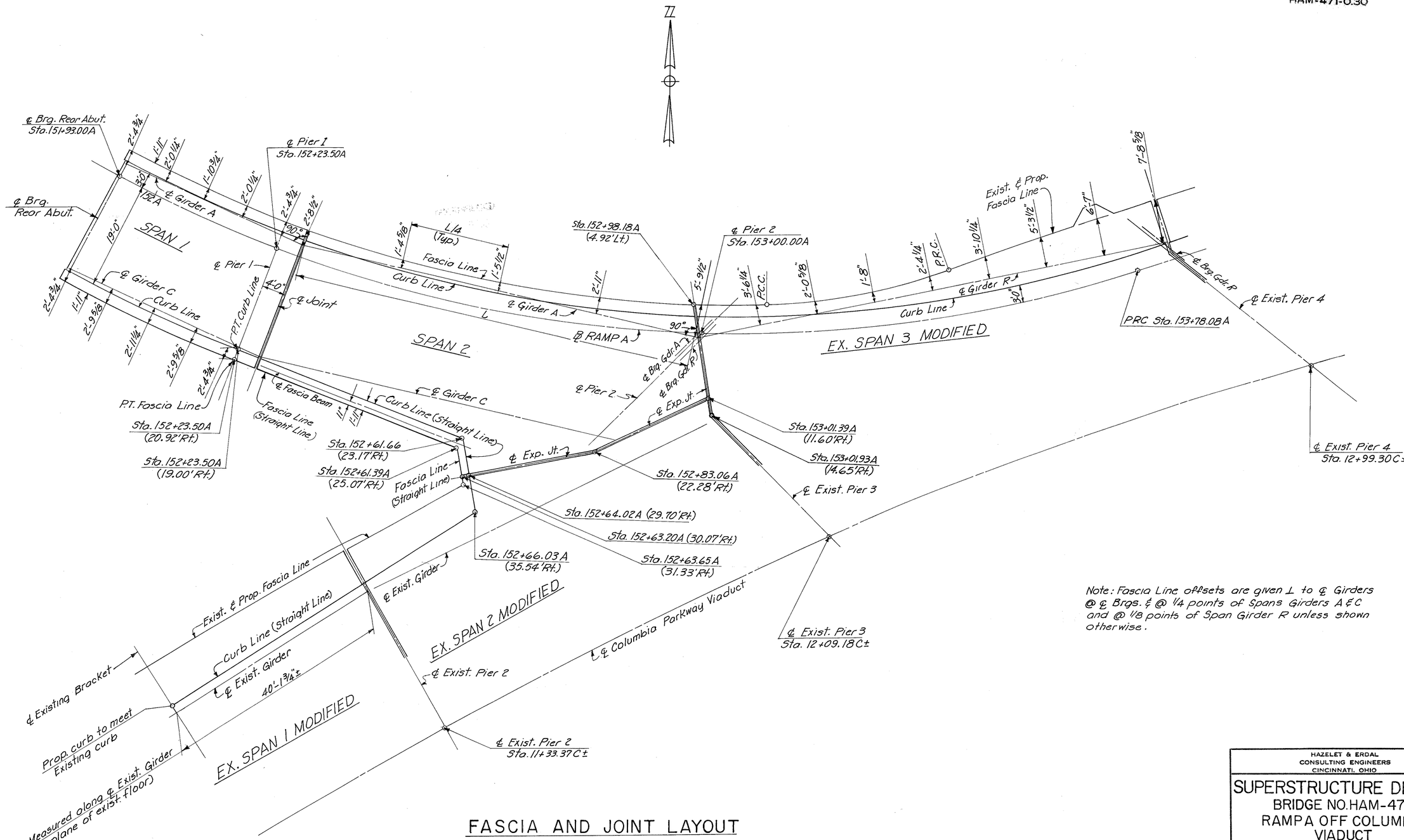
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
S.L.	S.L.	V.W.S.	JDC 4-5-72	JHS 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

284
494

HAMILTON COUNTY
HAM-471-0.30



FASCIA AND JOINT LAYOUT

Note: Fascia Line offsets are given ⊥ to ℄ Girders @ ℄ Brgs. & @ 1/4 points of Spans Girders A & C and @ 1/8 points of Span Girder R unless shown otherwise.

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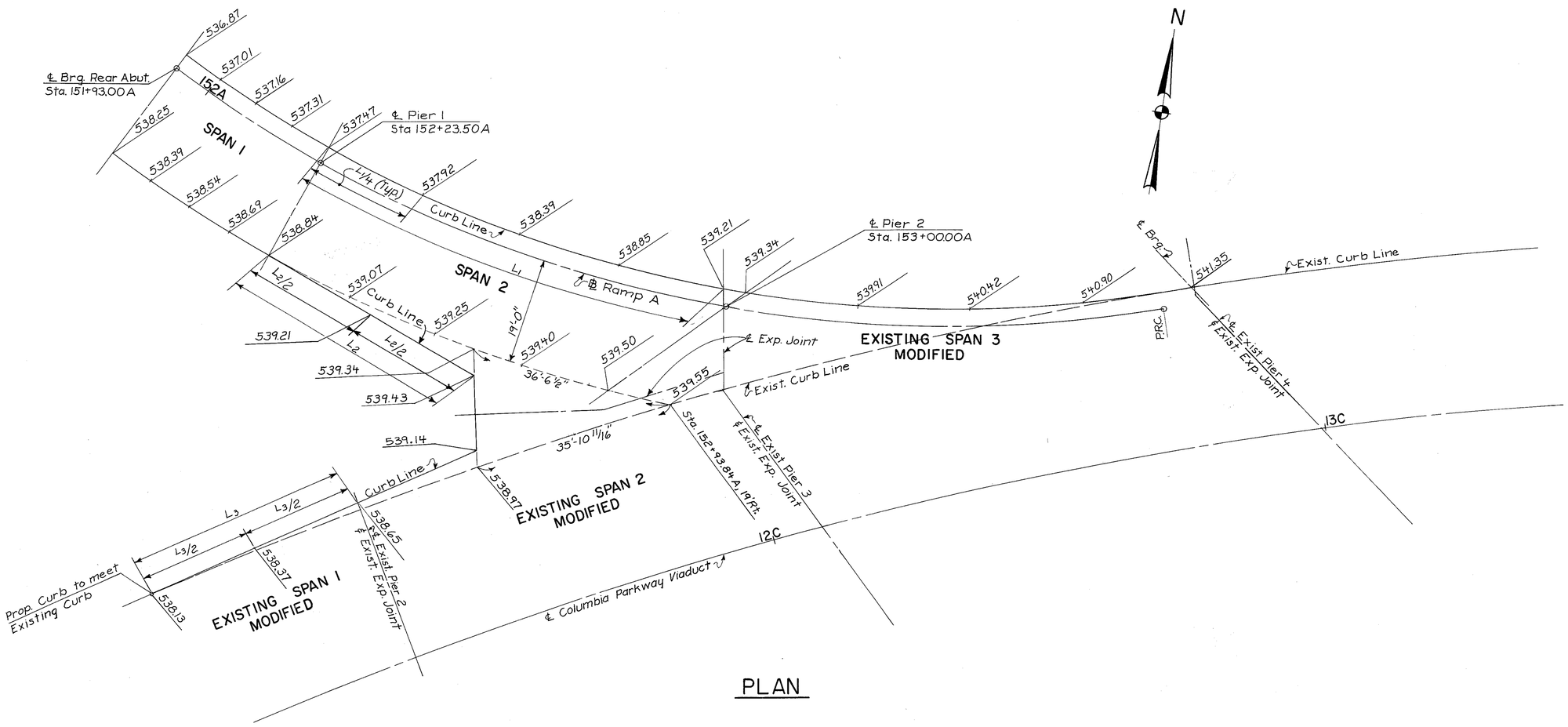
SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	S.L.	V.W.S.	JDC 4-7-72	JHO 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

285
494

HAMILTON COUNTY
HAM-471-0.30



PLAN

Notes: Screed elevations shown equal final grade elevations plus anticipated dead load deflection due to weight of deck concrete.
All elevations shown are at ℄ Piers or Brgs. and at ¼ points of spans (measured along curb lines) unless shown otherwise.

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SCREED ELEVATIONS
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

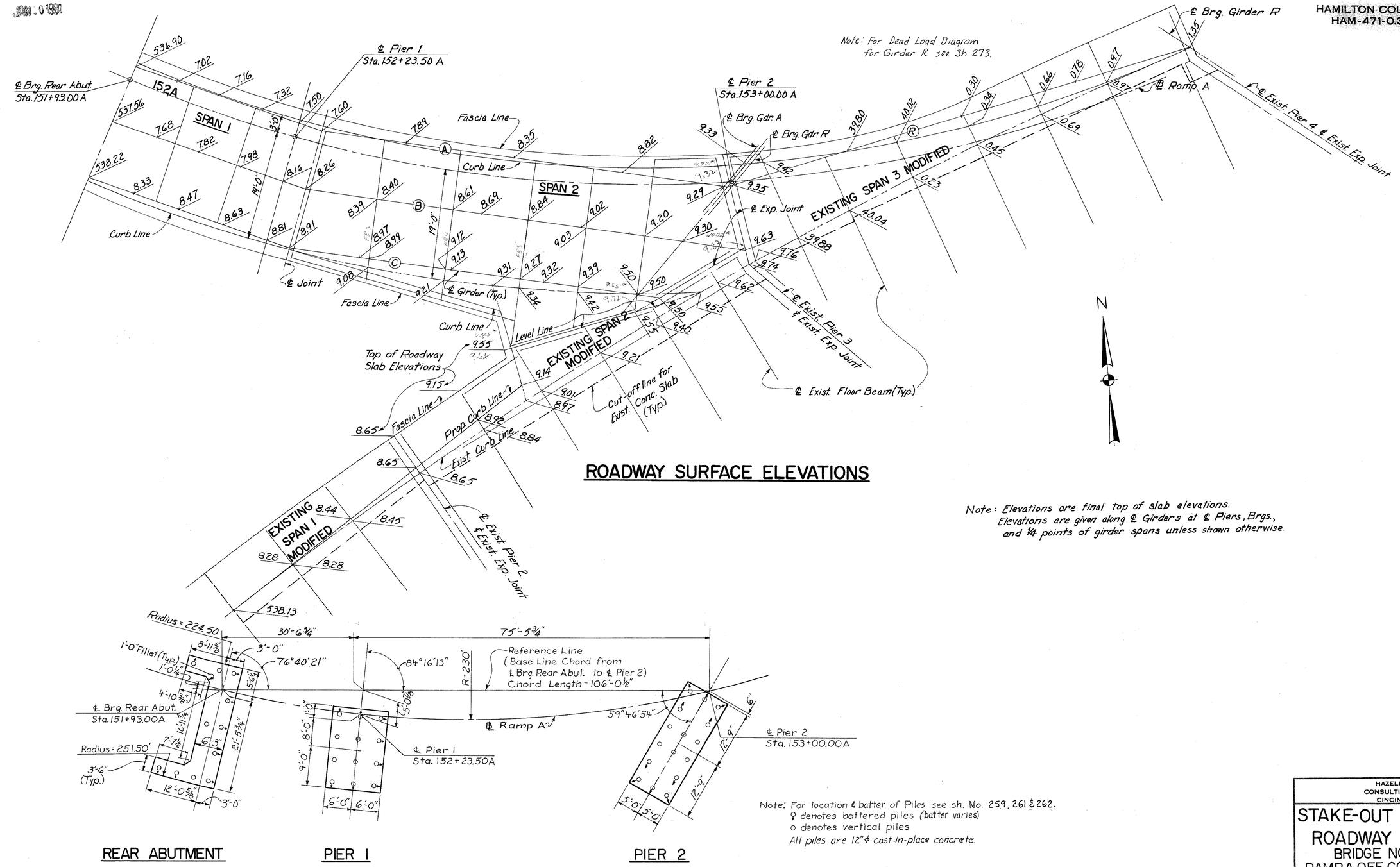
H & E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	R.J.F.	R.J.F.	JDC 4-20-72	JHO 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

286
494

HAMILTON COUNTY
HAM-471-0.30



ROADWAY SURFACE ELEVATIONS

Note: Elevations are final top of slab elevations.
Elevations are given along ℄ Girders at ℄ Piers, Brgs., and 1/4 points of girder spans unless shown otherwise.

STAKE-OUT PLAN

Note: For location & batter of Piles see sh. No. 259, 261 & 262.
♀ denotes battered piles (batter varies)
o denotes vertical piles
All piles are 12" ϕ cast-in-place concrete.

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STAKE-OUT PLAN AND ROADWAY ELEVATIONS
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

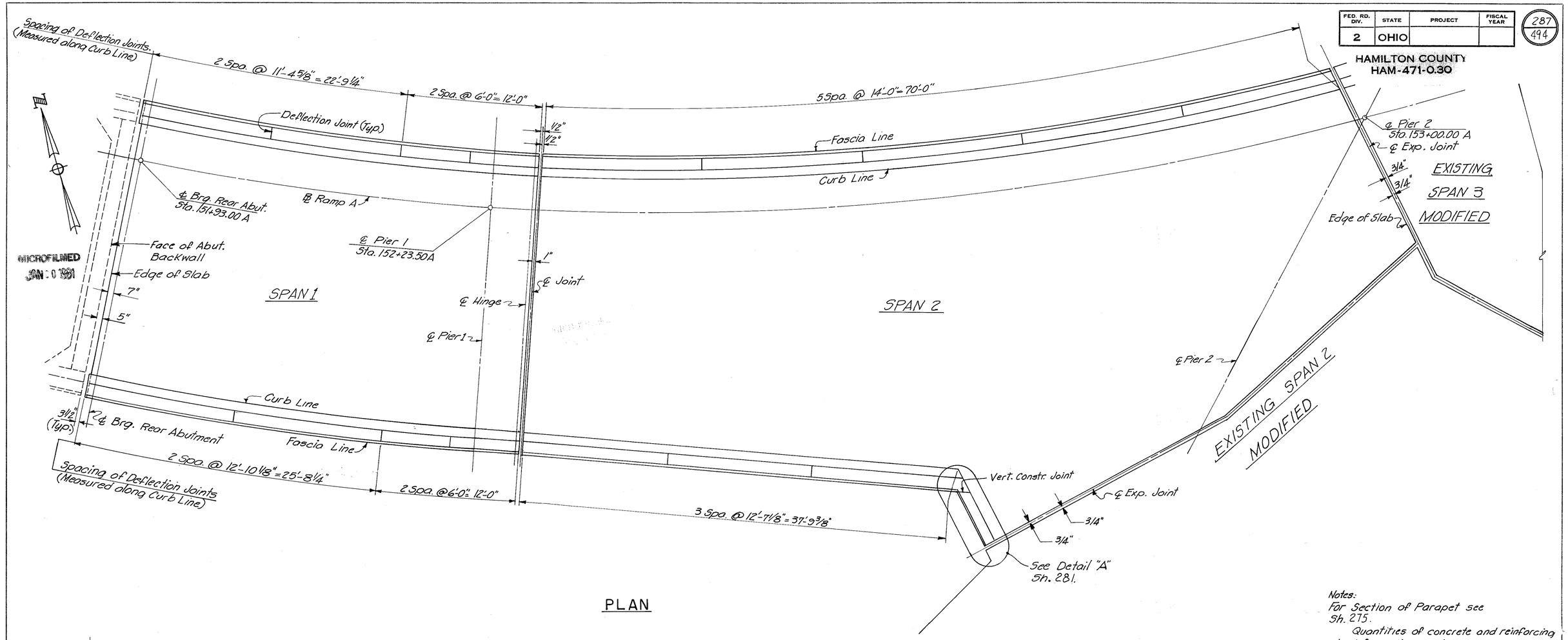
H & E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	R.J.F.		JDO 4-5-72	JHo 11-15-72	

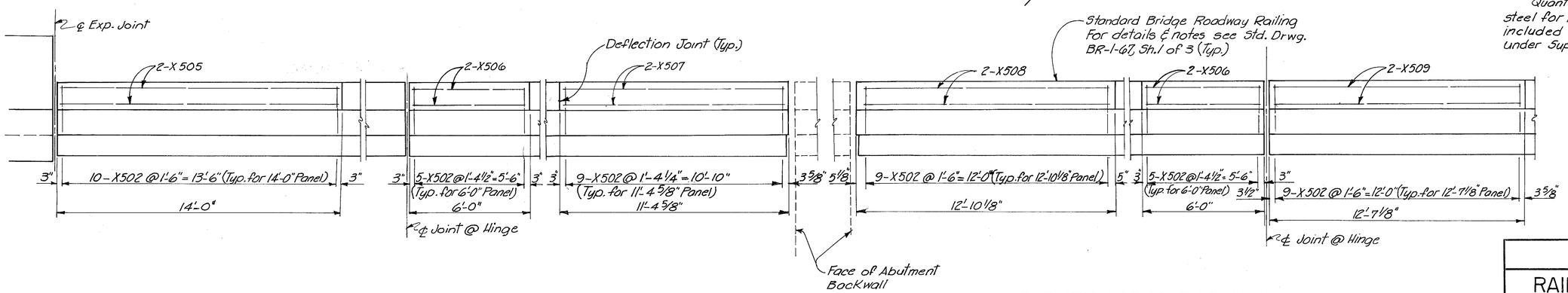
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

287
494

HAMILTON COUNTY
HAM-471-0.30



PLAN



ELEVATION OF NORTH RAILING

ELEVATION OF SOUTH RAILING

Notes:
For Section of Parapet see Sh. 275.
Quantities of concrete and reinforcing steel for railing on this sheet shall be included with their appropriate Item under Superstructure for payment.

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RAILING AND LIGHTING
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

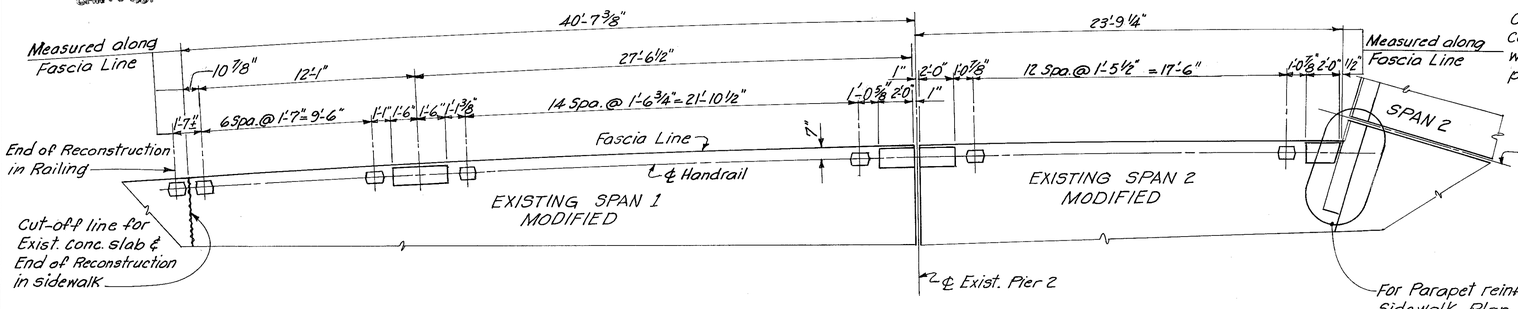
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	S.L.	V.W.S.	JDC 4-5-72	JHO 11-15-72	

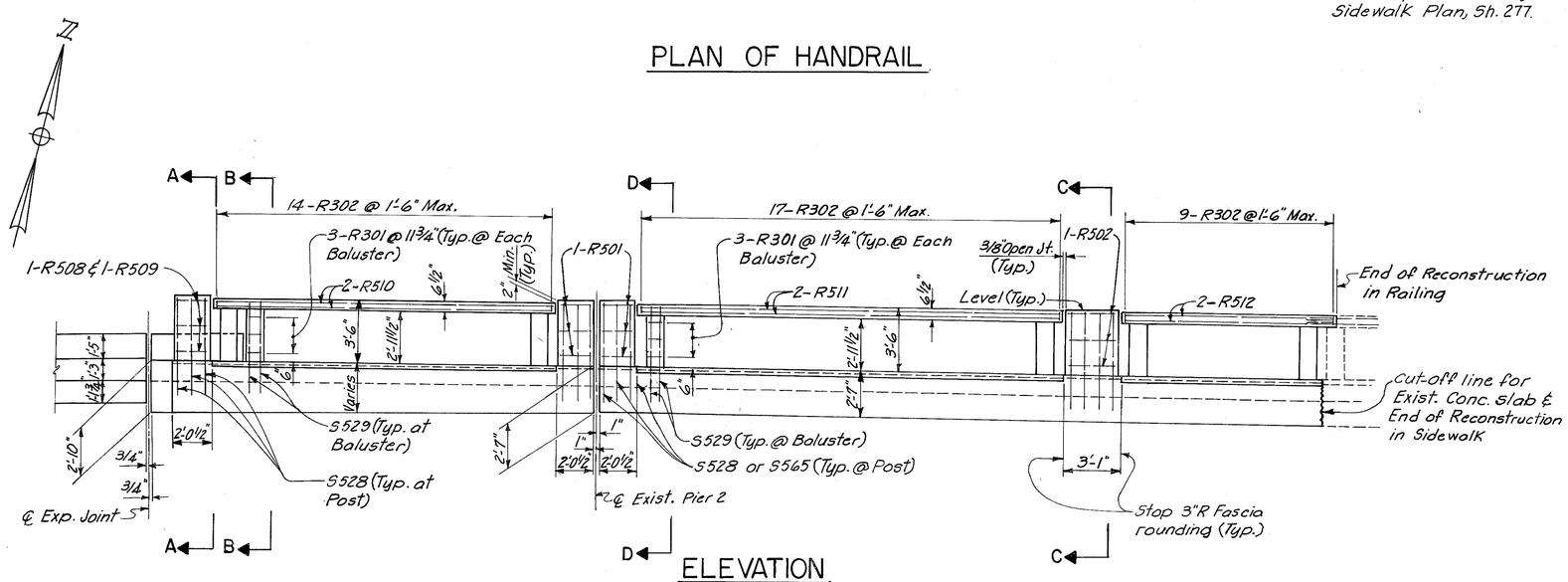
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

288
494

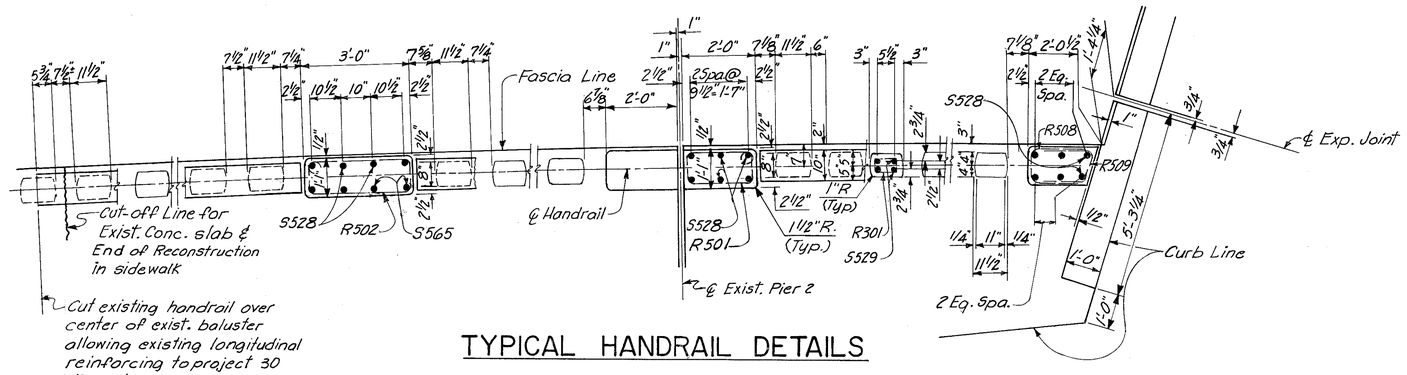
HAMILTON COUNTY
HAM-471-0.30



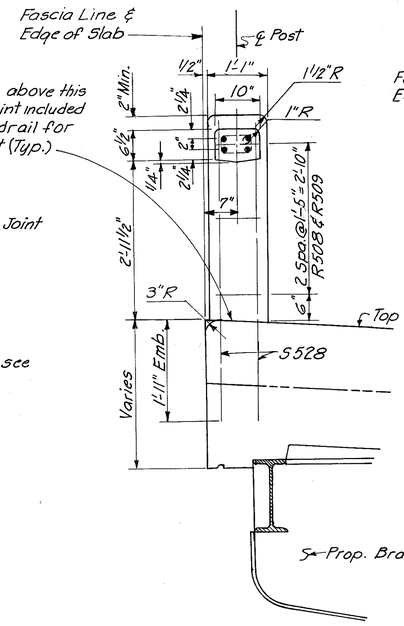
PLAN OF HANDRAIL



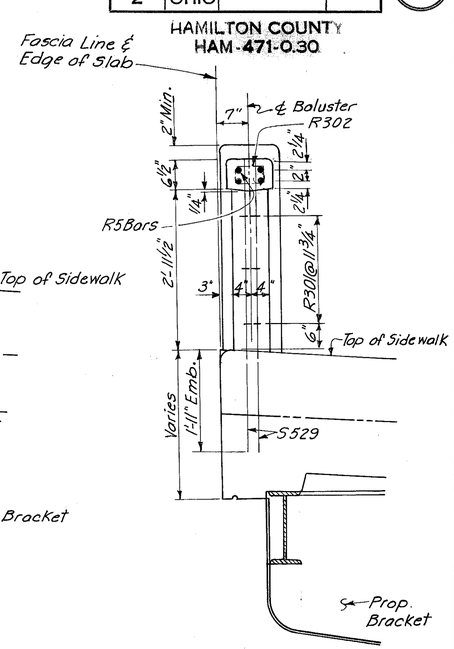
ELEVATION (LOOKING SOUTH)



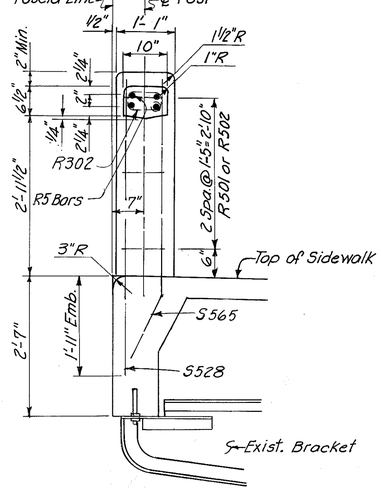
TYPICAL HANDRAIL DETAILS



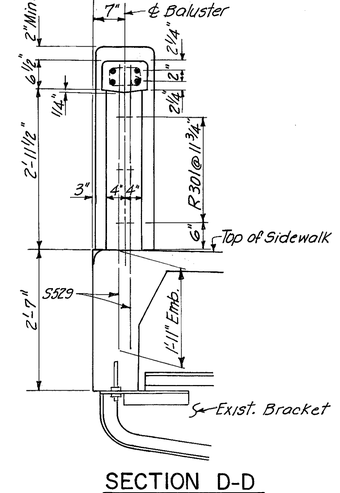
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

Note:
R bars are included with Handrail for payment.

HAZELET & ERDAL
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CINCINNATI, OHIO

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RAILING AND LIGHTING
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

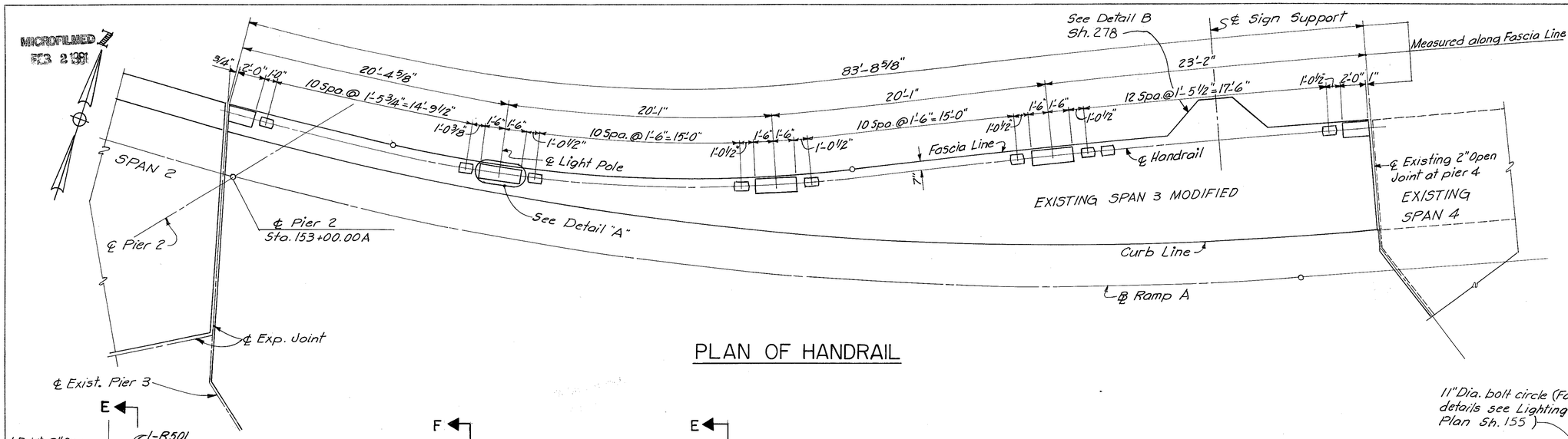
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	S.L.	V.W.S.	JDC 4-5-72	JHO 11-13-72	

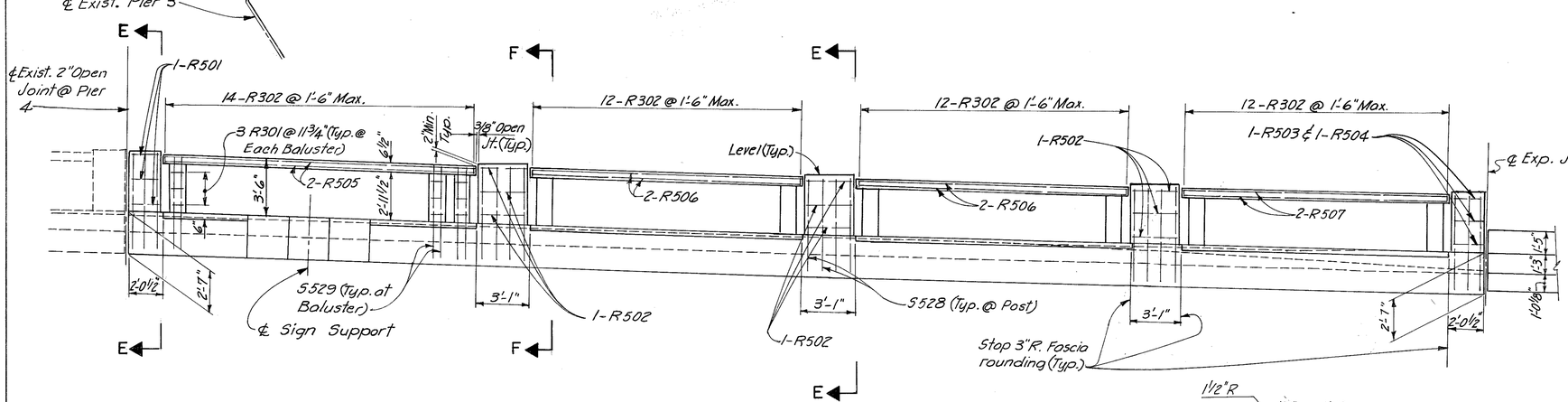
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

289
494

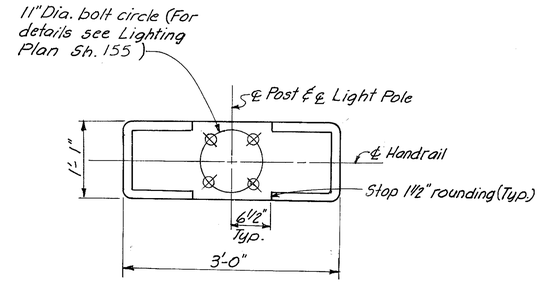
HAMILTON COUNTY
HAM-471-0.30



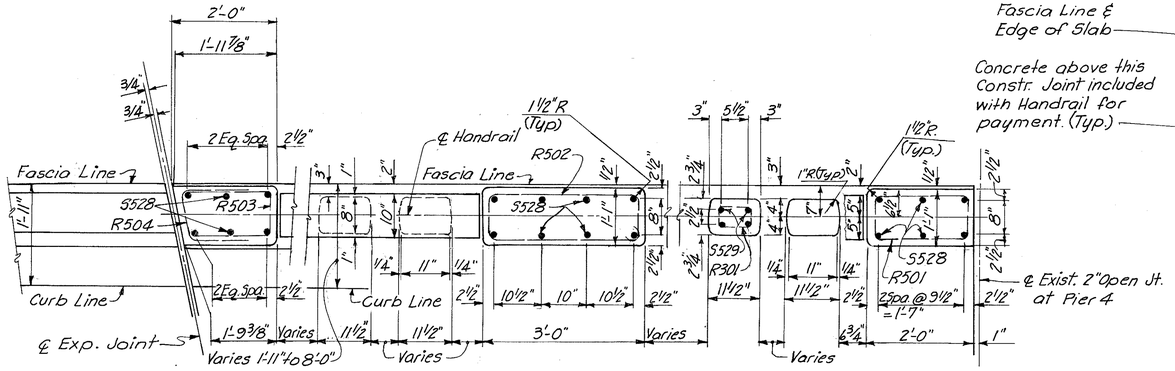
PLAN OF HANDRAIL



ELEVATION (LOOKING SOUTH)



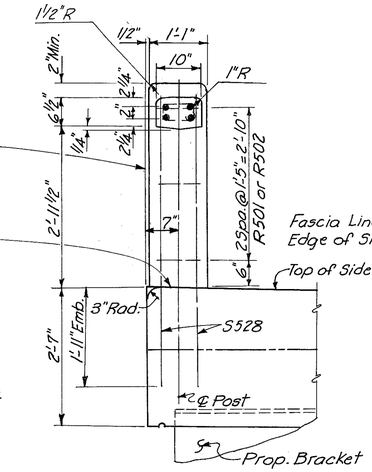
DETAIL A



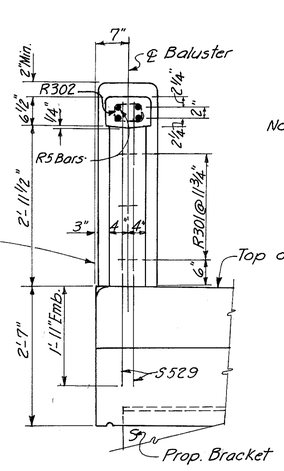
TYPICAL HANDRAIL DETAILS

Fascia Line & Edge of Slab

Concrete above this Constr. Joint included with Handrail for payment. (Typ.)



SECTION E-E



SECTION F-F

Notes: R bars are included with Handrail for payment.
For Lighting details see Sh. 155.

HAZELET & ERDAL
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CINCINNATI, OHIO

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RAILING AND LIGHTING
BRIDGE NO HAM-471-
RAMP A OFF COLUMBIA VIADUCT

H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	S.L.	V.W.S.	JDC 4-5-72	JHO 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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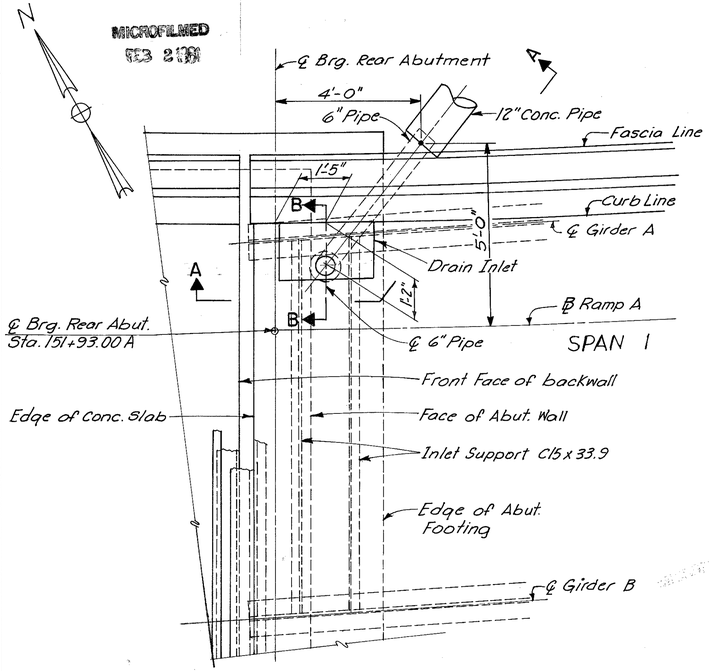
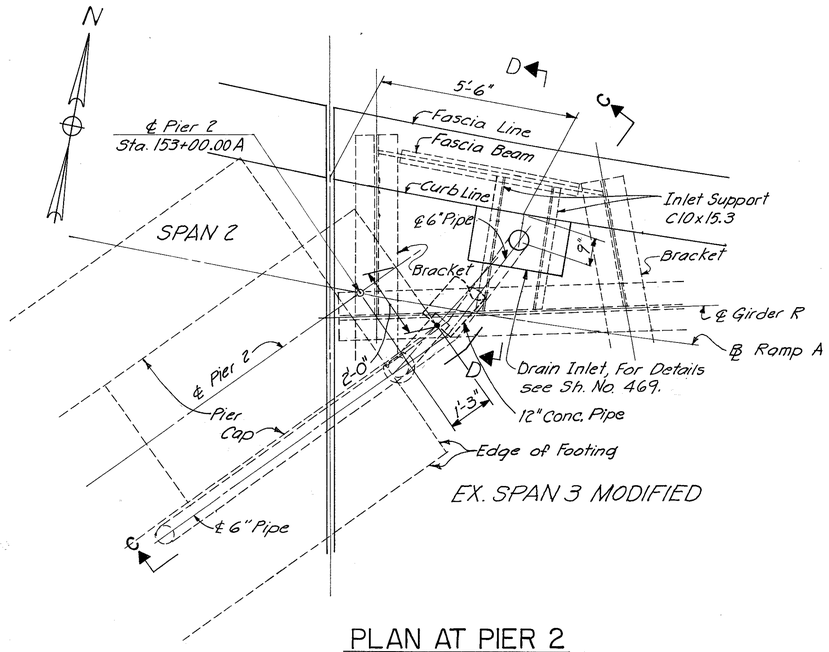
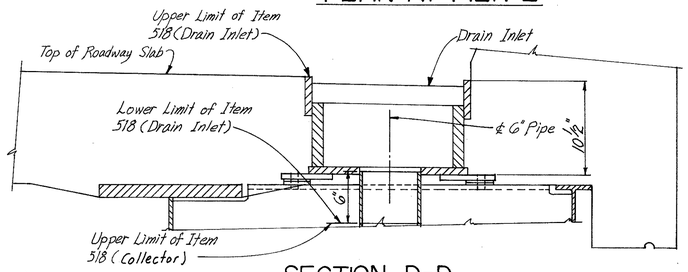
HAMILTON COUNTY
HAM-471-0.30



PLAN AT ABUTMENT

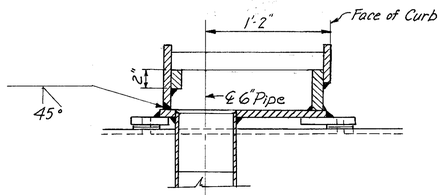


PLAN AT PIER 2



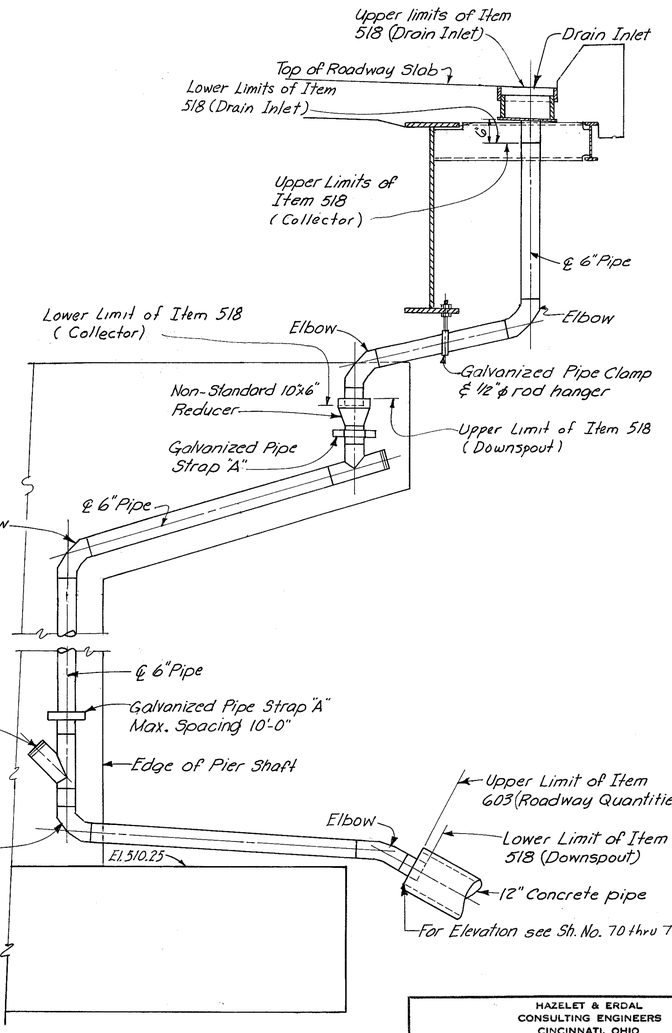
SECTION D-D

For Details not shown see Sh. No. 469.



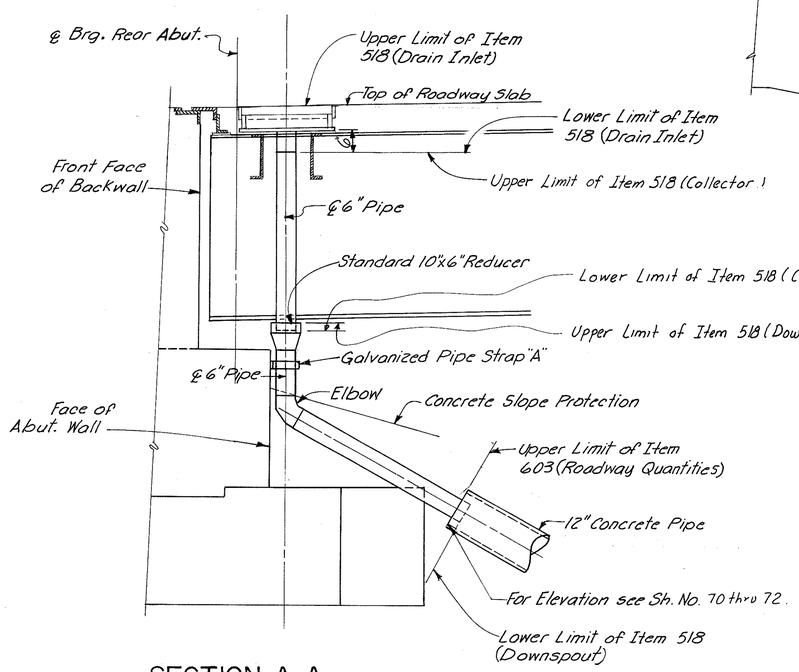
SECTION B-B

For Details not shown see Sh. No. 469.



SECTION C-C

Note: For details not shown & notes see Typical Drainage Details, sh. 469.



SECTION A-A

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

35/39

DRAINAGE DETAILS
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

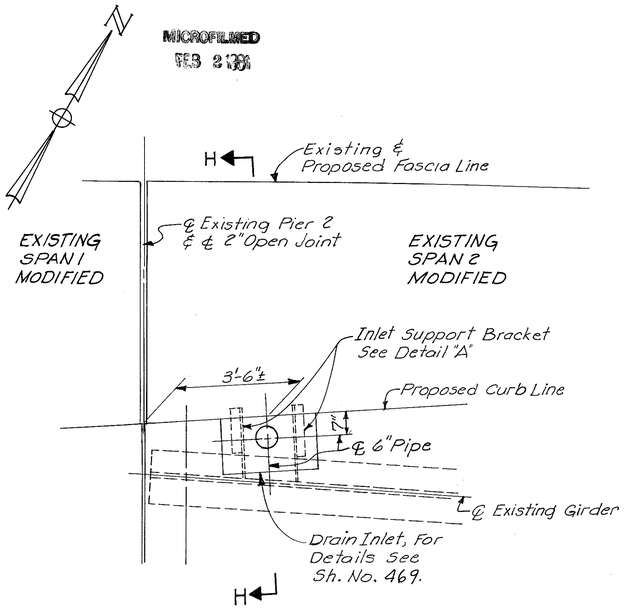
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	S.L.	V.W.S.	JDC 11-18-72	JHG 11-15-72	

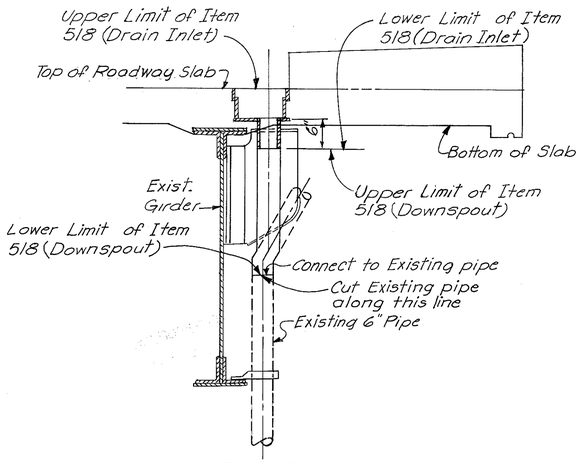
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

291/494

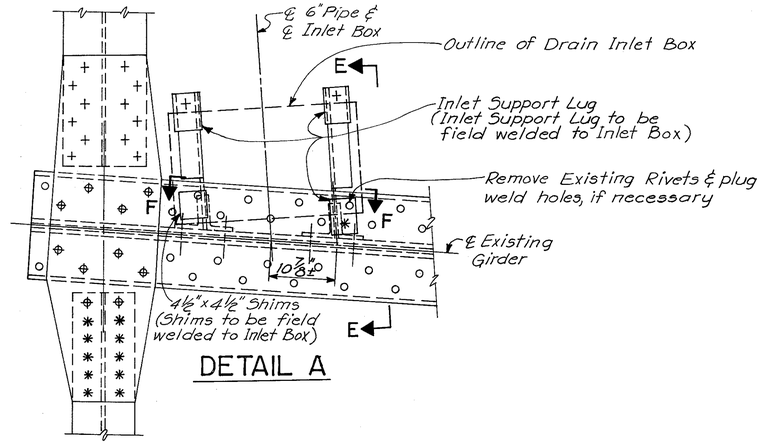
HAMILTON COUNTY
HAM-471-0.30



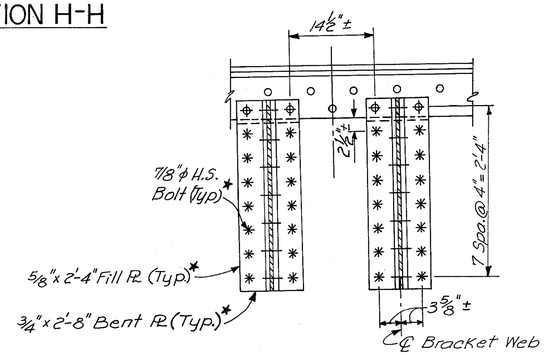
PLAN AT EXIST. PIER 2



SECTION H-H

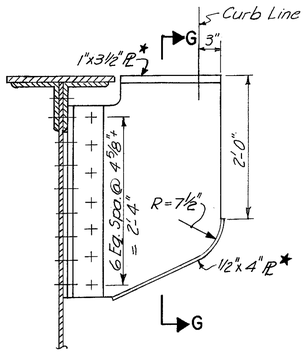


DETAIL A

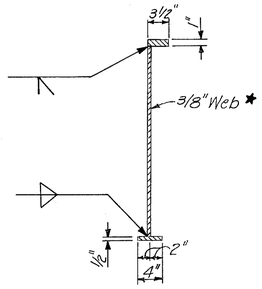


SECTION F-F

* Included with Item 513, Structural Steel, for payment.



SECTION E-E



SECTION G-G

LEGEND
- o Indicates Existing Rivet.
- ϕ Indicates Existing Rivet to be replaced with 7/8"ϕ H.S. Bolt.
- \+ Indicates 7/8"ϕ H.S. Bolt thru new members.
- * Indicates 7/8"ϕ H.S. Bolt thru new members & existing members (new holes).

Note: For details not shown & notes see Typical Drainage Details, Sh. No. 469.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

36/39

DRAINAGE DETAILS
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	S.L.	V.W.S.	JDC 4-13-72	JHO 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

292
494

HAMILTON COUNTY
HAM-471-0.50

REAR ABUTMENT

MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	DIMENSIONS A	B	C	D	E
A501	1	8'-3"	20	172	1'-7"	5'-4"			
A502	Str.	25'-2"	1	26					
A503	Str.	24'-8"	13	334					
A504	Str.	12'-5"	5	65					
A505	Str.	13'-8"	5	71					
A506	Str.	3'-2"	5	17					
A507	1	6'-4"	32	211	1'-7"	3'-5"			
A508	17	7'-1"	9	66	7 1/2"	6'-7"			
A509	17	7'-9"	8	65	7 1/2"	7'-3"			
A510	17	8'-5"	3	26	7 1/2"	7'-11"			
A511	Str.	13'-5"	1	14					
A512	Str.	9'-8"	3	30					
A513	Str.	4'-0" to 7'-0"	1 Series of 6	34					
A514	Str.	7'-10"	10	82					
A515	Str.	11'-8"	4	49					
A516	Str.	7'-8"	4	32					
A517	Str.	7'-9"	7	57					
A518	Str.	17'-8"	2	37					
A519	Str.	8'-5"	2	18					
A520	Str.	5'-4"	2	11					
A521	Str.	8'-8"	2	18					
A522	16	11'-3"	1	12	7 1/2"	9'-8"	1'-7"	1'-5 1/2"	
A523	Str.	5'-3"	2	11					
A524	Str.	9'-9"	2	20					
A525	37	11'-6"	20	240	2'-6"	3'-0"			
A526	37	16'-2"	4	67	2'-6"	5'-4"			
A601	1	6'-11"	22	229	3'-2"	11"			
A602	1	6'-3"	22	207	2'-7"	1'-5"			
A603	1	14'-11"	22	493	6'-11"	1'-5"			
A604	1	18'-8"	7	196	8'-11"	1'-2"			
A605	1	21'-4"	10	320	10'-3"	1'-2"			
A606	2	14'-1"	9	190	6'-7"	5'-4"	2'-6"		
A607	2	14'-9"	8	177	7'-3"	5'-4"	2'-6"		
A608	2	15'-5"	3	69	7'-11"	5'-4"	2'-6"		
A609	Str.	11'-0"	3	50					
A610	Str.	6'-9"	6	61					
A611	Str.	17'-8"	2	53					
A612	Str.	7'-8"	5	58					
A613	Str.	13'-5"	1	20					
A614	Str.	4'-0" to 7'-0"	1 Ser. of 6	50					
A615	28	8'-5"	17	215	11 1/2"	6'-9"	1'-2"	7 1/2"	8"
A616	10	8'-4"	17	213	8 1/2"	8 1/2"	6'-4"	1'-0"	
A617	Str.	9'-8"	3	44					
A618	Str.	11'-8"	4	70					
A619	10	11'-2"	8	134	8 1/2"	8 1/2"	9'-2"	1'-0"	
A620	16	11'-7"	1	17	9 1/4"	9'-8"	1'-11"	1'-9"	
A621	Str.	5'-0"	2	15					
A622	Str.	3'-8"	2	11					
A801	Str.	26'-6"	7	495					
A802	Str.	7'-6"	3	60					
A803	Str.	11'-5"	3	91					
A804	Str.	14'-6"	3	116					
A805	Str.	10'-6"	3	84					
Y501	1	2'-0"	19	40	7 1/2"	1'-0"			
Y502	Str.	3'-2"	10	33					
Y503	47	6'-6"	14	95	2'-5"	3'-4"	7 1/2"		
Y504	Str.	17'-8"	8	147					
Y505	Str.	7'-3"	2	15					
Y506	Str.	12'-1"	2	25					
Y507	Str.	7'-9"	10	81					

Total Weight, Rear Abutment = 5,959 Lbs.

PIER NO. 1

MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	DIMENSIONS A	B	C	D	E	F
P401	1	13'-5"	32	287	2'-0"	9'-8"				
P402	52	8'-6"	32	182	2'-8"	11"	8 3/4"	7 1/2"	11 1/2"	1'-5"
P403	37	9'-0"	32	192	2'-8"	1"-7 3/4"				
P501	1	5'-7"	18	105	1'-7"	2'-8"				
P502	1	9'-9" TO 12'-7"	2 SER. OF 10	233	3'-10 to 5'-1"	2'-8"				
P503	1	12'-11" TO 13'-9"	2 SER. OF 3	83	5'-3" to 5'-8"	2'-8"				
P504	1	9'-11"	12	124	3'-9"	2'-8"				
P505	1	11'-9" TO 12'-7"	2 SER. OF 3	76	4'-8" to 5'-1"	2'-8"				
P506	1	8'-9" TO 11'-3"	2 SER. OF 10	209	3'-2" to 4'-5"	2'-8"				
P601	Str.	11'-6"	13	225						
P602	Str.	17'-6"	9	237						
P701	Str.	24'-2"	4	198						
P702	16	9'-6"	6	117	7"	7'-4"	2'-2"	2'-1"		
P703	1	6'-6"	3	40	2'-0"	2'-10"				
P704	17	15'-4"	3	94	2'-0"	13'-6"				
P705	Str.	10'-0"	2	41						
P901	1	30'-0"	7	714	3'-2"	24'-2"				
P902	26	26'-8"	2	181	24'-2"					
P903	10	23'-1"	3	235	3'-2 1/2"	3'-2 1/2"	14'-0"	4'-6 1/2"		
P904	10	25'-11"	2	176	2'-9 1/2"	2'-9 1/2"	18'-0"	3'11 1/2"		
P1001	26	14'-4"	22	1357	11'-6"					
P1002	Str.	14'-11"	34	2182						
P1003	17	7'-0"	34	1024						
P1004	26	20'-4"	16	1400	17'-6"					

Total Weight, Pier No. 1 = 9,712 Lbs.

PIER NO. 2

MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	DIMENSIONS A	B	C	D	E	F
P425	1	16'-5"	40	439	2'-6"	11'-8"				
P426	52	11'-3"	40	301	3'-8"	1'-2 3/4"	1'-0 1/2"	1'-2"	1'-6 3/4"	1'-4"
P427	37	12'-3"	40	327	3'-8"	2'-3 1/4"				
P525	1	8'-9" TO 11'-11"	4 SER. OF 12	517	3'-4" to 4'-11"	2'-3 3/4"				
P526	1	12'-1"	52	655	5'-0"	2'-3 3/4"				
P527	1	8'-7" TO 11'-9"	4 SER. OF 12	510	3'-3" to 4'-10"	2'-3 3/4"				
P528	1	6'-7"	23	158	1'-7"	3'-8"				
P625	Str.	9'-6"	21	300						
P626	Str.	25'-0"	7	263						
P725	Str.	28'-8"	4	234						
P726	Str.	12'-0"	2	49						
P727	16	10'-10"	8	177	7 1/4"	8'-8"	2'-2"	2'-1"		
P825	26	11'-8"	29	903	9'-6"					

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

37 / 39

REINFORCING STEEL LIST
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	SA		JDC 4-18-72	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

293
494

HAMILTON COUNTY
HAM-471-0.30

PIER NO. 2 (CONTINUED)											
					DIMENSIONS						
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	A	B	C	D	E	F	
P1025	17	8'-0"	56	1928	1'-4 1/2"	6'-11"					
P1026	Str.	18'-7"	56	4478							
P1027	10	30'-5"	2	262	2'-1"	2'-1"	24'-6"	2'-11 1/2"			
P1028	26	31'-6"	4	542	28'-8"						
P1029	2	34'-2"	8	1176	3'-4"	28'-7"	2'-10"				
P1030	10	25'-0"	4	430	3'-2"	3'-2"	16'-0"	4'-6"			
P1031	26	27'-10"	18	2156	25'-0"						

Total Weight, Pier No. 2 = 15,805 Lbs.

SUPERSTRUCTURE											
					DIMENSIONS						
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	A	B	C	D	E		
S401	Str.	30'-0"	136	2725							
S402	Str.	5'-11" to 9'-2"	1 Ser. of 35	176							
S403	Str.	6'-2"	5	21							
S404	Str.	9'-4"	5	31							
S405	Str.	11'-0"	20	147							
S406	Str.	25'-0"	1	17							
S407	Str.	18'-4"	1	12							
S408	Str.	13'-10" to 2'-4"	1 Ser. of 6	32							
S409	Str.	11'-5" to 19'-8"	1 Ser. of 23	239							
S410	Str.	18'-9" to 5'-6"	1 Ser. of 13	105							
S411	Str.	22'-5"	1	15							
S412	Str.	12'-4"	1	8							
S413	Str.	4'-4"	1	3							
S414	Str.	10'-10"	1	7							
S415	Str.	6'-10"	1	5							
S416	Str.	23'-6"	1	16							
S417	Str.	23'-4"	1	16							
S418	Str.	14'-0"	16	150							
S419	Str.	7'-6" to 26'-0"	1 Ser. of 7	78							
S420	Str.	2'-10" to 21'-6"	1 Ser. of 7	57							
S421	Str.	4'-0" to 23'-0"	1 Ser. of 8	72							
S422	Str.	8'-6" to 25'-0"	1 Ser. of 7	78							
S423	Str.	8'-9"	5	29							
S424	Str.	4"-6"	3	9							
S425	Str.	4'-10"	3	10							
S426	16	4'-2"	3	8	1'-5 1/2"	2'-5"	1'-9"	11 3/4"			
S427	16	3'-3"	3	7	1'-3"	1'-9"	1'-6"	10"			
S428	Str.	11'-8"	5	39							
S429	14	4'-8"	40	125	1'-9 1/2"	7"					
S430	14	5'-7"	20	75	2'-3"	7"					
S501	1	6'-6"	4	27	3'-1"	7"					
S502	Str.	20'-1" to 18'-5"	1 Ser. of 4	80							
S503	Str.	16'-8" to 15'-0"	1 Ser. of 5	83							
S504	Str.	17'-6"	1	18							
S505	Str.	12'-10" to 11'-3"	1 Ser. of 7	88							
S506	Str.	14'-3"	1	15							
S507	Str.	10'-6" to 10'-0"	1 Ser. of 7	75							
S508	Str.	11'-1"	9	104							
S509	Str.	10'-0"	41	428							
S510	Str.	9'-10"	15	154							
S511	Str.	13'-2"	2	27							
S512	Str.	3'-3"	1	3							
S513	16	13'-9"	2	29	2'-6"	9'-3"	4'-6"	3'-9"			
S514	Str.	20'-5"	2	43							
S515	Str.	14'-6"	7	106							
S516	Str.	19'-11" to 18'-0"	1 Ser. of 4	79							
S517	Str.	17'-1" to 14'-7"	1 Ser. of 6	99							
S518	Str.	13'-0" to 11'-1"	1 Ser. of 8	100							
S519	Str.	10'-9" to 10'-0"	1 Ser. of 8	87							
S520	Str.	7'-0"	4	29							
S521	Str.	9'-0"	8	75							
S522	Str.	7'-6"	8	63							
S523	Str.	2'-8"	1	3							
S524	1	3'-3"	58	197	7 1/2"	2'-3"					

SUPERSTRUCTURE (CONTINUED)											
					DIMENSIONS						
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	A	B	C	D	E		
S525	45	2'-7" to 3'-2"	1 Ser. of 17	51	7 1/2"	1'-7" to 11"	0" to 1'-0"	0" to 9"	7 1/2"		
S526	1	8'-11" to 3'-3"	1 Ser.of 41	260	9"	7'-8" to 2'-0"					
S527	45	3'-5" to 3'-0"	1 Ser. of 17	57	10" to 1'-1"	2'-0" to 10"	0" to 9"	0" to 1'-0"	10" to 1"		
S528	Str.	5'-5"	55	311							
S529	Str.	5'-3"	324	1774							
S530	1	2'-8"	57	159	7 1/2"	1'-8"					
S531	Str.	10'-8" to 11'-1"	1 Ser. of 6	68							
S532	Str.	10'-7"	1	11							
S533	Str.	11'-2"	1	12							
S534	Str.	11'-3" to 11'-5"	1 Ser. of 6	71							
S535	Str.	11'-6" to 9'-7"	1 Ser. of 6	66							
S536	Str.	12'-2"	1	13							
S537	Str.	8'-11"	1	9							
S538	Str.	8'-3" to 6'-9"	1 Ser. of 5	39							
S539	Str.	6'-6"	3	20							
S540	Str.	6'-5" to 6'-3"	1 Ser. of 6	40							
S541	Str.	6'-2"	9	58							
S542	Str.	6'-0"	2	13							
S543	Str.	11'-3"	6	70							
S544	Str.	12'-5"	1	13							
S545	Str.	11'-10" to 9'-3"	1 Ser. of 7	77							
S546	Str.	8'-7" to 6'-7"	1 Ser. of 6	47							
S547	1	7'-8" to 5'-11"	1 Ser. of 16	113	9"	6'-5" to 4'-8"					
S548	1	7'-0"	5	37	3'-4"	7"					
S549	Str.	5'-10"	2	12							
S550	Str.	4'-8"	4	19							
S551	1	3'-3" to 3'-6"	1 Ser. of 16	56	7 1/2"	2'-3" to 2'-6"					
S552	Str.	2'-11"	16	49							
S553	Str.	3'-0"	18	56							
S554	Str.	6'-5" to 7'-0"	1 Ser.of 27	189							
S555	2	10'-2"	1	11	2'-3"	6'-5"	1'-9"				
S556	Str.	7'-0" to 7'-6"	1 Ser. of 26	197							
S557	Str.	7'-6" to 7'-8"	1 Ser. of 25	198							
S558	2	10'-2" to 10'-9"	1 Ser. of 14	153	2'-3"	6'-5" to 7'-0"	1'-9"				
S559	2	10'-9" to 11'-3"	1 Ser. of 13	149	2'-3"	7'-0" to 7'-6"	1'-9"				
S560	2	11'-3" to 11'-5"	1 Ser. of 12	142	2'-3"	7'-6" to 7'-8"	1'-9"				
S561	Str.	39'-9" to 40'-2"	1 Ser. of 4	167							
S562	Str.	39'-10" to 40'-1"	1 Ser. of 3	125							
S563	Str.	39'-9"	4	166							
S564	Str.	40'-2"	2	84							
S565	16	5'-0"	7	37	5 1/2"	3'-9"	1'-3"	1'-2"			
S566	Str.	2'-10"	17	50							
S567	Str.	6'-5"	2	13							
X501	1	2'-0"	124	259	7 1/2"	1'-0"					
X502	46	5'-4"	133	740	2'-2"	2'-5"	7 1/2"				
X503	17	2'-5"	124	313	7 1/2"	1'-11"					
X504	45	3'-5"	124	442	7 1/2"	1'-0"	11 1/2"	8"	9"		
X505	Str.	13'-8"	20	285							
X506	Str.	5'-8"	16	95							
X507	Str.	11'-1"	8	92							
X508	Str.	12'-6"	8	104							
X509	Str.	12'-3"	12	153							
R501	37	5'-8"	9	*	1'-9"	10"					
R502	37	7'-8"	12	*	2'-9"	10"					
R503	1	3'-7"	3	*	1'-5 3/4"	10"					
R504	7	3'-2"	3	*	1'-3"	10"	10 1/4"	2"	1'-1"		
R505	Str.	19'-2"	4	*							
R506	Str.	16'-8"	8	*							
R507	Str.	16'-5"	4	*							
R508	1	3'-4"	3	*	1'-4 1/2"	10"					
R509	7	3'-1"	3	*	1'-4"	10"	10 1/2"	3"	1'-1"		
R510	Str.	19'-3"	4	*							
R511	Str.	23'-8"	4	*							
R512	Str.	11'-10"	4	*							
R301	37	2'-5"	243	*	7"	4"					
R302	37	1'-10"	90	*	5"	3 1/2"					

*REINFORCING BARS MARKED "R" ARE INCLUDED IN HANDRAIL FOR PAYMENT

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

38 / 39

REINFORCING STEEL LIST
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	ARR		JDC 4-18-72	JHO 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

294/494

HAMILTON COUNTY
HAM-471-0.30

SUPERSTRUCTURE (CONTINUED)												
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	DIMENSIONS A	B	C	D	E			
S601	Str.	30'-0"	116	5,227								
S602	Str.	6'-6" to 9'-10"	1 Ser. of 33	405								
S603	Str.	25'-0"	1	38								
S604	Str.	18'-4"	1	28								
S605	Str.	13'-10" to 2'-4"	1 Ser. of 6	73								
S606	Str.	12'-9" to 21'-0"	1 Ser. of 21	532								
S607	Str.	20'-1" to 6'-10"	1 Ser. of 12	243								
S608	Str.	13'-0"	1	20								
S609	Str.	5'-0"	1	8								
S610	Str.	11'-6"	1	17								
S611	Str.	7'-6"	1	11								
S612	Str.	23'-6"	1	35								
S613	Str.	24'-0"	1	36								
S614	Str.	23'-1"	1	35								
S615	Str.	4'-9"	28	200								
S616	Str.	10'-0"	16	240								
S617	Str.	9'-10"	21	310								
S618	Str.	13'-3"	2	40								
S619	Str.	21'-6" to 19'-2"	1 Ser. of 27	825								
S620	Str.	17'-8" to 3'-8"	1 Ser. of 10	160								
S621	Str.	26'-11"	40	1,617								
S622	Str.	20'-0" to 4'-0"	1 Ser. of 6	108								
S623	Str.	15'-10"	10	238								
S624	Str.	27'-9" to 26'-0"	1 Ser. of 21	848								
S625	Str.	31'-0" to 3'-8"	1 Ser. of 16	417								
S626	Str.	34'-6"	10	518								
S627	Str.	29'-1"	6	262								
S628	Str.	27'-10"	5	209								
S629	Str.	20'-0"	5	150								
S630	Str.	18'-0"	2	54								
S631	Str.	10'-0" to 8'-0"	1 Ser. of 4	54								
S632	Str.	7'-0" to 5'-0"	1 Ser. of 5	45								
S633	Str.	8'-0"	1	12								
S634	Str.	8'-7" to 6'-10"	1 Ser. of 5	58								
S635	Str.	6'-6"	2	20								
S636	Str.	6'-5" to 6'-2"	1 Ser. of 7	66								
S637	Str.	6'-2" to 5'-11"	1 Ser. of 4	36								
S638	Str.	10'-9" to 11'-2"	1 Ser. of 7	115								
S639	Str.	10'-6"	7	110								
S640	Str.	5'-3"	22	173								
S641	Str.	26'-7"	13	519								
S642	Str.	26'-0"	32	1,250								
S643	Str.	19'-0" to 4'-3"	1 Ser. of 5	87								
S644	Str.	20'-1"	6	181								
S645	Str.	24'-2"	2	73								
S646	Str.	22'-0"	1	33								
S647	Str.	18'-2"	1	27								
S648	Str.	20'-7"	11	340								
S649	Str.	25'-0" to 14'-0"	1 Ser. of 4	117								
S650	Str.	26'-1"	6	235								
S651	Str.	23'-0" to 12'-2"	1 Ser. of 4	106								
S652	Str.	3'-6"	2	11								
S653	Str.	13'-0"	11	215								
S654	Str.	10'-7"	2	32								
S655	16	3'-3"	2	10	1'-11"	1'-3"	2'-0"	7"				
S656	Str.	24'-3" to 22'-10"	1 Ser. of 5	177								
S657	Str.	24'-3"	1	36								
S658	Str.	22'-10"	1	34								
S659	Str.	11'-3" to 11'-5"	1 Ser. of 6	102								
S660	Str.	12'-5"	1	19								
S661	Str.	11'-10" to 9'-3"	1 Ser. of 7	111								
S662	Str.	6'-0"	14	126								
S663	Str.	39'-9"	4	239								
S664	Str.	2'-10"	8	34								
S665	Str.	2'-11"	8	35								
S666	Str.	3'-0"	9	41								
S667	30	5'-2"	40	310	1'-10"	1'-7"	1'-1"	2'-3"	1'-8"			

SUPERSTRUCTURE (CONTINUED)												
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	DIMENSIONS A	B	C	D	E			
S701	Str.	25'-2"	102	5,247								
S702	Str.	21'-11"	10	448								
S703	Str.	1'-5"	10	29								
S704	Str.	25'-2" to 29'-4"	2 Ser. of 54	6,015								
S705	Str.	29'-11" to 34'-5"	2 Ser. of 4	526								
S706	Str.	34'-3" to 26'-7"	2 Ser. of 31	3,855								
S707	Str.	26'-5" to 17'-3"	2 Ser. of 25	2,231								
S708	Str.	11'-6" to 3'-0"	2 Ser. of 3	89								
S709	Str.	14'-6"	2	59								
S710	Str.	7'-0"	14	200								
S711	17	3'-1"	4	25	1'-0"	2'-3"						
S712	17	5'-5"	4	44	1'-0"	4'-7"						
S713	44	13'-10"	3	85	2'-5"	3'-4"	4'-8 1/2"	3'-4"	1'-0"			
S801	Str.	40'-2"	2	214								

TOTAL WEIGHT, SUPERSTRUCTURE = 51,229 Lbs.

REPLACEMENT BARS			
MARK	TYPE	LENGTH	NO. OF BARS
RE401	Str.	6'-3"	1
RE501	Str.	6'-7"	1
RE601	Str.	6'11"	2
RE701	Str.	7'-2"	1
RE801	Str.	7'-6"	1
RE901	Str.	7'-10"	1
RE1001	Str.	8'-2"	1

NOTES:

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHEN FOUR ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE S519 IS A NO. 5 SIZE BAR AND P1025 IS A NO. 10 SIZE.

FOR BAR BENDING SCHEDULE SEE SH.NO. 470

TOTAL WEIGHT OF REINFORCING STEEL = 82,705 Lbs.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

39/39

REINFORCING STEEL LIST
BRIDGE NO. HAM-471-
RAMP A OFF COLUMBIA VIADUCT

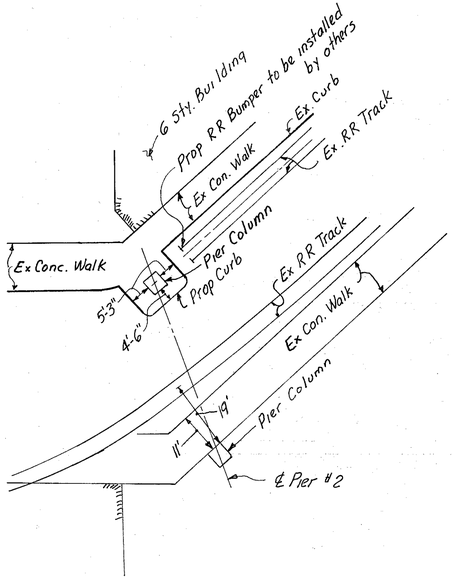
H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	ARR		JDC 4-18-72	JHS 11-15-72	

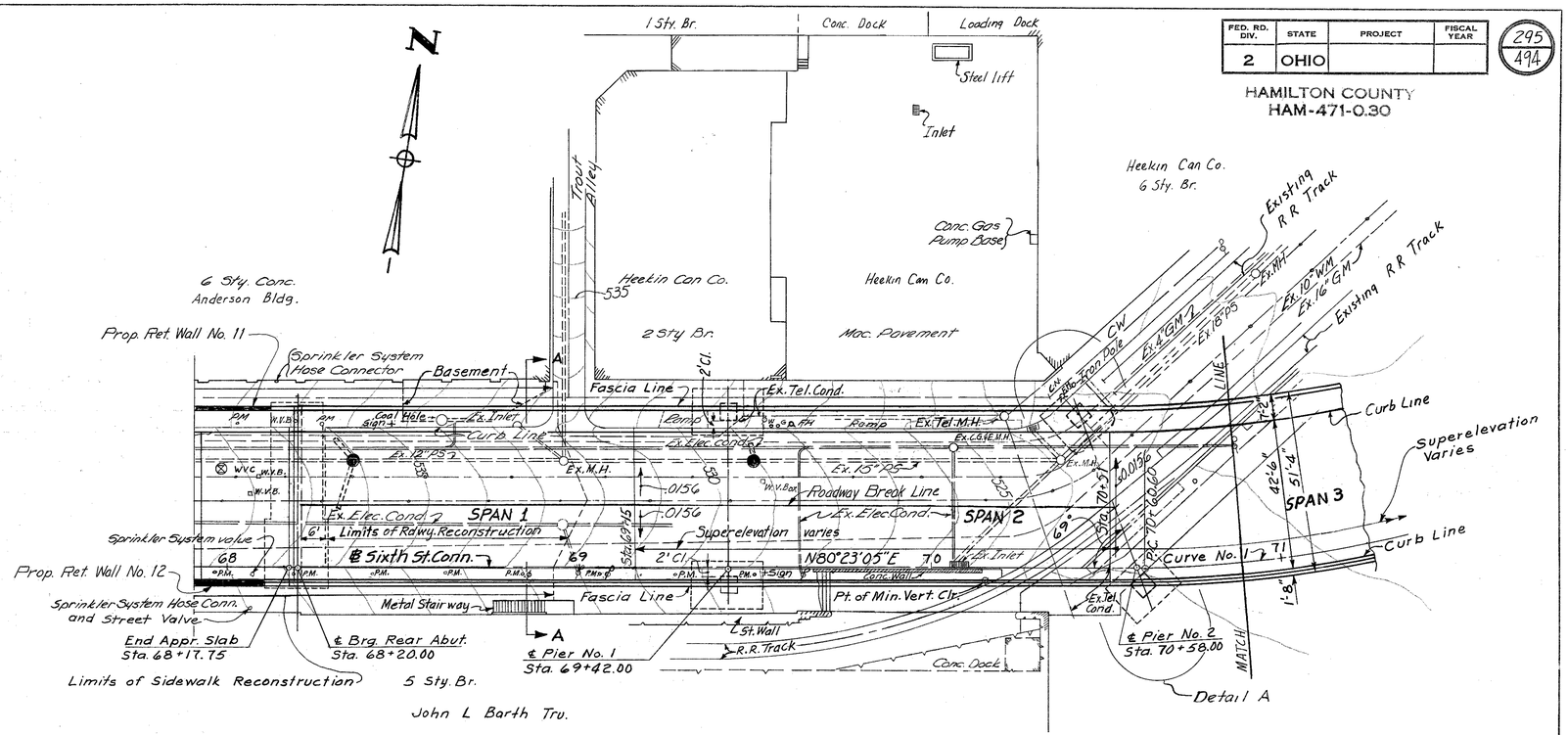
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

295
494

HAMILTON COUNTY
HAM-471-0.30



DETAIL A



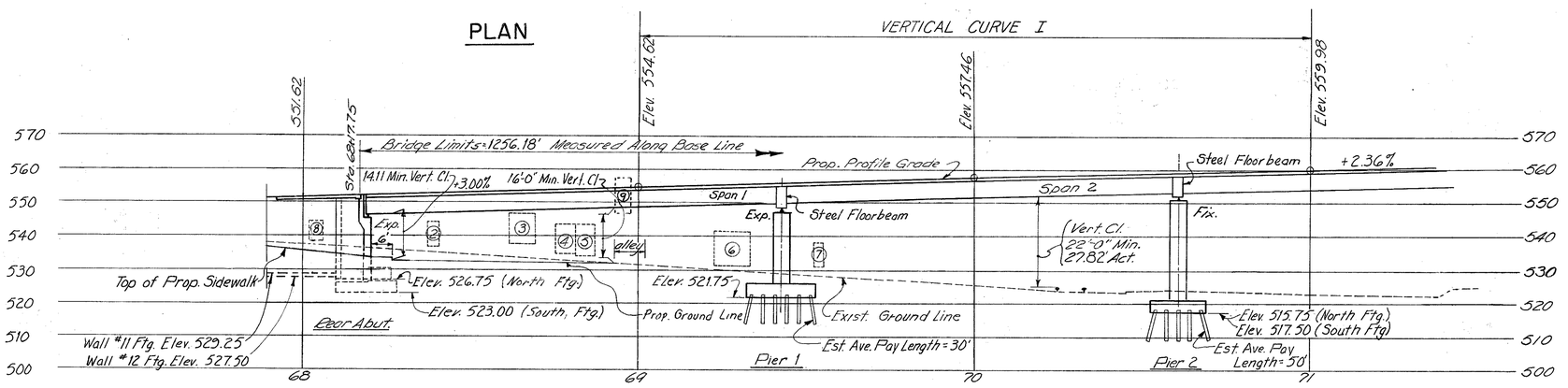
VERTICAL CURVE I
PVI Sta. 70+00.00
PVI Elev. 557.50
L = 200
g_1 = +3.0 %
g_2 = +2.36 %

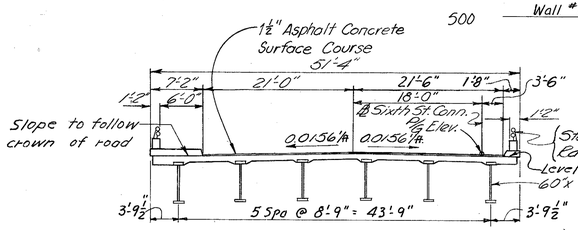
VERTICAL CURVE II
PVI Sta. 74+00.00
PVI Elev. 566.94
L = 300
g_1 = +2.36 %
g_2 = -1.0 %

VERTICAL CURVE III
PVI Sta. 78+68.00
PVI Elev. 562.26
L = 200'
g_1 = -1.0 %
g_2 = -5.5 %

Vertical Curve data does not apply to bridge or graphic curve elevations. The bridge elevations were obtained by adding 1½" to elevations obtained from vertical curve data.

PLAN





SECTION A A

PROFILE ON BASE LINE

Door Openings N. Side of Sixth St:

② Door
③ Loading Dock
④ Door
⑤ Overhead Door & Entr. to Elevator
⑥ Door & Loading
⑦ Entrance Door

Door Openings S. Side of Sixth St:

⑧ Door
⑨ Door at top of Stairway

NOTE

Piers 4, 5, and 6 as shown on sheet 296 have been constructed under a previous contract. The remaining substructure units, and all the superstructure shall be constructed under this contract.
Piers 3 and 4 are parallel.
Piers 7, 8 and 9 are parallel.
Pier 1 is parallel to ℄ Brg. Rear Abutment and perpendicular to base line Sixth St. Connection.
For Base Line Curve Data, See Sh. 296.
All Piles are 12" ϕ C.I.P. Reinforced Concrete Piles.
For roadway cross-section at Sta 68+17.75 see Sh. 119.

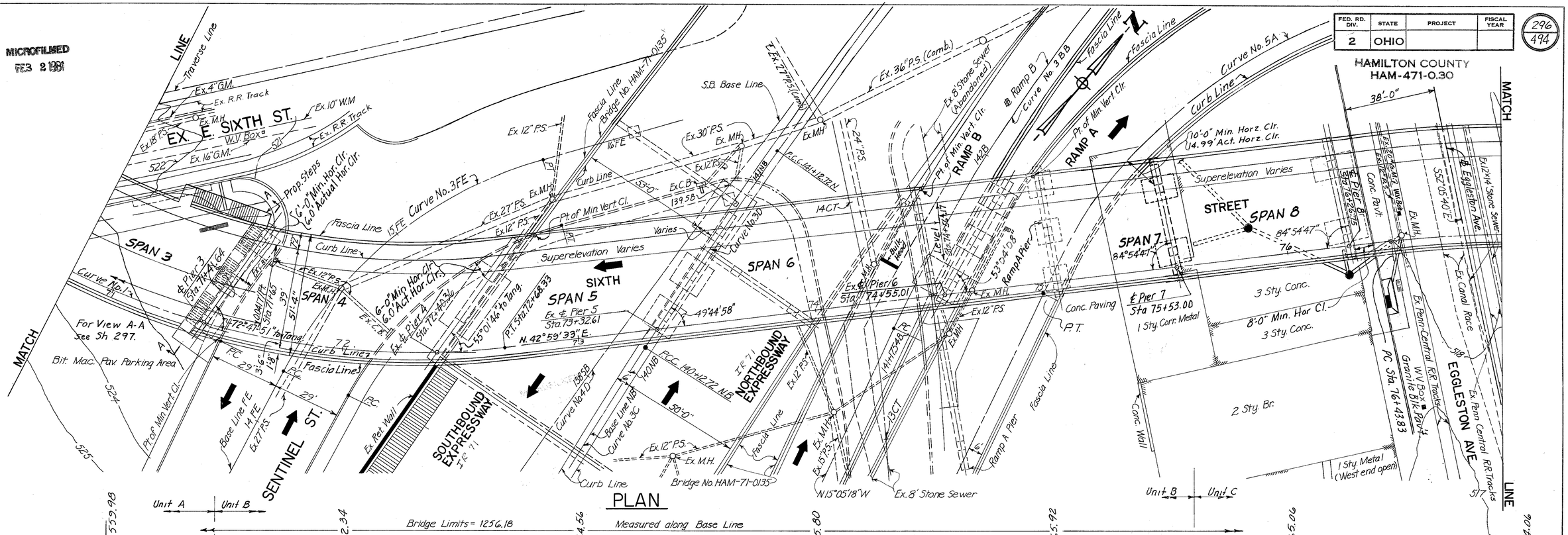
HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

1/64

SITE PLAN
BRIDGE NO. HAM.-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471

H & E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	HLL	RJE	W.L.	JHC 11-13-72	



FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

HAMILTON COUNTY
HAM-471-0.30

PLAN

PROFILE ON BASE LINE

NOTE
For Notes See Sh. 295
For Structure Section A-A, See Sh. 295.
For Bench Marks see Sh 33.

TABLE OF SPAN LENGTHS

SPAN	LENGTH	SPAN	LENGTH
1	122.00'	9	96.56'
2	116.00'	10	77.69'
3	83.64'	11	78.00'
4	98.72'	12	113.30'
5	92.25'	13	77.20'
6	122.40'		
7	97.99'		
8	73.75'		

CURVE DATA

CURVE NO. 1

P.I. Sta. 71+68.31	R=318.31'
Δ=37°23'32"	L=207.74'
D=18°00'00"	T=107.72'

CURVE NO. 2

P.I. Sta. 81+00.38	R=410.00'
Δ=96°09'01"	L=688.04'
D=13°58'28.5"	T=456.55'

PROPOSED STRUCTURE

TYPE: Continuous Welded Plate Girder with reinforced concrete deck and substructure.
SPANS: Lengths Vary, see tabulation
ROADWAY: 42'-6" f/f Curbs with a 6" Curb on the South Side and a 6'-0" Sidewalk on the North Side
LIVE LOADING: HS 20-44 and the Interstate Alternate Loading
SKEW: Varies, see plan.
SURFACE COURSE: 1½" Asphalt concrete.
ALIGNMENT: Varies, see plan
SUPERELEVATION: Varies, see plan
APPROACH SLABS: AS-1-67 30' Long

1984 Traffic Count ATD = 18,400
DHV = 1,920

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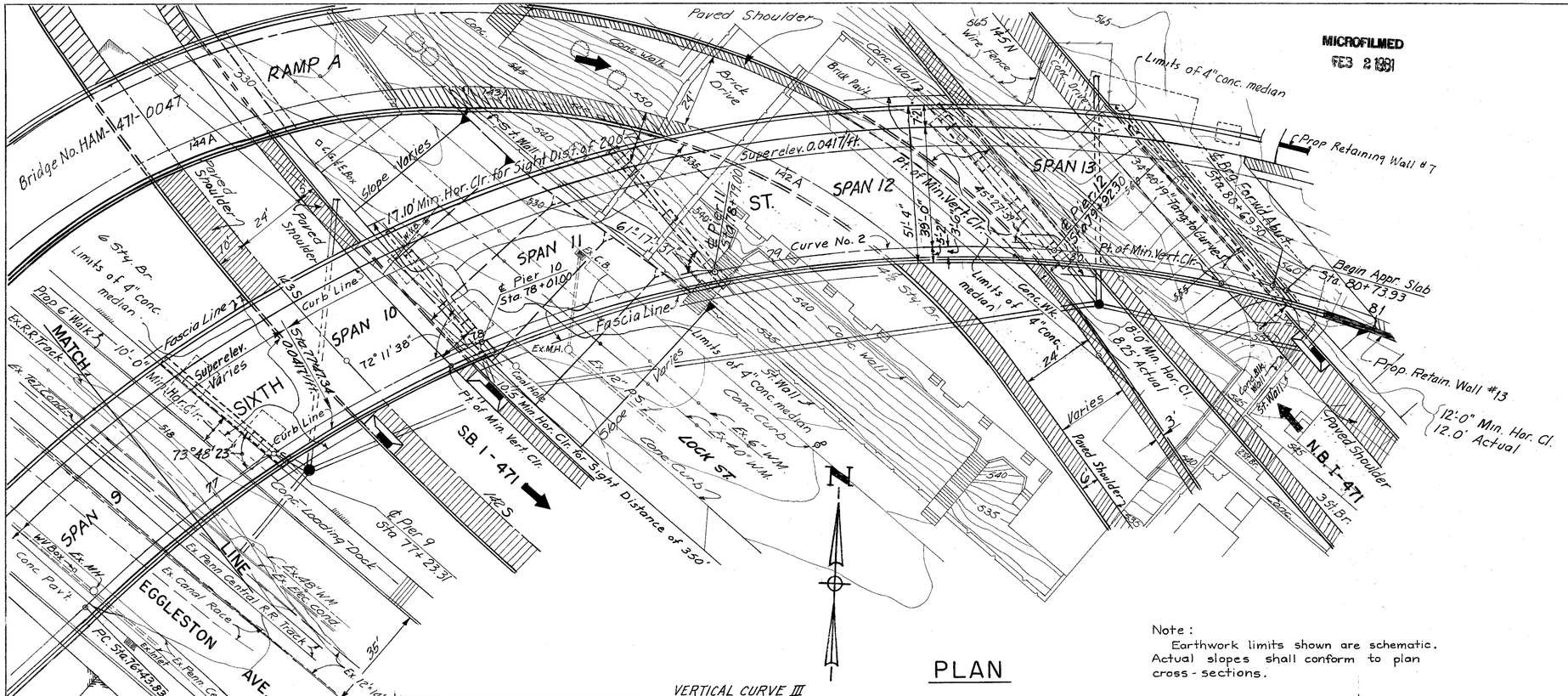
CINCINNATI, OHIO

2/64

SITE PLAN
BRIDGE NO. HAM. 471-0044
SIXTH STREET CONNECTION
OVER SOUTHBOUND I-471
H & E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
		CES	W. L.	JHO 11-13-72	7-3-73



FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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HAMILTON COUNTY
HAM-471-0.30

MICROFILMED
FEB 2 1981

PLAN

Note :
Earthwork limits shown are schematic.
Actual slopes shall conform to plan cross-sections.

VIEW A-A

(For location see Sh. 296.

PROFILE ON BASE LINE

NOTE

Piers 7, 8, and 9 are parallel
Piers 10, 11, and 12 are parallel to ℄ Brg Forward Abut.
For Curve No. 2 Data, See Sh. 296.
For Table of Span Lengths, See Sh. 296.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

3/64

SITE PLAN
BRIDGE NO. HAM.-471-0044
SIXTH STREET CONNECTION
OVER SOUTHBOUND I-471

H & E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	HLL	EJE	W.L.	JHO 11-13-72	

GENERAL NOTES

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

298/494

HAMILTON COUNTY
HAM-471-0.39

REFERENCE	SHALL BE MADE TO STANDARD DRAWINGS AS-1-67, REVISED 6-12-69 SD-1-69, SHEETS 1 AND 2 DATED 6-12-69 BR-2-67, REVISED 10-15-71 RB-1-55, REVISED 2-2-59 FSB-1-62, REVISED 1-15-63 AND TO SUPPLEMENTAL SPECIFICATIONS: 808 DATED 1-1-71 836 DATED 1-1-71 838 DATED 3-18-70 927 DATED 1-1-71
DESIGN SPECIFICATIONS:	THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1969, INCLUDING THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.
DESIGN DATA:	DESIGN LAODING-HS20-44 "AND THE INTERSTATE ALTERNATE LOADING". CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE UNIT STRESS 1333 PSI FOR SUBSTRUCTURE STRUCTURAL STEEL ASTM A36 - UNIT STRESS 20,000 PSI. REINFORCING STEEL ASTM A615, A616 OR A617 - UNIT STRESS 20,000 PSI. IF BARS IN ACCORDANCE WITH ASTM A 616 ARE PROVIDED, THEY SHALL BE SUBJECT TO BEND TESTS AS PER AASHO DESIGNATION M42-70.
PILES	SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 50 TONS PER PILE FOR PIERS 1, 2, 3, 7, 8, 9 AND 10.
FOUNDATION BEARING PRESSURE:	REAR AND FORWARD ABUTMENT FOOTINGS AND PIER 11 AND 12 FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 2 1/2 TONS PER SQ. FT.
UTILITY LINES	ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER(S). THE CONTRACTOR AND OWNER(S) ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.
STAINLESS STEEL FASTENERS	SHALL BE PROPERLY PASSIVATED TO REMOVE SURFACE IMPURITIES AND SHALL BE FURNISHED WITH A LUSTROUS FINISH.
FIELD VERIFICATIONS	BEFORE ANY ADDITIONAL CAP WORK AT PIERS 5 & 6 IS DONE AND BEFORE ANY FABRICATION OF STRUCTURAL STEEL IS STARTED, THE CONTRACTOR MUST FIRST DETERMINE THE EXACT LOCATION OF EXISTING PIERS 4, 5 AND 6.
EMBANKMENT CONSTRUCTION	BEFORE THE BACKWALL IS CONSTRUCTED THE EMBANKMENT SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE WITH A 1:1 SLOPE FROM THE BRIDGE SEAT TO THE SUBGRADE, FOR A MINIMUM DISTANCE OF 200 FT. BACK OF THE ABUTMENT.
PREBORED HOLES	ALL THE PILES IN THE NORTH FOOTING OF PIER NO. 1 AND THE PILES THAT ARE INDICATED ON SHEET 309 AT PIER NO. 2 SHALL BE STARTED IN PREBORED HOLES. HOLES TO BE PREBORED TO ELEVATION 515.00 AT PIER NO. 1 AND ELEVATION 510.00 AT PIER NO. 2.
DECK REINFORCING BARS:	At the Contractor's option, a portion (not to exceed 25%) of the upper longitudinal bars (S401) in the deck slab may be placed beneath the upper transverse bars for support of the top mat.
MAINTENANCE OF TRAFFIC:	Refer to sheets 13 and 13A

EXPLORATORY EXCAVATION

Before begining construction of retaining walls 11 and 12 or the rear abutment, pier 1 and pier 2 of Bridge No. HAM-471-0044, the Contractor shall excavate exploratory pits (at least 5'x5') at locations as hereafter indicated. These pits shall extend laterally to face of building foundation wall and vertically a sufficient depth to determine elevations for the building footings and the amount of their projections beyond the presently exposed face of the foundation wall. All pertinent dimensions and elevations shall be adequately referenced to the baseline of survey and its controls. This information shall be properly recorded and 5 copies submitted to the Director at least 15 weeks before construction is scheduled to begin (on any of these named portions of the work) in order to permit evaluation of the data with respect to the need or desirability for modifications in the design or to details as presently shown on the project plans for these walls & piers.

All excavation and backfill for exploratory pits which falls beyond the normal limits of structure excavation shall be paid for at the unit price bid for Item 503, unclassified excavation. Any excavations below proposed footing elevations shall be backfilled with granular material in accordance with Sec. 203. Any extra cost (due to exploratory pits) for cofferdams, cribs and sheeting shall be included in the lump sum bid for each of the pertinent 503 cofferdam items for payment.

Pits will be required at the following locations

1. Allen Temple, African M.E. Church, Parcel 5262
   Two pits (one near each end) along north wall.
2. John L. Barth "Tr.", Parcel 5261
   Four pits along north wall (one between Sta. 67+50 - 67+60, one between 68+00 - 68+13, one between 68+13 - 68+30 and one between 69+40 - 69+60)
3. Anderson-Hanig Realty Co., Parcel 5265
   Two pits along south wall (one between 67+50 - 67+80, and one between 68+10 - 68+30)
4. The Heekin Can Co., Parcel 5266A (2 Story brk.)
   One pit along south wall between Sta. 69+30 - 69+60
5. The Heekin Can Co., 6 story brick
   One pit at south corner, approx. Sta. 70+35

The above identified parcels are shown on plan sheet 488.

Elevations have been established as follows, but the Contractor shall verify them in his recorded data.

1. Allen Temple — Sta. 66+66, Elev. 538.77 basement floor
   66+82, Elev. 539.62 basement floor
   66+66, 11' Rt., Elev. 539.36, bottom of window well.
   67+35, 11' Rt., Elev. 539.09, bottom of window well.
2. John L. Barth "Tr." — 68+13 (back) 530.91, basement flr.
   68+13 (ahead) 520.00, basement flr.
   69+50, 525.40, ground surface, inside of building.
3. Anderson-Hanig Realty Co., 533.8 - 534.64 basement flr.
4. Heekin Can Co. (2 story brick)
   Approx. Sta. 69+40, Elev. 522.16, Elevator shaft basement.
5. Heekin Can Co. (6 story brick)
   Approx. Sta. 70+35, Elev. 508.7, basement floor.

CRACK AND CONDITION SURVEY

Prior to the start of construction of Ret. Wall 11, 12, piers 1 and 2, and rear abutment of HAM-471-0044, the Contractor will make a "crack and condition" survey of Right-of-Way Parcels 5264, 5265, 5266A, 5262 and 5261 including suitable photographs of the buildings immediately adjacent to the named units of construction. Copies of this survey will be furnished to the respective property owners for their concurrence and acceptance, and to the Engineer for his use and file prior to construction, as foresaid.

The Contractor will exercise extreme care during the construction of the above mentioned piers, retaining walls and abutment so as to insure against damage to the adjacent buildings.

Following completion of the construction adjacent to the affected buildings, the "crack and condition" survey will be repeated, and damage to the buildings, if any, resulting from the construction operations shall be repaired to the satisfaction of the property owners by the Contractor at his own expense.

It is understood that the responsibility for the construction adjacent to the buildings remains entirely with the Contractor, and he alone shall be responsible for any damage, to the above mentioned property owners from said construction.

Any additional cost due to the procedures outlined above shall be considered a subsidiary obligation of the Contractor and shall be included in the unit prices bid for the various relevant items in the proposal.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

4/64

GENERAL NOTES

BRIDGE NO. HAM.-471-0044
SIXTH STREET CONNECTION OVER
SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CS		W.L.	JHG 11-13-72	

Revised 7-3-73

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

299
494

HAMILTON COUNTY
HAM-471-0.30

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTRUCTURE UNIT A	SUPERSTRUCTURE UNIT B	SUPERSTRUCTURE UNIT C	SUPERSTRUCTURE UNIT D	REAR ABUTMENT	FORWARD ABUTMENT	PIERS 1	2	3	4	5	6	7	8	9	10	11	12	GENERAL
503		Lump Sum	Cofferdams, Cribs and Sheeting																			Lump
503	3,546	Cu.Yd.	Unclassified Excavation					362	1742	200	156	134				98	110	132	116	205	291	
504	362	Sq. Ft.	Steel Sheet Piling Left-in-Place (Min. Sect. Modulus of 7 in.^{3} per foot of wall)					362														
505		Lump Sum	Test Pile																			Lump
506		Lump Sum	Pile Test Load																			Lump
506	1	Each	Subsequent Pile Test Load																			1
507	394	Lin. Ft.	Prebored Holes							168	226											
507	10,860	Lin. Ft.	12" Cast-in-Place Reinforced Concrete Piles							1440	1800	1960				1800	2240	1120	500			
509	838,518	Lb.	Reinforcing Steel		573,165			17,270	54,485						193,598							
510	257	Lin. Ft.	Dowel Holes											130	127							
511	815	Cu.Yd.	Class "C" Concrete, Footings					94	206	96	67	46				35	50	50	37	68	66	
511	429	Cu.Yd.	Class "C" Concrete, Abutments above Footings					131	298													
511	677	Cu.Yd.	Class "C" Concrete, Pier Caps and Columns							30	44	101		14	27	82	80	84	78	63	74	
511	2282	Cu.Yd.	Class "C" Concrete, Superstructure	664	723	447	448															
511	39	Cu.Yd.	Class "C" Concrete, Stairs	39																		
512	84	Lin. Ft.	Premolded Sealing Strip					22	62													
513	2,226,000	Lb.	Structural Steel **		2,226,000																	
514	2,226,000	Lb.	Field Painting of Structural Steel		2,226,000																	
516	16	Sq. Ft.	1" Preformed Expansion Joint Filler						16													
517	2,525	Lin. Ft.	Bridge Sidewalk Railing	661.5	787	503.5	507	15	51													
517	178	Lin. Ft.	Galvanized Steel Handrail, 2" Nominal Size Pipe (As Per Plans)	178																		
518	291	Cu.Yd.	Porous Backfill					93	198													
518	14	Each	Drain Inlets	4	4	3	3															
518	522	Lin. Ft.	8" Standard Pipe Downspout, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials		522																	
518	213	Lin. Ft.	8" Perforated, Corrugated Metal Pipe, including Specials 707.01					91	122													
518	156	Lin. Ft.	8" Non-Perforated, Corrugated Metal Pipe, including Specials 707.01					94	62													
518	14	Lin. Ft.	12" Reinforced Concrete Pipe, 706.02					7	7													
518	113	Lin. Ft.	8" Standard Pipe Collector, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials		113																	
625			See Sheet 143 for Lighting Summary																			
808	2282	Units	Chemical Admixture for Concrete, Type A, B or D	664	723	447	448															
838	3	Hour	Special Pile Tests																			
404	161	Cu. Yd.	Asphalt concrete (70-80 or AC20)	44	51	33	33															3
Special	80	Cu. Yd.	Sand asphalt (See proposal note)	22	26	16	16															
Special	5771	Sq. Yd.	Membrane Waterproofing (See proposal note)	1567	1838	1183	1183															

** Includes 3,000 Lbs. of Bronze.

QUANTITIES
BY CYW DATE 2-3-72
CHECKED WL DATE 2-3-72

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

5/64

ESTIMATED QUANTITIES

BRIDGE No. HAM-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE No.9

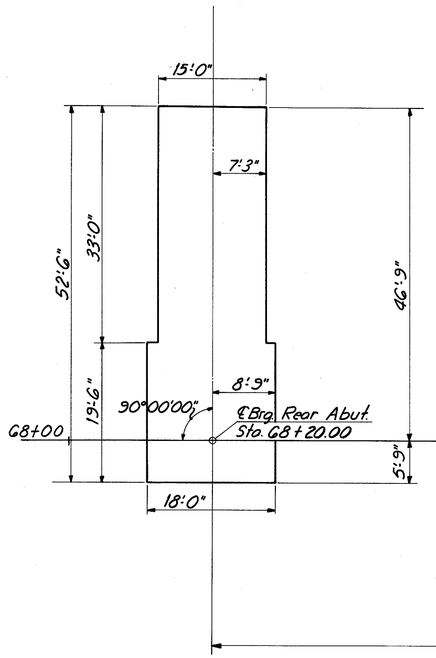
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DH		WL 2-11-72	JHO 11-13-72	

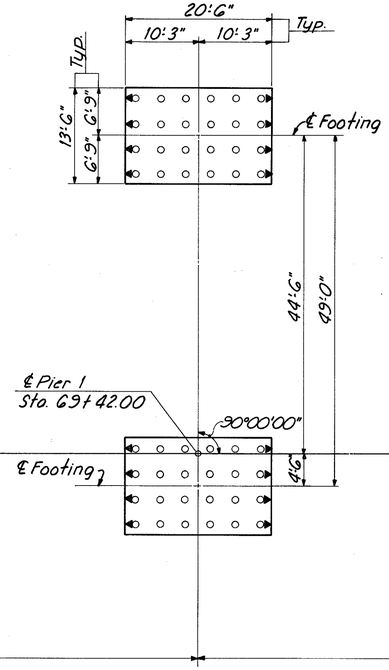
Revised 7-3-73

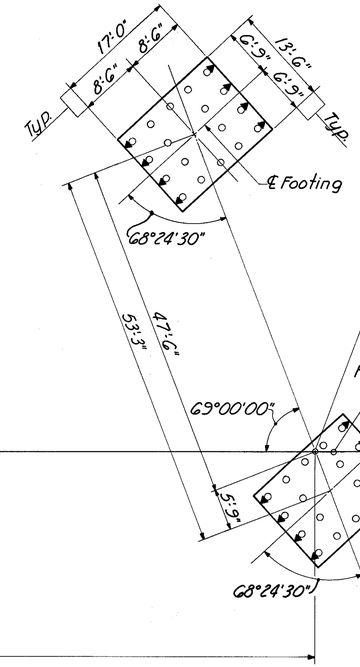
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

300
494

HAMILTON COUNTY
HAM-471-0.30







PIER 1

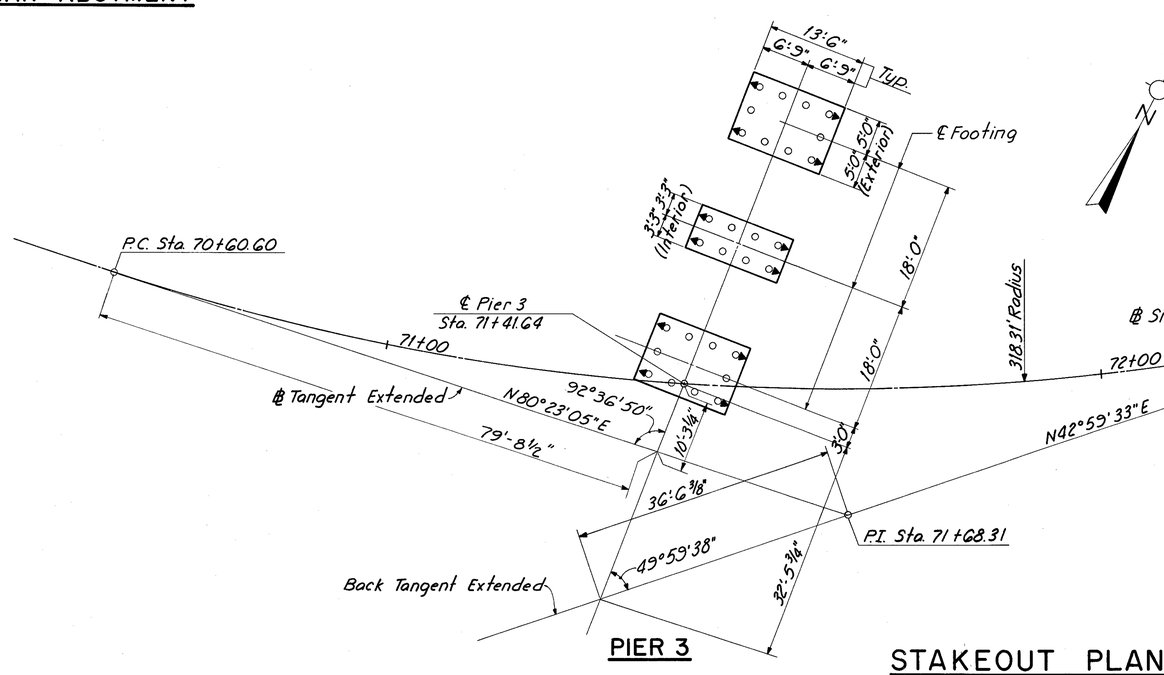
PIER 2

N80°23'05"E

69+00

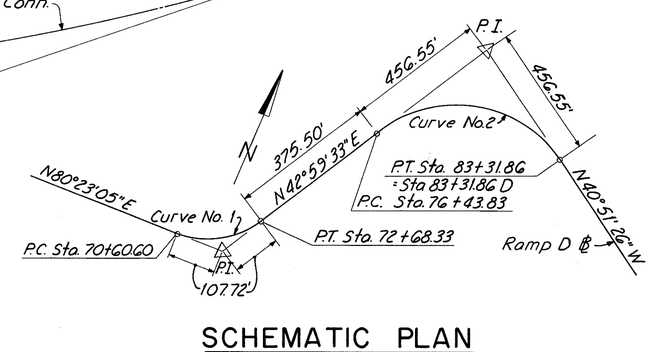
70+00

REAR ABUTMENT



PIER 3

STAKEOUT PLAN



SCHEMATIC PLAN

Note:
For location of piling see sh. 308, 309 & 310.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

G/64

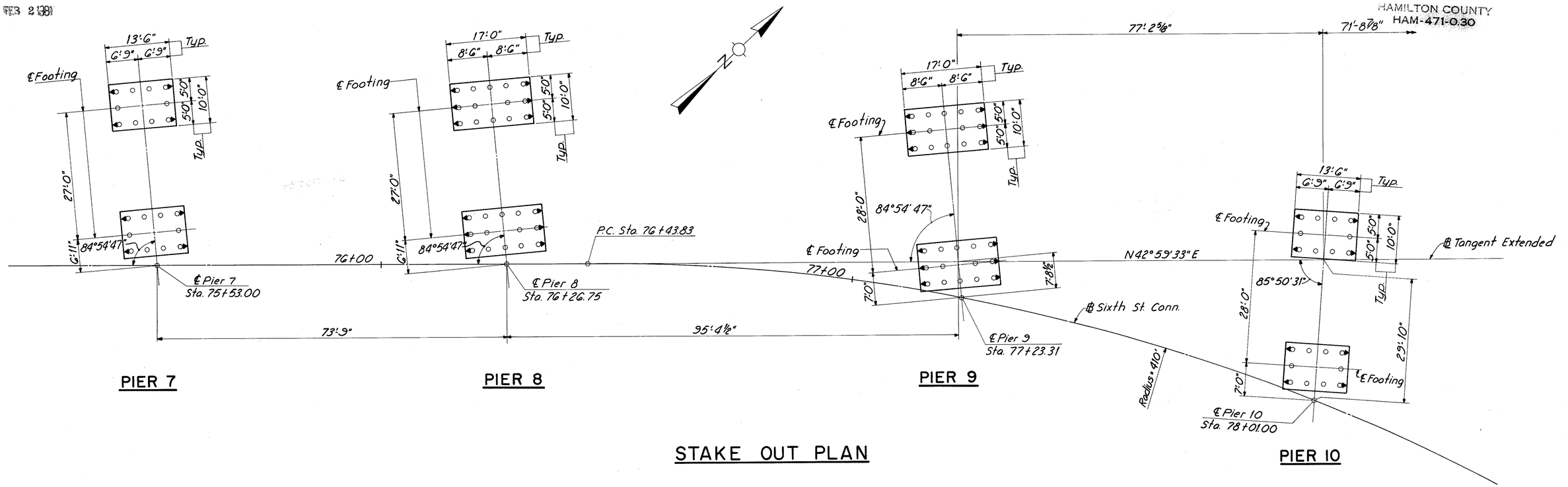
STAKE OUT PLAN
BRIDGE NO. HAM-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JHD		YYL 12-6-71	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

301/494

HAMILTON COUNTY
HAM-471-0.30



PIER 7 PIER 8 PIER 9 PIER 10

STAKE OUT PLAN

Note:
For location of piling see sh. 313 thru 316.

For Schematic Plan see sh. 300

HAZELET & ERDAL
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7/64

STAKEOUT PLAN

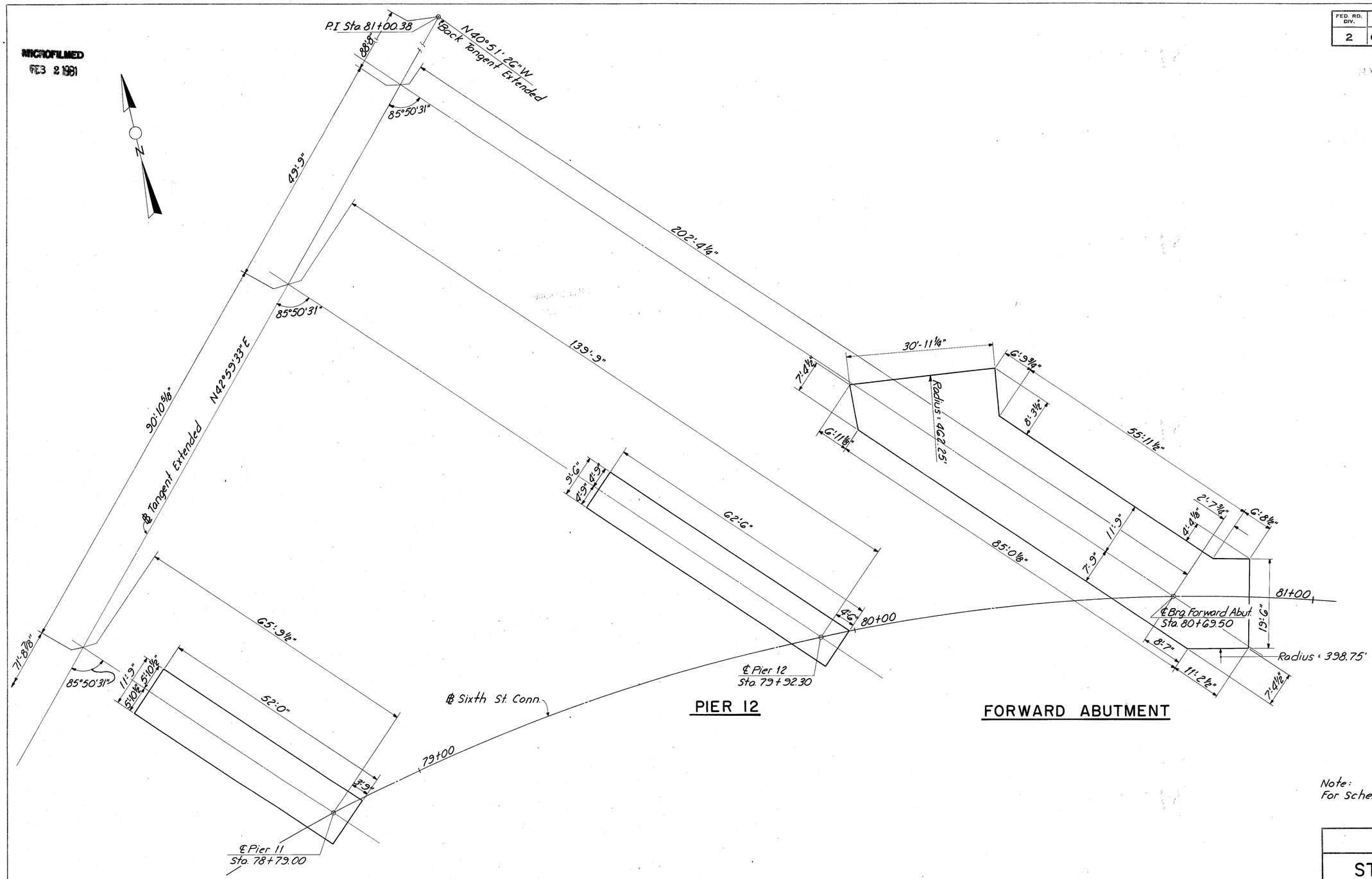
BRIDGE NO. HAM-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JHD		YY L. 12-6-71	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

302
494



Note:
For Schematic Plan see sh. 300.

HAZELET & ERDAL
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CINCINNATI, OHIO

8/64

STAKEOUT PLAN
BRIDGE NO. HAM-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9

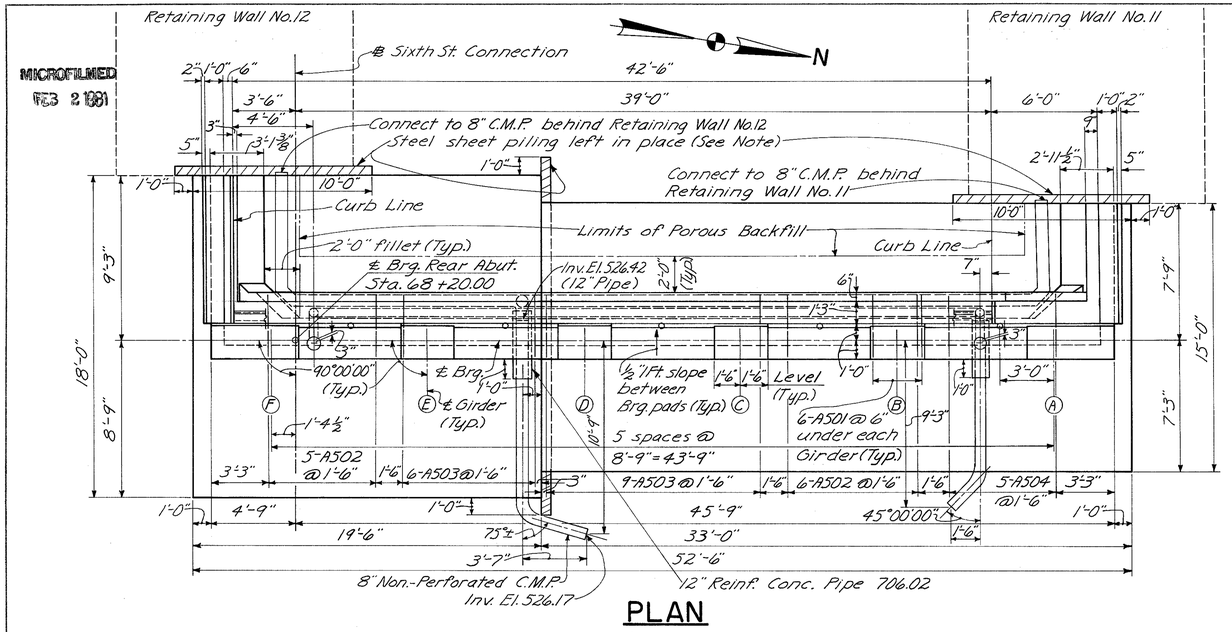
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JHD		V.V.K. 12-6-71	JHD 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

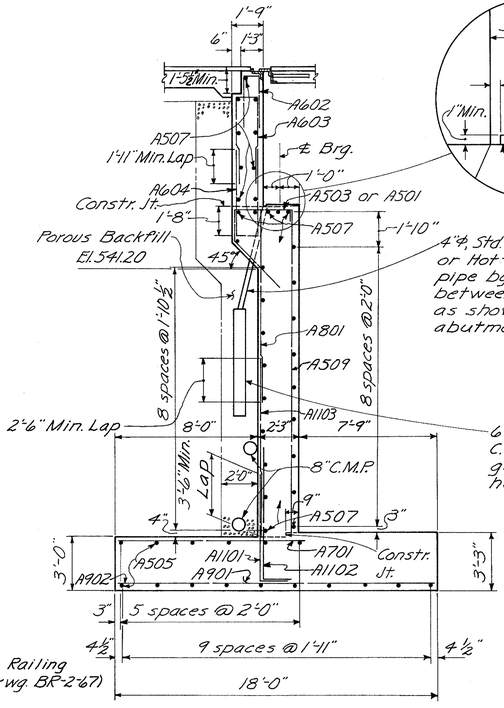
303
494

HAMILTON COUNTY
HAM-471-0.30

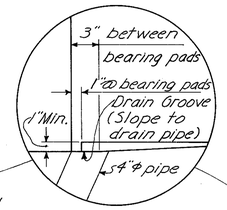
MICROFILMED
FEB 2 1981



PLAN

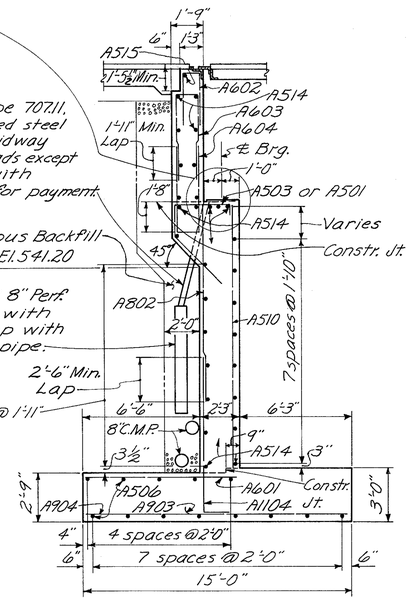


SECTION A-A

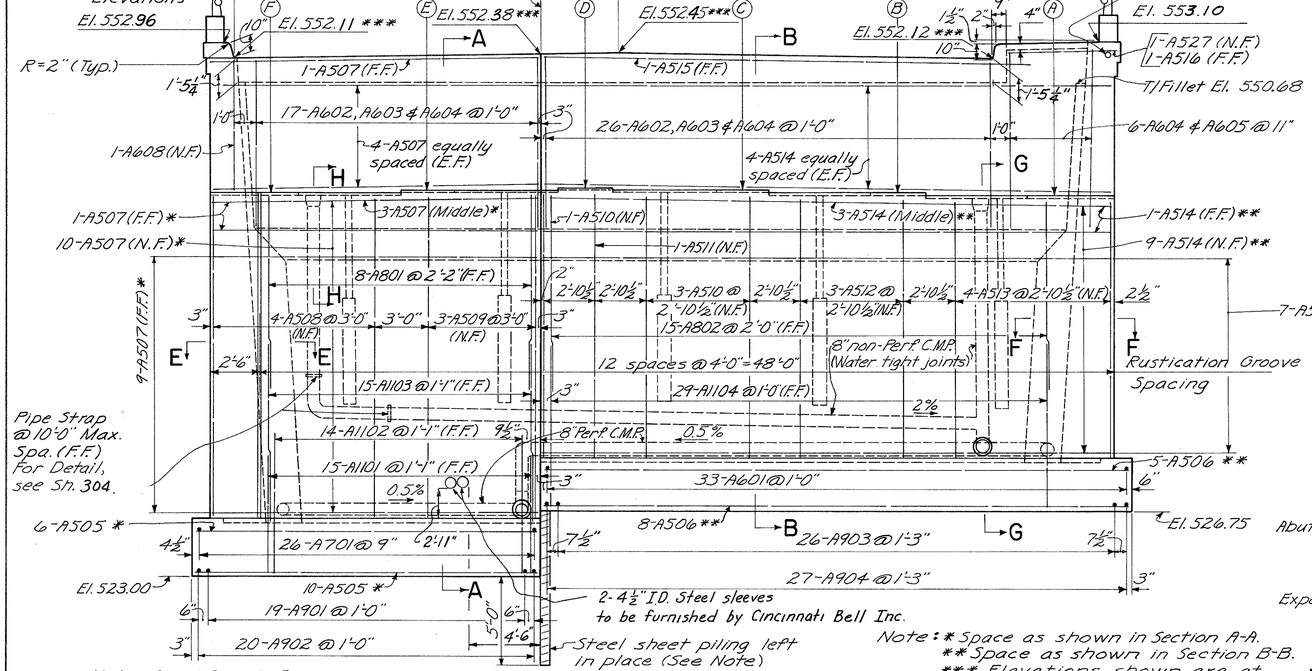


4" ø, Std. alloy steel pipe 707.11, or Hot-Dip Galvanized steel pipe by 6'-0" long. (Midway between bearing pads except as shown). Include with abutment concrete for payment.

6'-0" length of 8" Perf. C.M.P. Provide with galvanized cap with hole for 4" ø pipe.



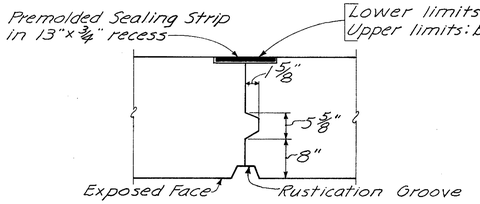
SECTION B-B



Note: Steel Sheet Piling left in place shall have a minimum section modulus of 70 inch³ per foot of wall. Used piling in good condition may be used.

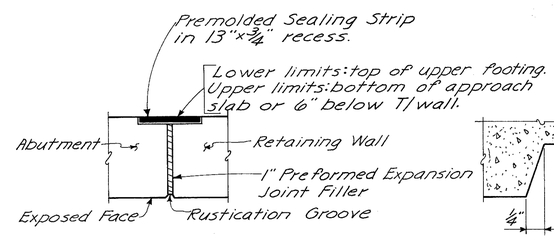
ELEVATION

Note: * Space as shown in Section A-A.
** Space as shown in Section B-B.
*** Elevations shown are at Front Face of Backwall. (Top of steel, ¼" below top of wearing Surface Course)

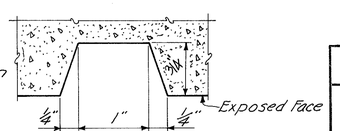


CONTRACTION JOINT DETAIL

Notes: POROUS BACKFILL, 2'-0" thick outside back edge of Abutment and Wingwalls, shall extend up to the plane of the subgrade and laterally to the limits of the wingwalls as shown in plan.
N.F. denotes Near Face, F.F. denotes Far Face, and E.F. denotes Each Face.
For Wingwall Details, see Sh. 304.
For Sections E-E, F-F, G-G, and H-H, see Sh. 304.
For Roadway and Curb End Finish Details, see sh 325 and Std. Drwg. SD-1-69, Sh. No. 142.
Provide 3" clearance to reinforcing steel in footing, minimum.



EXPANSION JOINT DETAIL



RUSTICATION GROOVE DETAIL

HAZELET & ERDAL
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CINCINNATI, OHIO

9/164

REAR ABUTMENT

BRIDGE NO. HAM-471-0044

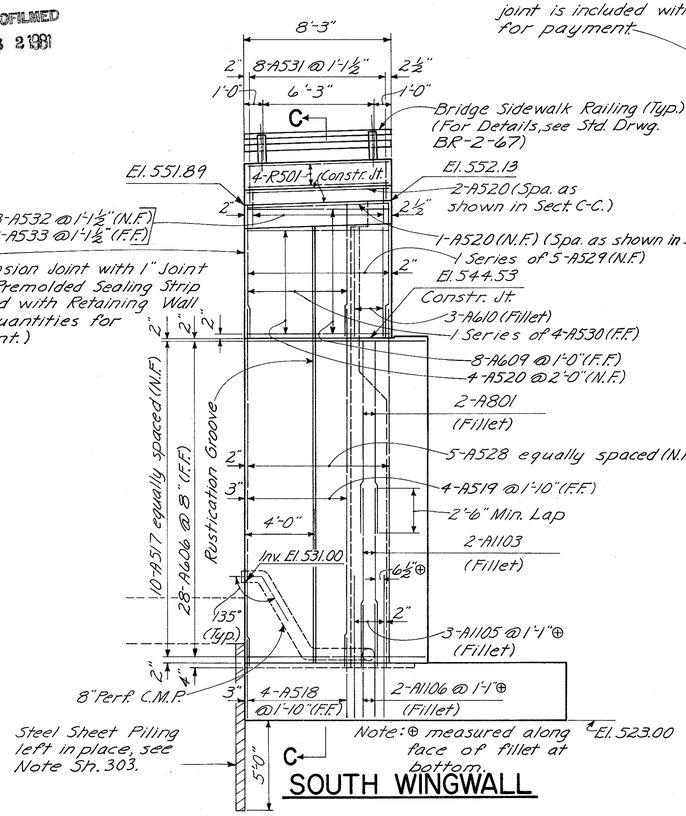
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CES		WL 1-10-72	JHS 11-13-72	

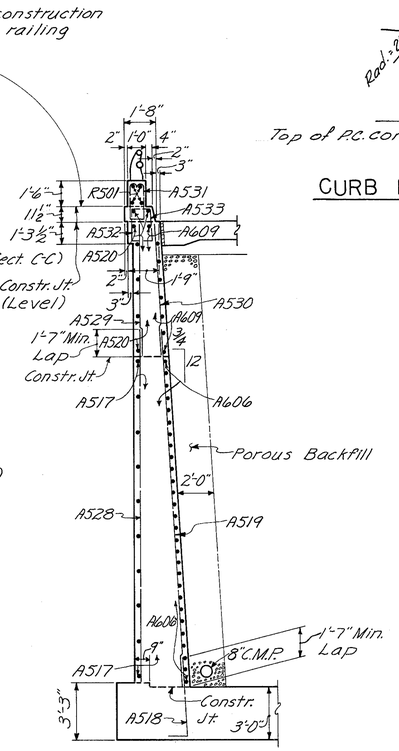
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

304
494

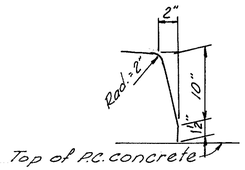
HAMILTON COUNTY
HAM-471-0.30



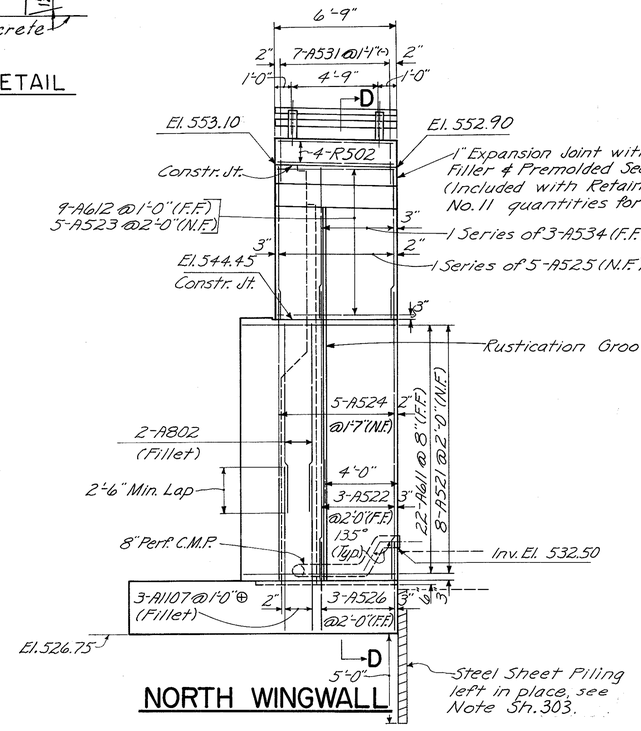
SOUTH WINGWALL



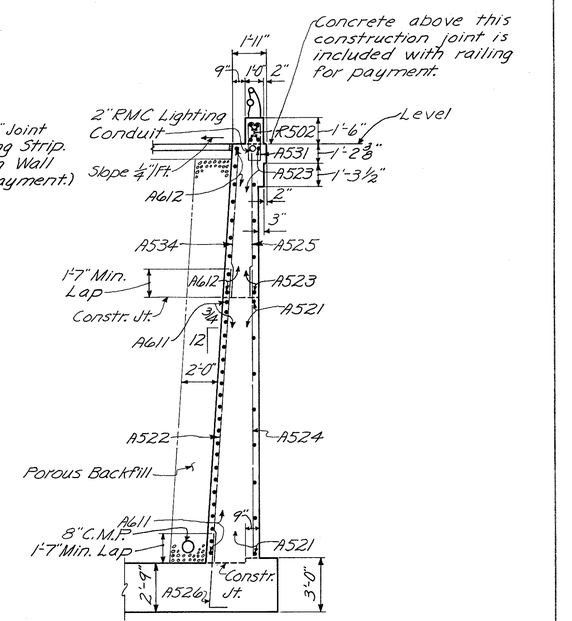
SECTION C-C



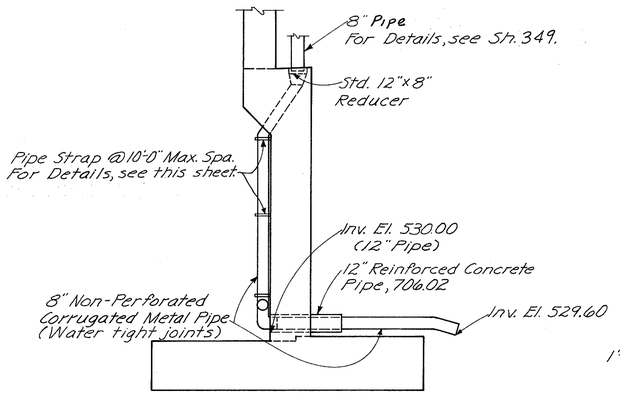
CURB DETAIL



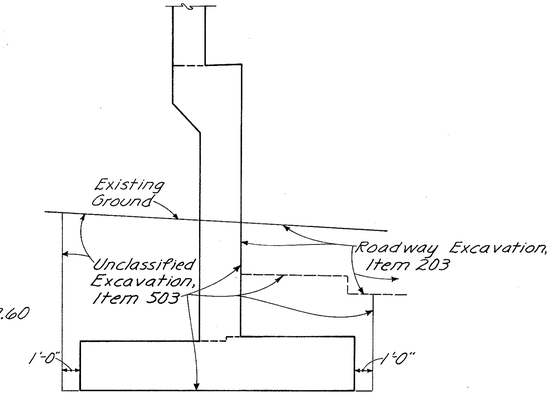
NORTH WINGWALL



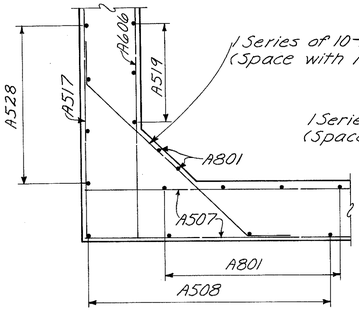
SECTION D-D



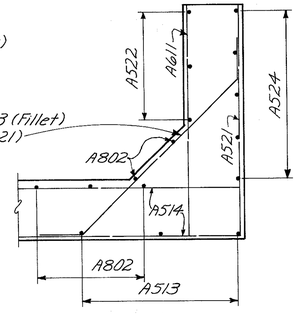
SECTION G-G
SECTION H-H (Similar)



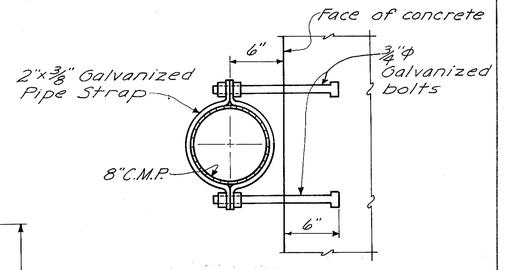
TYPICAL EXCAVATION SECTION



SECTION E-E



SECTION F-F



STRAP DETAIL

For Notes, see Sh. 303.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

10/64

REAR ABUTMENT

BRIDGE NO. HAM-471-0044

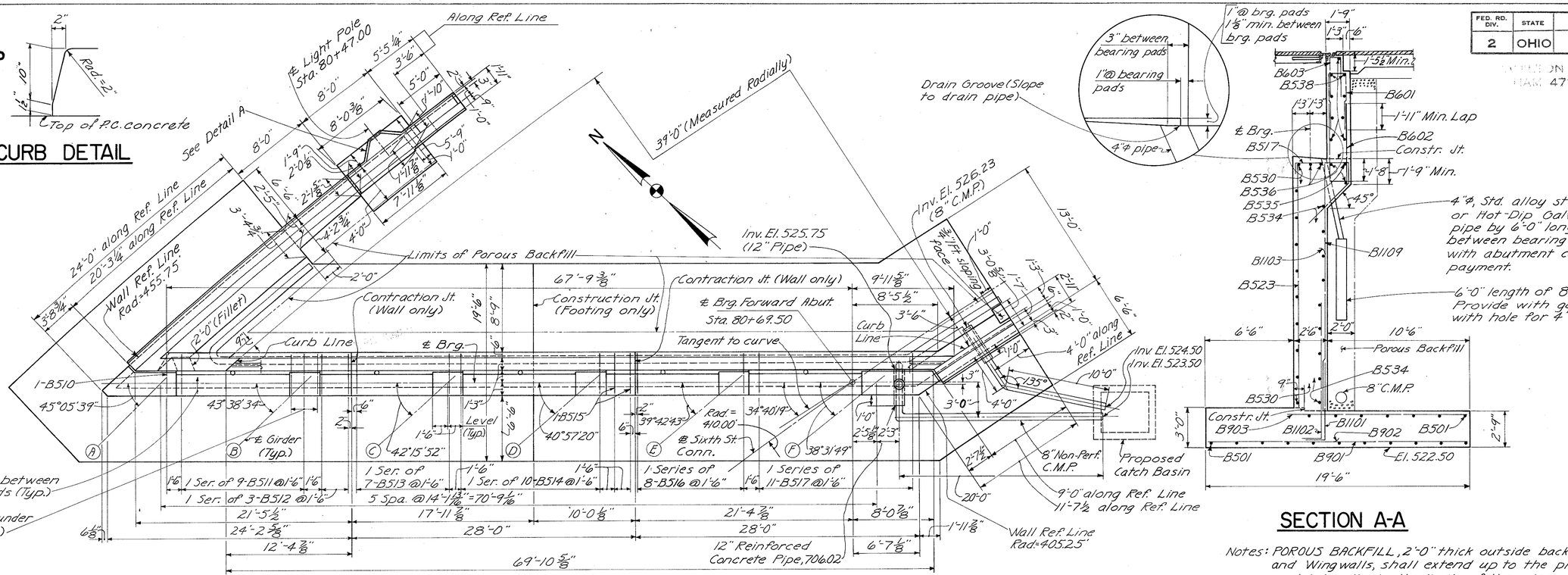
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CES		W.L. 1-10-72	JHO 11-13-72	

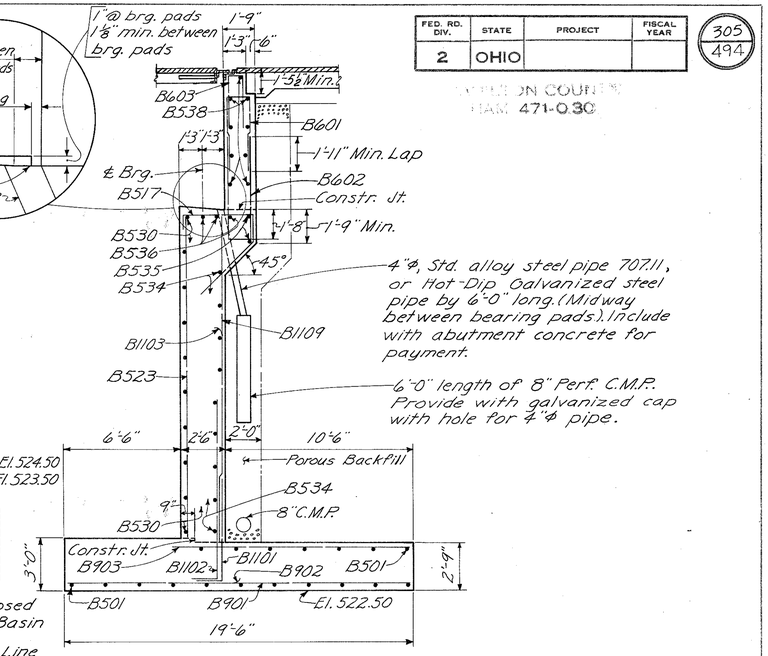
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

305
494

CURB DETAIL

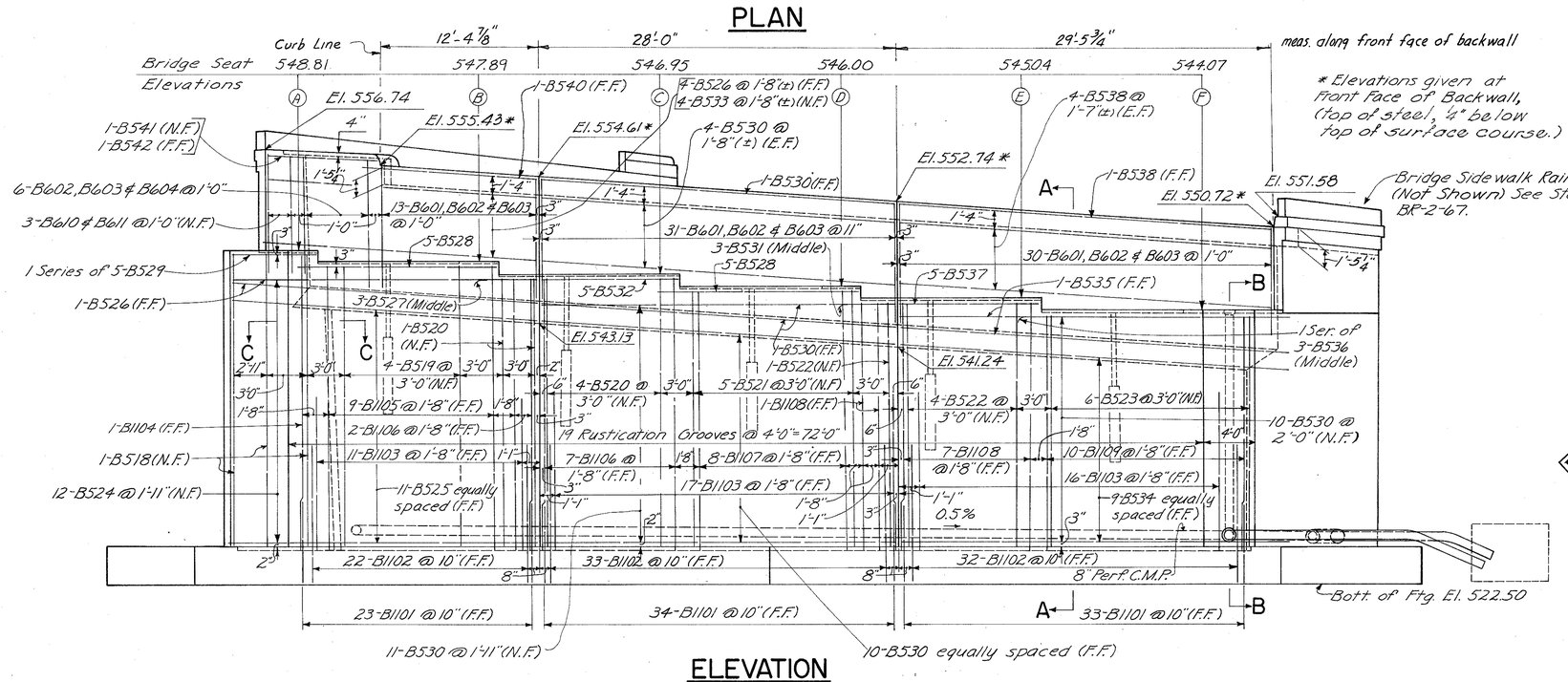


PLAN

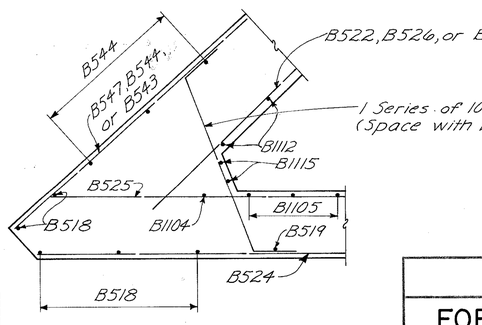


SECTION A-A

Notes: POROUS BACKFILL, 2'-0" thick outside back edge of Abutment and Wingwalls, shall extend up to the plane of the subgrade and laterally to the limits of the wingwalls as shown in plan.
N.F. denotes Near Face, F.F. denotes Far Face, E.F. denotes Each Face.
Provide 3" clearance to reinforcing steel in footing, minimum.
For Detail A, see Sh. 306.
For Wingwall Details, see Sh. 306 & 307
For Section B-B, see Section 6-6 Sh. 304 for similar details.
For Contraction Joint Detail, Expansion Joint Detail, and Rustication Groove Detail, see Sh. 303
For Footing Plan, see Sh. 306
For Roadway and Curb End Finish Details, see Std. Drwg. SD-1-69, Sh. No. 142. and Section K-K on sheet 325
For Light Pole Details, see Sh. No. 306
For Typical Lighting Details, see Sh 154
Work this Drwg. with Lighting Plan, Sh. No. 146



ELEVATION



SECTION C-C

HAZELET & ERDAL CONSULTING ENGINEERS
CINCINNATI, OHIO
11/64

FORWARD ABUTMENT

BRIDGE NO. HAM-471-0044

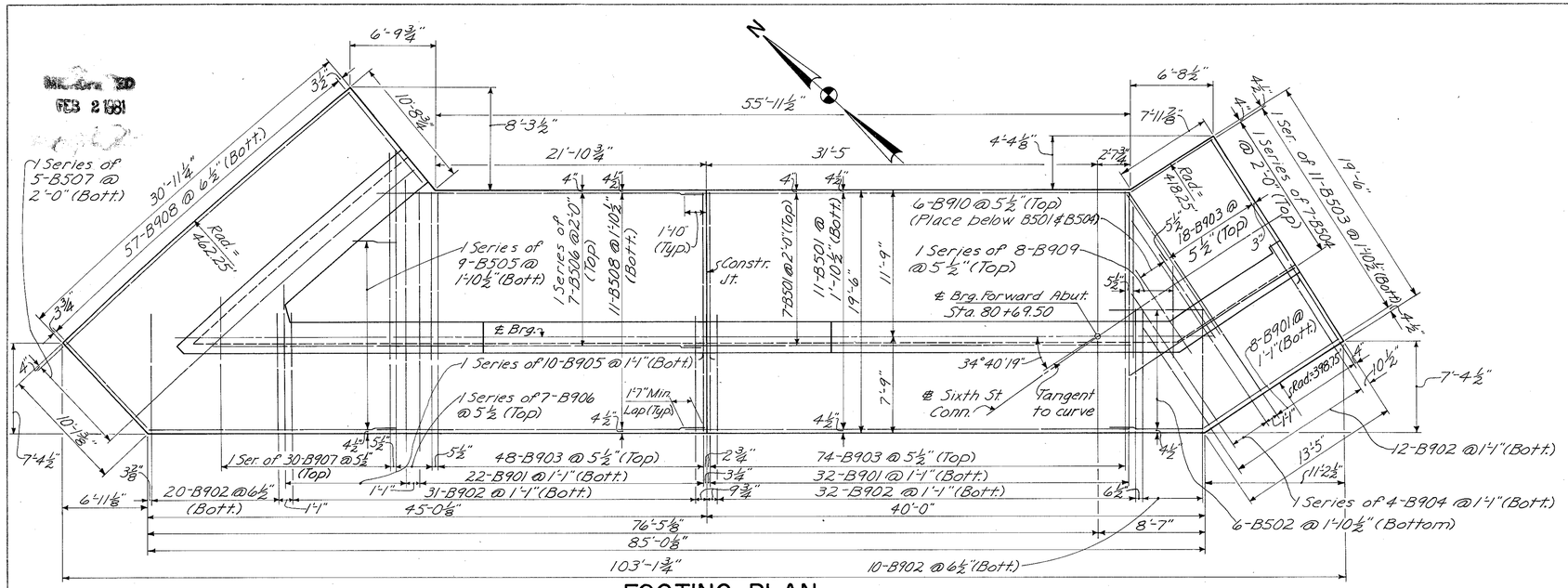
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CES		W.L. 1-14-72	JHe 11-15-72	

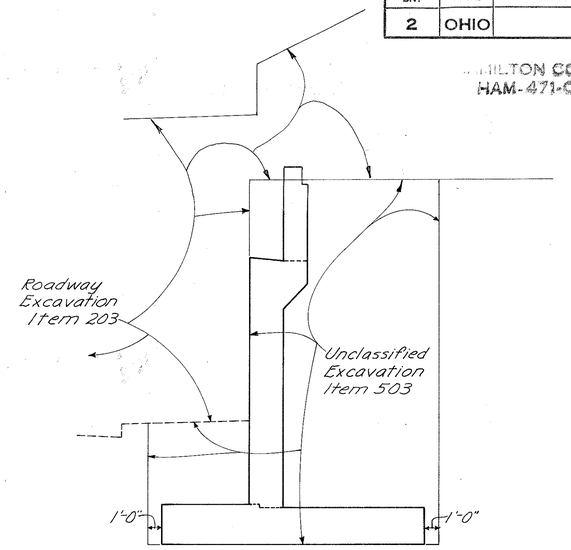
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

306
494

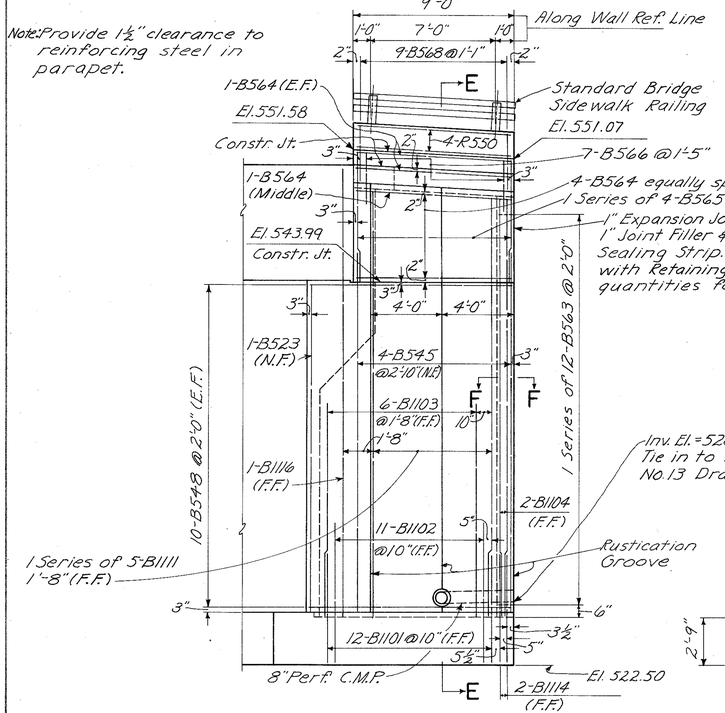
HAMILTON COUNTY
HAM-471-0.30



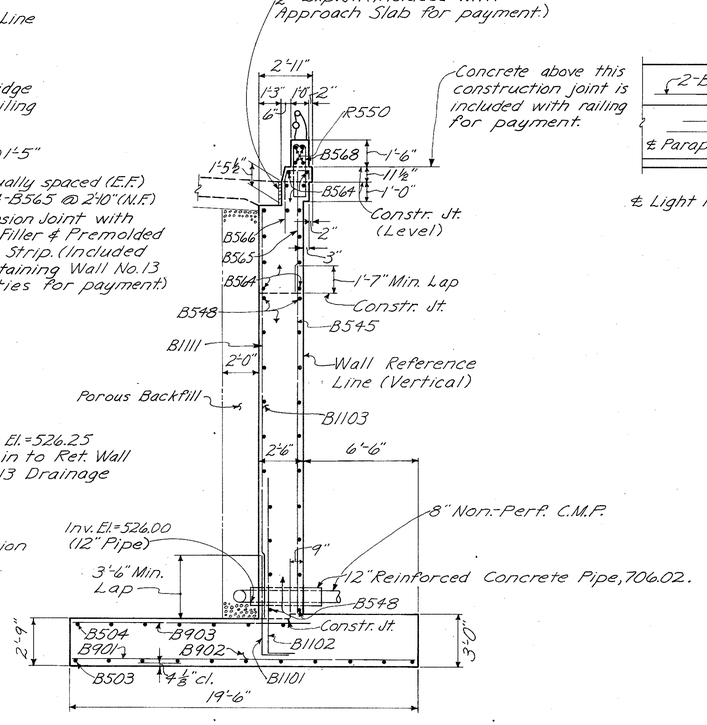
FOOTING PLAN



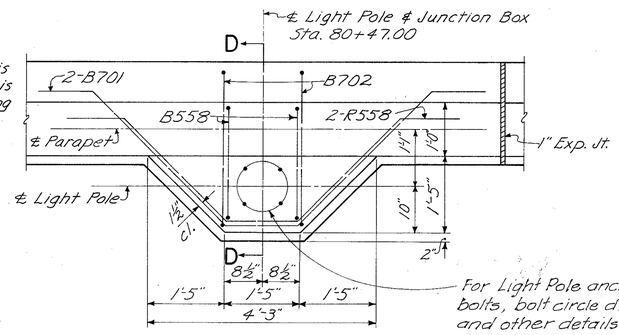
TYPICAL EXCAVATION SECTION



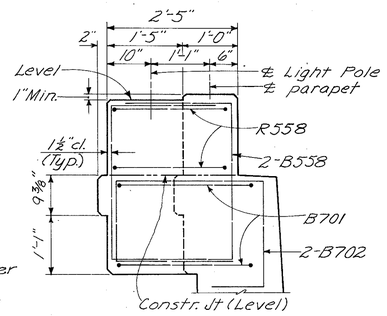
SOUTH WINGWALL ELEVATION



SECTION E-E

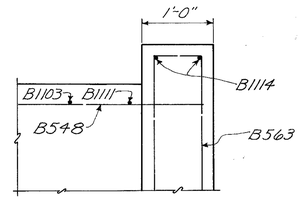


DETAIL A



SECTION D-D

For Notes, see Sh. 305.



SECTION F-F

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

12/64

FORWARD ABUTMENT

BRIDGE NO. HAM-471-0044

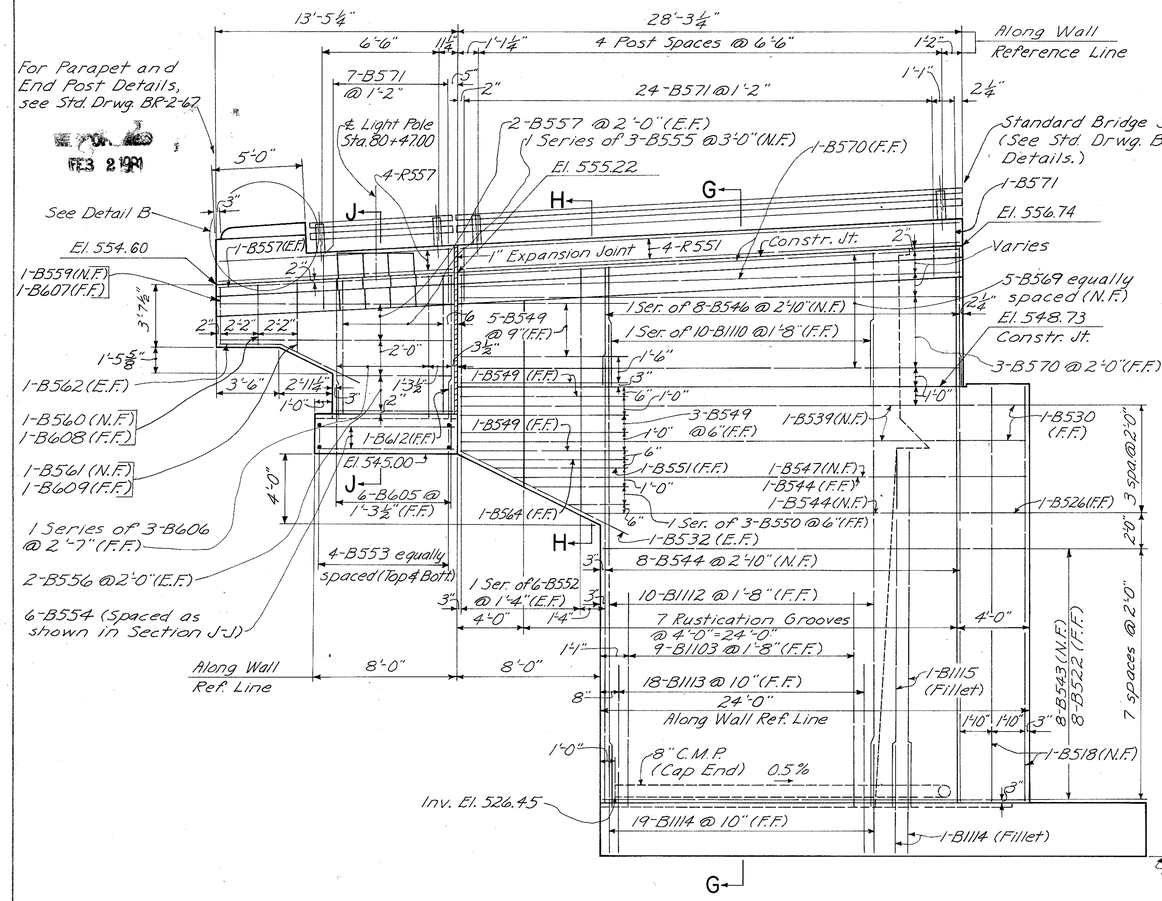
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CES		WL 1-14-72	JHO 11-13-72	

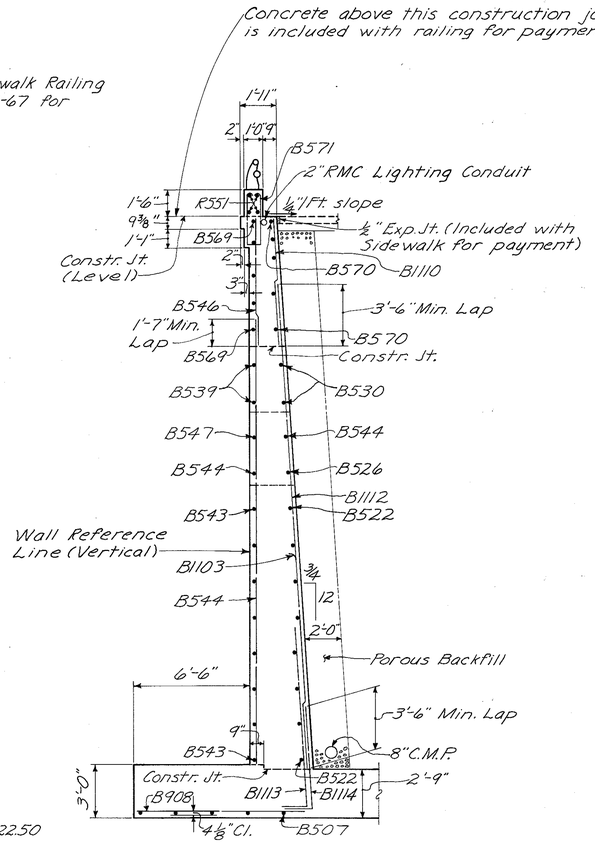
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

307
494

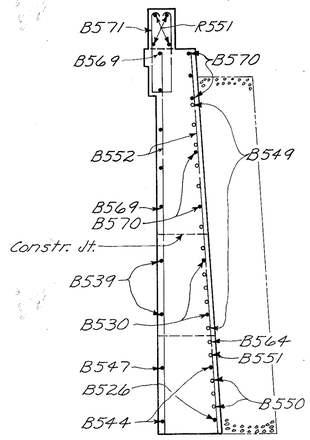
HAMILTON COUNTY
HAM-471-0.30



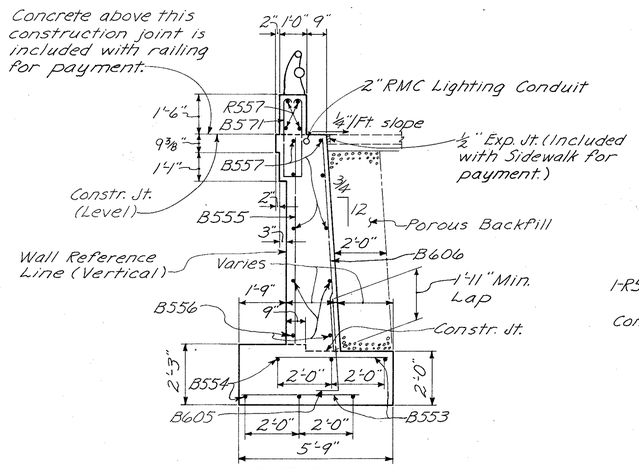
NORTH WINGWALL ELEVATION



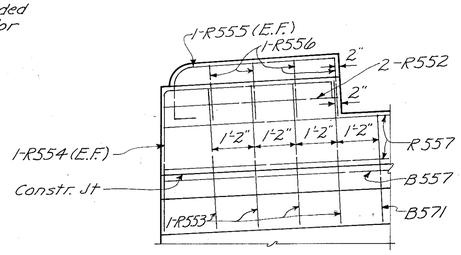
SECTION G-G



SECTION H-H



SECTION J-J
(Light Pole Support Not Shown)



DETAIL B

For Notes, see Sh. 305.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

13/64

FORWARD ABUTMENT

BRIDGE NO. HAM-471-0044

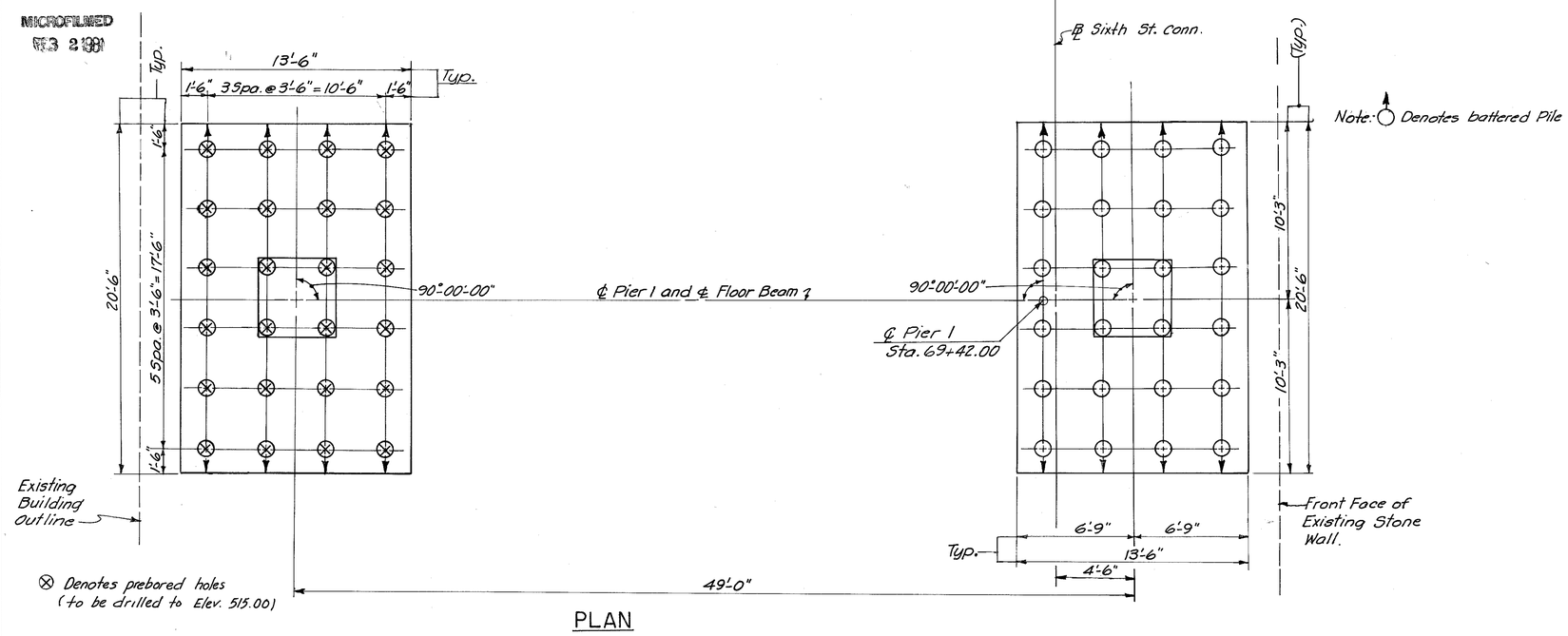
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CES		WL 1-14-72	JHO 11-13-72	

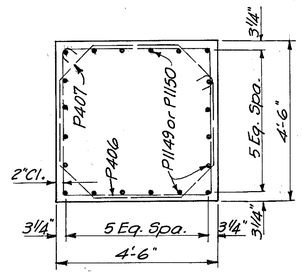
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

308
494

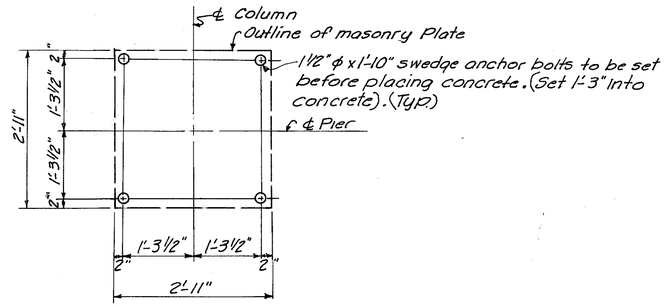
HAMILTON COUNTY
HAM-471-0.30



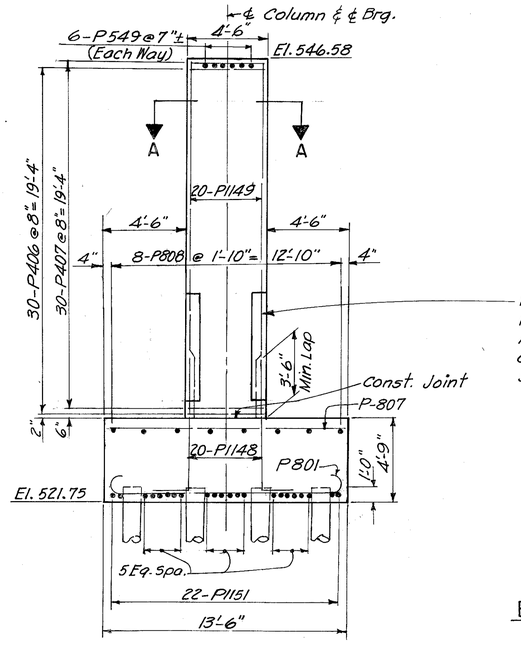
PLAN



SECTION A-A

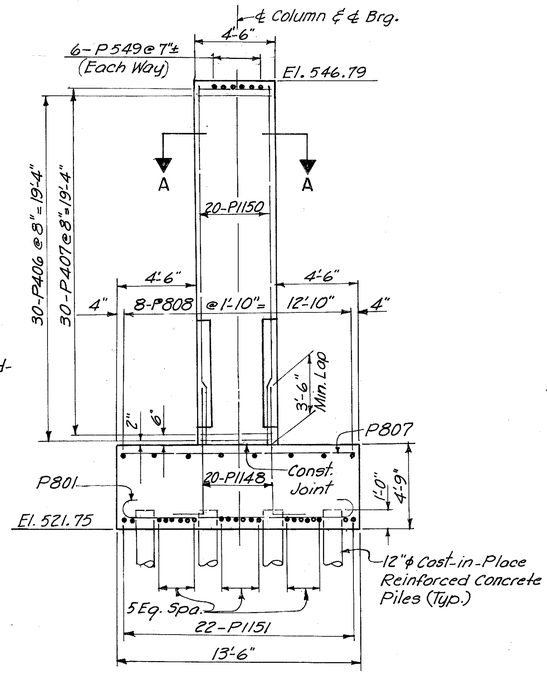


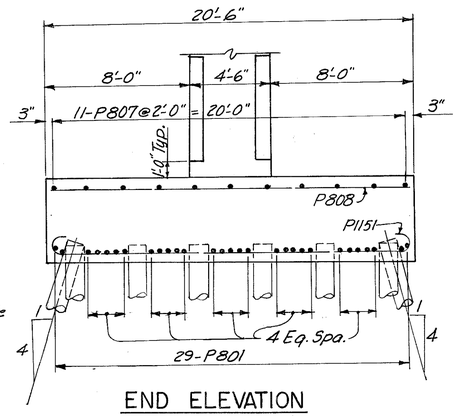
ANCHOR BOLT DETAIL



L 4 X 4 X 3/8 Armor Angles on all Corners. For details of angles see Sh. 325 Armor Angles shall be painted in accordance with Construction & Material Specifications, Section 514.

ELEVATION





END ELEVATION

Note:
Provide 3" clearance to reinforcing steel in footings, minimum.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

14/64

PIER NO. 1

BRIDGE NO. HAM-471-0044

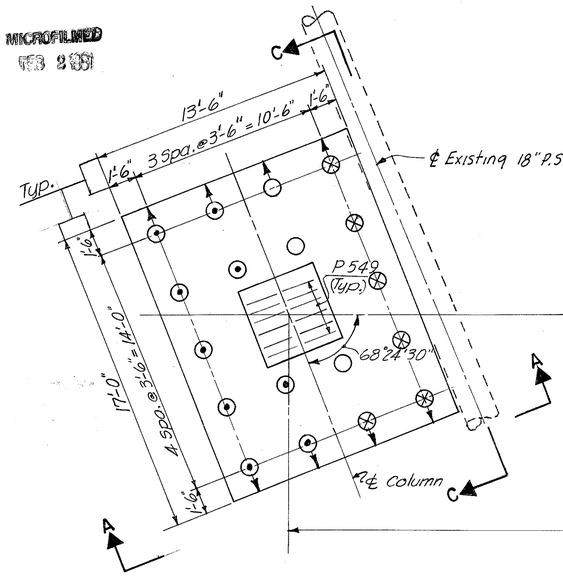
SIXTH STREET CONNECTION OVER
SOUTHBOUND I-471 H&E BRIDGE NO. 9

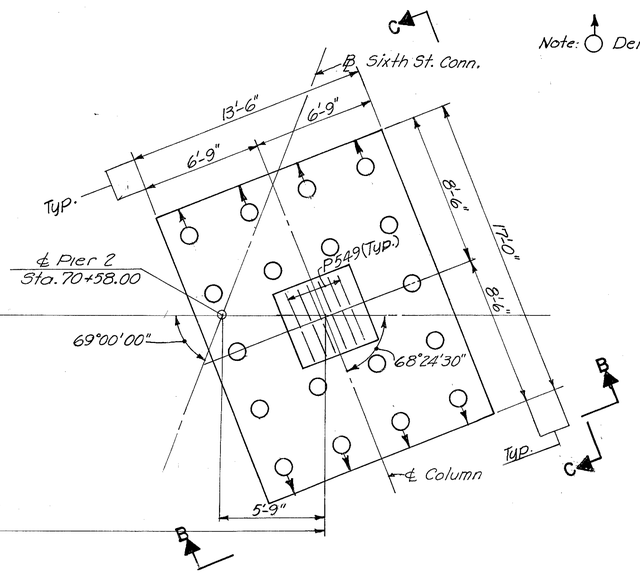
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.E.M.	V.W.S.	W.L. 12-17-71	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

309/494

HAMILTON COUNTY
HAM-471-0.30





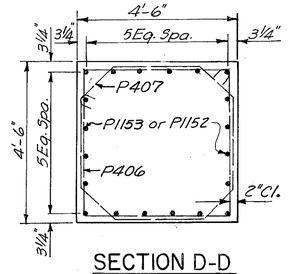
℄ Pier 2 and ℄ Floor Beam

⊗ Denotes Prebored Holes (to Elev. 510.)
⊙ Denotes Prebored Holes to Elev. 500.0

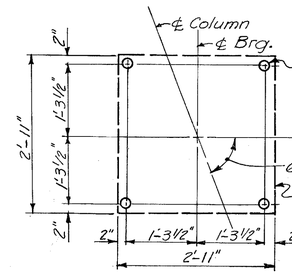
53'-3"

PLAN

Note: ○ Denotes battered pile.

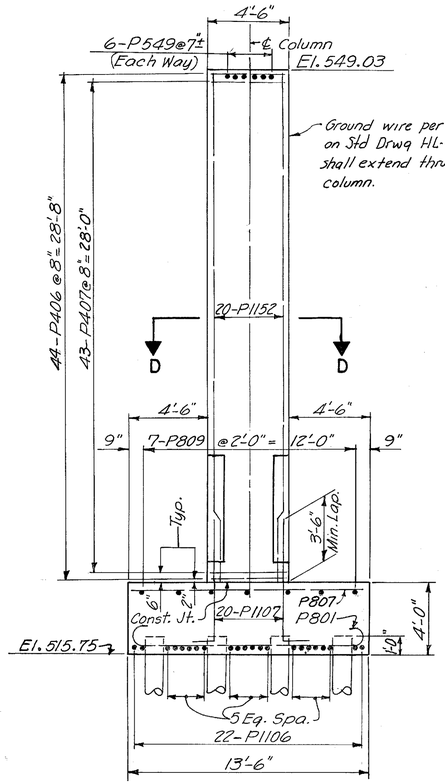


SECTION D-D



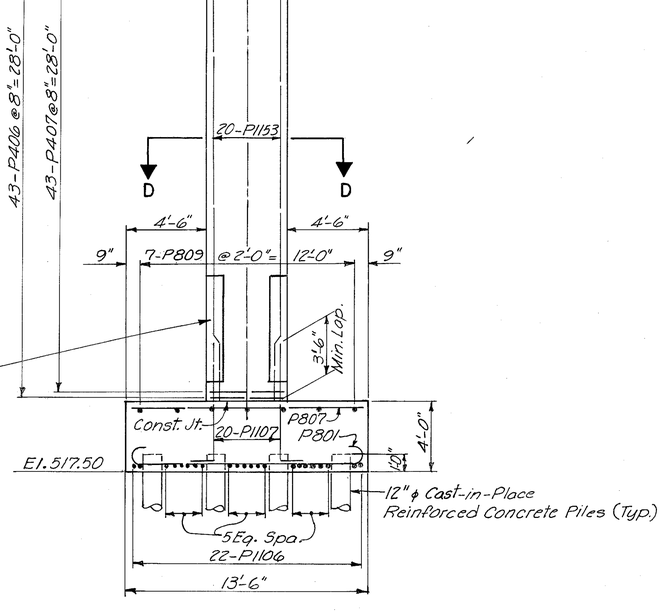
1½ ϕ x 1'-10" Swedge anchor bolts to be set before placing concrete. (Set 1'-3" into concrete) (Typ.)

ANCHOR BOLT DETAIL



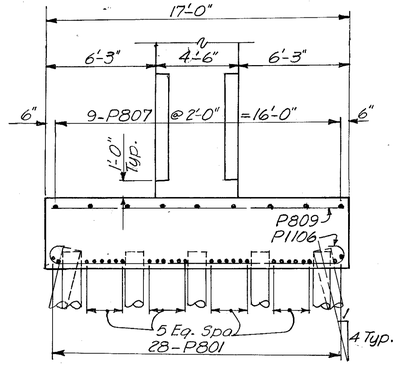
ELEVATION A-A

L 4 x 4 x 3/8 Armor Angles on all corners. For details of angles see Sh. 325. Armor Angles shall be painted in accordance with Construction ℄ Material Specifications, Section 514.



ELEVATION B-B

12" ϕ Cast-in-Place Reinforced Concrete Piles (Typ.)



ELEVATION C-C

Note:
Provide 3" clearance to reinforcing steel in footings, minimum.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

15/64

PIER NO. 2

BRIDGE NO. HAM-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

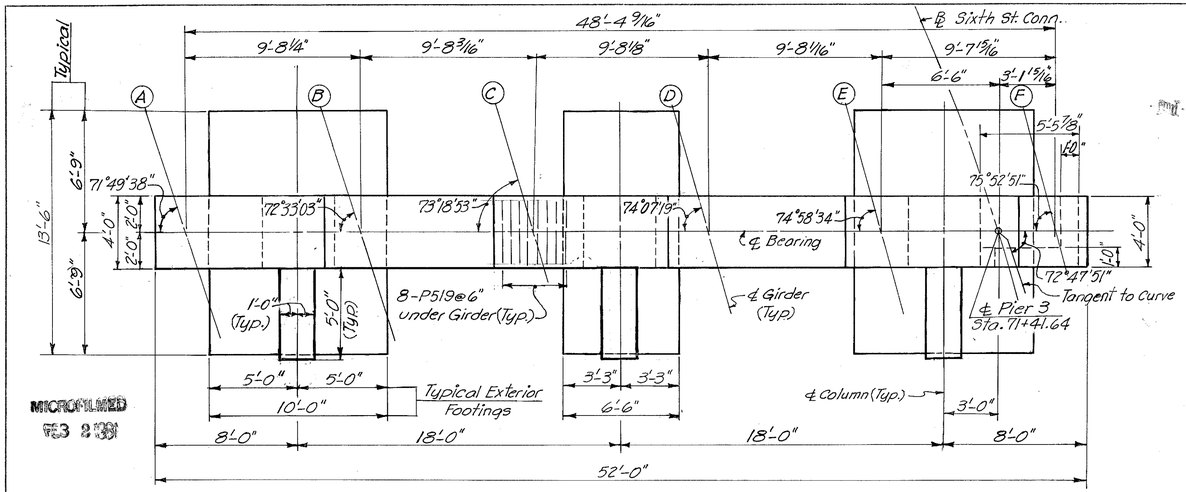
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.E.M.	V.W.S.	W.L. 12-17-71	J.H.G. 11-13-72	

Revised 7-3-73

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

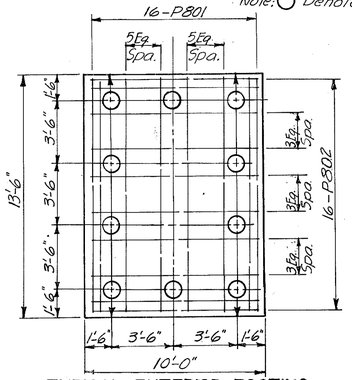
310
494

HAMILTON COUNTY
HAM-471-0.30

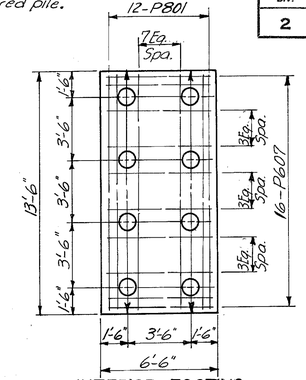


PLAN
(Piles Not Shown)

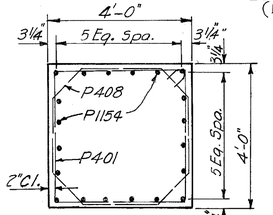
Note: ○ Denotes battered pile.



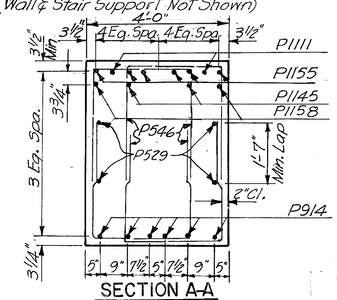
TYPICAL EXTERIOR FOOTING
(Wall & Stair Support Not Shown)



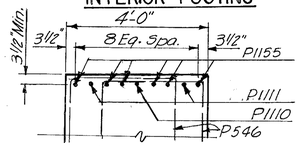
INTERIOR FOOTING



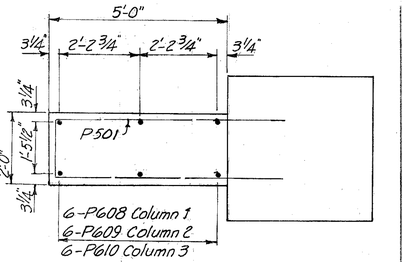
SECTION C-C
(Stairs Supports Not Shown)



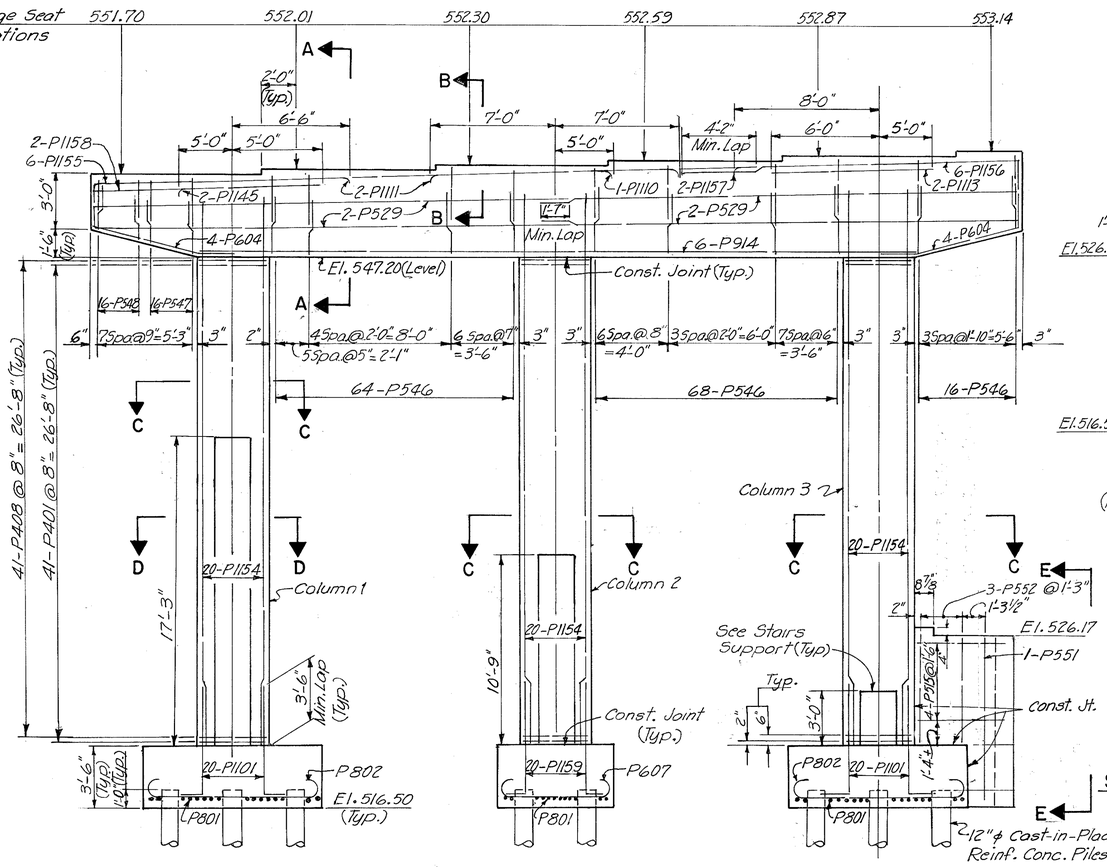
SECTION A-A



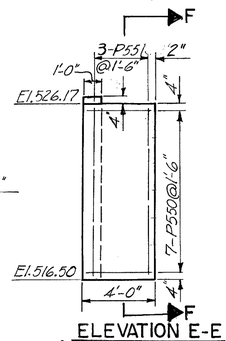
SECTION B-B



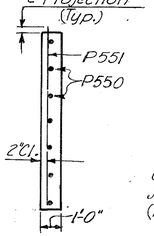
SECTION D-D



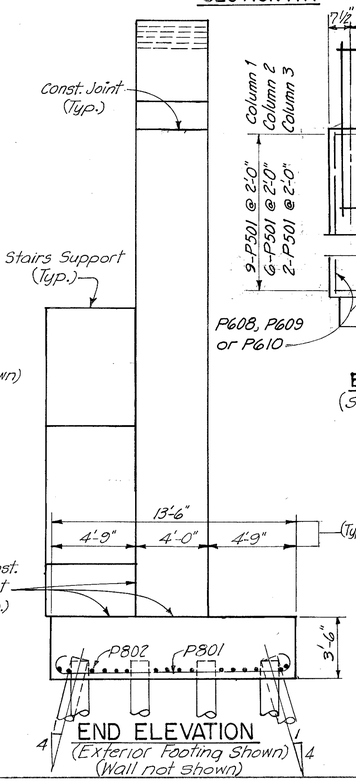
ELEVATION



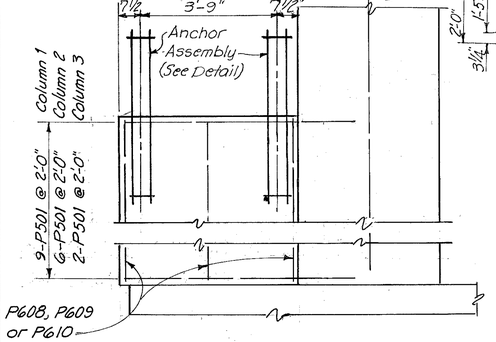
ELEVATION E-E
(Pier footing not shown)



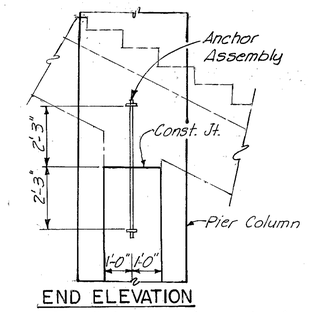
SECTION F-F



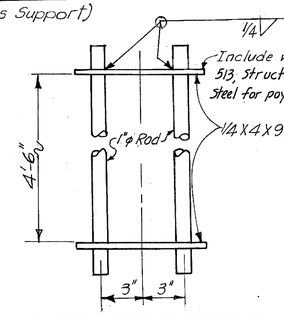
END ELEVATION
(Exterior Footing Shown)
(Wall not Shown)



ELEVATION
(Stairs Support)



END ELEVATION



ANCHOR ASSEMBLY DETAIL
(6 Req'd.)

Note: Provide 3" clearance to reinforcing steel in footings, minimum.

Work with STAIR DETAILS Sh. 340, 341 & 342.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

16/64

PIER NO. 3

BRIDGE NO. HAM-471-0044

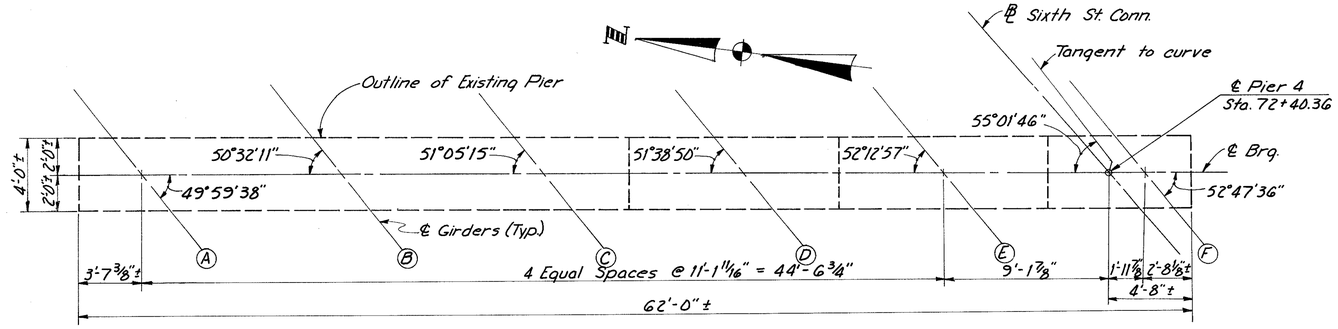
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.E.M	V.W.S.	V.V.K. 12-17-71	JHO 11-13-72	

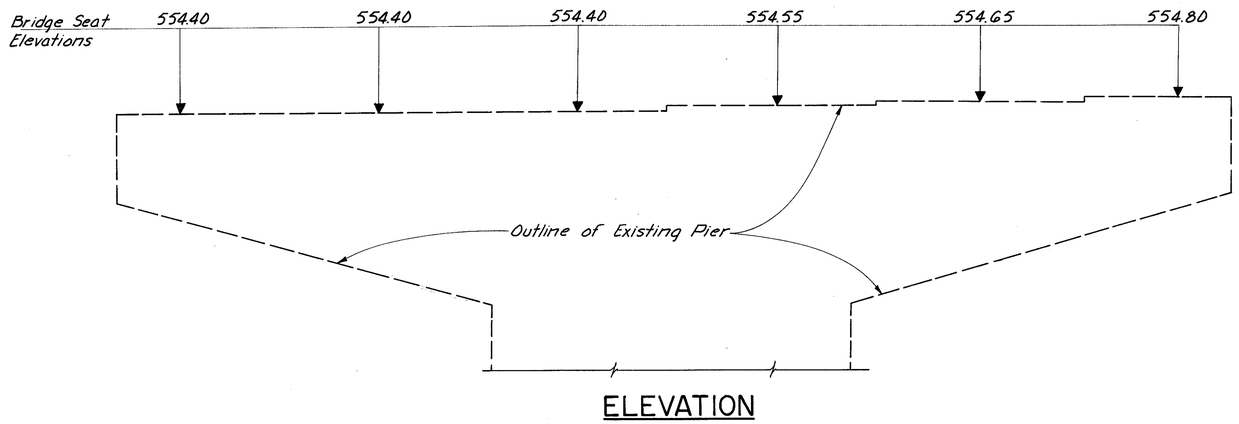
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

311/494

HAMILTON COUNTY
HAM-471-0.30



PLAN



ELEVATION

Note

Pier 4 has been constructed under a previous contract. It shall be the responsibility of the Contractor to verify all existing bridge seat elevations and dimensions marked (±). The Contractor shall revise, if necessary, the proposed heights of the bearing details and shall grind, if necessary, the existing concrete areas underneath the proposed masonry plates, in order to provide a level bearing surface.

The cost of this work shall be considered as included in the unit price bid for Item 513, "Structural Steel."

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

17/64

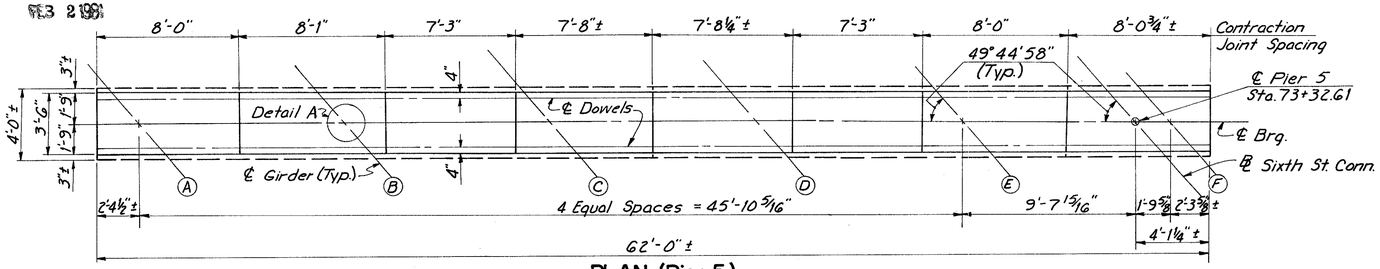
PIER NO. 4
BRIDGE NO. HAM-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JEM		W.L. 7-12-72	JHO 11-13-72	

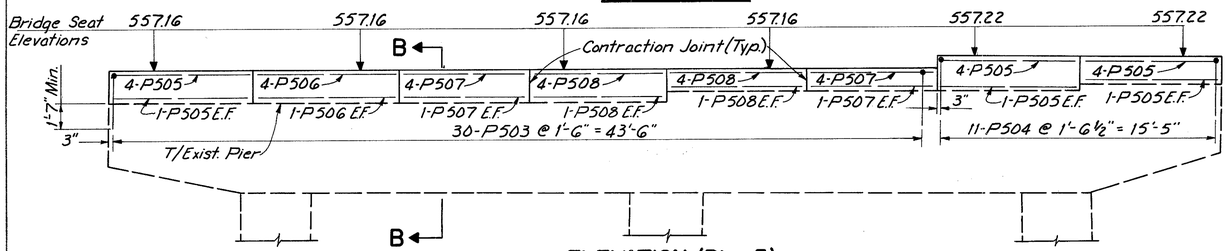
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

312
494

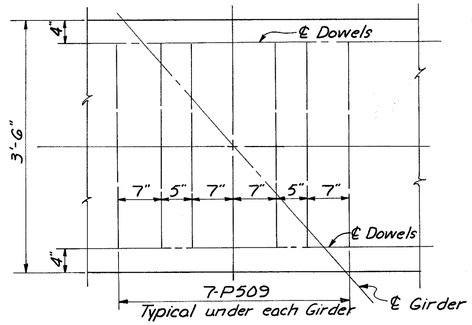
HAMILTON COUNTY
HAM-471-0.30



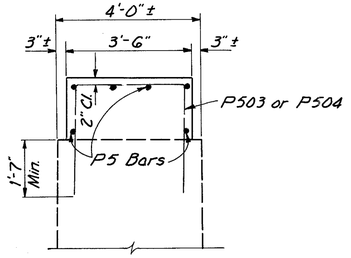
PLAN (Pier 5)



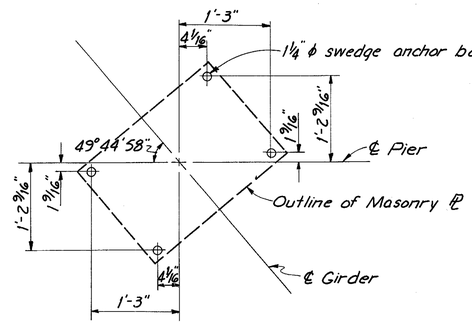
ELEVATION (Pier 5)



DETAIL A (Pier 5)

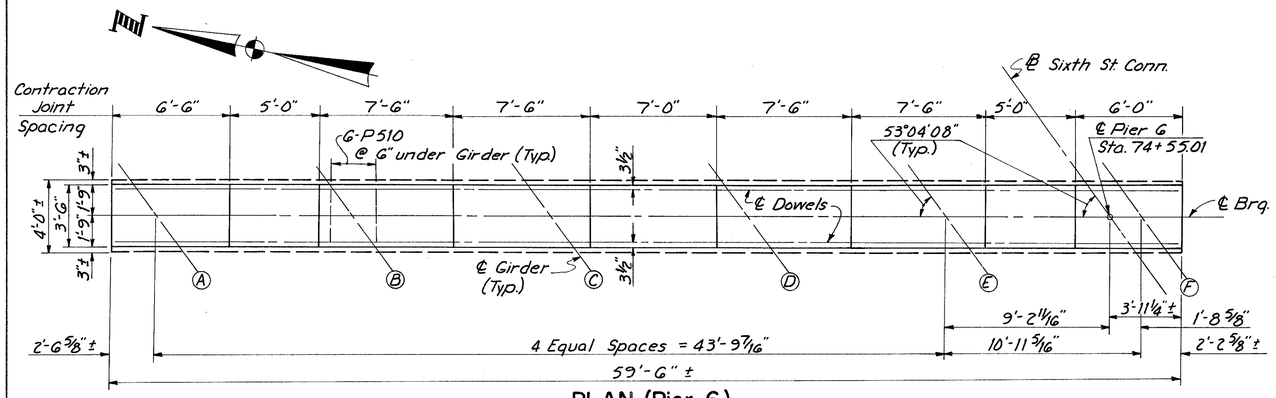


SECTION B-B (Pier 5)

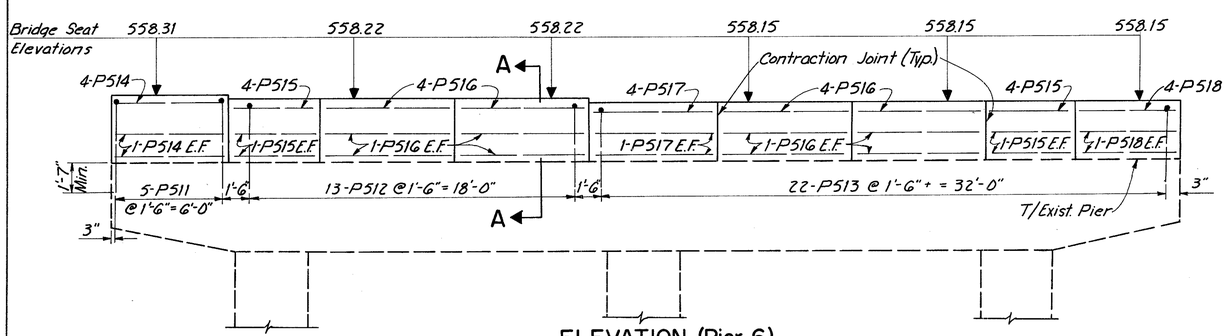


ANCHOR BOLT LAYOUT (Pier 5)

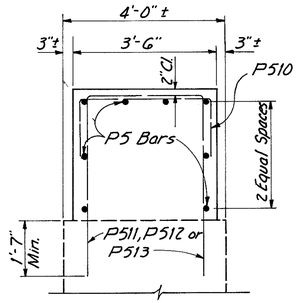
Note: Special care shall be taken in placing reinforcing steel in the cap so as to avoid interference with the drilling of anchor bolt holes.



PLAN (Pier 6)



ELEVATION (Pier 6)



SECTION A-A (Pier 6)

Notes:
E.F. Denotes Each Face
Special care shall be taken in drilling holes for dowel bars to miss pier reinforcing.
Dimensions marked (±) to be determined by Contractor by field measurements.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

18/64

PIER NO. 5 & 6

BRIDGE NO. HAM.-471-0044

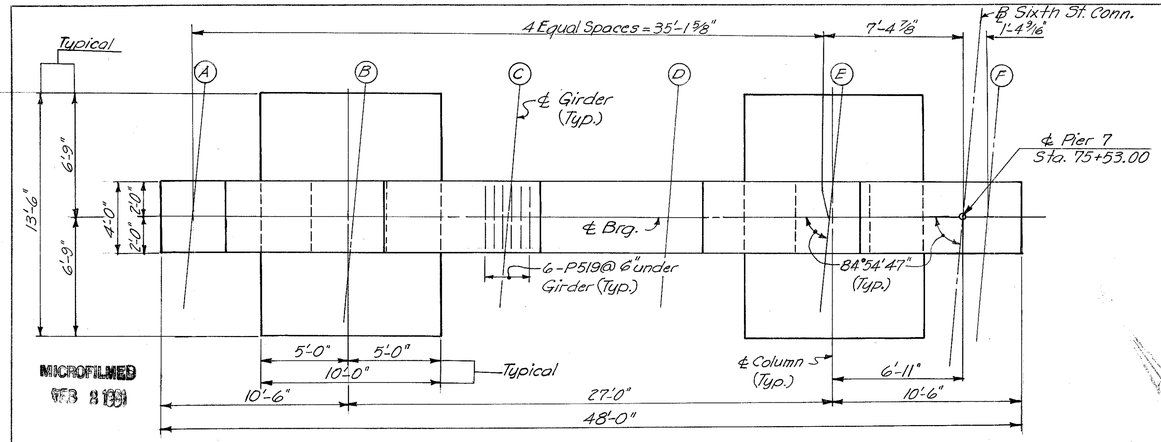
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JEM		WL 12-17-71	JHS 11-13-72	

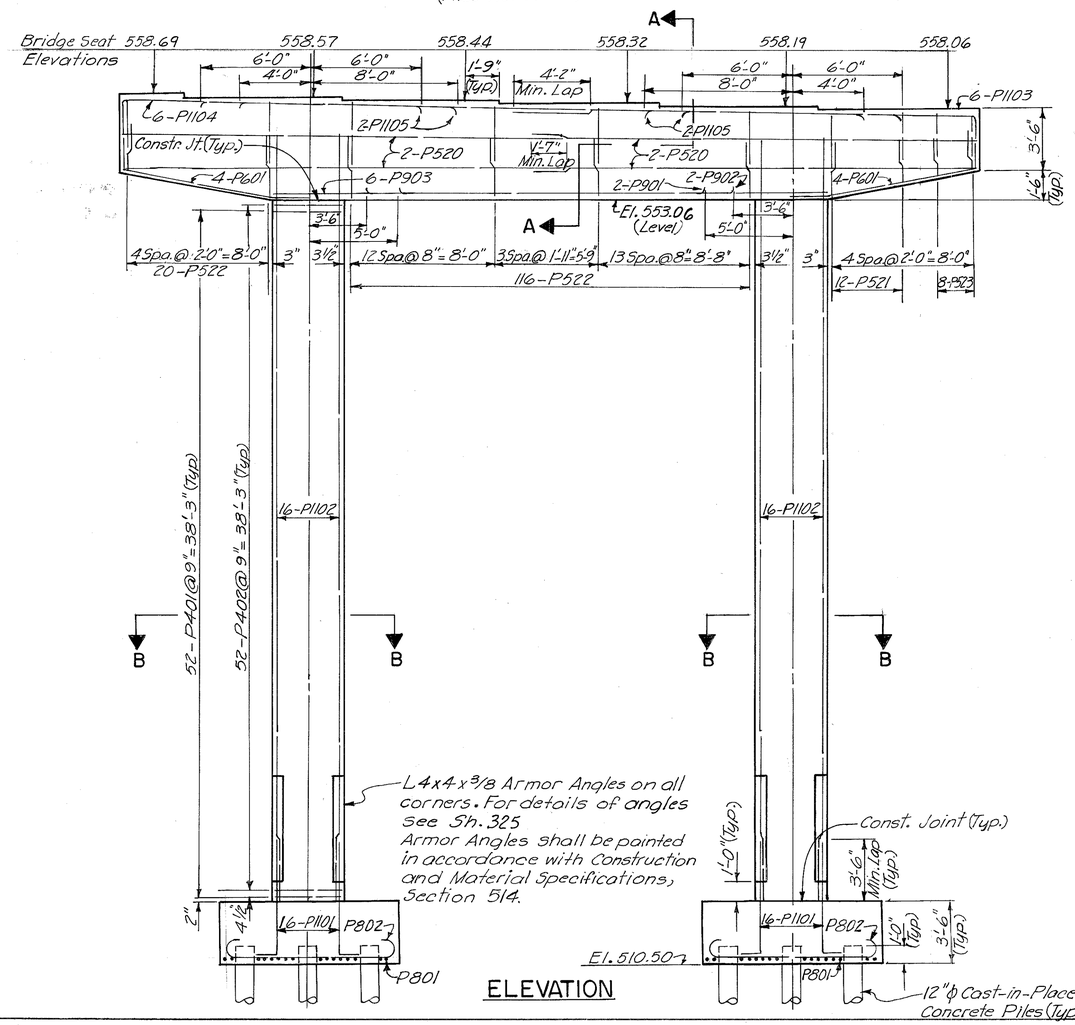
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

313
494

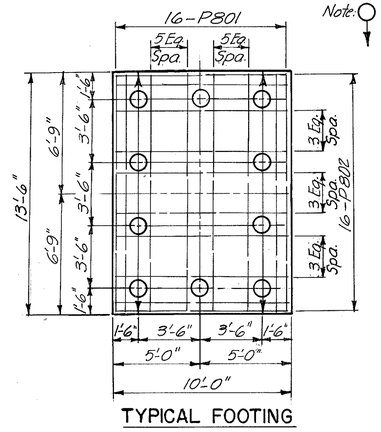
HAMILTON COUNTY
HAM-471-0.30



PLAN
(Piles Not Shown)

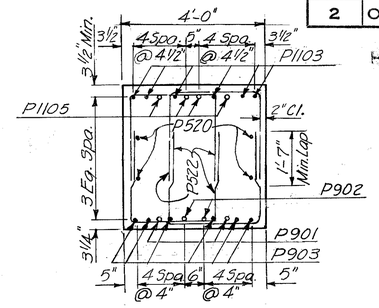


ELEVATION

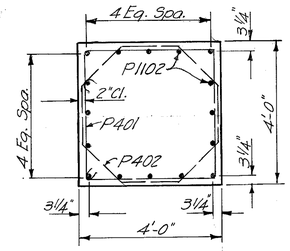


TYPICAL FOOTING

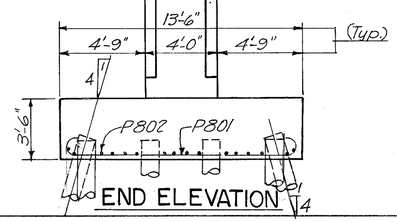
Note: ○ denotes battered Pile.



SECTION A-A



SECTION B-B



END ELEVATION

Note:
Provide 3" clearance to reinforcing steel in footings, minimum.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

19/64

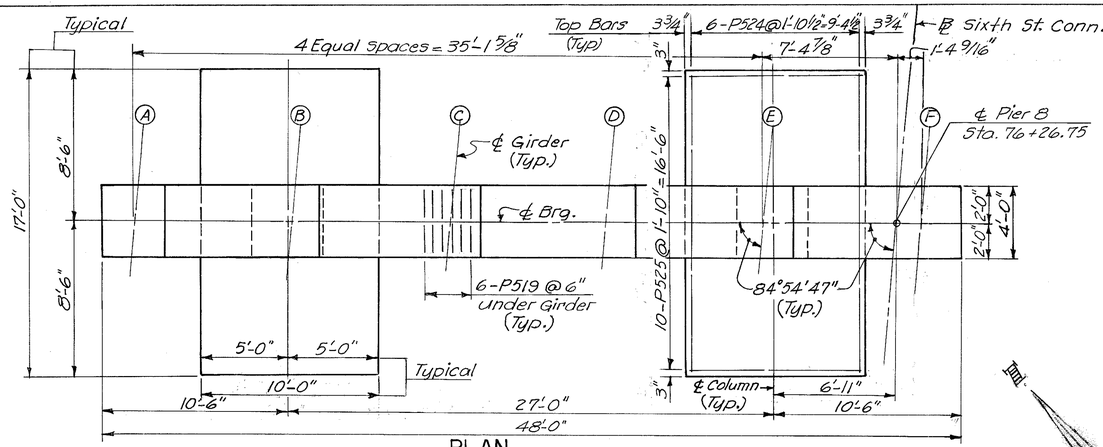
PIER NO. 7
BRIDGE NO. HAM-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.E.M.	V.W.S.	W.L. 12-17-71	JRO 11-13-72	

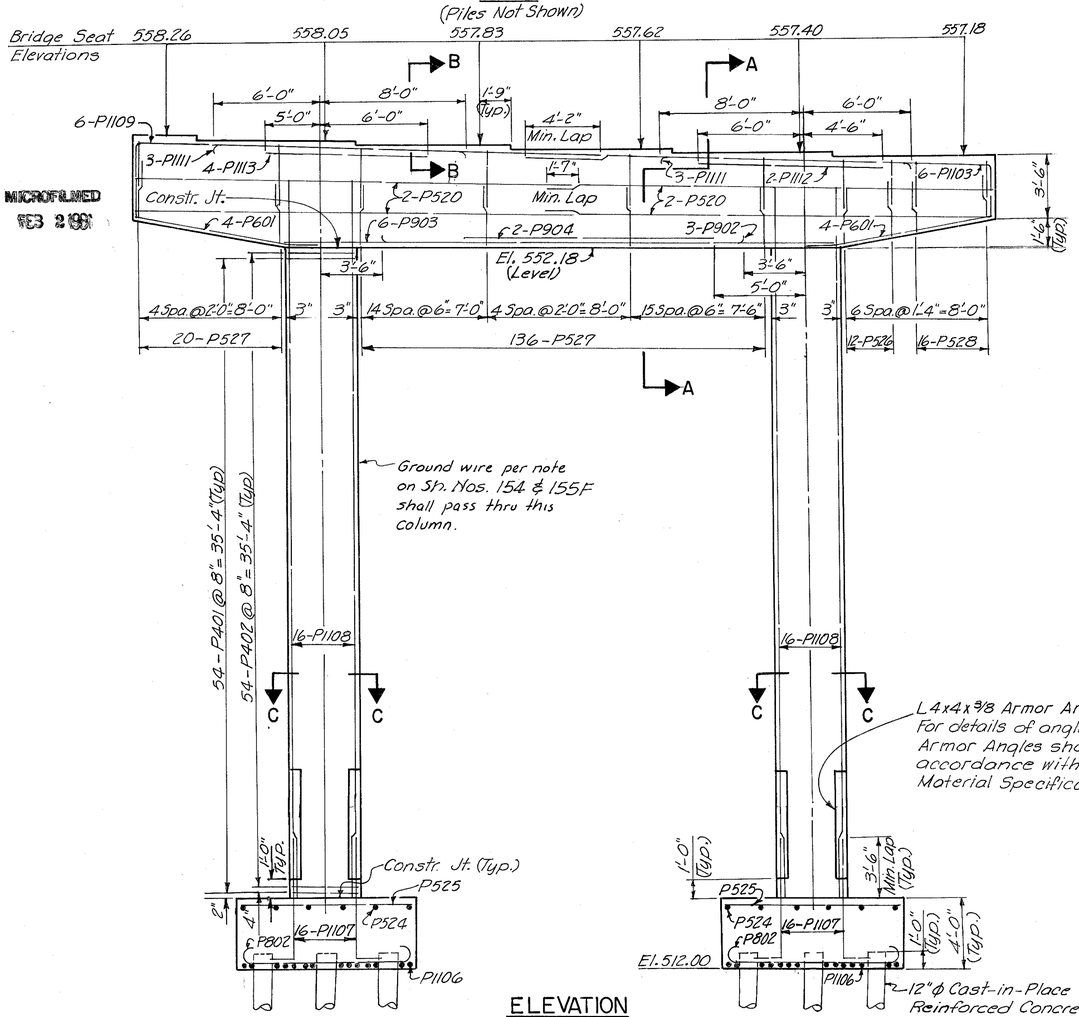
FED. RD. DIV. #	STATE	PROJECT	FISCAL YEAR
2	OHIO		

314/494

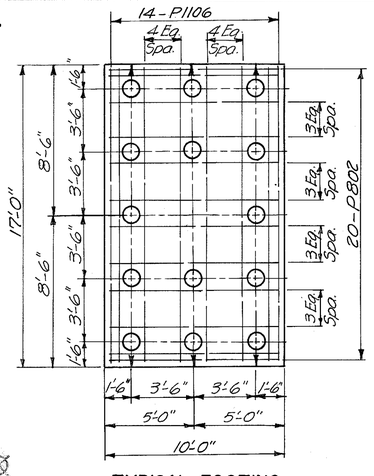
HAMILTON COUNTY
HAM-471-0.30



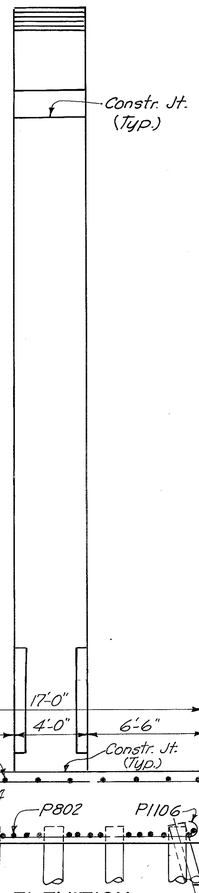
PLAN
(Piles Not Shown)



ELEVATION

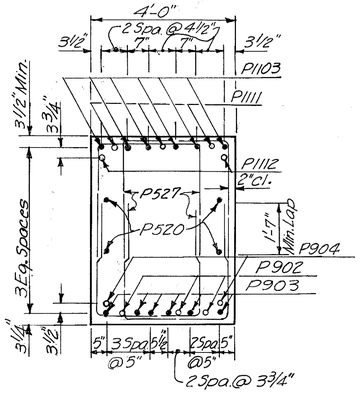


TYPICAL FOOTING

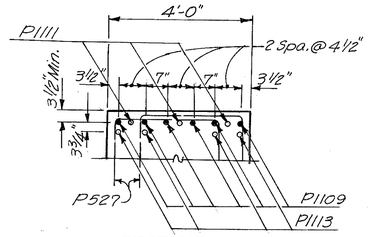


END ELEVATION

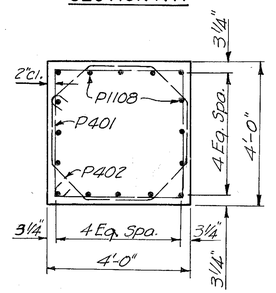
Note: ○ Denotes battered pile



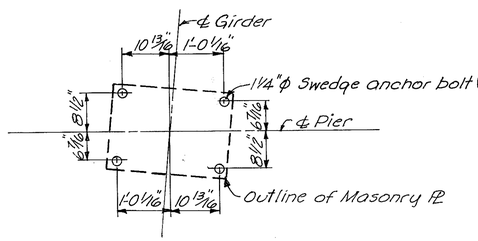
SECTION A-A



SECTION B-B



SECTION C-C



ANCHOR BOLT LAYOUT

Note:
Provide 3" clearance to reinforcing steel in footings, minimum. Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bolt holes.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

20764

PIER NO. 8

BRIDGE NO. HAM-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.E.M.	V.W.S.	V.V.L. 12-17-71	J.H.D. 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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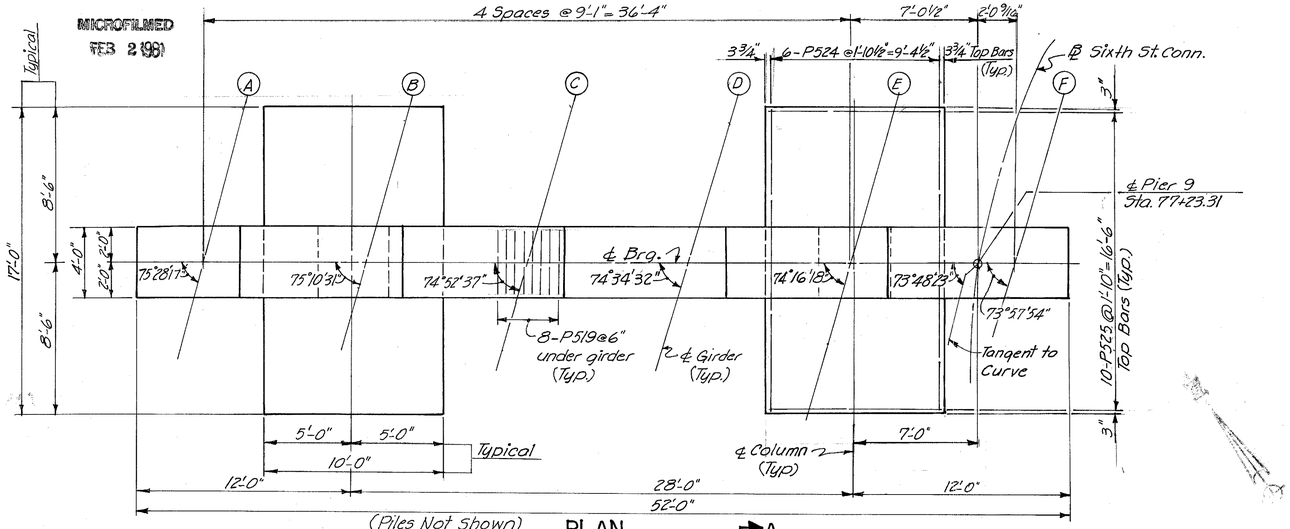
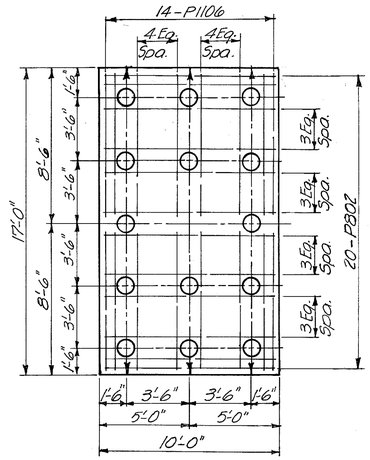
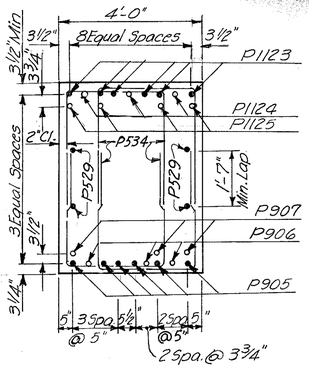
HAMILTON COUNTY
HAM-471-0.30

Note: ○ Denotes battered pile

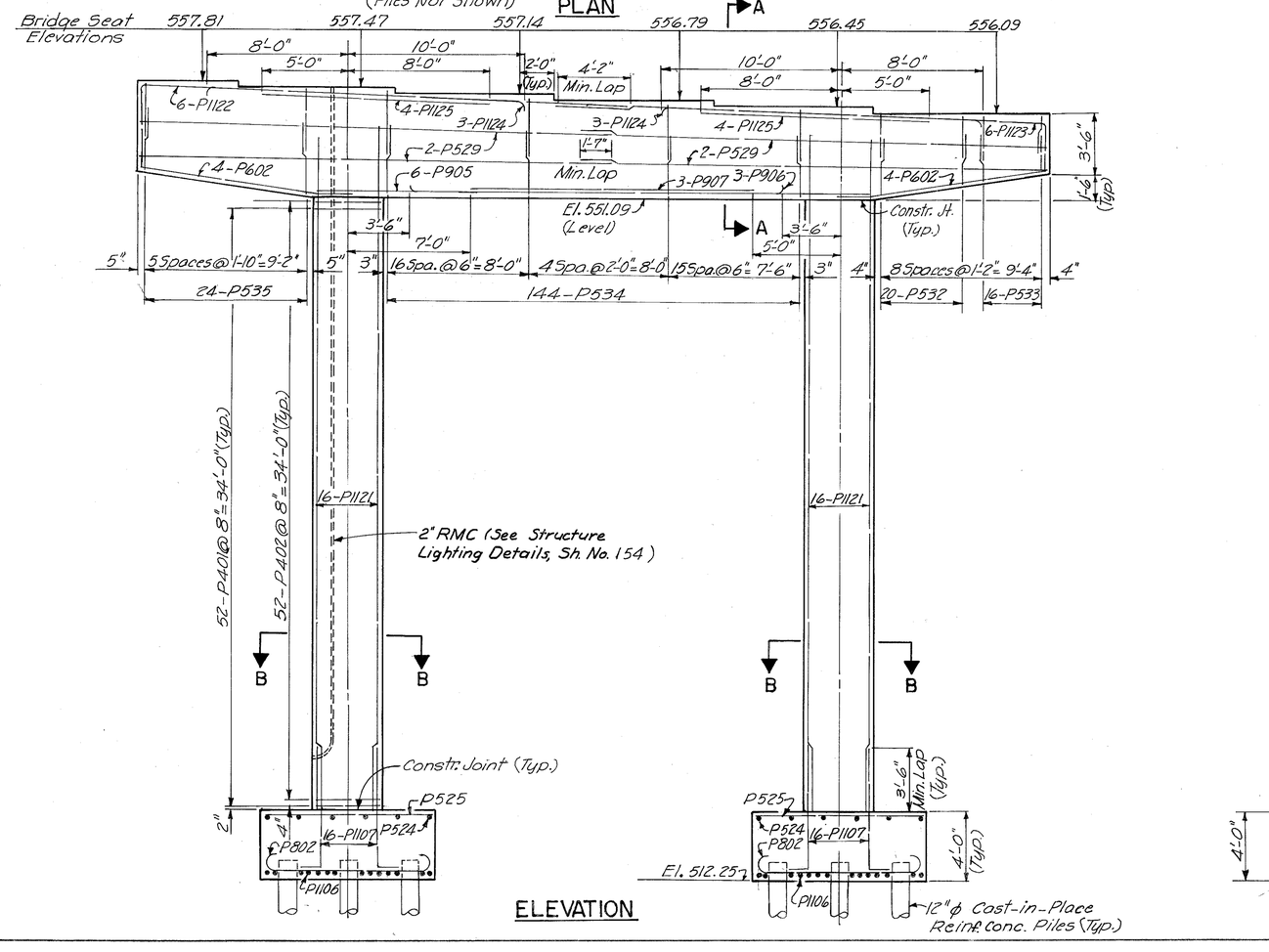




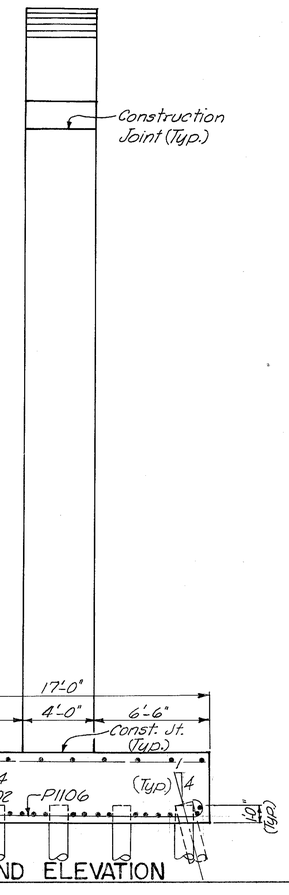
TYPICAL FOOTING

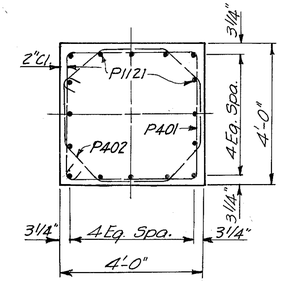


SECTION A-A

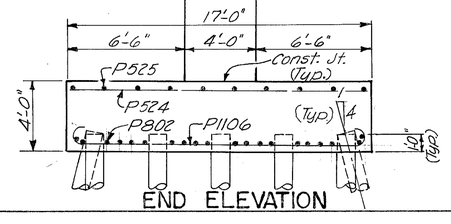


ELEVATION





SECTION B-B



END ELEVATION

Note: Provide 3" clearance to reinforcing steel in footings, minimum.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

21/64

PIER NO. 9

BRIDGE NO. HAM-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.E.M.	V.W.S.	W.L. 12-17-71	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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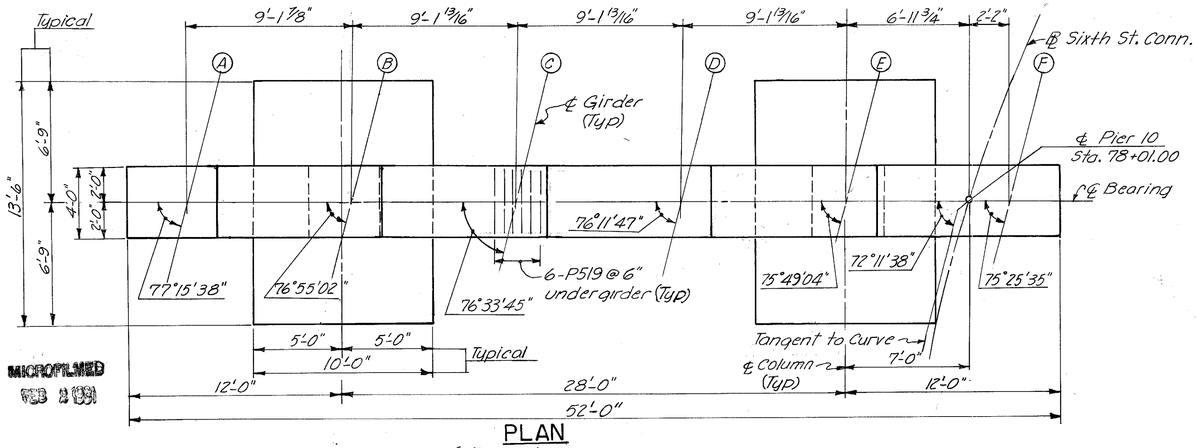
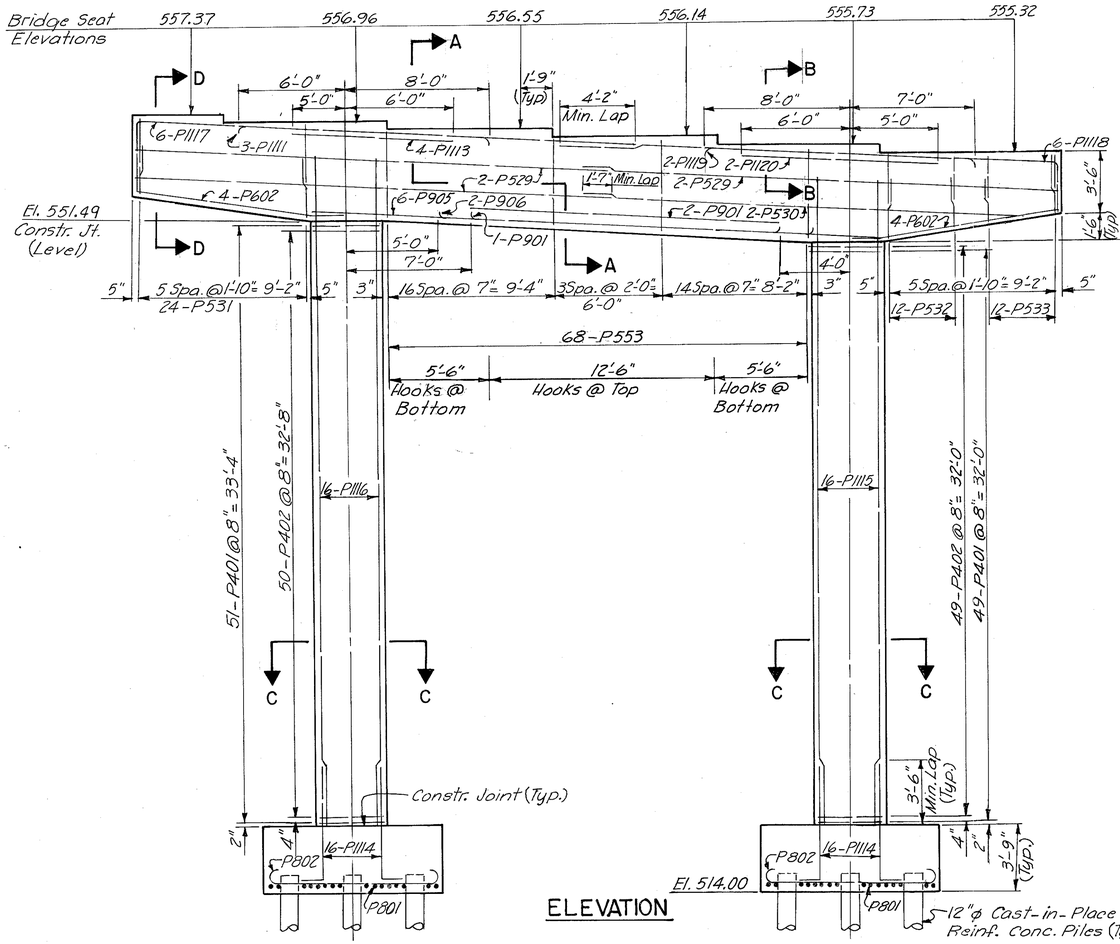
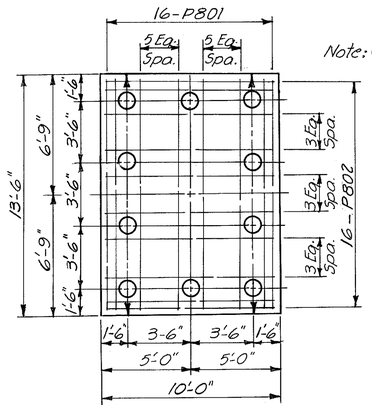
HAMILTON COUNTY
HAM-471-0.30



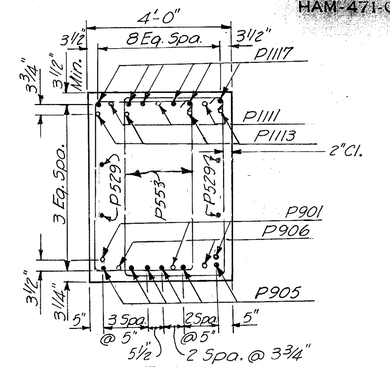
PLAN
(Piles Not Shown)



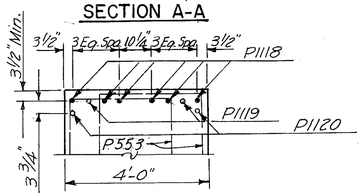
ELEVATION



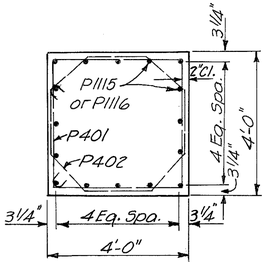
TYPICAL FOOTING



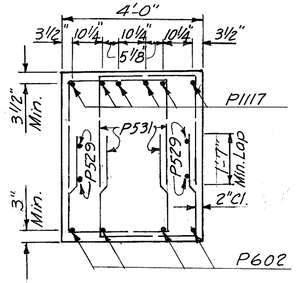
SECTION A-A



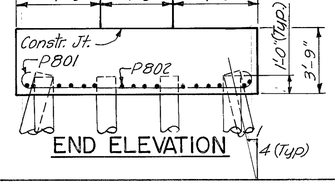
SECTION B-B



SECTION C-C



SECTION D-D



END ELEVATION

Note:
Provide 3" clearance to reinforcing steel in footings, minimum.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

22/64

PIER NO. 10
BRIDGE NO. HAM.-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.E.M.	V.W.S.	V.W.L. 12-17-71	JHD 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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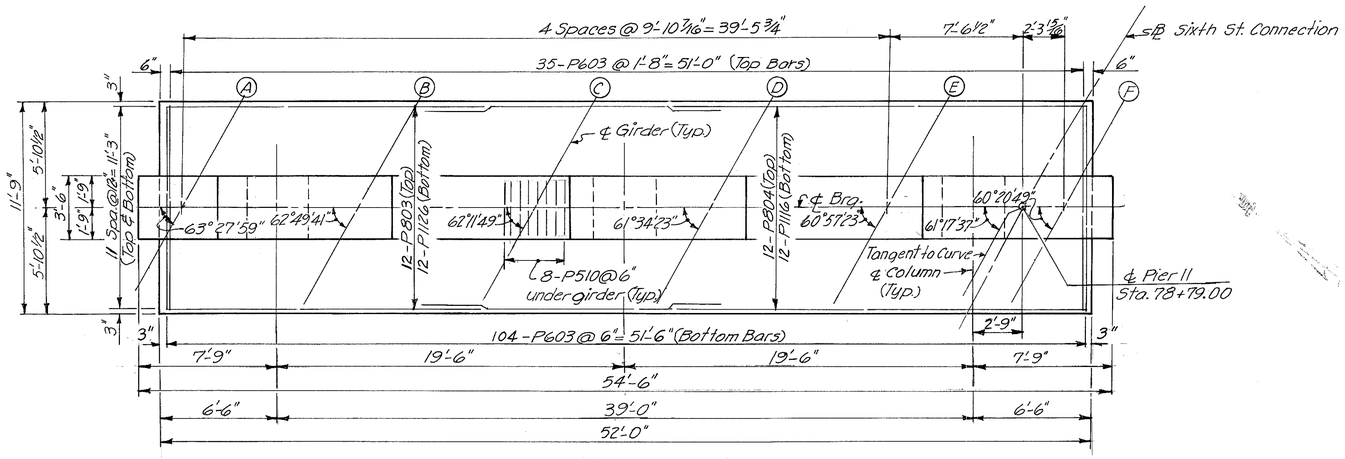
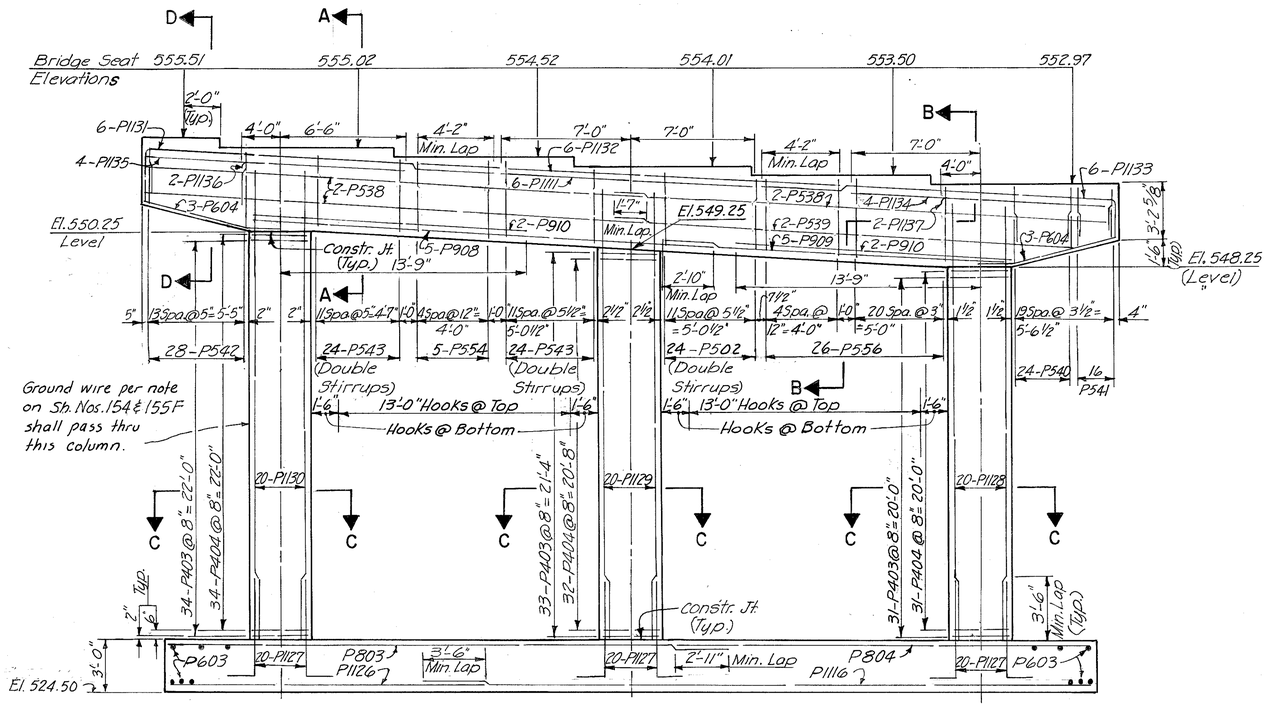
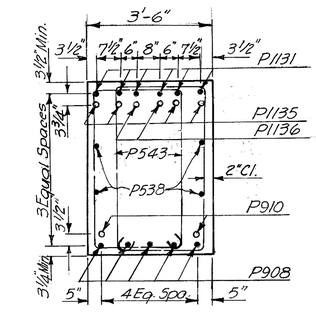
HAMILTON COUNTY
HAM-471-0.30



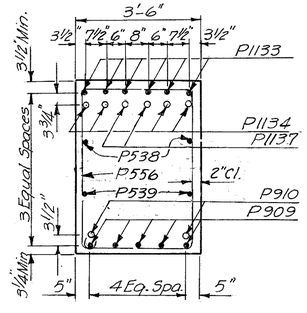
PLAN



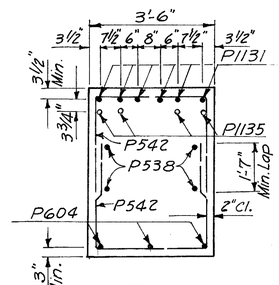
ELEVATION



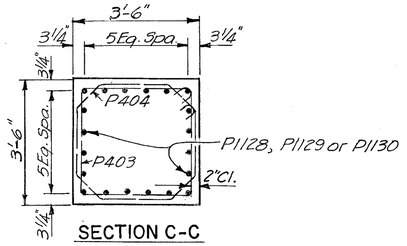
SECTION A-A



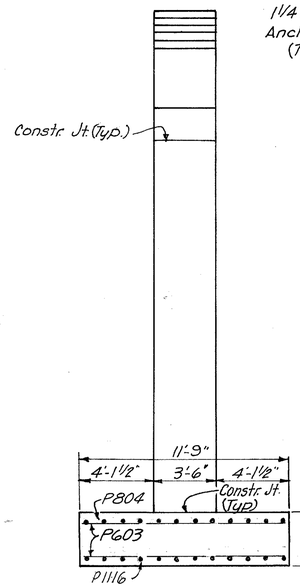
SECTION B-B



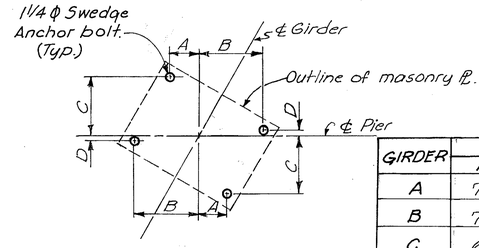
SECTION D-D



SECTION C-C



END ELEVATION



ANCHOR BOLT LAYOUT

GIRDER	DIMENSION			
	A	B	C	D
A	7 3/16"	1'-2 5/16"	1'-0 1/2"	1 13/16"
B	7 1/16"	1'-2 5/16"	1'-0 5/8"	1 5/8"
C	6 7/8"	1'-2 3/8"	1'-0 1/16"	1 1/2"
D	6 3/4"	1'-2 3/8"	1'-0 3/4"	1 5/16"
E	6 5/8"	1'-2 3/8"	1'-0 13/16"	1 3/16"
F	6 1/2"	1'-2 3/8"	1'-0 7/8"	1"

Note. Provide 3" clearance to reinforcing steel in footing, minimum.
Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bolt holes.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

23/64

PIER NO. 11

BRIDGE NO. HAM-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.E.M	V.W.S.	V.W.L. 12-17-71	J.H.O. 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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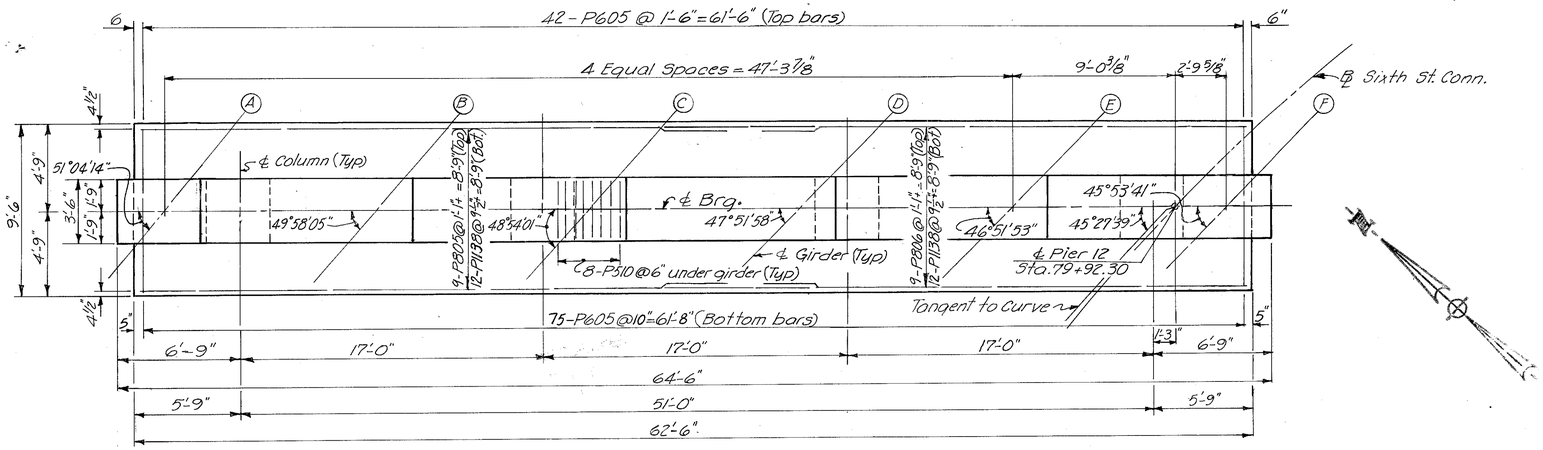
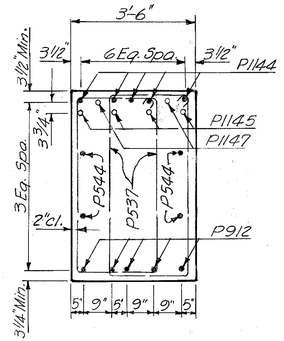
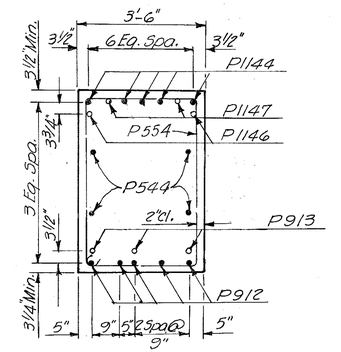
HAMILTON COUNTY
HAM-471-0.30



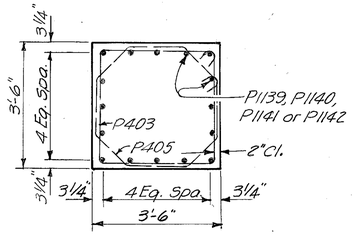
PLAN



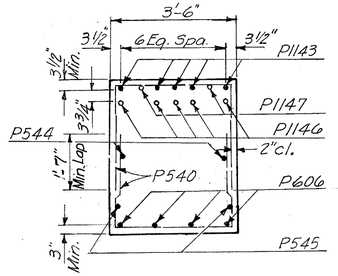
SECTION A-A



SECTION B-B

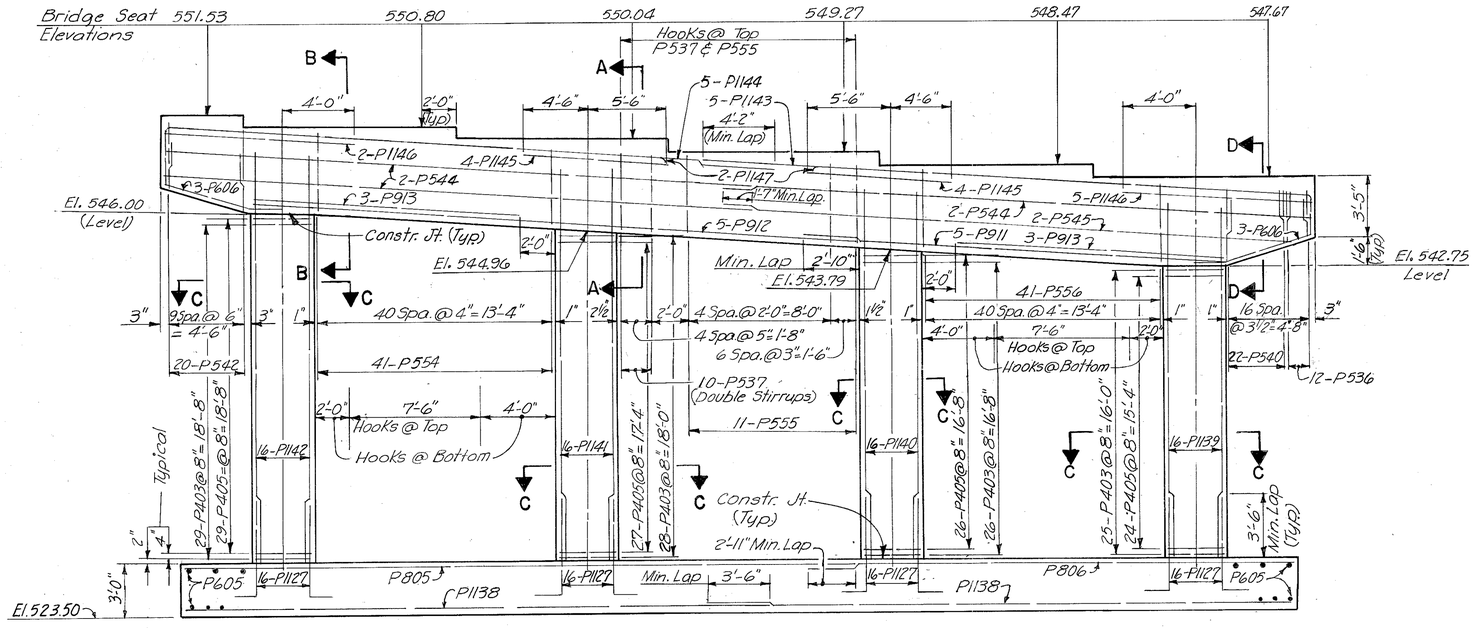


SECTION C-C

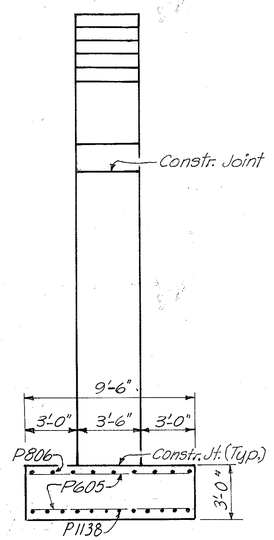


SECTION D-D

Note: Provide 3" clearance to reinforcing steel in footing, minimum.



ELEVATION



END ELEVATION

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

24/64

PIER NO. 12

BRIDGE NO. HAM-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.E.M.	V.W.S.	W.L. 12-17-71	JHO 11-13-72	

Note: * Denotes Type A Crossframe. For Details see sh. 321.

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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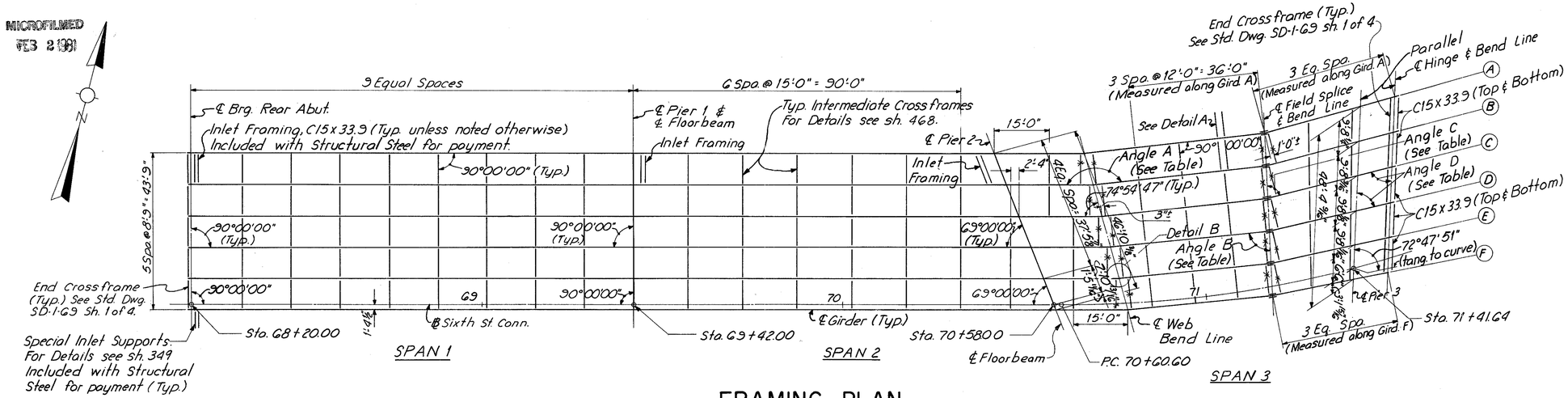
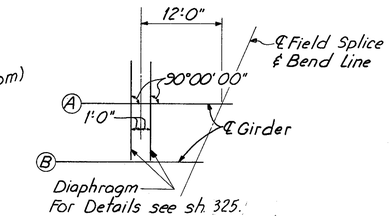
HAMILTON COUNTY
HAM-471-0.30

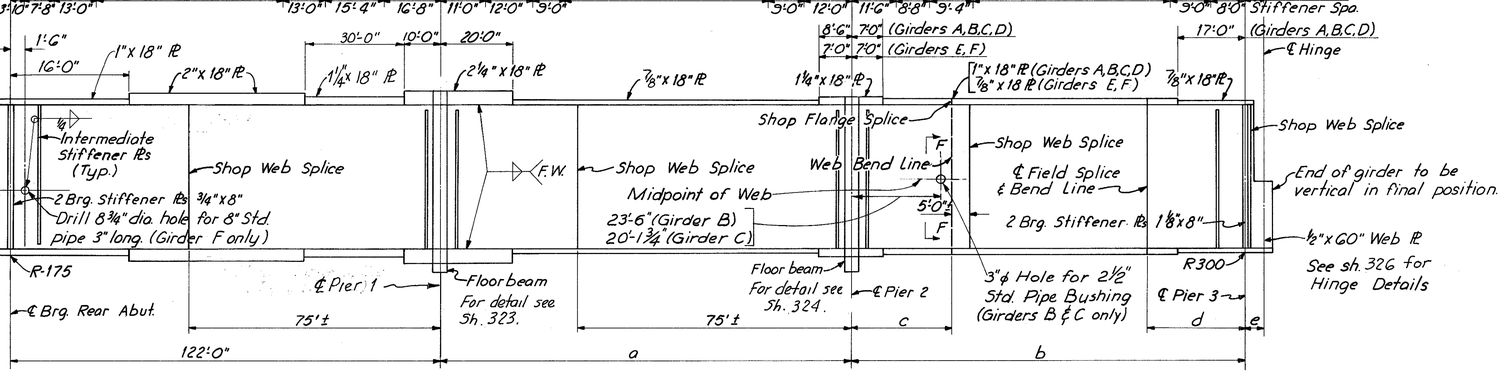
MICROFILMED
FEB 2 1981



FRAMING PLAN
UNIT A

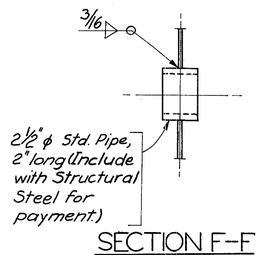


DETAIL A



GIRDER ELEVATION

TABLE OF GIRDER ANGLES - UNIT A				
Girder	Angle			
	A	B	C	D
A	173° 27' 02"	85° 52' 24"	76° 51' 50"	71° 49' 38"
B	173° 35' 57"	86° 01' 19"	77° 35' 15"	72° 33' 03"
C	173° 45' 39"	86° 11' 00"	78° 21' 04"	73° 18' 53"
D	173° 56' 13"	86° 21' 35"	79° 09' 31"	74° 07' 19"
E	174° 07' 48"	86° 33' 10"	80° 00' 45"	74° 58' 34"
F	174° 20' 33"	86° 45' 54"	80° 55' 03"	75° 52' 51"



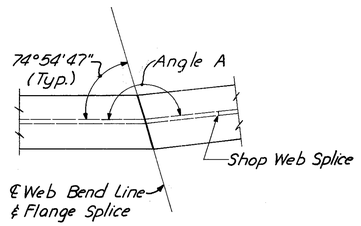
SECTION F-F

UNIT A TABLE OF GIRDER LENGTHS					
Girder \ Dim.	a	b	c	d	e
A	99'-8 13/16"	102'-5 3/16"	25'-0"	27'-5 3/16"	10'-0 1/16"
B	103'-1 1/8"	98'-5 3/16"	24'-0"	26'-5 3/16"	9'-11 9/16"
C	106'-5 7/16"	94'-6 7/16"	23'-0"	25'-6 7/16"	9'-11 1/16"
D	109'-9 3/4"	90'-7 13/16"	22'-0"	24'-7 1/4"	9'-10 9/16"
E	113'-2"	86'-8 1/16"	21'-0"	23'-8 1/16"	9'-10 1/16"
F	116'-6 5/16"	82'-9"	20'-0"	22'-9"	9'-9 5/8"

Dimensions are measured along ℄ Girders

Notes:
For treatment of ends of girders see Std. Dwg. SD-1-G9 Sh. No. 1, Longitudinal Section Bridge on Grade.
Bearing Stiffeners to be vertical in final position.
For Bearing Details see Std. Dwg. RB-1-55, FSB-1-62 and sh. No. 324 & 326
For Inlet Framing Details see Drainage Details sh. No. 469 and sh. Nos. 349, 350 & 351.
For steel details not shown see Typ. Structural Steel Details sh. No. 468.
Field flange splices shall miss crossframes and intermediate stiffeners by 1'-0" minimum, and shop flange splices shall miss shop web splices by 3'-0" minimum.
Intermediate stiffeners are ⅜"x 6" Pls (One each side of web).
Girder web Pl is ⅜" x 60" unless otherwise noted. Top and bottom plates are identical.
Items are identical for each girder except as noted.
F.W. For sizes see Table of Fillet Weld Sizes sh. 468.
For Curb Plate Details and Sidewalk End Dam Details at Abutments, see Std. Dwg. SD-1-G9 sh. No. 2.
* For End Dam Details at Abutments see Std. Dwg. SD-1-G9 Sh. No. 1. Before any fabrication of structural steel is started, the contractor shall first determine the exact location of the existing Piers No. 4, 5, and 6.
For Stair Anchor Assembly Detail see Sh. No. 310.
For Joint Details for Stairs see Sh. No. 342.

* Provide 3" beveled bar at both ends of bridge regardless of grade.



DETAIL B

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO
25/64

STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		WL 12-13-71	JHD 11-13-72	

Revised 7-3-73

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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HAMILTON COUNTY
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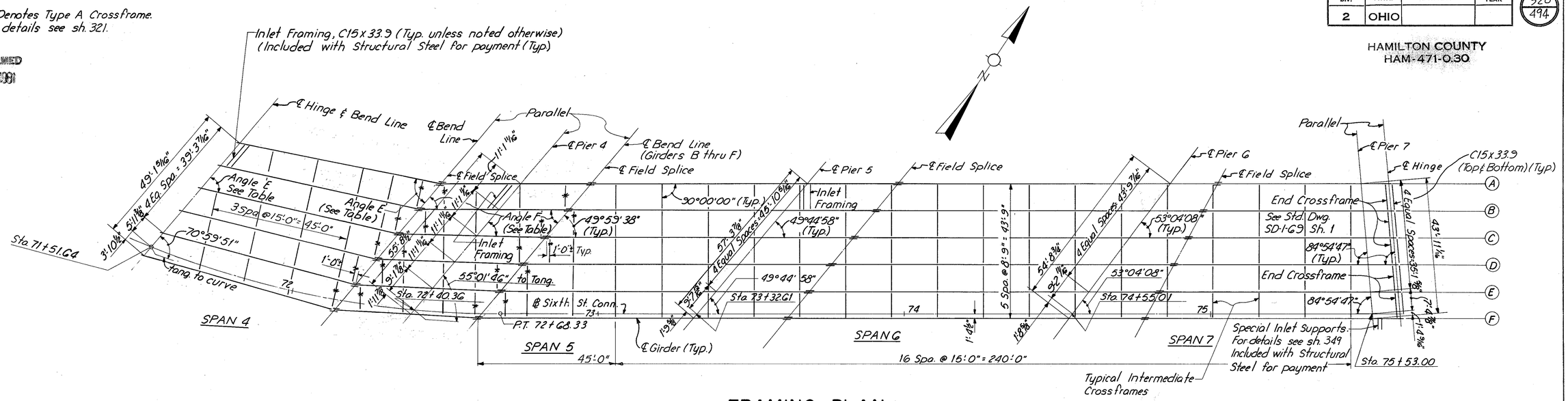
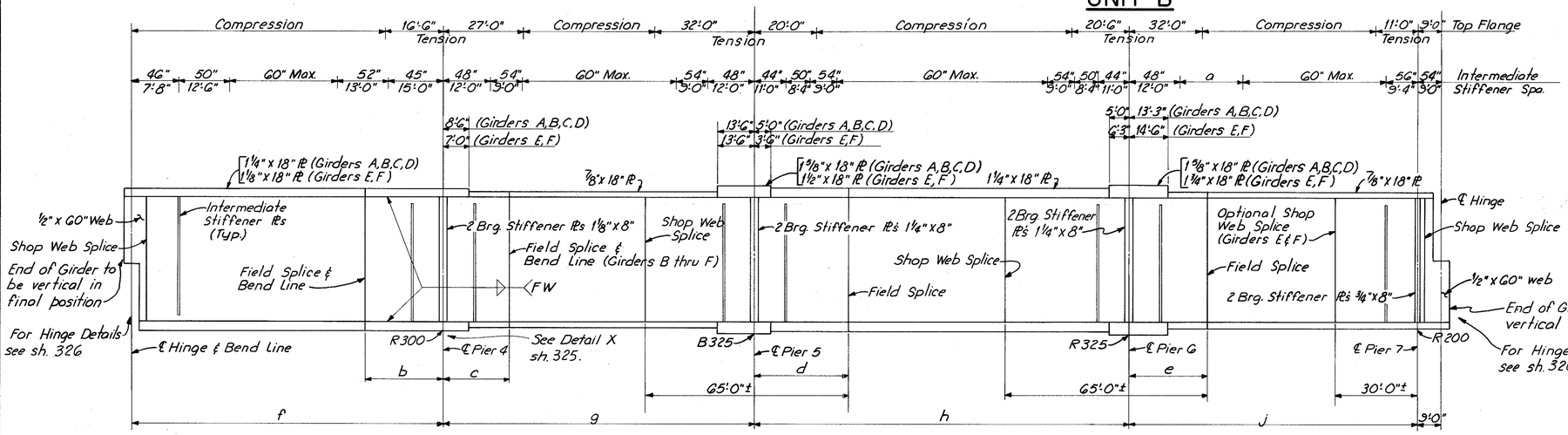
Note: * Denotes Type A Crossframe.
For details see sh. 321.



FRAMING PLAN
UNIT B



GIRDER ELEVATION

TABLE OF GIRDER LENGTHS - UNIT B

Girder \ Dim.	a	b	c	d	e	f	g	h	j
A	2 Spa. @ 54" = 9'-0"	26'-0"	23'-0"	29'-7 1/8"	15'-7 1/8"	92'-11 9/16"	93'-6 11/16"	118'-4 9/16"	62'-4 7/16"
B	2 Spa. @ 54" = 9'-0"	25'-9 9/16"	22'-9 11/16"	29'-9 3/8"	17'-5 3/16"	92'-3 1/2"	93'-3 3/4"	119'-2 1/2"	63'-8 11/16"
C	2 Spa. @ 54" = 9'-0"	25'-7 1/8"	22'-7 11/16"	30'-0 1/8"	19'-3 1/4"	91'-7 9/16"	93'-0 13/16"	120'-0 1/2"	77'-1"
D	2 Spa. @ 54" = 9'-0"	25'-4 3/4"	22'-5 9/16"	30'-2 3/8"	21'-1 5/16"	90'-11 13/16"	92'-9 15/16"	120'-10 7/16"	84'-5 1/4"
E	3 Spa. @ 52" = 13'-0"	25'-2 3/8"	22'-3 1/2"	30'-5 1/8"	22'-11 3/8"	90'-4 1/4"	92'-7 1/8"	121'-8 7/16"	91'-9 1/2"
F	3 Spa. @ 52" = 13'-0"	25'-0 1/16"	22'-1 7/16"	30'-7 5/8"	24'-9 7/16"	89'-8 13/16"	92'-4 1/4"	122'-6 3/8"	99'-1 13/16"

Dimensions are measured along ℄ Girders.

TABLE OF GIRDER ANGLES-UNIT B

Girder	Angle E	Angle F
A	61° 33' 22"	49°59'38"
B	62°18'51"	50°32'11"
C	63°04'59"	51°05'15"
D	63°51'45"	51°38'50"
E	64°39'09"	52°12'57"
F	65°27'10"	52°47'36"

For Notes see sh. 319.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

26/64

STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		WL 12-13-71	JHD 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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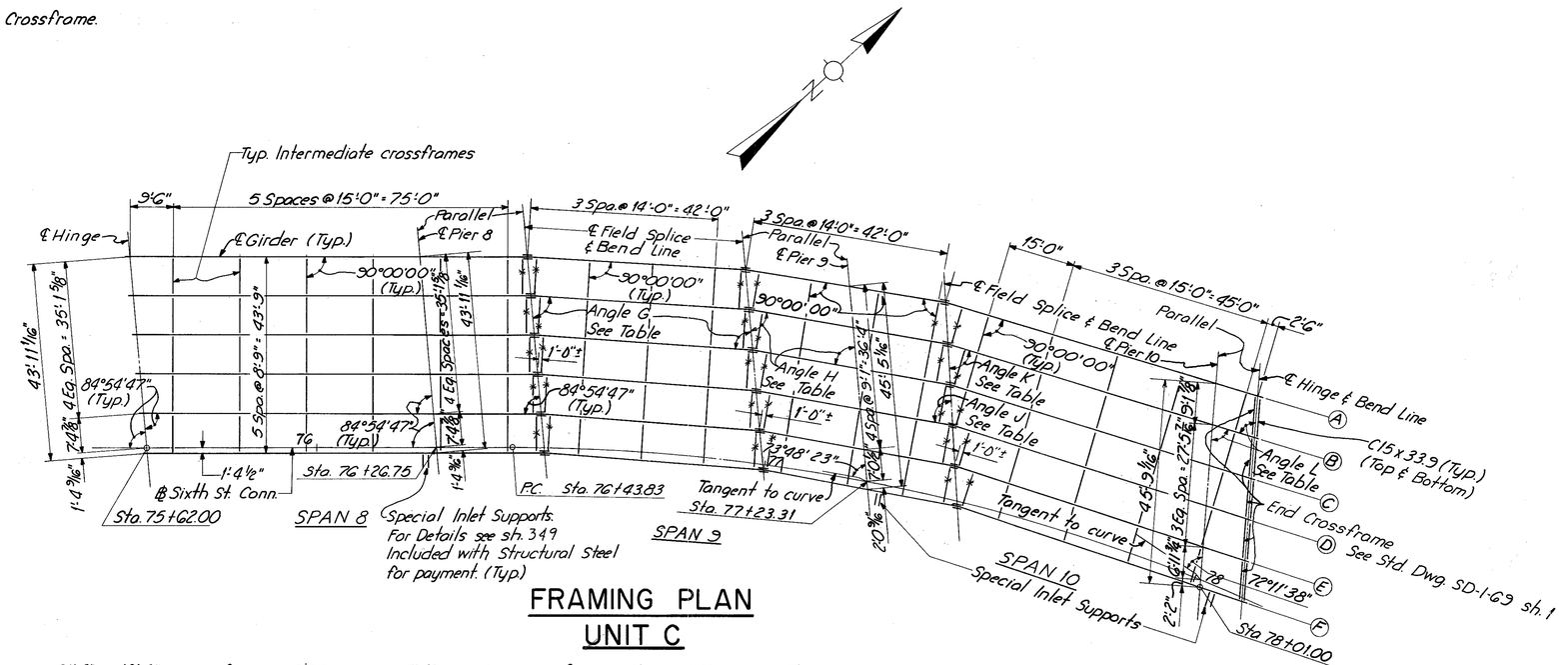
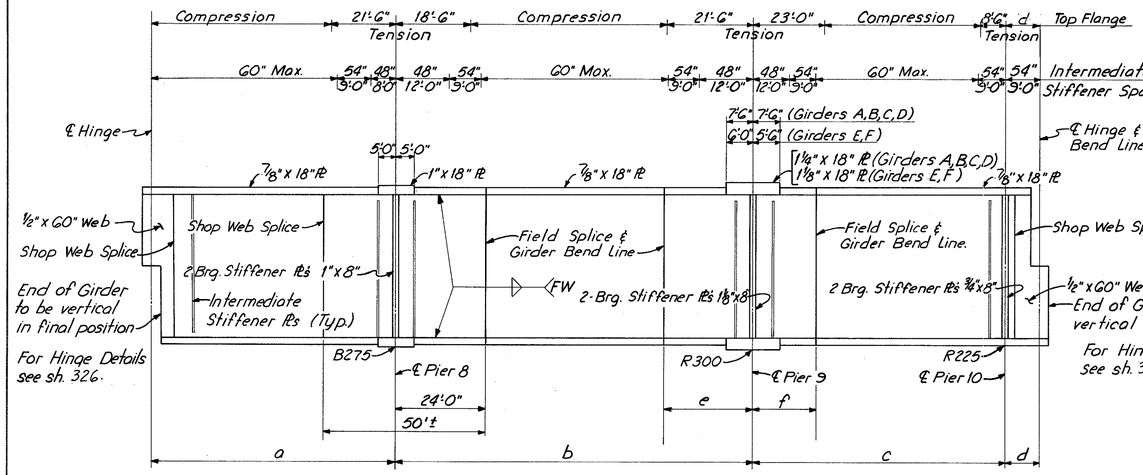
HAMILTON COUNTY
HAM-471-0.30

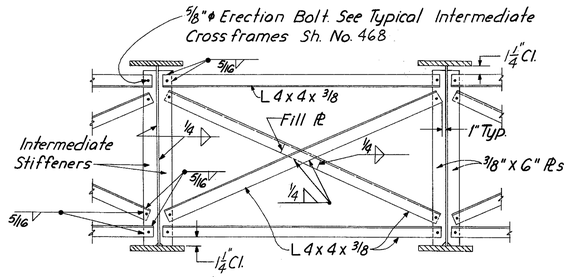
Note: * Denotes Type A Crossframe.



FRAMING PLAN
UNIT C



GIRDER ELEVATION



INTERMEDIATE CROSSFRAMES TYPE A

TABLE OF GIRDER LENGTHS-UNIT C

Girder \ Dim.	a	b	c	d	e	f
A	64'-9"	96'-4 3/4"	84'-4 5/8"	9'-8 11/16"	23'-6 3/8"	21'-5 5/8"
B	64'-9"	96'-5 7/16"	82'-11 7/8"	9'-8 13/16"	23'-6 3/4"	21'-2 13/16"
C	64'-9"	96'-6 1/8"	81'-7 1/8"	9'-9"	23'-7 1/8"	21'-0"
D	64'-9"	96'-6 7/8"	80'-2 7/16"	9'-9 3/16"	23'-7 9/16"	20'-9 3/16"
E	64'-9"	96'-7 5/8"	78'-9 3/4"	9'-9 3/8"	23'-8"	20'-6 1/8"
F	64'-9"	96'-8 3/8"	77'-5 1/8"	9'-9 9/16"	23'-8 3/8"	20'-3 5/8"

Dimensions are measured along ℄ Girders.

TABLE OF GIRDER ANGLES-UNIT C

Girder	Angle				
	G	H	J	K	L
A	81°24'18"	75°28'17"	77°04'07"	69°36'47"	77°15'38"
B	81°12'25"	75°10'31"	76°46'22"	69°16'11"	76°55'02"
C	81°00'33"	74°52'37"	76°28'28"	68°54'54"	76°33'45"
D	80°48'42"	74°34'32"	76°10'23"	68°32'56"	76°11'47"
E	80°36'52"	74°16'18"	75°52'09"	68°10'13"	75°49'04"
F	80°25'02"	73°57'54"	75°33'45"	67°46'44"	75°25'35"

For Notes see sh. 319.

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STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		WL 12-7-71	JHD 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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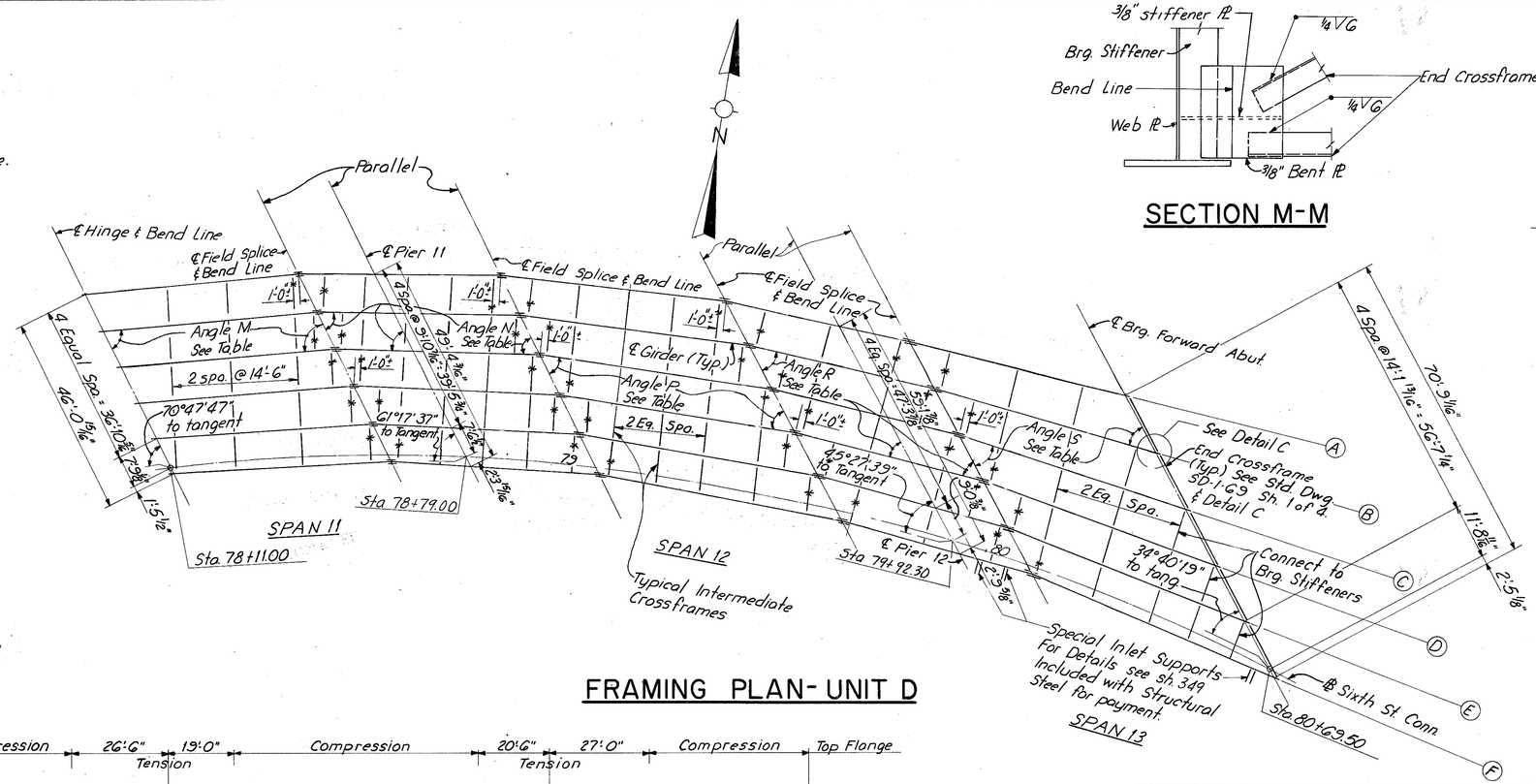
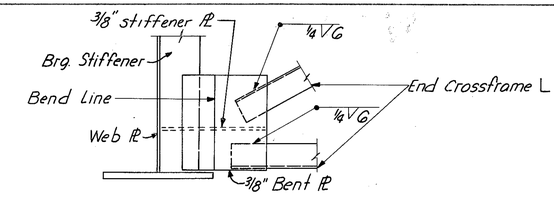
HAMILTON COUNTY
HAM-471-0.30

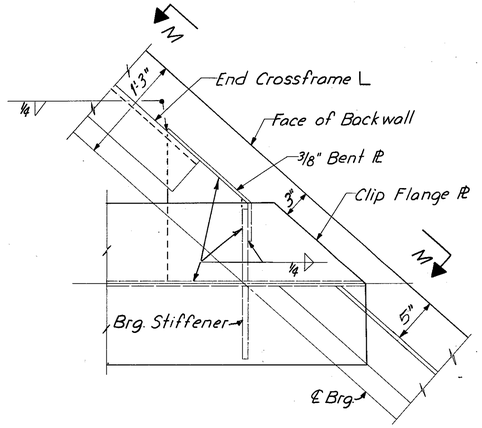
Note: * Denotes Type A Crossframe.
For Details see sh. 321.



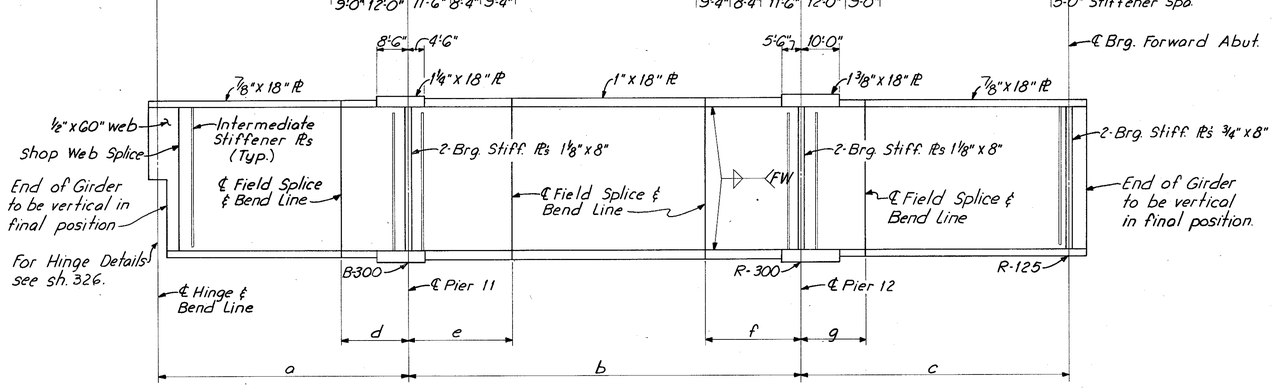
FRAMING PLAN - UNIT D



SECTION M-M



DETAIL C



GIRDER ELEVATION

TABLE OF GIRDER ANGLES - UNIT D

Girder	Angle				
	M	N	P	R	S
A	G9°32'17"	G3°27'59"	57°08'11"	51°04'14"	45°05'39"
B	G9°04'08"	G2°49'41"	56°17'12"	49°58'05"	43°38'34"
C	G8°36'09"	G2°11'49"	55°27'12"	48°54'01"	42°15'52"
D	G8°08'21"	G1°34'23"	54°38'10"	47°51'58"	40°57'20"
E	G7°40'44"	G0°57'23"	53°50'08"	46°51'53"	39°42'43"
F	G7°13'18"	G0°20'49"	53°03'02"	45°53'41"	38°31'49"

TABLE OF GIRDER LENGTHS - UNIT D

Girder \ Dim.	a	b	c	d	e	f	g
A	G7'-0 11/16"	107'-11 3/8"	G8'-5 1/8"	17'-10 3/16"	28'-9 1/4"	25'-10 3/4"	16'-6 3/4"
B	G7'-3 3/4"	109'-0 3/16"	70'-0 11/16"	17'-11 7/16"	28'-11 1/4"	26'-3 11/16"	16'-9 15/16"
C	G7'-6 13/16"	110'-2 1/16"	71'-8 3/8"	18'-0 11/16"	29'-1 1/4"	26'-8 13/16"	17'-1 13/16"
D	G7'-10"	111'-3 13/16"	73'-5"	18'-1 15/16"	29'-3 1/4"	27'-2"	17'-4 1/2"
E	G8'-1 1/8"	112'-5 13/16"	75'-1 13/16"	18'-3 1/4"	29'-5 3/8"	27'-7 1/4"	17'-7 7/8"
F	G8'-4 9/16"	113'-8 1/8"	76'-11"	18'-4 9/16"	29'-7 7/16"	28'-0 5/8"	17'-11 3/8"

Dimensions are measured along ℄ Girders.

For Notes see sh. 319.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

28/64

STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM.-471-0044

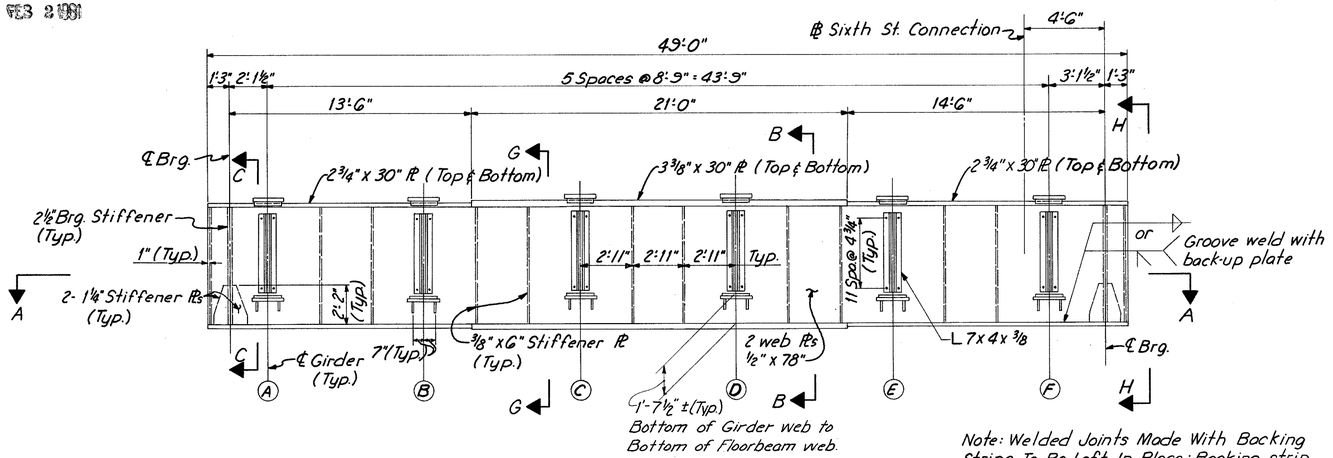
SIXTH STREET CONNECTION OVER
SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		W.L. 12-7-71	JHD 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

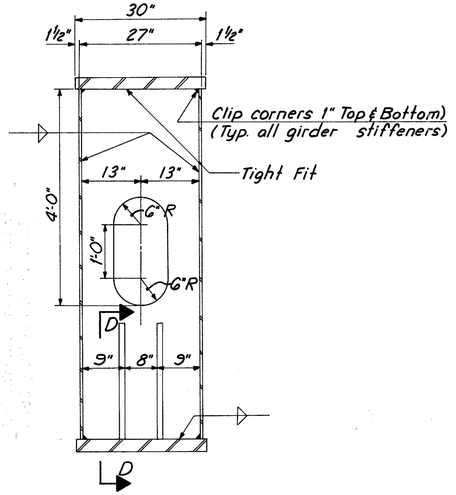
323
494

HAMILTON COUNTY
HAM-471-0.30

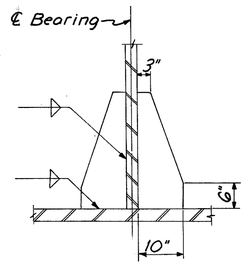


ELEVATION
(Floor beam 1)

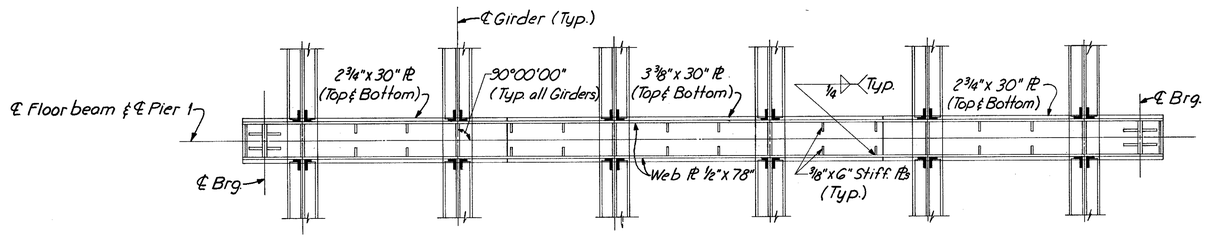
Note: Welded Joints Made With Backing Strips To Be Left In Place: Backing strip shall be made continuous for the full length of weld. Joints in backing strip shall be full penetration butt welds.



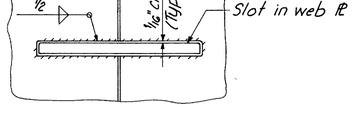
SECTION C-C



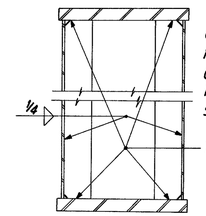
SECTION D-D



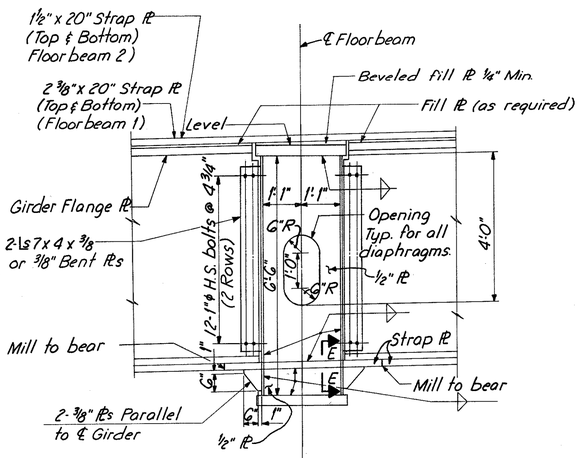
SECTION A-A



SECTION E-E



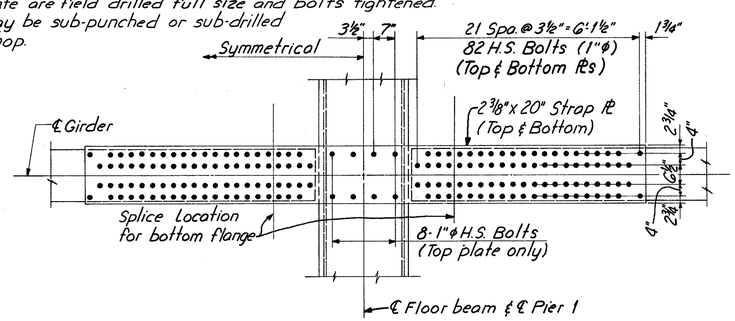
SECTION G-G



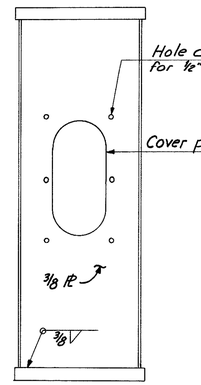
SECTION B-B

For fillet weld sizes not shown see "Table of Fillet Weld Sizes" Sh. No. 468.

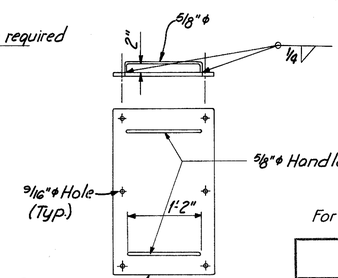
Note: Milled ends of Compression Splice on bottom flanges of girders shall be brought to full bearing against milled ends of floor beam brackets before the holes in the compression strap plate are field drilled full size and bolts tightened. Holes may be sub-punched or sub-drilled in the shop.



PLAN OF STRAP PLATE
(Floor beam 1)



SECTION H-H
(Typ. each end)



COVER PLATE
(For access hole)

For Bearing Details see sh. 324.

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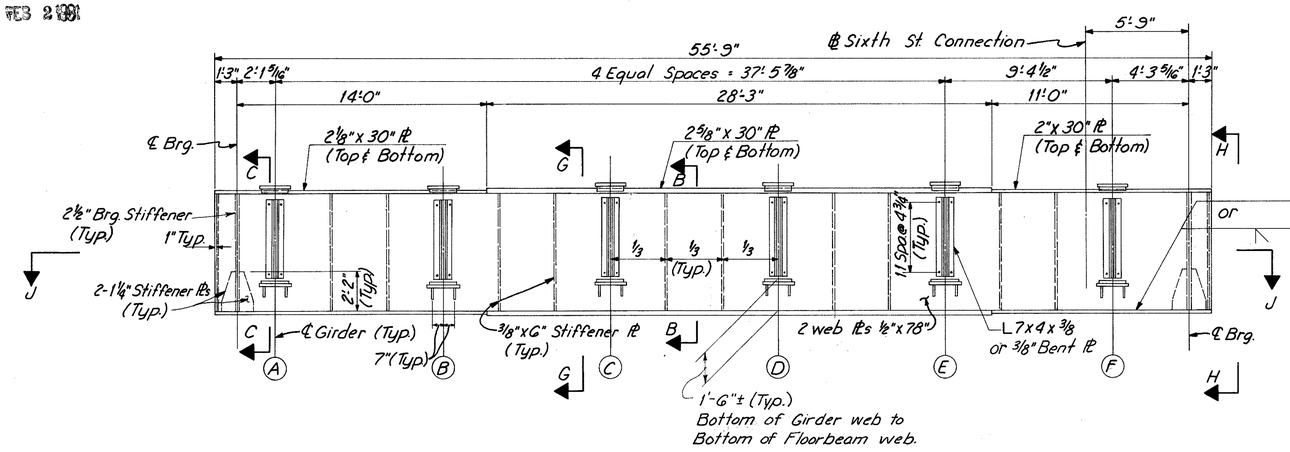
STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		WL. 12-13-71	JHD 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

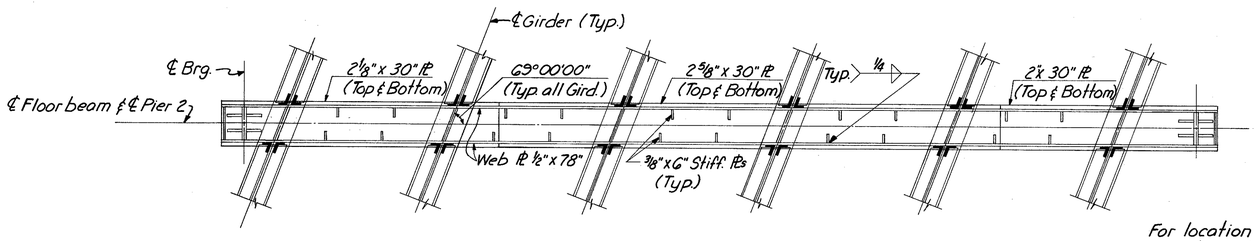
324
494

MILTON COUNTY
HAM-471-0.30

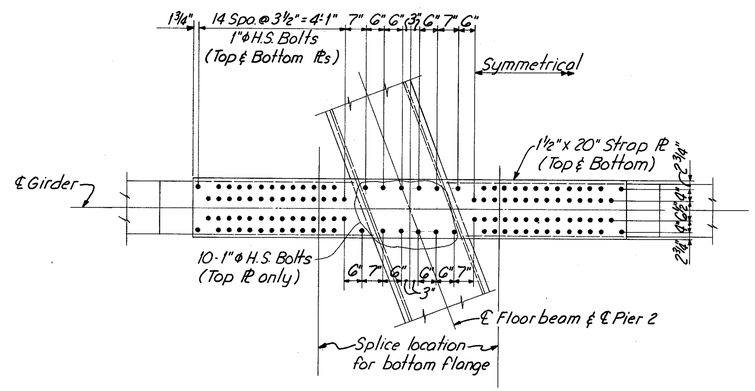


ELEVATION

(Floorbeam 2)

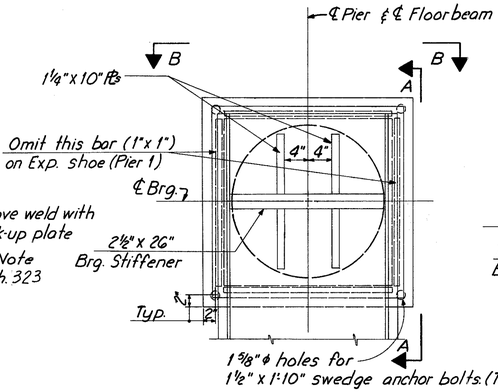


SECTION J-J



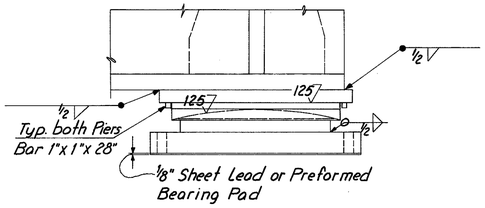
PLAN OF STRAP PLATE

(Floorbeam 2)

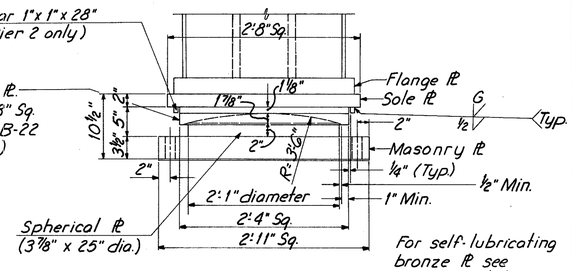


PLAN

(BEARING DETAILS FOR PIERS 1 & 2)



ELEVATION A-A



For self-lubricating bronze Pl see Supplemental Specifications No. 927.

ELEVATION B-B

For location of dimensions & dimensions not shown see Std. Dwg. RB-1-55
Use 1 1/4" ϕ x 1'-9" swedge anchor bolts set 1'-3" into concrete at Piers 5 & G

REVISIONS TO ROCKERS, BOLSTERS

Pier No. / Shoe	Girder	Dimensions												
		A	B	C	D	F	G	H	K	L	M	R	T	Y
5 B325	A, C, E	4	21	4		3/4		20 3/8	15	29		13	3 1/4	1 15/16
	B	4	21	4		3/4		20 1/4	15	29		13	3 1/8	1 15/16
	D	4	21	4		3/4		20 3/8	15	29		13	3 1/2	1 15/16
	F	4	21	4		3/4		20 3/8	15	29		13	3 3/4	1 15/16
G R325	A, C, F	4	21	4	3 1/2	3/4	13	20 3/8	15	29	26	13	3 1/4	1 15/16
	B, D	4	21	4	3 1/2	3/4	13	20 3/8	15	29	26	13	3 3/4	1 15/16
	E	4	21	4	3 1/2	3/4	13	20 1/2	15	29	26	13	3 3/8	1 15/16
7 R200	A thru F								14					
10 R225	A thru F								14					
Rear Abut. R175	A thru F								14					
Forward Abut. R125	A thru F								14					

Note: For Notes and Sections B-B, C-C, G-G, & H-H, and cover plate details see sh. 323.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO
30/64

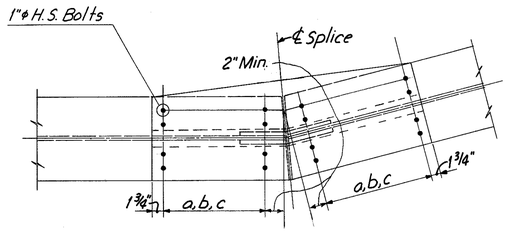
STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		WL 12-8-71	JHD 11-13-72	

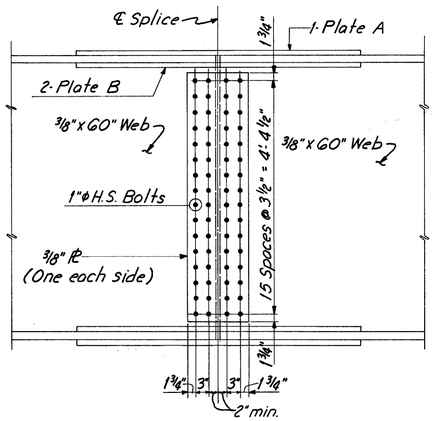
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

325/494

HAMILTON COUNTY
HAM-471-0.30



TOP FLANGE

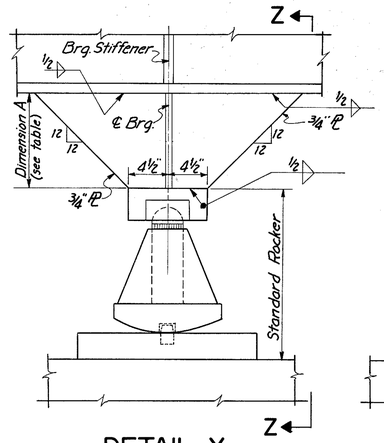


Note: Top & Bottom Splice Materiol is identical. Contact surface of splice shall be free from all oil or point.

FIELD SPLICE

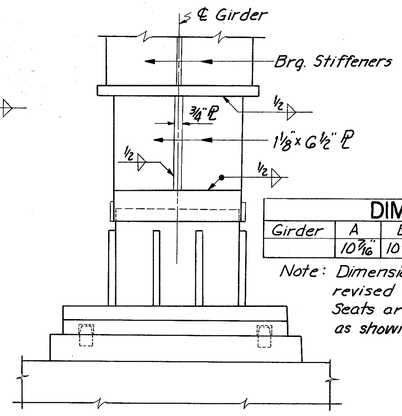
FIELD SPLICE			
	Girder		Dimension	Spacing
	A,B,C,D	E,F		
Spans	5,7,9,10,11,13	3,5,7,9,10,11,13	a	2 Spa.@ 3"
	3,12	4,12	b	3 Spa.@ 3"
	4,6	6	c	4 Spa.@ 3"

FIELD SPLICE			
Girder	Plate A	Plate B	Span
A,B,C,D	1/2" x 18"	5/8" x 7 1/2"	5,7,9,10,11,13
	5/8" x 18"	3/4" x 7 1/2"	3,12
	3/4" x 18"	7/8" x 7 1/2"	4,6
E,F	1/2" x 18"	5/8" x 7 1/2"	3,5,7,9,10,11,13
	5/8" x 18"	3/4" x 7 1/2"	4,12
	3/4" x 18"	7/8" x 7 1/2"	6



DETAIL X

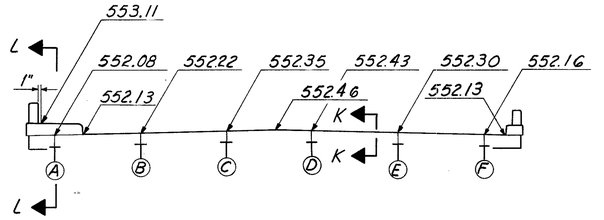
(For location see sh. 320.



SECTION Z-Z

DIMENSION A						
Girder	A	B	C	D	E	F
	10 7/16"	10 13/16"	11 1/4"	10 3/16"	10 3/16"	9 7/8"

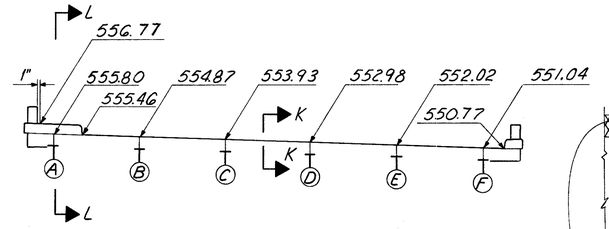
Note: Dimension A may have to be revised if existing Bridge Seats are not at the elevations as shown on sh. 311



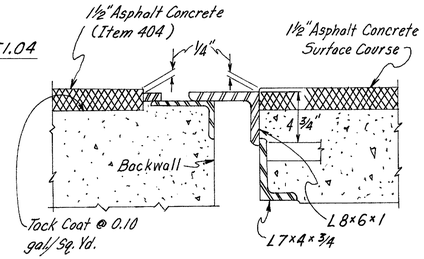
REAR ABUTMENT END DAM

Note:

For Section L-L see Section D-D, Std. Dwg. SD-1-69 sh. 2 of 4.
End Dams to be bent in shop to conform to contour of top of slab.
Elevs. given at back edge of 8" angle.



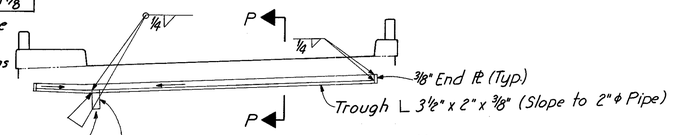
FORWARD ABUTMENT END DAM



For additional details See S.D.-1-69 Sht 1

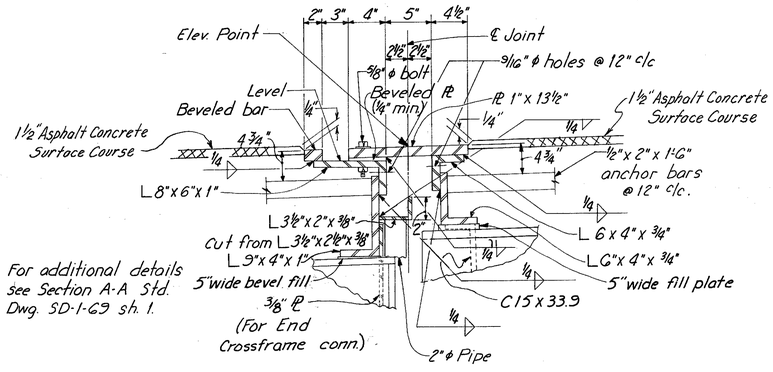
SECTION K-K

See sheet 326 for location of Section P-P



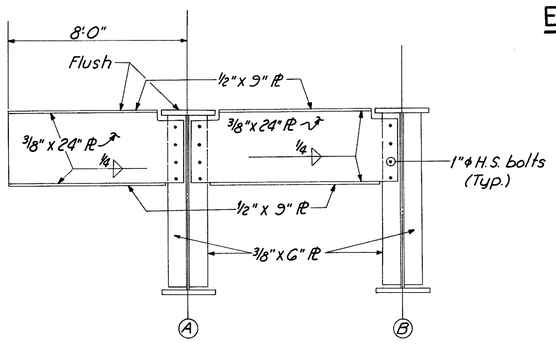
ELEVATION-ROADWAY JOINT DRAINAGE

(At Pier 3)



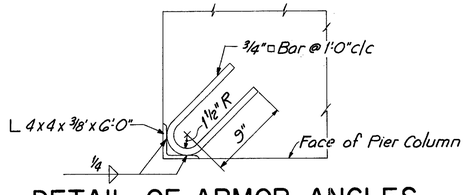
SECTION P-P

(At Pier 3)



DIAPHRAGM DETAILS

For location see Detail A Sh. 319.



DETAIL OF ARMOR ANGLES FOR PIER COLUMNS

(No. Required = 32)
(Included with Item 513 for payment)

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

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STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM.-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		W.L. 12-8-71	JHD 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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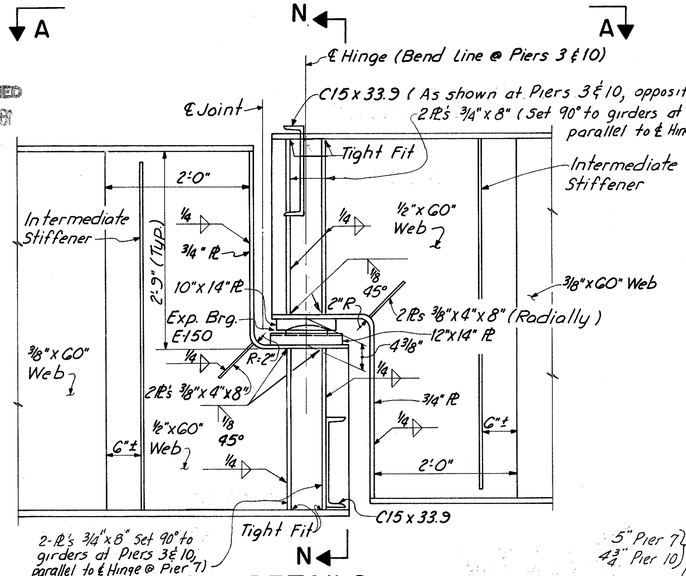
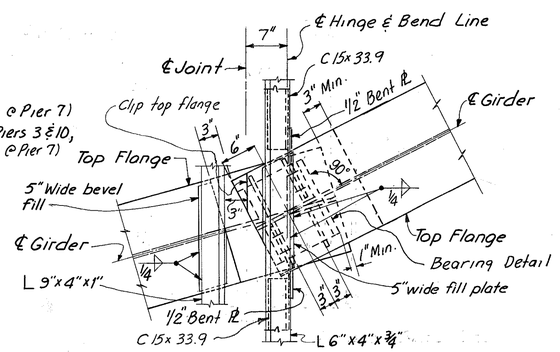
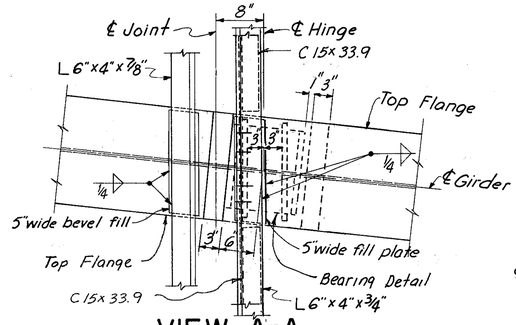
HAMILTON COUNTY
HAM-471-0.30
(326-426) 39 Real



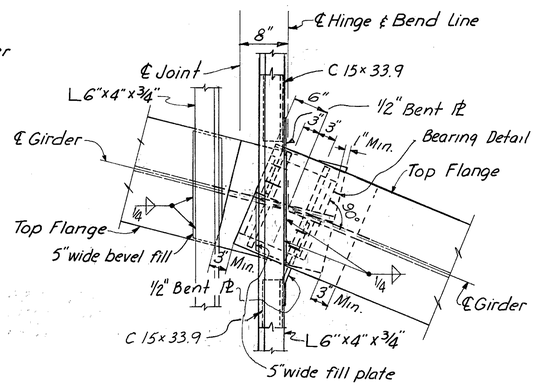
HINGE DETAILS



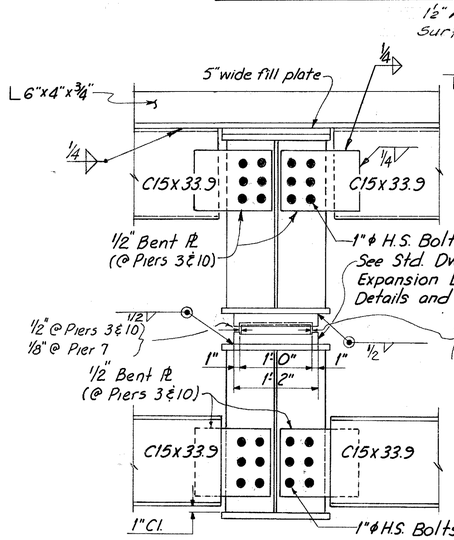
VIEW A-A
(@ Pier 3)



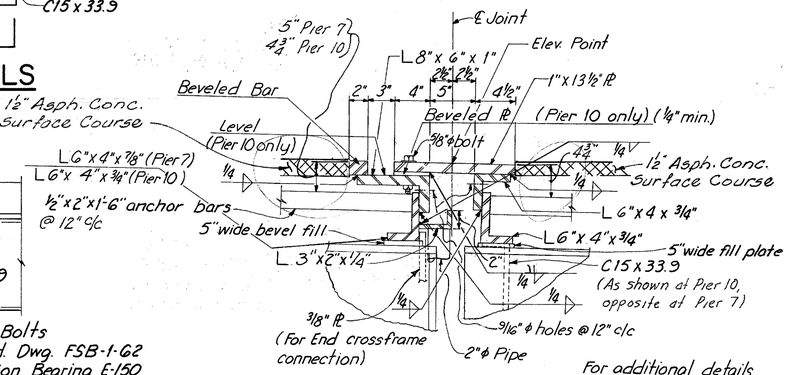
VIEW A-A
(@ Pier 7)



VIEW A-A
(@ Pier 10)

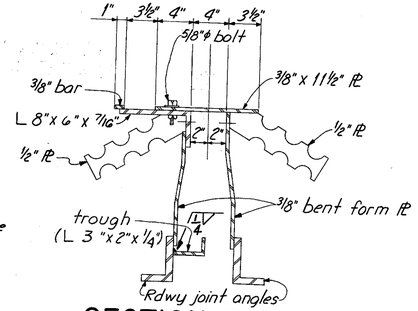


SECTION N-N



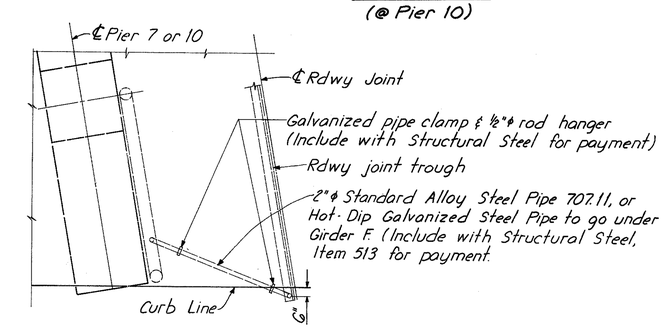
SECTION P-P
(At Pier 7 or 10 Roadway Joint)

For additional details see Section A-A, Std. Dwg. SD-1-69 sh. 1.

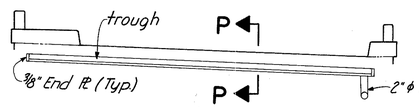


SECTION R-R

For additional details see Section D-D, Std. Dwg. SD-1-69 sh. 2.

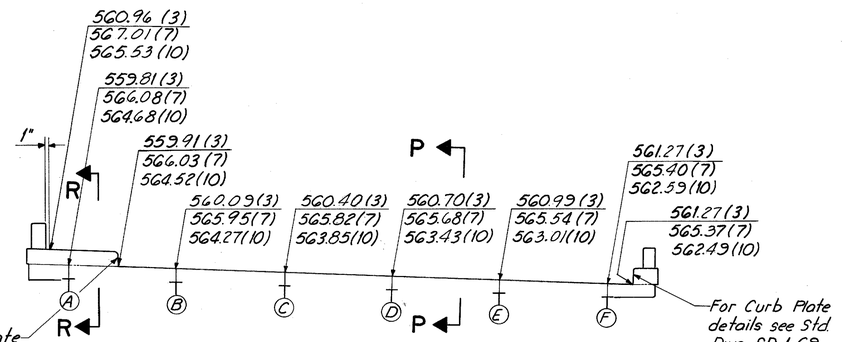


PLAN-ROADWAY JOINT DRAINAGE
(At Piers 7 & 10)



ELEVATION-ROADWAY JOINT DRAINAGE
(At Piers 7 & 10)

(For other details see Elev.-Rdwy Jt. Drainage at Pier 3 sh. 325.)



ROADWAY JOINT AT PIER 3, 7, & 10

(3) - Elevation @ Joint near Pier 3
(7) - Elevation @ Joint near Pier 7
(10) - Elevation @ Joint near Pier 10

Roadway joints to be bent in shop to conform to the contour of the top of slab.

For Curb Plate details see Std. Dwg. SD-1-69 Sh. No. 2 for similar details. (Typ.)

FIXED AND SLIDING BEARING REVISIONS

LOCATION	SIZE	REMARKS
Hinge	E150	Omit Anchor Rods and sheet lead. Revise Pls as shown.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

32/64

STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM.-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		W.L. 1-20-72	JHD 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

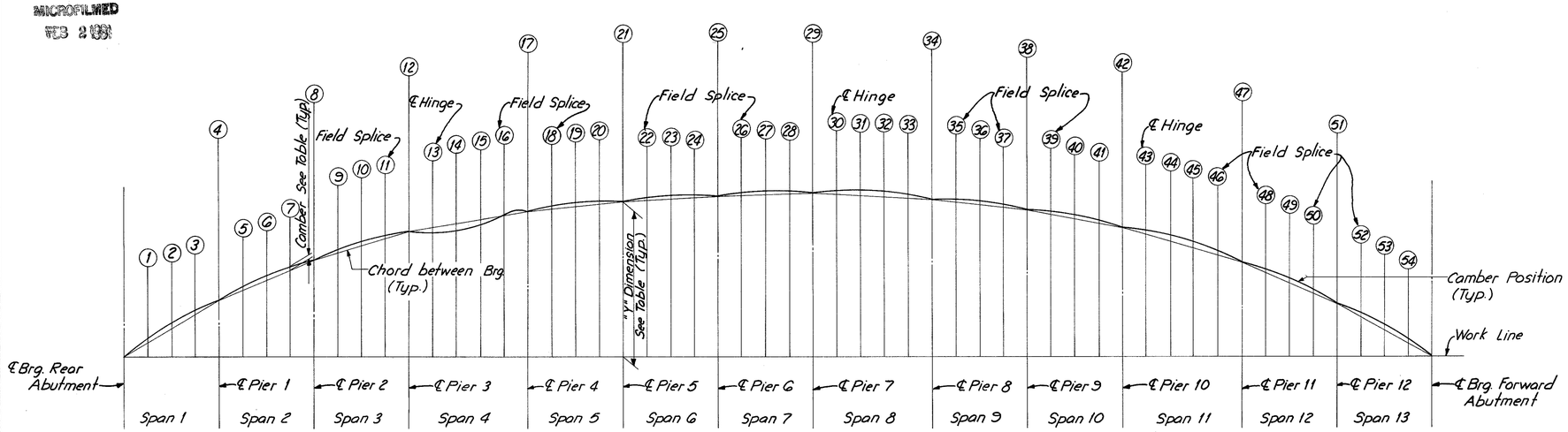
327
494

HAMILTON COUNTY
HAM-471-0.30

DEFLECTION AND CAMBER (inches)

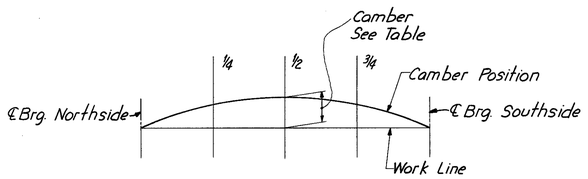
		Span 1			Span 2			Span 3			Span 4			Span 5			Span 6			Span 7			Span 8			Span 9			Span 10			Span 11			Span 12			Span 13		
		1/4 (1)	1/2 (2)	3/4 (3)	1/4 (5)	1/2 (6)	3/4 (7)	1/4 (9)	1/2 (10)	F.S. (11)	hinge (13)	1/4 (14)	1/2 (15)	F.S. (16)	F.S. (18)	1/2 (19)	3/4 (20)	F.S. (22)	1/2 (23)	3/4 (24)	F.S. (26)	1/2 (27)	3/4 (28)	hinge (30)	1/4 (31)	1/2 (32)	3/4 (33)	F.S. (35)	1/2 (36)	F.S. (37)	F.S. (39)	1/2 (40)	3/4 (41)	hinge (43)	1/4 (44)	1/2 (45)	F.S. (46)	F.S. (48)	1/2 (49)	F.S. (50)	F.S. (52)	1/2 (53)	3/4 (54)
Girder A	Def. due to weight of steel	5/16	13/16	9/16	5/16	1/2	5/16	3/8	1/2	3/8	0	1/16	3/16	1/8	0	0	0	3/16	1/4	9/16	0	0	0	0	0	0	0	1/16	1/8	1/16	0	1/16	1/16	0	0	0	0	1/8	3/16	1/8	0	0	0
	Def. due to remaining D.L.	1/4	1/2	13/16	-1/16	1/8	1/16	3/8	5/8	3/8	-1/8	3/8	3/4	7/16	-1/8	-1/16	-1/8	11/16	1 1/4	11/16	-1/8	-1/16	0	0	1/8	1/8	0	5/16	9/16	5/16	1/16	3/16	1/4	0	0	1/16	-1/16	5/8	7/8	9/16	-1/16	1/16	1/8
	Adjustment required for *	7/16	13/16	1 1/4	3/8	1/2	3/8	3/8	0	0	-1	-1 1/16	-1 1/16	7/16	1	1 5/16	1	1 3/4	2 3/8	1 3/4	1/2	9/16	1/2	0	0	0	0	0	-3/16	1/8	1 5/16	1 1/2	1 5/16	1	1 1/4	1 5/16	1 1/16	1 3/4	2 3/16	1 5/16	13/16	5/16	0
	Required shop camber	2 1/4	3 1/8	2 5/8	5/8	1 1/8	3/4	1 1/8	1 1/8	3/4	-1 1/8	-1 1/4	-1/8	1	7/8	1 1/4	7/8	2 5/8	3 7/8	2 5/8	3/8	1/2	1/2	0	1/8	1/8	0	3/8	1/2	1/2	1 3/8	1 3/4	1 1/4	1	1 1/4	1 3/8	1	2 1/2	3 1/4	2 5/8	3/4	3/8	1/8
Girder B	Def. due to weight of steel	9/16	13/16	9/16	7/16	9/16	7/16	5/16	7/16	5/16	0	1/16	1/8	1/8	0	0	0	3/16	5/16	3/16	0	0	0	0	0	0	0	1/16	1/8	1/16	0	1/16	1/16	0	0	0	0	1/8	3/16	1/8	0	0	0
	Def. due to remaining D.L.	1 1/4	1 1/2	13/16	-1/16	1/16	1/16	5/16	9/16	7/16	-1/8	3/8	3/4	1/2	-1/8	-1/16	-1/8	3/4	1 1/4	3/4	-1/8	-1/16	0	0	1/8	1/8	0	5/16	9/16	5/16	1/16	1/4	1/4	0	0	1/16	-1/16	5/8	1 5/8	5/8	-1/16	1/16	1/8
	Adjustment required for *	7/16	13/16	1 1/4	3/8	1/2	3/8	1/8	-1/4	-1/8	-1 1/4	-1 5/16	-1 3/16	0	1	1 7/16	1	1 3/16	2 5/16	1 3/16	5/8	1 3/16	5/8	0	0	0	0	0	-3/16	1/8	1 3/16	1 5/16	1 3/16	1	1 1/4	1 5/16	1 1/16	1 7/8	2 3/8	2 1/8	13/16	3/16	1/8
	Required shop camber	2 1/4	3 1/8	2 5/8	3/4	1 1/8	7/8	3/4	3/4	5/8	-1 3/8	-1 1/2	-1/2	5/8	7/8	1 3/8	7/8	2 3/4	3 3/8	2 3/4	1/2	3/4	5/8	0	1/8	1/8	0	3/8	1/2	1/2	1 1/4	1 5/8	1 1/8	1	1 1/4	1 3/8	1	2 5/8	3 1/2	2 7/8	3/4	1/4	0
Girder C	Def. due to weight of steel	9/16	13/16	9/16	1/2	1 1/16	1/2	1/4	3/8	1/4	0	1/16	3/16	1/8	0	0	0	3/16	5/16	3/16	0	0	0	0	0	0	0	1/16	1/8	1/16	0	1/16	1/16	0	0	0	0	1/8	3/16	1/8	0	0	0
	Def. due to remaining D.L.	1 1/4	1 1/2	13/16	-1/16	1/8	1/16	3/8	5/8	3/8	-1/8	3/8	3/4	1/2	-1/8	-1/16	-1/8	3/4	1 1/4	3/4	-1/8	-1/16	0	0	1/8	1/8	0	5/16	9/16	5/16	1/8	5/16	1/4	0	0	1/16	0	5/8	1 3/16	9/16	-1/16	1/16	1/8
	Adjustment required for *	7/16	13/16	1 1/4	7/16	9/16	7/16	0	-3/8	-1/4	-3/4	-1 3/16	-1 3/16	0	1 1/8	1 7/16	1 1/8	1 3/16	2 7/16	1 3/16	3/4	15/16	3/4	0	0	0	0	0	-3/16	1/8	1 1/8	1 1/8	13/16	1 1/16	1 3/8	1 7/16	1 1/8	2 1/8	2 5/8	2 5/16	13/16	3/16	-1/8
	Required shop camber	2 1/4	3 1/8	2 5/8	7/8	1 3/8	1	5/8	3/8	3/8	-7/8	-1 1/8	-3/8	5/8	1	1 3/8	1	2 3/4	4	2 3/4	5/8	7/8	3/4	0	1/8	1/8	0	3/8	1/2	1/2	1 1/4	1 1/2	1 1/8	1	1 3/8	1 1/2	1 1/8	2 7/8	3 3/4	3	3/4	1/4	0
Girder D	Def. due to weight of steel	9/16	13/16	9/16	9/16	3/4	9/16	1/4	5/16	1/4	0	1/16	3/16	1/8	0	0	0	3/16	5/16	3/16	0	0	0	0	0	0	0	1/16	1/8	1/16	0	1/16	1/16	0	0	0	0	1/8	3/16	1/8	0	0	0
	Def. due to remoining D.L.	1 1/16	1 5/16	13/16	-1/8	1/16	0	5/16	9/16	3/8	-1/16	5/16	11/16	7/16	-1/8	-1/16	-1/8	3/4	1 1/8	3/4	-1/8	-1/16	0	0	1/8	1/8	0	5/16	1/2	5/16	0	1/4	3/16	-1/16	0	1/16	-1/16	9/16	15/16	9/16	-1/16	1/16	1/8
	Adjustment required for *	3/8	3/4	1 1/8	7/16	9/16	7/16	-1/16	-3/8	-3/8	-5/16	-1 3/8	-1 1/8	1/16	1 1/8	1 7/16	1 1/8	1 3/16	2 7/16	1 3/16	7/8	1 3/16	7/8	0	0	0	0	0	-1/8	1/8	1	1 5/16	5/8	1 1/16	1 3/16	1 3/16	2 5/16	2 1/8	2 3/16	13/16	3/16	-1/8
	Required shop camber	2	2 7/8	2 1/2	7/8	1 3/8	1	1/2	1/2	1/4	-3/8	-1	-1/4	5/8	1	1 3/8	1	2 3/4	3 3/8	2 3/4	3/4	1 1/8	7/8	0	1/8	1/8	0	3/8	1/2	1/2	1	1 1/4	7/8	1	1 3/8	1 1/2	1 1/8	3	4	3 1/4	3/4	1/4	0
Girder E	Def. due to weight of steel	9/16	13/16	9/16	5/8	7/8	5/8	3/16	5/16	3/16	0	1/16	3/16	1/16	0	0	0	3/16	1/4	1/8	0	1/16	1/16	0	0	0	0	1/16	1/8	1/16	0	1/16	1/16	0	0	0	0	1/8	3/16	1/8	0	0	0
	Def. due to remaining D.L.	15/16	1 1/8	9/16	1/16	3/8	5/16	1/8	1/4	1/4	0	3/8	11/16	7/16	-1/8	-1/16	-1/8	11/16	1	5/8	1/16	5/16	1/4	0	0	0	0	5/16	9/16	5/16	0	3/16	3/16	-1/16	0	0	-1/16	1/2	15/16	9/16	0	1/8	1/8
	Adjustment required for *	1/4	7/16	5/8	7/16	5/8	7/16	-1/16	-7/16	-3/16	1/8	-3/16	-5/8	3/8	1	1 3/16	1	1 1/8	2 1/16	1 1/8	1/8	3/16	1/8	0	0	0	0	0	-3/16	1/8	7/8	7/8	5/8	1 1/16	1 3/8	1 1/16	1 3/16	2 1/2	3	2 7/16	1	1/4	-1/8
	Required shop camber	1 3/4	2 3/16	1 3/4	1 1/8	1 7/8	1 3/8	1/4	1/8	0	1/8	-3/16	1/4	7/8	7/8	1 1/4	7/8	2 3/4	3 3/4	2 5/8	1 1/8	1 3/4	1 3/8	0	0	0	0	3/8	1/2	1/2	7/8	1 1/8	7/8	1	1 3/8	1 1/2	1 1/8	3 1/8	4 1/8	3 3/8	1	3/8	0
Girder F	Def. due to weight of steel	9/16	13/16	9/16	9/16	7/8	9/16	3/16	1/4	3/16	0	1/8	1/8	1/16	0	0	0	3/16	1/8	1/8	0	1/16	1/16	0	0	0	0	1/16	1/8	1/16	0	1/16	1/16	0	0	0	0	1/8	3/16	1/8	0	0	0
	Def. due to remoining D.L.	7/8	1 3/16	9/16	1/16	3/8	5/16	1/8	1/4	1/4	0	3/8	5/8	7/16	-1/16	-1/16	-1/8	11/16	1	5/8	1/16	5/16	1/4	0	0	0	0	5/16	1/2	5/16	1/16	3/16	3/16	-1/16	0	0	-1/16	9/16	15/16	3/16	0	1/8	1/8
	Adjustment required for *	1/16	1/8	1/8	1/2	5/8	1/2	-1/16	-1/2	-3/16	3/8	0	0	5/8	11/16	1 3/16	7/8	1 1/8	2 1/2	1 1/8	1/4	1 5/8	1/4	0	0	0	0	1/8	-1/8	1/8	11/16	3/4	5/8	1 11/16	1 3/16	1 5/8	1 3/16	2 3/16	3/4	2 1/16	1	1/4	-1/8
	Required shop camber	1 1/2	2 1/8	1 1/4	1 1/8	1 7/8	1 3/8	1/4	0	-1/8	3/8	1/2	3/4	1 1/8	5/8	1 1/8	3/4	2 3/4	3 3/4	2 5/8	1/4	2	1 5/8	0	0	0	0	1/2	1/2	1/2	3/4	1	7/8	1 1/16	1 3/16	1 5/8	1 1/4	3 1/16	4 3/16	3 1/2	1	3/8	0

Note: Negative values (-) are measured downward.
* Vertical and horizontal curves and superelevation transition



CAMBER DIAGRAM
(GIRDERS)

	Girder A	Girder B	Girder C	Girder D	Girder E	Girder F
Pier	Y Dim.	Y Dim	Y Dim.	Y Dim.	Y Dim.	Y Dim.
1	3'-1 3/4"	3'-3"	3'-4 1/4"	3'-5 5/8"	3'-7 1/8"	3'-8 7/8"
2	5'-1 3/8"	5'-4 5/8"	5'-7 3/4"	5'-11 5/8"	6'-5 3/4"	7'-0"
3	6'-5 7/8"	6'-11 3/8"	7'-4 3/4"	7'-10 1/2"	8'-6 1/8"	9'-1 1/2"
4	9'-6 1/4"	9'-9 3/4"	10'-1"	10'-5 1/8"	10'-11 1/16"	11'-5 3/4"
5	11'-3 1/8"	11'-7"	11'-11 1/8"	12'-3 5/8"	12'-9 3/4"	13'-4"
6	12'-0 5/8"	12'-5 1/4"	12'-9 7/8"	13'-3"	13'-9 1/2"	14'-4 1/8"
7	11'-10"	12'-2 1/4"	12'-6 5/8"	12'-11 3/8"	13'-5 1/4"	13'-11 1/4"
8	11'-3 3/4"	11'-7 3/4"	11'-11 3/4"	12'-4 1/8"	12'-9 1/2"	13'-3"
9	10'-7 3/4"	10'-11 1/4"	11'-2 7/8"	11'-6 5/8"	11'-11 1/4"	12'-3 7/8"
10	9'-8 3/4"	10'-0 1/4"	10'-4"	10'-7 7/8"	11'-0 1/2"	11'-4 7/8"
11	7'-10 3/8"	8'-1 5/8"	8'-5"	8'-8 1/2"	9'-0 3/8"	9'-4 1/4"
12	3'-6 3/4"	3'-8 1/4"	3'-9 3/4"	3'-11 1/8"	4'-0 1/2"	4'-1 7/8"



CAMBER DIAGRAM
(FLOORBEAMS)

DEFLECTION & CAMBER (inches)	Floor beam 1			Floor beam 2		
	1/4	1/2	3/4	1/4	1/2	3/4
Def. due to weight of steel	1/16	1/16	1/16	1/16	1/16	1/16
Def. due to remaining D.L.	3/16	1/4	3/16	3/16	5/16	3/16
Adjustment req'd for convexity	1 5/8	3 3/16	1 7/8	0	-1/8	0
Required shop camber	1 7/8	3 3/8	2 1/8	1/4	1/4	1/4

Note: Negative values (-) are measured downward.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

33/64

STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM.-471-0044
SIXTH STREET CONNECTION OVER
SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		W.L. 12-7-71	JHD 11-13-72	

FED. RD. DIV.	STATE	PROJECT.	FISCAL YEAR
2	OHIO		

328
494

HAMILTON COUNTY
HAM-471-0.30

1 Series of 225-S504 @ 1'-6" ± (Sidewalk) (Measured along edge of slab)

See Detail C sh. 331

℄ Light Pole Sta. 69+06.00

Fascia Line

223-S502 @ 1'-6" (Sidewalk) = 333'-0" (Measured along curb line)

223-S505 @ 1'-6" = 333'-0" (Sidewalk) (Measured along curb line)

4-SG08 @ 7" = 1'-9" (Top & Bottom)

Curb Line

Drain Inlet

1'-6"

1-SG01 (Top)
1-SG02 (Bottom)

207-SG01 @ 7" = 120'-2" (Top)
207-SG02 @ 7" = 120'-2" (Bottom)

4-SG03 @ 7" = 1'-9" (Top)
4-SG07 @ 7" = 1'-9" (Bottom)

1-SG01 (Top)
1-SG04 (Bottom)

559-SG01 @ 7" = 325'-6" (Top)
559-SG04 @ 7" = 325'-6" (Bottom)

SPAN 1

4-SG05 @ 7" = 1'-9" (Top)
4-SG06 @ 7" = 1'-9" (Bottom)

Sta. 68+20.00
℄ Brg. Rear Abutment

90°00'00"

℄ Sixth St. Connection

39'-0"

51'-4"

11 Lengths of 72 = 792'-S401 (Top) (Slab & Curb)
(See Section A-A for spacing)

11 Lengths of 53 = 583'-SG04 (Bottom) (Slab)
(See Section A-A for spacing)

60'-S421, S403 (Top) (Staggered) (Spaced between S401 (Slab & Curb)
(See Section A-A for spa.)
(See Diagram of Bars over Piers sh. 332.

Drain Inlet

2'-9"

160-SG01 @ 7" = 92'-9" (Top)
160-SG02 @ 7" = 92'-9" (Bottom)

4-SG03 @ 7" = 1'-9" (Top)
4-SG07 @ 7" = 1'-9" (Bottom)

For Section B-B see sh. 332.

SPAN 2

MATCH LINE

Sta. 69+42.00
℄ Pier 1

90°00'00"

18"-3'6"

1'-3" Min. Lap S4 Bars
1'-11" Min. Lap SG Bars

Fascia Line

℄ Brg. Rear Abut.

221-S501, S506, S503 @ 1'-6" ± (Measured along curb line) (Curb)

PLAN - UNIT A
(Parapets not shown)

A

51'-4"

7'-2" | 21'-0" | 21'-6" | 1'-8"

Roadway Break Line (To Sta. 70+51.00)

2" clr.

12" Asphalt concrete Surface Course

S505, S514 @ 1'-6" ctrs.
S502 @ 1'-6" ctrs.

S401

SG01 @ 7" ctrs.

S421, S403, S401, S404, S406, S411
S410, S424, S412, S413, S414,
S415, S419, S417, S402, S422, S423, S407, S420

18'-0"

℄ Sixth St. Conn.

3'-6"

11 Equal Spaces

Top Typ.

2 Eq. Spa. | 6 Spa. @ 10" = 5'-0" | 2 Eq. Spa. Bottom

Profile Grade

Varies

Varies

For Superelevation see Site Plan sh. no's 295, 296 & 297.

See Detail A sh. No. 334.

See Detail B sh. No. 334.

S503 @ 1'-6" ± Ctrs.

S519

R5 Bars (Included with railing for payment) (Typ)

R5 Bars

S504, S507, S512, S513 @ 1'-6" ± ctrs.

S501, S508, S510 @ 1'-6" ± ctrs.

SG04

SG02 @ 7" ctrs.

Slab "t" *

1'-11" Top & Bott. Min. Lap (Typ.)

SG04 @ 7" ctrs.

Typ. Haunch **

1" Clr.

S506, S509, S511 @ 1'-6" ± ctrs.

Note:
Provide 2" clearance to reinforcing steel in sidewalk, curb & parapets.

3'-9½" (Varies) (See Sh. 337)

5 Spa. @ 8'-9" = 43'-9" (Varies)

3'-9½" (Varies) (See Sh. 337)

Sta 68+17.75 to Sta 70+60.60
and Sta 72+68.33 to Sta 76+43.83
Sta 70+60.60 to Sta 72+68.33 and
Sta 76+43.83 to Sta 80+73.93

Slab "t" = 1'-1⅜" Unit A
= 10½" Unit B
= 10" Unit C
= 10⅛" Unit D

A B C D E F

SECTION A-A

N

Notes:
For Haunch (**) Note see sh. 329.
For slab "t" (*) Note see sh. 329.
For Drainage Details see sh. 349, 350 & 351.
For Railing and Lighting Details see sh. 343 thru 348 and sheet 331.
For Roadway Elevations see sh. 338.
For Screed Elevations see sh. 339.
For Layout of Edge of Slab see sh. 337.
For end finish details see sh. 325, Section K-K.
Field bend or cut longitudinal bars to miss drain inlets.
For subdrainage and wearing course details, see sheet 336.

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34/64

SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM.-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	JHD		VVL 12-7-71	JHD 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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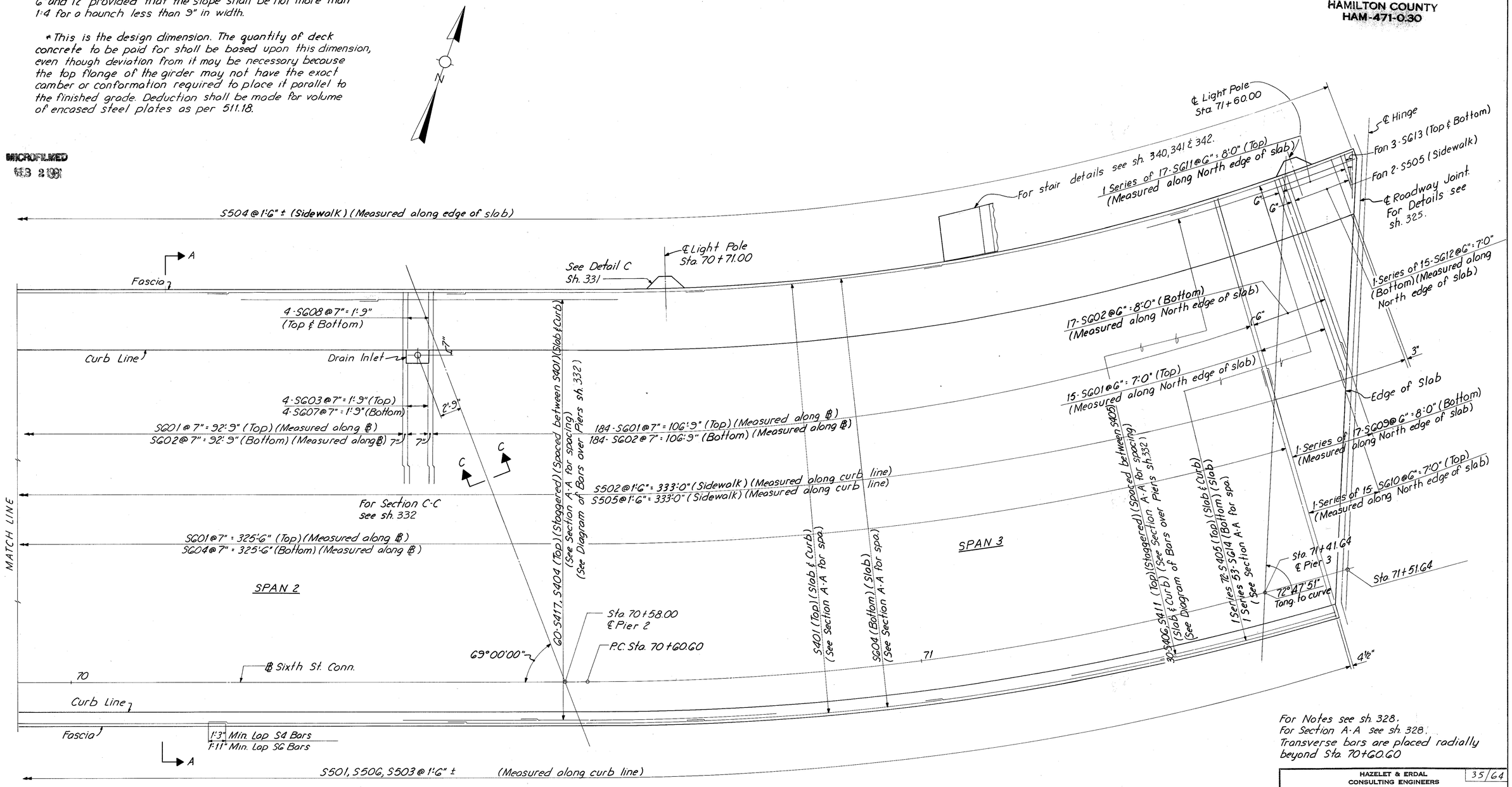
HAMILTON COUNTY
HAM-471-0.30

**A haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

*This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.18.



For Notes see sh. 328.
For Section A-A see sh. 328.
Transverse bars are placed radially beyond Sta. 70+60.60

PLAN - UNIT A
(Parapets not shown)

HAZELET & ERDAL
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35/64

SUPERSTRUCTURE DETAILS

BRIDGE NO. HAM.-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	JHD		W.L. 12-8-71	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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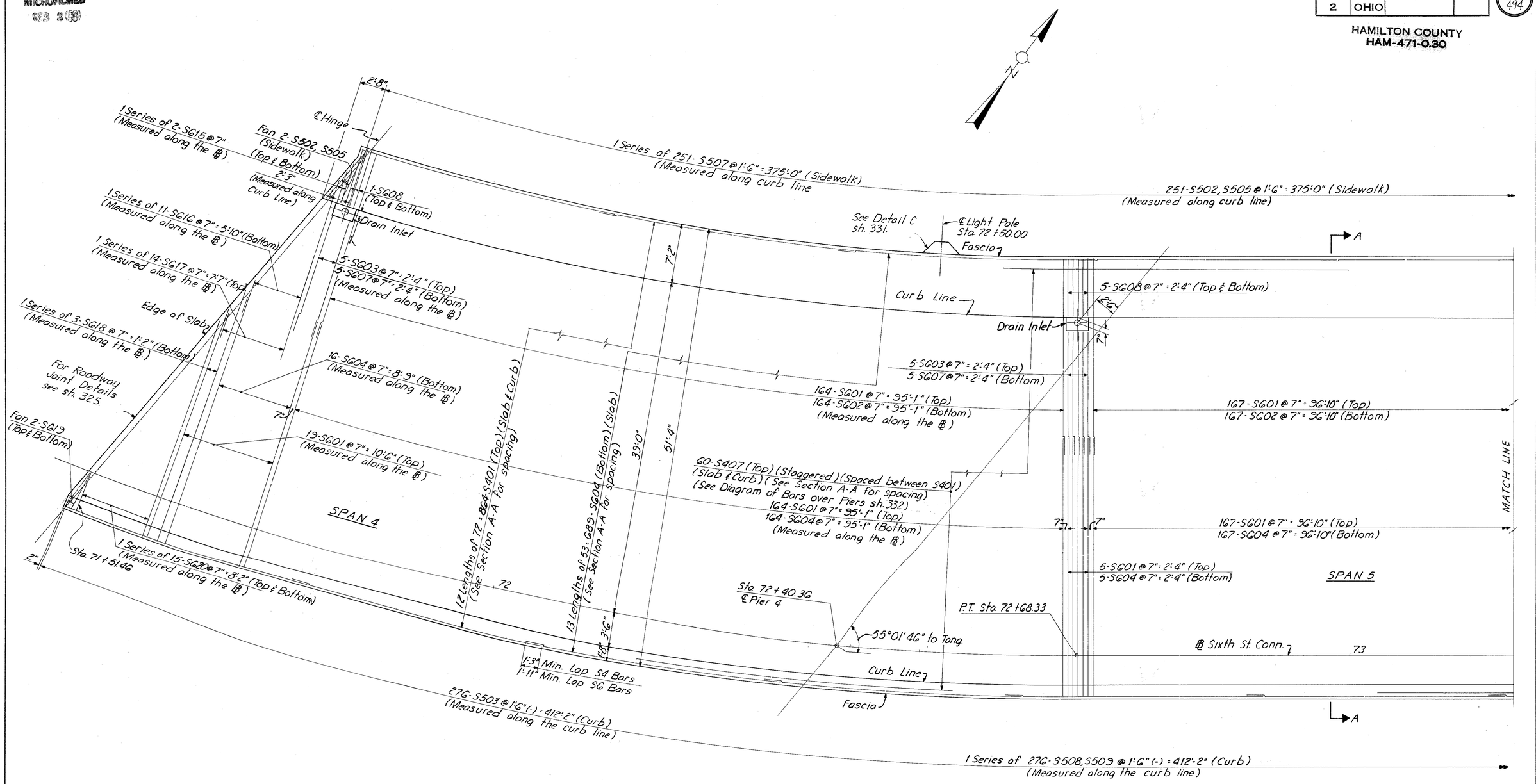
HAMILTON COUNTY
HAM-471-0.30



PLAN - UNIT B
(Parapets not shown)

For Notes see sh. 328.
For Section A-A see sh. 328.
Transverse bars are placed radially up to Sta. 72+68.33

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SUPERSTRUCTURE DETAILS

BRIDGE NO. HAM.-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	JHD		WRL 12-13-71	JHO 11-13-72	

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FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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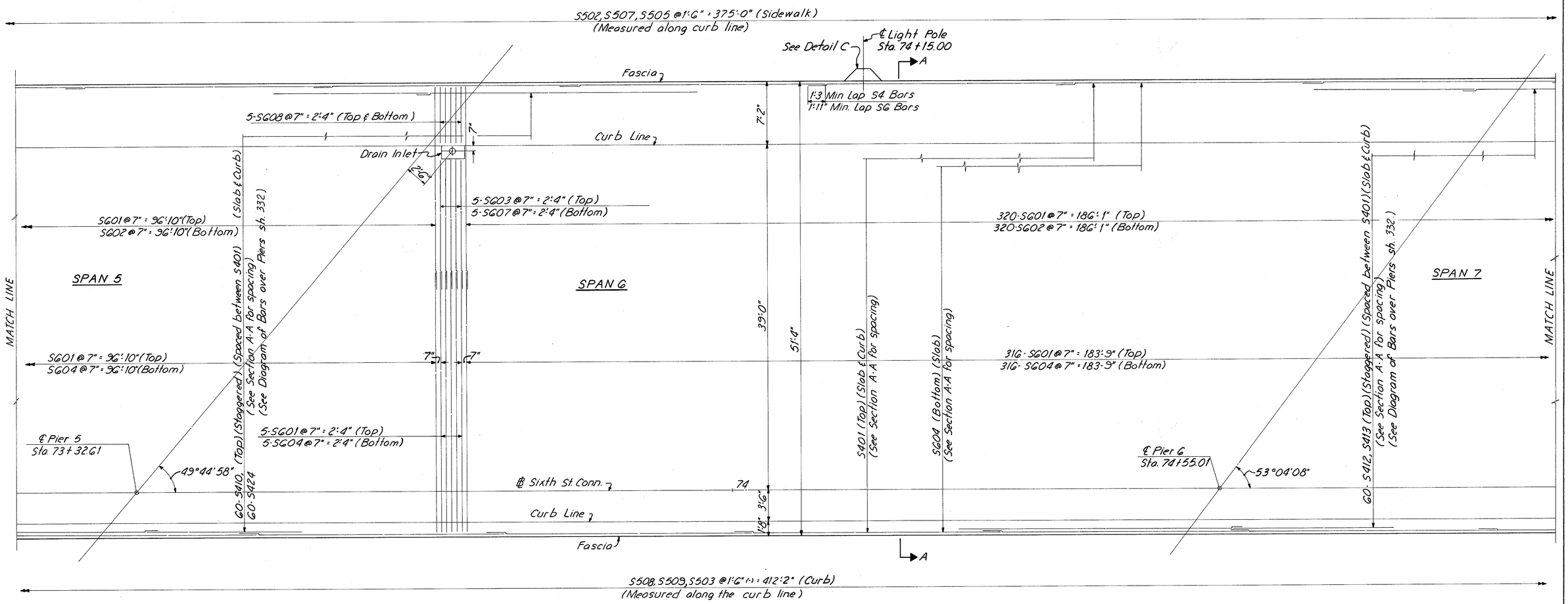
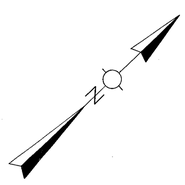
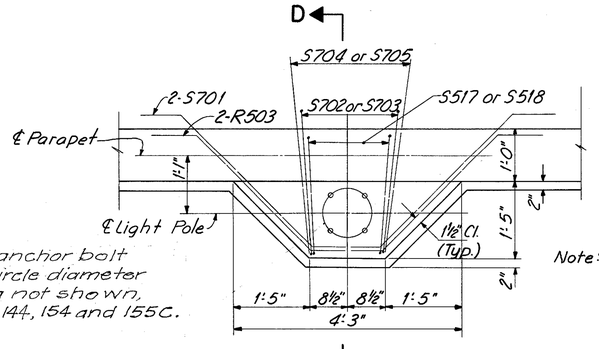
HAMILTON COUNTY
HAM-471-0.30





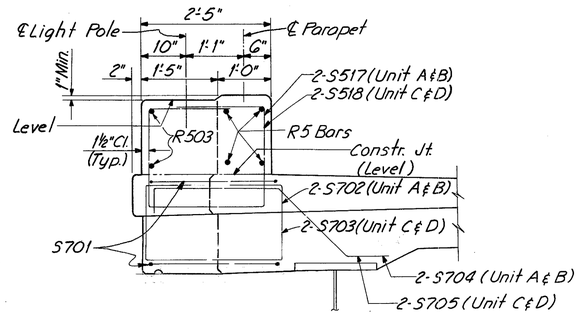


DETAIL C

Note:
For Light Pole anchor bolt details, bolt circle diameter and other data not shown, see Sh. Nos. 143, 144, 154 and 155C.

Note: Field cut R503 bars to miss parapet deflection joints for Light Pole at Sta. 71+60.

PLAN - UNIT B
(Parapets not shown)



SECTION D-D

For Notes see sh. 328.
For Section A-A see sh. 328.

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SUPERSTRUCTURE DETAILS

BRIDGE NO. HAM.-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	JHO		W.L. 12-13-71	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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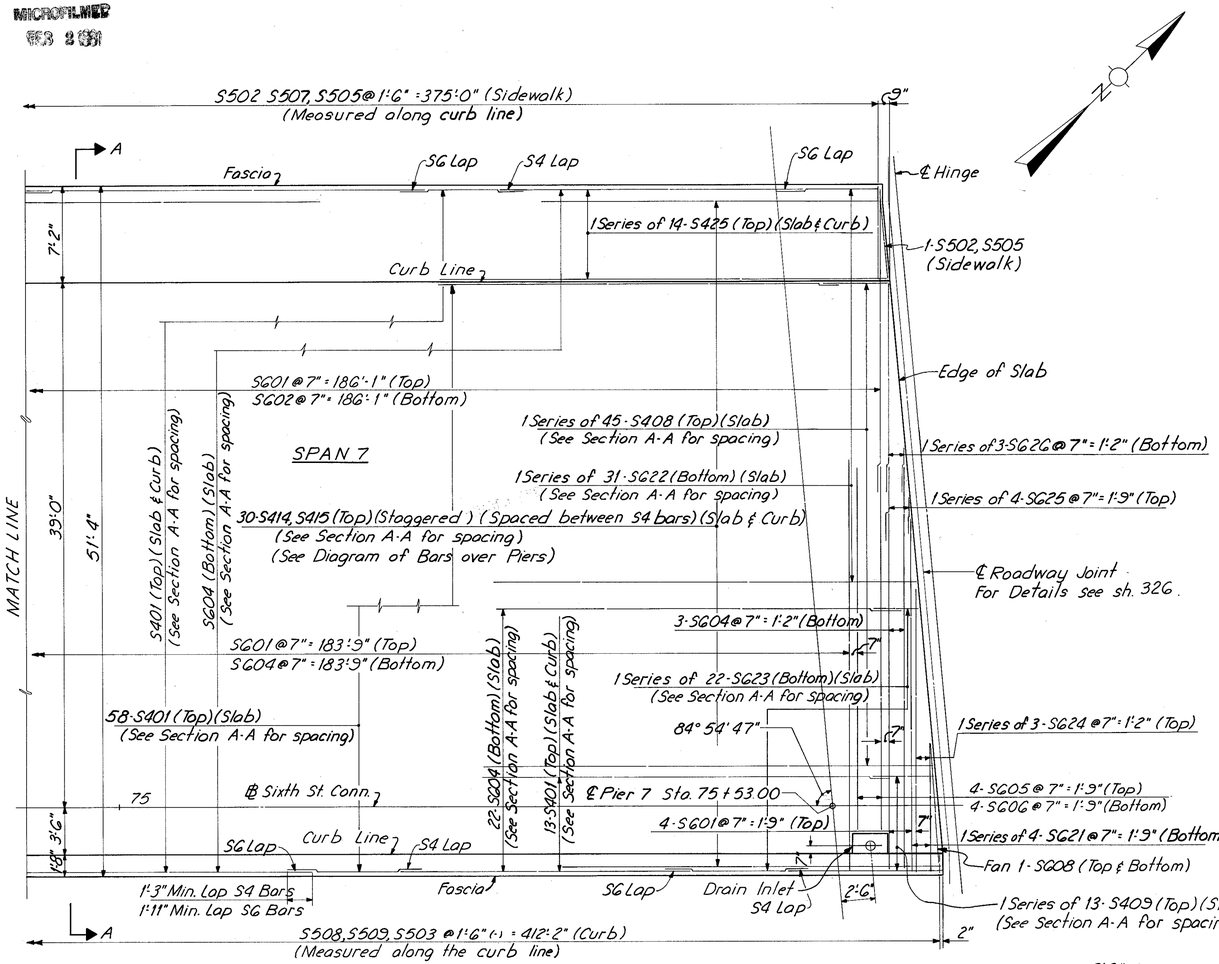
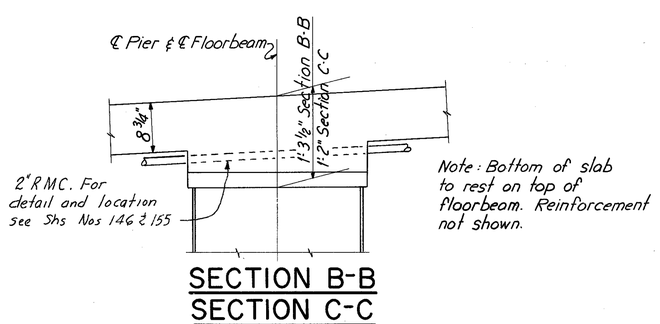
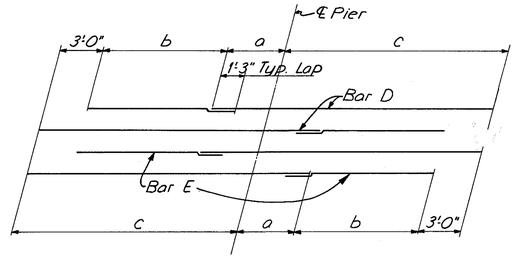
HAMILTON COUNTY
HAM-471-0.30



PLAN - UNIT B
(Parapets not shown)



SECTION B-B
SECTION C-C

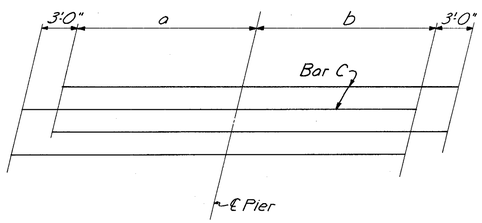


Pier No.	Dimension			Bar No.	
	a	b	c	D	E
1	9'-0"	16'-0"	28'-0"	S403	S421
2	9'-0"	12'-3"	24'-3"	S417	S404
5	9'-0"	13'-6"	25'-6"	S424	S410
6	9'-0"	14'-0"	26'-0"	S413	S412
11	9'-0"	9'-0"	21'-0"	S401	S402
12	9'-0"	9'-0"	21'-0"	S401	S402

DIAGRAM SHOWING STAGGER OF S4 BARS OVER PIERS 1,2,5,6,11 & 12

Pier No.	Dimension		Bar No.	
	a	b	C	D
3	8'-7"	19'-8"	S406	S411
7	7'-8"	21'-10"	S414	S415
10	8'-8"	17'-4"	S422	S423

DIAGRAM SHOWING STAGGER OF S4 BARS OVER PIERS 3,7 & 10



Pier No.	Dimension		Bar No.
	a	b	C
4	18'-3"	18'-3"	S407
8	16'-6"	16'-6"	S419
9	18'-0"	18'-0"	S420

DIAGRAM SHOWING STAGGER OF S4 BARS OVER PIERS 4,8 & 9

For Notes see sh. 328.
For Section A-A see sh. 328.
For location of Section B-B see sh. 328.
For location of Section C-C see sh. 329.

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SUPERSTRUCTURE DETAILS

BRIDGE NO. HAM-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	JHD		WL. 12-8-71	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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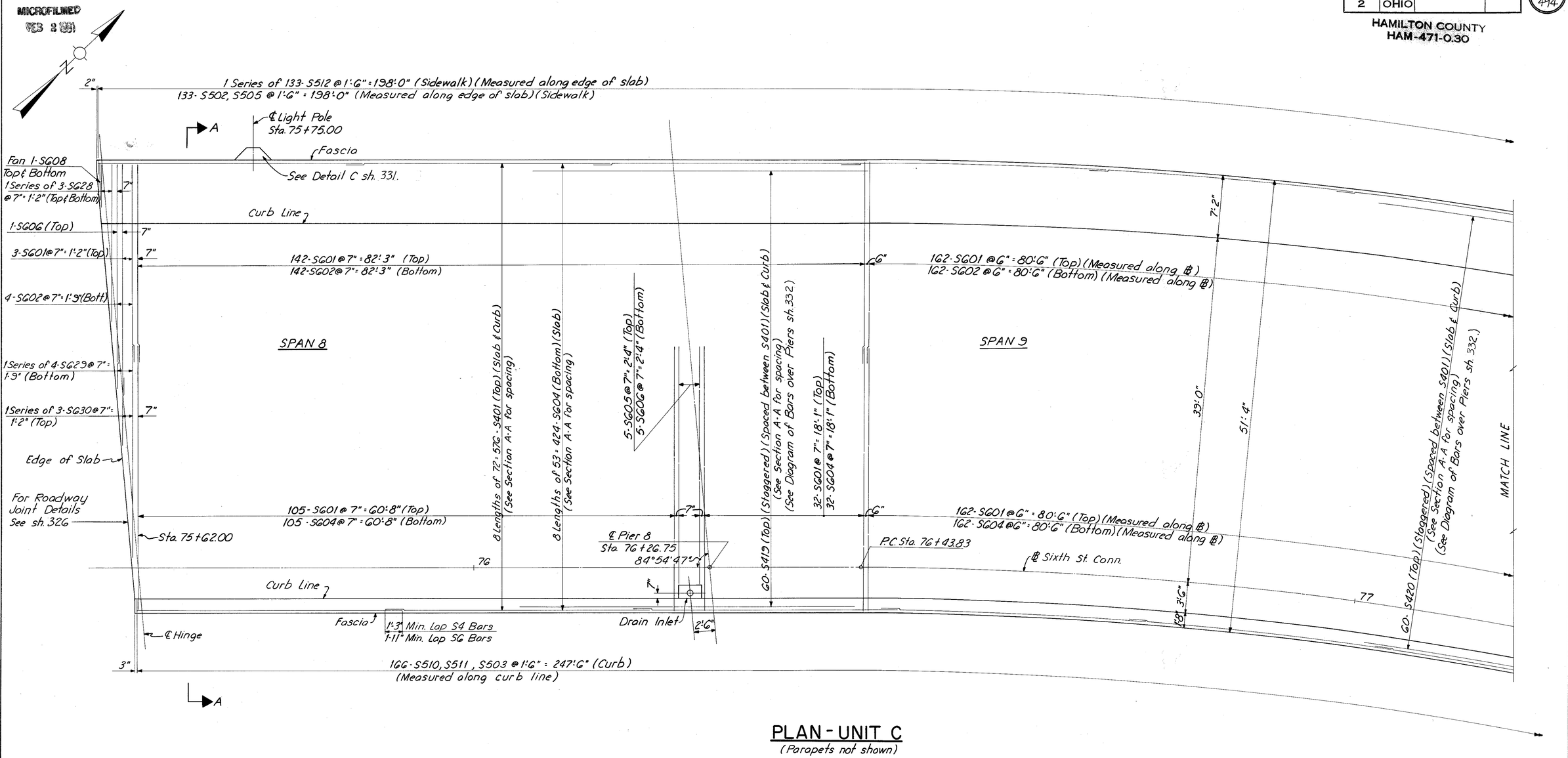
HAMILTON COUNTY
HAM-471-0.30



PLAN - UNIT C

(Parapets not shown)

For Notes see sh. 328
For Section A-A see sh. 328
Transverse bars are placed radially beyond Sta. 76+43.83.

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SUPERSTRUCTURE DETAILS

BRIDGE NO. HAM-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	JHD		VVL 12-13-71	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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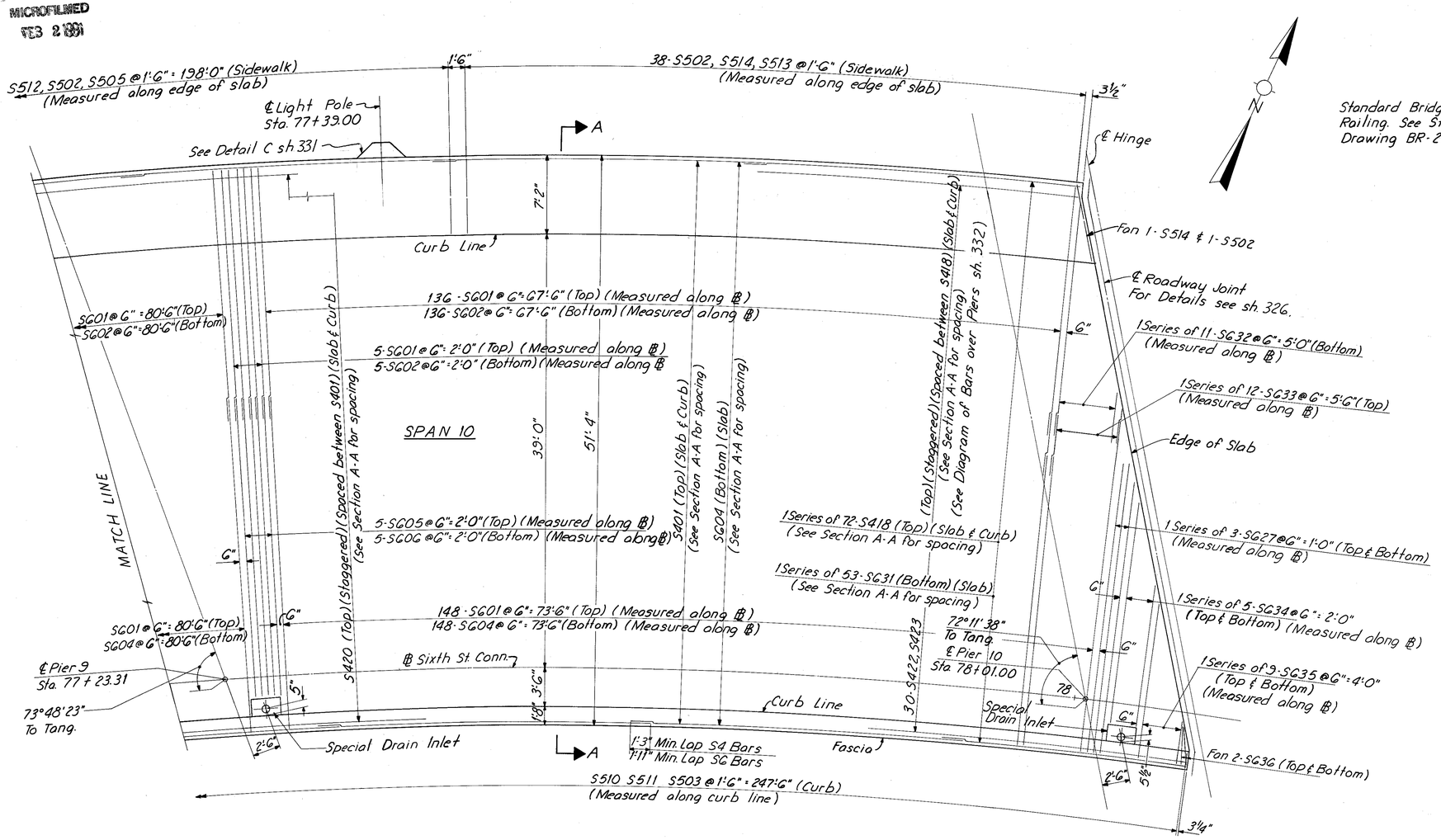
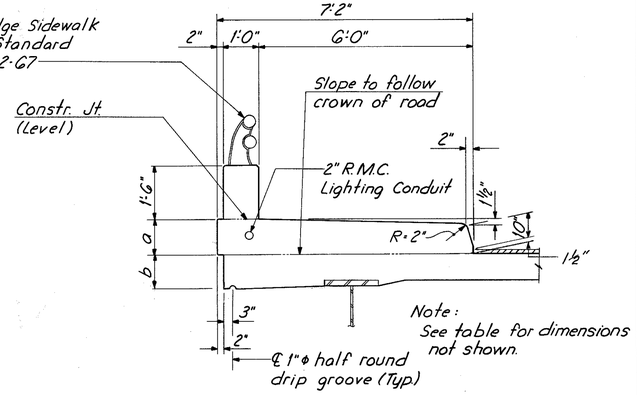
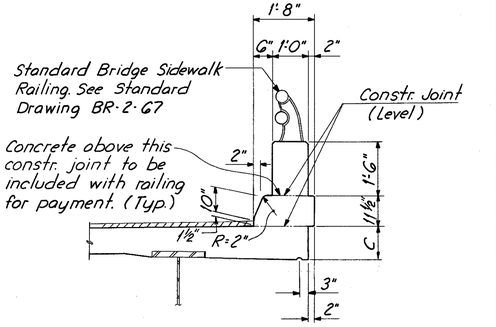
HAMILTON COUNTY
HAM-471-0.30



PLAN-UNIT C
(Parapets not shown)



DETAIL A



DETAIL B

For Notes see sh. 328.
For Section A-A see sh. 328.
For Location of Detail A and Detail B see sh. 328.
Transverse bars are placed radially.

Dimension a	Location
1'-2 3/8"	Rear Abutment to Sta. 70+51.00
1'-4 3/8"	@ Sta. 71+65.00
1'-1"	@ Sta. 74+56.17
9 3/8"	Sta. 77+47.34 to Forward Abutment

Dimension b	Dimension c	Location
1'-3½"	1'-3½"	Rear Abut. to ℄ Hinge @ Pier 3
1'-3⅝" to 1'-1"	1'-3½" to 1'-0"	℄ Hinge @ Pier 3 to ℄ Hinge @ Pier 7
1'-1"	1'-0"	℄ Hinge @ Pier 7 to Forward Abut.

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SUPERSTRUCTURE DETAILS

BRIDGE NO. HAM.-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	JHD		VV. L. 12-8-71	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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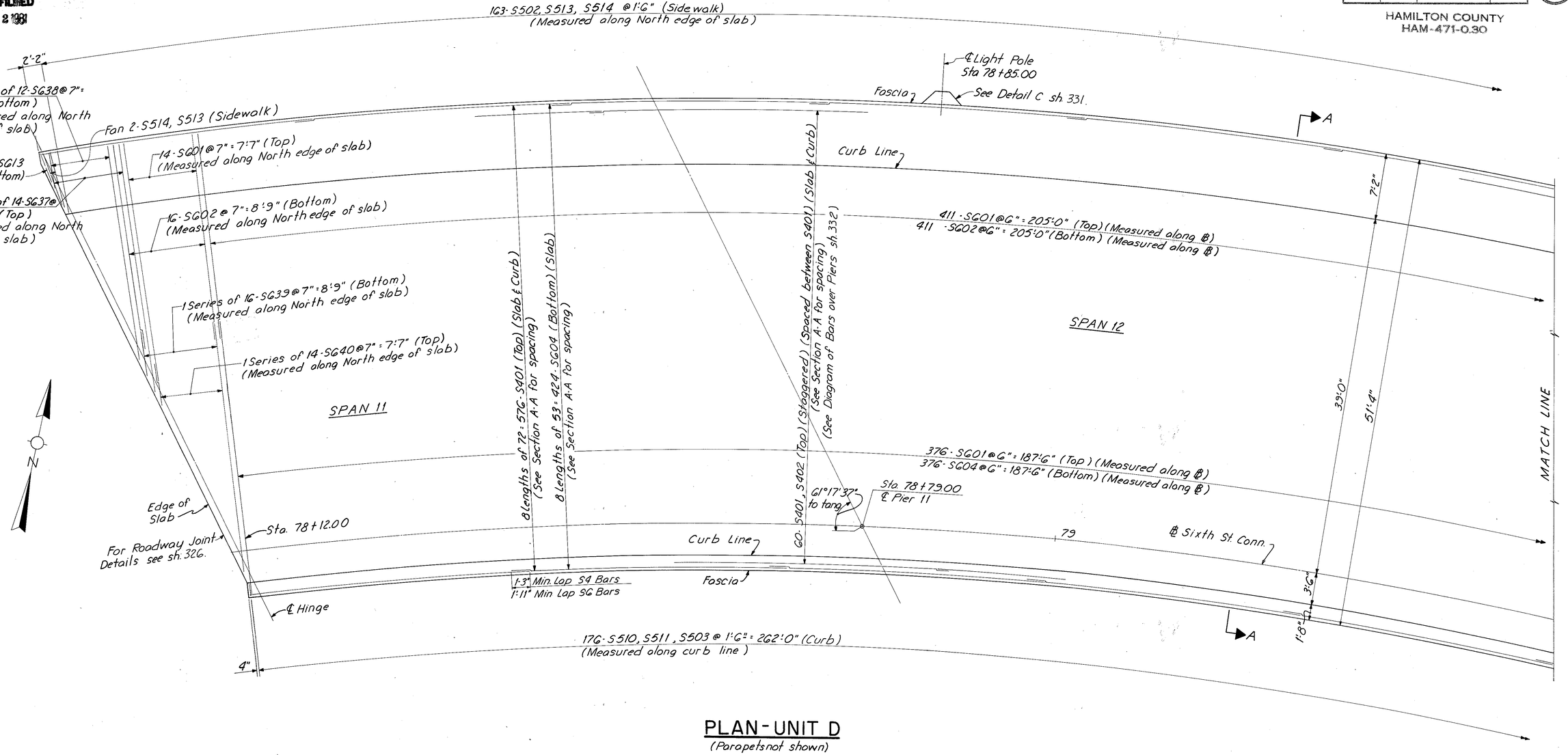
HAMILTON COUNTY
HAM-471-0.30



PLAN - UNIT D
(Parapets not shown)

For Notes see sh. 328.
For Section A-A see sh. 328.
Transverse bars are placed radially.

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SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM.-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	JHD		W.L. 12-8-71	JHO 11-13-72	

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FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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HAMILTON COUNTY
HAM-471-0.30

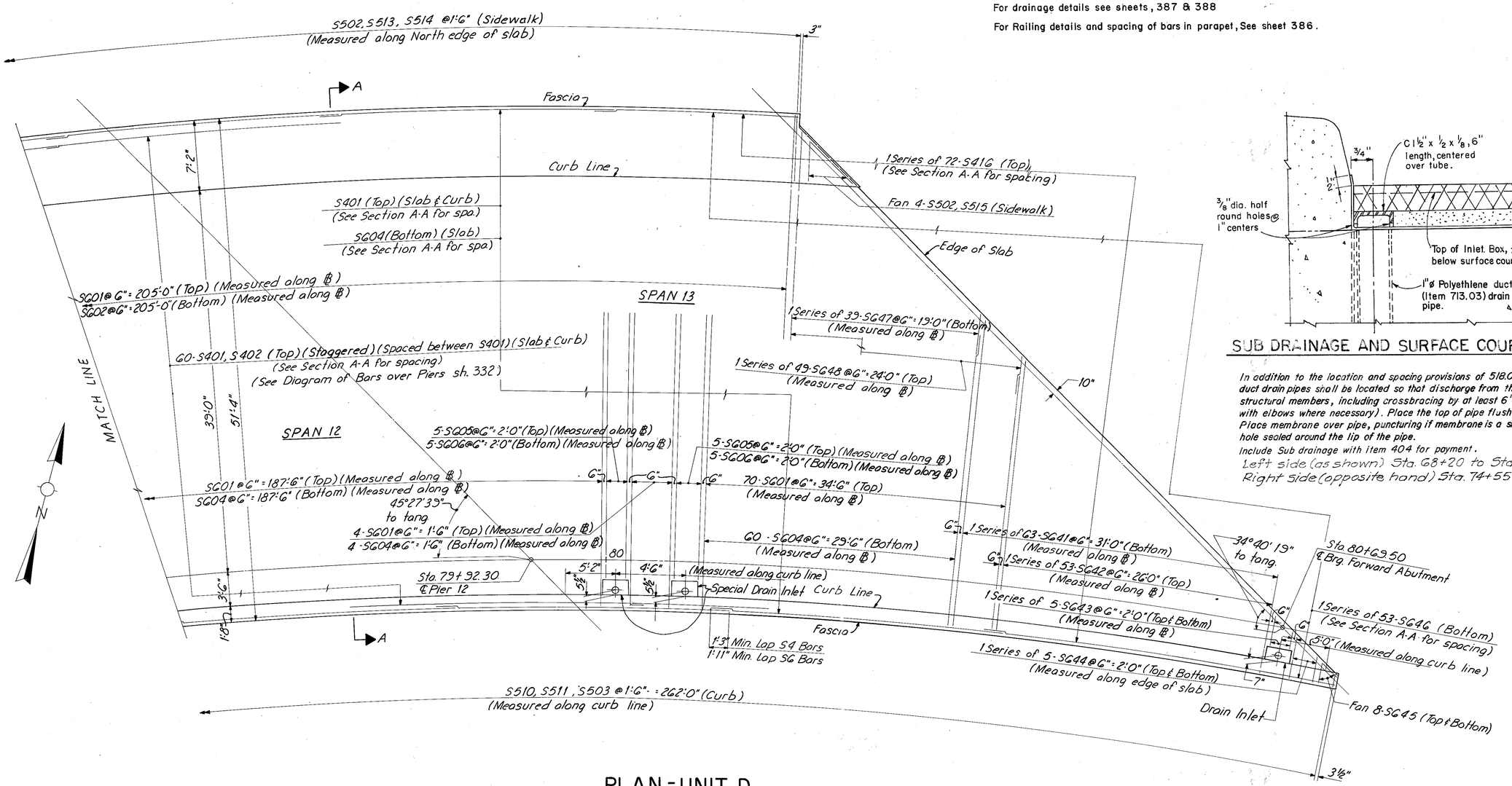
NOTES:

Transverse reinforcing bar in Spans 1 thru 5 are to be placed radially.

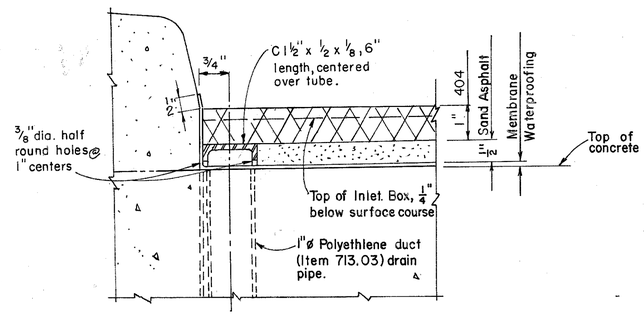
Longitudinal bars are placed parallel to the curvature of the roadway in spans 1 thru. 4. Field bend longitudinal bars where necessary to miss inlets.

For drainage details see sheets, 387 & 388

For Railing details and spacing of bars in parapet, See sheet 386.



PLAN - UNIT D
(Parapets not shown)



SUB DRAINAGE AND SURFACE COURSE DETAILS

In addition to the location and spacing provisions of 518.07, the Polyethlene duct drain pipes shall be located so that discharge from them will clear all structural members, including crossbracing by at least 6" (use drain pipes with elbows where necessary). Place the top of pipe flush with concrete surface. Place membrane over pipe, puncturing if membrane is a sheet type with the hole sealed around the lip of the pipe.

Include Sub drainage with item 404 for payment.

Left side (as shown) Sta. 68+20 to Sta. 74+55.
Right side (opposite hand) Sta. 74+55 to Sta. 80+70.

For Notes see sh. 328.
For Section A-A see sh. 328.
Transverse bars are placed radially.

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SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM.-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	JHD		W.L. 12-8-71	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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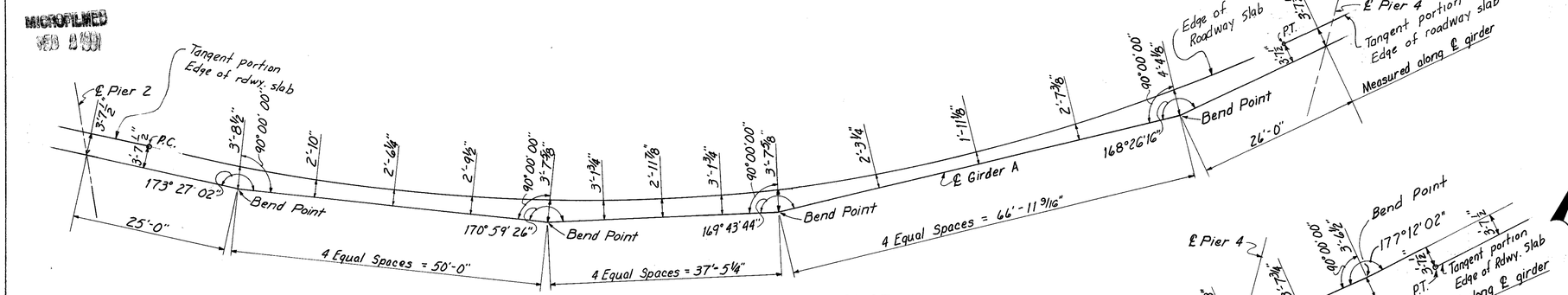
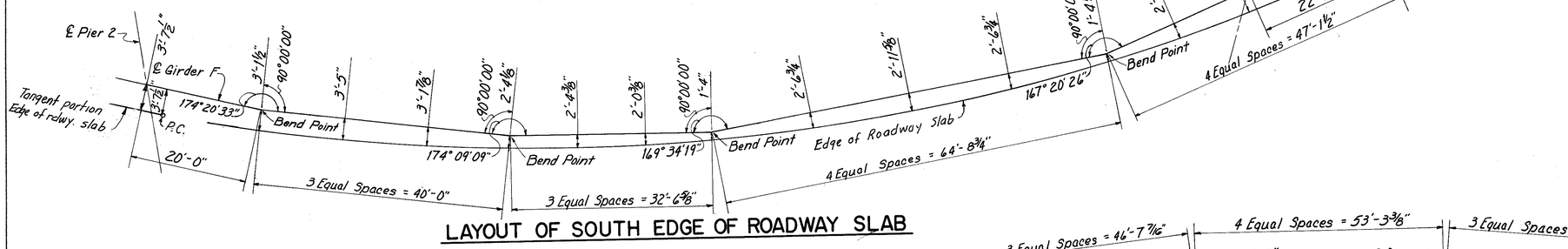
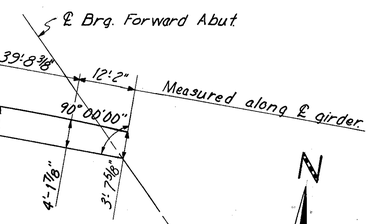
HAMILTON COUNTY
HAM-471-0.30



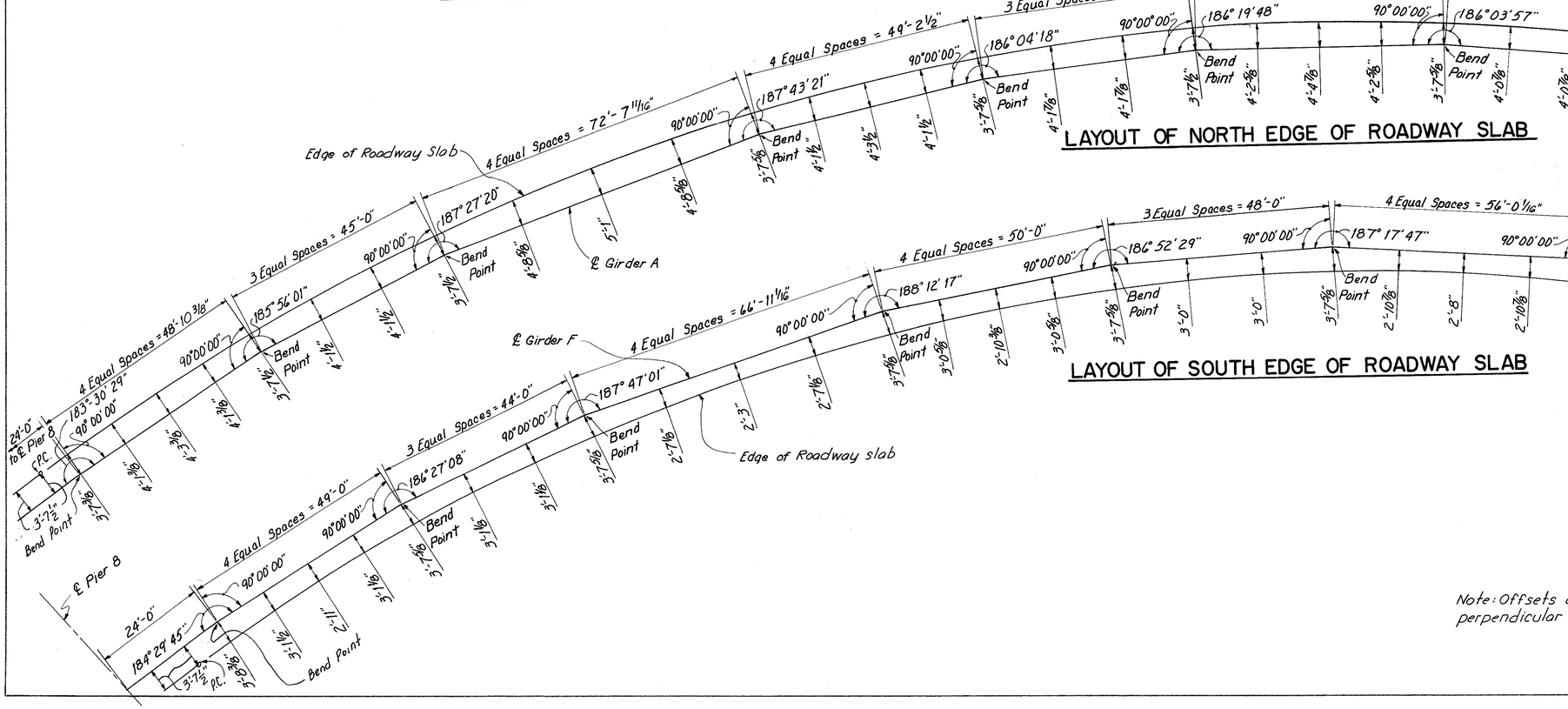
LAYOUT OF NORTH EDGE OF ROADWAY SLAB



LAYOUT OF SOUTH EDGE OF ROADWAY SLAB



LAYOUT OF NORTH EDGE OF ROADWAY SLAB



LAYOUT OF SOUTH EDGE OF ROADWAY SLAB

Note: Offsets are measured perpendicular to ℄ girders.

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SUPERSTRUCTURE DETAILS

BRIDGE NO. HAM-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H & E BRIDGE No. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.E.M.		W.L. 12-8-71	JHS 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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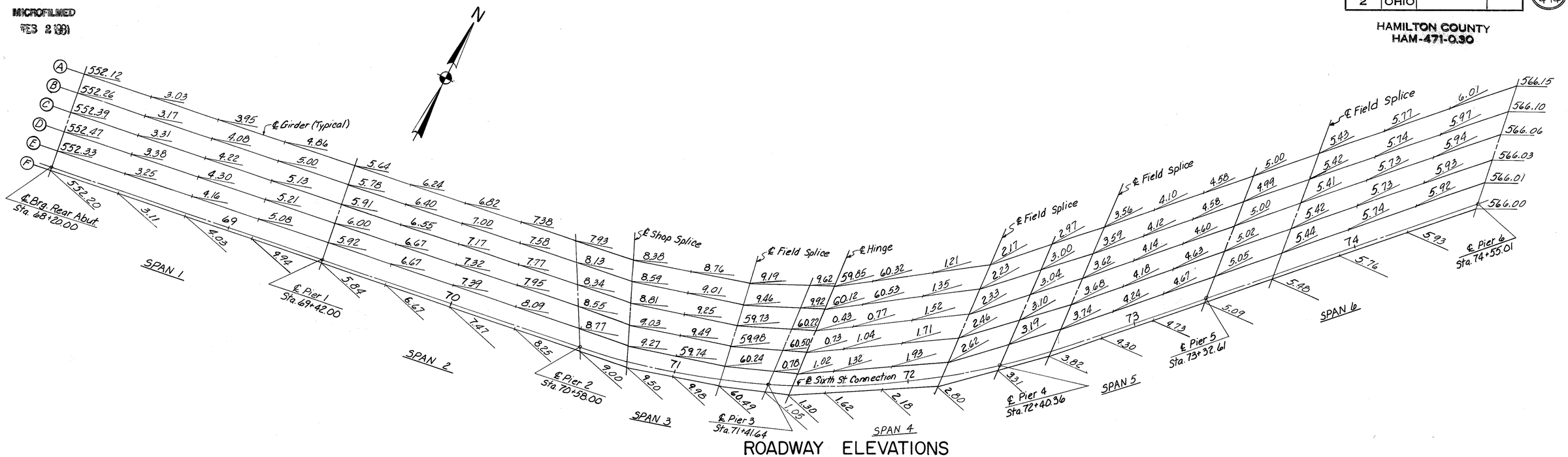
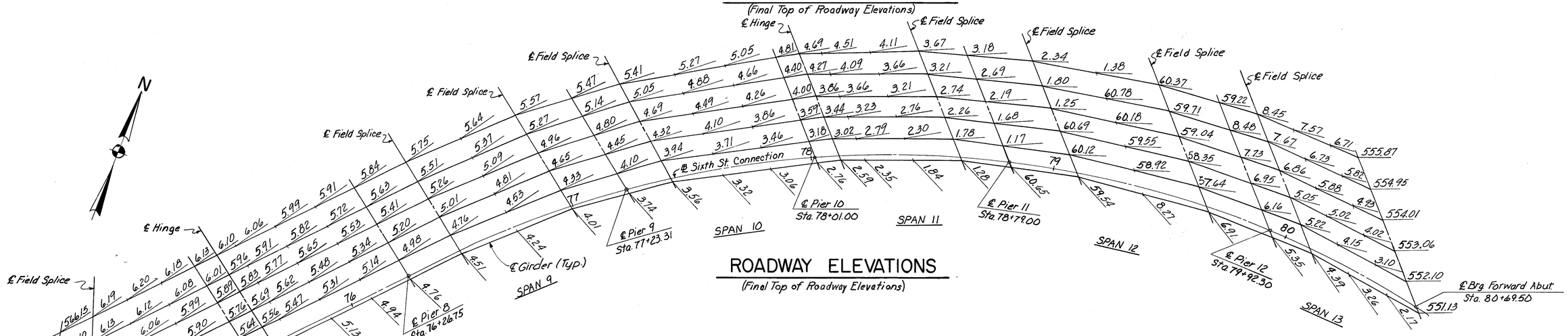
HAMILTON COUNTY
HAM-471-0.30



ROADWAY ELEVATIONS

(Final Top of Roadway Elevations)



ROADWAY ELEVATIONS

(Final Top of Roadway Elevations)

Note:
Elevations are given at ℄ of Bearings and ¼ points of spans (measured along ℄ of Girder), and at ℄ of Hinge.

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ROADWAY ELEVATIONS
BRIDGE NO. HAM.-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471

H&E BRIDGE No. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.E.M.		V.V.L. 12-8-71	JHO 11-13-72	

HAMILTON COUNTY
HAM-471-0.30

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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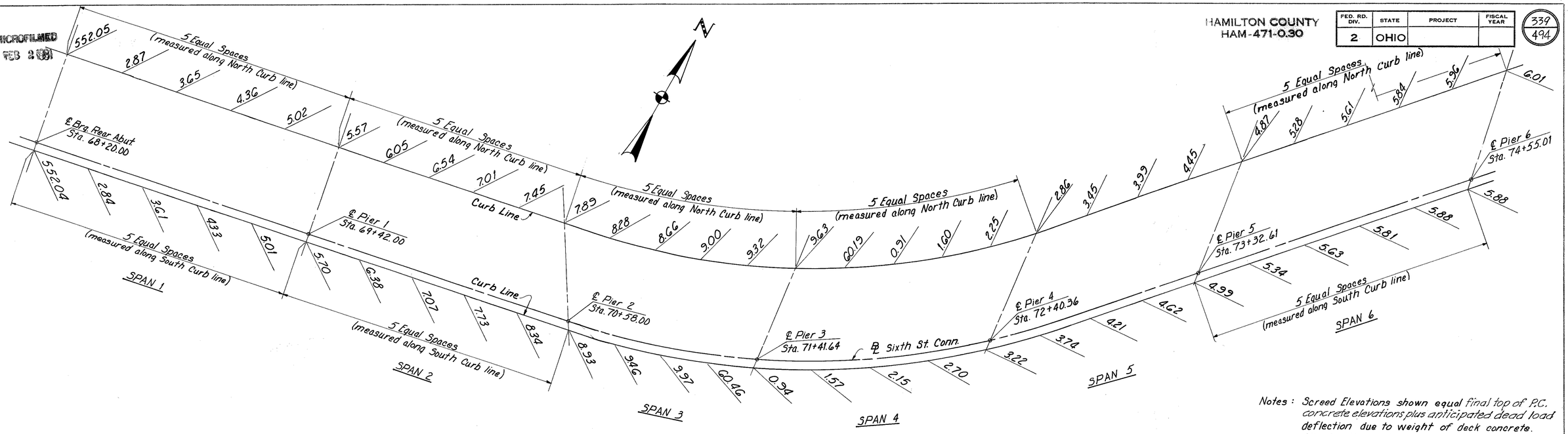
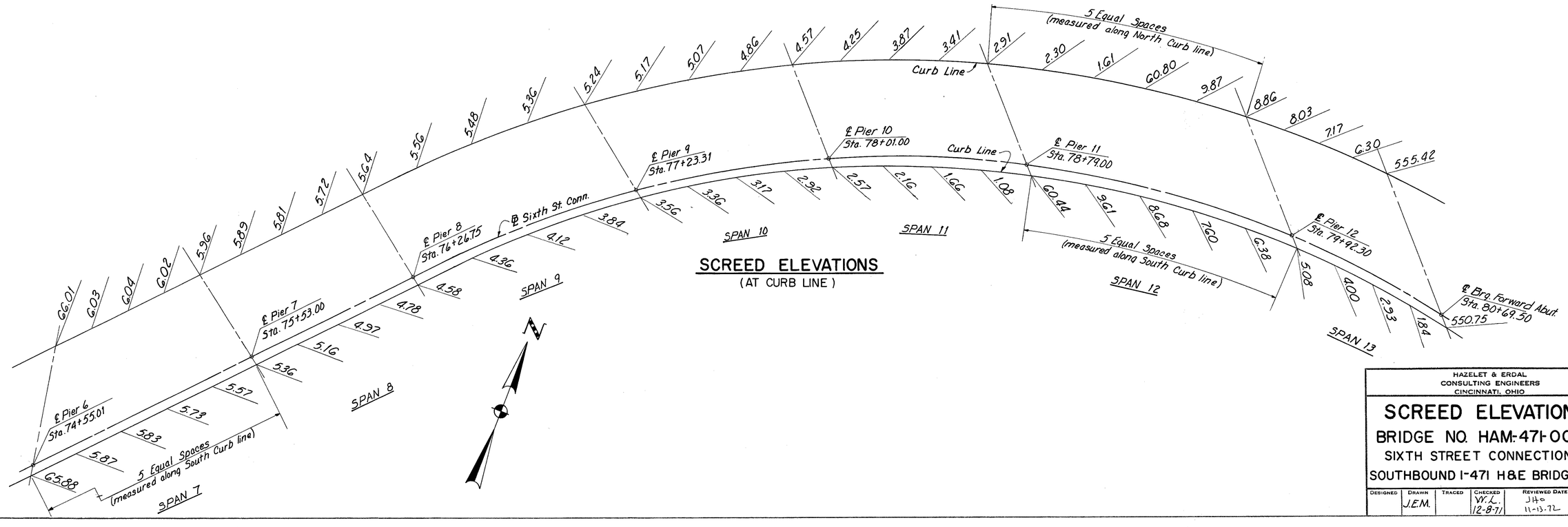


SCREED ELEVATIONS
(AT CURB LINE)

Notes: Screed Elevations shown equal final top of P.C. concrete elevations plus anticipated dead load deflection due to weight of deck concrete. All elevations shown are at ¼ points of span (measured along their own curb line) and at ℄ of Brg., unless otherwise noted.



SCREED ELEVATIONS
(AT CURB LINE)

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SCREED ELEVATIONS
BRIDGE NO. HAM-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.E.M.		V.K. 12-8-71	JHe 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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HAM-471-0.30

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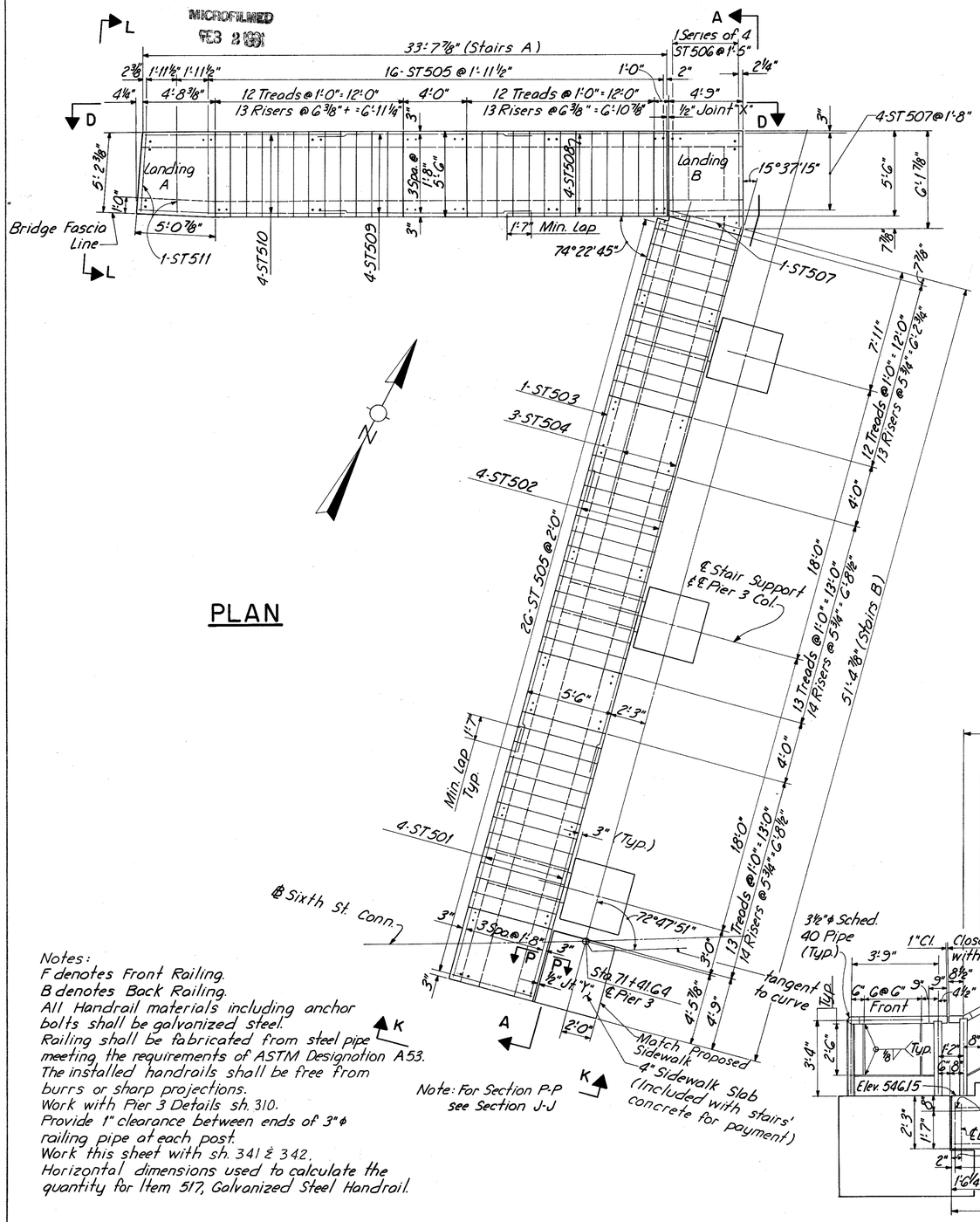
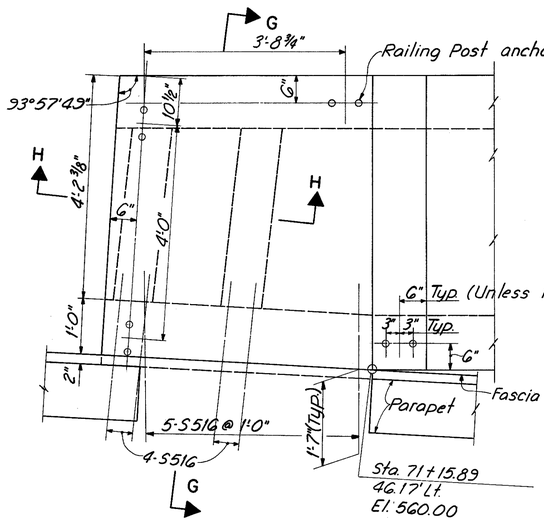
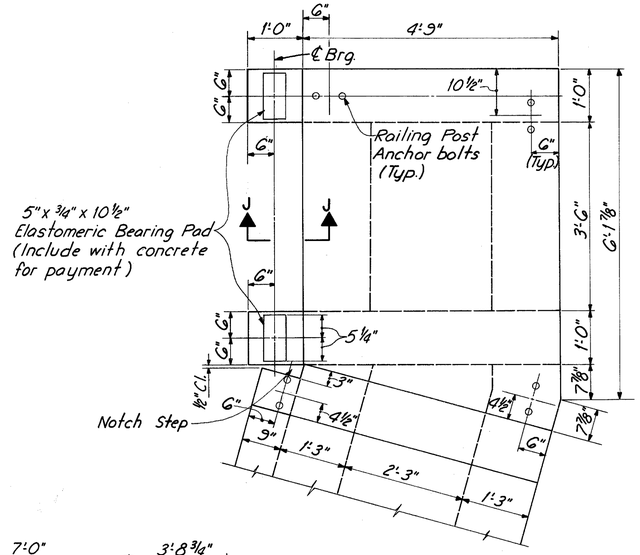


PLAN

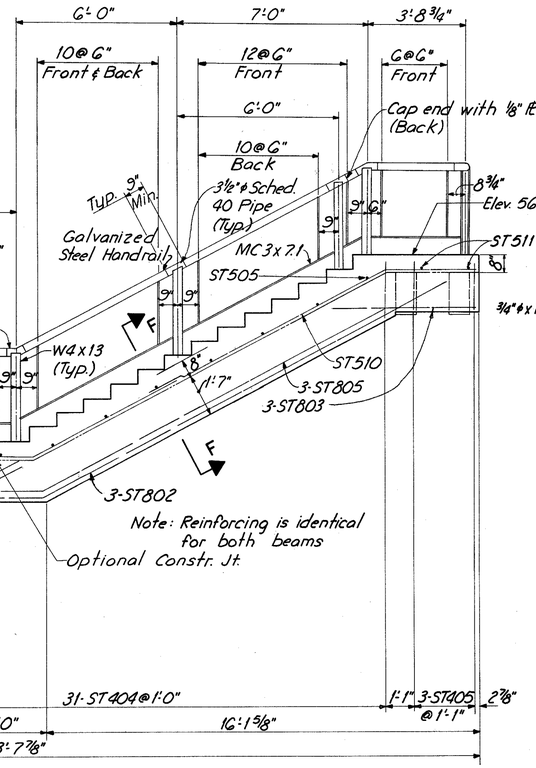
Notes:
F denotes Front Railing.
B denotes Back Railing.
All Handrail materials including anchor bolts shall be galvanized steel.
Railing shall be fabricated from steel pipe meeting the requirements of ASTM Designation A53.
The installed handrails shall be free from burrs or sharp projections.
Work with Pier 3 Details sh. 310.
Provide 1" clearance between ends of 3"ϕ railing pipe at each post.
Work this sheet with sh. 341 & 342.
Horizontal dimensions used to calculate the quantity for Item 517, Galvanized Steel Handrail.



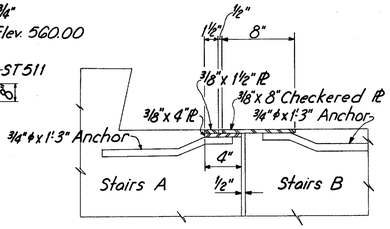
PLAN
Landing A



PLAN
Landing B



ELEVATION D-D
(STAIRS A)



SECTION J-J
(For details not shown see Joint Detail sh. 342.

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STAIR DETAILS
BRIDGE NO. HAM-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	WL	JHD	VVL 12-8-71	JHD 11-15-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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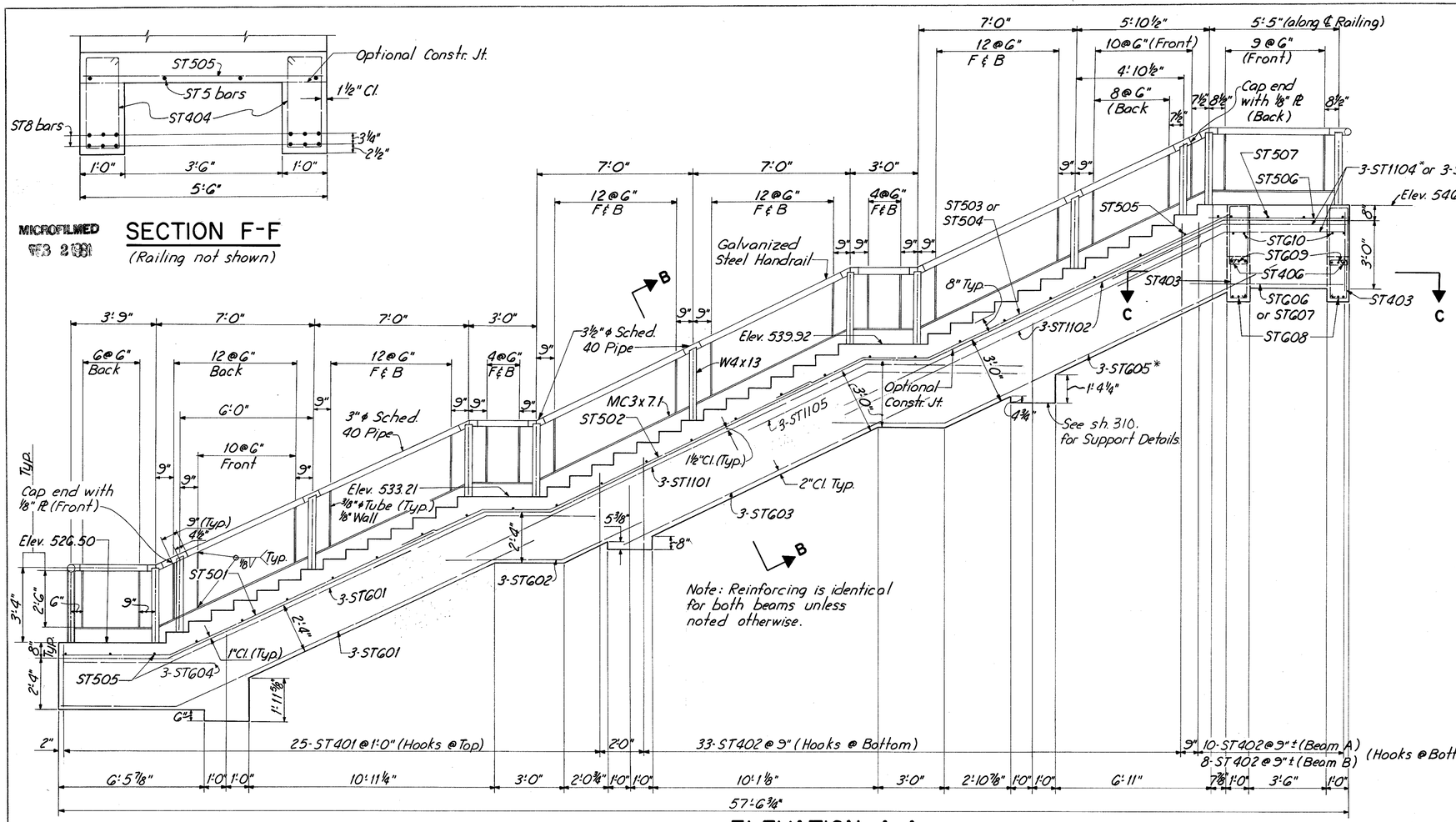
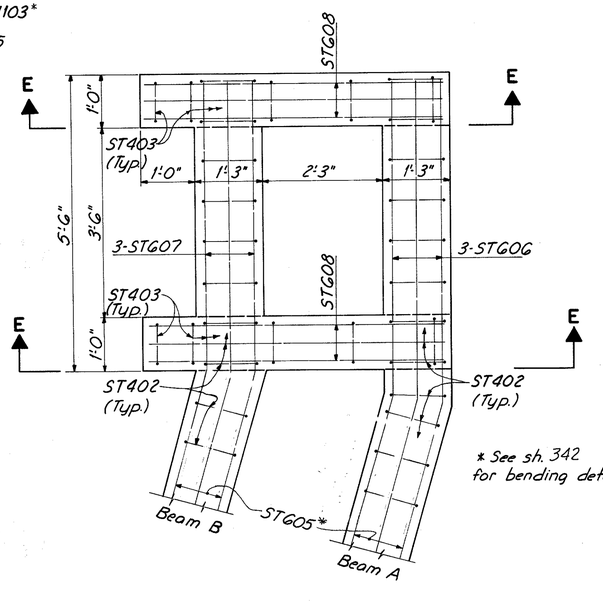
HAMILTON COUNTY
HAM-471-0.30

SECTION F-F
(Railing not shown)

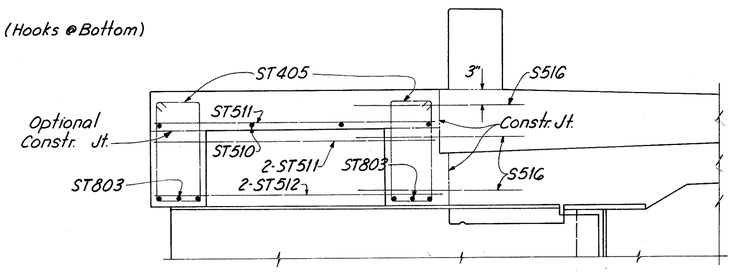


ELEVATION A-A
(STAIRS B)

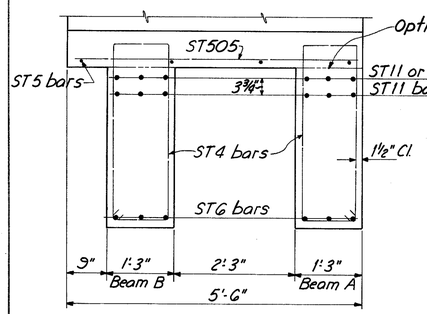


SECTION C-C

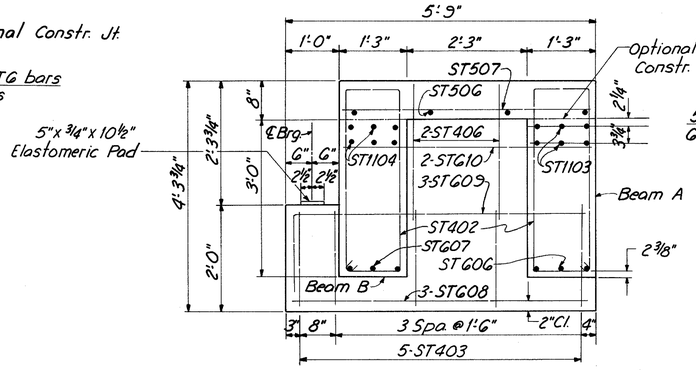
* See sh. 342 for bending details.



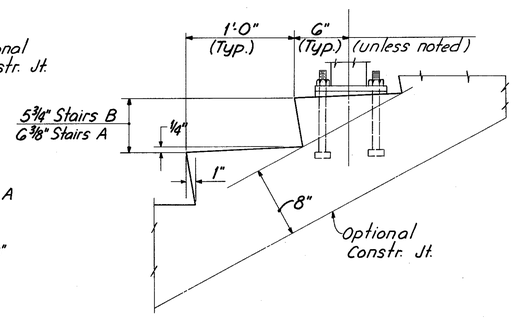
SECTION G-G
(Railing not shown)



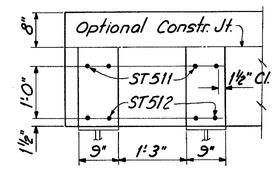
SECTION B-B
(Railing not shown)



SECTION E-E
(Railing not shown)



TYPICAL STEP & ANCHORAGE DETAIL



SECTION H-H
(Railing not shown)

For Notes see sh. 340
For location of Sections G-G, F-F & H-H see sh. 340.

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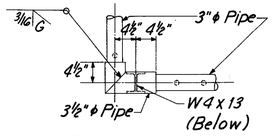
STAIR DETAILS

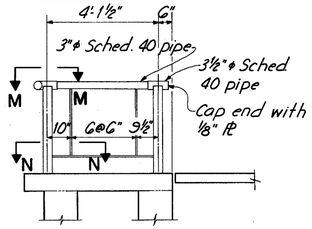
BRIDGE NO. HAM-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9

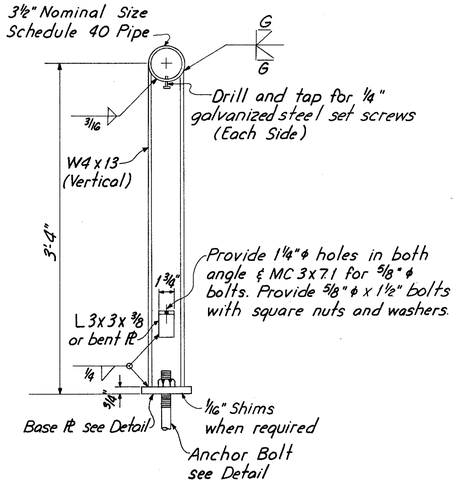
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	WL	JHD	WL 12-8-71	JHD 11-13-72	



PLAN M-M

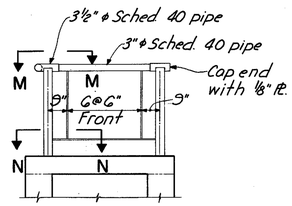


ELEVATION K-K

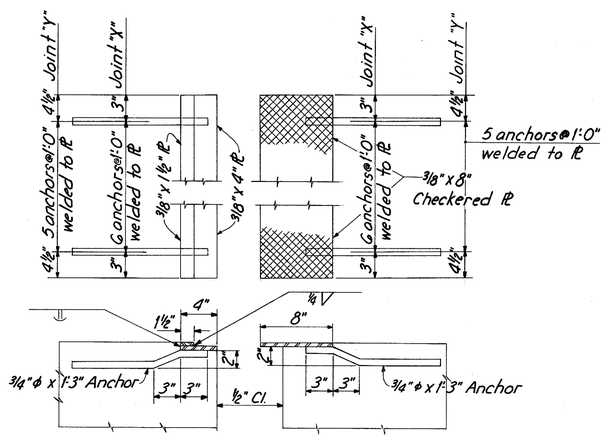


POST

(Post shall be vertical)

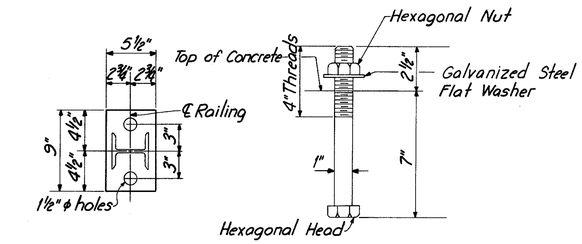


ELEVATION L-L

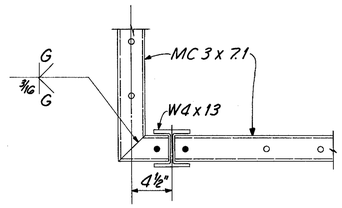


JOINT DETAIL

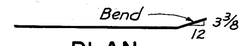
(Include all material with Item 513 Structural Steel for payment).



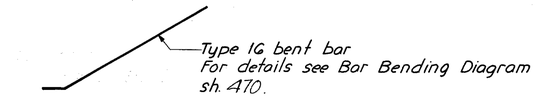
BASE PL & ANCHOR BOLT DETAIL



SECTION N-N



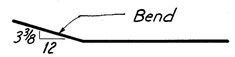
PLAN



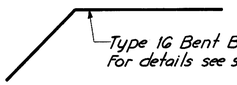
ELEVATION

ST605

(Bending Details)



PLAN



ELEVATION

ST1103 or ST1104

(Bending Details)

For location of Elev. K-K, & L-L see sh. 340.
For other notes see sh. 340.

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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HAZELET & ERDAL
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CINCINNATI, OHIO

48/64

STAIR DETAILS

BRIDGE NO. HAM-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		W.L. 12-8-71	JHD 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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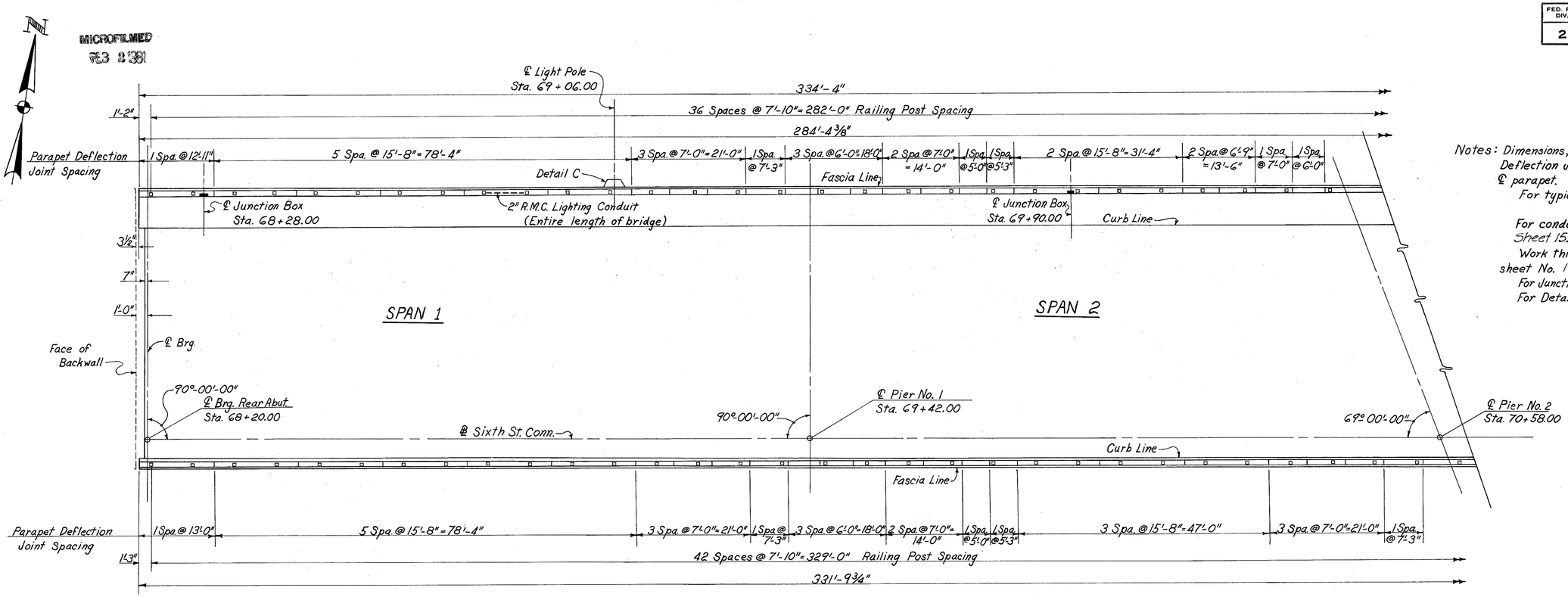
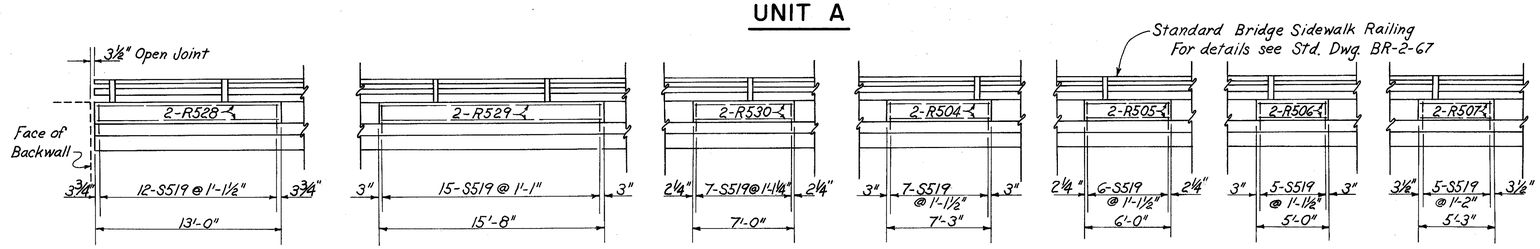
HAMILTON COUNTY
HAM-471-0.30



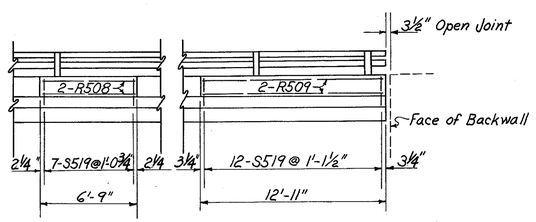
PLAN

Notes: Dimensions, Railing Post Spacings and Parapet Deflection Joint Spacings are measured along ℄ parapet.
For typical lighting details see sheet No. 154
For conduit expansion at abutments see Sheet 155E. (Use at all Roadway Joints also.)
Work this drawing with Lighting Plan sheet No. 146
For Junction Box Details see sheet No. 154
For Detail C see sheet No. 331.

UNIT A



TYPICAL ELEVATION



TYPICAL ELEVATION

(Light Poles Not Shown)

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CINCINNATI, OHIO

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RAILING & LIGHTING

BRIDGE No. HAM.-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE No. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JEM	MDP	WL 1-3-72	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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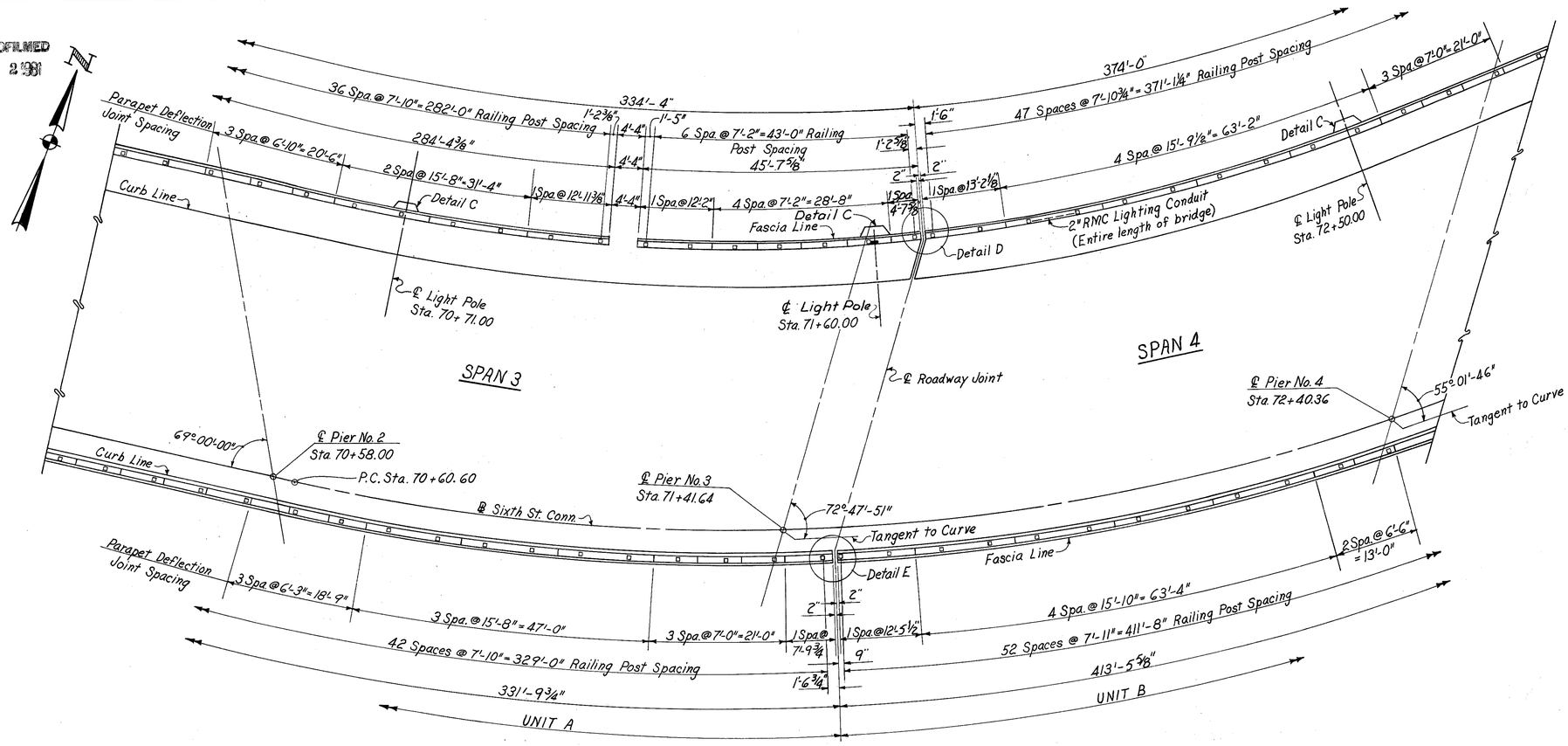
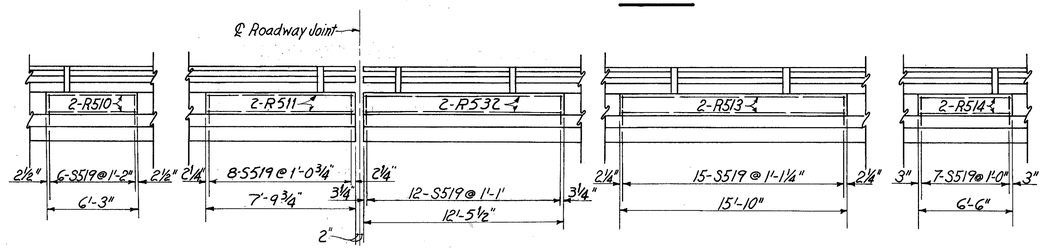
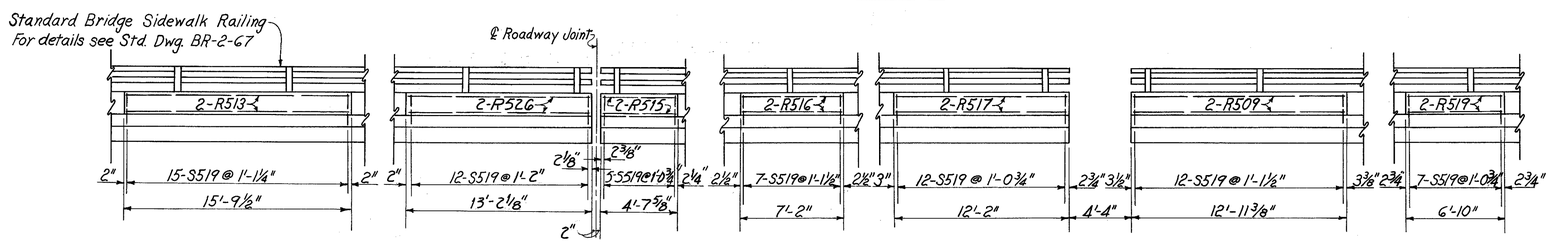
HAMILTON COUNTY
HAM-471-0.30



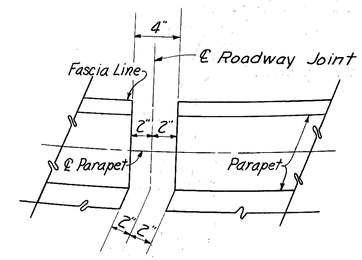
PLAN



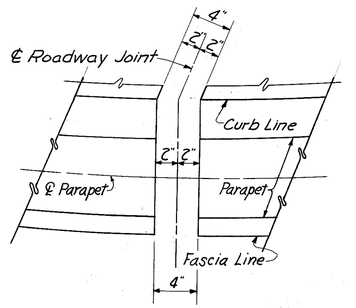
TYPICAL ELEVATION



TYPICAL ELEVATION
(Light Poles Not Shown)



DETAIL D



DETAIL E

For Notes see sh. 343.
For details of deflection joint panels not shown see sh. 343.
N.F. denotes Near Face.
F.F. denotes Far Face.

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RAILING & LIGHTING
BRIDGE No. HAM.-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE No. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JEM	MDP	W.L. 1-3-72	JHO 11-13-72	

MICROFILMED
FEB 2 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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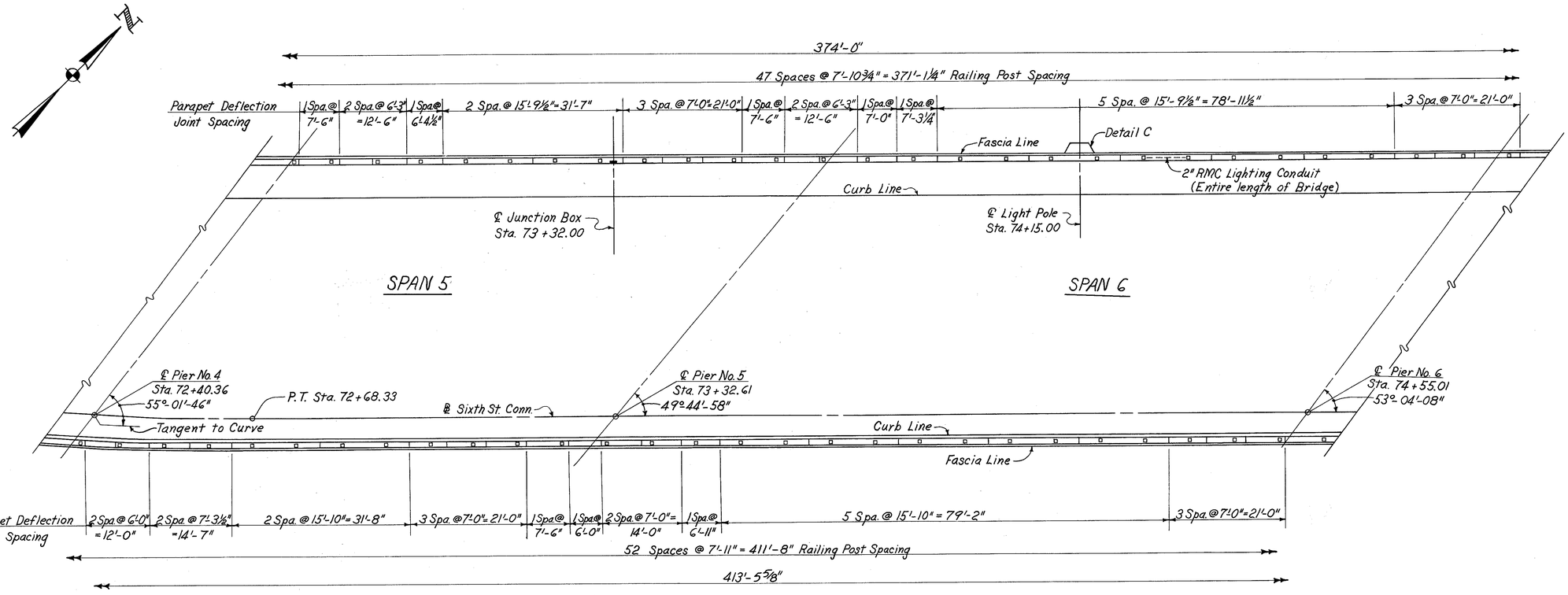
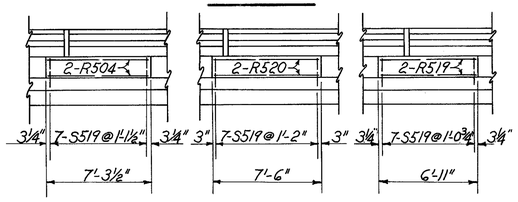
HAMILTON COUNTY
HAM-471-0.30



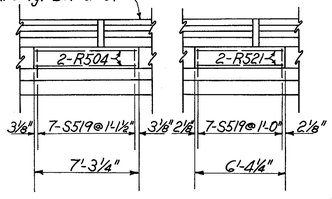
PLAN

UNIT B



TYPICAL ELEVATION

Standard Bridge Sidewalk Railing
For details see Std. Dwg. BR-2-67



TYPICAL ELEVATION

(Light Poles Not Shown)

For Notes see sh. 343
For details of deflection joint panels not shown see sh. 343 & 344.

HAZELET & ERDAL
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RAILING & LIGHTING

BRIDGE No. HAM.-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE No.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JEM	MDP	W.L 1-3-72	JHS 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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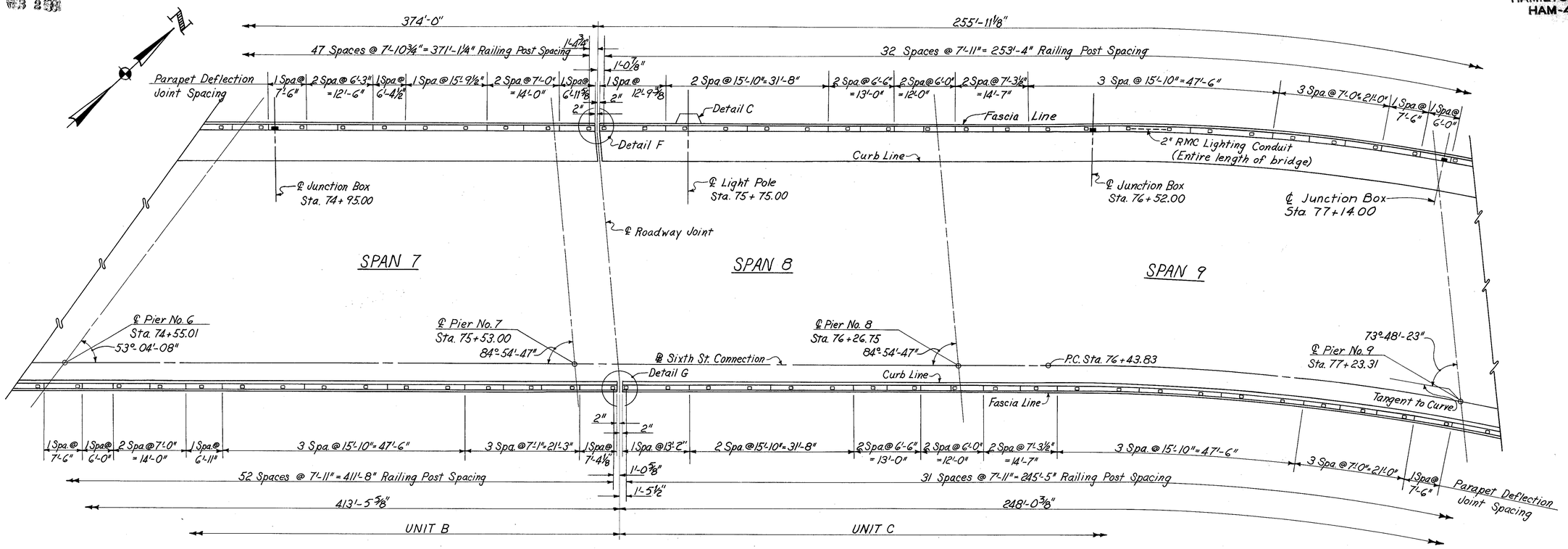
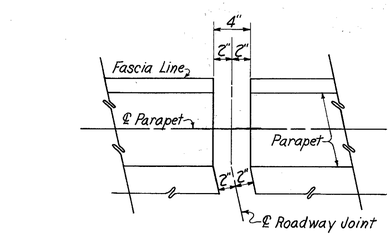
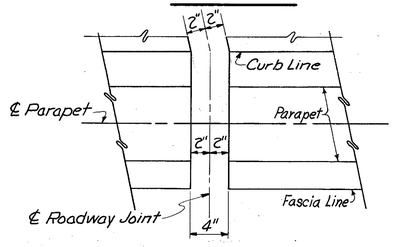
HAMILTON COUNTY
HAM-471-0.30



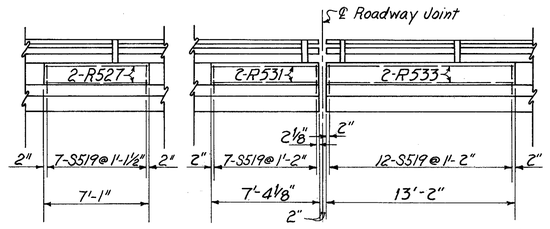
PLAN



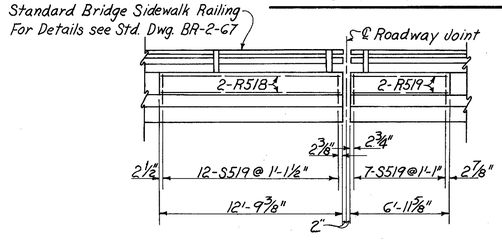
DETAIL F



DETAIL G



TYPICAL ELEVATION



TYPICAL ELEVATION

(Light Poles Not Shown)

For Notes see sh. 343.
For details of deflection joint panels not shown see sh. 343, 344 & 345.

HAZELET & ERDAL
CONSULTING ENGINEERS
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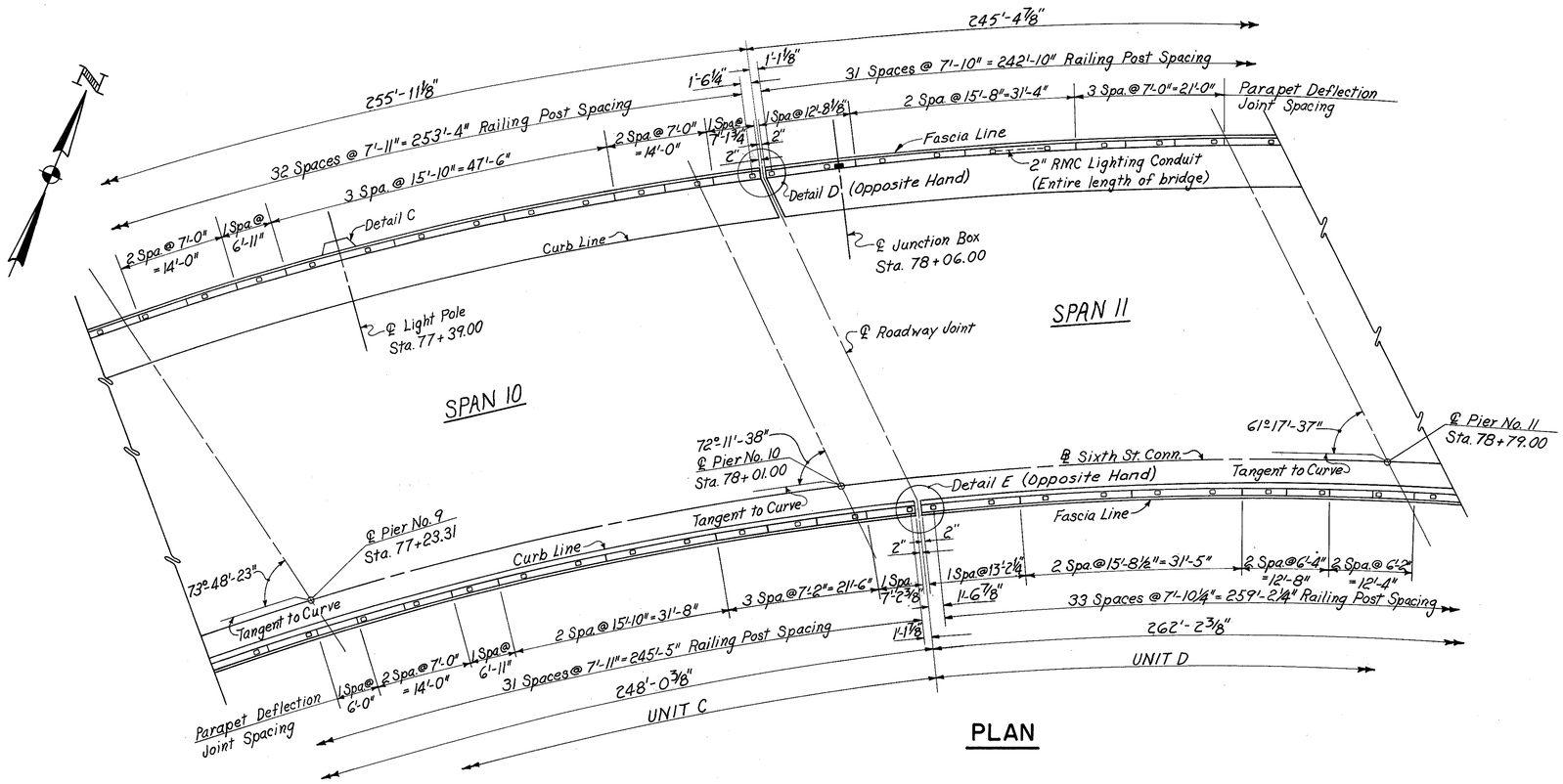
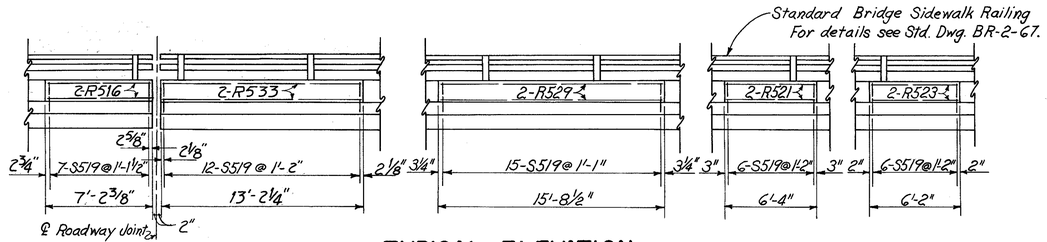
RAILING & LIGHTING
BRIDGE No. HAM.-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE No. 9

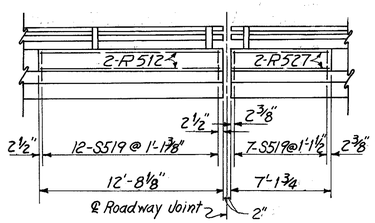
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JEM	MDP	W.L. 1-3-72	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

HAMILTON COUNTY
HAM-471-0.30







For Notes see sh. 343
For Details D & E see sh. 344.
N.F. Denotes Near Face.
F.F. Denotes Far Face.
For details of deflection joint panels not shown see sh. 343 thru 346.

HAZELET & ERDAL
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CINCINNATI, OHIO

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RAILING & LIGHTING
BRIDGE No. HAM.-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE No. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JEM	MDP	WRL 11-3-72	JHS 11-13-72	

MICROFILMED
FEB 2 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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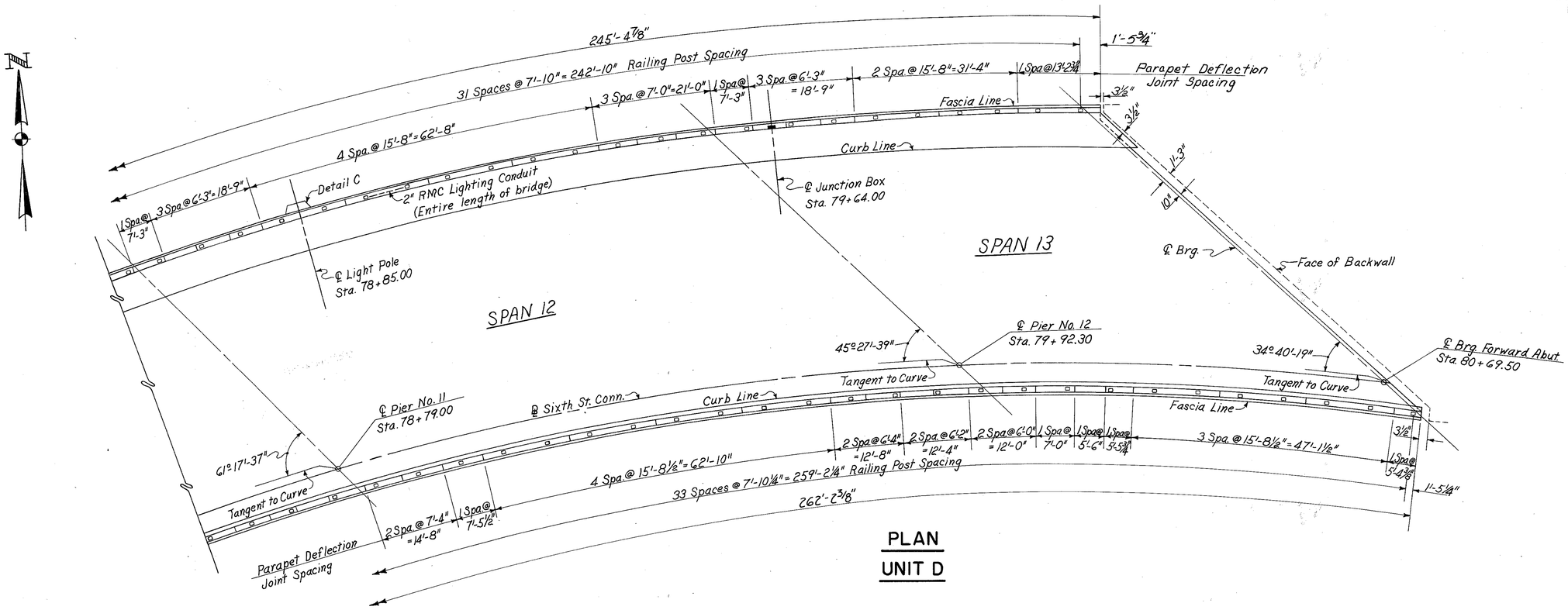
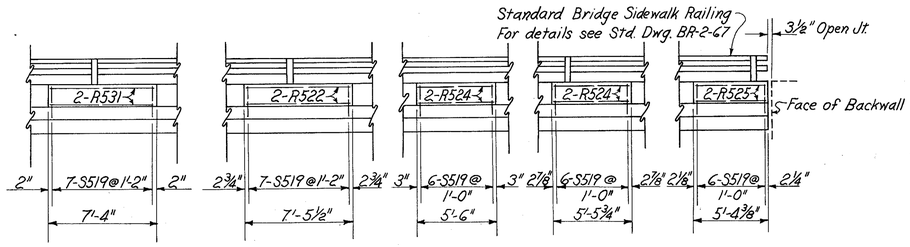
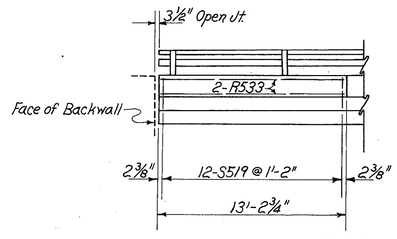
HAMILTON COUNTY
HAM-471-0.30



PLAN
UNIT D



TYPICAL ELEVATION



TYPICAL ELEVATION
(Light Poles Not Shown)

For Notes see sh. 343.
For details of deflection joint panels not shown see sh. 343 thru 347.

HAZELET & ERDAL
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CINCINNATI, OHIO
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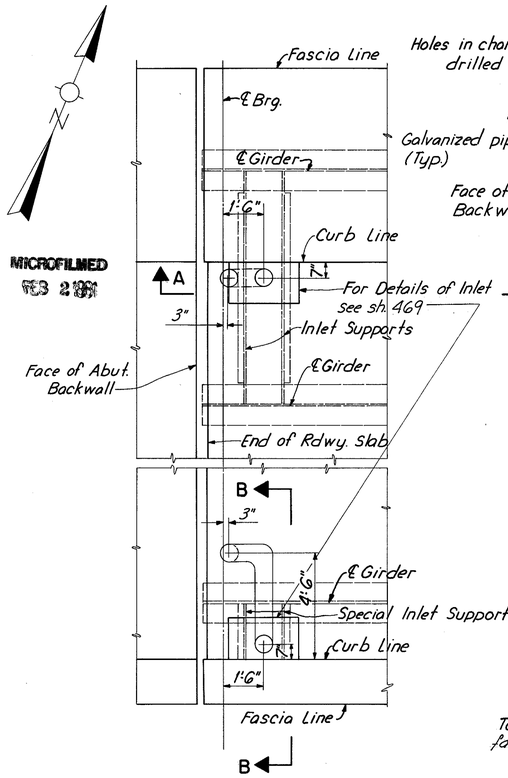
RAILING & LIGHTING
BRIDGE No. HAM.-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE No.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JEM	MDP	YY.A. 1-3-72	JHO 11-13-72	

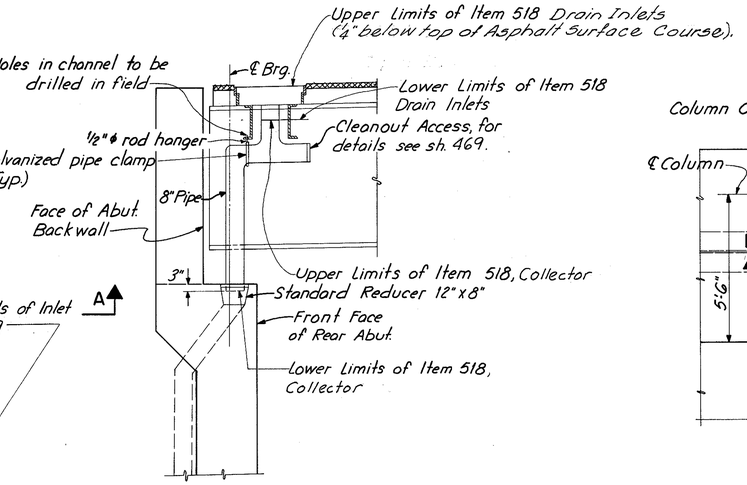
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

349
494

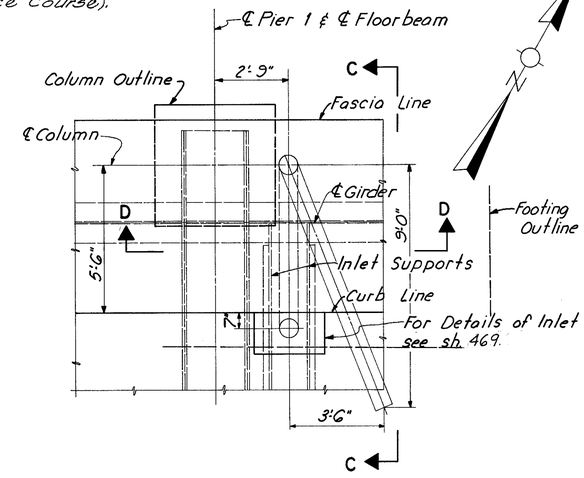
HAMILTON COUNTY
HAM-471-0.30



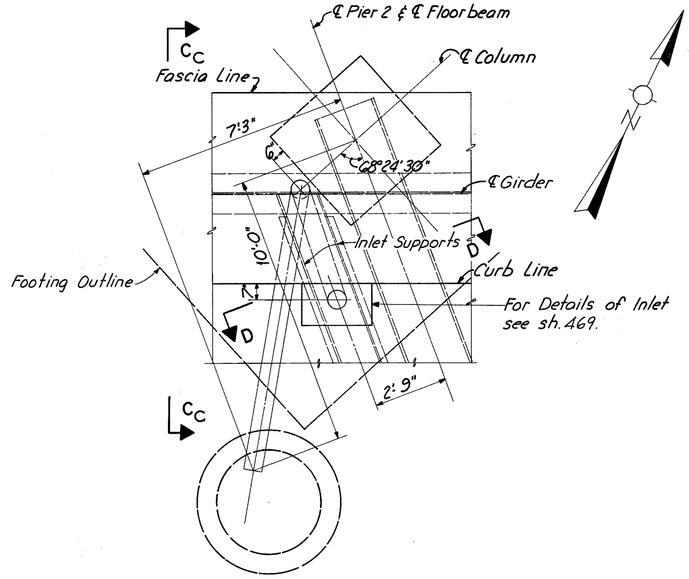
REAR ABUTMENT PLAN



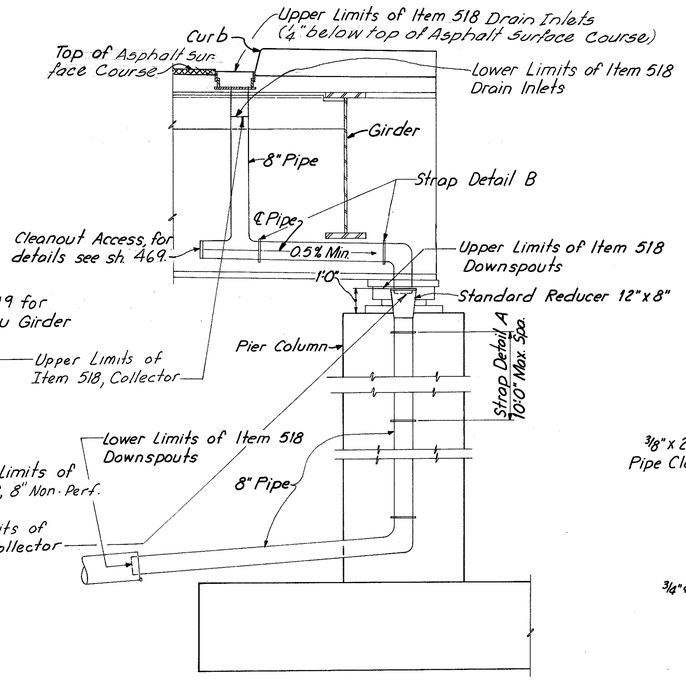
SECTION A-A



PIER 1 - PLAN



PIER 2 - PLAN

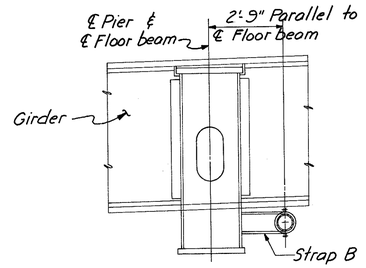


SECTION B-B

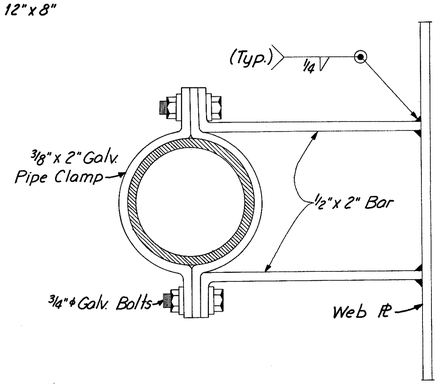
SECTION C-C

SECTION Cc-Cc (opposite hand)

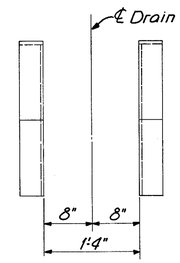
(For details not shown see Typ. Sect. (for Piers) sh. 469.



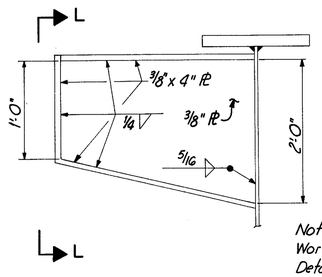
SECTION D-D



STRAP DETAIL B



SECTION L-L



ELEVATION

SPECIAL INLET SUPPORT DETAILS

(Included with Item 513 for payment)

Notes:
Work this sheet with Drainage Details sh. 469.

Drain Inlets shall be galvanized in accordance with 711.02.
Total depth of inlet frame box equals 8¾"

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

55/64

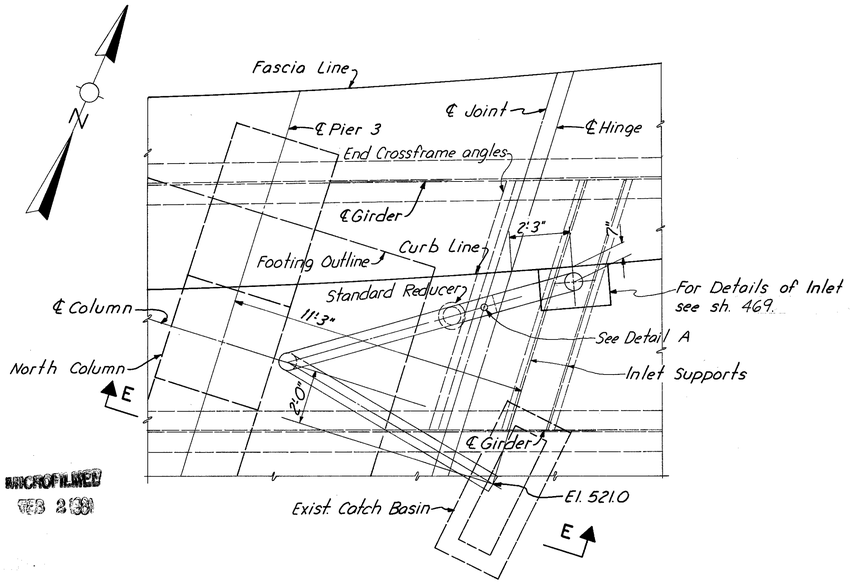
DRAINAGE DETAILS
BRIDGE NO. HAM-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JHD		YKL 1-19-72	JHo 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

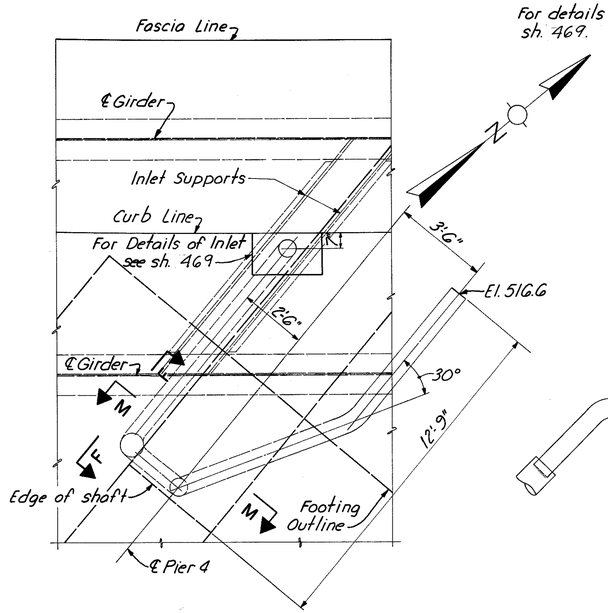
350
494

HAMILTON COUNTY
HAM-471-0.30

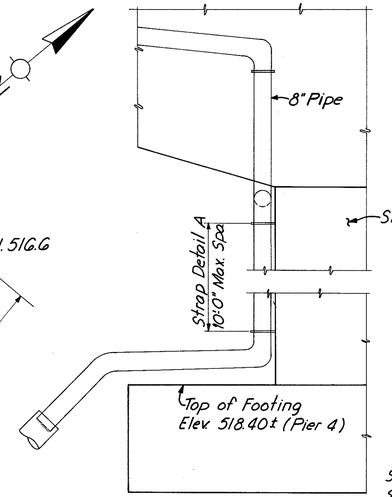


MICROFILMED
FEB 2 '73

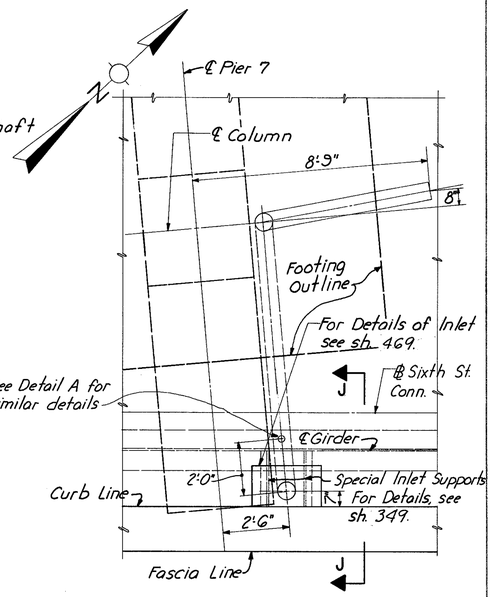
PIER 3 - PLAN



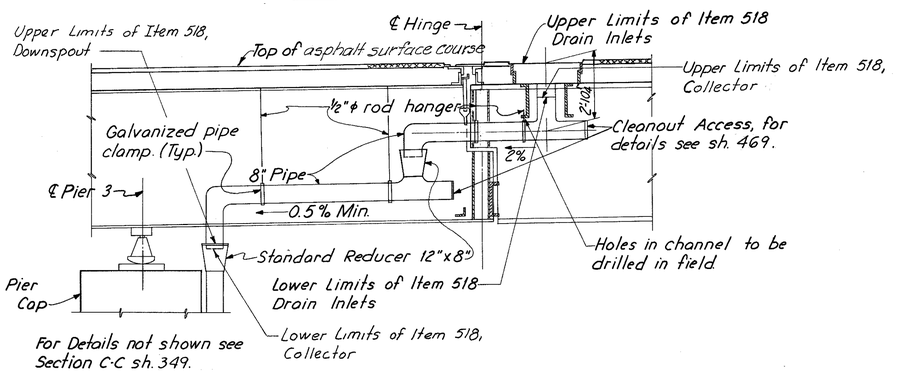
PIER 4 - PLAN



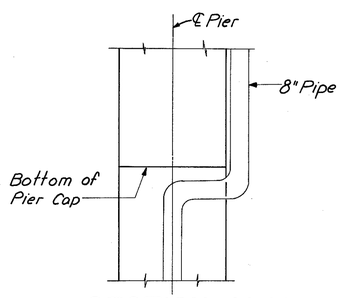
SECTION F-F



PIER 7 - PLAN

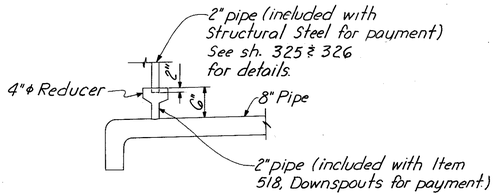


SECTION E-E

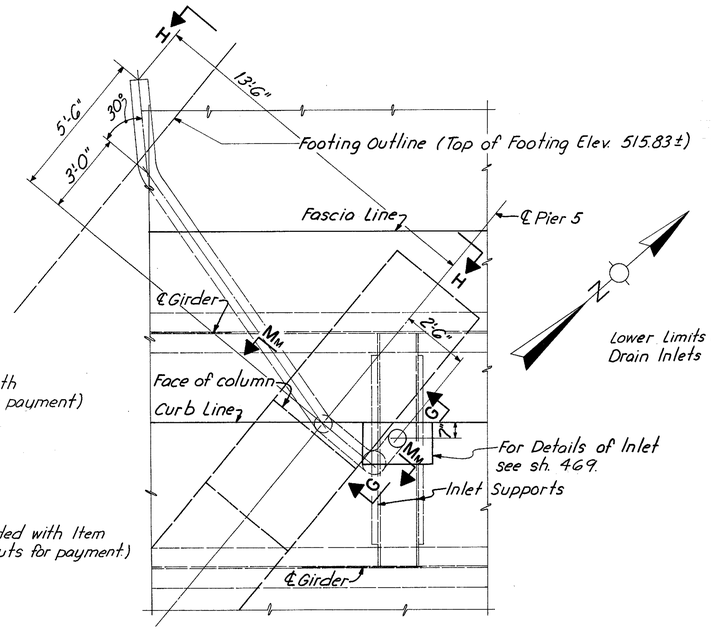


SECTION M-M

SECTION M_M - M_M (opposite hand)

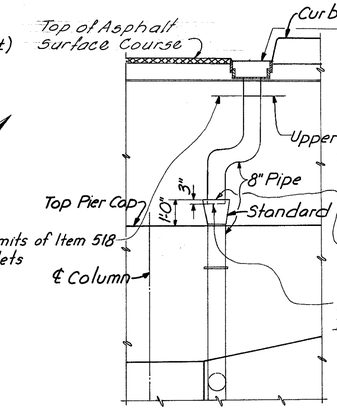


DETAIL A

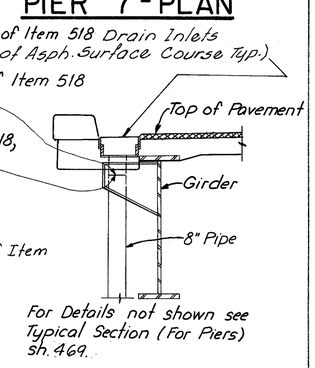


PIER 5 - PLAN

See Typical Section (for Piers) sh. 469 for Section H-H details.



SECTION G-G



SECTION J-J

For Notes see sh. 349.

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56/64

DRAINAGE DETAILS
BRIDGE NO. HAM-471-0044

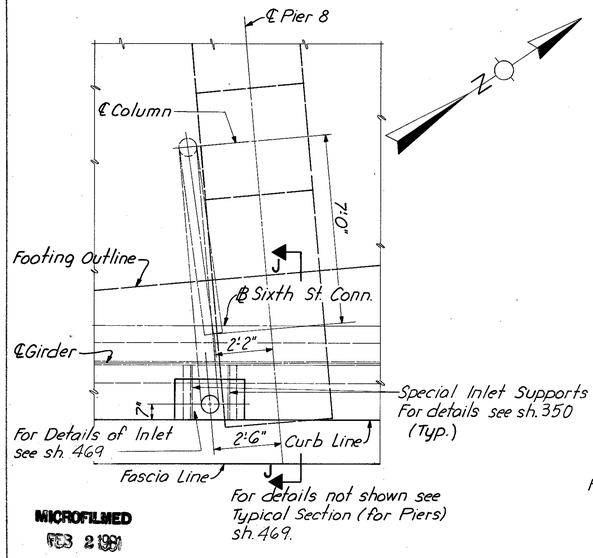
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JHD		W.L. 1-19-72	JHD 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

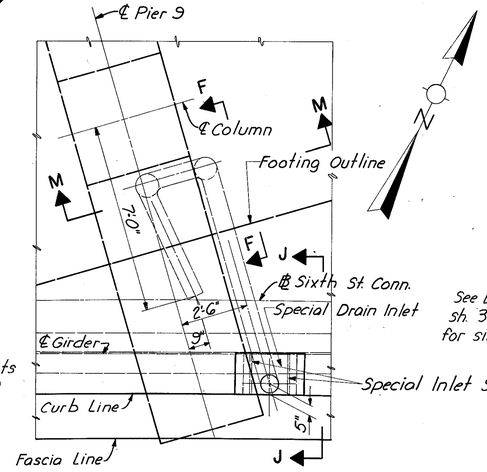
351
494

HAMILTON COUNTY
HAM-471-0.30

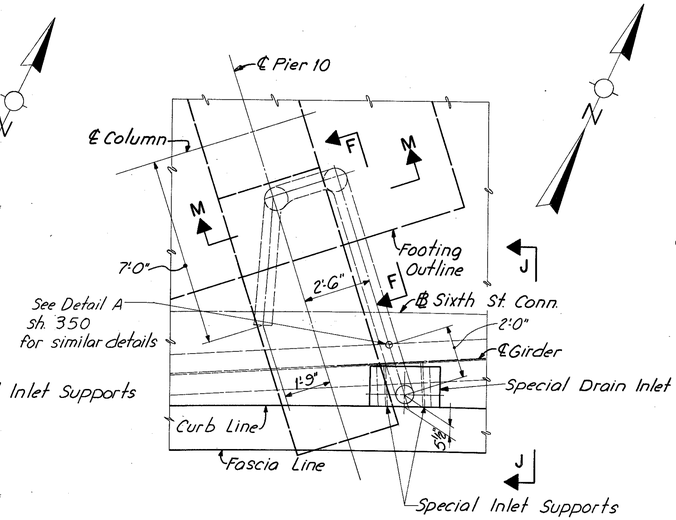


MICROFILMED
FEB 2 1981

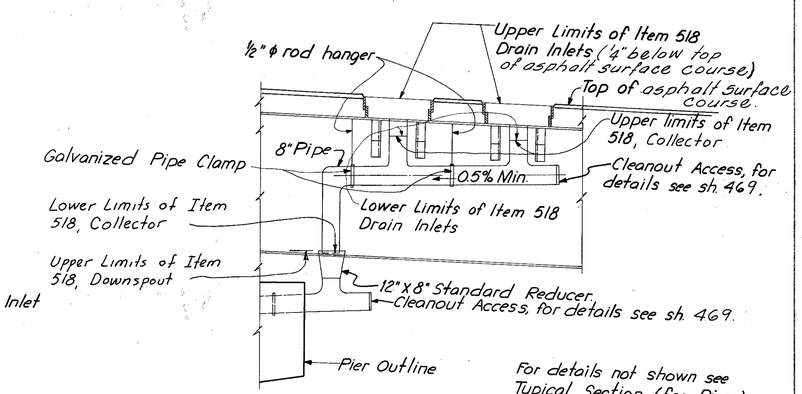
PIER 8 - PLAN



PIER 9 - PLAN

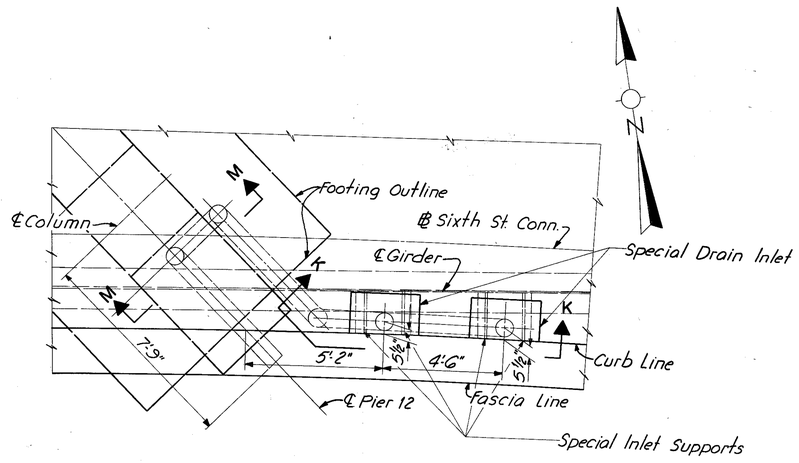


PIER 10 - PLAN

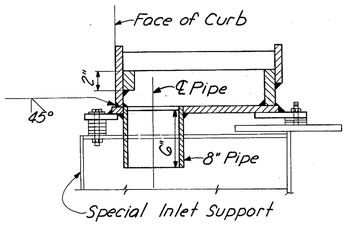


For details not shown see
Typical Section (for Piers)
sh. 469.

SECTION K-K

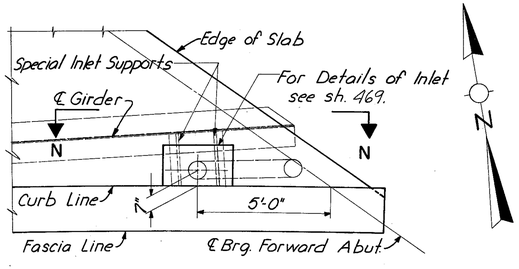


PIER 12 - PLAN



SPECIAL DRAIN INLET

For Details not shown see "Inlet Frame" sh. 469.



FORWARD ABUTMENT - PLAN

For Section N-N see Section A-A sh. 349.
for similar details.

For Notes see sh. 349
For Section J-J see sh. 350.
For Section M-M see sh. 349.
For Section F-F see sh. 349.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

57164

DRAINAGE DETAILS
BRIDGE NO. HAM-471-0044

SIXTH STREET CONNECTION OVER
SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JHD		W. L. 1-1972	JHD 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

352
494

HAMILTON COUNTY
HAM-471-0.90

REAR ABUTMENT

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	Radius
A501	1	4'-5"	36	166	7 1/2"	3'-5"					
A502	3	9'-0"	11	103	7 1/2"	3'-5"	1'-7"	2'-7"	2'-7"	3'-8"	
A503	3	9'-2"	15	143	7 1/2"	3'-5"	1'-8 1/2"	2'-7"	2'-7"	3'-8"	
A504	3	8'-11"	5	47	7 1/2"	3'-5"	1'-6"	2'-7"	2'-7"	3'-8"	
A505	Str.	19'-0"	16	317							
A506	Str.	32'-6"	13	441							
A507	Str.	18'-2"	33	625							
A508	Str.	18'-1"	4	75							
A509	Str.	18'-4"	3	57							
A510	Str.	14'-10"	4	62							
A511	Str.	14'-11"	1	16							
A512	Str.	14'-9"	3	46							
A513	Str.	14'-7"	4	61							
A514	Str.	31'-8"	29	958							
A515	Str.	26'-8"	1	28							
A516	Str.	6'-1"	1	6							
A517	Str.	9'-11"	10	103							
A518	17	4'-10"	4	20	7 1/2"	4'-4"					
A519	Str.	20'-2"	4	84							
A520	Str.	7'-11"	7	58							
A521	Str.	8'-5"	8	70							
A522	Str.	16'-7"	3	52							
A523	Str.	6'-5"	5	33							
A524	Str.	16'-4"	5	85							
A525	Str.	8'-2" to 8'-4"	1 Series of 5	43							
A526	17	4'-7"	3	14	7 1/2"	4'-1"					
A527	Str.	6'-10"	1	7							
A528	Str.	19'-11"	5	104							
A529	Str.	7'-1" to 7'-4"	1 Series of 5	38							
A530	Str.	7'-1" to 7'-3"	1 Series of 4	30							
A531	14	5'-8"	15	89	2'-2"	9"					
A532	1	2'-10"	8	24	7 1/2"	1'-10"					
A533	7	3'-2"	8	26	11 1/2"	1'-10"	1'-10"	4"	7 1/2"		
A534	Str.	8'-2" to 8'-3"	1 Series of 3	26							
A601	Str.	8'-3"	33	409							
A602	1	7'-5"	43	479	3'-5"	11"					
A603	1	9'-7"	43	619	4'-3"	1'-5"					
A604	1	11'-11"	49	877	5'-5"	1'-5"					
A605	1	13'-7"	6	122	6'-3"	1'-5"					
A606	Str.	9'-11"	28	417							
A607	10	11'-5" to 13'-0"	1 Series of 10	183	1'-4 1/4"	1'-4 1/4"	7'-7" to 9'-2"	1'-11"			
A608	Str.	7'-3"	1	11							
A609	Str.	7'-11"	8	95							
A610	Str.	6'-0"	3	27							
A611	Str.	8'-5"	22	278							
A612	Str.	6'-5"	9	87							
A613	10	11'-8" to 12'-9"	1 Series of 8	147	1'-4 1/4"	1'-4 1/4"	7'-10" to 8'-11"	1'-11"			
A701	Str.	10'-1"	26	536							
A801	Str.	11'-0"	10	294							
A802	Str.	11'-2"	17	507							
A901	Str.	10'-6"	19	678							
A902	Str.	17'-6"	20	1190							
A903	Str.	9'-0"	26	796							
A904	Str.	14'-6"	27	1331							
A1101	17	7'-5"	15	591	1'-5 1/2"	6'-3"					
A1102	17	8'-11"	14	663	1'-5 1/2"	7'-9"					
A1103	Str.	10'-0"	17	903							
A1104	17	10'-2"	29	1566	1'-5 1/2"	9'-0"					

REAR ABUTMENT (CONTINUED)

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	Radius
A1105	32	9'-6"	3	151	1'-6"	7"	10"	7'-9"	7'-2"	5 1/4"	5 1/2"
A1106	32	8'-0"	2	85	1'-6"	7"	10"	6'-3"	5'-8"	4 1/4"	5 1/2"
A1107	32	10'-9"	3	171	1'-6"	7"	10"	9'-0"	8'-5"	6 1/4"	5 1/2"
R501	Str.	7'-11"	4	*							
R502	Str.	6'-5"	4	*							

Total Weight Rear Abutment = 17,270 Lbs.

MICROFILMED
FEB 2 1991

STAIRS

MARK	TYPE	LENGTH	NO. OF BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	G
ST401	37	7'-11"	50	264	2'-9"	1'-0"					
ST402	37	9'-3"	84	519	3'-5"	1'-0"					
ST403	37	5'-5"	10	36	1'-9"	9"					
ST404	37	5'-11"	62	245	2'-0"	9"					
ST405	37	5'-7"	6	22	1'-10"	9"					
ST406	37	6'-9"	4	18	2'-5"	9"					
ST501	16	17'-9"	4	74	5'-7 1/2"	4'-9"	13'-0"	11'-8 3/4"			
ST502	50	20'-2"	4	84	4'-2"	3'-0"	13'-0"	3'-9"	1'-9 1/2"	11'-8 3/4"	5'-7 1/2"
ST503	50	19'-10"	1	21	4'-2"	3'-0"	12'-8"	3'-9"	1'-9 1/2"	11'-5"	5'-5 3/4"
ST504	50	22'-2"	3	69	4'-2"	3'-0"	15'-0"	3'-9"	1'-9 1/2"	13'-6 1/4"	6'-5 3/4"
ST505	Str.	5'-3"	42	230							
ST506	Str.	5'-4" to 6'-6"	1 Series of 4	25							
ST507	Str.	4'-6"	5	23							
ST508	16	11'-3"	4	47	4'-10 1/4"	11"	10'-4"	9'-1 1/2"			
ST509	50	15'-0"	4	63	6'-0"	3'-0"	6'-0"	5'-3 1/2"	2'-9 3/4"	5'-3 1/2"	2'-9 3/4"
ST510	16	13'-9"	4	57	4'-11"	3'-3"	10'-6"	9'-3 1/4"			
ST511	Str.	5'-0"	6	31							
ST512	Str.	5'-2"	4	22							
ST601	16	22'-11"	12	413	2'-2 3/4"	17'-9"	5'-2"	4'-8"			
ST602	16	9'-3"	6	83	1'-8 3/4"	5'-3"	4'-0"	3'-7 1/4"			
ST603	Str.	15'-0"	6	135							
ST604	Str.	7'-0"	6	63							
ST605 *	16	21'-6"	6	194	2'-2"	16'-6"	5'-0"	4'-6"			
ST606	16	8'-0"	3	36	6 1/2"	6'-0"	2'-0"	1'-11"			
ST607	16	7'-6"	3	34	6 1/2"	5'-6"	2'-0"	1'-11"			
ST608	Str.	5'-6"	6	50							
ST609	17	7'-0"	6	63	1'-8"	5'-6"					
ST610	Str.	4'-6"	4	27							
ST801	16	18'-7"	6	298	7 1/2"	17'-3"	1'-4"	1'-2"			
ST802	16	23'-0"	6	368	2'-7"	17'-6"	5'-6"	4'-10 1/2"			
ST803	Str.	5'-6"	6	88							
ST804	Str.	14'-0"	6	224							
ST805	16	19'-9"	6	316	2'-7"	14'-3"	5'-6"	4'-10 1/2"			
ST1101	16	27'-0"	6	861	3'-0 1/4"	20'-0"	7'-0"	6'-3 3/4"			
ST1102	Str.	18'-0"	12	1148							
ST1103 *	16	10'-8"	6	340	1'-3 3/4"	5'-10"	4'-10"	4'-8"			
ST1104 *	16	9'-9"	6	311	1'-2 1/2"	5'-4"	4'-5"	4'-3 1/4"			
ST1105	16	13'-6"	6	431	2'-7"	7'-6"	6'-0"	5'-5"			

Total Weight, Stairs = 7333 Lbs. * See Sheet 342.

For Notes See Sheet 358

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

58/64

REINFORCING STEEL LIST

BRIDGE NO. HAM.-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	D.H.		W.L. 2-2-72	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

353
494

HAMILTON COUNTY
HAM-471-0.30

RECEIVED
FEB 2 1973

FORWARD ABUTMENT

MARK	TYPE	LENGTH	TOTAL NO. OF BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	R
B501	Str.	35'-11"	18	674							
B502	Str.	7'-6"	6	47							
B503	Str.	8'-0" to 13'-0"	1 Series of 11	120							
B504	Str.	8'-0" to 15'-6"	1 Series of 7	86							
B505	Str.	3'-6" to 20'-1"	1 Series of 9	111							
B506	Str.	26'-3" to 39'-3"	1 Series of 7	239							
B507	Str.	29'-10" to 30'-5"	1 Series of 5	157							
B508	Str.	26'-3"	11	301							
B509	1	4'-11"	36	185	7 1/2"	3'-11"					
B510	3	10'-11"	1	11	7 1/2"	3'-11"	2'-3 1/2"	3'-0 3/4"	3'-0 3/4"	4'-4"	
B511	3	10'-1" to 10'-11"	1 Series of 9	99	7 1/2"	3'-11"	1'-5 1/2" to 2'-3 1/2"	3'-0 3/4"	3'-0 3/4"	4'-4"	
B512	3	10'-1" to 10'-3"	1 Series of 3	32	7 1/2"	3'-11"	1'-5 1/2" to 1'-8"	3'-0 3/4"	3'-0 3/4"	4'-4"	
B513	3	10'-4" to 10'-11"	1 Series of 7	78	7 1/2"	3'-11"	1'-8 1/2" to 2'-4"	3'-0 3/4"	3'-0 3/4"	4'-4"	
B514	3	10'-1" to 11'-0"	1 Series of 10	110	7 1/2"	3'-11"	1'-5 1/2" to 2'-5"	3'-0 3/4"	3'-0 3/4"	4'-4"	
B515	3	10'-2"	2	21	7 1/2"	3'-11"	1'-6 1/2"	3'-0 3/4"	3'-0 3/4"	4'-4"	
B516	3	10'-3" to 11'-0"	1 Series of 8	89	7 1/2"	3'-11"	1'-8" to 2'-5"	3'-0 3/4"	3'-0 3/4"	4'-4"	
B517	3	10'-2" to 11'-2"	1 Series of 11	122	7 1/2"	3'-11"	1'-6 1/2" to 2'-7"	3'-0 3/4"	3'-0 3/4"	4'-4"	
B518	Str.	23'-2"	5	121							
B519	Str.	22'-2"	4	92							
B520	Str.	21'-3"	6	133							
B521	Str.	20'-4"	5	106							
B522	Str.	19'-4"	13	262							
B523	Str.	18'-5"	7	134							
B524	Str.	23'-11"	12	299							
B525	Str.	22'-5"	11	257							
B526	Str.	20'-5"	7	149							
B527	Str.	4'-8"	3	15							
B528	Str.	15'-7"	10	163							
B529	Str.	2'-4" to 6'-7"	1 Series of 5	23							
B530	Str.	27'-8"	44	1270							
B531	Str.	4'-5"	3	14							
B532	Str.	10'-6"	7	77							
B533	Str.	21'-1"	4	88							
B534	Str.	30'-10"	9	289							
B535	Str.	33'-6"	2	70							
B536	Str.	20'-0" to 22'-4"	1 Series of 3	66							
B537	Str.	10'-10"	5	56							
B538	Str.	31'-7"	9	296							
B539	Str.	31'-8"	2	66							
B540	Str.	13'-11"	1	15							
B541	Str.	8'-6"	1	9							
B542	Str.	8'-3"	1	9							
B543	Str.	23'-8"	8	197							
B544	Str.	24'-10"	10	259							
B545	Str.	20'-1"	4	84							
B546	Str.	6'-8" to 7'-8"	1 Series of 8	60							
B547	Str.	28'-11"	1	30							
B548	Str.	11'-3"	20	235							
B549	Str.	9'-5"	11	108							
B550	Str.	3'-9" to 5'-9"	1 Series of 3	15							
B551	Str.	7'-9"	1	8							
B552	Str.	9'-11" to 13'-8"	2 Series of 6	148							
B553	Str.	4'-2"	8	35							
B554	Str.	7'-5"	6	46							
B555	Str.	7'-6" to 7'-9"	1 Series of 3	24							
B556	Str.	6'-7"	4	27							
B557	Str.	13'-0"	6	81							
B558	35	11'-0"	2	23	2'-2"	2'-9"	1'-11"	2'-9"	1'-11"		
B559	Str.	3'-2"	1	3							
B560	Str.	3'-3"	1	3							
B561	Str.	3'-10"	1	4							
B562	16	8'-4"	2	17	2'-2 1/2"	3'-5"	4'-11"	4'-4 3/4"			
B563	1	2'-11" to 5'-9"	1 Series of 12	54	1'-3" to 2'-8"	8"					
B564	Str.	8'-8"	14	127							
B565	Str.	6'-9" to 7'-3"	1 Series of 4	29							
B566	45	5'-3"	7	38	7 1/2"	1'-2"	2"	8"	2'-11"	8 1/4"	
B567	10	9'-1" to 10'-3"	1 Series of 10	101	1'-5 3/4"	7"	5'-11" to 7'-1"	1'-7"			
B568	14	7'-4"	9	69	3'-0"	9"					
B569	Str.	27'-11"	5	146							
B570	Str.	26'-6"	5	138							
B571	14	7'-2"	32	239	2'-11"	9"					

FORWARD ABUTMENT (CONTINUED)

MARK	TYPE	LENGTH	TOTAL NO. OF BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	R
B601	1	9'-1"	74	1010	4'-0"	1'-5"					
B602	1	12'-11"	80	1552	5'-11"	1'-5"					
B603	1	6'-9"	80	811	3'-1"	11"					
B604	1	13'-1"	6	118	6'-0"	1'-5"					
B605	19	4'-4"	6	39	10"	3'-8"	3'-8"	2 3/4"			
B606	Str.	7'-8" to 8'-0"	1 Series of 3	35							
B607	Str.	3'-2"	1	5							
B608	Str.	3'-3"	1	5							
B609	Str.	3'-10"	1	6							
B610	Str.	3'-7"	3	16							
B611	Str.	7'-8"	3	35							
B612	Str.	8'-0"	1	12							
B701	44	10'-4"	2	42	1'-3 1/2"	2'-6"	3'-6 1/2"	2'-6"	1'-0"		
B702	34	8'-9"	2	36	2'-9"	2'-0"	2'-3"	1'-5"	1'-0"		
B901	Str.	19'-0"	62	4005							
B902	Str.	9'-6"	105	3392							
B903	Str.	13'-3"	140	6307							
B904	Str.	12'-0" to 17'-0"	1 Series of 4	197							
B905	Str.	11'-6" to 20'-0"	1 Series of 10	536							
B906	Str.	13'-3" to 16'-9"	1 Series of 7	357							
B907	Str.	5'-0" to 16'-6"	1 Series of 30	1097							
B908	Str.	9'-3"	57	1793							
B909	Str.	7'-6" to 12'-6"	1 Series of 8	272							
B910	Str.	8'-0"	6	163							
B1101	17	7'-2"	102	3884	1'-5 1/2"	6'-0"					
B1102	17	11'-8"	98	6075	1'-5 1/2"	10'-6"					
B1103	Str.	12'-0"	59	3762							
B1104	Str.	23'-3"	3	371							
B1105	Str.	22'-4"	9	1068							
B1106	Str.	21'-5"	9	1024							
B1107	Str.	20'-6"	8	871							
B1108	Str.	19'-6"	9	932							
B1109	Str.	18'-7"	10	987							
B1110	Str.	6'-8" to 7'-5"	1 Series of 10	374							
B1111	Str.	23'-5" to 23'-9"	1 Series of 5	626							
B1112	Str.	27'-0"	10	1435							
B1113	19	11'-8"	18	1116	1'-5 1/2"	10'-5 3/4"	10'-6"	7 3/4"			
B1114	19	7'-2"	23	876	1'-5 1/2"	5'-11 3/4"	6'-0"	4 1/2"			
B1115	Str.	18'-10"	2	200							
B1116	Str.	25'-2"	1	134							
R550	Str.	8'-9"	4	*							
R551	Str.	27'-11"	4	*							
R552	Str.	4'-8"	2	*							
R553	14	7'-7"	4	*	3'-2"	8"					
R554	2	8'-3"	2	*	3'-2"	4'-8"	8"				
R555	27	6'-7"	2	*	7 1/2"	1'-0"	5"	1"	5"	4'-0"	4 1/2"
R556	33	3'-3"	4	*	9 1/4"	1'-3"					2 1/2"
R557	Str.	13'-0"	4	*							
R558	44	8'-11"	2	*	1'-3 1/2"	2'-0"	2'-10"	2'-0"	1'-0"		

Total Weight, Forward Abutment = 54,485 Lbs.

For Notes See Sheet 358

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

59/64

REINFORCING STEEL LIST

BRIDGE NO. HAM.-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	D.H.		W.L. 2-2-72	J.H.O. 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

HAMILTON COUNTY
HAM-471-0.30

354
494

MARK	TYPE	LENGTH	PIERS NUMBER OF BARS Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	Pier 7	Pier 8	Pier 9	Pier 10	Pier 11	Pier 12	TOTAL NO. OF BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	G
P401	37	15'-1"			123				104	108	104	100			539	5431	3'-8"	3'-8"					
P402	38	13'-3"							104	108	104	99			415	3673	11"	1'-10"	11"	1'-10"	1'-3 1/2"		
P403	37	13'-1"											98	108	206	1800	3'-2"	3'-2"					
P404	38	11'-11"											97		97	772	7 3/4"	1'-10 1/2"	7 3/4"	1'-10 1/2"	11"		
P405	38	11'-7"												106	106	820	9 1/2"	1'-7"	9 1/2"	1'-7"	1'-1 1/2"		
P406	37	17'-1"	60	87											147	1678	4'-2"	4'-2"					
P407	38	15'-5"	60	86											146	1504	10 1/4"	2'-5 1/2"	10 1/4"	2'-5 1/2"	1'-2 1/2"		
P408	38	13'-8"			123										123	1123	9"	2'-2"	9"	2'-2"	1'-0 3/4"		
P501	1	14'-3"			17										17	253	6'-5"	1'-8"					
P502	37	14'-2"											24		24	355	4'-3 1/2"	2'-6 1/2"					
P503	1	9'-2"					30								30	287	3'-3"	2'-10 1/2"					
P504	1	9'-0"					11								11	103	3'-2"	2'-10 1/2"					
P505	Str.	7'-8"					18								18	144							
P506	Str.	7'-9"					6								6	48							
P507	Str.	6'-11"					12								12	87							
P508	Str.	7'-4"					12								12	92							
P509	1	5'-2"					42								42	226	1'-3"	2'-10 1/2"					
P510	1	6'-1"						36					48	48	132	838	1'-7"	3'-2"					
P511	1	12'-9"						5							5	66	5'-0"	2'-11 1/2"					
P512	1	12'-7"						13							13	171	4'-11"	2'-11 1/2"					
P513	1	12'-5"						22							22	285	4'-10"	2'-11 1/2"					
P514	Str.	6'-2"						8							8	51							
P515	Str.	4'-8"			4			16							20	97							
P516	Str.	7'-2"						32							32	239							
P517	Str.	6'-8"						8							8	56							
P518	Str.	5'-8"						8							8	47							
P519	1	6'-7"			48				36	36	48	36			204	1401	1'-7"	3'-8"					
P520	Str.	24'-8"							8	8					16	412							
P521	1	8'-6"							12						12	106	3'-1"	2'-6 1/2"					
P522	1	11'-8"							136						136	1655	4'-8"	2'-6 1/2"					
P523	1	7'-6"							8						8	63	2'-7"	2'-6 1/2"					
P524	Str.	16'-6"								12	12				24	413							
P525	Str.	9'-6"								20	20				40	396							
P526	1	9'-0"								12					12	113	3'-2"	2'-11"					
P527	1	12'-0"								156					156	1952	4'-8"	2'-11"					
P528	1	8'-2"								16					16	136	2'-9"	2'-11"					
P529	Str.	26'-8"			8						8	6			22	612							
P530	Str.	24'-5"										2			2	51							
P531	1	9'-1"										24			24	227	3'-3"	2'-10"					
P532	1	8'-9"									20	12			32	292	3'-1"	2'-10"					
P533	1	7'-9"									16	12			28	226	2'-7"	2'-10"					
P534	1	11'-11"									144				144	1790	4'-8"	2'-10"					
P535	1	10'-1"									24				24	252	3'-9"	2'-10"					
P536	1	7'-5"												12	12	93	2'-3"	3'-2"					
P537	37	13'-7"												10	10	142	4'-3"	2'-3 1/2"					
P538	Str.	28'-0"											6		6	175							
P539	Str.	26'-4"											2		2	55							
P540	1	8'-7"											24	22	46	412	2'-10"	3'-2"					
P541	1	7'-7"											16		16	127	2'-4"	3'-2"					
P542	1	8'-11"											28	20	48	446	3'-0"	3'-2"					
P543	37	14'-0"											48		48	701	4'-2 1/2"	2'-6 1/2"					
P544	Str.	32'-11"												6	6	206							
P545	Str.	31'-5"												2	2	66							
P546	1	10'-11"			148										148	1685	4'-2"	2'-10"					
P547	1	8'-3"			16										16	138	2'-10"	2'-10"					
P548	1	7'-5"			16										16	124	2'-5"	2'-10"					
P549	1	7'-0"	24	24											48	350	1'-7"	4'-1"					
P550	17	4'-6"			7										7	33	1'-7"	3'-1"					
P551	Str.	9'-7"			4										4	40							
P552	Str.	6'-4"			3										3	20							
P553	37	15'-7"										68			68	1105	4'-9"	2'-9 3/4"					
P554	37	15'-3"											5	41	46	732	4'-2 1/2"	3'-2"					
P555	37	15'-4"												11	11	176	4'-3"	3'-2"					
P556	37	15'-5"											26	41	67	1077	4'-3 1/2"	3'-2"					

For Notes See Sheet 358.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

60/64

REINFORCING STEEL LIST

BRIDGE NO. HAM.-471-0044

SIXTH STREET CONNECTION OVER
SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	D. H		W. L 12-2-72	JHO 11-13-72	

PIERS (CONTINUED)

MARK	TYPE	LENGTH	NUMBER OF BARS												TOTAL NO. OF BARS	WEIGHT	DIMENSIONS						
			Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	Pier 7	Pier 8	Pier 9	Pier 10	Pier 11	Pier 12			A	B	C	D	E	F	G
P601	16	10'-5"							8	8					16	250	1'-5 1/2"	2'-0"	8'-5"	8'-3 1/2"			
P602	16	11'-11"									8	8			16	286	1'-5 3/4"	2'-0"	9'-11"	9'-9 3/4"			
P603	Str.	11'-3"											139		139	2349							
P604	16	8'-0"			8								6		14	[illegible]	1'-5 1/2"	2'-0"	6'-0"	5'-10"			
P605	Str.	9'-0"												117	117	1582							
P606	16	7'-0"												6	6	63	1'-5 1/4"	2'-0"	5'-0"	4'-9 1/2"			
P607	26	7'-4"			16										16	176	6'-0"						
P608	Str.	16'-11"			6										6	152							
P609	Str.	10'-5"			6										6	94							
P610	Str.	2'-8"			6										6	24							
P801	26	15'-2"	58	56	44				32			32			222	8990	13'-0"						
P802	26	11'-8"			32				32	40	40	32			176	5482	9'-6"						
P803	Str.	31'-2"											12		12	999							
P804	Str.	23'-3"											12		12	745							
P805	Str.	37'-8"												9	9	905							
P806	Str.	27'-3"												9	9	655							
P807	Str.	13'-0"	22	18											40	1388							
P808	Str.	20'-0"	16												16	854							
P809	Str.	16'-6"		14											14	617							
P901	Str.	17'-0"							2			3			5	289							
P902	Str.	20'-0"							2	3					5	340							
P903	Str.	31'-0"							6	6					12	1265							
P904	Str.	14'-0"								2					2	95							
P905	Str.	32'-0"									6	6			12	1306							
P906	Str.	21'-0"									3	2			5	357							
P907	Str.	16'-0"									3				3	163							
P908	Str.	26'-0"											5		5	442							
P909	Str.	19'-5"											5		5	330							
P910	Str.	15'-6"											4		4	211							
P911	Str.	23'-6"												5	5	400							
P912	Str.	33'-10"												5	5	575							
P913	Str.	15'-0"												6	6	306							
P914	Str.	40'-0"			6										6	816							
P1101	17	7'-10"			40				32						72	2997	1'-5 1/2"	6'-8"					
P1102	Str.	42'-7"							32						32	7240							
P1103	16	28'-7"							6	6					12	1822	2'-11"	25'-11"	2'-11"	1/2"			
P1104	19	29'-2"							6						6	930	25'-11"	3'-6"	3'-6"	3/4"			
P1105	Str.	12'-0"							8						8	510							
P1106	26	19'-8"		44						28	28				100	10,449	16'-6"						
P1107	17	8'-4"		40						32	32				104	4605	1'-5 1/2"	7'-2"					
P1108	Str.	39'-9"								32					32	6758							
P1109	19	29'-8"								6					6	946	25'-11"	4'-0"	4'-0"	1 1/4"			
P1110	Str.	12'-0"			1										1	64							
P1111	Str.	14'-0"			4					6		3	6		19	1413							
P1112	Str.	10'-6"								2					2	112							
P1113	Str.	11'-0"			2					4		4			10	584							
P1114	17	8'-1"										32			32	1374	1'-5 1/2"	6'-11"					
P1115	Str.	36'-1"										16			16	3067							
P1116	Str.	37'-3"										16	12		28	5541							
P1117	19	31'-4"										6			6	999	27'-11"	3'-8"	3'-8"	2"			
P1118	16	30'-3"										6			6	964	2'-7"	27'-11"	2'-7"	1 1/4"			
P1119	Str.	15'-0"										2			2	159							
P1120	Str.	11'-0"										2			2	117							
P1121	Str.	38'-4"									32				32	6517							
P1122	19	32'-2"									6				6	1025	27'-11"	4'-6"	4'-6"	2 1/2"			
P1123	16	30'-2"									6				6	962	2'-6"	27'-11"	2'-6"	1 1/4"			
P1124	Str.	18'-0"									6				6	574							
P1125	Str.	13'-0"									8				8	553							
P1126	Str.	17'-9"											12		12	1132							
P1127	17	7'-2"											60	64	124	4722	1'-9 1/2"	5'-8"					
P1128	Str.	24'-3"											20		20	2577							
P1129	Str.	25'-5"											20		20	2701							
P1130	Str.	26'-3"											20		20	2789							
P1131	19	22'-2"											6		6	707	19'-5"	3'-0"	3'-0"	2"			
P1132	Str.	23'-8"											6		6	754							
P1133	16	21'-4"											6		6	680	2'-2"	19'-5"	2'-2"	1 3/4"			

For Notes See Sheet 358.

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

355
494

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

61/64

REINFORCING STEEL LIST

BRIDGE NO. HAM.-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	D.H.		W.L. 2-2-72	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

356
494

HAMILTON COUNTY
HAM-471-0.30

PIERS (CONTINUED)

MARK	TYPE	LENGTH	NUMBER OF BARS											TOTAL NO. OF BARS	WEIGHT	DIMENSIONS						
			Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	Pier 7	Pier 8	Pier 9	Pier 10	Pier 11	Pier 12			A	B	C	D	E	F	G
P1134	Str.	14'-5"											4		4	306							
P1135	Str.	13'-11"											4		4	296							
P1136	Str.	10'-6"											2		2	112							
P1137	Str.	11'-5"											2		2	121							
P1138	Str.	32'-9"												24	24	4176							
P1139	Str.	19'-9"												16	16	1679							
P1140	Str.	20'-11"												16	16	1778							
P1141	Str.	22'-1"												16	16	1877							
P1142	Str.	23'-0"												16	16	1955							
P1143	16	36'-1"												5	5	959	2'-2"	34'-2"	2'-2"	1 3/4"			
P1144	19	37'-1"												5	5	985	34'-2"	3'-2"	3'-2"	2 3/4"			
P1145	Str.	10'-0"			2									8	10	531							
P1146	Str.	10'-5"												7	7	387							
P1147	Str.	28'-0"												4	4	595							
P1148	17	9'-1"	40												40	1930	1'-5 1/2"	7'-11"					
P1149	Str.	19'-11"	20												20	2116							
P1150	Str.	20'-1"	20												20	2134							
P1151	26	23'-2"	44												44	5416	20'-0"						
P1152	Str.	29'-1"		20											20	3090							
P1153	Str.	28'-6"		20											20	3028							
P1154	Str.	30'-9"			60										60	9802							
P1155	16	38'-11"			6										6	1241	2'-3"	36'-11"	2'-3"	1"			
P1156	19	22'-2"			6										6	707	18'-11"	3'-6"	3'-6"	1 1/4"			
P1157	Str.	15'-6"			2										2	165							
P1158	Str.	12'-6"			2										2	133							
P1159	17	7'-8"			20										20	815	1'-3 1/2"	6'-8"					

Total Weight, Piers = 193,598 Lbs.

For Notes See Sheet 358

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

62/64

REINFORCING STEEL LIST
BRIDGE NO. HAM.-471-0044
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	D. H.		W.L. 2-2-72	JLH 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

357/494

HAMILTON COUNTY
HAM-471-0.30

SUPERSTRUCTURE

MARK	TYPE	LENGTH	NUMBER OF BARS				TOTAL NO. OF BARS	WEIGHT	DIMENSIONS						
			UNIT A	UNIT B	UNIT C	UNIT D			A	B	C	D	E	F	G
S401	Str.	30'-0"	792	935	576	696	2999	60,100							
S402	Str.	10'-3"				120	120	822							
S403	Str.	37'-0"	60				60	1,483							
S404	Str.	13'-6"	60				60	541							
S405	Str.	15'-0" to 18'-1"	1 Series of 72				1 Series of 72	796							
S406	Str.	31'-3"	30				30	626							
S407	Str.	39'-6"		60			60	1,583							
S408	Str.	4'-9" to 33'-6"		1 Series of 45			1 Series of 45	575							
S409	Str.	4'-9" to 11'-3"		1 Series of 13			1 Series of 13	69							
S410	Str.	14'-9"		60			60	591							
S411	Str.	28'-3"	30				30	566							
S412	Str.	15'-3"		60			60	611							
S413	Str.	35'-0"		60			60	1403							
S414	Str.	32'-6"		30			30	651							
S415	Str.	29'-6"		30			30	591							
S416	Str.	15'-9" to 32'-8"				1 Series of 72	1 Series of 72	1,164							
S417	Str.	33'-3"	60				60	1,333							
S418	Str.	17'-9" to 25'-5"			1 Series of 72		1 Series of 72	1,038							
S419	Str.	36'-0"			60		60	1,443							
S420	Str.	39'-0"			60		60	1,563							
S421	Str.	17'-3"	60				60	691							
S422	Str.	29'-0"			30		30	581							
S423	Str.	26'-0"			30		30	521							
S424	Str.	34'-6"		60			60	1,383							
S425	Str.	27'-9" to 33'-6"		1 Series of 14			1 Series of 14	286							
S501	1	2'-10"	221				221	653	7 1/2"	1'-10"					
S502	7	2'-4"	223	254	172	167	816	1,986	7 1/2"	1'-4"	1'-4"	2"	7 1/2"		
S503	1	2'-2"	221	276	166	176	839	1,896	7 1/2"	1'-2"					
S504	1	3'-0" to 3'-2"	1 Series of 225				1 Series of 225	724	7 1/2"	2'-0" to 2'-2"					
S505	1	7'-9"	225	254	133		612	4,947	7 1/2"	6'-9"					
S506	7	2'-10"	221				221	653	7 1/2"	1'-10"	1'-10"	2"	7 1/2"		
S507	1	3'-3" to 2'-7"		1 Series of 251			1 Series of 251	764	7 1/2"	2'-3" to 1'-7"					
S508	1	2'-10" to 2'-6"		1 Series of 276			1 Series of 276	768	7 1/2"	1'-10" to 1'-6"					
S509	7	2'-10" to 2'-6"		1 Series of 276			1 Series of 276	768	7 1/2"	1'-10" to 1'-6"	1'-10" to 1'-6"	2"	7 1/2"		
S510	1	2'-6"			166	176	342	892	7 1/2"	1'-6"					
S511	7	2'-6"			166	176	342	892	7 1/2"	1'-6"	1'-6"	2"	7 1/2"		
S512	1	2'-7" to 2'-5"			1 Series of 133		1 Series of 133	347	7 1/2"	1'-7" to 1'-5"					
S513	1	2'-5"			38	165	203	512	7 1/2"	1'-5"					
S514	2	7'-7"			39	165	204	1,614	7 1/2"	6'-9"	5 1/2"				
S515	17	4'-9"				4	4	20	7 1/2"	4'-3"					
S516	Str.	3'-2"	13				13	43							
S517	35	9'-10"	6	4			10	103	2'-2"	2'-2"	1'-11"	2'-2"	1'-11"		
S518	35	9'-2"			4	2	6	57	2'-2"	1'-10"	1'-11"	1'-10"	1'-11"		
S519	14	5'-3"	644	761	488	489	2382	13,043	2'-0"	8"					
S601	Str.	26'-4"	1129	1331	895	875	4230	167,308							
S602	Str.	22'-7"	570	651	449	427	2097	71,130							
S603	Str.	17'-10"	12	15			27	723							
S604	Str.	30'-0"	1144	1387	871	864	4266	192,226							
S605	Str.	23'-3"	4	4	10	10	28	978							
S606	Str.	27'-0"	4	4	11	10	29	1,176							
S607	Str.	14'-1"	12	15			27	571							
S608	Str.	6'-8"	24	28	2		54	541							
S609	Str.	4'-3" to 29'-10"	1 Series of 17				1 Series of 17	435							
S610	Str.	3'-5" to 26'-2"	1 Series of 15				1 Series of 15	333							
S611	Str.	3'-10" to 25'-11"	1 Series of 17				1 Series of 17	380							
S612	Str.	3'-10" to 23'-0"	1 Series of 15				1 Series of 15	302							
S613	Str.	3'-0"	6			2	8	36							
S614	Str.	22'-4" to 25'-5"	1 Series of 53				1 Series of 53	1,901							
S615	Str.	3'-0" to 4'-2"		2 Series of 2			2 Series of 2	22							
S616	Str.	4'-7" to 18'-0"		1 Series of 11			1 Series of 11	187							
S617	Str.	4'-1" to 21'-9"		1 Series of 14			1 Series of 14	272							
S618	Str.	28'-1" to 30'-11"		1 Series of 3			1 Series of 3	133							
S619	Str.	4'-3"		4			4	26							
S620	Str.	4'-8" to 26'-7"		2 Series of 15			2 Series of 15	704							
S621	Str.	8'-6" to 28'-3"		1 Series of 4			1 Series of 4	110							
S622	Str.	7'-8" to 31'-8"		1 Series of 31			1 Series of 31	916							

For Notes See Sheet 358

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

63/64

REINFORCING STEEL LIST

BRIDGE NO. HAM.-471-0044

SIXTH STREET CONNECTION OVER
SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	D.H.		YR. 2-2-72	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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HAMILTON COUNT
HAM-471-0.30

SUPERSTRUCTURE (CONTINUED)

MARK	TYPE	LENGTH	NUMBER OF BARS UNIT A	UNIT B	UNIT C	UNIT D	TOTAL NO. OF BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	G
S623	Str.	3'-7" to 20'-7"		1 Series of 22			1 Series of 22	399							
S624	Str.	8'-6" to 21'-8"		1 Series of 3			1 Series of 3	68							
S625	Str.	5'-0" to 24'-11"		1 Series of 4			1 Series of 4	90							
S626	Str.	8'-2" to 21'-2"		1 Series of 3			1 Series of 3	66							
S627	Str.	25'-2" to 28'-5"			2 Series of 3		2 Series of 3	241							
S628	Str.	7'-5" to 20'-5"			2 Series of 3		2 Series of 3	125							
S629	Str.	7'-6" to 27'-0"			1 Series of 4		1 Series of 4	104							
S630	Str.	10'-4" to 23'-4"			1 Series of 3		1 Series of 3	76							
S631	Str.	23'-1" to 30'-9"			1 Series of 53		1 Series of 53	2,143							
S632	Str.	4'-0" to 21'-1"			1 Series of 11		1 Series of 11	207							
S633	Str.	6'-1" to 24'-9"			1 Series of 12		1 Series of 12	278							
S634	Str.	14'-3" to 20'-6"			2 Series of 5		2 Series of 5	261							
S635	Str.	3'-11" to 15'-10"			2 Series of 9		2 Series of 9	267							
S636	Str.	3'-2"			4		4	19							
S637	Str.	3'-0" to 25'-11"				1 Series of 14	1 Series of 14	304							
S638	Str.	3'-0" to 22'-6"				1 Series of 12	1 Series of 12	230							
S639	Str.	3'-11" to 27'-10"				1 Series of 16	1 Series of 16	382							
S640	Str.	3'-8" to 24'-2"				1 Series of 14	1 Series of 14	293							
S641	Str.	6'-8" to 30'-10"				1 Series of 63	1 Series of 63	1,774							
S642	Str.	6'-8" to 26'-6"				1 Series of 53	1 Series of 53	1,320							
S643	Str.	1'-11" to 3'-3"				2 Series of 5	2 Series of 5	39							
S644	Str.	3'-3" to 4'-7"				2 Series of 5	2 Series of 5	59							
S645	Str.	2'-10"				16	16	68							
S646	Str.	21'-1" to 38'-0"				1 Series of 53	1 Series of 53	2,352							
S647	Str.	3'-6" to 21'-3"				1 Series of 39	1 Series of 39	725							
S648	Str.	3'-0" to 24'-11"				1 Series of 49	1 Series of 49	1,027							
S701	44	10'-4"	6	4	4	2	16	338	1'-3 1/2"	2'-6"	3'-6 1/2"	2'-6"	1'-0"		
S702	11	8'-9"	6	4			10	179	1'-10"	3'-9"	1'-0"				
S703	11	7'-11"			4	2	6	97	1'-5"	3'-9"	1'-0"				
S704	21	6'-2"	6	4			10	126	2'-3"	2'-1"	1'-5 3/4"	1'-5 3/4"	1'-3"	9"	
S705	21	5'-10"			4	2	6	72	2'-3"	1'-9"	1'-3"	1'-3"	1'-3"	9"	
R503	44	9'-1"	6	4	4	2	16	*	1'-5"	2'-0"	2'-10"	2'-0"	1'-0"		
R504	Str.	7'-0"	12	12	16	8	48	*							
R505	Str.	5'-9"	28	16	24	8	76	*							
R506	Str.	4'-9"	8				8	*							
R507	Str.	5'-0"	8				8	*							
R508	Str.	6'-6"	8				8	*							
R509	Str.	12'-8"	8				8	*							
R510	Str.	6'-0"	12	24		24	60	*							
R511	Str.	7'-6"	4				4	*							
R512	Str.	12'-4"				4	4	*							
R513	Str.	15'-6"		104	60		164	*							
R514	Str.	6'-3"		8	16		24	*							
R515	Str.	4'-4"	4				4	*							
R516	Str.	6'-11"	16		16		32	*							
R517	Str.	11'-11"	4				4	*							
R518	Str.	12'-6"			4		4	*							
R519	Str.	6'-7"	12	12	8		32	*							
R520	Str.	7'-3"		20	8		28	*							
R521	Str.	6'-1"		8		16	24	*							
R522	Str.	7'-2"				4	4	*							
R523	Str.	5'-11"				16	16	*							
R524	Str.	5'-2"				8	8	*							
R525	Str.	5'-1"				4	4	*							
R526	Str.	12'-10"		4			4	*							
R527	Str.	6'-10"		12	4		16	*							
R528	Str.	12'-9"	4				4	*							
R529	Str.	15'-5"	80			68	148	*							
R530	Str.	6'-9"	68	88	48	28	232	*							
R531	Str.	7'-1"		4		8	12	*							
R532	Str.	12'-2"		4			4	*							
R533	Str.	12'-11"			4	8	12	*							

TOTAL WEIGHT, SUPERSTRUCTURE = 565,832 LBS.

REPLACEMENT BARS

MARK	TYPE	NUMBER	LENGTH	A	B
RE401	Str.	5	6'-3"		
RE501	Str.	4	6'-7"		
RE601	Str.	24	6'-11"		
RE701	Str.	1	7'-2"		
RE801	Str.	2	7'-6"		
RE901	Str.	2	7'-10"		
RE1001	17	1	9'-5"	1'-4 1/2"	8'-4"
RE1101	Str.	8	8'-6"		

NOTES: 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, indicates the bar size number. For example, A 501 is a No. 5 size bar and P 1101 is a No. 11 size bar.

*Reinforcing bars marked "R" are included in railing for payment.
For Bar Bending Schedule see Sheet No. 470.
Total weight reinforcing steel = 838,518 lbs.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

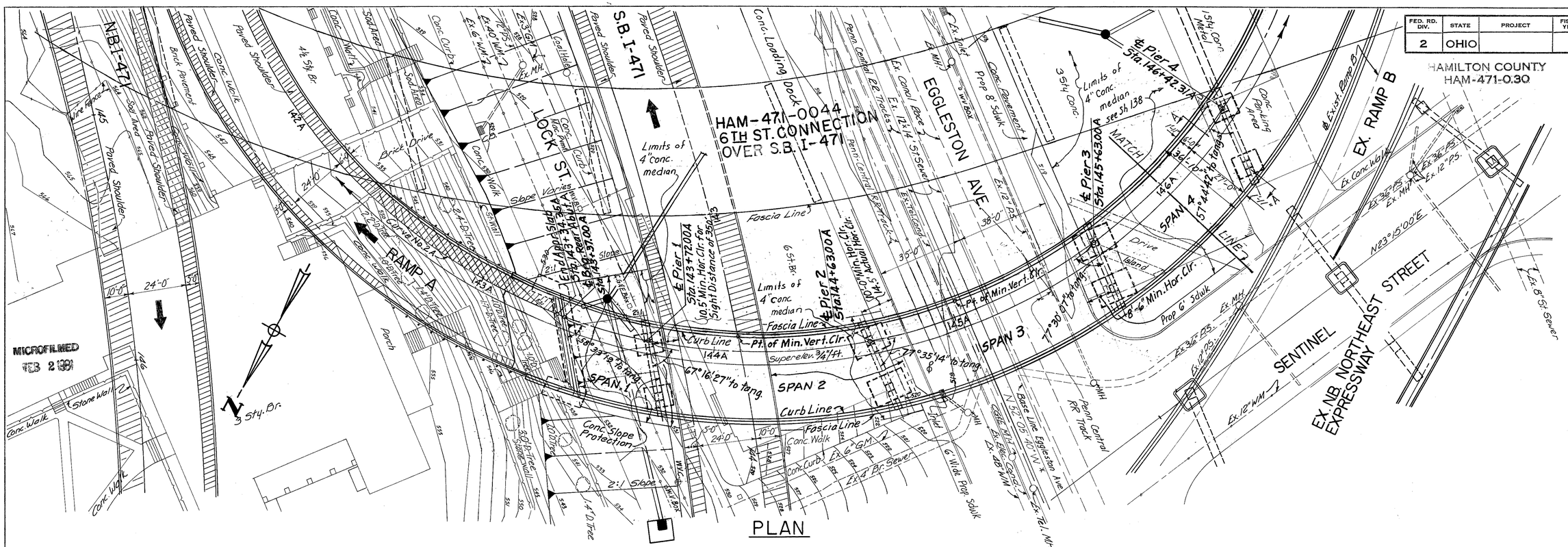
64/64

REINFORCING STEEL LIST

BRIDGE NO. HAM-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	D.H.		W.L. 2-2-72	JHO 11-13-72	



FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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494

HAMILTON COUNTY
HAM-471-0.30

PLAN

PROFILE ON BASE LINE

CURVE DATA

CURVE No. 2A

Δ = 156°24'47"
D = 24°54'40"
R = 230.00'
L = 627.88'
T = 1101.57'

CURVE No. 3A

Δ=92°53'08"
D=24°-54'-40"
R=230.00'
L=372.87'
T=241.89

TABLE OF SPAN LENGTHS

SPAN	LENGTH
1	35.0'
2	91.0'
3	100.0'
4	79.31'
5	70.19
6	90.0'
7	128.5'
8	82.5'

NOTE:

℄ Brg. Rear Abutment and ℄ Pier 1 are parallel
℄ Pier 2, Pier 3, and Pier 4 are parallel
℄ Brg. Forward Abutment, ℄ Pier 5, Pier 6 and Pier 7 are parallel
For Structure Section A-A, See Sh. 360.
For Bench Marks see Sh No. 33
All piles are 12" Cast-in-Place Reinforced Concrete

Earthwork Limits Shown are schematic.
Actual slopes shall conform to plan Cross-Sections.

CURVE DATA

SB I-471

Δ = 17°54'53"
D = 6° 25'49"
R = 891.042'
L = 278.603'
T = 140.448'

1984 Traffic Count
ATD : 6500
DHV : 850

PROPOSED STRUCTURE

Type : Continuous Steel Plate Girders with reinforced concrete deck & substructure.
Spans : Lengths varies see tabulation
Roadway: Varies, 33'-0" f/f curbs (min.)
Approach Slabs: AS-1-67 (25'-0" Long)
Live Load: HS 20-44 and the Interstate Alternate Loading.
Skew: Varies, see plan
Surface Course: 2½" Asphalt Concrete
Alignment: Varies, see plan
Superelevation: Varies, see plan

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

1 / 31

SITE PLAN
BRIDGE NO. HAM.-471-0047
RAMP A OVER
EGGLESTON AVE.

H & E BRIDGE NO. 10
SH. 1 OF 2

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	HLL	RJR	OAF	JHO 11-21-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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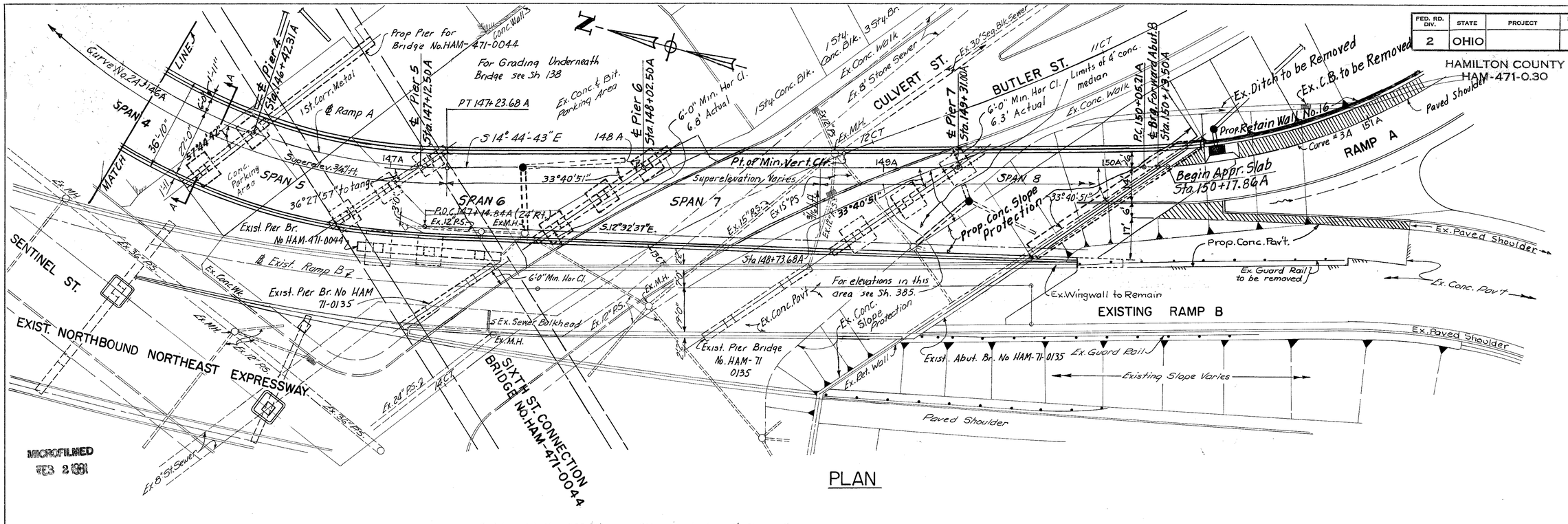
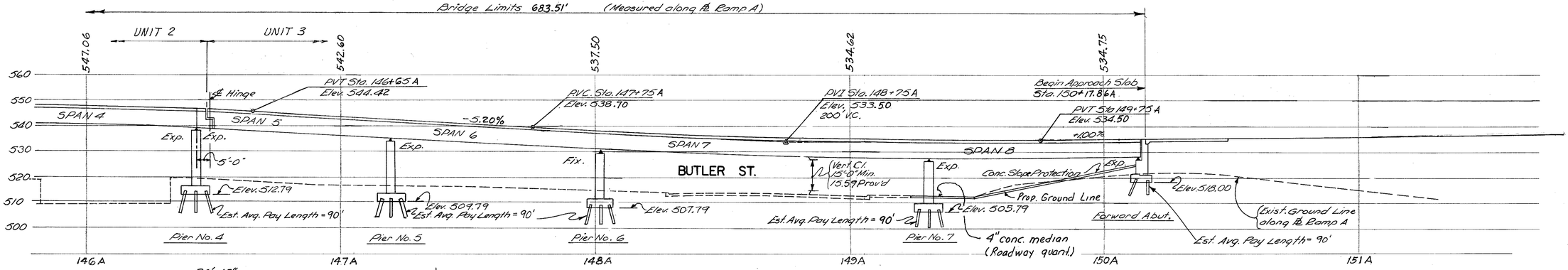
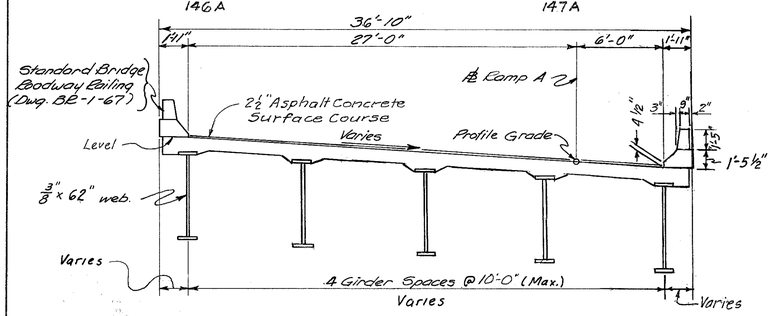
494

HAMILTON COUNTY
HAM-471-0.30





PROFILE ON BASE LINE



SECTION A-A

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

2 / 31

SITE PLAN
BRIDGE NO. HAM.-471-0047
RAMP A OVER EGGLESTON AVE.

H & E BRIDGE NO. 10 SH. 2 OF 2

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	HLL	RJR	OAF	JRO 11-21-72	

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

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ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER STRUCTURE UNIT 1	SUPER STRUCTURE UNIT 2	SUPER STRUCTURE UNIT 3	ABUTMENT REAR	ABUTMENT FORWARD	PIERS 1	PIERS 2	PIERS 3	PIERS 4	PIERS 5	PIERS 6	PIERS 7	GENERAL
202	LUMP	SUM	PORTIONS OF STRUCTURE REMOVED													LUMP
503	1042	CU. YD.	UNCLASSIFIED EXCAVATION				128	364	32	57	90	48	79	112	132	
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING													LUMP
505	LUMP	SUM	TEST PILE													LUMP
506	LUMP	SUM	PILE TEST LOAD													LUMP
506	1	EACH	SUBSEQUENT PILE TEST LOAD													1
507	13,910	LIN. FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES				500	1,620	430	1,640	1,620	1,620	1,620	2,430	2,430	
509	418,808	LB.	REINFORCING STEEL		246,384		12,107	12,118				148,199				
511	926	CU. YD.	CLASS "C" CONCRETE, SUPERSTRUCTURE	52	361	513										
511	350	CU. YD.	CLASS "C" CONCRETE, PIER CAPS AND COLUMNS						34	45	38	44	56	64	69	
511	205	CU. YD.	CLASS "C" CONCRETE, ABUTMENTS ABOVE FOOTINGS				83	122								
511	361	CU. YD.	CLASS "C" CONCRETE, FOOTINGS				60	66	22	42	42	23	33	33	40	
512	5	SQ. YD.	TYPE B WATERPROOFING					5								
512	14	LIN. FT.	PREMOLDED SEALING STRIP					14								
513	847,000	LB.	STRUCTURAL STEEL **	58,200	339,000	449,800										
514	847,000	LB.	FIELD PAINTING OF STRUCTURAL STEEL	58,200	339,000	449,800										
516	63	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER					63								
516	36	LIN. FT.	METAL JOINT WITH PREFORMED ELASTIC JOINT SEALER	36												
518	142	CU. YD.	POROUS BACKFILL				54	88								
518	114	LIN. FT.	6" PERFORATED, HELICAL CORRUGATED METAL PIPE INCLUDING SPECIALS, 707.01				33	81								
518	39	LIN. FT.	6" NON-PERFORATED HELICAL CORRUGATED METAL PIPE, INCLUDING SPECIALS, 707.01				30	9								
518	122	LIN. FT.	8" STD. PIPE COLLECTOR, ALLOY STEEL (707.11) OR HOT-DIP GALVANIZED STEEL, INCLUDING SPECIALS				6		32			18		27	39	
518	10	EACH	DRAIN INLETS	1	4	5										
518	122	LIN. FT.	8" STD. PIPE DOWNSPOUT, ALLOY STEEL (707.11) OR HOT-DIP GALVANIZED STEEL, INCLUDING SPECIALS				7		37			30		24	24	
601	572	SQ.YD.	CONCRETE SLOPE PROTECTION				224	348								
625			SEE SHEET 143 FOR LIGHTING SUMMARY													
808	926	UNITS	CHEMICAL ADMIXTURE FOR CONCRETE TYPE A, B OR D	52	361	513										
838	6	HOUR	SPECIAL PILE TESTS													6
404	142	CU. YD.	ASPHALT CONCRETE (70-80 or AC20)	8	55	79										
SPECIAL	36	CU. YD.	SAND ASPHALT (SEE PROPOSAL NOTE)	2	14	20										
SPECIAL	2554	SQ. YD.	MEMBRANE WATERPROOFING (SEE PROPOSAL NOTE)	148	989	1417										

** INCLUDES 212 LBS. OF BRONZE.

[redacted] 11-15-72
11-24-72

GENERAL NOTES

REFERENCE: SHALL BE MADE TO STANDARD DRAWINGS BS-1-67 REVISED 6-12-69, SD-1-69, SHEETS 1 AND 2 DATED 6-12-69, BR-1-67, SHEET 1 REVISED 10-15-71, RB-1-55 REVISED 2-2-59, AND TO SUPPLEMENTAL SPECIFICATIONS 808 DATED 1-1-71, 836 DATED 1-1-71, 838 DATED 3-18-70 AND 927 DATED 1-1-71.

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1969, INCLUDING THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA: DESIGN LOADING - HS20-44 AND THE INTERSTATE ALTERNATE LOADING.

CONCRETE CLASS C- UNIT STRESS 1200 P.S.I. FOR SUPERSTRUCTURE
UNIT STRESS 1333 P.S.I. FOR SUBSTRUCTURE

STRUCTURAL STEEL - ASTM A36-UNIT STRESS 20,000 P.S.I.

REINFORCING STEEL - ASTM A615, AND A616 OR A617 - UNIT STRESS 20,000 P.S.I.
IF BARS IN ACCORDANCE WITH ASTM A616 ARE PROVIDED, THEY SHALL BE SUBJECT TO BEND TESTS AS PER AASHO DESIGNATION M42-70.

EMBANKMENT CONSTRUCTION: THE EMBANKMENT SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE BETWEEN THE FORWARD ABUTMENT FOR BRIDGE NO. HAM-471-0047 AND THE REAR ABUTMENT FOR BRIDGE NO. HAM-471-RAMP A OFF COLUMBIA VIADUCT. EXCAVATION SHALL THEN BE MADE FOR THE FORWARD ABUTMENT AND RETAINING WALL NO. 16.

PILES: SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 40 TONS PER PILE FOR THE REAR ABUTMENT AND PIER 1, AND 50 TONS PER PILE FOR THE REMAINING SUBSTRUCTURES.

METAL JOINT WITH PREFORMED ELASTIC JOINT SEALER: DESCRIPTION - THIS WORK SHALL CONSIST OF THE MANUFACTURE OF SHOP PREFABRICATED JOINT SYSTEMS AS SHOWN ON THE PLANS. THE PREFABRICATED JOINT SHALL BE CONSTRUCTED OF STRUCTURAL STEEL SECTIONS, WITH PREFORMED ELASTIC JOINT SEALERS SECURELY BONDED IN PLACE.

THE METAL SURFACES IN DIRECT CONTACT WITH THE POLYCHLOROPRENE SEALERS SHALL BE SAND BLASTED AND PROPERLY TREATED (SO AS TO PROVIDE A HIGH STRENGTH BOND BETWEEN THE SEAL AND MATING METAL SURFACES). THEN THE SEALER SHALL BE SECURELY BONDED TO THE METAL WITH AN APPROVED ADHESIVE.

ALL STEEL COMPONENTS OF THE ASSEMBLY EXCEPT THOSE AREAS NOTED ABOVE WHICH ARE IN CONTACT WITH THE SEALERS SHALL BE PAINTED IN ACCORDANCE WITH SECTION 514.

MATERIALS - PHYSICAL PROPERTIES OF PREFORMED ELASTIC JOINT SEALER AND LUBRICANT ADHESIVE - SEE SECTION 705.11.

STEEL COMPONENTS - ASTM A36.

BASIS OF PAYMENT - THE CONTRACT UNIT PRICE PER LINEAL FOOT BID FOR ITEM 516, METAL JOINT WITH PREFORMED ELASTIC JOINT SEALER SHALL BE FULL PAYMENT FOR ALL STRUCTURAL STEEL, POLYCHLOROPRENE SEALERS, ADHESIVES, PAINT AND ALL LABOR AND MATERIALS NECESSARY TO FABRICATE AND INSTALL THE JOINTS IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

UTILITY LINES: ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER(S). THE CONTRACTOR AND OWNER(S) ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

DECK REINFORCING BARS: AT THE CONTRACTOR'S OPTION, A PORTION (NOT TO EXCEED 25%) OF THE UPPER LONGITUDINAL BARS (S 4--) IN THE DECK SLAB MAY BE PLACED BENEATH THE UPPER TRANSVERSE BARS FOR SUPPORT OF THE TOP MAT.

MAINTENANCE OF TRAFFIC: REFER TO SHEETS 13 AND 13A.

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ESTIMATED QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM.-471-0047

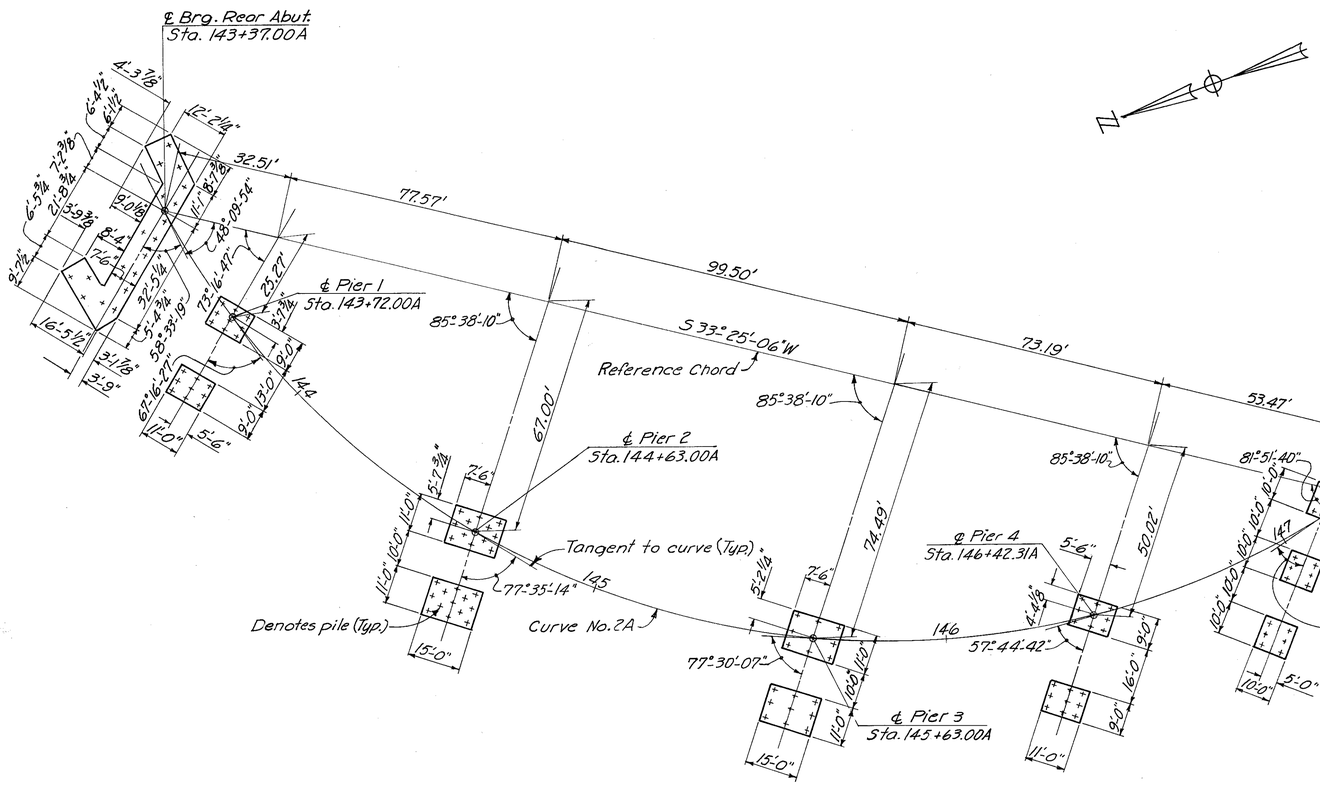
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CS		OAF	JHo 12-13-72	

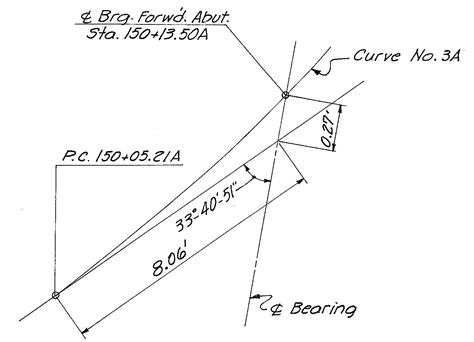
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

362/494

HAMILTON COUNTY
HAM-471-0.30



STAKE OUT DIAGRAM



DETAIL AT P.C.

Notes:
For location of piling see sheet No's. 363 through 373.

For Alignment and Witness Plan See Sheet No's. 29 & 30.

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4/31

STAKE OUT DIAGRAM
BRIDGE NO. HAM-471-0047

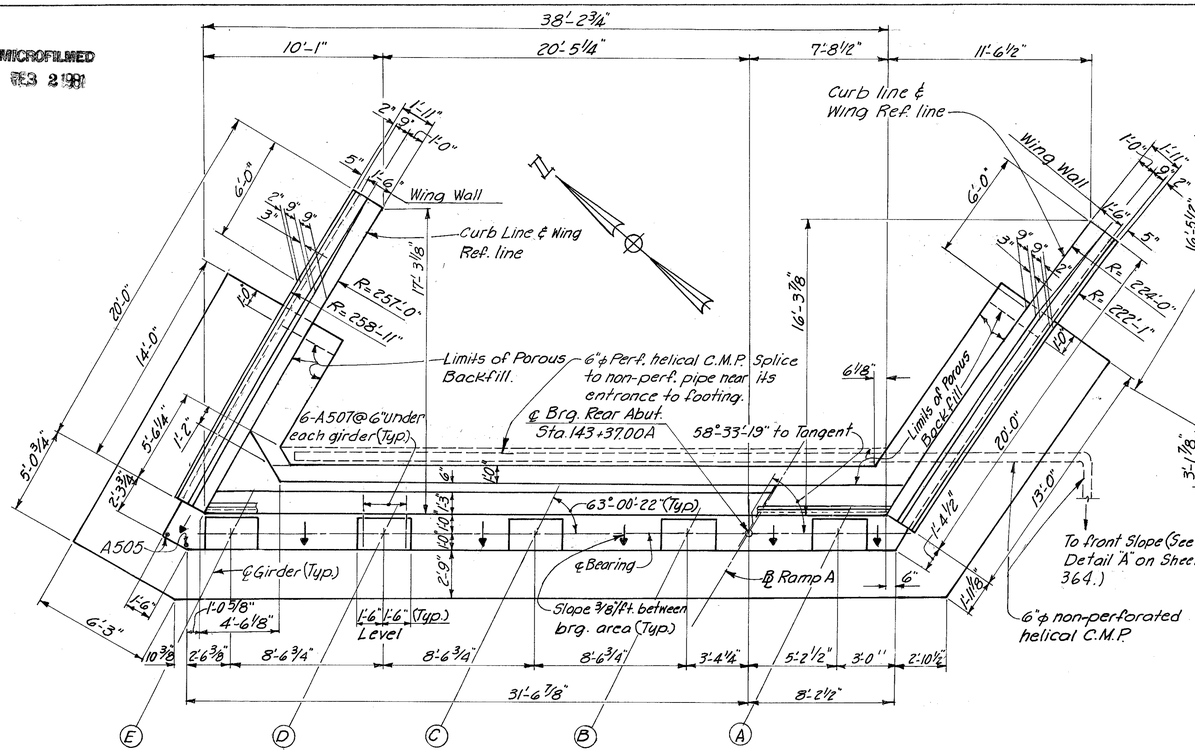
H & E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	G.N.P.	V.W.S.	O.A.F.	JHÖ 11-28-72	

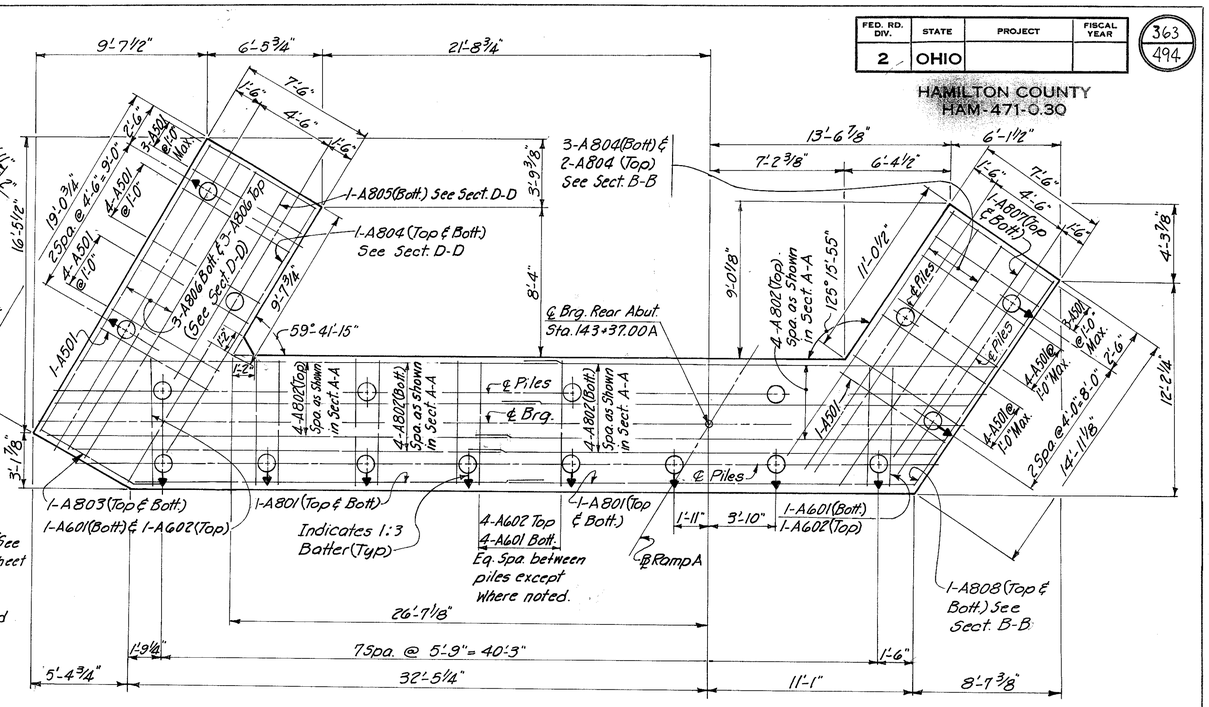
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

363
494

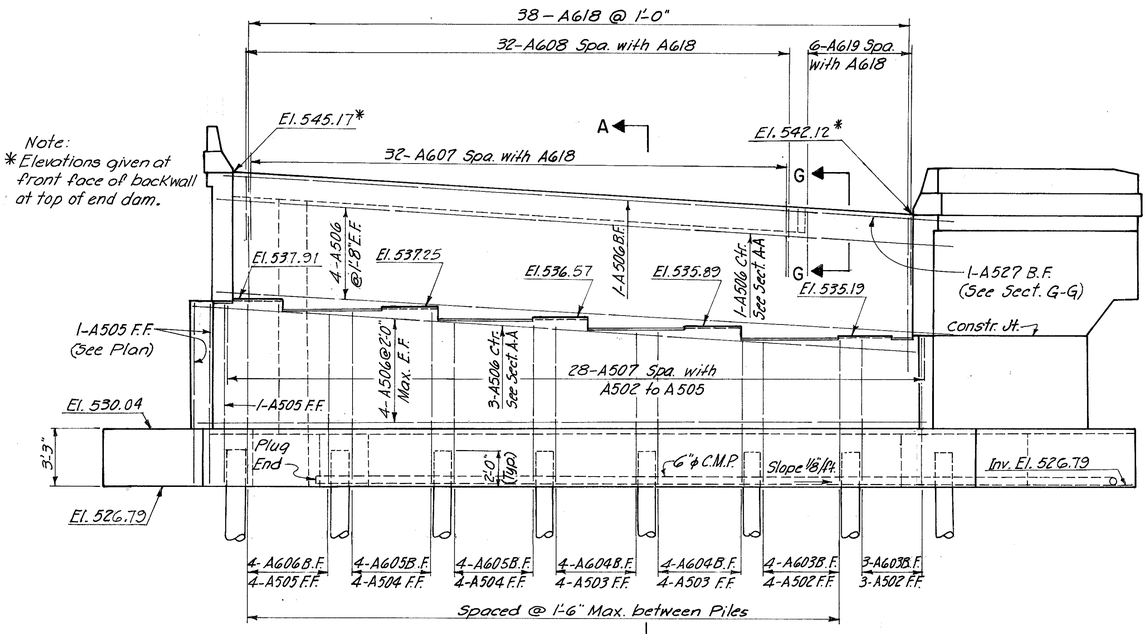
HAMILTON COUNTY
HAM-471-0.30



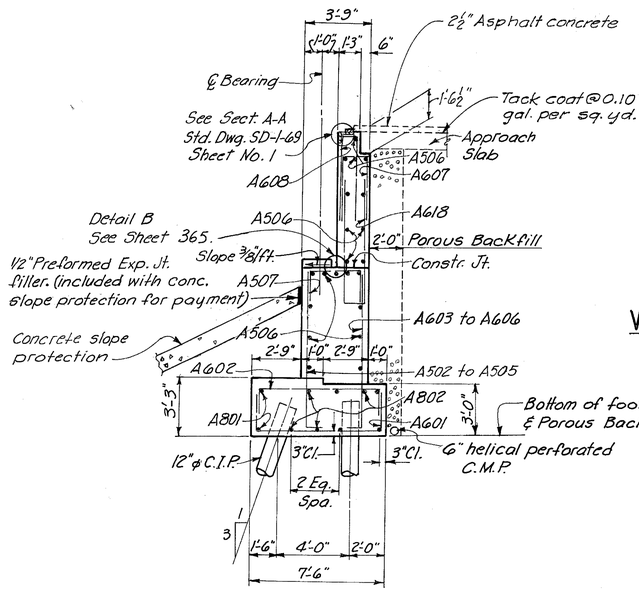
ABUTMENT PLAN



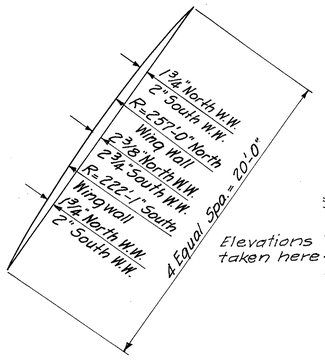
FOOTING PLAN



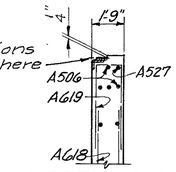
FRONT ELEVATION



SECTION A-A



WINGWALL CURVATURE



SECTION G-G

See notes on sheet 364.
Work this sheet with sheet 364.

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5/31

REAR ABUTMENT
BRIDGE NO. HAM. 471-0047

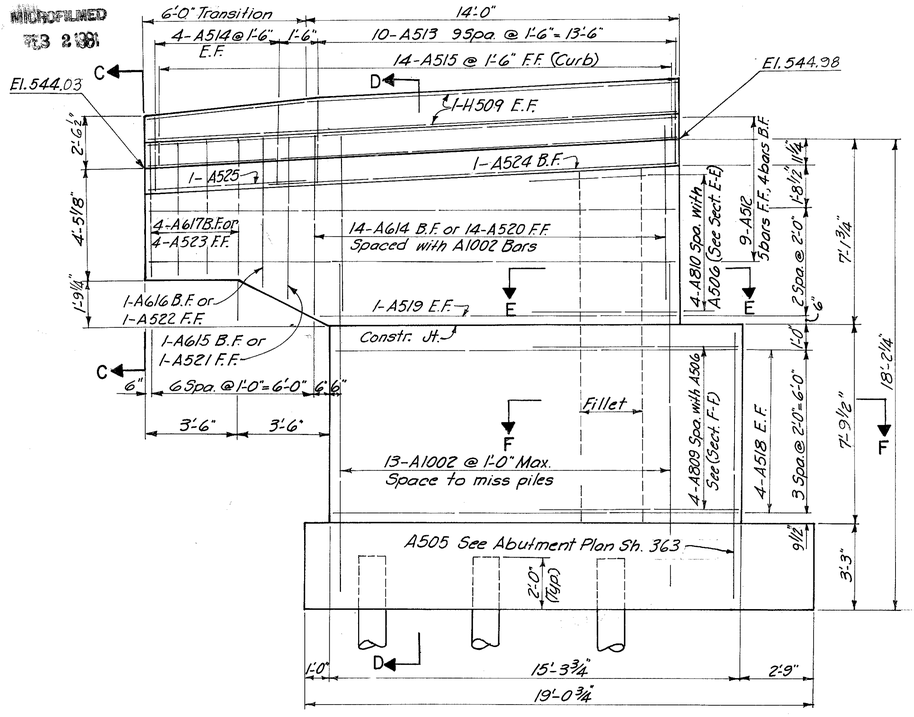
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
PRD	MSD	VWS	JWH	JHO 11-21-72	

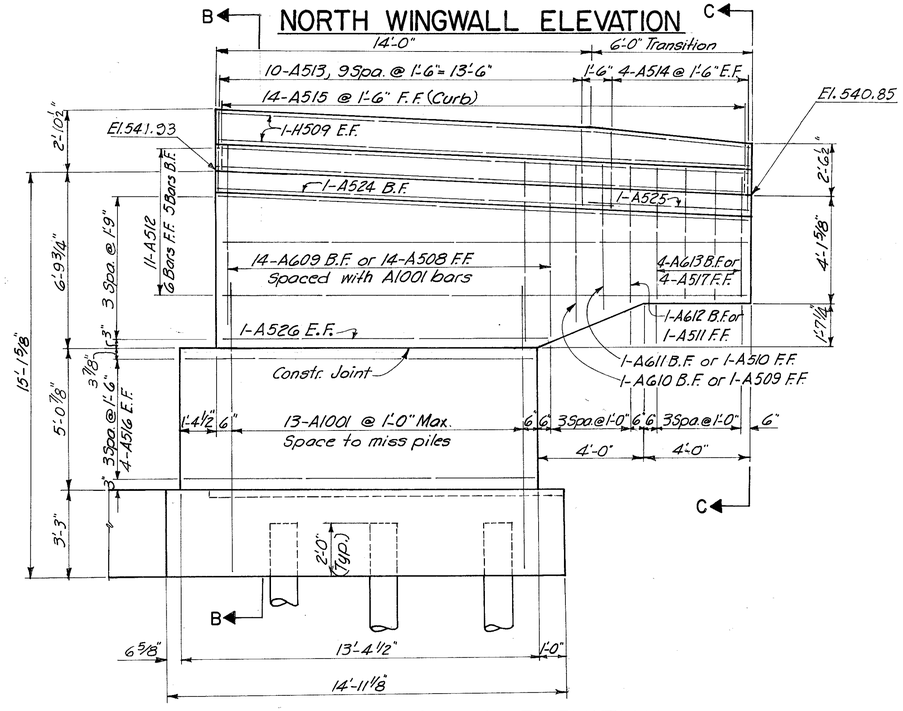
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

364
494

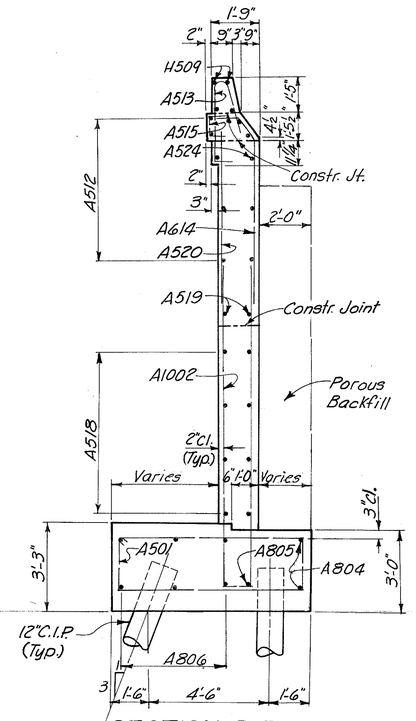
HAMILTON COUNTY
HAM-471-0.30



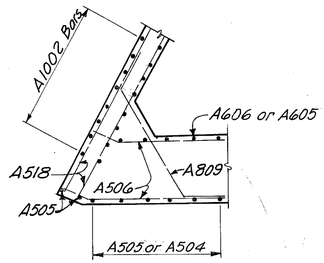
NORTH WINGWALL ELEVATION



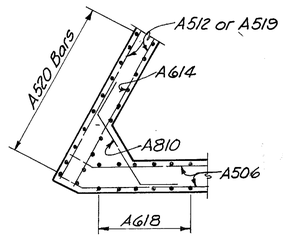
SOUTH WINGWALL ELEVATION



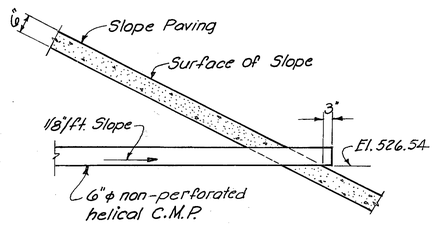
SECTION D-D



SECTION F-F

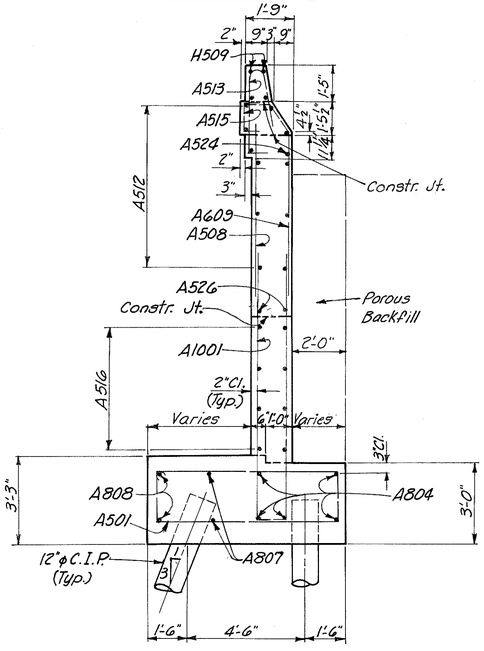


SECTION E-E

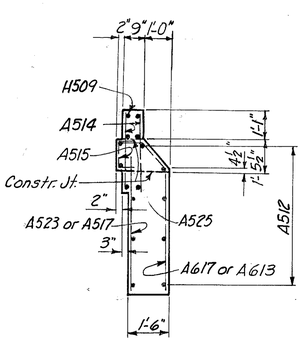


DETAIL A

(Method of Terminating 6" C.M.P. at Front Slope)



SECTION B-B



SECTION C-C

NOTES
Provide 3" clearance to reinforcing steel in footing and 2" clearance to reinforcing steel in wall, minimum. F.F. denotes front face, B.F. denotes back face, E.F. denotes each face.

See Ohio Standard BR-1-67 for additional railing details. POROUS BACKFILL 2 ft. thick shall extend up to the plane of the subgrade and laterally to the ends of the wingwalls as shown on Abutment Plan.

Note:
Work this sheet with sheet 363.

HAZELET & ERDAL
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6/31

REAR ABUTMENT
BRIDGE NO. HAM-471-0047

H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
PRD	MSD	VWS	JWH	JWH 11-21-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

365/494

HAMILTON COUNTY
HAM-471-0.80

Note: See Sheet 366 For Sect. E-E

Tie into Retaining Wall No. 16 Drainage

See Detail A Sh. No. 381.

Exist. Footing Line

Type B Waterproofing

Limits of Porous Backfill

℄ Brg. Forward Abutment Sta. 150+13.50A

66'-7⅜" Pavement Seat

Limits of Porous Backfill

Exist. Curbline & Wingwall Ref. Line

Out-side face of Exist. Wingwall

Exist. South Abut. B Sta. 139+36.50B

Curb Line

℄ Bearing

Contr. Jt.

Level (Typ.)

℄ Ramp A

Slope ⅜"/ft. between bearing area (Typ.)

P.C. Sta. 150+05.21A

To Roadway Sewer see Detail C

1" Joint Filler between New & Old Concrete for all Vertical Surfaces

Existing Footing Line

Exist. Abutment Bridge No. HAM-71-0135

M.O. for Curvature = 0

Retaining Wall No. 16 Footing See Sheet 253

6-A579 @ 6" under Girder (Typ.)

℄ Girder (Typ.)

ABUTMENT PLAN

DETAIL B

6'ϕ helical perforated C.M.P.

Abutment Wall

6"ϕ helical non-Perf. C.M.P.

12" Roadway Sewer

Ft. El. 509.00

M.H.

℄ Ramp A

13.0' Right

Sta. 149+35.00A

N 14° 44' 43" W

DETAIL C

Measured along F.F. of Backwall

MICROFILMED

10-A663 Spa. with A660

69-A662 Spaced with A660

69-A661 Spaced with A660

El. 534.62

El. 534.71 @ F.F. of Backwall

El. 535.11

El. 535.57

El. 535.45

El. 535.07

El. 535.39

El. 535.09

1-A571 B.F.

1-A562 See Sect. A-A

1-A563

1" Joint Filler

3-A664 B.F.

5-A572 B.F. or 5-A573 F.F. Spa. with A571

40-A660 @ 1'-0"

El. 527.34

El. 527.74

El. 528.08

39-A660 @ 1'-0"

El. 528.00

El. 527.73

1-A578 or 1-A577

2-A667

2-A666

5-A574 B.F. Spa. with A571

3-A561 Ctr. Bars

27-A566 Spa. with A564

4-A559 @ 2'-0" Max. B.F.

4-A560 @ 2'-0" Max. F.F.

Slope ⅛"/ft.

28-A566 Spaced with A564 or A565

Contr. Joint

Exist. South Abut. B

3-A564 F.F.

3-A565 F.F.

Pipe Plug

Inv. El. 521.50

1-A658 B.F.

1-A564 F.F.

1" Joint Filler

El. 518.00

Exist. Footing

5-A658 B.F.

12"ϕ C.I.P. (Typ.)

1" Exp. Jt. filler & premolded sealing strip included with Retaining Wall No. 16 for payment.

5-A564 F.F. Spa. @ 1'-6" betwn. piles (except where noted)

FRONT ELEVATION

SECTION A-A

SECTION B-B

1½" Preformed Exp. Joint filler. (included with conc. Slope protection for payment)

Premolded sealing strip in 13"x¾" recess. (Top of footing to bottom of approach slab)

Exposed or front face

CONTRACTION JOINT DETAIL

Note:
For Notes see Sheet 366

Work this sheet with Sheet 366.

1 Ea. A555 to A551 Top
1 Ea. A655 to A651 Bott.

℄ Brg. Forward Abut. Sta. 150+13.50A

1-A852 Top & Bott.

3-A853 Top

3-A853 Bott.

1-A857 Top & Bott.

1-A856 Top & Bott.

Indicates 1:3 batter (Typ.)

4-A551 Top & 4-A651 Bott.

5-A851 Top & Bott. Spa. as Shown in Sect. A-A

℄ Bearing

Existing Footing

1-A551 Top 1-A651 Bott.

5-A551 Top & 5-A651 Bott. Eq. Spa. btwn. Piles (Typ.)

8 Spaces @ 7'-0" = 56'-0"

FOOTING PLAN

SECTION H-H

1-A669

1-A670

Constr. Joint

2-A671

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7/31

FORWARD ABUTMENT
BRIDGE NO. HAM-471-0047

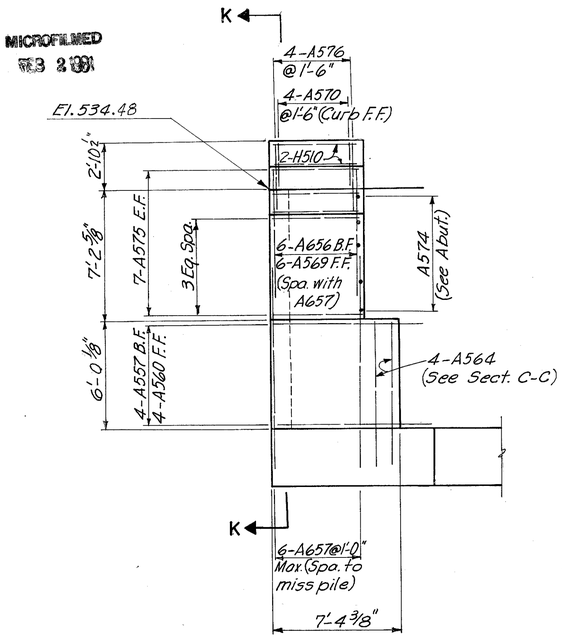
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
PRD	MSD	VWS	JWH	JHO 11-21-72	

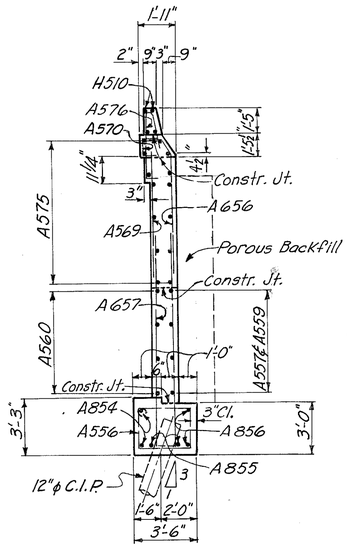
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

366
494

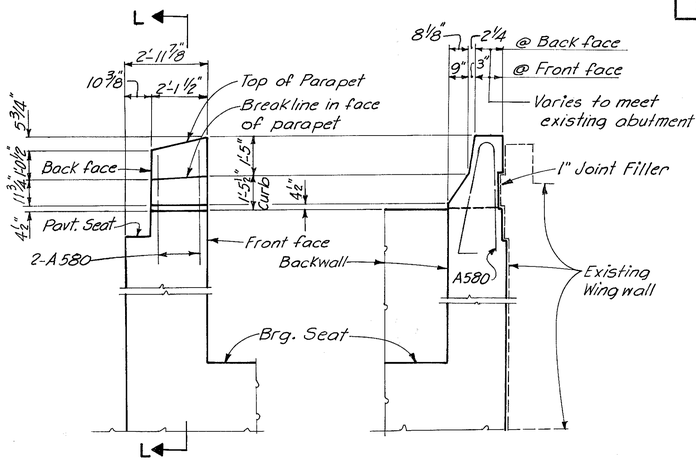
HAMILTON COUNTY
HAM-471-0.30



VIEW J-J

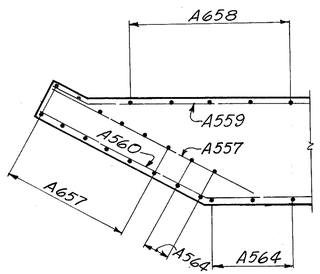


SECTION K-K

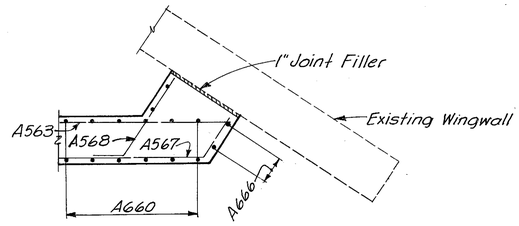


SECTION E-E

SECTION L-L

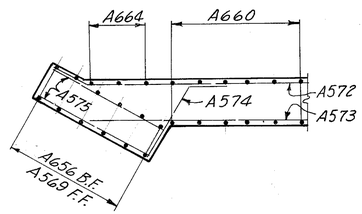


SECTION C-C

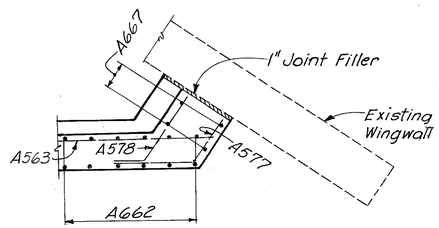


SECTION G-G

Notes:
Provide 3" clearance to reinforcing steel in footing & 2" clearance to reinforcing steel in wall, minimum.
F.F. denotes front face, B.F. denotes back face & E.F. denotes each face.
POROUS BACKFILL 2ft. thick shall extend up to the plane of the subgrade and laterally to the ends of the wingwalls.



SECTION D-D



SECTION F-F

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CINCINNATI, OHIO

8/31

FORWARD ABUTMENT

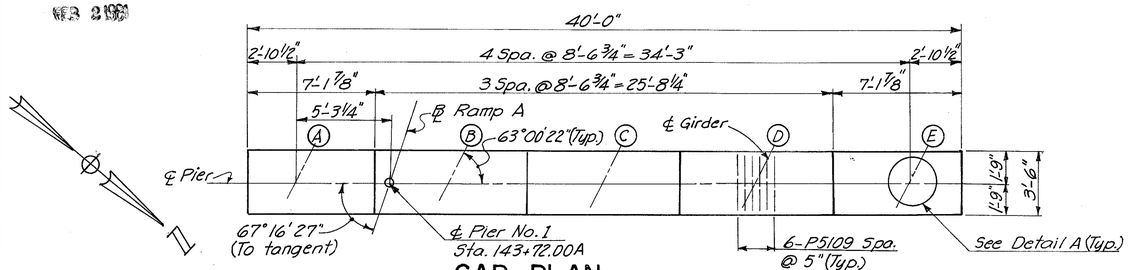
BRIDGE NO. HAM.-471-0047

H&E BRIDGE NO. 10

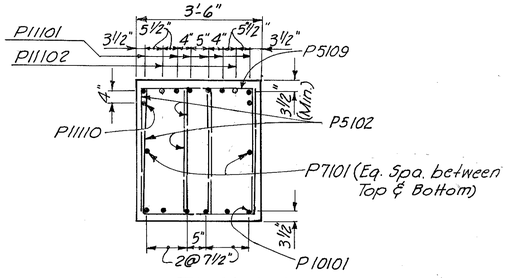
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
PRD	MSD	VWS	JWH	JHO 11-21-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

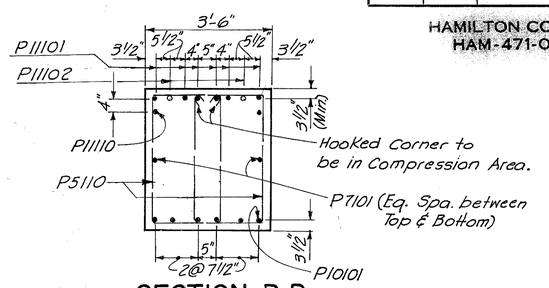
HAMILTON COUNTY
HAM-471-0.30



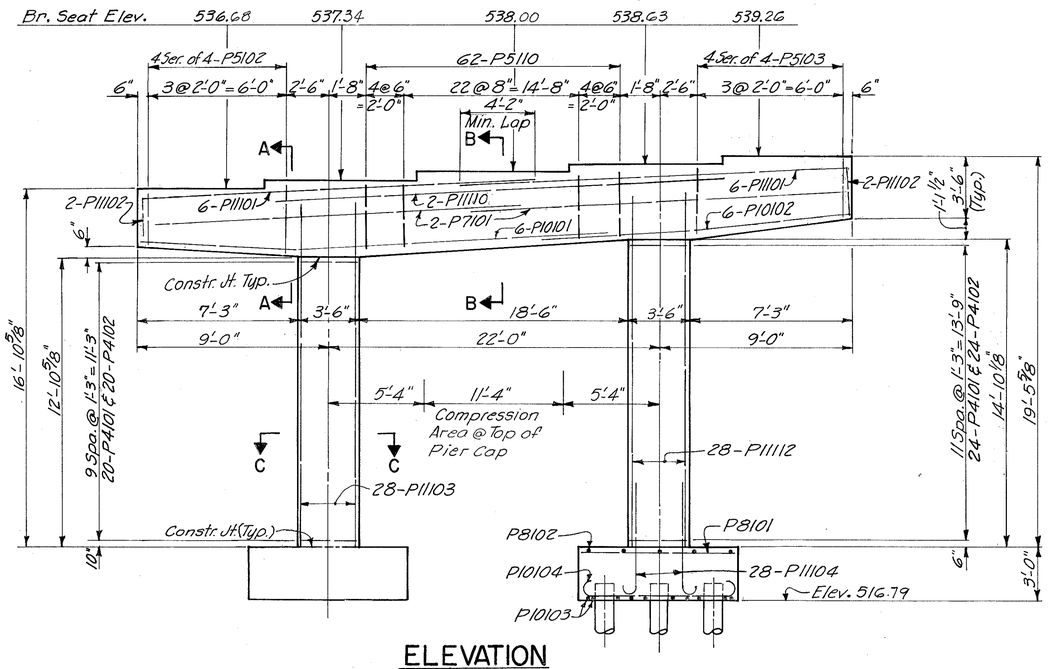
CAP PLAN



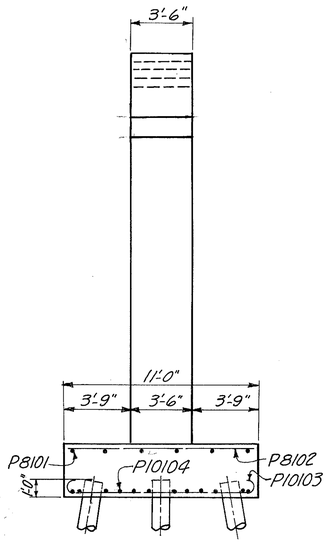
SECTION A-A



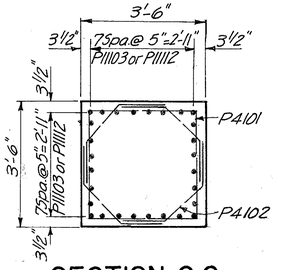
SECTION B-B



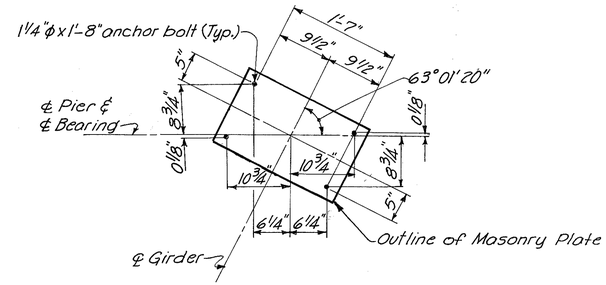
ELEVATION



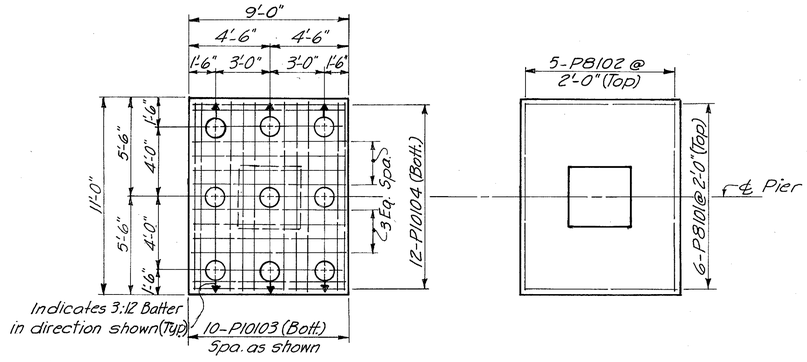
END ELEVATION



SECTION C-C



DETAIL A



FOOTING PLAN

Dimensions & Reinforcing steel shown are Typical all footings this pier.

Notes:
All piles shall be 12" Cast-in-Place Reinforced Concrete.

Special care shall be taken in placing reinforcing steel in the cap so that it will not interfere with the drilling of Anchor Bolt holes.

For connection of downspouts to piers, see sheet 388.

Clearance shall be 3 inches minimum to all surfaces of the footings & 2 inches minimum elsewhere, for reinforcing steel.

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CINCINNATI, OHIO

9/31

PIER NO. 1

BRIDGE NO. HAM.-471-0047

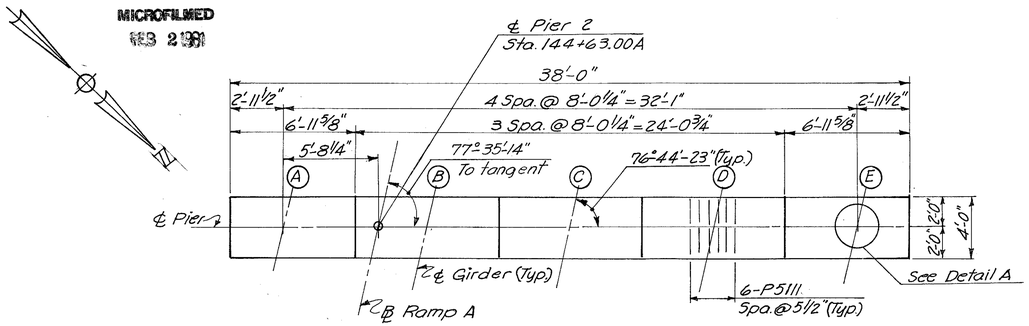
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JWH	AK	VWS	JWH OAF	JWH 11-21-72	

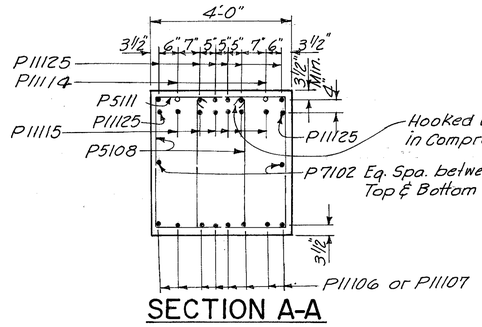
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

368
494

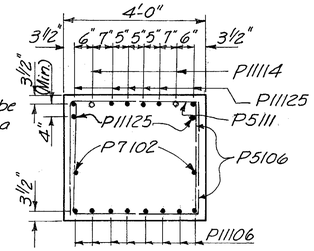
HAMILTON COUNTY
HAM-471-0.30



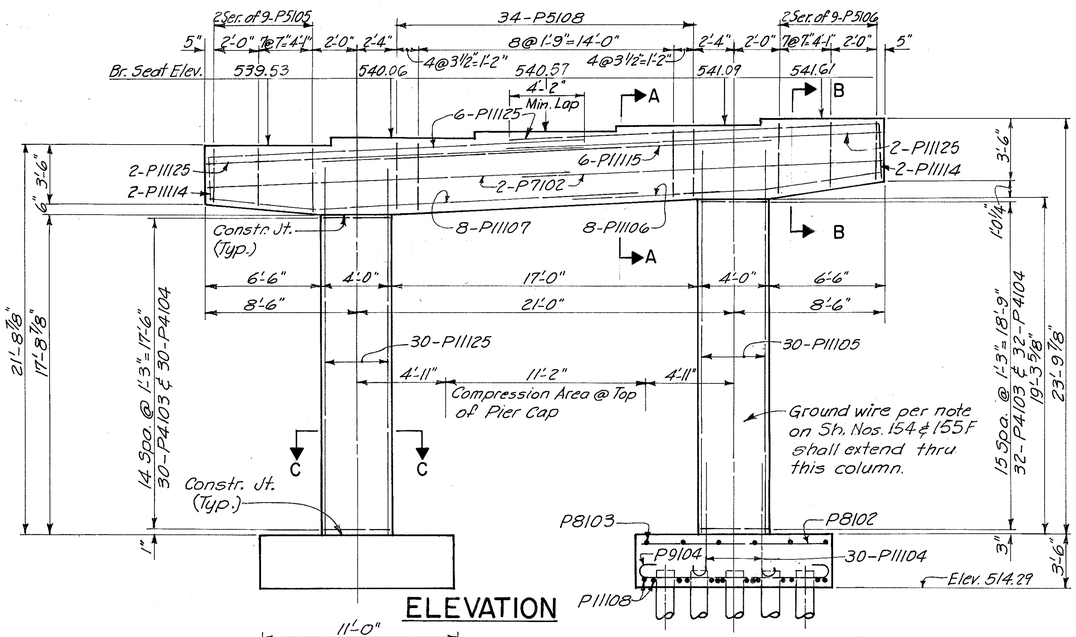
CAP PLAN



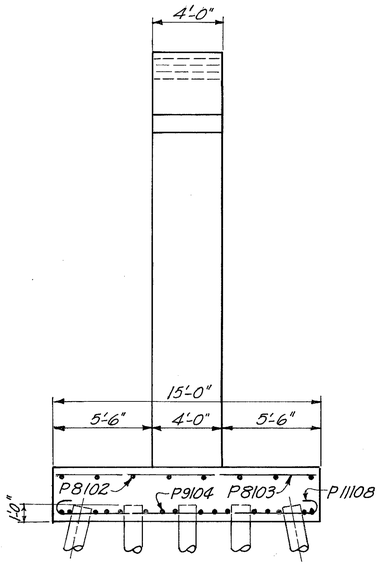
SECTION A-A



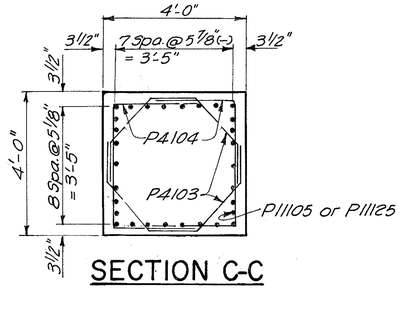
SECTION B-B



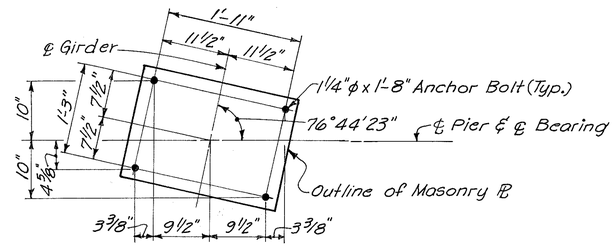
ELEVATION



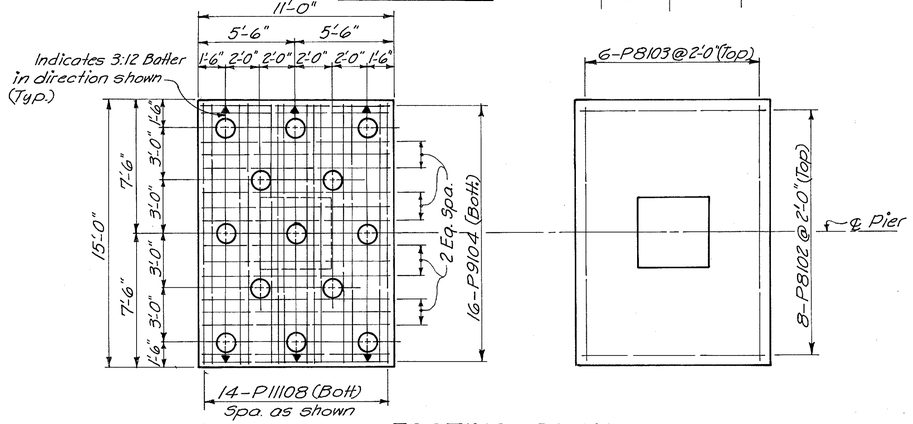
END ELEVATION



SECTION C-C



DETAIL A



FOOTING PLAN

Dimensions & reinforcing steel shown are typical all footings this pier

Notes:
All piles shall be 12" Cast-In-Place Reinforced Concrete

Special care shall be taken in placing reinforcing steel in the cap so that it will not interfere with the drilling of Anchor Bolt holes.

Clearance shall be 3 inches minimum to all surfaces of the footings & 2 inches minimum elsewhere, for reinforcing steel.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

10/31

PIER NO. 2
BRIDGE NO. HAM.-471-0047

H&E BRIDGE NO. 10

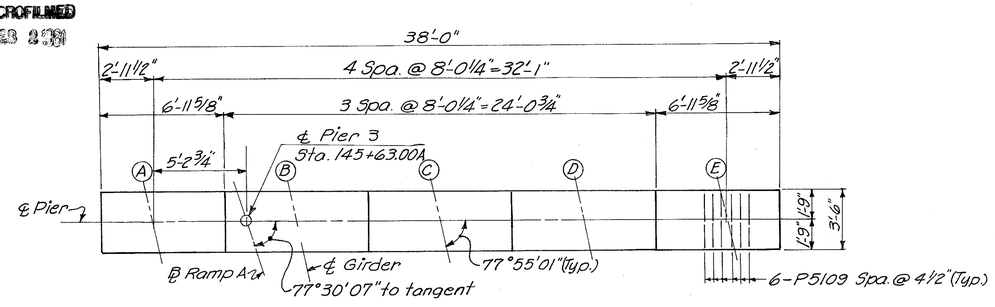
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
PRD	AK	VWS	JWH OAF	JHO 11-21-72	

MICROFILMED
FEB 2 1981

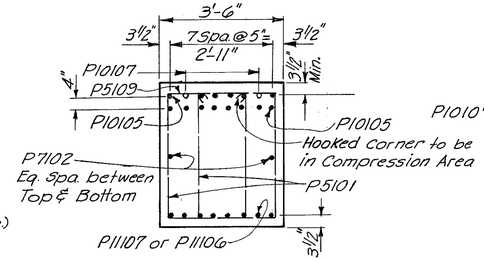
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

369
494

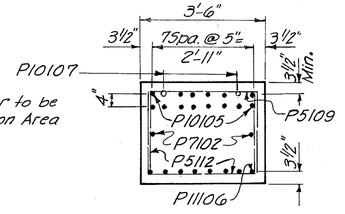
HAMILTON COUNTY
HAM-471-0.30



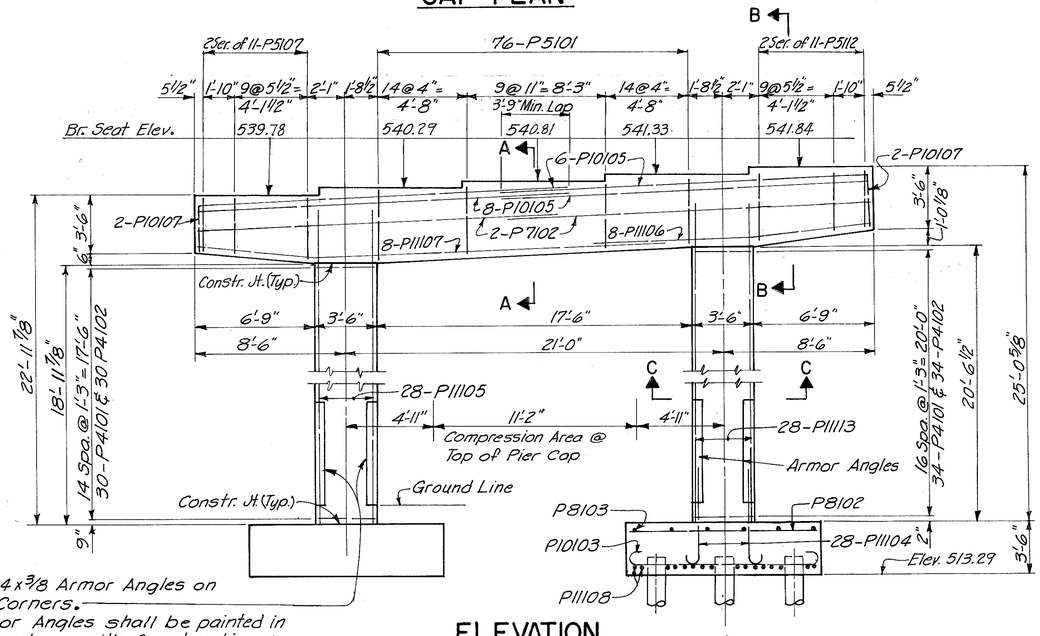
CAP PLAN



SECTION A-A

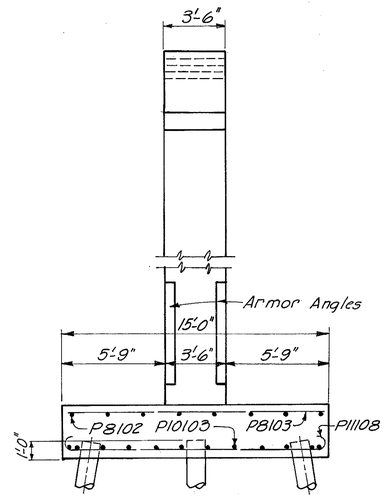


SECTION B-B

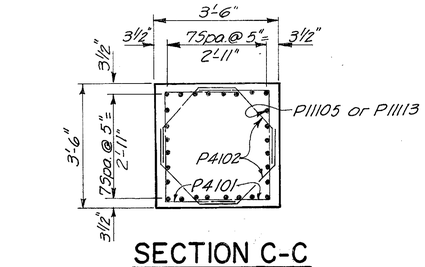


ELEVATION

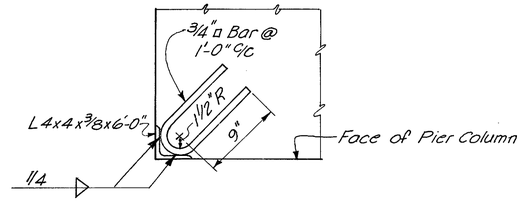
L 4x4x⅜ Armor Angles on all Corners.
Armor Angles shall be painted in accordance with Construction & Material Specifications, Section 514.



END ELEVATION

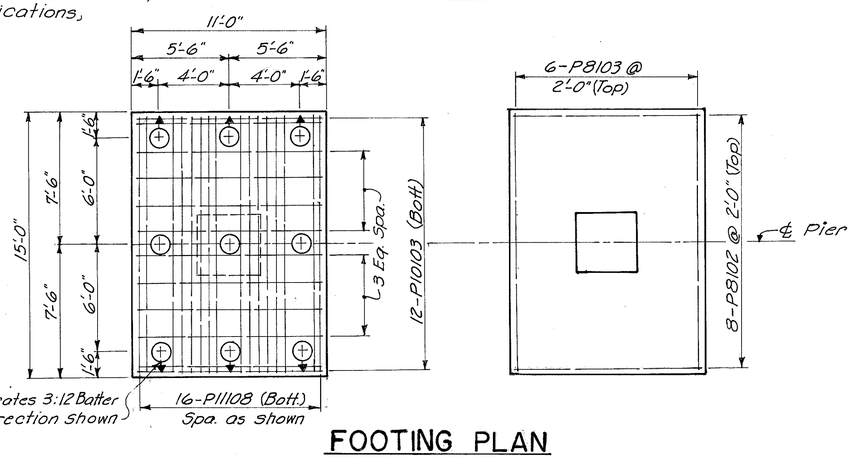


SECTION C-C



DETAIL OF ARMOR ANGLES FOR PIER COLUMNS

(No. Required = 40)
(Included with Item 513 for payment)



FOOTING PLAN

Dimensions & reinforcing steel shown are typical all footings this pier.

Notes:
All piles shall be 12" Cast-in-Place Reinforced Concrete.

Clearance shall be 3 inches minimum to all surfaces of the footing & 2 inches minimum elsewhere, for reinforcing steel.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

11/31

PIER NO. 3
BRIDGE NO. HAM.-471-0047

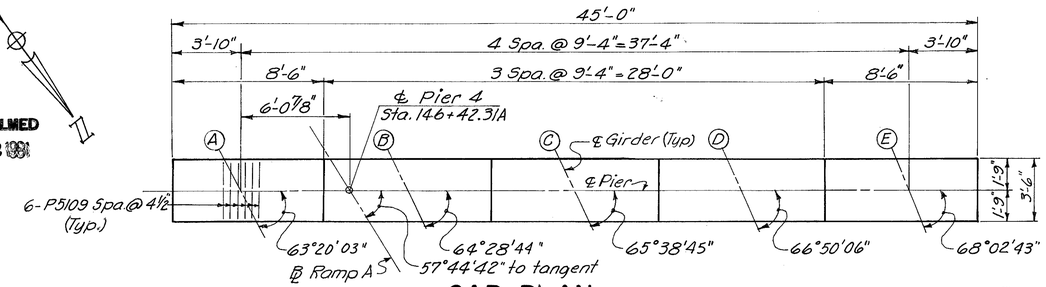
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JWH	AK	VWS	JWH OAF	JHD 11-21-72	

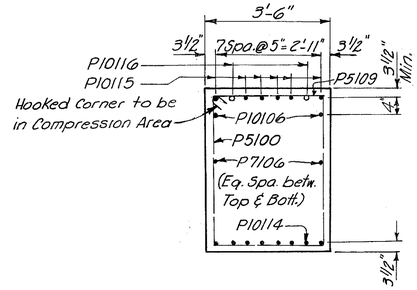
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

370
494

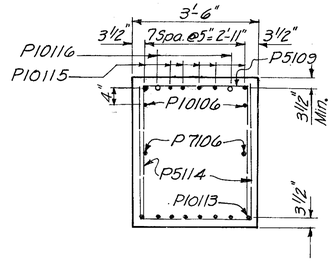
HAMILTON COUNTY
HAM-471-0.30



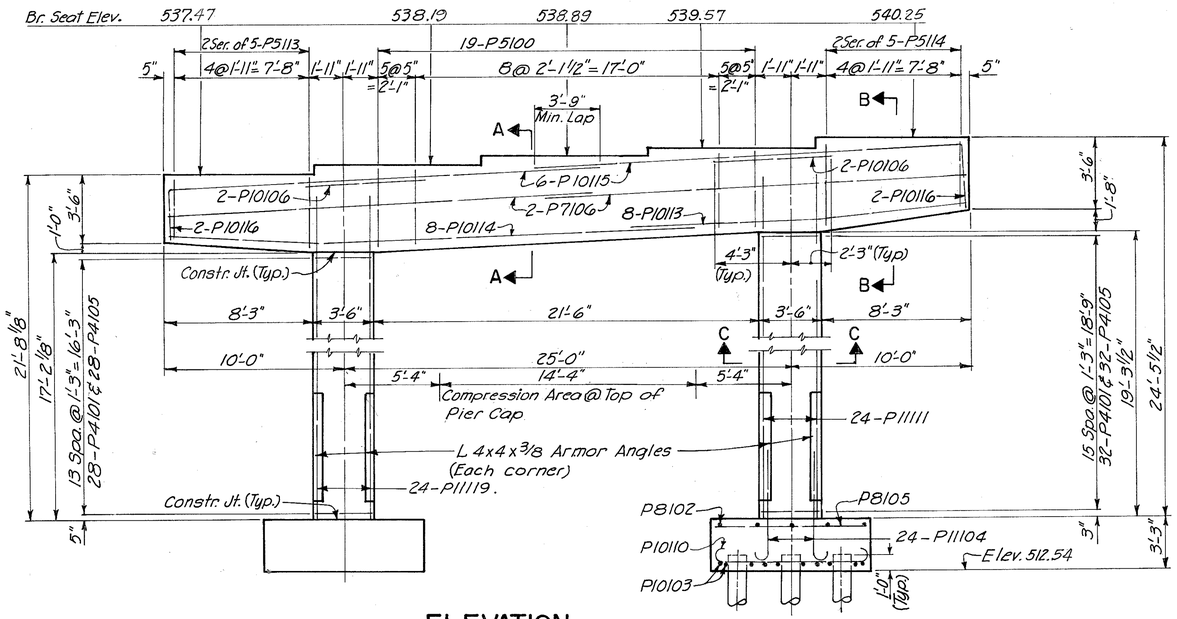
CAP PLAN



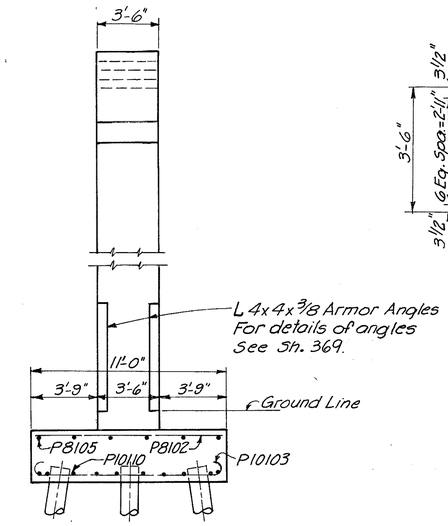
SECTION A-A



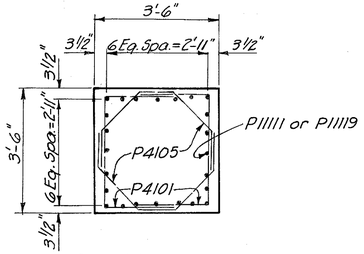
SECTION B-B



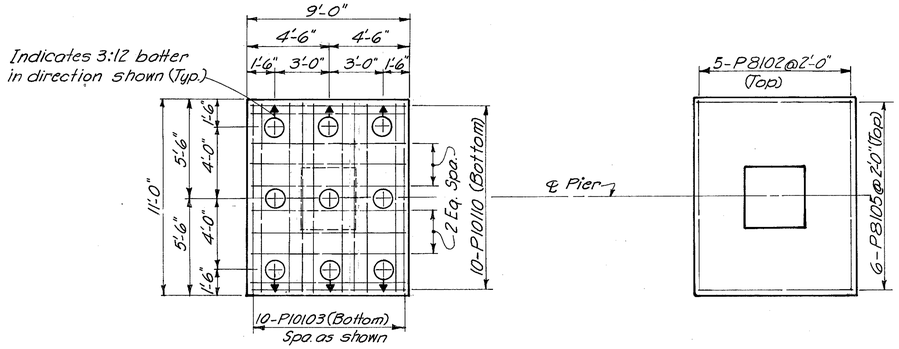
ELEVATION



END ELEVATION



SECTION C-C



FOOTING PLAN

Dimensions & reinforcing steel shown are typical all footings this pier.

Notes:

All piles shall be 12" Cast-in-Place Reinforced Concrete.

For connection of downspouts to piers, see Sh. No. 387.

Clearance shall be 3 inches minimum to all surfaces of the footings & 2 inches minimum elsewhere, for reinforcing steel.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

12/31

PIER NO. 4

BRIDGE NO. HAM.-471-0047

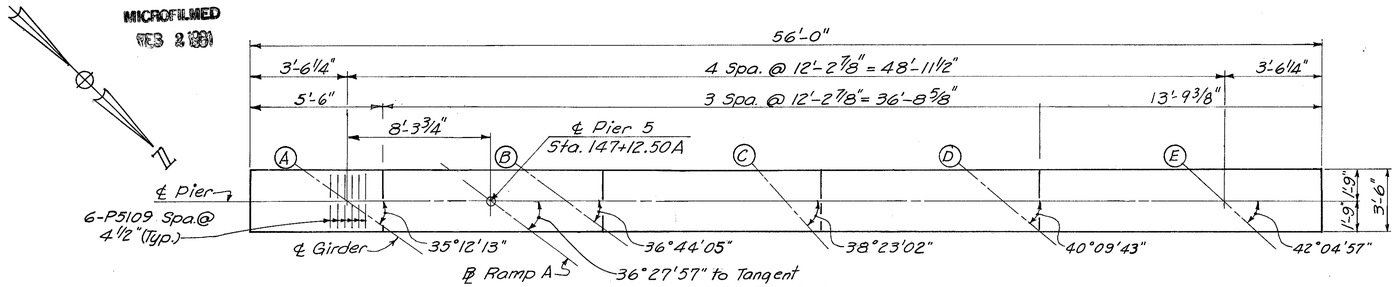
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
PRD	AK	VWS	JWH OAF	JWH 11-21-72	

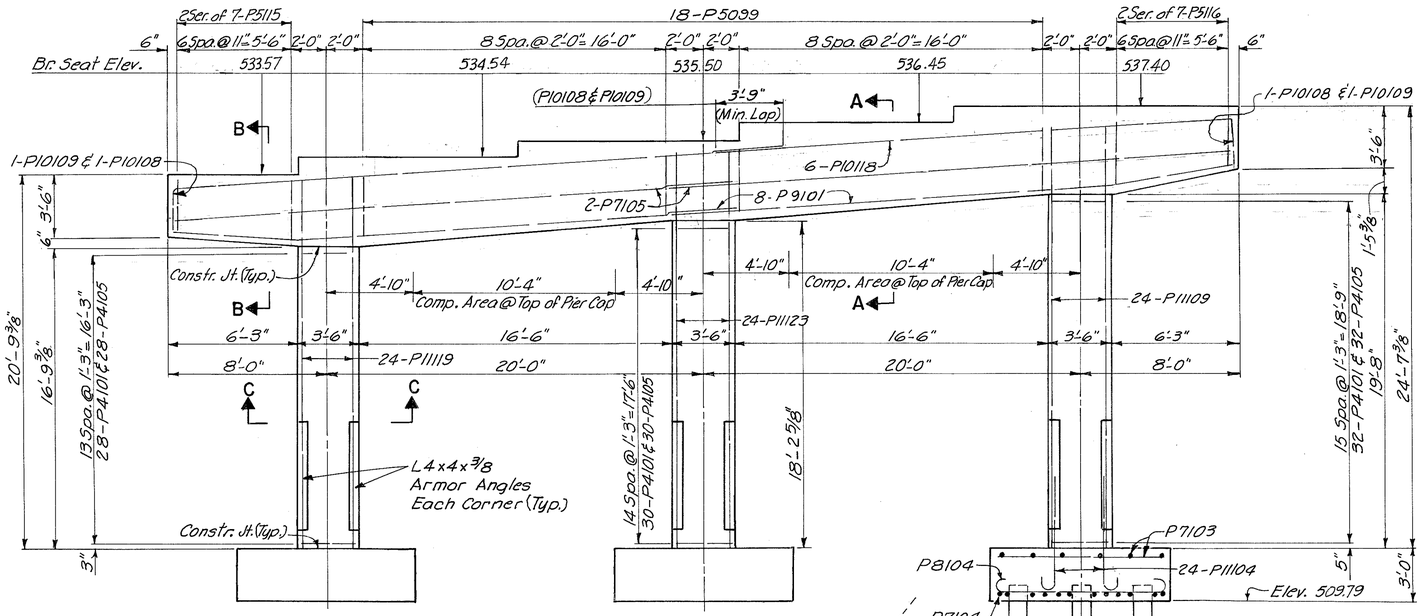
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

371
494

HAMILTON COUNTY
HAM-471-0.30



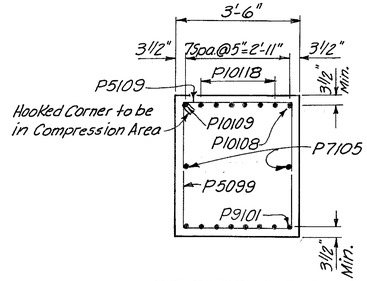
CAP PLAN



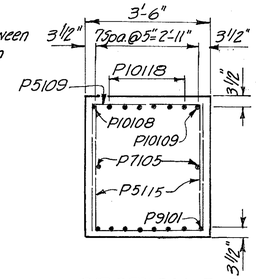
ELEVATION

FOOTING PLAN

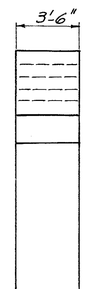
Dimensions & Reinforcing steel shown are typical all footings this pier.

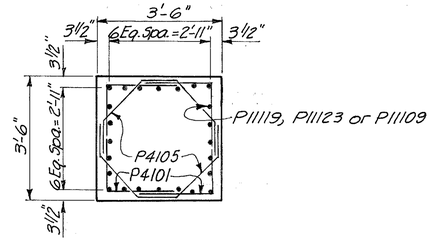


SECTION A-A

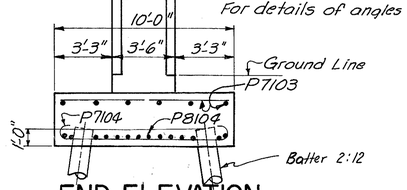


SECTION B-B





SECTION C-C



END ELEVATION

Notes:

All Piles shall be 12" Cast-In-Place Reinforced Concrete.

Clearance shall be 3 inches minimum to all surfaces of the footings and 2 inches minimum elsewhere, for reinforcing steel.

The Contractor shall locate the existing footing before driving piles for the proposed footing. Care shall be exercised in driving prop. piles and constructing prop. footing so as not to damage the existing footing or piles.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

13/31

PIER NO. 5
BRIDGE NO. HAM-471-0047

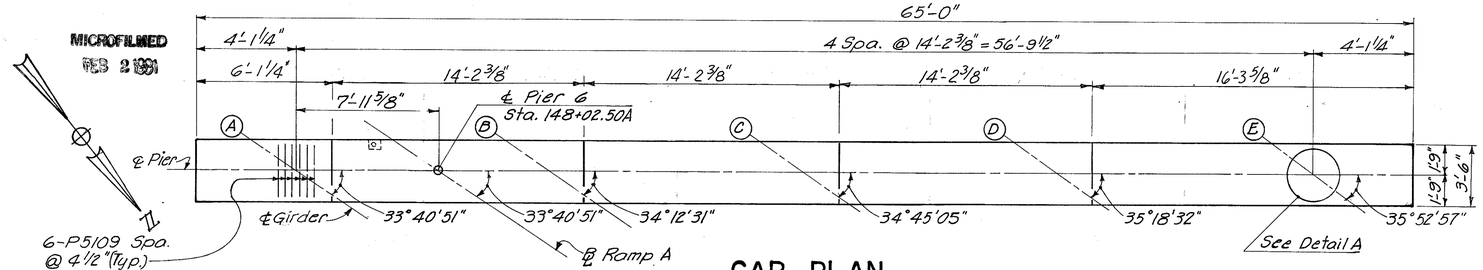
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JWH	AK	VWS	JWH OAF	JWH 11-21-72	

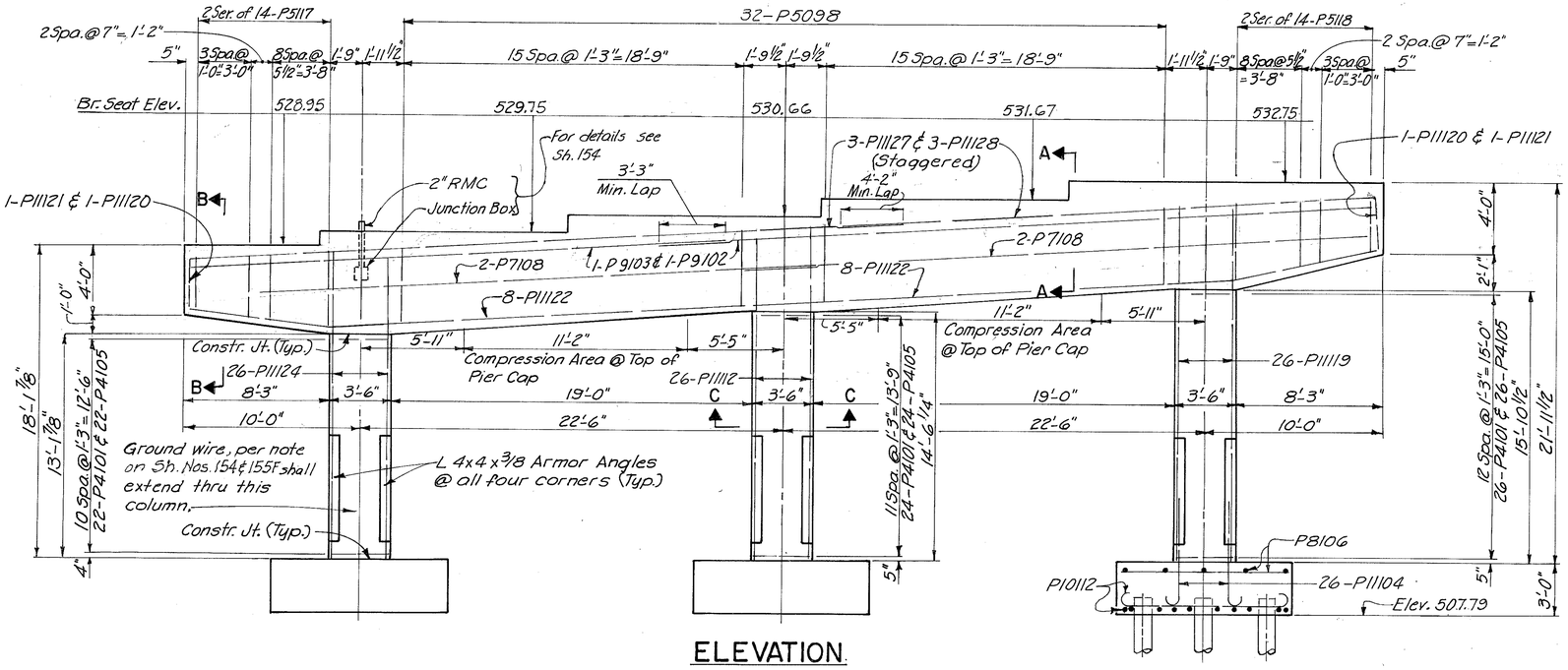
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

372
494

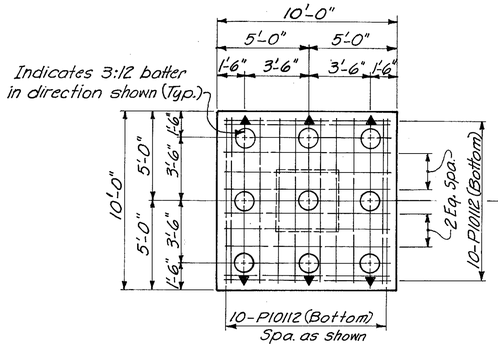
HAMILTON COUNTY
HAM-471-0.30

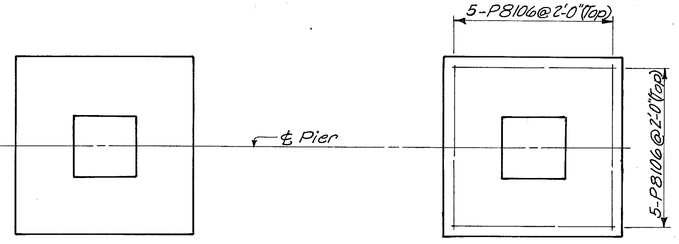


CAP PLAN



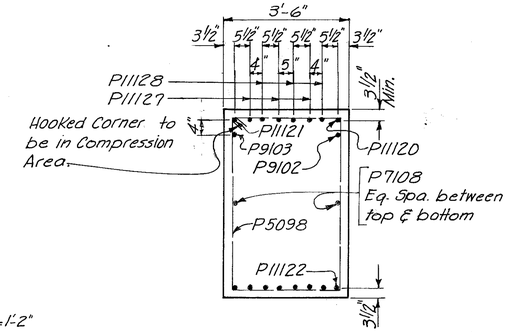
ELEVATION



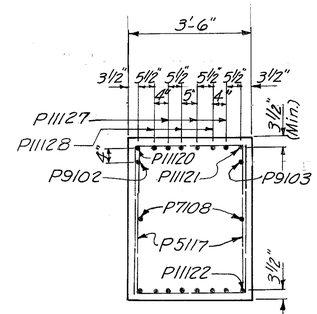


FOOTING PLAN

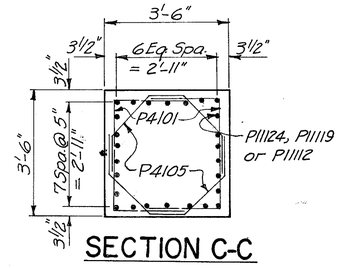
Dimensions & reinforcing steel shown are typical all footings this pier.



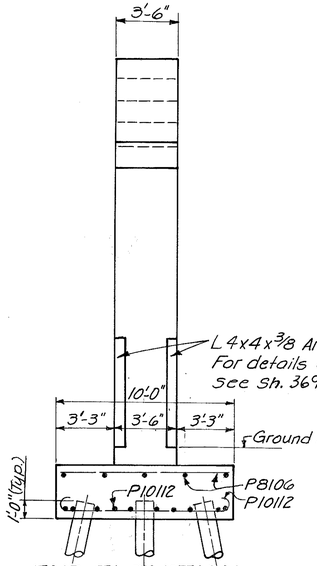
SECTION A-A



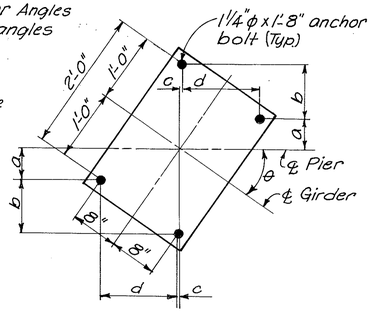
SECTION B-B



SECTION C-C



END ELEVATION



DETAIL A

Girder	Angle θ	a	b	c	d
A	33°40'51"	5½"	8⅛"	0	1'-1¼"
B	34°12'31"	5⅜"	9"	1⅛"	1'-1¼"
C	34°45'04"	5¼"	9⅛"	1¼"	1'-1⅛"
D	35°18'32"	5⅛"	9¼"	3⅛"	1'-1⅛"
E	35°52'57"	5"	9⅜"	1½"	1'-1"

Notes:

All Piles shall be 12" Cast-in-Place Reinforced Concrete.

Special care shall be taken in placing reinforcing steel in the cap so that it will not interfere with the drilling of Anchor Bolt holes.

Clearance shall be 3 inches minimum to all surfaces of the footings and 2 inches minimum elsewhere, for reinforcing steel.

Junction box & 2" R.M.C. is included with Item 625 for payment.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

14/31

PIER NO. 6
BRIDGE NO. HAM-471-0047

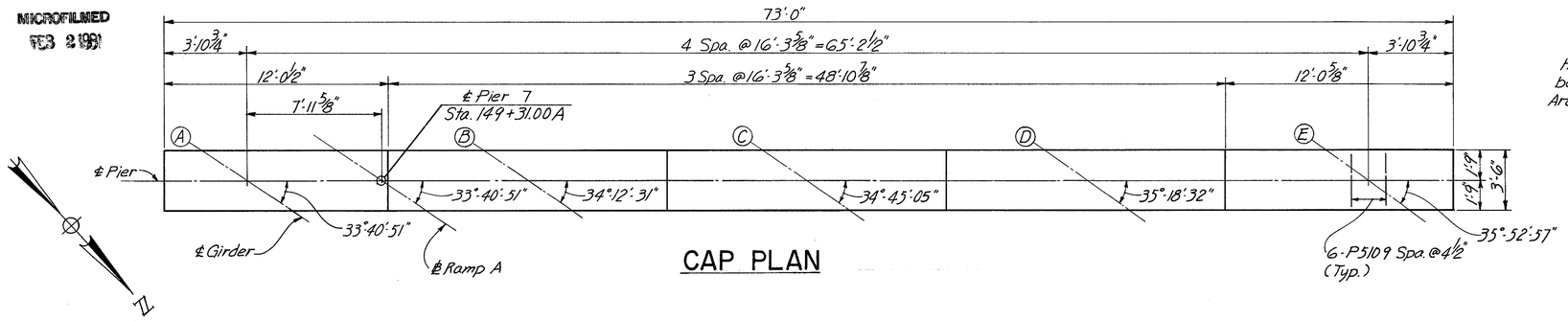
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JWH	AK	VWS	JWH OAF	JHO 11-21-72	

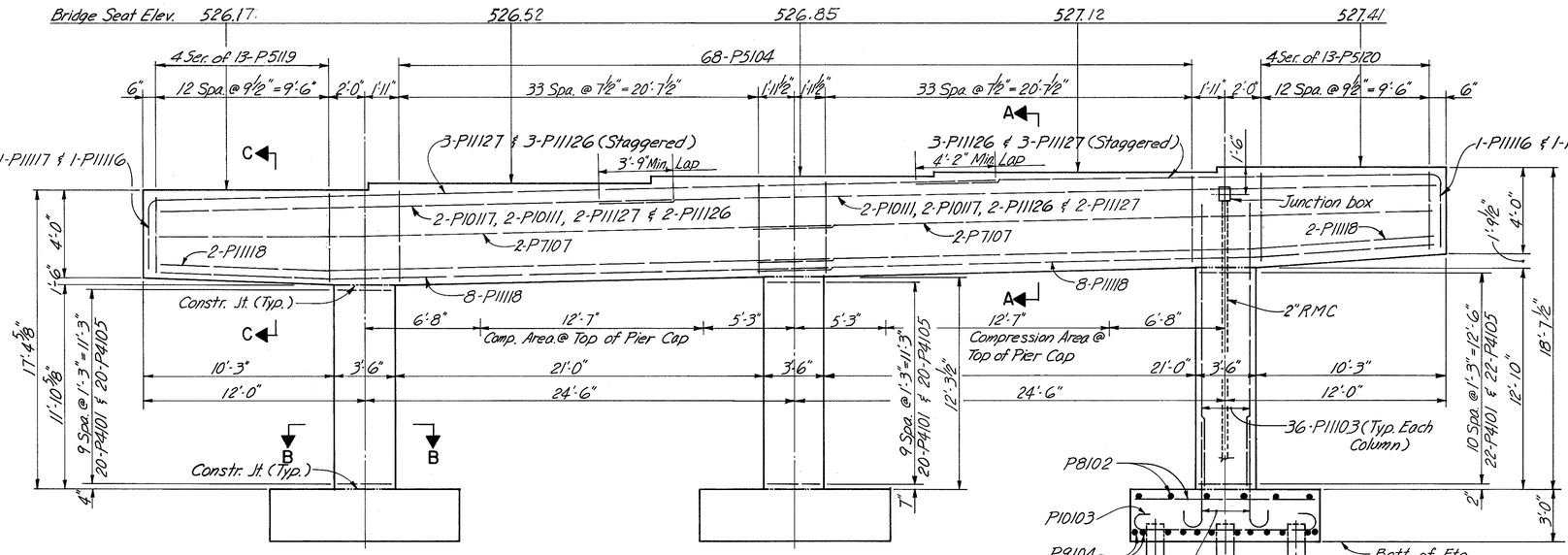
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

HAMILTON COUNTY
HAM-471-0.30

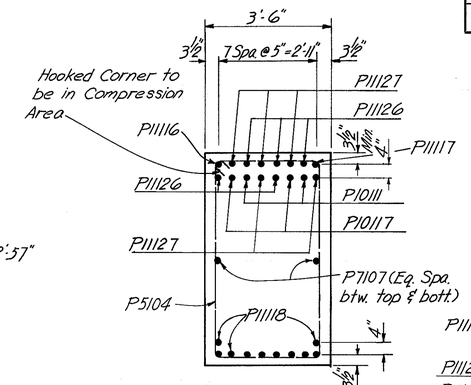
373
494



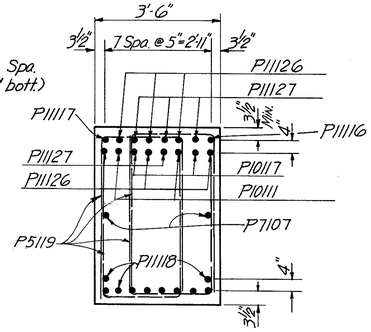
CAP PLAN



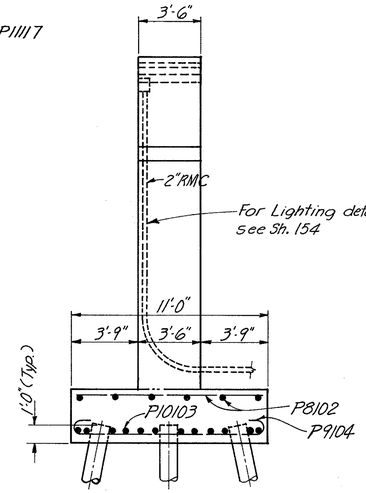
ELEVATION



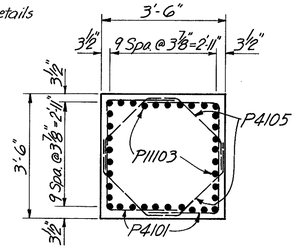
SECTION A-A



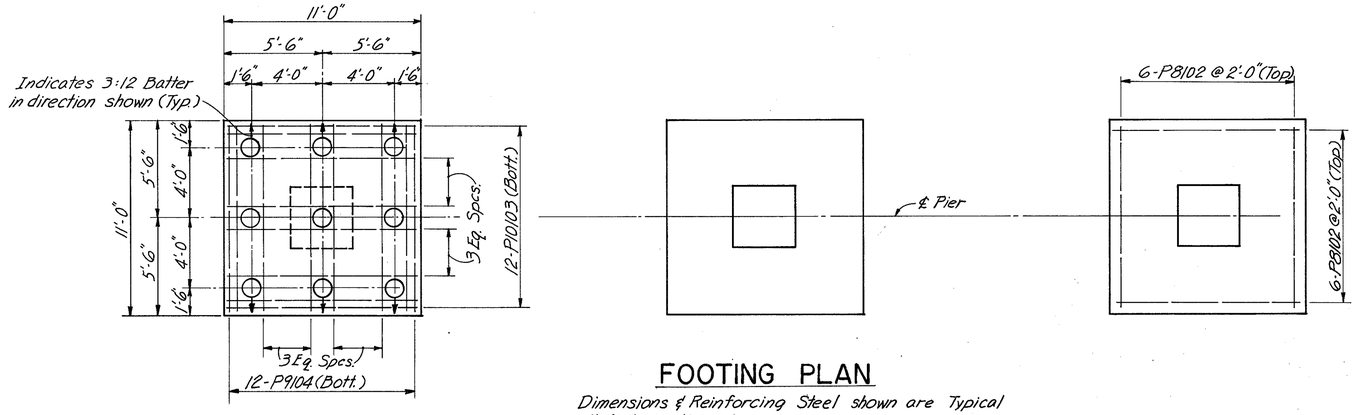
SECTION C-C



END ELEVATION



SECTION B-B



FOOTING PLAN

Dimensions & Reinforcing Steel shown are Typical all footings this pier.

Notes:

All piles shall be 12" Cast-in-Place Reinforced Concrete.

For connection of downspouts to piers, see sheet No. 388.

Clearance shall be 3 inches minimum to all surfaces of the footings and 2 inches minimum elsewhere, for reinforcing steel.

Junction Box & 2"R.M.C. shall be included in Item 625 for payment.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

15/31

PIER NO. 7

BRIDGE NO. HAM.-471-0047

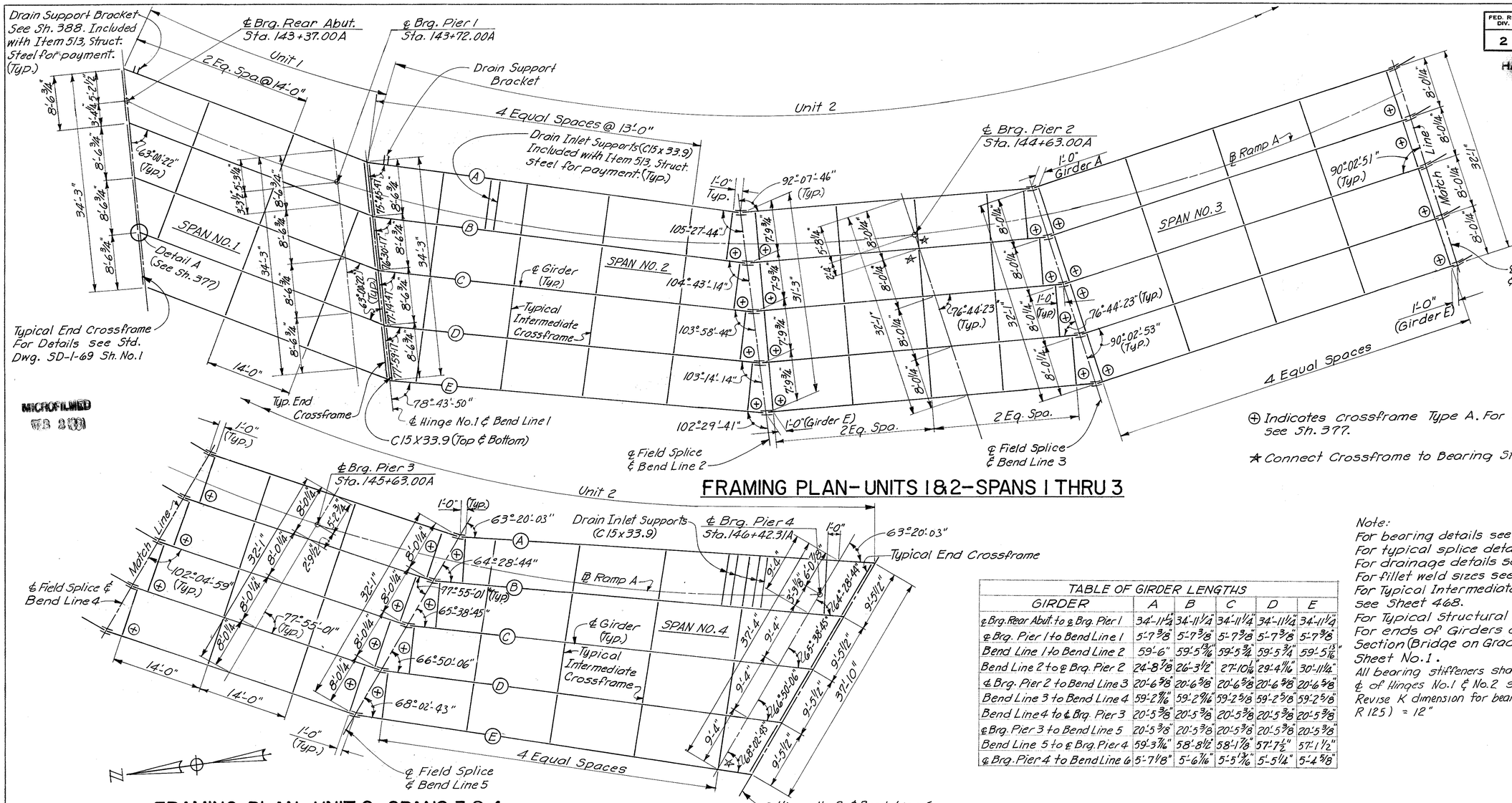
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JWH	AK	SL	JWH OAF	JHO 11-21-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

374
494

HAMILTON COUN
HAM-471-0.30



FRAMING PLAN - UNITS 1 & 2 - SPANS 1 THRU 3

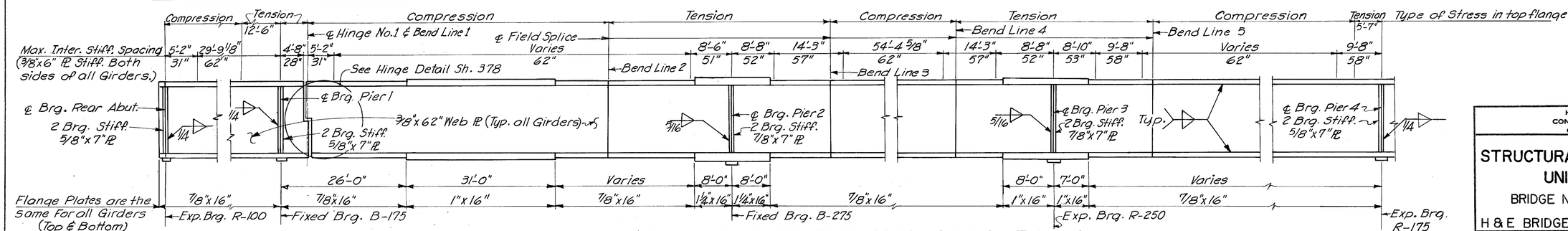
FRAMING PLAN - UNIT 2 - SPANS 3 & 4

⊕ Indicates Crossframe Type A. For Details see Sh. 377.

★ Connect Crossframe to Bearing Stiffener.

TABLE OF GIRDER LENGTHS					
GIRDER	A	B	C	D	E
℄ Brg. Rear Abut. to ℄ Brg. Pier 1	34'-11¼"	34'-11¼"	34'-11¼"	34'-11¼"	34'-11¼"
℄ Brg. Pier 1 to Bend Line 1	5'-7 3/8"	5'-7 3/8"	5'-7 3/8"	5'-7 3/8"	5'-7 3/8"
Bend Line 1 to Bend Line 2	59'-6"	59'-5 7/16"	59'-5 3/4"	59'-5 3/4"	59'-5 13/16"
Bend Line 2 to ℄ Brg. Pier 2	24'-8 7/8"	26'-3 1/2"	27'-10 1/16"	29'-4 7/16"	30'-11¼"
℄ Brg. Pier 2 to Bend Line 3	20'-6 3/8"	20'-6 3/8"	20'-6 3/8"	20'-6 3/8"	20'-6 3/8"
Bend Line 3 to Bend Line 4	59'-2 7/16"	59'-2 7/16"	59'-2 5/16"	59'-2 5/16"	59'-2 5/16"
Bend Line 4 to ℄ Brg. Pier 3	20'-5 3/8"	20'-5 3/8"	20'-5 3/8"	20'-5 3/8"	20'-5 3/8"
℄ Brg. Pier 3 to Bend Line 5	20'-5 3/8"	20'-5 3/8"	20'-5 3/8"	20'-5 3/8"	20'-5 3/8"
Bend Line 5 to ℄ Brg. Pier 4	59'-3 7/16"	58'-8 1/2"	58'-1 7/8"	57'-7 1/2"	57'-1 1/2"
℄ Brg. Pier 4 to Bend Line 6	5'-7 1/8"	5'-6 7/16"	5'-5 7/16"	5'-5 1/4"	5'-4 5/8"

Note:
For bearing details see Standard Drawing RB-1-55.
For typical splice details see Sheet 375
For drainage details see Sheets 387 & 388.
For fillet weld sizes see table Sheet 468.
For Typical Intermediate crossframe details see Sheet 468.
For Typical Structural Steel Details see Sheet 468.
For ends of Girders at Abutments, see Longitudinal Section (Bridge on Grade) Standard Drawing SD-1-69 Sheet No. 1.
All bearing stiffeners shall be vertical in final position.
℄ of Hinges No. 1 & No. 2 shall be vertical in final position.
Revise K dimension for bearings at the Abutments (R 100 and R 125) = 12"



TYPICAL GIRDER ELEVATION SPANS 1 THRU 4

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

16/31

STRUCTURAL STEEL DETAILS UNITS NO. 1 & 2

BRIDGE NO. HAM-471-0047

H & E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
J.W.H.	G.N.P	V.W.S.	P.R.D.	JHO 11-29-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

375
494

HAMILTON COUNTY
HAM-471-0.30

Typical End Crossframes See Std. Dwg. SD-1-69 Sh. No.1

Unit 3

℄ Brg. Pier 4 Sta. 146+42.31A

℄ Brg. Pier 5 Sta. 147+12.50A

P.T. 147+23.68A

℄ Brg. Pier 6 Sta. 148+02.50A

Drain Support Bracket See Sh. 388 Included with Item 513, Structural Steel for payment.

℄ Ramp A

SPAN NO. 5

SPAN NO. 6

Intermediate Crossframe (Typ.)

℄ Girder (Typ.)

C15x33.9 Top & Bottom (Typ.) 3 Eq. Spaces For Girder Lengths, See Table

1'-0" (Typ.)

For Girder Lengths, See Table

℄ Field Splice & Bend Line 7

℄ Field Splice & Bend Line 8

PART FRAMING PLAN-UNIT 3-SPANS 5&6

TABLE OF GIRDER LENGTHS					
GIRDER	A	B	C	D	E
℄ Brg. Pier 4 to Bend Line 6	5'-7 1/8"	5'-6 7/16"	5'-5 13/16"	5'-5 1/4"	5'-4 3/8"
Bend Line 6 to Bend Line 7	50'-11 15/16"	49'-1"	47'-2 5/16"	45'-4"	43'-6"
Bend Line 7 to ℄ Brg. Pier 5	15'-7 3/8"	15'-0 5/8"	14'-5 15/16"	13'-11 7/16"	13'-5 1/8"
℄ Brg. Pier 5 to Bend Line 8	17'-4 1/8"	16'-8 3/8"	16'-1 1/4"	15'-6 1/16"	14'-11"
Bend Line 8 to ℄ Brg. Pier 6	72'-4 7/16"	71'-4 11/16"	70'-4 15/16"	69'-5 3/8"	68'-5 13/16"

℄ Hinge No.2 & Bend Line 6

Max. Inter. Stiff. Spacing (3/8"x6" ℞ Stiff. both sides of all Girders)

Varies / Tension / Varies / 30"

Compression / Varies / 62"

Tension / 9'-6" / 57"

Tension / 9'-6" / 57"

Compression / Varies / 62"

Tension 17'-4" / 9'-6" / 57" / 8'-8" / 52"

Type of stress in top flange

2 Brg. Stiff. 5/8"x7" ℞

1/4

3/8"x62" Web ℞ (Typ. all Girders)

See Hinge Detail Sh. 378

1/4

2 Brg. Stiff. 5/8"x7" ℞

Typ.

Shop web splice

5'-0"

Bushing (Girder "A" only)

Midpoint of web

2 Brg. Stiff. 7/8"x7" ℞

5/16

Fixed Brg. B-300

℄ Brg. Pier 4

Exp. Brg. R-175

℄ Brg. Pier 5

Exp. Brg. R-200

13'-0"

℄ Brg. Pier 6

Varies / 7/8"x16"

Varies / 7/8"x16"

1 1/2"x16"

Flange plates are the same for all girders (top & bottom)

TYPICAL GIRDER ELEVATION

Notes:
For bearing details see Standard Dwg. RB-1-55.

For Stiffener Details see Sh. 468.

Crossframes shall be spaced not more than 15'-0" from adjacent Crossframes.

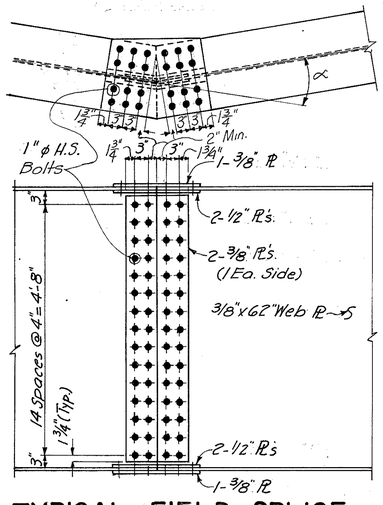
For Intermediate Crossframe details see Sh. 468

For Typical Structural Steel details see Sh. 468

⊕ Indicates Crossframe Type A. For details See Sh. 377.

For Deflection and Camber Table see sh. 376.

For additional notes see Sh. 374.

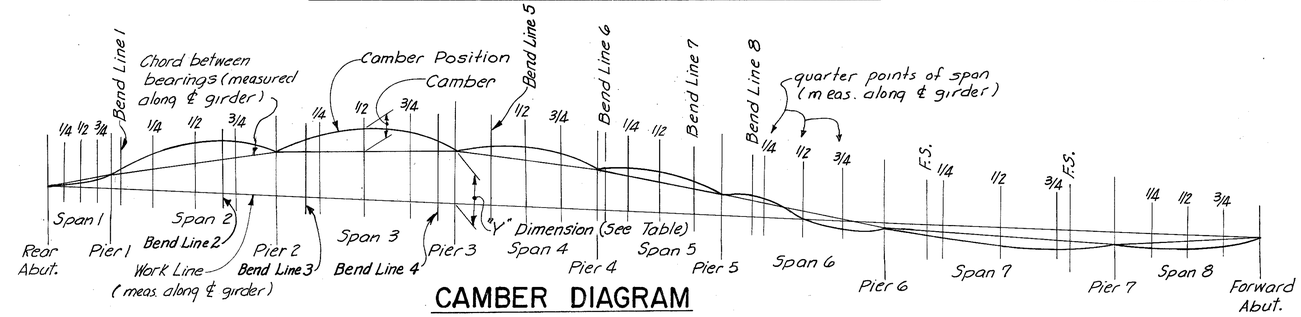


TYPICAL FIELD SPLICE

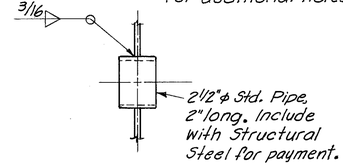
See Deflection Angle Table Sh. 377

Contact surface of splice shall be free from all oil or paint.

Y DIMENSIONS (SEE DIAGRAM BELOW)							
GIRDER \ POINT	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	Pier 7
A	2'-3"	6'-5 1/2"	7'-9"	6'-1 1/2"	3'-2 1/4"	-1 3/8"	-1'-5 3/8"
B	2'-2 3/4"	6'-4 1/2"	7'-8 3/8"	6'-3 7/8"	3'-7 5/8"	2 1/8"	-1'-6 3/8"
C	2'-2 7/8"	6'-3 5/8"	7'-8 3/8"	6'-6 1/2"	4'-1 5/8"	7/8"	-1'-7"
D	2'-2 3/4"	6'-4"	7'-10 1/4"	6'-11 1/4"	4'-10 3/8"	1'-6 3/8"	-1'-3 3/4"
E	2'-3"	6'-4 7/8"	8'-1"	7'-5 3/8"	5'-8 3/8"	2'-7 3/16"	-10 3/8"



CAMBER DIAGRAM



SECTION G-G

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

17/31

STRUCTURAL STEEL DETAILS
UNIT NO. 3
BRIDGE NO. HAM-471-0047

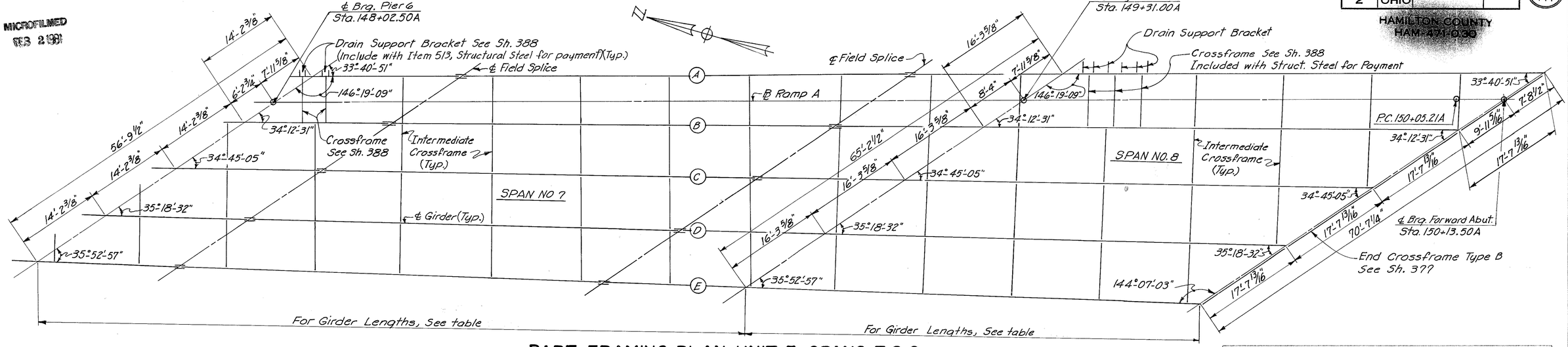
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
J.W.H.	G.N.P.	V.W.S.	P.R.D.	J40 11-29-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

HAMILTON COUNTY
HAM-471-0.30

376
494



PART FRAMING PLAN-UNIT 3-SPANS 7 & 8

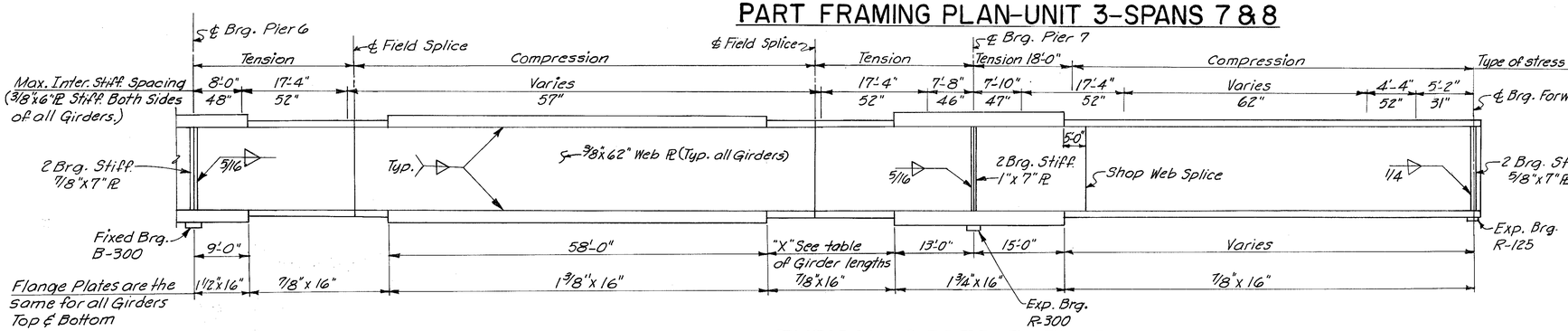


TABLE OF GIRDER LENGTHS					
GIRDER	A	B	C	D	E
℄ Brg. Pier 6 to ℄ Splice	25'-8 3/8"	25'-4 1/4"	25'-0"	24'-7 7/8"	24'-3 3/4"
℄ Splice to ℄ Splice	77'-1 1/4"	76'-0 9/16"	75'-0 1/4"	73'-11 13/16"	72'-11 1/2"
℄ Splice to ℄ Brg. Pier 7	25'-8 3/8"	25'-4 1/4"	25'-0"	24'-7 7/8"	24'-3 3/4"
℄ Brg. Pier 7 to ℄ Brg. Ford. Abut	82'-3 5/16"	81'-1 7/8"	80'-0 9/16"	78'-11 7/16"	77'-10 1/8"
"X"	22'-3"	21'-4 1/2"	20'-6 1/8"	19'-7 3/4"	18'-9 1/2"

Note:
For bearing details see Standard Drawing RB-1-55.

For typical Splice detail see Sh. 375.

For fillet weld sizes see table, Sh. 468.

Crossframes shall be spaced not more than 15'-0" from adjacent crossframes.

For Intermediate crossframe details see Sh. 468.

For Typical Structural Steel Details see Sh 468.

For Camber Diagram See Sh. 375.

For additional notes see Sh. 374.

Negative deflection indicates upward deflection.

Negative adjustment for vertical curve, horizontal curve, and superelevation transition indicates a downward adjustment.

Negative camber indicates downward camber.

All dimensions in Camber and Deflection table are given in inches.

TYPICAL GIRDER ELEVATION

		DEFLECTION AND CAMBER																																				
		UNIT 1			UNIT 2														UNIT 3																				
	Girder	Span 1			Span 2					Span 3					Span 4			Span 5				Span 6				Span 7								Span 8					
		1/4	1/2	3/4	Bend	1/4	1/2	Bend 2	3/4	Bend 3	1/4	1/2	3/4	Bend 4	Bend 5	1/2	3/4	Bend 6	1/4	1/2	Bend	Bend 8	1/4	1/2	3/4	Splice	1/4	1/2	3/4	Splice	1/4	1/2	3/4						
Deflection due to weight of steel	A	0	0	0	0	1/16	1/8	1/16	1/16	0	1/16	1/8	1/16	1/16	0	1/16	1/16	0	0	0	0	0	0	0	0	1/8	3/16	1/4	1/4	1/8	0	1/16	1/16						
	B	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕						
	C	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕						
	D	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕						
	E	0	0	0	0	1/16	1/8	1/16	1/16	0	1/16	1/8	1/16	1/16	0	1/16	1/16	0	0	0	0	0	0	0	0	1/8	3/16	1/4	1/4	1/8	0	1/16	1/16						
Deflection due to remaining dead load	A	0	0	0	0	7/16	5/8	3/8	5/16	1/8	1/4	7/16	1/4	3/16	1/8	1/4	1/4	-1/16	1/16	1/8	1/16	0	1/16	0	-1/8	1 1/16	7/8	1 5/16	3/4	9/16	0	1/4	1/4						
	B	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕						
	C	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕						
	D	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕						
	E	0	0	0	0	7/16	5/8	3/8	5/16	1/8	1/4	7/16	1/4	3/16	1/8	1/4	1/4	-1/16	1/16	1/8	1/16	0	1/16	0	-1/8	1 1/16	7/8	1 5/16	3/4	9/16	0	1/4	1/4						
Adjustment required for Vertical Curve, Horizontal Curve, and Superelevation Transition	A	-3/8	-1/2	-3/8	1 3/8	2 9/16	3 7/8	4 1/4	3 7/8	4 3/8	4 1/2	5	4 5/16	4 1/8	3 9/16	2 7/8	1 15/16	7/8	5/16	-1/4	1/2	-1/4	-3/8	-1	-1 5/16	-4 1/2	-5 1/4	-6 5/8	-5 1/4	-4 1/2	-1 1/2	-1 1/2	-1 5/16						
	B	-5/16	-7/16	-1/4	1 3/8	2 7/16	3 9/16	4 1/8	3 5/8	4 3/16	4 5/16	4 1/2	4 1/8	4	3 3/16	2 9/16	1 7/16	15/16	1 1/16	3/16	1 1/16	1/4	3/16	-1/16	-1/2	-5 1/16	-5 1/16	-8 3/16	-6 3/16	-5 1/4	-1 15/16	-2 1/4	-1 1/4						
	C	-5/16	-5/16	-1/8	1 3/8	2 3/8	3 7/16	4	3 3/8	4 1/16	4 1/8	4 5/16	4	3 7/8	2 7/8	2 1/4	1 1/4	1	15/16	9/16	13/16	11/16	7/8	11/16	1/4	-5 1/4	-6 3/16	-8 7/8	-7 9/16	-6 5/16	-2 3/16	-2 7/8	-2						
	D	-1/4	-1/4	-1/16	1 3/8	2 5/16	3 5/16	3 13/16	3 1/8	4	4	4 1/8	3 7/8	3 3/4	2 9/16	1 15/16	1 1/16	1 1/16	1 1/16	13/16	1 5/16	15/16	1 1/8	1 5/8	7/8	-4 15/16	-5 7/8	-8 3/8	-7 1/16	-7 1/16	-2 3/8	-3 1/16	-2 3/16						
	E	-3/16	-1/8	0	15/16	2 1/4	3 3/16	3 11/16	2 7/8	3 9/16	3 7/8	3 15/16	3 3/4	3 3/8	2 3/16	1 11/16	7/8	1/2	1 1/8	1 1/8	1 1/16	1	1 1/8	2 1/4	1 7/16	-4 1/8	-4 15/16	-7 1/16	-6	-5 3/8	-1 7/16	-2 3/4	-1 13/16						
Required Shop Camber	A	-3/8	-1/2	-3/8	1 3/8	3 1/16	4 5/8	4 1/16	4 1/4	4 1/2	4 13/16	5 5/16	4 5/8	4 3/8	3 1/16	3 3/16	2 1/4	13/16	3/8	-1/8	9/16	-1/4	-5/16	-1	-1 1/16	-3 1/16	-4 3/16	-5 1/16	-4 1/4	-3 13/16	-1 1/2	-1 3/16	-5/8						
	B	-5/16	-7/16	-1/4	1 3/8	2 15/16	4 5/16	4 9/16	4	4 5/16	4 3/8	5 1/16	4 7/16	4 1/4	3 5/16	2 7/8	1 3/4	7/8	3/4	5/16	3/4	1/4	1/4	-3/16	-5/8	-4 1/4	-4 7/8	-6 5/8	-5 3/16	-4 9/16	-1 15/16	-1 15/16	-1 5/16						
	C	-5/16	-5/16	-1/8	1 3/8	2 1/8	4 3/16	4 7/16	3 3/4	4 3/16	4 7/16	4 7/8	4 5/16	4 1/8	3	2 3/16	1 3/16	13/16	1	11/16	7/8	11/16	13/16	11/16	1/8	-4 7/16	-5 1/8	-7 3/16	-6 1/16	-5 5/8	-2 3/16	-2 3/16	-1 11/16						
	D	-1/4	-1/4	-1/16	1 3/8	2 13/16	4 1/16	4 1/4	3 1/2	4 1/8	4 5/16	4 11/16	4 3/16	4	2 11/16	2 1/4	1 3/8	1	1 1/8	1 1/16	1	15/16	1 3/16	1 5/8	3/4	-4 1/8	-4 13/16	-6 13/16	-6 1/16	-6 3/8	-2 3/8	-2 3/4	-1 7/8						
	E	-3/16	-1/8	0	15/16	2 3/4	3 13/16	4 1/8	3 1/4	3 11/16	4 3/16	4 1/2	4 1/16	3 7/8	2 5/16	2	1 3/16	7/16	1 3/16	1/4	1 1/8	1	1 3/16	2 1/4	1 9/16	-3 5/16	-3 7/8	-5 1/2	-5	-4 11/16	-1 7/16	-2 7/16	-1 1/2						

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

18/31

STRUCTURAL STEEL DETAILS
UNIT NO. 3
BRIDGE NO. HAM-471-0047

H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
J.W.H.	G.N.P.	V.W.S.	P.R.D.	JHO 11-29-72	

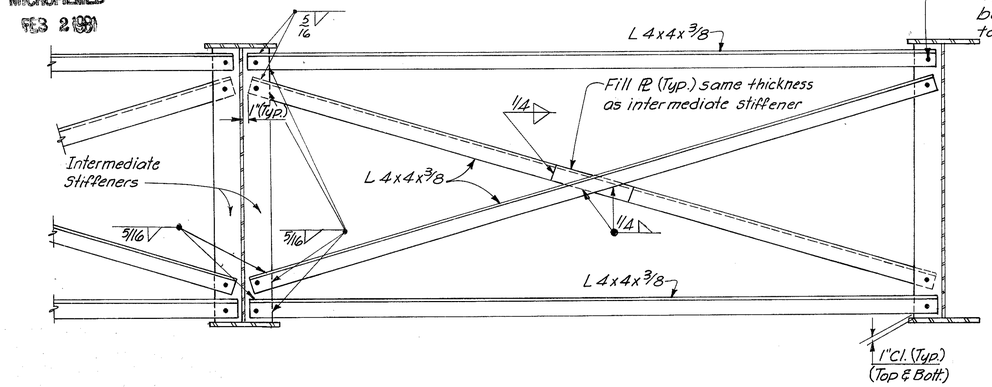
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

377
494

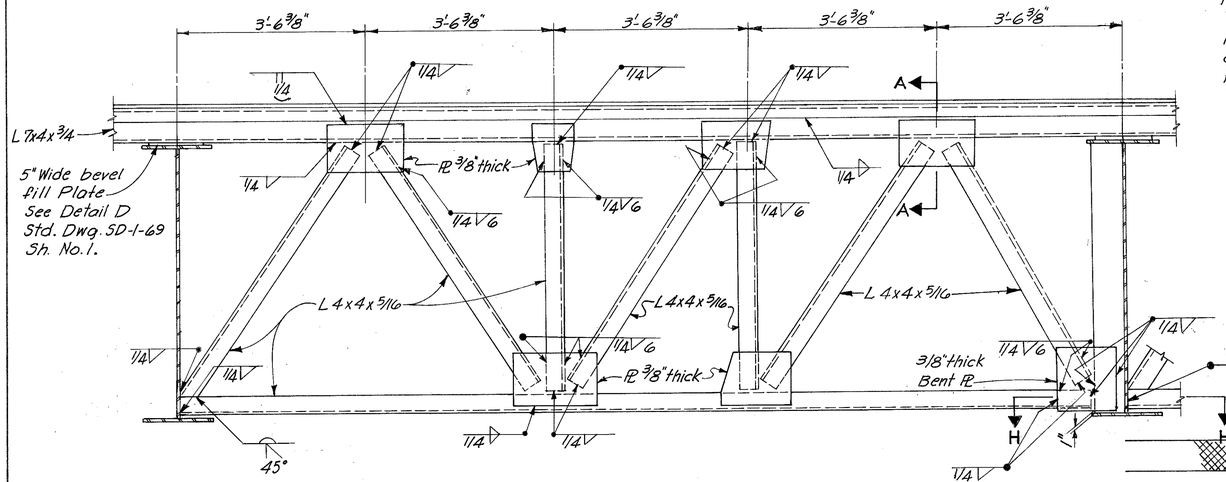
HAMILTON COUNTY
HAM-471-0.00

Provide 11/16 ϕ holes for 5/8" ϕ bolts in crossframe angles and stiffener plates, which are to be field connected before welding. If 5/8" ϕ bolts are to be left in place, they shall be tack welded.

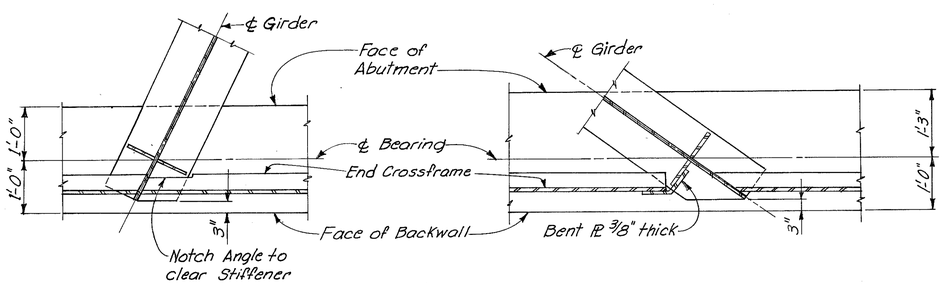
Elevations shown are at top of steel (1/4" below top of roadway.)



CROSSFRAME TYPE A

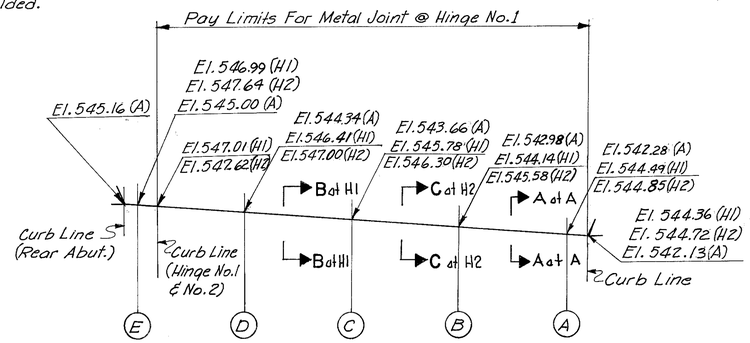


END CROSSFRAME TYPE B- FORWARD ABUTMENT



DETAIL A

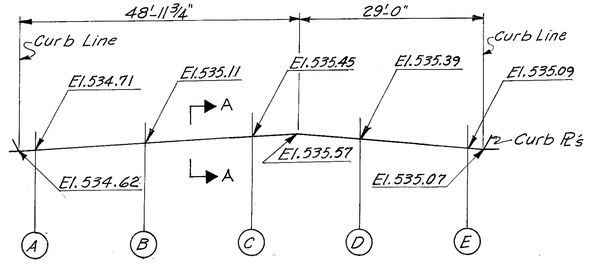
SECTION H-H



EXPANSION JOINT CROSS SECTION

Note: A= Rear Abut., H1= ℄ Hinge No. 1, H2= ℄ Hinge No. 2.

For Curb Plate Details at Rear Abut. and Hinge No. 2 See Std. Dwg. SD-1-69 Sh. No. 2. For Section B-B see Sh. 382

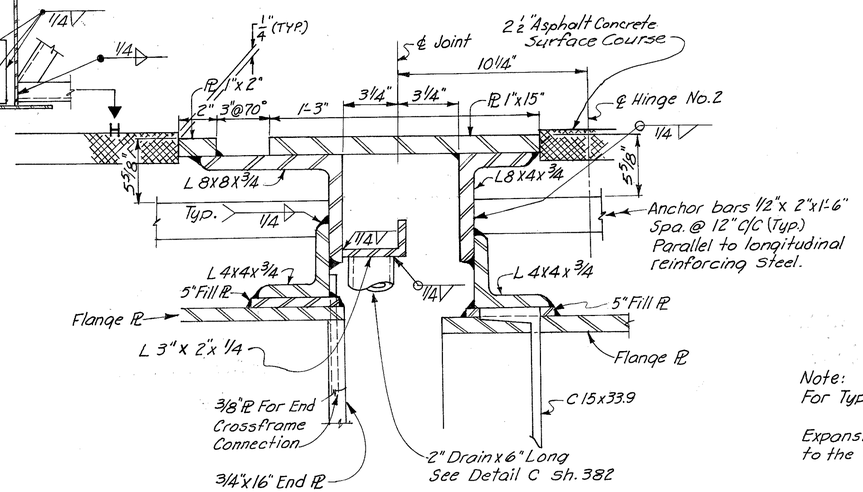


EXPANSION JOINT CROSS SECTION AT FORWARD ABUTMENT

For Curb Plate Details see Std. Drwg SD-1-69 Sh 2.
1/2"x 2"x 18" anchor bars for end dams as shown on Std. Drwg SD-1-69 Sh 1 should be revised to be 5 5/8" clear from top of steel as shown below.

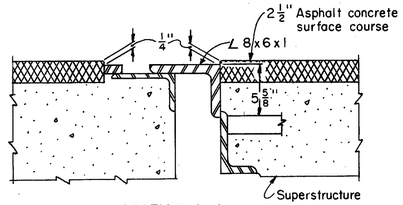
DEFLECTION ANGLE TABLE (∝)

GIRDER	HINGE	SPLICE					
	Bend Line1	Bend Line6	Bend Line2	Bend Line3	Bend Line4	Bend Line5	Bend Line7	Bend Line8
A	12°-44'-02"	14°-18'-41"	13°-20'-23"	13°-18'-11"	12°-02'-25"	14°-35'-20"	13°-48'-47"	1°-31'-29"
B	13°-28'-13"	14°-14'-08	12°-36'-12"	13°-18'-11"	12°-02'-25"	13°-26'-24"	13°-30'-23"	2°-31'-42"
C	14°-12'-25"	14°-05'-01"	11°-52'-00"	13°-18'-11"	12°-02'-25"	12°-16'-08"	13°-10'-49"	3°-38'-06"
D	14°-56'-37"	13°-50'-40	11°-07'-48"	13°-18'-11"	12°-02'-25"	11°-04'-32"	12°-50'-03"	4°-51'-21"
E	15°-40'-48	13°-30'-20"	10°-23'-37"	13°-18'-11"	12°-02'-25"	9°-51'-38"	12°-28'-06"	6°-12'-07"



SECTION C-C

At Bend Line 6- Hinge No. 2
(For other Details see Std. Dwg. SD-1-69 Sh. No. 1, Section A-A)
All Structural Steel shown in Section C-C to be included in Item 513, "Structural Steel" for payment.



SECTION A-A

(For details not shown see SD-1-69 sheet 1)
Provide 3" beveled bar at both ends of bridge regardless of grade.

Note:
For Typical Structural Steel Details see Sh. 468

Expansion Joints shall be bent in the shop to conform to the contour of the roadway slab.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

19/31

STRUCTURAL STEEL DETAILS

BRIDGE NO. HAM-471-0047

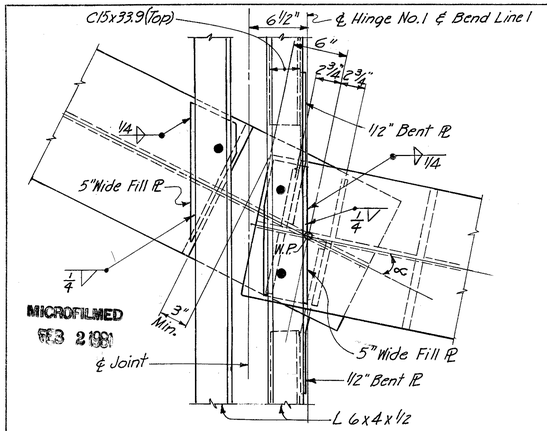
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
J.W.H.	M.S.D.	V.W.S.	T.M.	JWH 11-29-72	

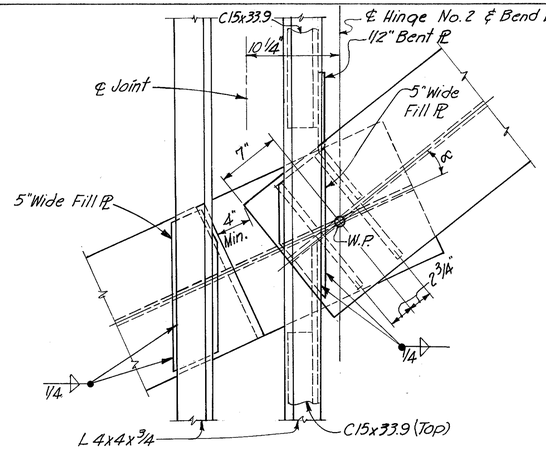
Revised 7-3-73

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

HAMILTON COUNTY
HAM-471-0047

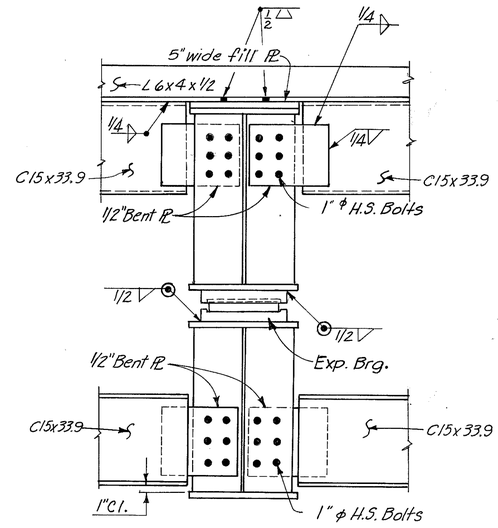


PLAN–HINGE 1 & BEND LINE 1

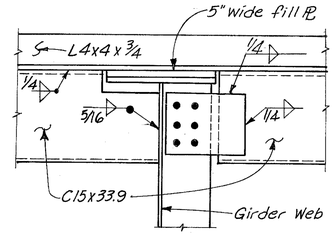


PLAN–HINGE 2 & BEND LINE 6

Note:
For Deflection Angle(∝) see Sheet 377

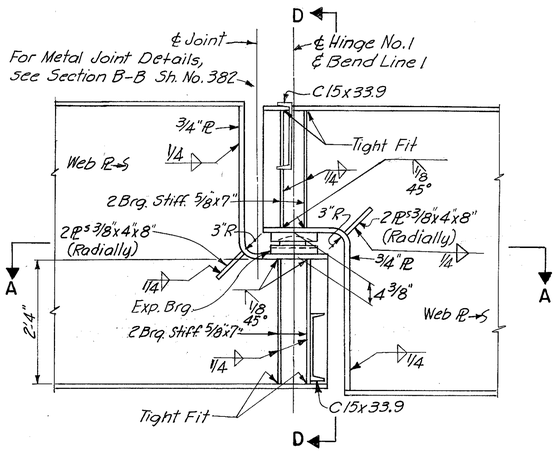


SECTION D-D

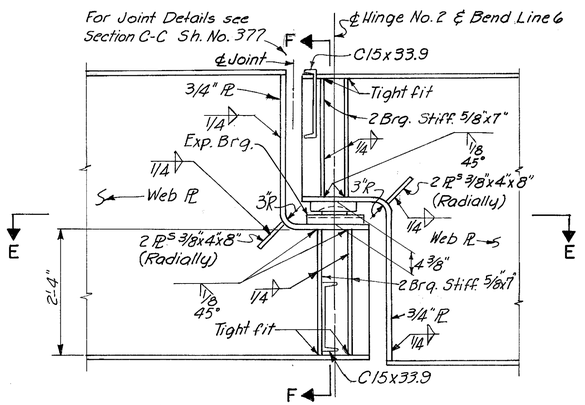


SECTION F-F

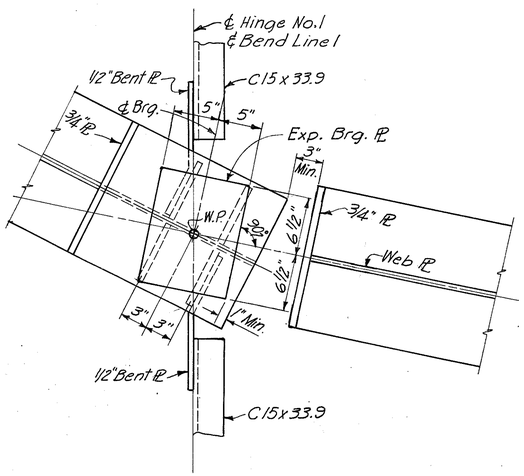
(For other Details see Section D-D)



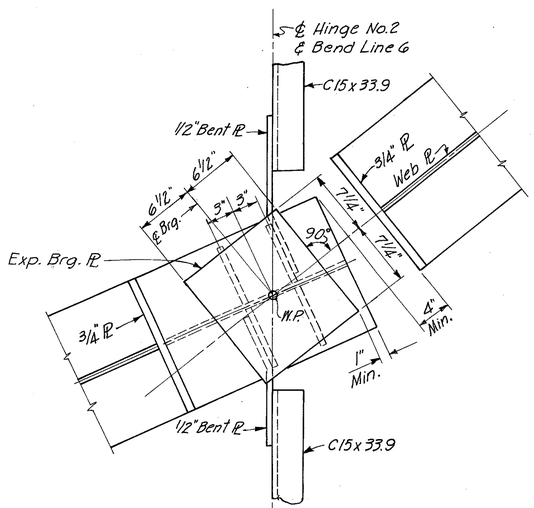
HINGE DETAIL AT BEND LINE 1



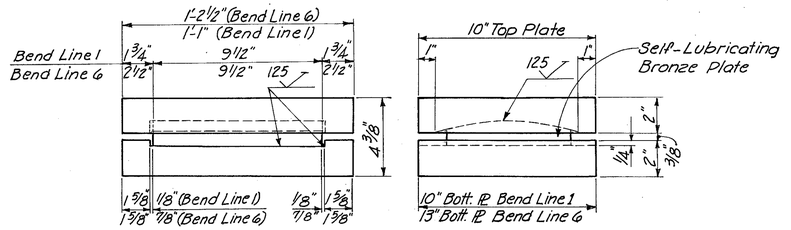
HINGE DETAIL AT BEND LINE 6



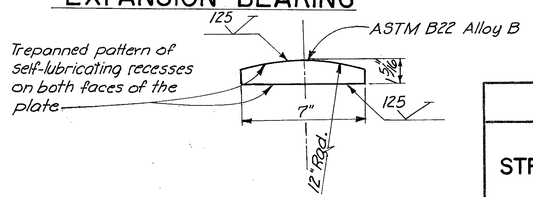
SECTION A-A



SECTION E-E



EXPANSION BEARING



SELF–LUBRICATING BRONZE PLATE DETAIL

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CINCINNATI, OHIO

20/31

STRUCTURAL STEEL DETAILS

BRIDGE NO. HAM-471-0047

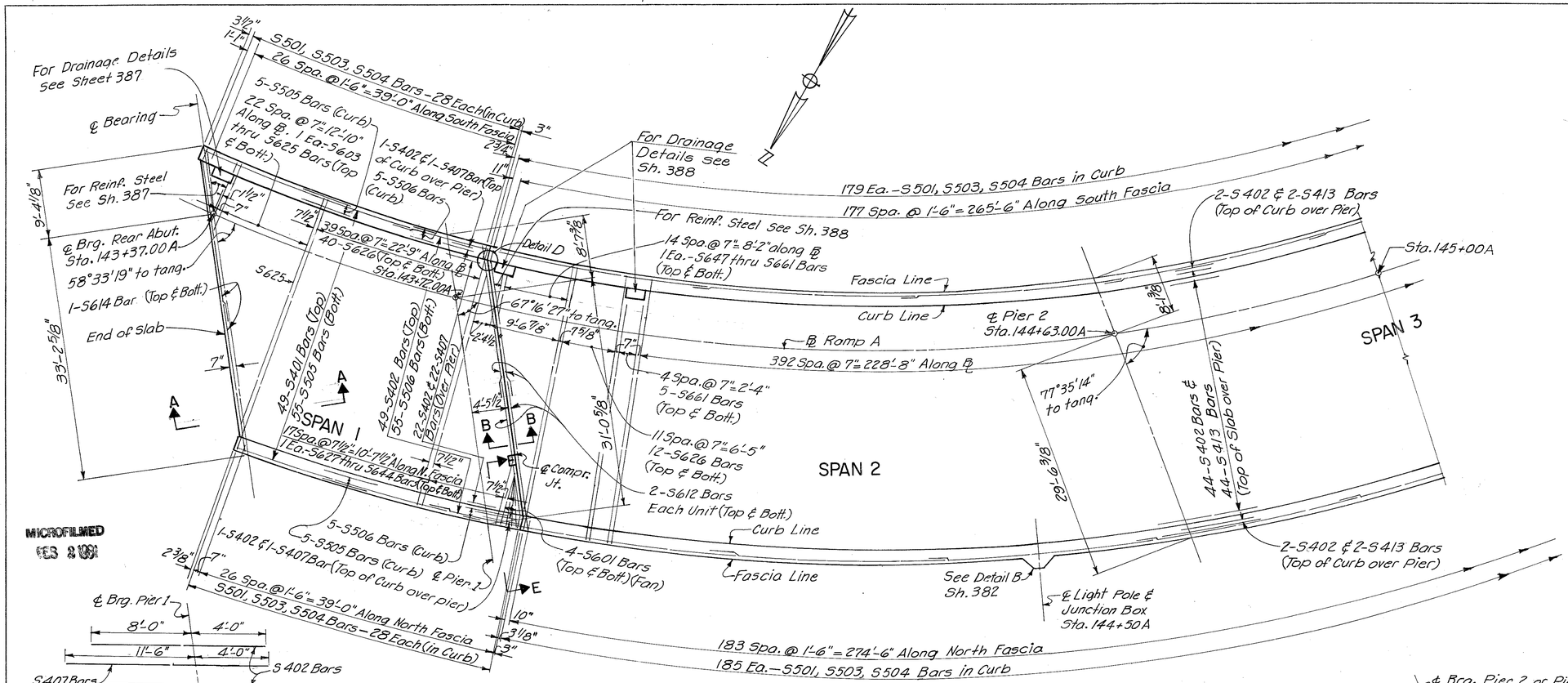
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
J.W.H.	G.N.P.	V.W.S.	T.M.	J.H.O. 11-29-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

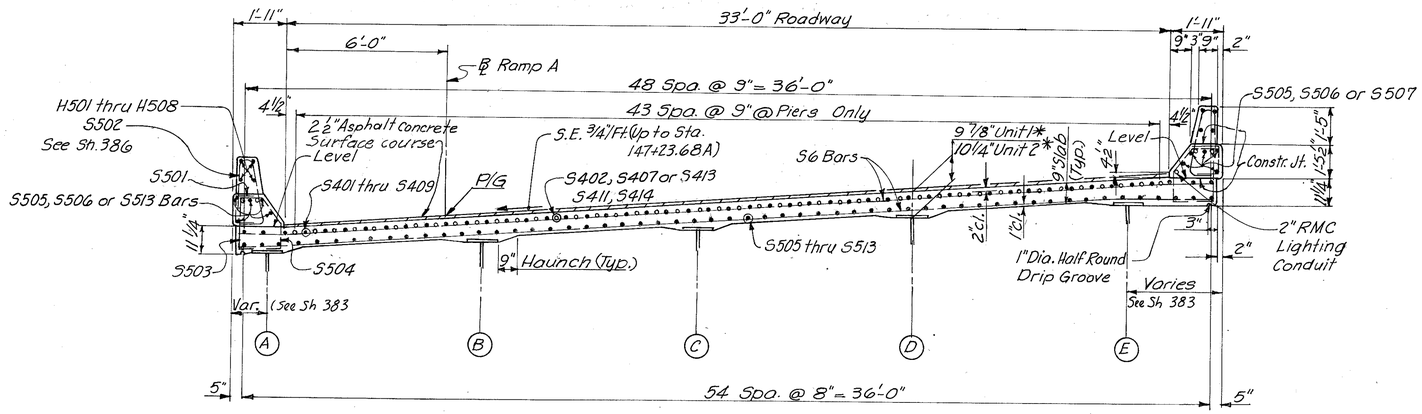
379
494

HAMILTON COUNTY
HAM-471-0.30



PLAN UNIT 1 & PART PLAN UNIT 2

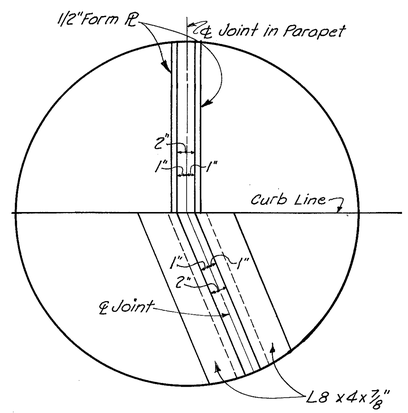
S4 BARS OVER PIER 1



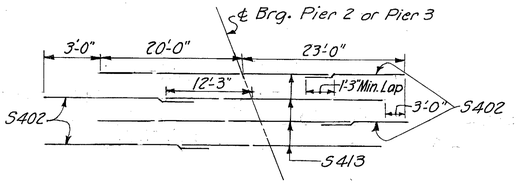
TRANSVERSE SECTION UNIT 1 & 2

• Indicates bars in section.
○ Indicates bars over piers.

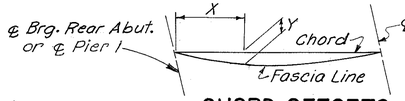
A HAUNCH WIDTH of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.



DETAIL D



S402 & S413 BARS OVER PIER 2 & PIER 3



CHORD OFFSETS

SPAN 1			
SOUTH FASCIA		NORTH FASCIA	
X	Y	X	Y
8'-9 7/8"	6 1/4"	8'-6 1/8"	5"
17'-7 7/8"	8 3/4"	17'-0 1/4"	6 3/4"
26'-5 3/4"	6 1/4"	25'-6 3/8"	5"

SPAN 2			
SOUTH FASCIA		NORTH FASCIA	
X	Y	X	Y
8'-10 5/8"	1'-7 1/8"	9'-7 1/2"	1'-7 3/8"
17'-9 1/4"	2'-10 1/8"	19'-3"	2'-10 3/8"
26'-7 7/8"	3'-8 3/4"	28'-10 3/8"	3'-9"
35'-6 1/2"	4'-3 1/4"	38'-5 7/8"	4'-3 1/2"
44'-5 1/8"	4'-5 7/8"	48'-1 3/8"	4'-5 1/8"
53'-3 3/4"	4'-3 1/4"	57'-8 7/8"	4'-3 1/2"
62'-2 1/4"	3'-8 3/4"	67'-4 1/4"	3'-9"
71'-0 7/8"	2'-10 1/8"	76'-11 3/4"	2'-10 3/8"
79'-11 1/2"	1'-7 1/8"	86'-7 1/4"	1'-7 3/8"

Notes:
For Section A-A (Showing roadway end dam), see Sheet 377
For Sections B-B & E-E, see Sh. 382
For Subdrainage and Surface Course details, see sheet 382

* This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per Sec. 511.18 of the Construction and Material Specifications.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

21/31

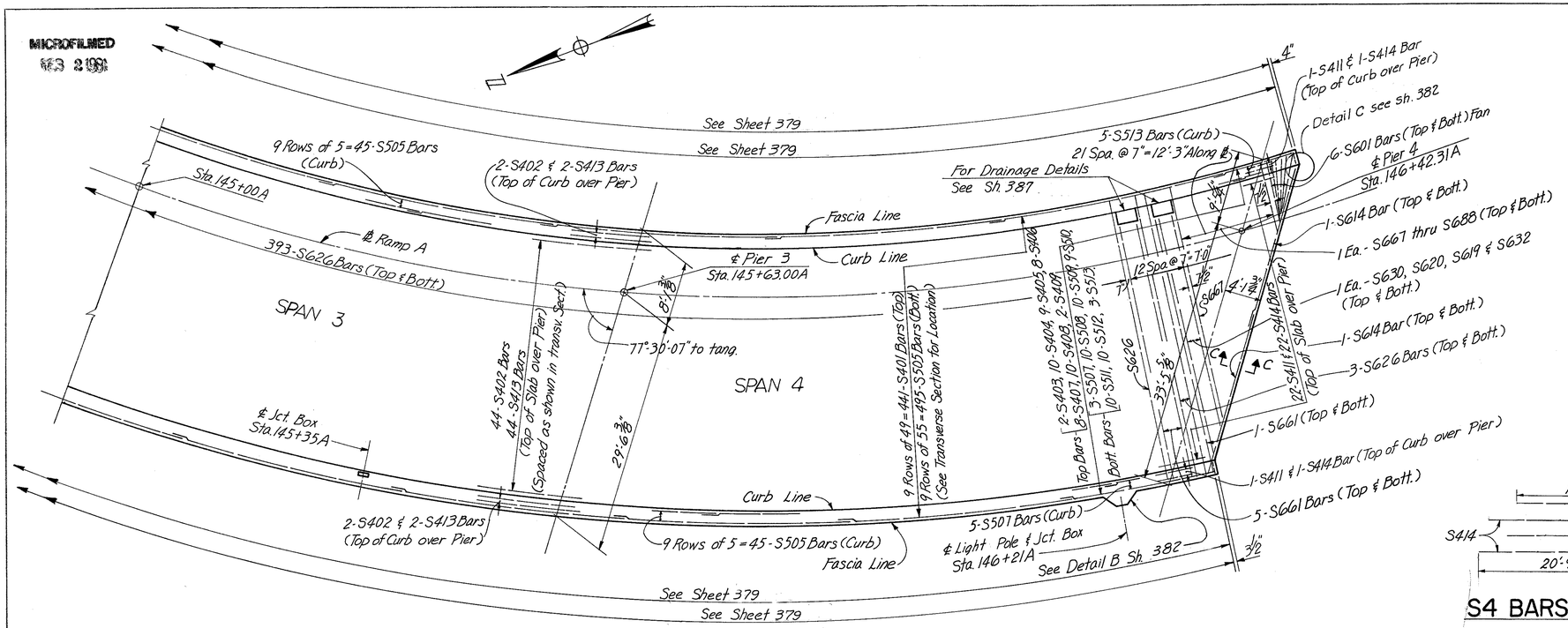
SUPERSTRUCTURE DETAILS
UNIT NO. 1&2
BRIDGE NO. HAM.-471-0047
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
OAF MSD	TM	VWS	PRD	JHO 11-21-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

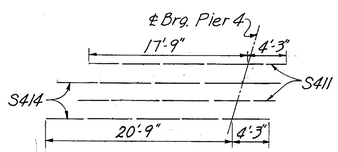
380
494

HAMILTON COUNTY
HAM-471-0.30

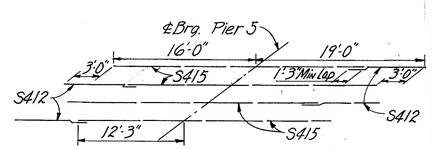


PLAN UNIT 2

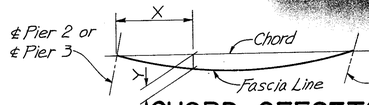
Note:
For Transverse Sections see sheet 379 and 381



S4 BARS OVER PIER 4



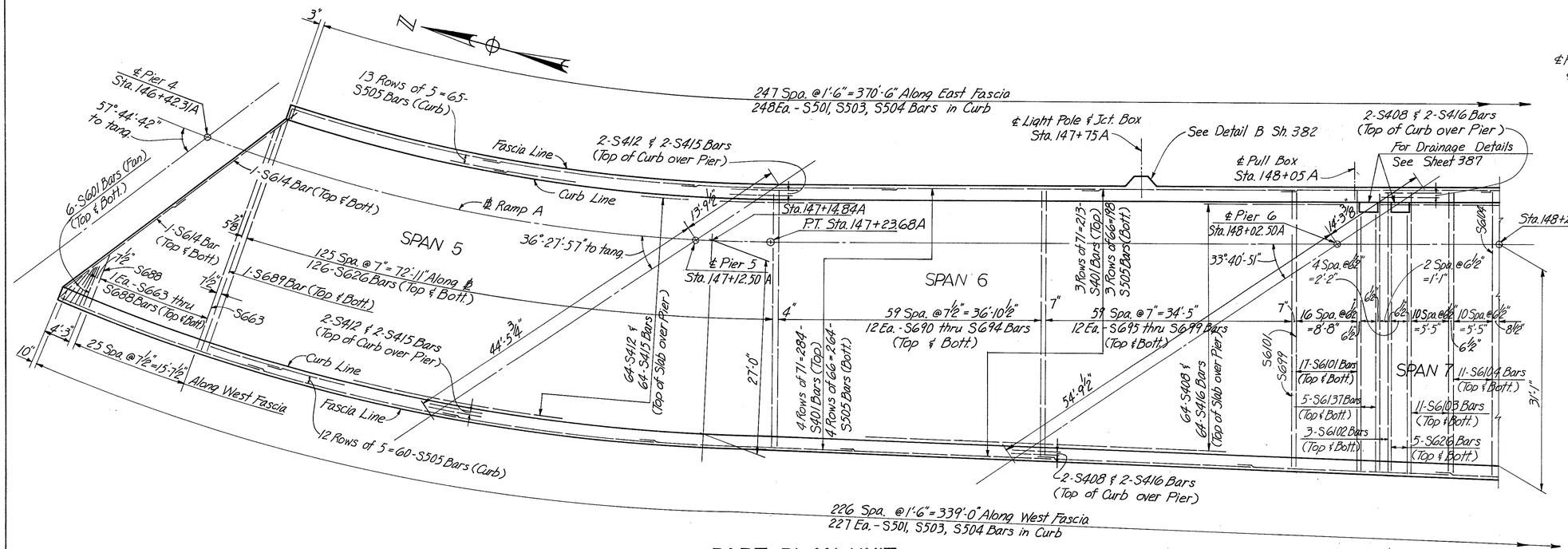
S4 BARS OVER PIER 5



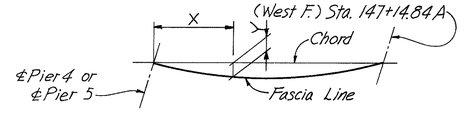
CHORD OFFSETS

SPAN 3			
EAST FASCIA		WEST FASCIA	
X	Y	X	Y
9'-11"	2'-0"	9'-11"	1'-8 1/8"
19'-10 1/8"	3'-6 1/2"	19'-10 1/8"	3'-0 1/2"
29'-9 1/8"	4'-7 1/8"	29'-9 1/8"	3'-11 1/8"
39'-8 1/4"	5'-3 1/8"	39'-8 1/4"	4'-6 3/4"
49'-7 1/4"	5'-6 1/2"	49'-7 1/4"	4'-9"
59'-6 3/8"	5'-3 1/8"	59'-6 3/8"	4'-6 3/4"
69'-5 3/8"	4'-7 1/8"	69'-5 3/8"	3'-11 1/8"
79'-4 1/2"	3'-6 1/2"	79'-4 1/2"	3'-0 1/8"
89'-3 1/2"	2'-0"	89'-3 1/2"	1'-8 1/2"

SPAN 4			
EAST FASCIA		WEST FASCIA	
X	Y	X	Y
7'-11 1/4"	1'-3 3/8"	7'-9"	1'-0 1/2"
15'-10 5/8"	2'-3 1/4"	15'-10 1/8"	1'-10 1/4"
23'-9 1/8"	2'-11 3/4"	23'-3"	2'-5 1/4"
31'-9 1/4"	3'-4 1/2"	31'-0"	2'-9 3/8"
39'-8 1/2"	3'-6 3/8"	38'-9"	2'-10 3/4"
47'-7 1/8"	3'-4 1/8"	46'-6"	2'-9 3/8"
55'-7 1/8"	2'-11 3/4"	54'-3"	2'-5 1/4"
63'-6 1/2"	2'-3 1/4"	62'-0"	1'-10 1/4"
71'-5 3/4"	1'-3 3/8"	69'-9"	1'-0 1/2"



PART PLAN UNIT 3



CHORD OFFSETS

SPAN 5			
EAST FASCIA		WEST FASCIA	
X	Y	X	Y
7'-4"	1'-1"	6'-1"	7 3/4"
14'-8"	1'-11 5/8"	12'-2"	1'-1 3/4"
21'-11 1/2"	2'-6 3/8"	18'-3"	1'-6"
29'-3"	2'-10 3/4"	24'-4"	1'-8 5/8"
36'-7"	3'-0 1/4"	30'-5"	1'-9 1/2"
43'-11"	2'-10 3/4"	36'-6"	1'-8 5/8"
51'-3"	2'-6 3/8"	42'-7"	1'-6"
58'-7"	1'-11 5/8"	48'-8"	1'-1 3/4"
65'-11"	1'-1"	54'-9"	7 3/4"

SPAN 6	
WEST FASCIA	
X	Y
9'-7 1/2"	6 3/8"
19'-3"	8 5/8"
28'-10"	6 3/8"

Notes: For Section C-C see Sheet 377
For details of end dam at curb see Std. Drwg. SD-1-69, Sh. No. 1 & 2.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

22/31

SUPERSTRUCTURE DETAILS UNITS NO. 2 & 3

BRIDGE NO. HAM.-471-0047

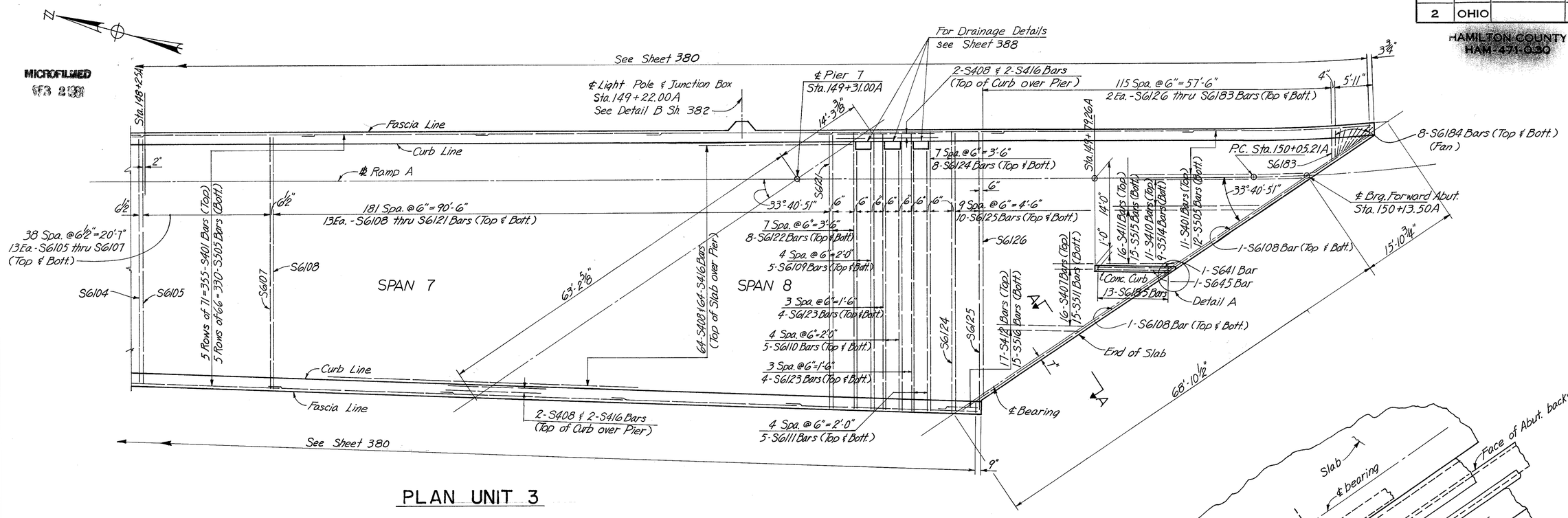
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
OAF MSD	TM	SL	PRD	JHO 11-21-72	

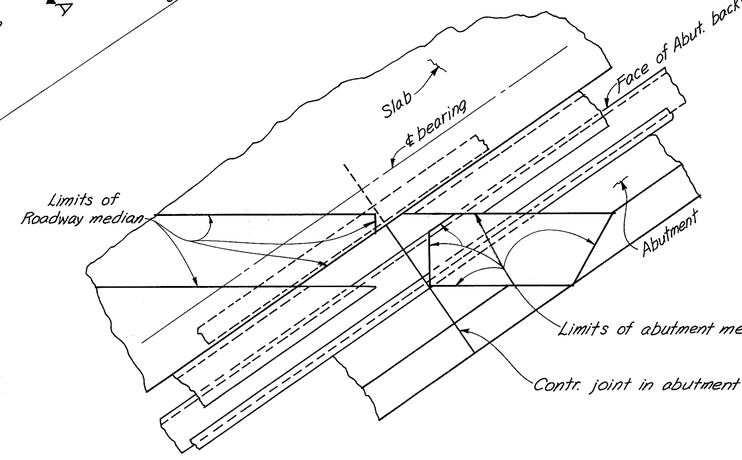
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

381
494

HAMILTON COUNTY
HAM-471-0.30



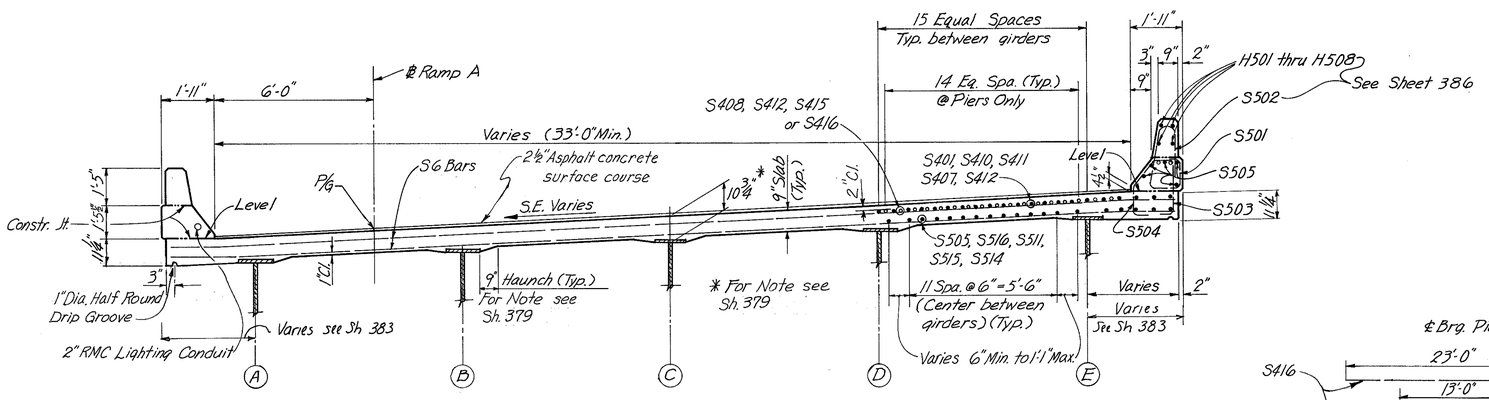
PLAN UNIT 3



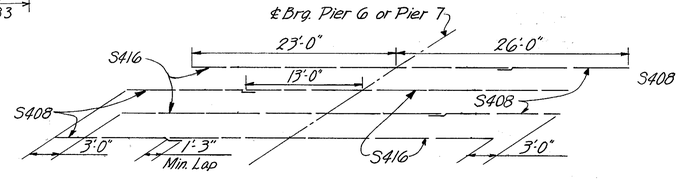
DETAIL A

Note:
For Section A-A, showing roadway end dam, see sheet 377

For Subdrainage and Surface Course Details See Sheet 382



TRANSVERSE SECTION UNIT 3



S4 BARS OVER PIER 6 & PIER 7

• Indicates bars in section.
○ Indicates bars over piers.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

23/31

SUPERSTRUCTURE DETAILS UNIT NO. 3

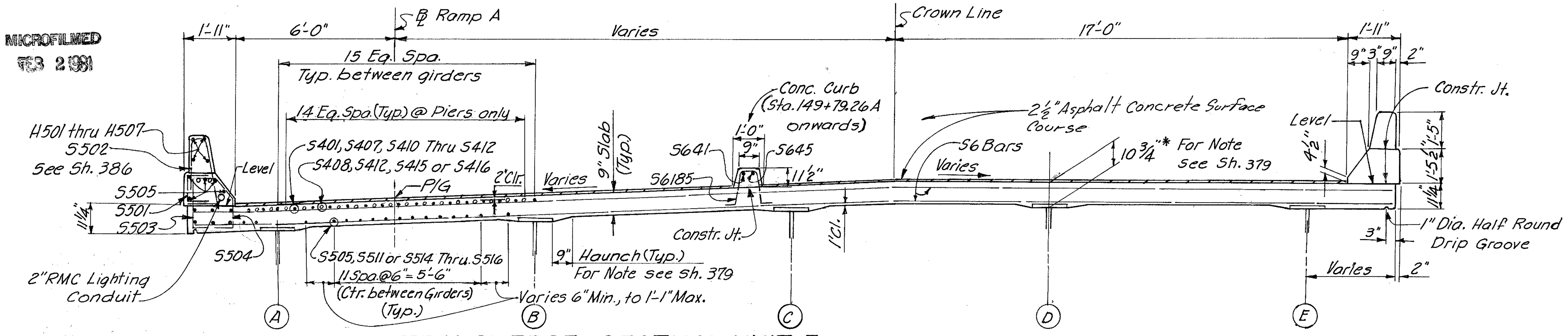
BRIDGE NO. HAM.-471-0047

H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
OAF MSD	TM	SL	PRD	JJH0 11-21-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

HAMILTON COUNTY
HAM-471-0.30



TRANSVERSE SECTION UNIT 3

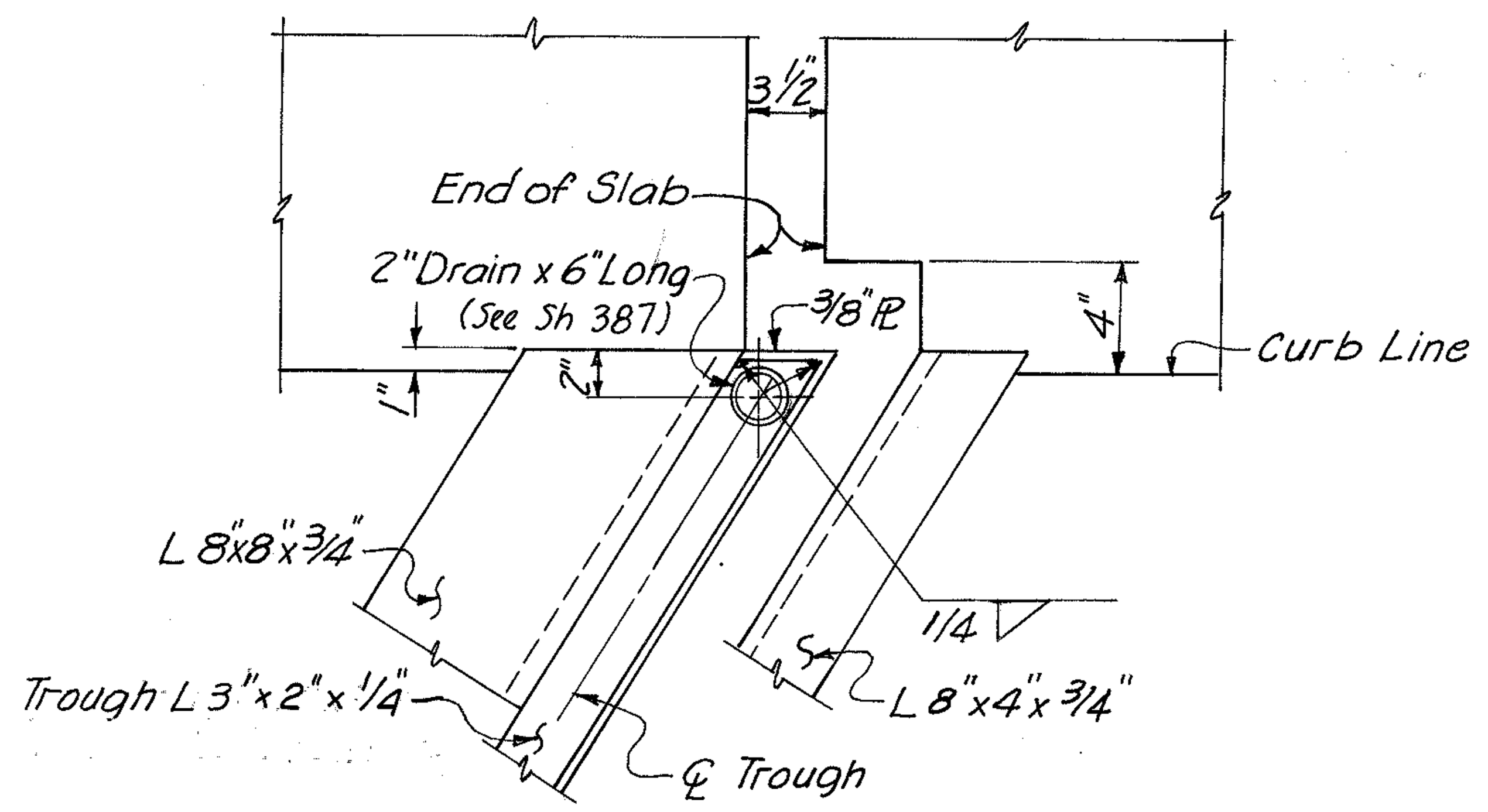
• Indicates bars in section
○ Indicates bars over piers

Notes:
Transverse reinforcing bars in Spans 1 thru 5 are to be placed radially.

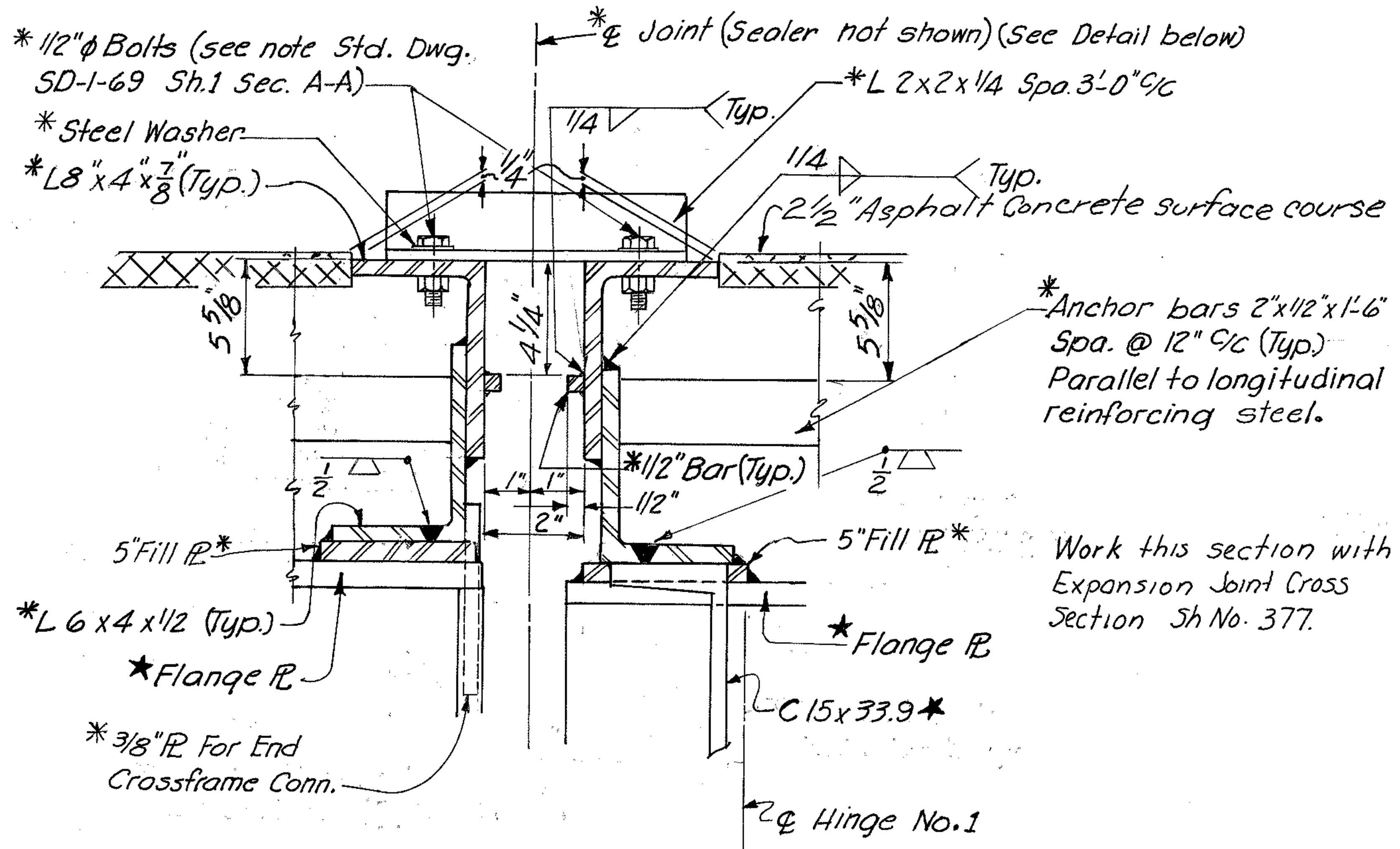
Longitudinal bars are placed parallel to the curvature of the roadway in Spans 1 through 4.
Field bend longitudinal bars where necessary to miss Inlets.

For drainage details see sheets 387 & 388

For Railing details and spacing of bars in parapet see Sheet 386



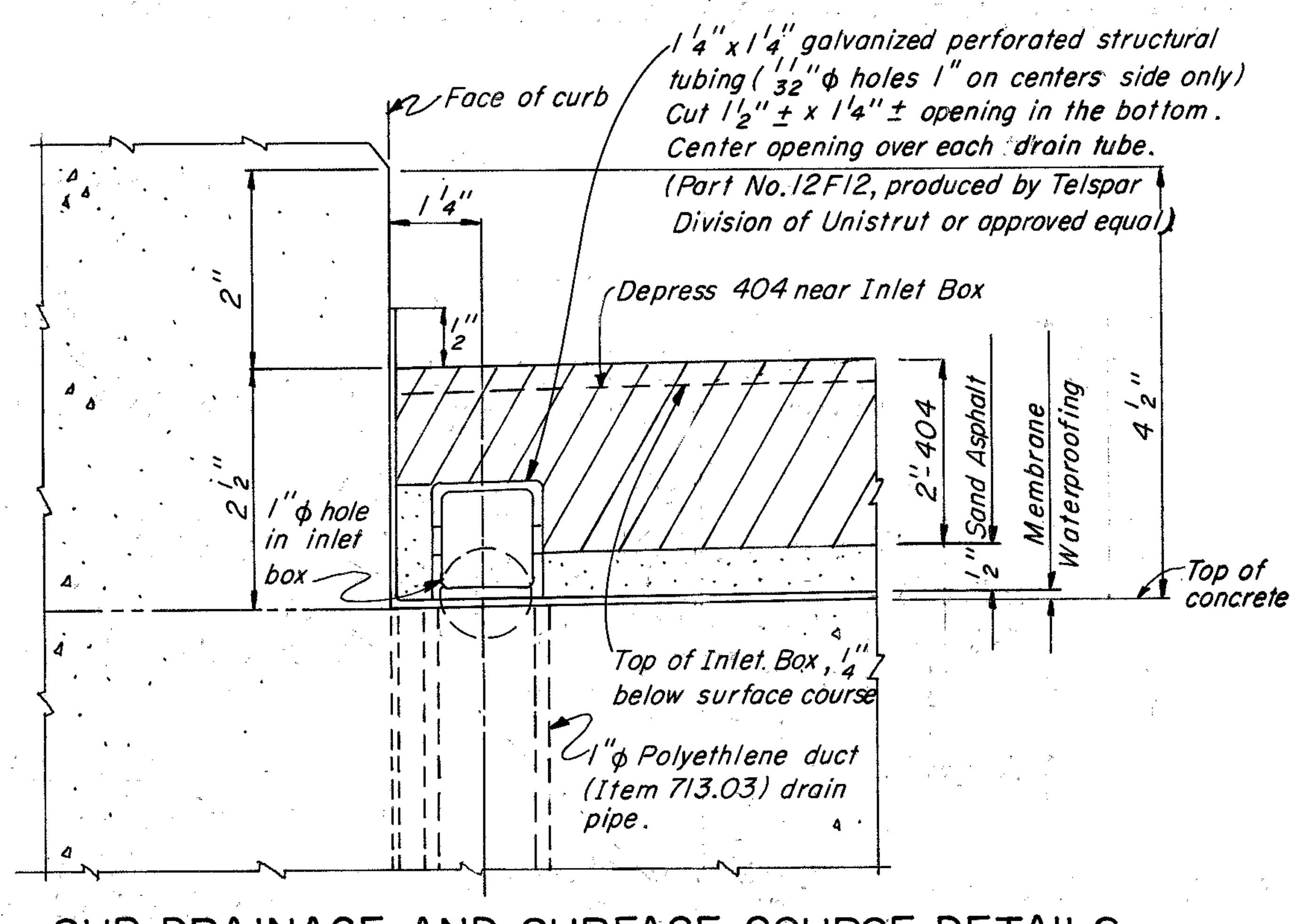
DETAIL C



All items shown with an asterisk (*) shall be included in Item 516, "Metal Joint with Preformed Elastic Joint Sealer" for payment.

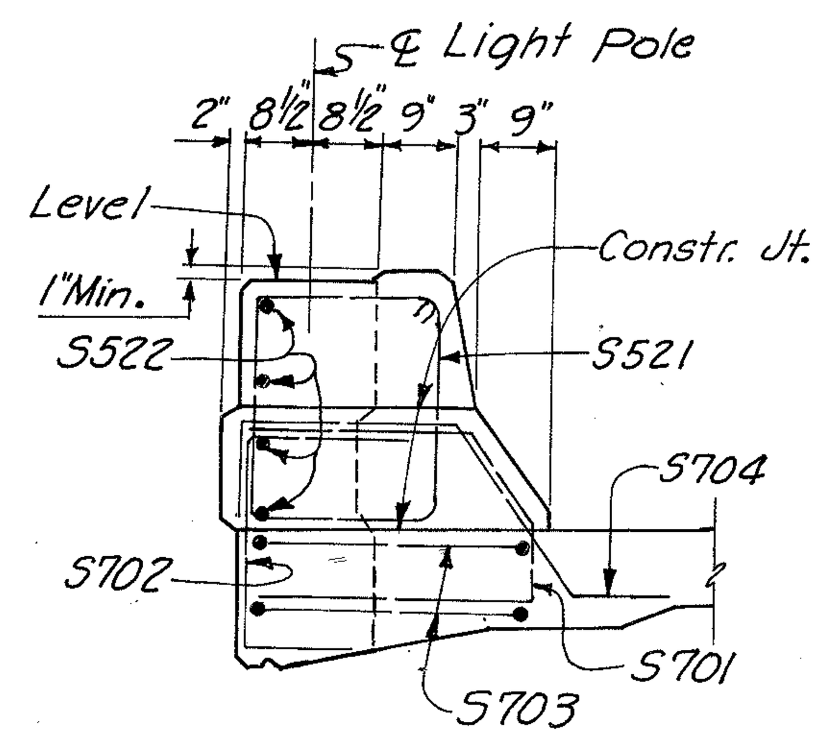
All items shown with a star (★) shall be included in Item 513, "Structural Steel" for payment.

SECTION B-B
At Bend Line 1 – Hinge No. 1

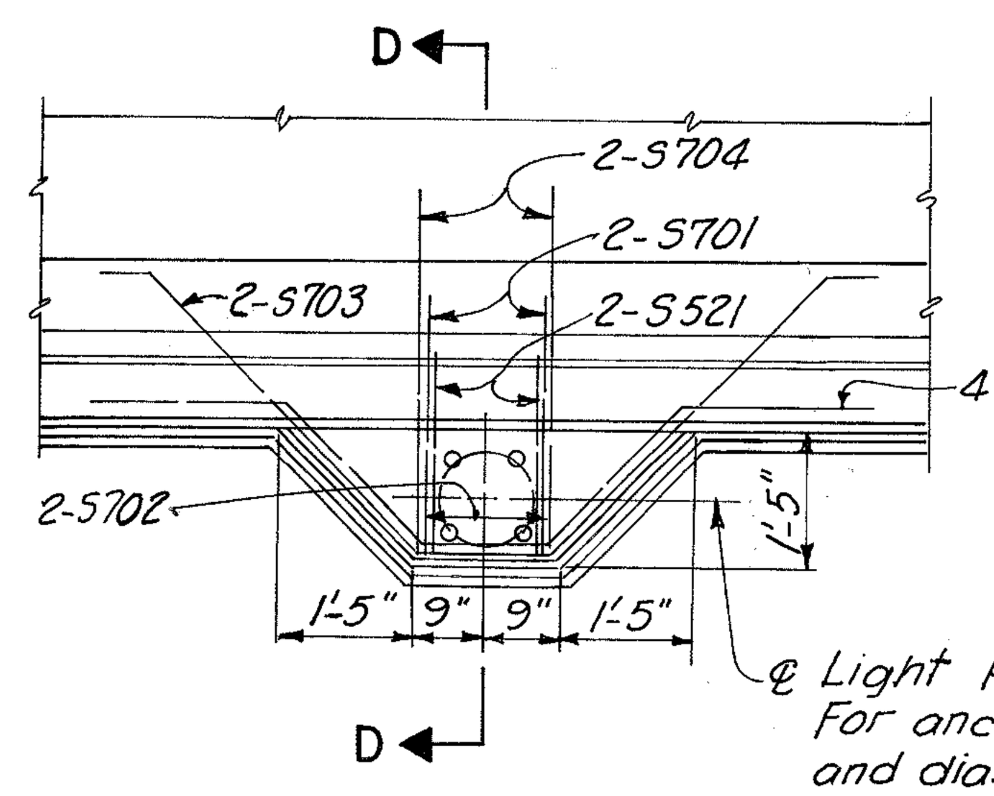


SUB DRAINAGE AND SURFACE COURSE DETAILS

In addition to the location and spacing provisions of 518.07, the Polyethlene duct drain pipes shall be located so that discharge from them will clear all structural members, including crossbracing by at least 6" (use drain pipes with elbows where necessary). Place the top of pipe flush with concrete surface. Place membrone over pipe, puncturing if membrane is a sheet type with the hole sealed around the lip of the pipe. Openings in the bottom of the structural tube may be cut in the field to match drain tube locations.
Include Sub drainage with item 404 for payment.

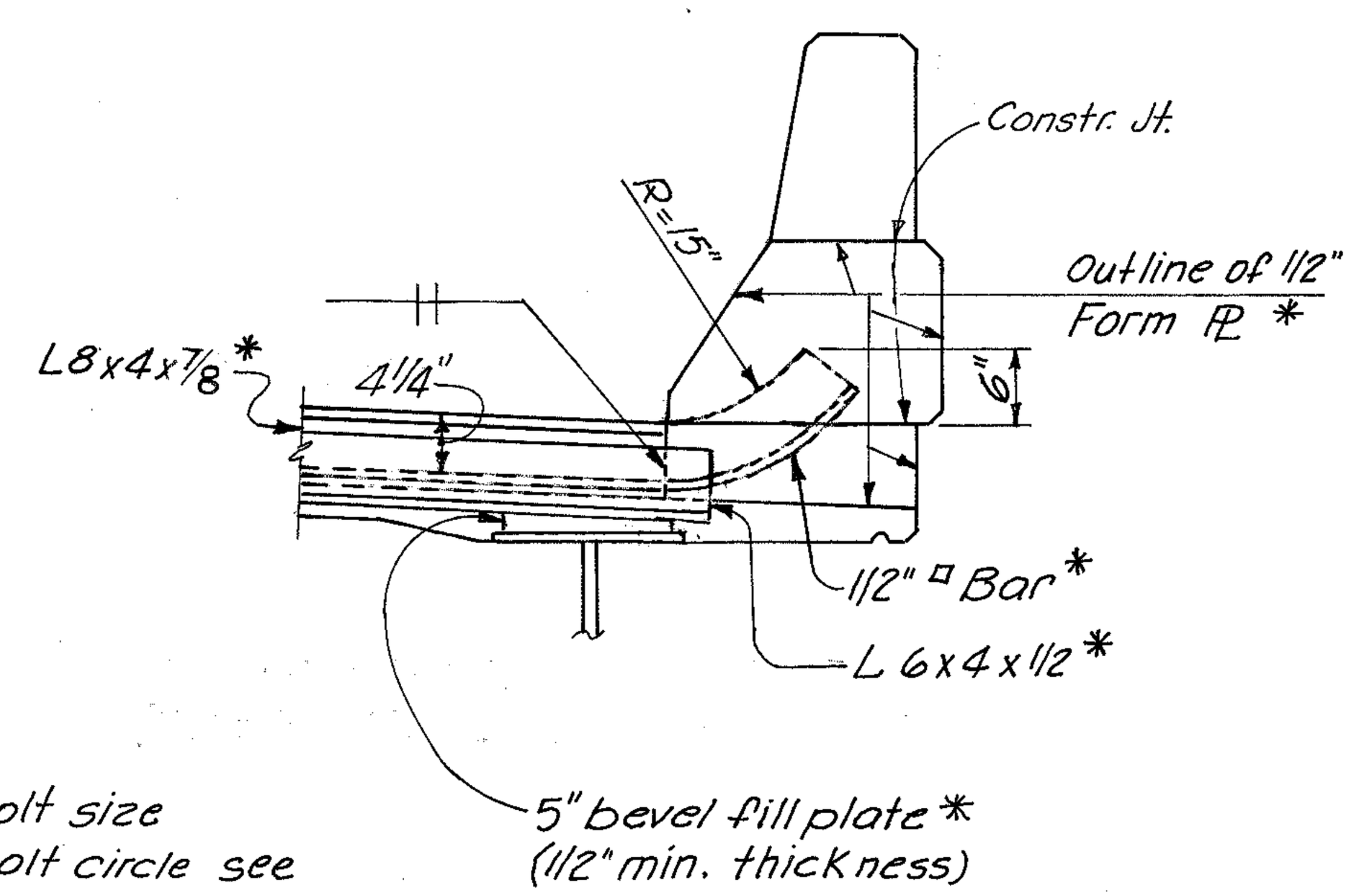


SECTION D-D

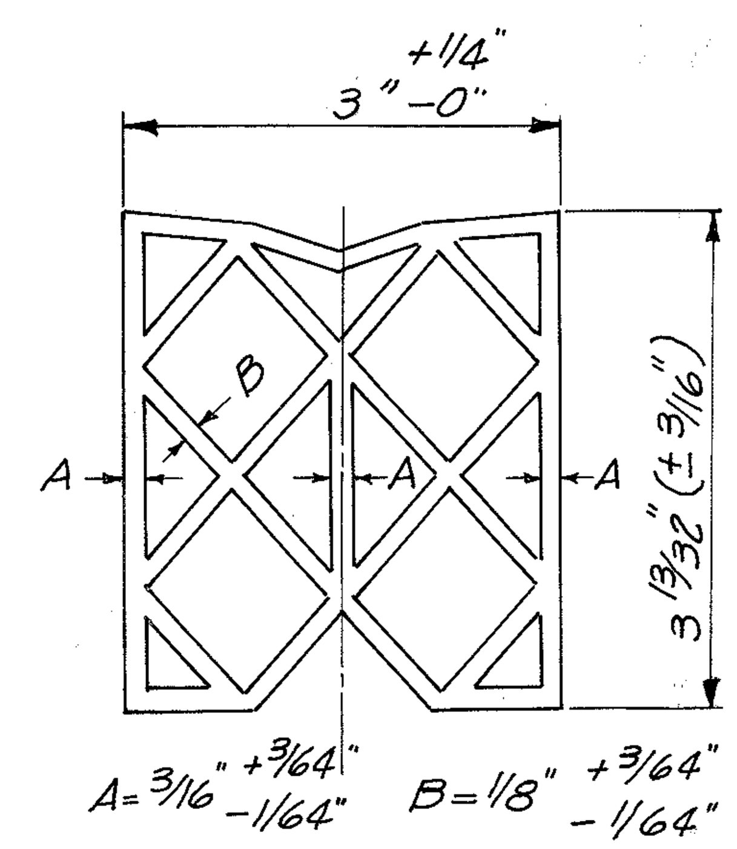


℄ Light Pole
For anchor bolt size and dia. of bolt circle see Lighting Plans, Sh. No. 154
Anchor bolts shall be included with Item 625 for payment.
Additional references, see Sh. Nos. 143, 144 and 155C.

DETAIL B



SECTION E-E



* PREFORMED ELASTIC JOINT SEALER DETAIL

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

24/31

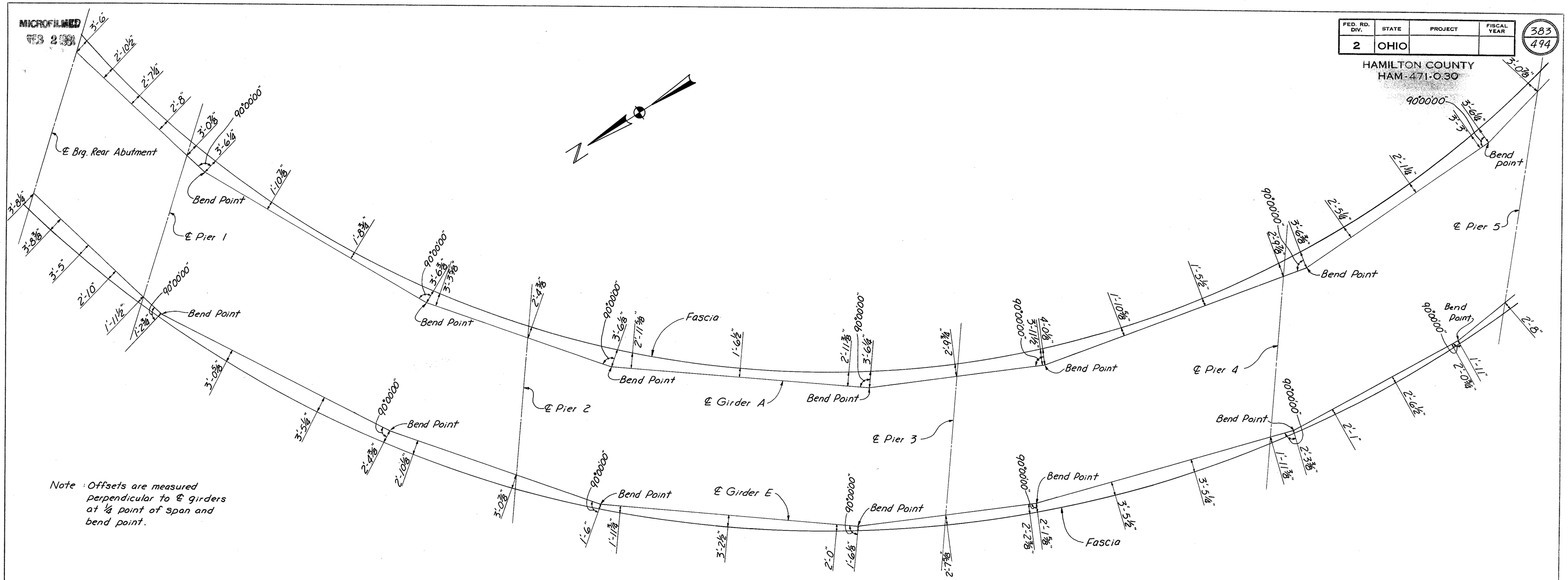
SUPERSTRUCTURE DETAILS UNIT NO. 3
BRIDGE NO. HAM.-471-0047
H & E BRIDGE NO. 10

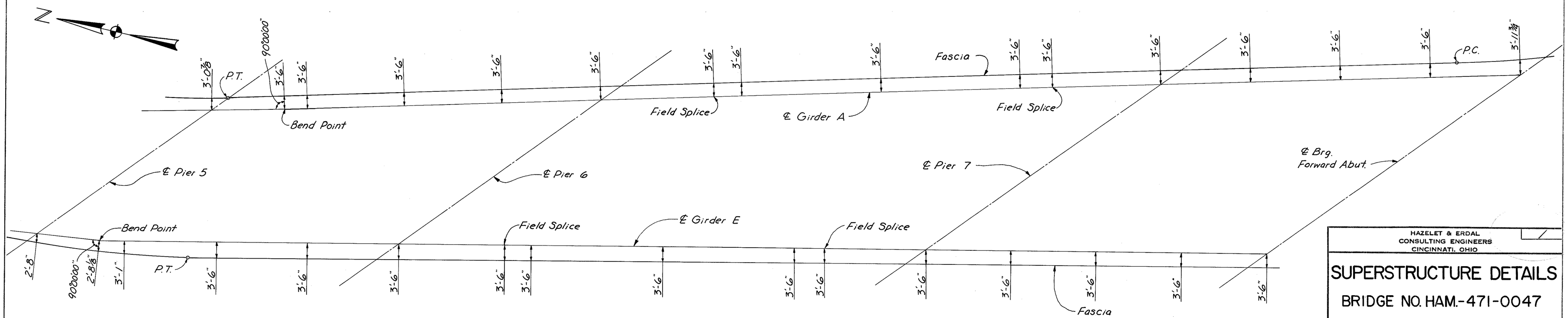
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
OAF MSD	TM	VWS	PRD	JHO 11-22-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

383
494

HAMILTON COUNTY
HAM-471-0.30





LAYOUT OF FASCIA

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

SUPERSTRUCTURE DETAILS

BRIDGE NO. HAM.-471-0047

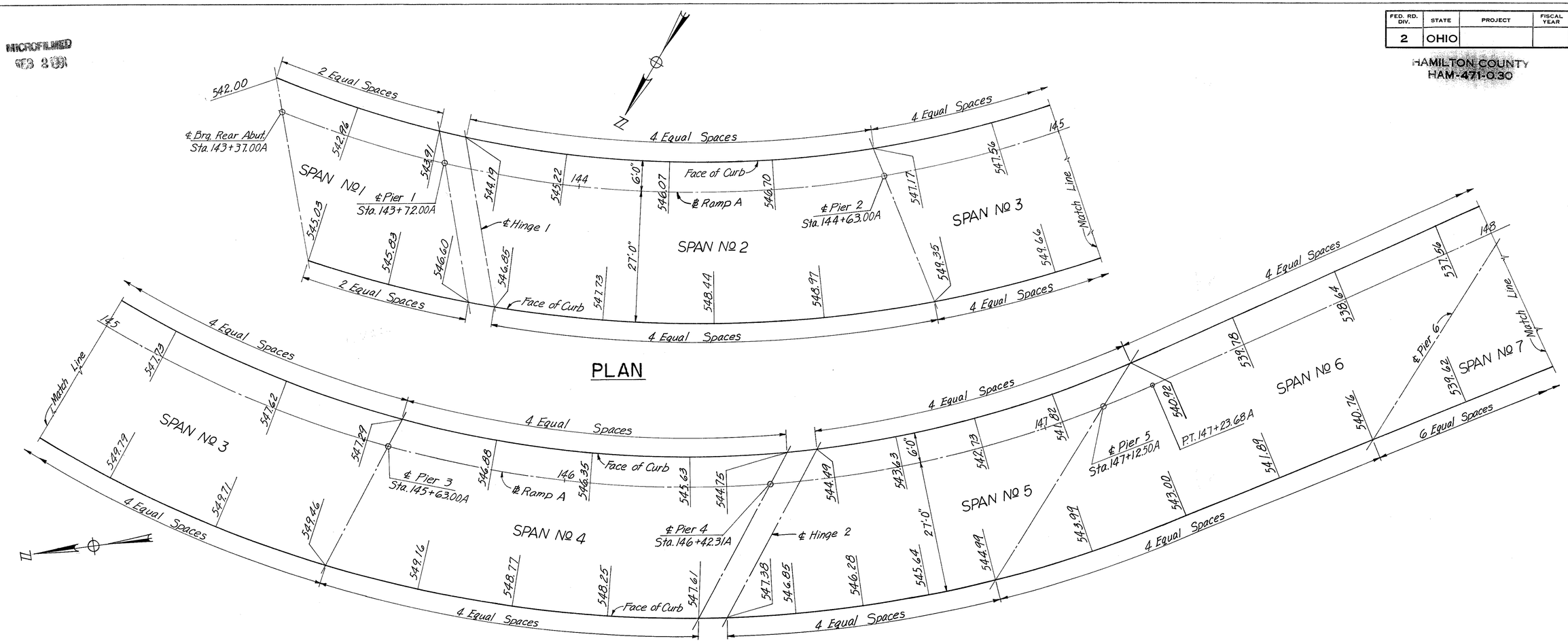
H & E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CYW		ROH	JHO 12-4-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

384
494

HAMILTON COUNTY
HAM-471-0.30



Note: Screed elevations shown equal concrete surface elevations plus anticipated dead load deflections due to weight of deck concrete.

HAZELET & ERDAL
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CINCINNATI, OHIO

25/31

SCREED ELEVATIONS

BRIDGE NO. HAM.-471-0047

H&E BRIDGE NO. 10

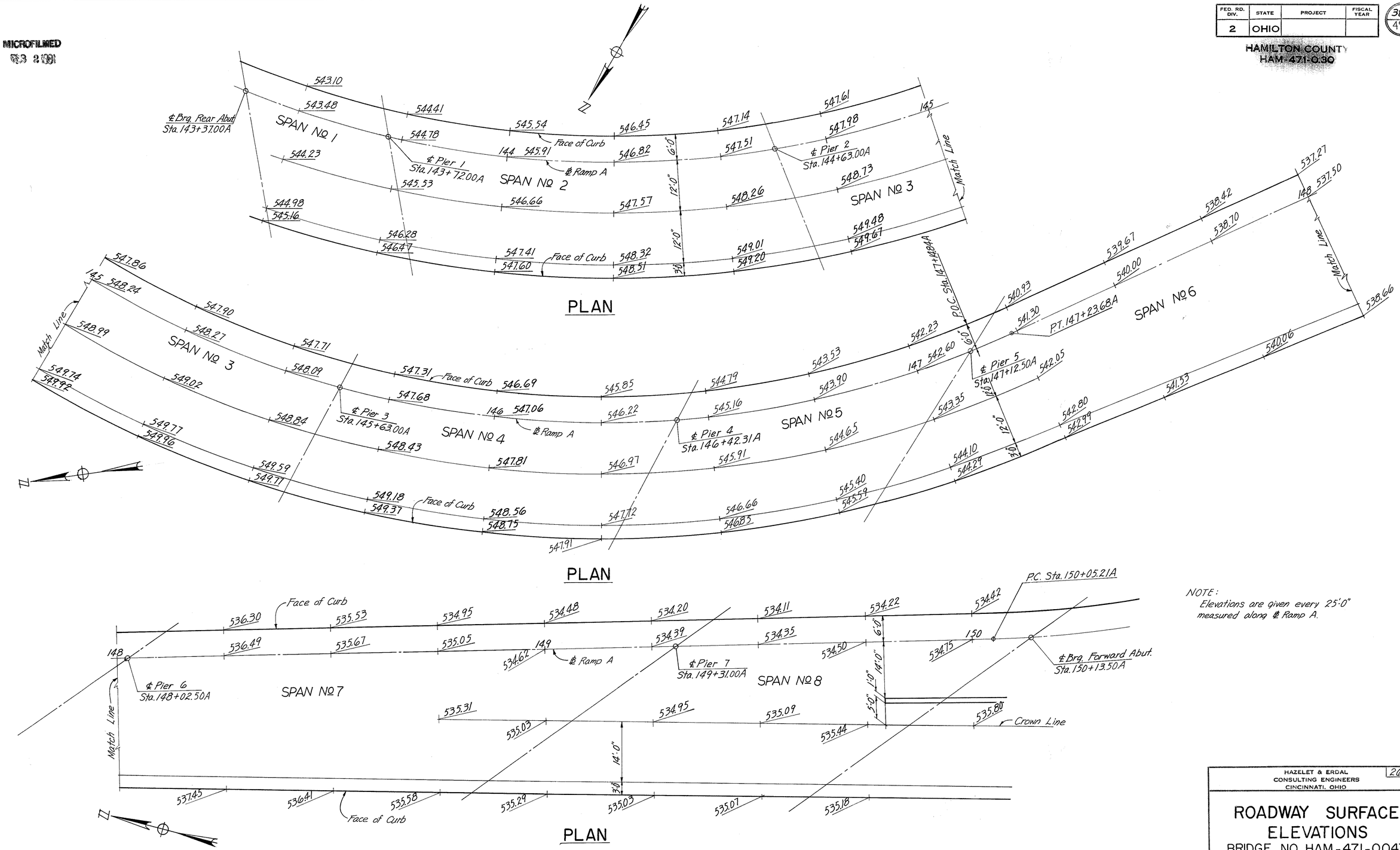
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	GNP	SL	OAF	JHO 11-22-72	

MICROFILMED

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

385
494

HAMILTON COUNTY
HAM-471-0.30



NOTE:
Elevations are given every 25'-0" measured along ℄ Ramp A.

HAZELET & ERDAL
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CINCINNATI, OHIO

26/31

ROADWAY SURFACE ELEVATIONS

BRIDGE NO. HAM.-471-0047

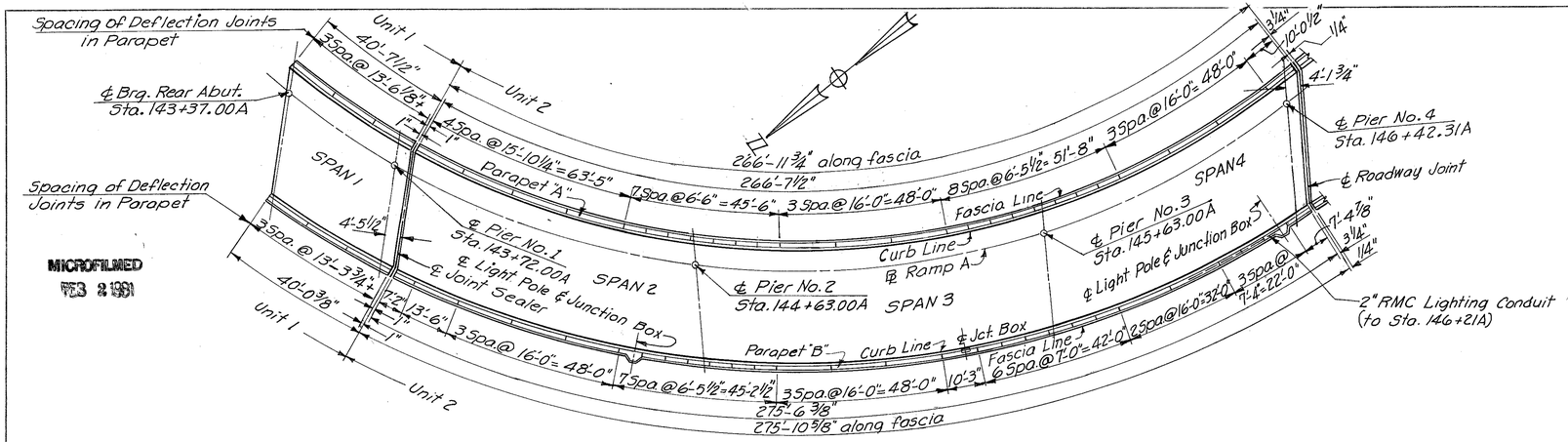
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	MSD	SL	OAF	JHO 11-22-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

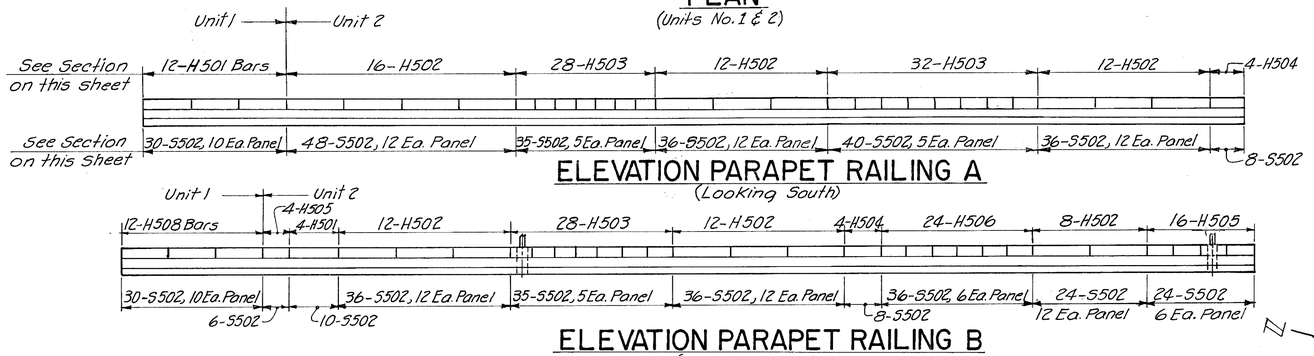
386
494

HAMILTON COUNTY
HAM-471-0.30



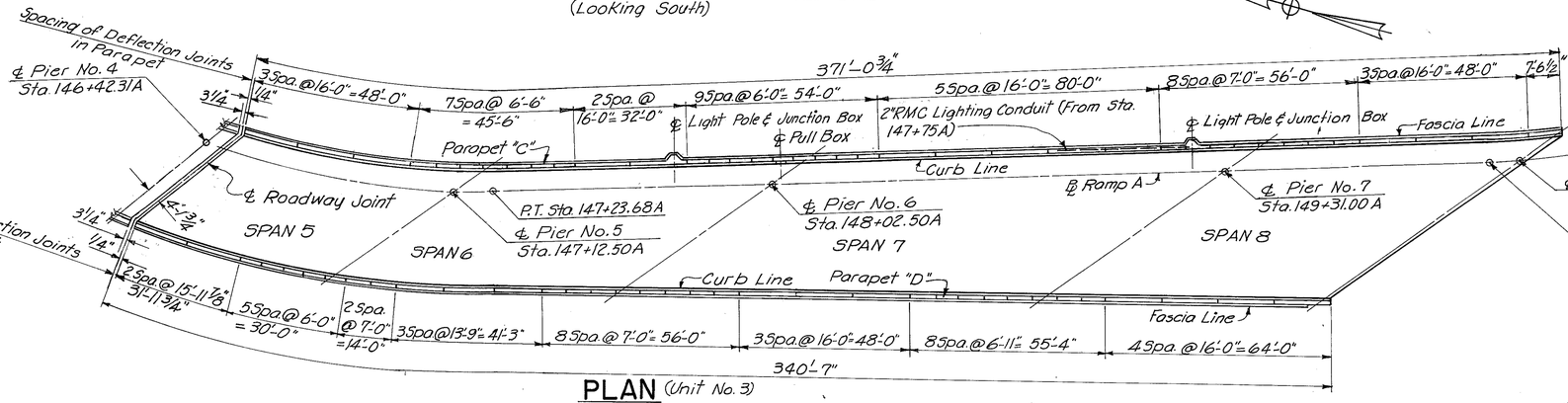
PLAN
(Units No. 1 & 2)

SECTION

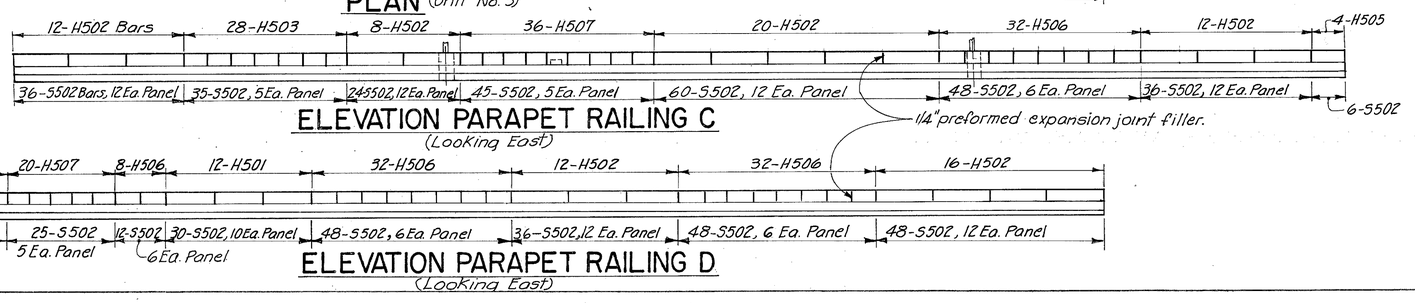


ELEVATION PARAPET RAILING A
(Looking South)

ELEVATION PARAPET RAILING B
(Looking South)



PLAN (Unit No. 3)



ELEVATION PARAPET RAILING C
(Looking East)

ELEVATION PARAPET RAILING D
(Looking East)

Notes:
Work this drawing with Lighting Plan Sh. No. 146.
For Junction Box details see sh. No. 154.
For Pull Box details see Sh. No. 151.
Deflection joint spacing is measured along fascia.
For Railing Details see Standard Drawing BR-1-67 Sh. No. 1
For typ. lighting details see 154.
For conduit expansion detail at abutments see Sheet 155E (Use similar detail at other joints.)

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CINCINNATI, OHIO

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RAILING & LIGHTING DETAILS

BRIDGE NO. HAM.-471-0047

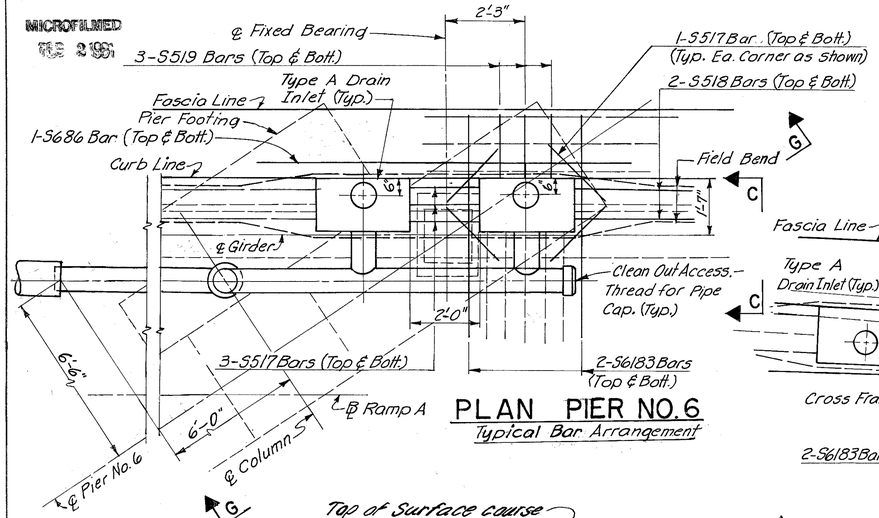
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	AK	VWS	PRD	JHO 11-22-72	

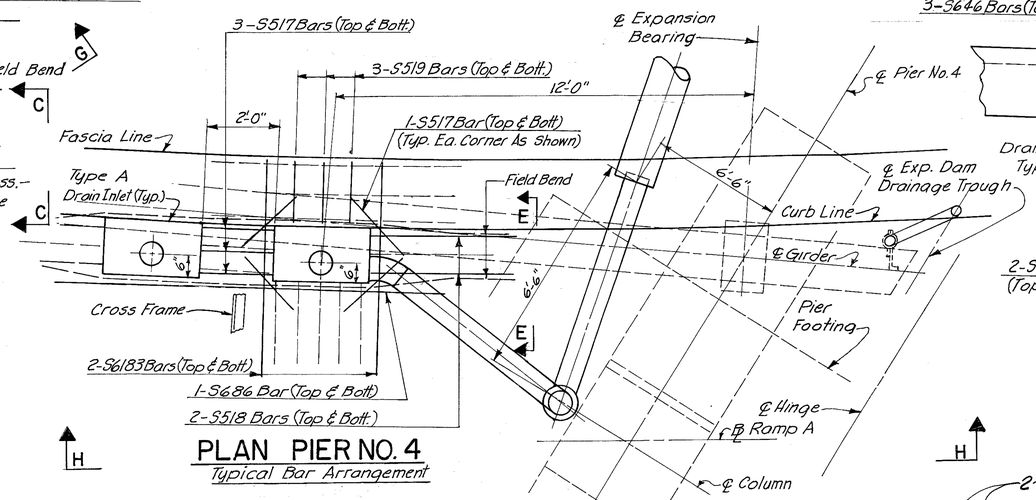
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

387
494

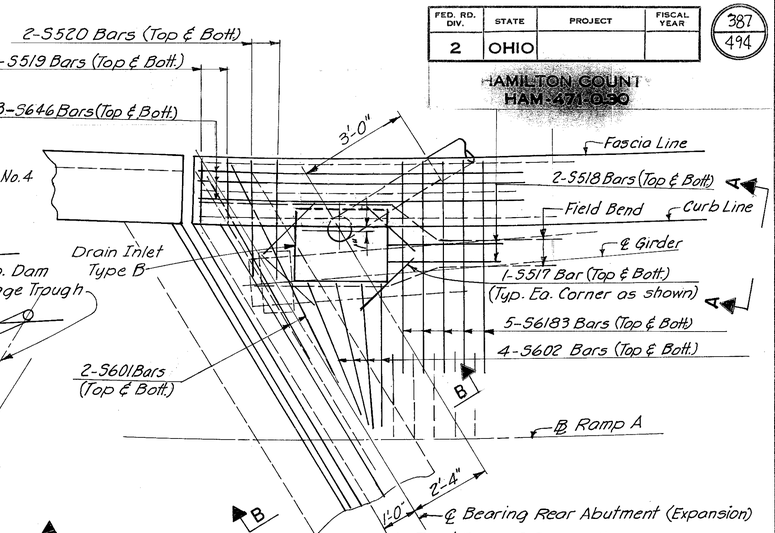
HAMILTON COUNT
HAM-471-0050



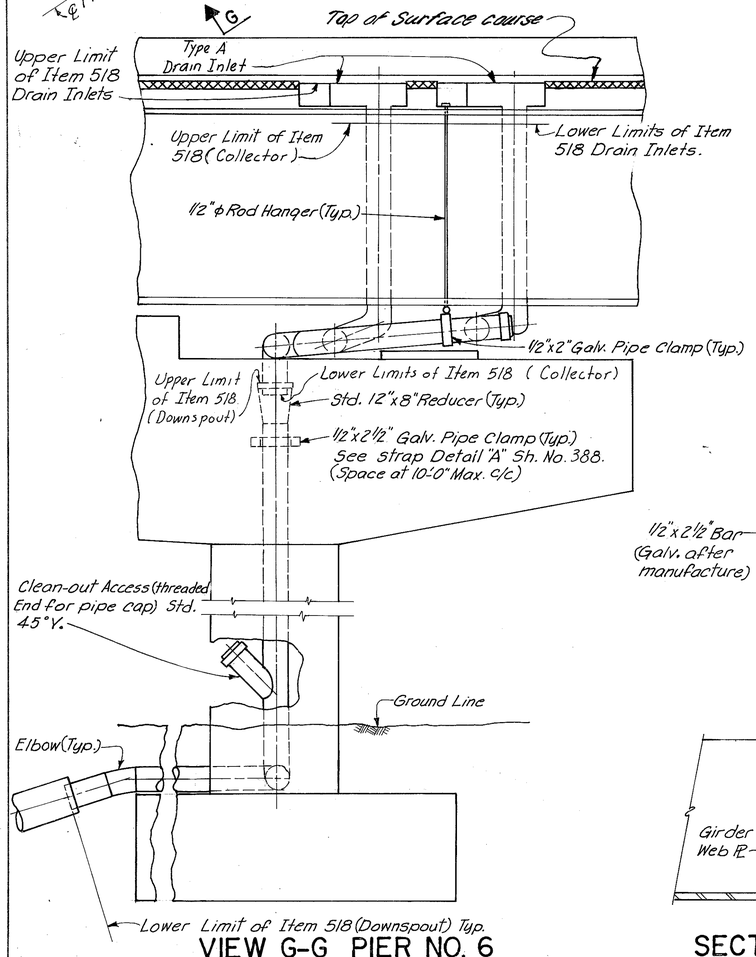
PLAN PIER NO. 6
Typical Bar Arrangement



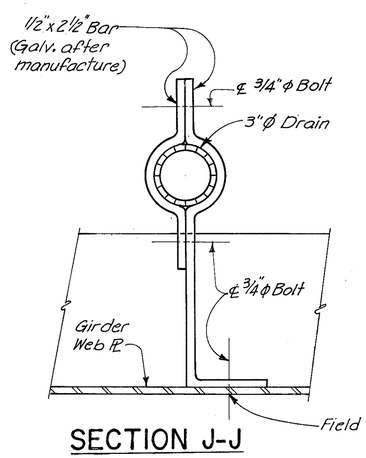
PLAN PIER NO. 4
Typical Bar Arrangement



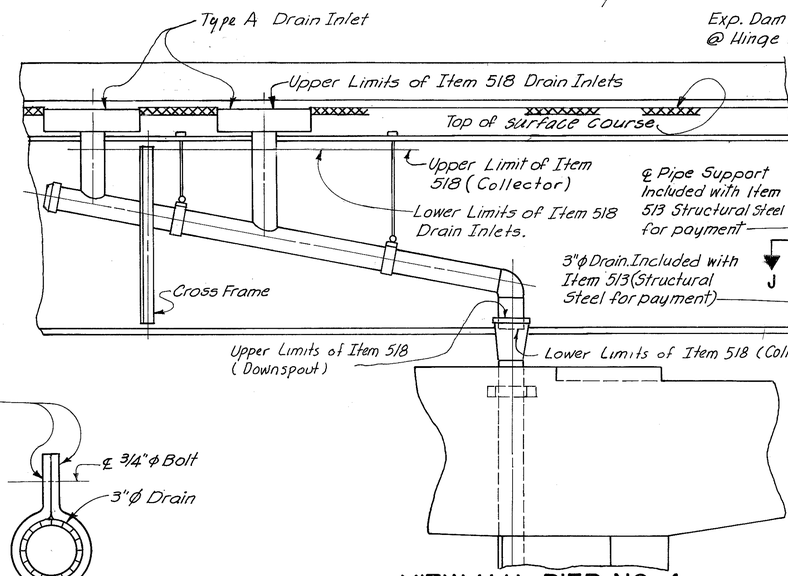
PLAN



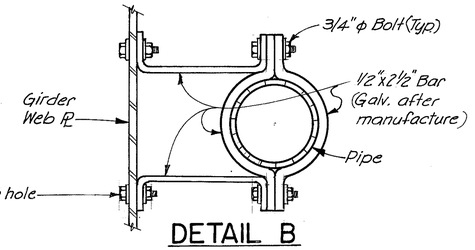
VIEW G-G PIER NO. 6



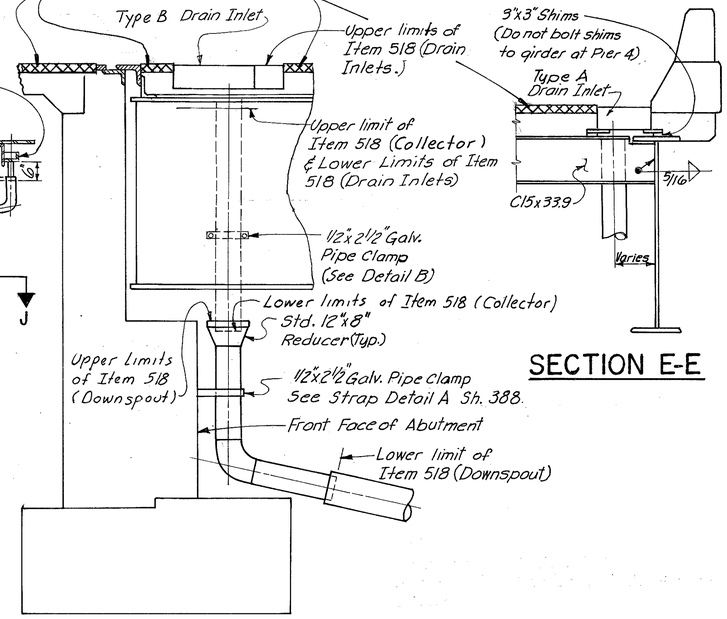
SECTION J-J



VIEW H-H PIER NO. 4



DETAIL B



SECTION B-B
Rear Abutment

SECTION E-E

Notes:
Pipe shall be 8"ϕ unless noted otherwise.
For additional notes and details see Sh. No. 469.
Additional Reinf. bars are shown in full bodied lines.
For Special Drain Inlet Box Details Type A & B see Sh. No. 388.
For sections A-A & C-C see Sh. 388.
Total depth of inlet box equals 9"
Set Drain Inlets 1/4" below top of surface course.

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CINCINNATI, OHIO

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DRAINAGE DETAILS

BRIDGE NO. HAM.-471-0047

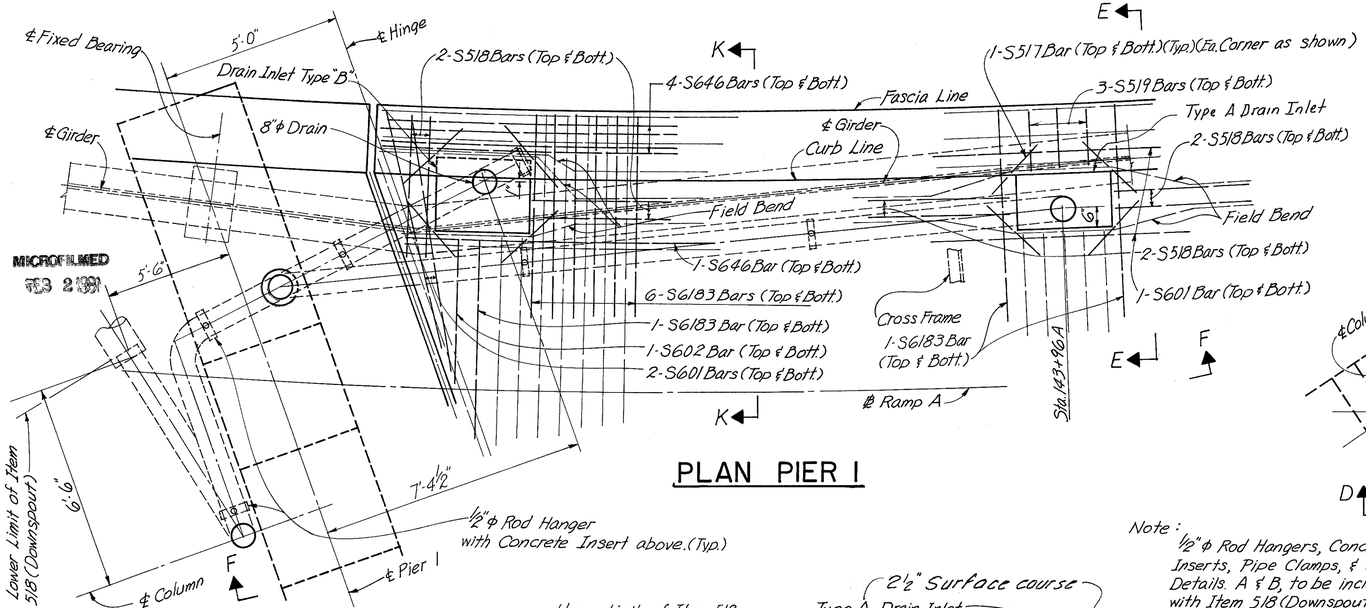
H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JCM	VWS	PRD	JHD 11-21-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

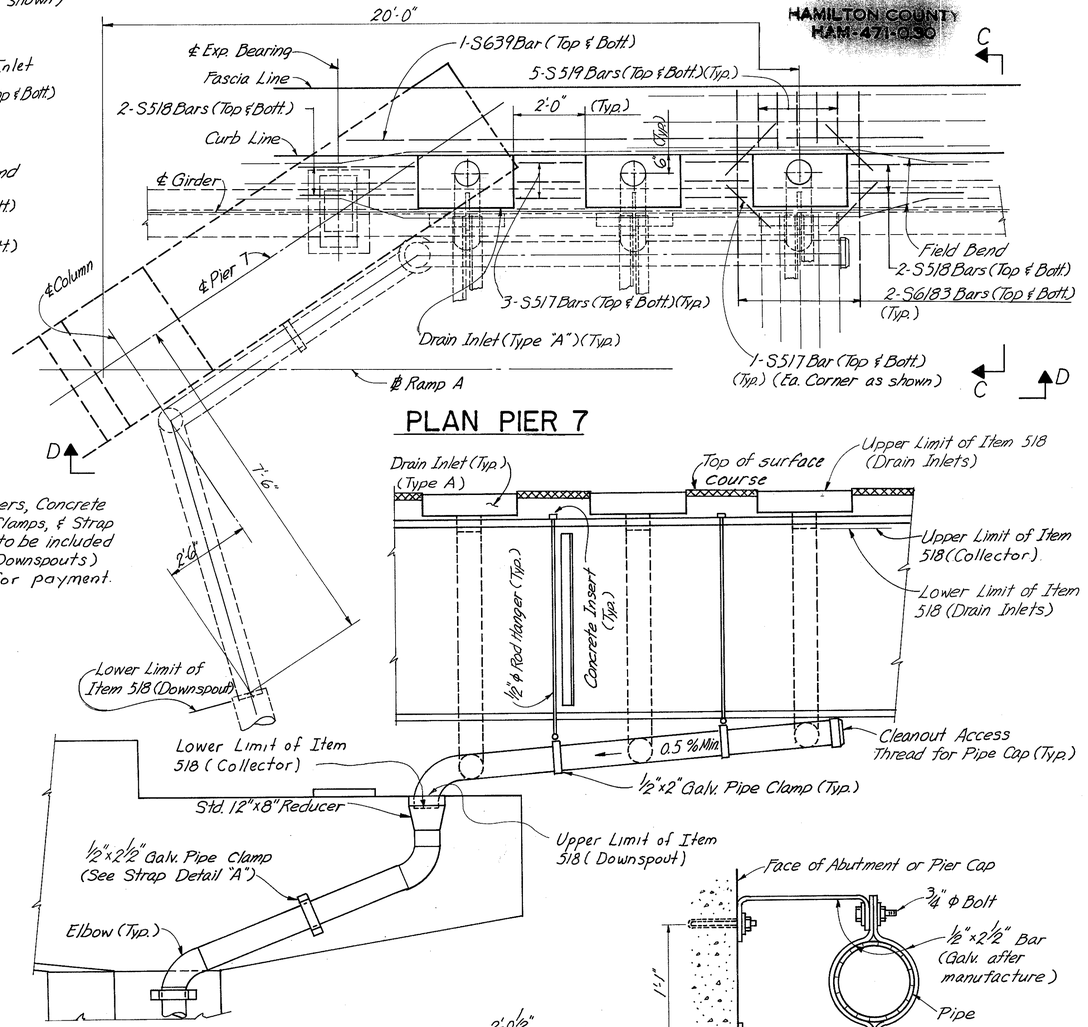
HAMILTON COUNTY
HAM-471-0.50

388
494



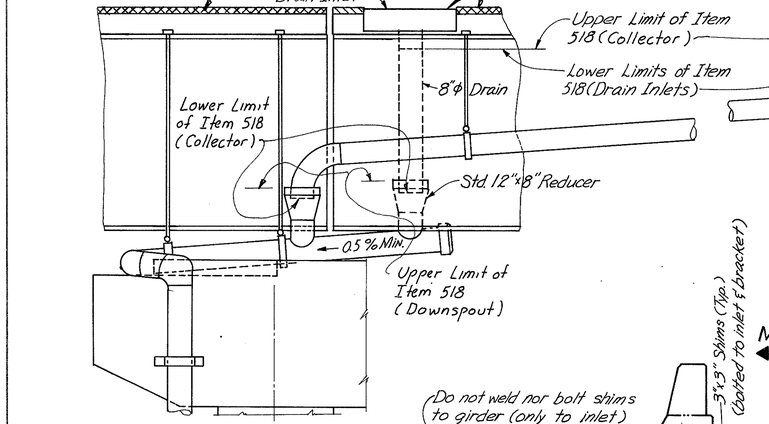
PLAN PIER 1

Note:
½"ϕ Rod Hangers, Concrete Inserts, Pipe Clamps, & Strap Details. A & B, to be included with Item 518 (Downspouts) (Collector) for payment.

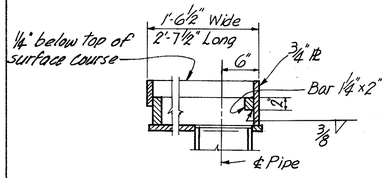


PLAN PIER 7

VIEW D-D PIER 7

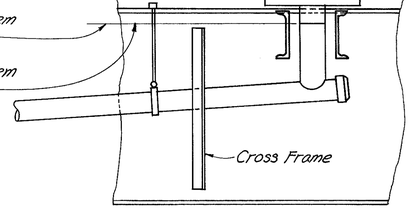


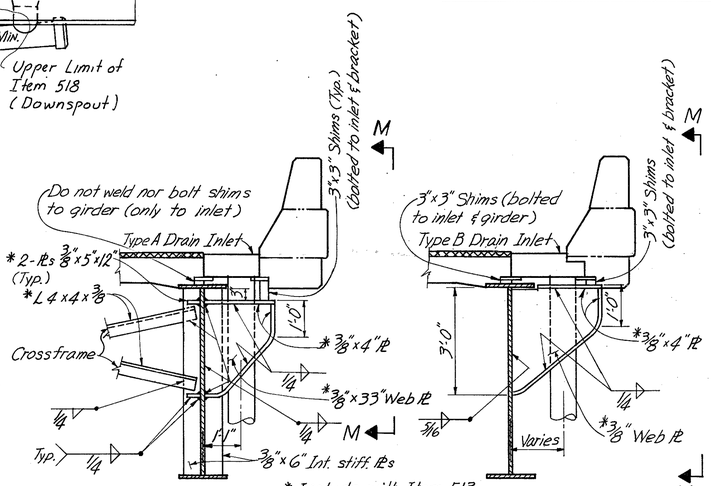
VIEW F-F PIER 1



TYPE A INLET BOX

For dimensions and details not shown see Typical Drwg. 469.

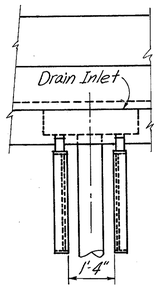




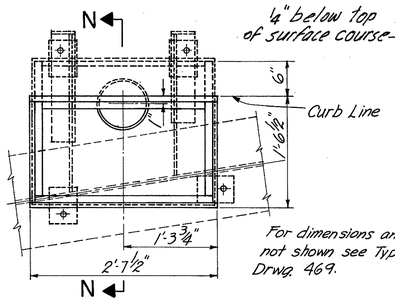
SECTION C-C

SECTION A-A & K-K

* Include with Item 513, Structural Steel for payment.

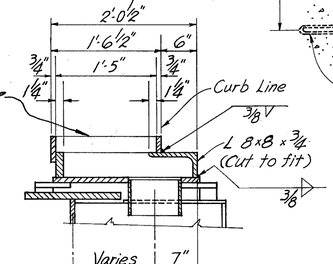


VIEW M-M

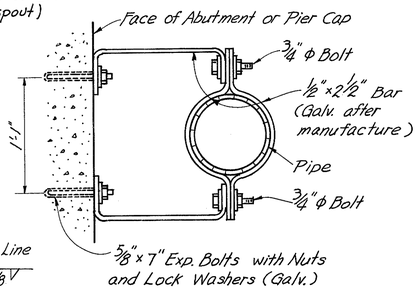


TYPE B INLET BOX

For dimensions and details not shown see Typical Drwg. 469.



SECTION N-N



STRAP DETAIL A

Notes:
For Section E-E see Sh. No. 387.
For other notes see Sh. No. 387.

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29/31

DRAINAGE DETAILS

BRIDGE NO. HAM. 471-0047

H&E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JCM	SL	PRD	JHO 11-21-72	

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

389
494

HAMILTON COUNTY
HAM-471-0.30

SUPERSTRUCTURE

MARK	LENGTH	TYPE	NUMBER UNIT 1	NUMBER UNIT 2	NUMBER UNIT 3	TOTAL	WEIGHT
S401	30'-0"	Str.	49	441	863	1353	27,114
S402	12'-0"	↑	73	96		169	1,355
S403	20'-0"			2		2	27
S404	18'-9"			10		10	125
S405	17'-6"			9		9	105
S406	16'-6"			8		8	88
S407	15'-6"		24	8	16	48	497
S408	14'-3"			10	136	146	1,390
S409	12'-9"			2		2	17
S410	26'-0"				11	11	191
S411	22'-0"			24	16	40	588
S412	8'-0"				85	85	454
S413	32'-3"			96		96	2,068
S414	25'-0"			24		24	401
S415	28'-3"	↓			68	68	1,283
S416	36'-0"	Str.			136	136	3,271
S501	2'-0"	1	56	364	475	895	1,867
S502	5'-4"	46	60	418	561	1039	5,780
S503	2'-3"	17	56	364	475	895	2,100
S504	3'-6"	45	56	364	475	895	3,267
S505	30'-0"	Str.	65	585	929	1579	49,407
S506	12'-0"	↑	65			65	814
S507	20'-0"			8		8	167
S508	18'-9"			10		10	196
S509	17'-6"			10		10	183
S510	16'-6"			9		9	155
S511	15'-6"			10	15	25	404
S512	14'-3"			10		10	149
S513	12'-9"			8		8	106
S514	26'-0"				9	9	244
S515	22'-0"				15	15	344
S516	8'-0"				15	15	125
S517	2'-0"		8	38	58	104	217
S518	4'-0"		4	16	16	36	150
S519	1'-7"	↓	4	18	42	64	106
S520	3'-3"	Str.	4			4	14
S521	9'-0"	37		4	4	8	75
S522	9'-5"	44		8	8	16	157
S601	7'-0"	Str.	12	20	12	44	463
S602	4'-0"	↑	8	2		10	60
S603	9'-8"		2			2	29
S604	10'-9"		2			2	32
S605	11'-10"		2			2	36
S606	13'-0"		2			2	39
S607	14'-0"		2			2	42
S608	15'-0"		2			2	45
S609	16'-2"		2			2	49
S610	17'-3"		2			2	52
S611	18'-4"		2			2	55
S612	19'-5"		6	4		10	292
S613	20'-6"		2			2	62
S614	21'-7"		6	4	4	14	454
S615	22'-8"		2			2	68
S616	23'-9"		2			2	71
S617	24'-10"		2			2	75
S618	26'-0"		2			2	78
S619	27'-0"		2	2		4	162
S620	28'-0"		2	2		4	168
S621	29'-2"		2			2	88
S622	30'-3"		2			2	91
S623	31'-4"		2			2	94
S624	32'-5"		2			2	97
S625	33'-6"		2			2	100
S626	36'-3"		80	816	262	1158	63,050
S627	33'-7"		2			2	101
S628	32'-2"		2			2	97
S629	30'-8"		2			2	92
S630	29'-3"		2	2		4	176
S631	27'-9"		2			2	83
S632	26'-4"	↓	2	2		4	158
S633	25'-0"	Str.	2			2	75

SUPERSTRUCTURE

MARK	LENGTH	TYPE	NUMBER UNIT 1	NUMBER UNIT 2	NUMBER UNIT 3	TOTAL	WEIGHT
S634	23'-5"	Str.	2			2	70
S635	22'-0"	↑	2			2	66
S636	20'-5"		2			2	61
S637	19'-0"		2			2	57
S638	17'-7"		2			2	53
S639	16'-0"		2		2	4	96
S640	14'-8"		2			2	44
S641	13'-2"		2		1	3	60
S642	11'-9"		2			2	35
S643	10'-3"		2			2	31
S644	8'-10"		2			2	26
S645	12'-0"				1	1	18
S646	9'-0"		6	10		16	216
S647	7'-3"			2		2	22
S648	8'-6"			2		2	26
S649	13'-9"			2		2	41
S650	15'-4"			2		2	46
S651	17'-0"			2		2	51
S652	18'-6"			2		2	56
S653	20'-0"			2		2	60
S654	21'-8"			2		2	65
S655	25'-3"			2		2	70
S656	24'-9"			2		2	74
S657	26'-5"			2		2	79
S658	28'-0"			2		2	84
S659	29'-7"			2		2	89
S660	31'-2"			2		2	94
S661	33'-0"			24		24	1,190
S663	32'-9"				2	2	98
S664	31'-9"				2	2	95
S665	30'-9"				2	2	92
S666	29'-9"				2	2	89
S667	28'-9"			2	2	4	173
S668	27'-9"			2	2	4	167
S669	26'-9"			2	2	4	161
S670	25'-9"			2	2	4	155
S671	24'-9"			2	2	4	149
S672	23'-9"			2	2	4	143
S673	22'-9"			2	2	4	137
S674	21'-9"			2	2	4	131
S675	20'-9"			2	2	4	125
S676	19'-9"			2	2	4	119
S677	18'-9"			2	2	4	113
S678	17'-9"			2	2	4	107
S679	16'-9"			2	2	4	101
S680	15'-9"			2	2	4	95
S681	14'-9"			2	2	4	89
S682	13'-9"			2	2	4	83
S683	12'-9"			2	2	4	77
S684	11'-9"			2	2	4	71
S685	10'-9"			2	2	4	65
S686	9'-9"			4	4	8	117
S687	8'-9"			2	2	4	53
S688	7'-9"			2	2	4	47
S689	34'-6"				2	2	104
S690	36'-6"				24	24	1,316
S691	36'-9"				24	24	1,325
S692	37'-0"				24	24	1,334
S693	37'-4"				24	24	1,346
S694	37'-8"				24	24	1,358
S695	38'-0"				24	24	1,370
S696	38'-2"				24	24	1,376
S697	38'-5"				24	24	1,385
S698	38'-9"				24	24	1,397
S699	39'-0"				24	24	1,406
S6101	39'-3"				34	34	2,004
S6102	39'-6"				6	6	356
S6103	39'-9"				22	22	1,313
S6104	40'-0"				22	22	1,322
S6105	40'-4"				26	26	1,575
S6106	40'-7"				26	26	1,585
S6107	40'-10"				26	26	1,594
S6108	41'-1"				30	30	1,851
S6109	41'-4"				36	36	2,235
S6110	41'-7"				36	36	2,248
S6111	41'-10"	↓			36	36	2,262
S6112	42'-1"	Str.			26	26	1,643

SUPERSTRUCTURE

MARK	LENGTH	TYPE	NUMBER UNIT 1	NUMBER UNIT 2	NUMBER UNIT 3	TOTAL	WEIGHT
S6113	42'-4"	Str.			26	26	1,652
S6114	42'-7"	↑			26	26	1,663
S6115	42'-10"				26	26	1,673
S6116	43'-1"				26	26	1,682
S6117	43'-4"				26	26	1,692
S6118	43'-7"				26	26	1,702
S6119	43'-10"				26	26	1,712
S6120	44'-1"				26	26	1,721
S6121	44'-4"				26	26	1,731
S6122	44'-7"				16	16	1,071
S6123	44'-10"				16	16	1,077
S6124	45'-1"				16	16	1,083
S6125	45'-4"				20	20	1,362
S6126	43'-3"				4	4	260
S6127	42'-7"				4	4	256
S6128	41'-11"				4	4	252
S6129	41'-3"				4	4	248
S6130	40'-7"				4	4	244
S6131	39'-11"				4	4	240
S6132	39'-3"				4	4	236
S6133	38'-7"				4	4	232
S6134	37'-11"				4	4	228
S6135	37'-3"				4	4	224
S6136	36'-7"				4	4	220
S6137	35'-11"				14	14	755
S6138	35'-3"				4	4	212
S6139	34'-7"				4	4	208
S6140	33'-11"				4	4	204
S6141	33'-3"				4	4	200
S6142	32'-7"				4	4	196
S6143	31'-11"				4	4	192
S6144	31'-3"				4	4	188
S6145	30'-7"				4	4	184
S6146	29'-11"				4	4	180
S6147	29'-3"				4	4	176
S6148	28'-7"				4	4	172
S6149	27'-11"				4	4	168
S6150	27'-3"				4	4	164
S6151	26'-7"				4	4	160
S6152	25'-11"				4	4	156
S6153	25'-3"				4	4	152
S6154	24'-7"				4	4	148
S6155	23'-11"				4	4	144
S6156	23'-3"				4	4	140
S6157	22'-7"				4	4	136
S6158	21'-11"				4	4	132
S6159	21'-3"				4	4	128
S6160	20'-7"				4	4	124
S6161	19'-11"				4	4	120
S6162	19'-3"				4	4	116
S6163	18'-7"				4	4	112
S6164	17'-11"				4	4	108
S6165	17'-3"				4	4	104
S6166	16'-11"				4	4	102
S6167	16'-3"				4	4	98
S6168	15'-7"				4	4	94
S6169	14'-11"				4	4	90
S6170	14'-3"				4	4	86
S6171	13'-7"				4	4	82
S6172	12'-11"				4	4	78
S6173	12'-3"				4	4	74
S6174	11'-7"				4	4	70
S6175	10'-11"				4	4	66
S6176	10'-3"				4	4	62
S6177	9'-7"				4	4	58
S6178	8'-11"				4	4	54
S6179	8'-3"				4	4	50
S6180	7'-7"				4	4	46
S6181	6'-11"				4	4	42
S6182	6'-3"				4	4	38
S6183	5'-7"	↓	10	26	24	60	503
S6184	5'-0"	Str.			16	16	120
S6185	4'-0"	44			13	13	78

SUPERSTRUCTURE

MARK	LENGTH	TYPE	NUMBER UNIT 1	NUMBER UNIT 2	NUMBER UNIT 3	TOTAL	WEIGHT
S701	7'-6"	45		4	4	8	123
S702	5'-3"	1		4	4	8	86
S703	10'-3"	44		4	4	8	168
S704	6'-3"	21		4	4	8	102
H501	13'-3"	Str.	12	4	12	28	387
H502	15'-6"	↑		72	88	160	2,587
H503	6'-0"			88	28	116	726
H504	9'-9"			8		8	81
H505	6'-10"			20	4	24	171
H506	6'-6"			24	104	128	868
H507	5'-6"	↓			56	56	321
H508	12'-10"	Str.	12			12	161

Total weight (Superstructure) = 246,384 Lbs.

REAR ABUTMENT

MARK	LENGTH	TYPE	TOTAL	WEIGHT
A501	19'-9"	37	24	494
A502	9'-2"	17	7	67
A503	9'-8"	17	8	81
A504	10'-5"	17	8	87
A505	11'-2"	17	7	81
A506	41'-4"	16	21	905
A507	7'-2"	1	58	434
A508	6'-4"	Str.	14	93
A509	5'-7"	Str.	1	6
A510	5'-2"	Str.	1	5
A511	4'-9"	Str.	1	5
A512	19'-8	Str.	20	410
A513	5'-4"	46	20	111
A514	2'-9"	Str.	16	46
A515	2'-0"	1	28	59
A516	12'-9"	Str.	8	106
A517	4'-6"	Str.	4	19
A518	14'-9"	Str.	8	123
A519	12'-9"	Str.	2	27
A520	6'-3"	Str.	14	91
A521	6'-0"	Str.	1	6
A522	5'-6"	Str.	1	6
A523	5'-0"	Str.	4	21
A524	15'-0"	Str.	2	31
A525	6'-0"	Str.	2	13
A526	11'-0"	Str.	2	23
A527	10'-0"	16	1	10
A601	11'-5"	1	30	515
A602	9'-11"	1	30	447
A603	9'-2"	17	7	96
A604	9'-8	17	8	116
A605	10'-5"	17	8	125
A606	11'-2"	17	4	67
A607	6'-4"	1	32	304
A608	8'-2"	1	32	393
A609	7'-11"	28	14	166
A610	7'-5"	28	1	11
A611	6'-11"	28	1	10
A612	6'-5"	28	1	10
A613	5'-11"	28	4	36
A614	8'-2"	28	14	172
A615	7'-7"	28	1	11
A616	6'-11"	28	1	10
A617	6'-3"	28	4	38
A618	16'-4"	1	38	932
A619	8'-8"	1	6	78

REAR ABUTMENT

MARK	LENGTH	TYPE	TOTAL	WEIGHT
A801	23'-1"	Str.	4	247
A802	27'-0"	Str.	16	1,153
A803	8'-6"	16	2	45
A804	16'-0"	Str.	7	299
A805	12'-4"	Str.	1	33
A806	18'-6"	Str.	6	296
A807	13'-3"	Str.	2	71
A808	14'-6"	Str.	2	77
A809	10'-4"	28	4	110
A810	8'-4"	28	4	89
A1001	20'-1"	1	13	1,223
A1002	25'-1"	1	13	1,403
H509	19'-8	Str.	8	164

Total weight (Rear Abut.) = 12,107 Lbs.

BENT BAR SCHEDULE
SUPERSTRUCTURE

MARK	TYPE	A	B	C	D	E	F or R
S501	1	7"	1'-0"				
S502	46	2'-2"	2'-5"	7½"			2¼"
S503	17	6"	1'-10"				
S504	45	9"	10"	11½"	9"	9"	1'-2½"
S521	37	2'-3"	1'-9"				
S522	44	1'-3"	1'-6"	2'-1"	1'-6"	2'-0"	
S6185	44	5"	2½"	1'-2¾"	1'-2½"	6"	
S701	45	3'-0"	11"	1'-1"	8"	2'-4"	1'-3¼"
S702	1	1'-9"	1'-9"				
S703	44	1'-3"	2'-10"	4'-0"	2'-10"	6"	
S704	21	2'-3"	2'-1"	1'-2"	1'-9"	1'-0"	1'-0"

For Notes see sh. No. 390A

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

30/31

REINFORCING STEEL LIST
BRIDGE NO. HAM.-471-0047

H & E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	AK		PRD 9-13-71	JHO 12-13-72	

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

390
494

HAMILTON COUNTY
HAM-471-0.30

MICROFILMED
FEB 2 1981

FORWARD ABUTMENT

MARK	LENGTH	TYPE	TOTAL	WEIGHT
A551	9'-9"	1	52	529
A552	8'-11"	1	1	9
A553	8'-2"	1	1	9
A554	7'-8"	1	1	8
A555	6'-11"	1	1	7
A556	11'-0"	37	11	126
A557	8'-0"	Str.	4	33
A558	39'-6"	Str.	11	453
A559	17'-3"	16	4	72
A560	19'-3"	16	4	80
A561	12'-8"	Str.	3	40
A562	30'-0"	Str.	6	188
A563	11'-0"	Str.	5	57
A564	10'-3"	1	57	609
A565	6'-3"	Str.	3	20
A566	7'-9"	1	55	444
A567	11'-9"	16	4	49
A568	4'-4"	16	4	18
A569	7'-3"	Str.	6	45
A570	2'-8"	1	4	11
A571	28'-9"	Str.	21	630
A572	17'-0"	16	5	89
A573	16'-0"	Str.	5	83
A574	5'-0"	16	5	26
A575	4'-6"	Str.	14	66
A576	5'-4"	46	4	22
A577	4'-9"	16	1	5
A578	3'-10"	16	1	4
A579	6'-7"	1	30	206
A580	8'-10"	46	2	18
A651	11'-3"	1	52	879
A652	10'-5"	1	1	16
A653	9'-8"	1	1	15
A654	9'-2"	1	1	14
A655	8'-5"	1	1	13
A656	9'-1"	28	6	82
A657	23'-11"	1	6	216
A658	10'-3"	17	55	847
A659	6'-6"	Str.	3	29
A660	16'-2"	1	79	1919
A661	5'-10"	1	69	604
A662	8'-0"	1	69	829
A663	8'-6"	1	10	128
A664	8'-6"	Str.	3	38
A666	18'-0"	1	2	54
A667	7'-0"	1	2	21
A669	1'-8"	Str.	1	3
A670	2'-8"	Str.	1	4
A671	3'-10"	10	2	12
A851	30'-0"	Str.	20	1602
A852	21'-0"	Str.	2	112
A853	18'-6"	Str.	6	296
A854	12'-9"	16	2	68
A855	11'-0"	Str.	2	59
A856	15'-0"	Str.	2	80
A857	14'-0"	Str.	2	75
A858	8'-0"	Str.	6	128
H510	4'-8"	Str.	4	19

Total weight (Forward Abutment) = 12,118 Lbs.

PIERS

MARK	LENGTH	TYPE	NUMBER 1	2	3	4	5	6	7	TOTAL	WEIGHT
P4101	7'-1"	1	44		64	60	90	72	62	392	1854
P4102	6'-3"	29	44		64					108	451
P4103	7'-0"	29		62						62	290
P4104	8'-1"	1		62						62	335
P4105	6'-1"	29				60	90	72	62	284	1156
P5098	16'-4"	37						32		32	545
P5099	14'-4"	37					18			18	269
P5100	15'-4"	37				19				19	304
P5101	12'-10"	37			76					76	1017
P5102	7'-0" to 8'-8"	1	4 Series of 4							4 Series of 4	131
P5103	7'-8" to 8'-8"	1	4 Series of 4							4 Series of 4	136
P5104	17'-4"	37							68	68	1229
P5105	8'-11" to 10'-5"	1		2 Series of 9						2 Series of 9	181
P5106	9'-7" to 10'-9"	1		2 Series of 9						2 Series of 9	191
P5107	8'-5" to 10'-1"	1			2 Series of 11					2 Series of 11	212
P5108	13'-5"	37		34						34	476
P5109	6'-1"	1	30		30	30	30	30	30	180	1142
P5110	12'-0"	37	62							62	776
P5111	6'-7"	1		30						30	206
P5112	9'-1" to 10'-1"	1			2 Series of 11					2 Series of 11	220
P5113	8'-1" to 11'-1"	1				2 Series of 5				2 Series of 5	100
P5114	9'-1" to 11'-1"	1				2 Series of 5				2 Series of 5	105
P5115	9'-3" to 10'-1"	1					2 Series of 7			2 Series of 7	141
P5116	9'-1" to 10'-9"	1					2 Series of 7			2 Series of 7	145
P5117	10'-3" to 12'-1"	1						2 Series of 14		2 Series of 14	326
P5118	9'-9" to 12'-7"	1						2 Series of 14		2 Series of 14	326
P5119	8'-11" to 12'-1"	1							4 Series of 13	4 Series of 13	569
P5120	9'-3" to 12'-3"	1							4 Series of 13	4 Series of 13	583
P7101	20'-9"	Str.	4							4	170
P7102	19'-10"	Str.		4	4					8	324
P7103	9'-6"	Str.					36			36	699
P7104	11'-2"	26					36			36	822
P7105	28'-6"	Str.					4			4	233
P7106	23'-3"	Str.				4				4	190
P7107	37'-2"	Str.							4	4	304
P7108	33'-0"	Str.						4		4	270
P8101	8'-6"	Str.	12				12			24	545
P8102	10'-6"	Str.	10	16	16	10			36	88	2465
P8103	14'-6"	Str.		12	12					24	929
P8104	11'-8"	26					42			42	1308
P8105	8'-6"	Str.				12				12	272
P8106	9'-6"	Str.						30		30	761

PIERS

MARK	LENGTH	TYPE	NUMBER 1	2	3	4	5	6	7	TOTAL	WEIGHT
P9101	29'-6"	16					16			16	1605
P9102	30'-0"	Str.						2		2	204
P9103	37'-11"	Str.						2		2	258
P9104	13'-0"	26		32					36	68	3005
P10101	26'-10"	16	6							6	693
P10102	16'-0"	16	6							6	413
P10103	13'-4"	26	20		24	20			36	100	5740
P10104	11'-4"	26	24							24	1171
P10105	21'-3"	Str.			28					28	2560
P10106	6'-6"	Str.				4				4	112
P10107	23'-0"	17			4					4	396
P10108	34'-10"	17					2			2	300
P10109	30'-0"	17					2			2	258
P10110	11'-4"	26				20				20	975
P10111	46'-4"	Str.							4	4	797
P10112	12'-4"	26						60		60	3184
P10113	17'-11"	16				8				8	617
P10114	30'-0"	16				8				8	1033
P10115	24'-2"	Str.				12				12	1248
P10116	26'-11"	17				4				4	963
P10117	30'-0"	Str.							4	4	516
P10118	55'-8"	Str.					6			6	1437
P11101	21'-10"	Str.	12							12	1392
P11102	24'-0"	17	4							4	510
P11103	16'-3"	Str.	28						108	136	11742
P11104	7'-10"	24	56	60	56	48	72	78	108	478	19894
P11105	22'-3"	Str.		30	28					58	6856
P11106	13'-9"	16		8	8					16	1169
P11107	27'-6"	16		8	8					16	2338
P11108	17'-8"	26		28	32					60	5632
P11109	23'-0"	Str.					24			24	2933
P11110	25'-6"	Str.	2							2	271
P11111	22'-3"	Str.				24				24	2837
P11112	17'-9"	Str.	28					26		54	5093
P11113	23'-6"	Str.			28					28	3496
P11114	22'-8"	17		4						4	482
P11115	25'-0"	Str.		6						6	797
P11116	52'-9"	17							2	2	561
P11117	30'-0"	17							2	2	319
P11118	38'-0"	16							20	20	4038
P11119	20'-2"	Str.				24	24	26		74	7929
P11120	30'-0"	17						2		2	319
P11121	44'-3"	17						2		2	470
P11122	34'-3"	16						16		16	2912
P11123	22'-0"	Str.				24				24	2805
P11124	17'-2"	Str.						26		26	2371
P11125	20'-9"	Str.		46						46	5071
P11126	46'-9"	Str.							10	10	2484
P11127	30'-0"	Str.						6	10	16	2550
P11128	38'-9"	Str.						6		6	1235

Total Weight (Piers) = 148,199 Lbs.

For Notes see Sh. 390A

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

REINFORCING STEEL LIST

BRIDGE NO. HAM.-471-0047

H & E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	AK		MSO	JHO 12-13-72	

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
5	OHIO		

390A
494

HAMILTON COUNTY
HAM-471-0.30

BENT BAR SCHEDULE
PIERS

MARK	TYPE	A	B	C	D	E
P4101	1	2'-1"	3'-1"			
P4102	29	1'-4"	1'-3½"	11"	1'-2"	11"
P4103	29	1'-8½"	1'-7½"	1'-0"	1'-0"	1'-4⅜"
P4104	1	2'-4"	3'-7½"			
P4105	29	1'-5"	1'-1"	1'-0"	1'-1"	1'-0"
P5098	37	4'-8"	3'-1"			
P5099	37	3'-8"	3'-1"			
P5100	37	4'-2"	3'-1"			
P5101	37	3'-8"	2'-4"			
P5102	1	2'-8" to 3'-6"	1'-11"			
P5103	1	3'-0" to 3'-6"	1'-11"			
P5104	37	5'-2"	3'-1"			
P5105	1	2'-9" to 3'-6"	3'-8"			
P5106	1	3'-1" to 3'-8"	3'-8"			
P5107	1	2'-9" to 3'-7"	3'-2"			
P5108	37	3'-8"	2'-7½"			
P5109	1	1'-7"	3'-2"			
P5110	37	3'-8"	1'-11"			
P5111	1	1'-7"	3'-8"			
P5112	1	3'-1" to 3'-7"	3'-2"			
P5113	1	2'-7" to 4'-1"	3'-2"			
P5114	1	3'-1" to 4'-1"	3'-2"			
P5115	1	3'-2" to 3'-7"	3'-2"			
P5116	1	3'-1" to 3'-11"	3'-2"			
P5117	1	3'-8 to 4'-7"	3'-2"			
P5118	1	3'-5" to 4'-10"	3'-2"			
P5119	1	3'-5" to 5'-0"	2'-4"			
P5120	1	3'-7" to 5'-1"	2'-4"			
P7104	26	9'-6"				
P8104	26	9'-6"				
P9101	16	1'-0"	23'-3"	6'-3"	6'-2"	
P9104	26	10'-6"				
P10101	16	1'-0"	19'-10"	7'-0"	6'-11"	
P10102	16	7"	8'-9"	7'-3"	7'-2½"	
P10103	26	10'-6"				
P10104	26	8'-6"				
P10107	17	2'-6"	20'-9"			
P10108	17	3'-0½"	32'-1"			
P10109	17	3'-0½"	27'-3"			
P10110	26	8'-6"				
P10112	26	9'-6"				
P10113	16	1'-1"	9'-8"	8'-3"	8'-2"	
P10114	16	1'-7"	21'-9"	8'-3"	8'-1"	
P10116	17	2'-6"	24'-8"			
P11102	17	2'-6"	21'-10"			
P11104	24	6'-3"				
P11106	16	8"	7'-3"	6'-6"	6'-6"	
P11107	16	10"	21'-0"	6'-6"	6'-6"	
P11108	26	14'-6"				
P11114	17	3'-0"	20'-0"			
P11116	17	3'-3½"	49'-9"			
P11117	17	3'-3½"	27'-0"			
P11118	16	1'-8"	27'-9"	10'-3"	10'-2"	
P11120	17	3'-0½	27'-3"			
P11121	17	3'-0½"	41'-6"			
P11122	16	1'-6"	26'-0"	8'-3"	8'-1"	

BENT BAR SCHEDULE
REAR ABUTMENT

MARK	TYPE	A	B	C	D	E or R
A501	37	7'-0"	2'-0"			
A502	17	1'-3"	8'-0"			
A503	17	1'-3"	8'-6"			
A504	17	1'-3"	9'-3"			
A505	17	1'-3"	10'-0"			
A506	16	1'-4"	39'-10"	1'-6"	9"	
A507	1	2'-0"	3'-5"			
A513	46	2'-2"	2'-5"	7½"		2⅛"
A515	1	6½"	1'-0"			
A527	16	1'-4"	8'-6"	1'-6"	9"	
A601	1	2'-3"	7'-0"			
A602	1	1'-6"	7'-0"			
A603	17	1'-3"	8'-0"			
A604	17	1'-3"	8'-6"			
A605	17	1'-3"	9'-3"			
A606	17	10'-0"	1'-3"			
A607	1	2'-6"	1'-5"			
A608	1	3'-8"	11"			
A609	28	9"	9"	1'-2"	6'-0"	11"
A610	28	9"	9"	1'-2"	5'-6"	11"
A611	28	9"	9"	1'-2"	5'-0"	11"
A612	28	9"	9"	1'-2"	4'-6"	11"
A613	28	9"	9"	1'-2"	4'-0"	11"
A614	28	9"	9"	1'-2"	6'-3"	11"
A615	28	9"	9"	1'-2"	5'-8"	11"
A616	28	9"	9"	1'-2"	5'-0"	11"
A617	28	9"	9"	1'-2"	4'-4"	11"
A618	1	7'-6"	1'-5"			
A619	1	3'-8"	1'-5"			
AB03	16	1'-3"	6'-0"	2'-6"	2'-2"	
AB09	28	3'-6½"	1'-8"	7'-0"	1'-8"	6'-0½"
AB10	28	2'-6"	1'-8"	5'-0"	1'-8"	4'-3¾"
A1001	1	9'-6"	1'-2"			
A1002	1	12'-0"	1'-2"			

BENT BAR SCHEDULE
FORWARD ABUTMENT

MARK	TYPE	A	B	C	D	E or R
A551	1	1'-6"	7'-0"			
A552	1	1'-6"	6'-2"			
A553	1	1'-6"	5'-5"			
A554	1	1'-6"	4'-11"			
A555	1	1'-6"	4'-2"			
A556	37	3'-0"	2'-6"			
A559	16	11½"	16'-3"	1'-0"	5⅜"	
A560	16	5'-11"	12'-6"	6'-9"	3'-3"	
A564	17	1'-3"	9'-0"			
A566	1	2'-4"	3'-6"			
A567	16	1'-5"	10'-0"	1'-9"	1'-0"	
A568	16	2'-9½"	1'-0"	3'-4"	1'-10"	
A570	1	1'-0"	11"			
A572	16	11⅛"	16'-0"	1'-0"	5¾"	
A574	16	7"	3'-6"	1'-6"	1'-4"	
A576	46	2'-2"	2'-5"	7½"		2⅛"
A577	16	1'-5"	3'-0"	1'-9"	1'-0"	
A578	16	2'-4⅛"	1'-0"	2'-10"	1'-7"	
A579	1	1'-7"	3'-8"			
A580	46	3'-11"	4'-2"	7½"		2⅛"
A651	1	2'-3"	7'-0"			
A652	1	2'-3"	6'-2"			
A653	1	2'-3"	5'-5"			
A654	1	2'-3"	4'-11"			
A655	1	2'-3"	4'-2"			
A656	28	9"	9"	1'-5"	7'-0"	1'-3"
A657	1	11'-6"	1'-2"			
A658	17	1'-3"	9'-0"			
A660	1	7'-6"	1'-5"			
A661	1	2'-4"	1'-5"			
A662	1	3'-8"	11"			
A663	1	3'-8"	1'-5"			
A666	1	8'-0"	2'-3"			
A667	1	2'-6"	2'-3"			
AG71	10	1'-8"	3½"	5"	1'-8½"	
AB54	16	2'-2½"	10'-3"	2'-6"	1'-2"	

REPLACEMENT BARS

MARK	LENGTH	TYPE	NO.
RE401	6'-3"	Str.	1
RE501	6'-7"	Str.	6
RE601	6'-11"	Str.	8
RE701	7'-3"	Str.	1
RE801	7'-6"	Str.	1
RE901	7'-10"	Str.	1
RE1001	8'-3"	Str.	2
RE1101	8'-7"	Str.	5

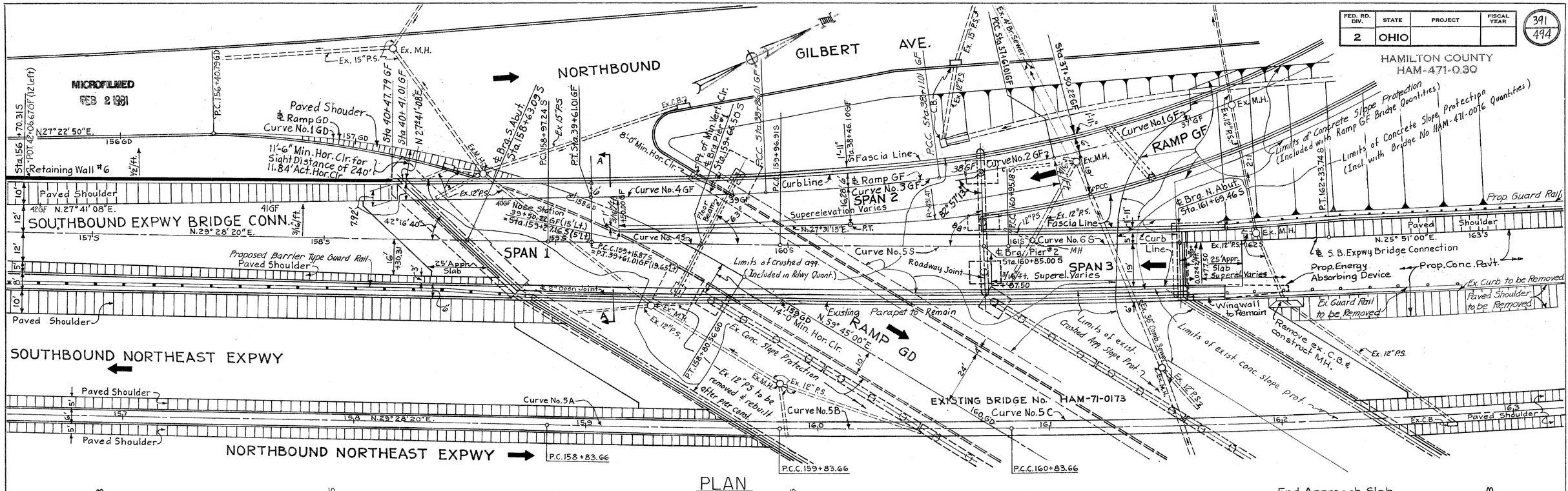
NOTE: Bar size is indicated in the bar mark.
The first digit where 4 through 9 and the first two digits when 10 through 11 are used is the bar size.
For bar bending schedule see sheet No. 470.
Total weight of reinforcing steel = 418,808 Lbs.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

31/31

REINFORCING STEEL LIST
BRIDGE NO. HAM.-471-0047
H & E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	AK		MSD	JHO 12-13-72	



FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

391/494

HAMILTON COUNTY
HAM-471-0.30

MICROFILMED
FEB 2 1981

PLAN

PROFILE ON BASE LINE

SECTION A-A

NOTES

A portion of the S. Abutment has been constructed under a previous contract. The remaining portions of the bridge will be constructed under this contract.

All piling HP10×42 Steel Piles

For Bench Marks, see sheet 33

Earthwork limits shown are schematic. Actual slopes shall conform to plan cross-sections.

CURVE DATA

CURVE No. 4 S	CURVE No. 5 S	CURVE No. 6 S
PI Sta. 159+47.08 S	PI Sta. 160+46.05 S	PI Sta. 161+64.47 S
Δ=0°15'01"	Δ=1°14'59"	Δ=2°07'20"
D=0°15'04"	D=1°16'18"	D=1°31'54"
R=22,816.90'	R=4505.57'	R=3740.75'
L=99.67'	L=98.27'	L=138.56'
T=49.83'	T=49.14'	T=69.29'
Curve No. 2 GF	*Curve No. 3 GF*	*Curve No. 4 GF*
PI Sta. 37+86.02 GF	*PI Sta. 38+48.54 GF*	*PI Sta. 39+23.51 GF*
Δ=5°15'45"	*Δ=5°36'57"*	*Δ=1°07'18"*
D=10°31'30"	*D=7°29'15"*	*D=1°29'44"*
R=544.38'	*R=765.22'*	*R=3831.07'*
L=50.00'	*L=75.00'*	*L=75.00'*
T=25.02'	*T=37.53'*	*T=37.50'*

PROPOSED STRUCTURE

TYPE: Continuous Plate Girder (Span 1 & 2) and Simple Span Steel Girder (Span 3) with Reinforced Concrete Deck and Substructure.
SPANS: 103.41', 118.50', 84.46', c/c Bearings measured along base line (S)
ROADWAY: Varies (See Plan and Section A-A)
LIVE LOADING: HS 20-44 and the Interstate Alternate Loading.
SKEW: Varies, (See Plan)
ALIGNMENT: Varies, (See Plan)
SUPERELEVATION: Varies, (See Plan)
SURFACE COURSE: 1½" Asphalt Concrete
APPROACH SLAB: AS-1-67 (25' long)

1984 Traffic Count

	ADT	DHV
a) From IR-71	9300	1540
b) From Ramp GF	7900	1010
Total	17200	2550

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SITE PLAN
BRIDGE No. HAM-471-0076

SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD

H & E BRIDGE No. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	A.L.T.		H.A.Z.	JHD 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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HAMILTON COUNTY
HAM-471-0.30

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER-STRUCTURE	SOUTH ABUTMENT	NORTH ABUTMENT	PIERS	GENERAL		
503		Lump Sum	Cofferdams, Cribs and Sheeting					Lump		
503	450	Cu.Yd.	Unclassified Excavation			113	337			
202		Lump Sum	Portions of Structure Removed		Lump					
505		Lump Sum	Test Pile					Lump		
507	2130	Lin. Ft.	Steel Piles, HP 10×42				2130			
509	170,511	Lb.	Reinforcing Steel	129,163	2814	4638	33,896			
511	565	Cu.Yd.	Class "C" Concrete, Superstructure	565						
511	82	Cu.Yd.	Class "C" Concrete, Pier Caps and Columns				82			
511	84	Cu.Yd.	Class "C" Concrete, Abutments above Footings		30	54				
511	138	Cu.Yd.	Class "C" Concrete, Footings			18	120			
512	7	Sq.Yd.	Type B Waterproofing		2	5				
512	13	Lin. Ft.	Premolded Sealing Strip		13					
513	711,000	Lb.	** Structural Steel	711,000						
514	711,000	Lbs.	Field Painting of Structural Steel	711,000						
516	57	Sq. Ft.	1" Preformed Expansion Joint Filler		10	47				
518	98	Cu.Yd.	Porous Backfill		68	30				
518	4	Each	Drain Inlets	4						
518	61	Lin. Ft.	6" Standard Pipe Downspout, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials					61		
518	24	Lin. Ft.	6" Non-Perforated, Helical Corrugated Metal Pipe including Specials, 707.01			24				
518	25	Lin. Ft.	6" Perforated, Helical Corrugated Metal Pipe, 707.01			25				
518	6	Lin. Ft.	8" Perforated, Corrugated Metal Pipe including Specials, 707.01		6					
518	56	Lin. Ft.	6"Standard Pipe Collector, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials					56		
601	107	Sq.Yd.	Concrete Slope Protection			107				
625			See Sheet 143 for Lighting Summary							
808	565	Units	Chemical Admixture for Concrete, Type A, B or D	565						
404	40	CU.YD.	ASPHALT CONCRETE (70-80 or AC20)	40						
SPECIAL	20	CU.YD.	SAND ASPHALT (SEE PROPOSAL NOTE)	20						
SPECIAL	1370	SQ.YD.	MEMBRANE WATERPROOFING (SEE PROPOSAL NOTE)	1370						

** Includes 1268 pounds of bronze.

GENERAL NOTES

REFERENCE shall be made to Standard Drawings AS-1-67 revised 6-12-69, SD-1-69, Sheets 1 and 2 dated 6-12-69, BR-1-67, Sheet 1 revised 10-15-71, RB-1-55 revised 2-2-59, and and to Supplemental Specifications 808 dated 1-1-71, 836 dated 1-1-71, and 927 dated 1-1-71.

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1969, including the Ohio "Supplement" to these specifications.

DESIGN DATA: Design Loading - HS20-44 "and the Interstate Alternate Loading"

Concrete Class C - unit stress 1200 psi. for superstructure
unit stress 1333 psi. for substructure

Structural Steel - ASTM A36 - unit stress 20,000 psi.

Reinforcing Steel - ASTM A615, A616 or A617 - unit stress 20,000 psi.
Spiral reinforcement may be plain bars ASTM A82, A306, A499 or A615. If bars in accordance with ASTM A616 are provided, they shall be subject to bend tests as per AASHO Designation M42-70.

FOUNDATION BEARING PRESSURE: North Abutment footing is designed for a maximum bearing pressure of 2.0 tons per sq.ft.

PILES shall be driven to firm contact with bedrock. If the length of penetration is approximately equal to the depth to bedrock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in 507.05 is not less than the following value for a pile hammer of the indicated energy rating:

45 tons per pile using an 11,000 ft. lb. hammer
40 tons per pile using a 15,000 ft. lb. or greater hammer

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 35 tons per pile.

UTILITY LINES: All expense involved in relocating (installing) the affected utility lines shall be borne by the Owner(s). The Contractor and Owner(s) are requested to cooperate by arranging their work in such a manner that inconvenience to either would be held to a minimum.

SOUTH ABUTMENT: Portions of the South Abutment have been constructed under a previous contract. It shall be the responsibility of the Contractor to determine the existing bridge seat elevations. The Contractor shall revise, if necessary, the proposed heights of the bearing details, and shall grind, if necessary, the existing concrete areas underneath the proposed masonry plates, in order to provide a level bearing surface.

The cost of this work shall be considered as included in the unit price bid for Item 513, "Structural Steel".

DECK REINFORCING BARS: AT THE CONTRACTOR'S OPTION, A PORTION (NOT TO EXCEED 25%) OF THE UPPER LONGITUDINAL BARS (S4__) IN THE DECK SLAB MAY BE PLACED BENEATH THE UPPER TRANSVERSE BARS FOR SUPPORT OF THE TOP MAT.

MAINTENANCE OF TRAFFIC - REFER TO SHEETS 13 AND 13A

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2A / 23

ESTIMATED QUANTITIES AND GENERAL NOTES
BRIDGE No. HAM-471-0076
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD
H&E BRIDGE No. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DH		W.L.	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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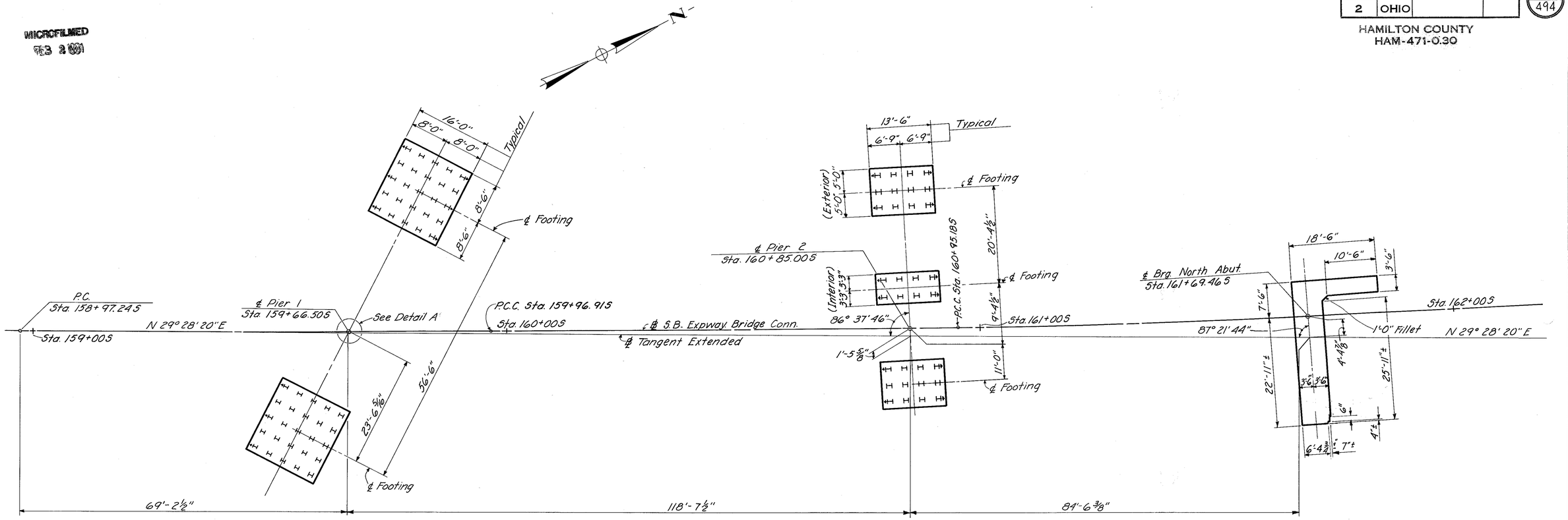
494

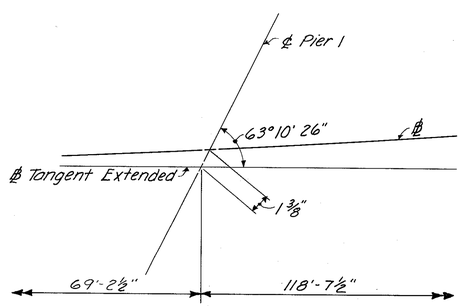
HAMILTON COUNTY
HAM-471-0.30



PIER 1 | PIER 2 | NORTH ABUTMENT

Note: For location of Piling see Sh. No. 398 & 399.

STAKE OUT PLAN



DETAIL A

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3 | 23

STAKE OUT PLAN
BRIDGE No. HAM-471-0076
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE No. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	D.B.S.	N.R.K.	W.L. 4-21-71	J.H.O. 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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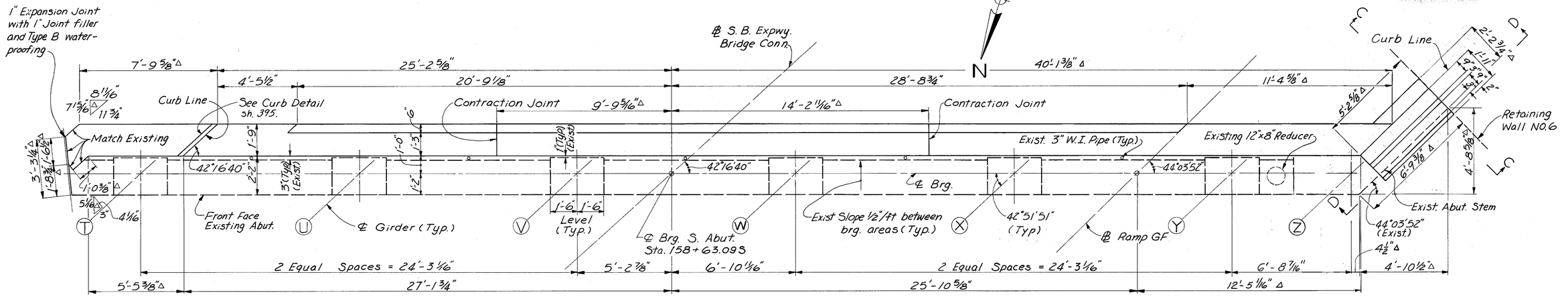
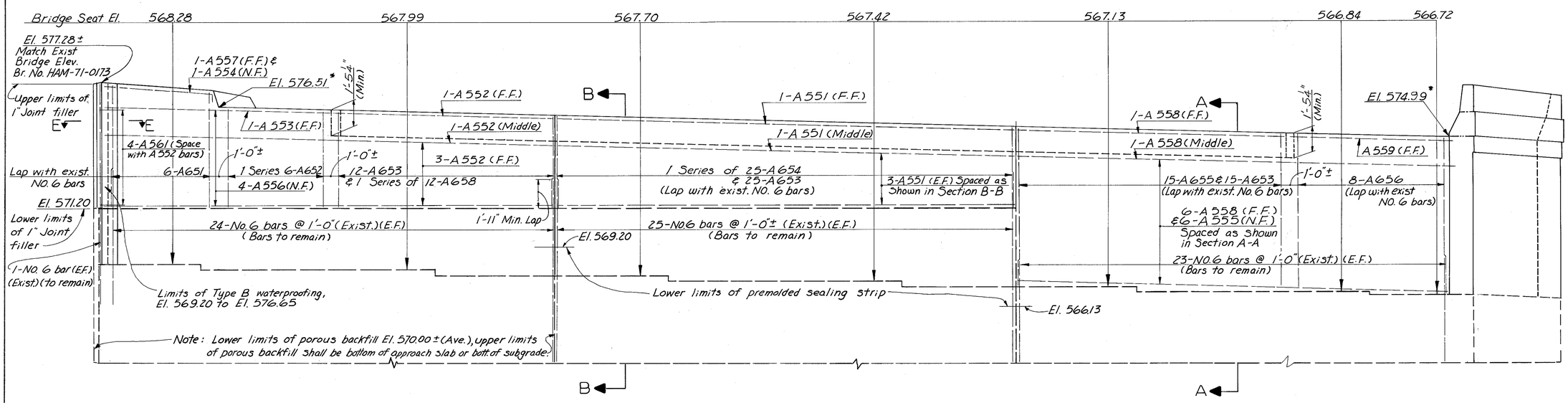
HAMILTON COUNTY
HAM-471-0.20



PLAN



ELEVATION

Note:
Elevations marked with (*) are given along front face of backwall (top of steel elevation, 4" below top of surface course).

Note:
E.F. denotes Each Face
N.F. denotes Near Face
F.F. denotes Far Face
△ denotes existing dimensions to be verified by contractor by field measurement.
All concrete shall be class C concrete.
For end finish details see Std. Dwg. SD-1-69 Sh. No. 1 & 2.

Porous Backfill 2 ft. thick shall extend up to the upper limits as shown on the plans & downward to the existing porous backfill.
Bridge Seat Elevations as shown were proposed elevations for the construction of South Abutment of project HAM-71-(1.56)(2.51).

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4/23

SOUTH ABUTMENT
BRIDGE NO. HAM-471-0076
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CYW		W.L.	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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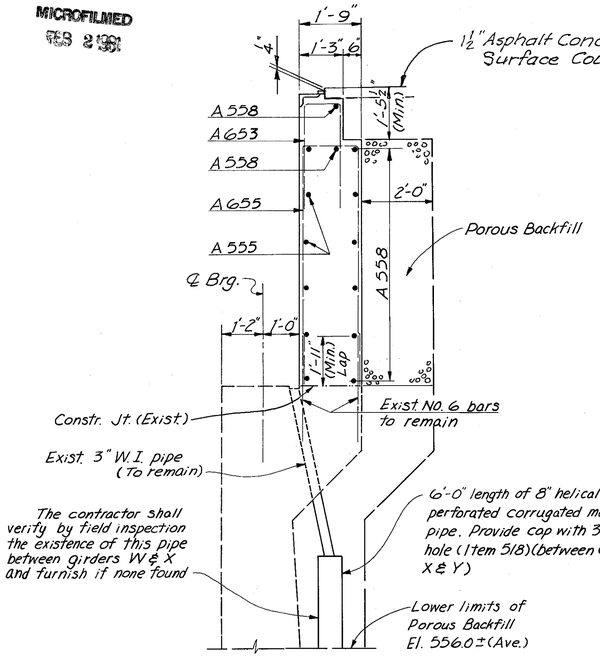
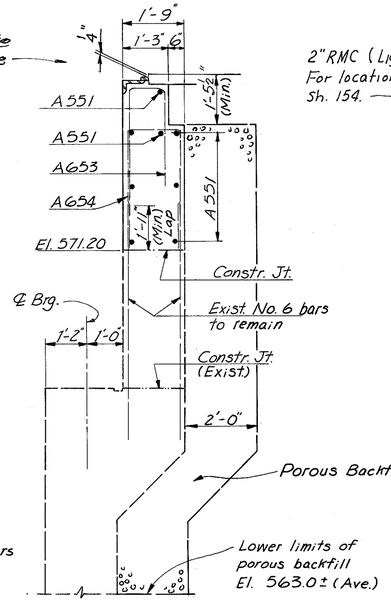
494

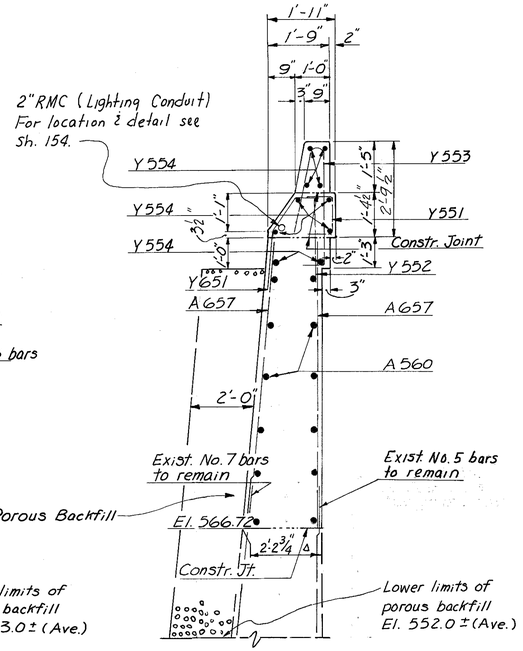
HAMILTON COUNTY
HAM-471-0.30



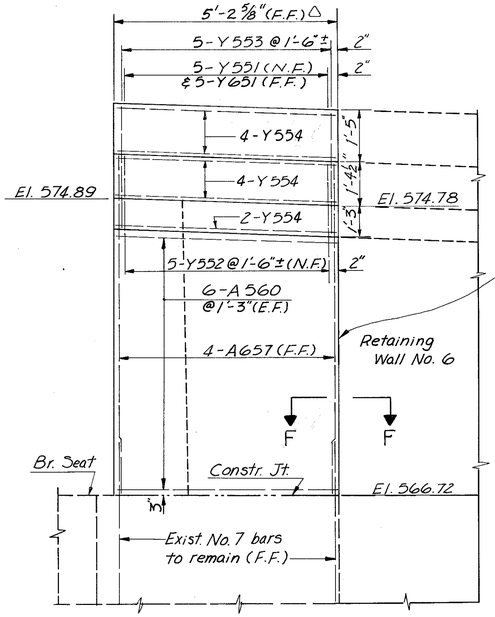
SECTION A-A



SECTION B-B

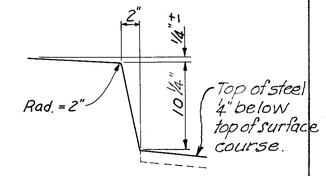


SECTION C-C



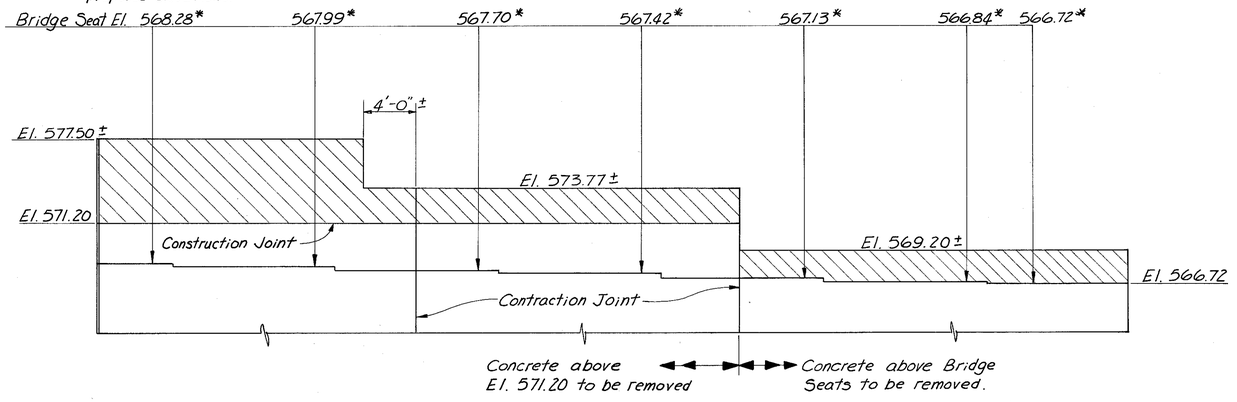
ELEVATION D-D

1" Expansion Joint with 1" Joint filler & premolded sealing strip (Include with Retaining Wall No. 6 quantities for payment.)



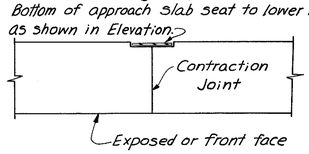
CURB DETAIL
(East Side)

* These elevations were proposed elevations for construction of South Abutment of Project No HAM-71-(1.56)(2.51). Dimensions T & H shown on Sheet 903 for Bearing R-150 were calculated using these elevations. However the Contractor may have to revise dimensions T & H if the as built elevations do not agree with the proposed elevations.

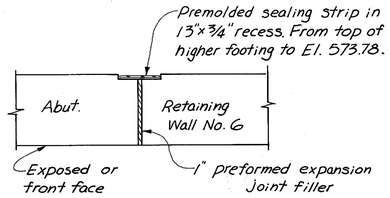


ELEVATION SHOWING REMOVAL OF EXISTING CONCRETE

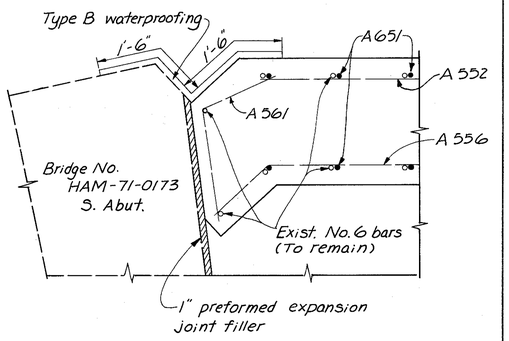
Note:
Payment for removal of existing concrete shall be included in the contract lump sum price bid for Item 202, Portions of Structure Removed Special care shall be taken in removing concrete so as not to damage the No. 6 size & No. 7 size reinforcing bars that are to remain.



CONTRACTION JOINT DETAIL



SECTION F-F



SECTION E-E

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5/23

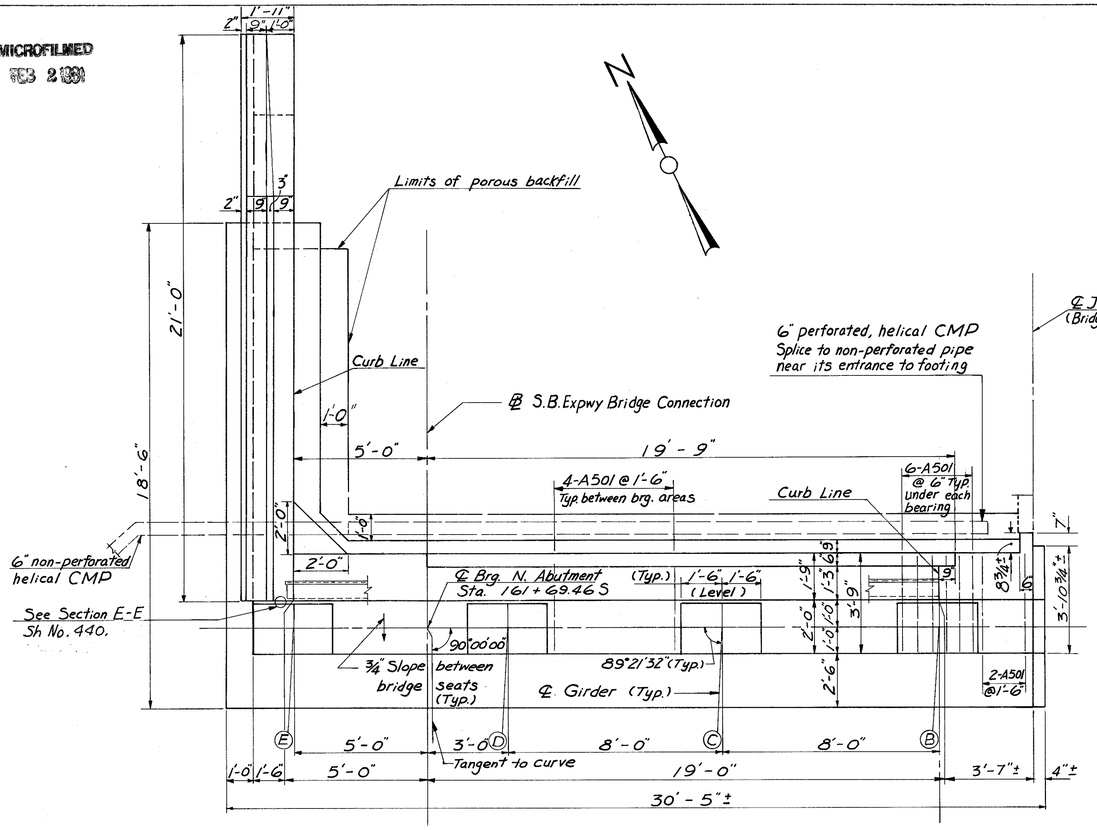
SOUTH ABUTMENT
BRIDGE NO. HAM-471-0076
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CYW		W.L.	JHO 11-9-72	

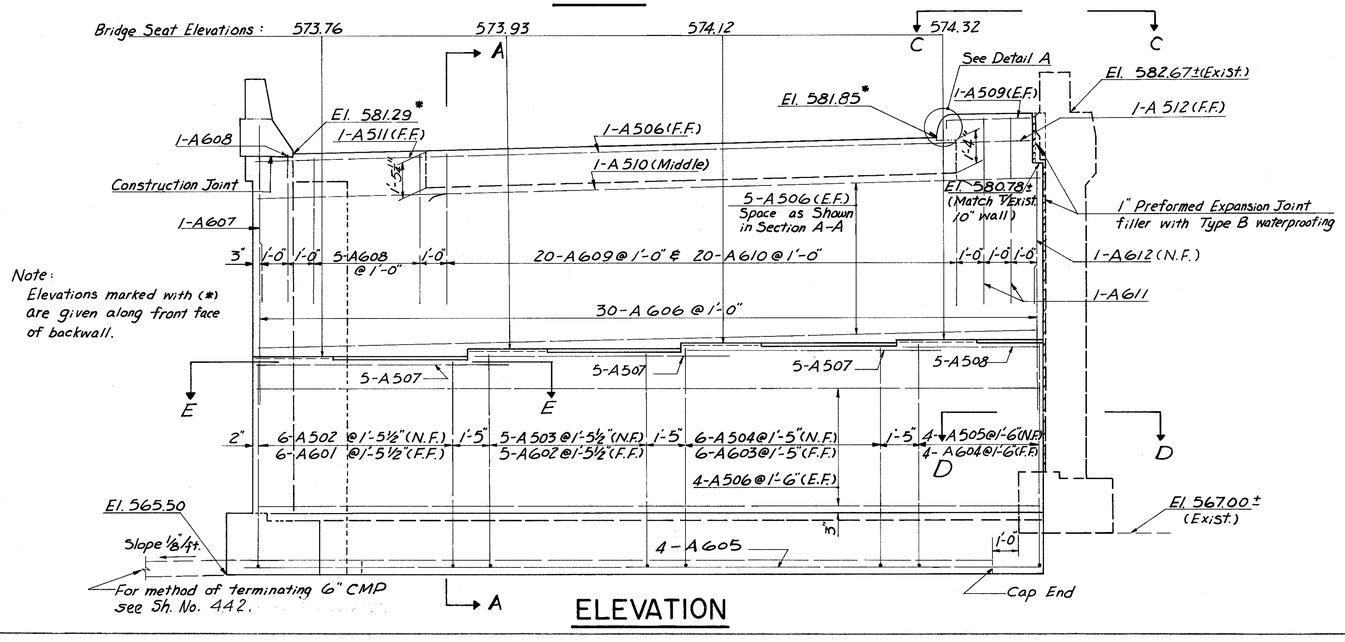
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

396/494

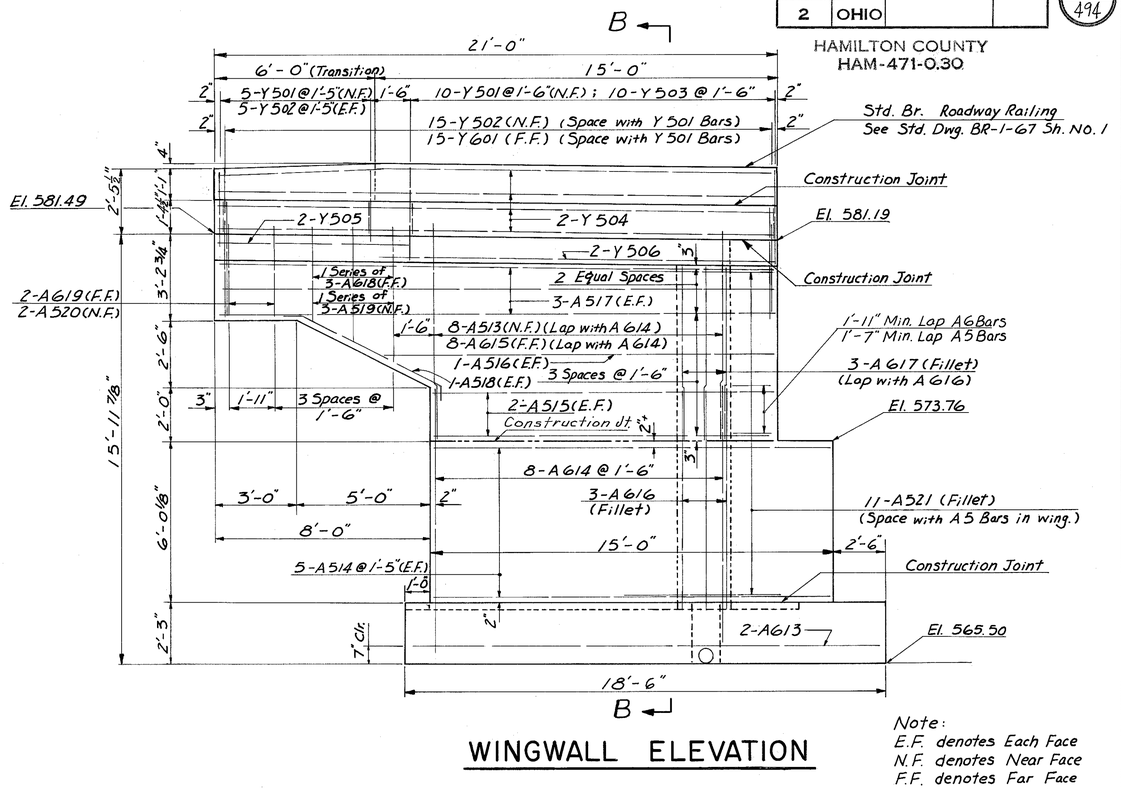
HAMILTON COUNTY
HAM-471-0.30



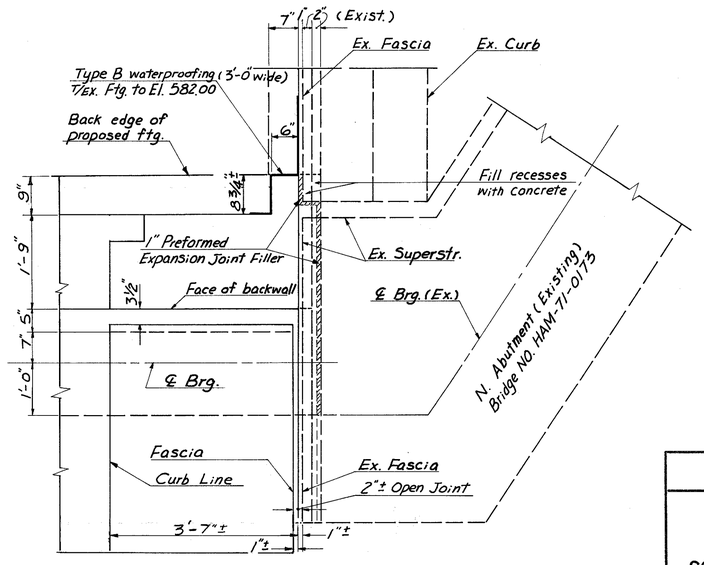
PLAN



ELEVATION



WINGWALL ELEVATION



VIEW C-C

Note:
E.F. denotes Each Face
N.F. denotes Near Face
F.F. denotes Far Face
Dimensions marked (±) shall be determined from field measurements to Existing North Abutment Bridge No. HAM-71-0173 by the Contractor.
For roadway & curb end finish details See Std. Dwg. SD-1-69 Sh. No. 1 & 2.
Provide 3" clearance to reinforcing steel in footing, minimum, unless noted otherwise.
All concrete shall be class "C" concrete.
Porous Backfill, shall extend up to the plane of the subgrade and to the limits as shown in plan & Sections A-A & B-B.

HAZELET & ERDAL
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6/23

NORTH ABUTMENT
BRIDGE NO. HAM-471-0076
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CYW		W.L. 1-21-72	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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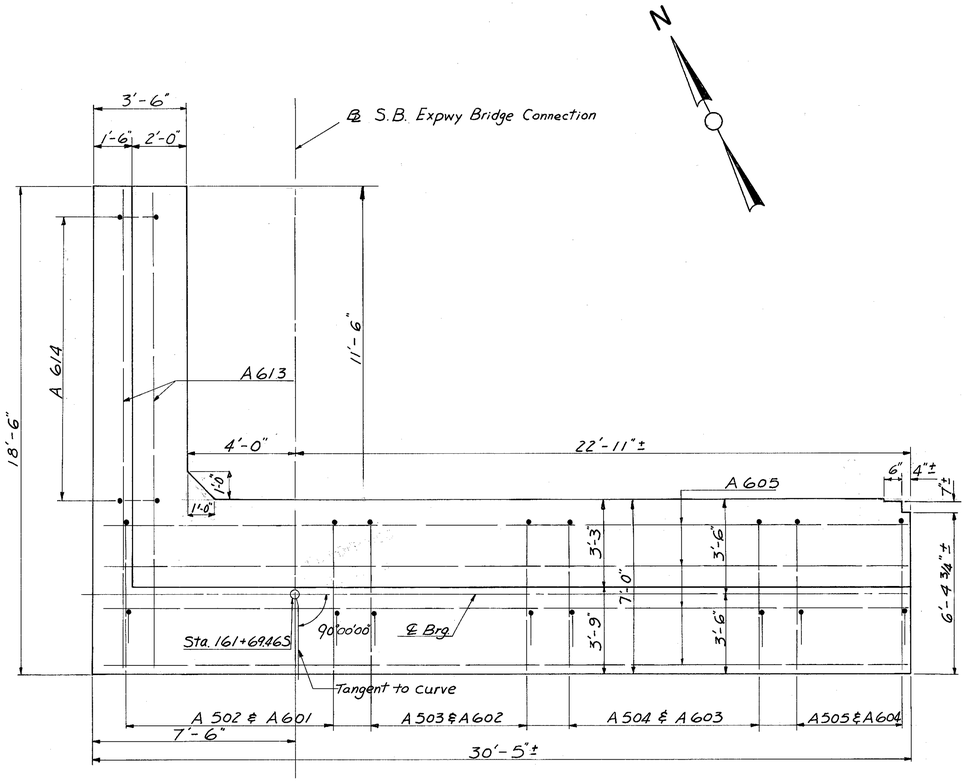
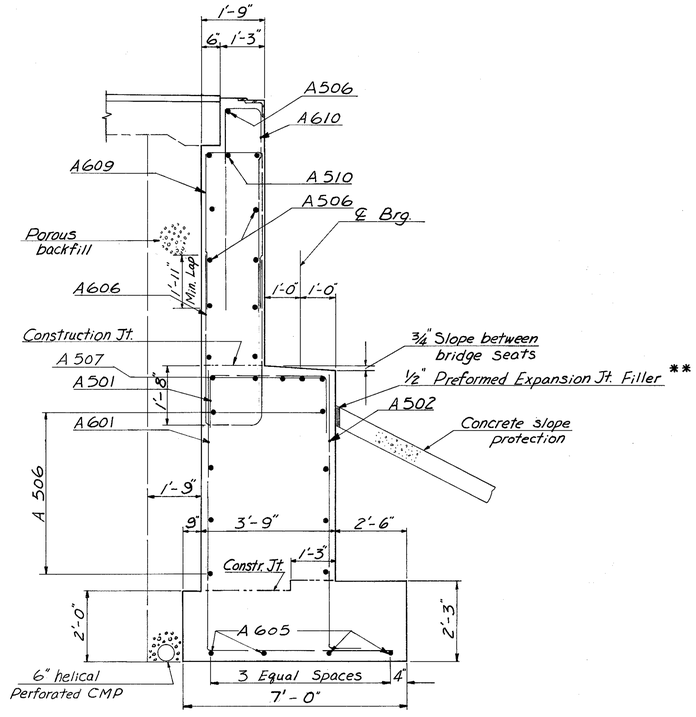
494

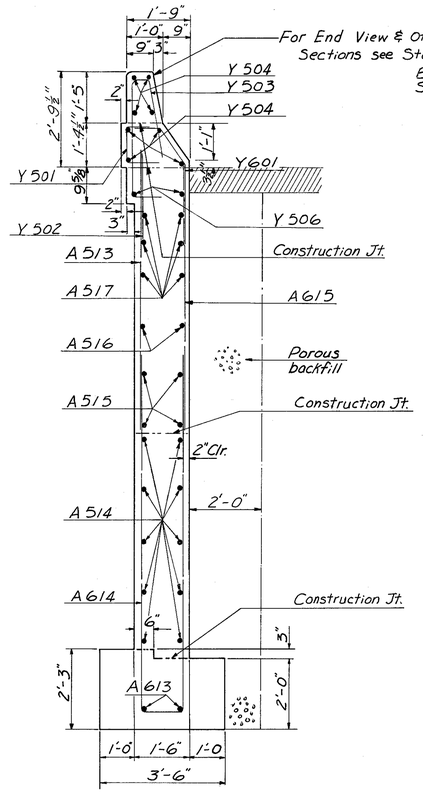
HAMILTON COUNTY
HAM-471-0.30



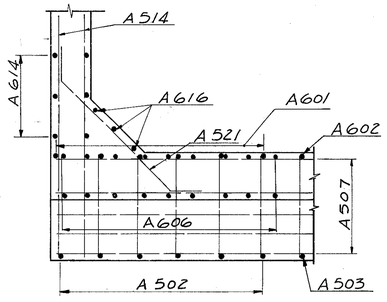
FOOTING PLAN
(6" CMP Not Shown)



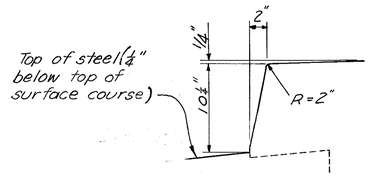
SECTION A-A



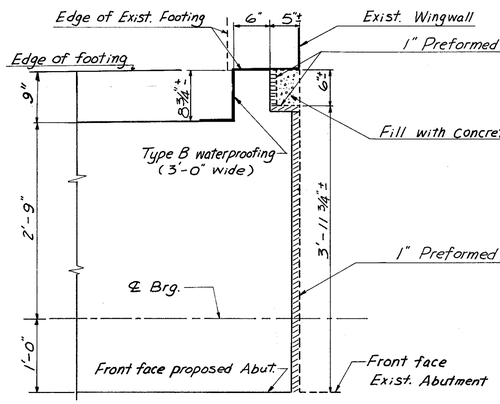
SECTION B-B



SECTION E-E



DETAIL A



SECTION D-D

Note
** Included with concrete slope protection for payment.

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NORTH ABUTMENT
BRIDGE NO. HAM-471-0076
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CYW		WL 1-21-71	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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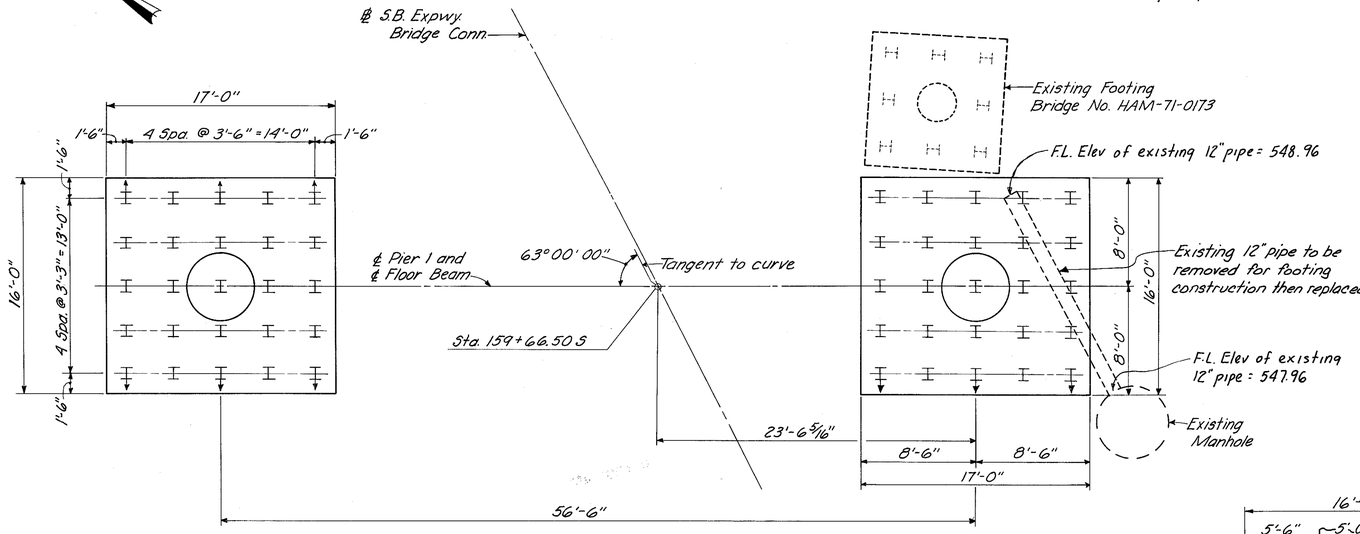
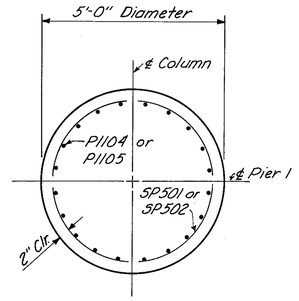
HAMILTON COUNTY
HAM-471-0.30

Note: The contractor shall locate the existing footing before driving piles for the proposed footing. Care shall be exercised in driving prop. piles so as not to damage the existing footing or piles.

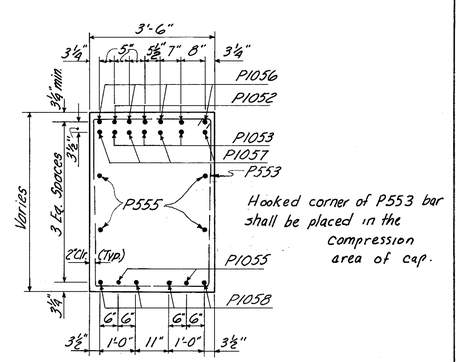


Note: Footings identical except as shown.
I denotes battered pile

PLAN

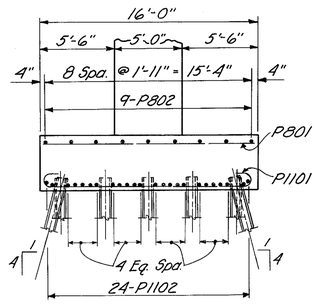


SECTION A-A

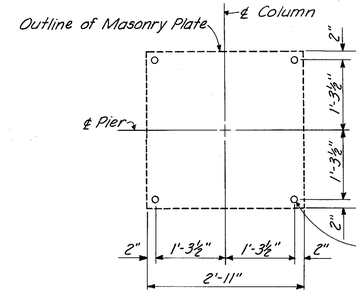


SECTION C-C

(For location see Sh. No 399)

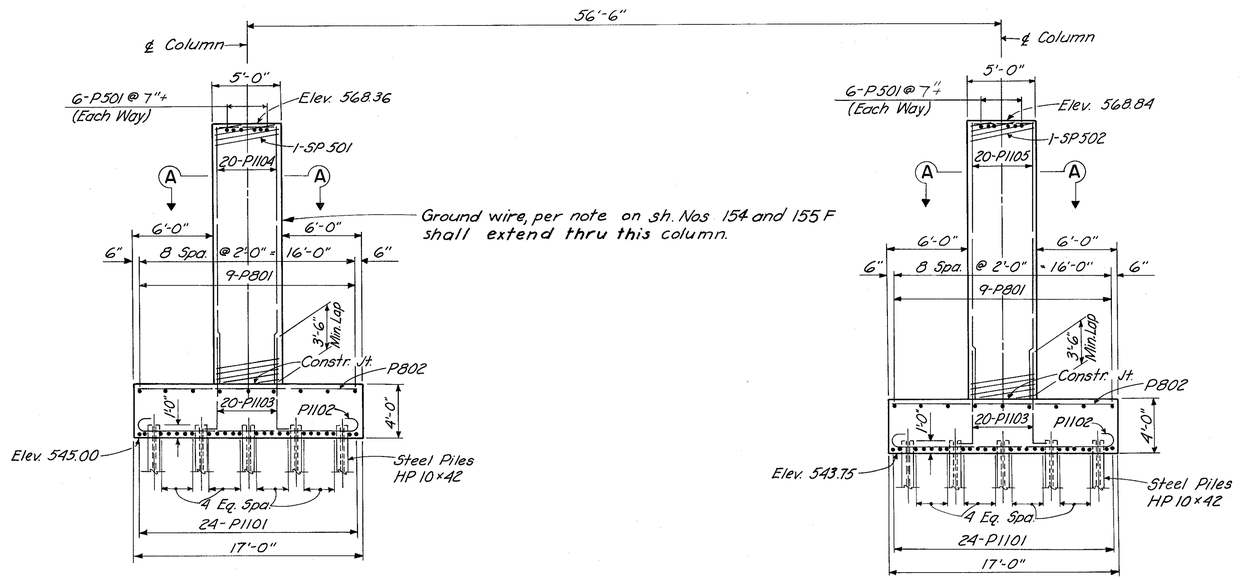


END VIEW WEST FOOTING

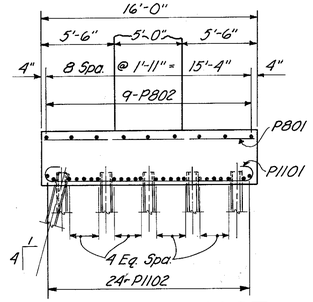


ANCHOR BOLT DETAIL

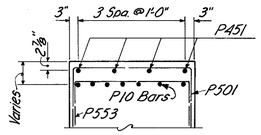
Note: Provide 3" clearance to reinforcing steel in footing, minimum.



ELEVATION



END VIEW EAST FOOTING



SECTION D-D

(For location see Sh. No 399)

HAZELET & ERDAL
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CINCINNATI, OHIO

8/23

PIER 1

BRIDGE NO. HAM-471-0076

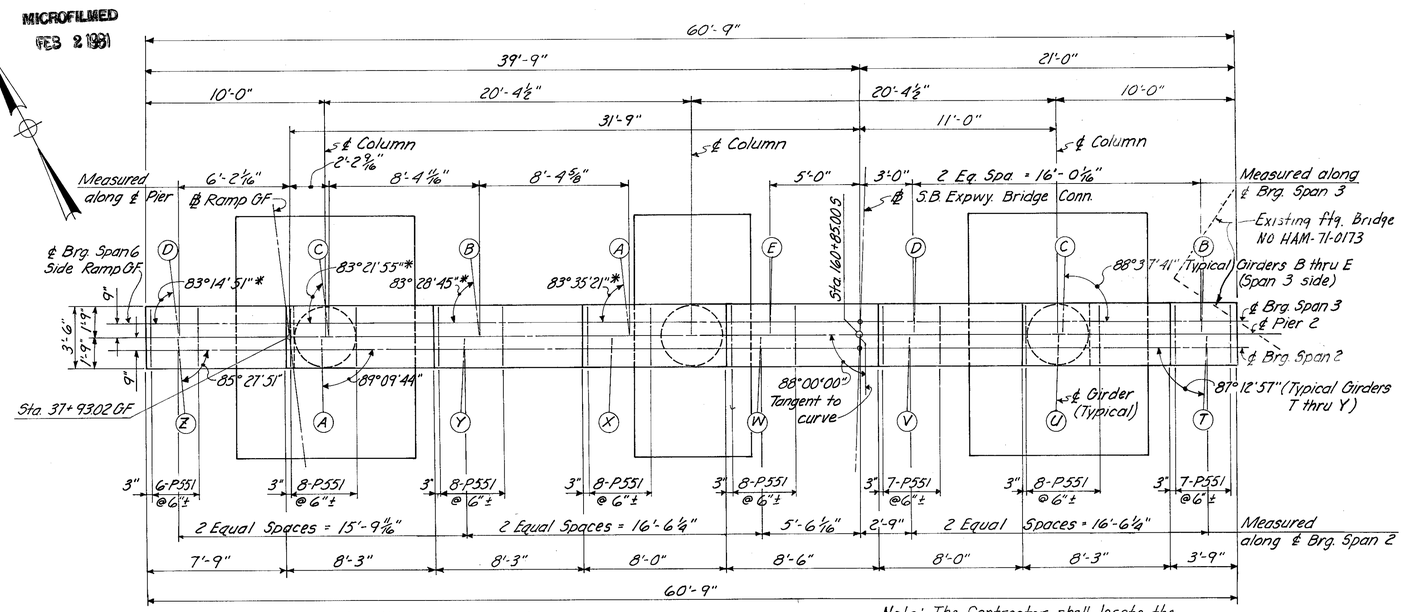
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
CYW	D.B.S.	MRK	VVL. 4-21-71	JHD 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

399
494

HAMILTON COUNTY
HAM-471-0.30

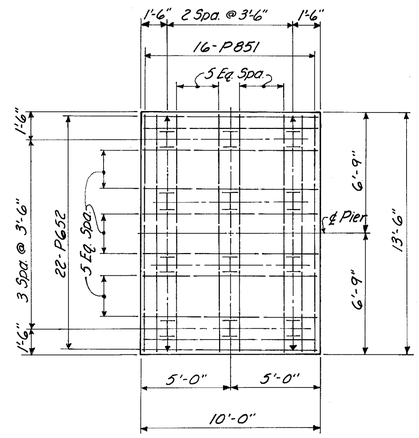


Note: Angles marked with * are measured from ℄ Brg. to tangent to Girder curve.

PLAN

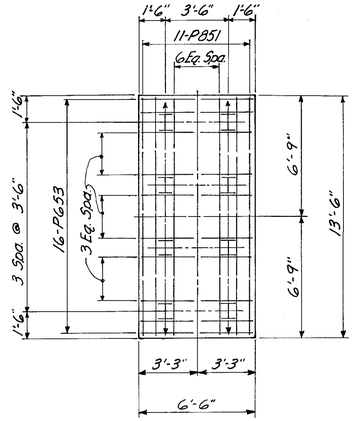
Note: The Contractor shall locate the existing footing before driving piles for the proposed footing. Care shall be exercised in driving prop. piles so as not to damage the existing footing or piles.

Note: ⌶ denotes battered pile



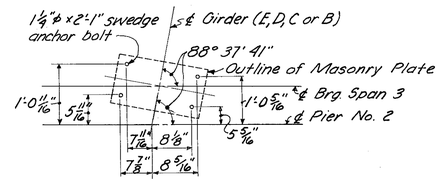
EXTERIOR FOOTING

Note: Provide 3" clearance to reinforcing steel in footings, minimum.



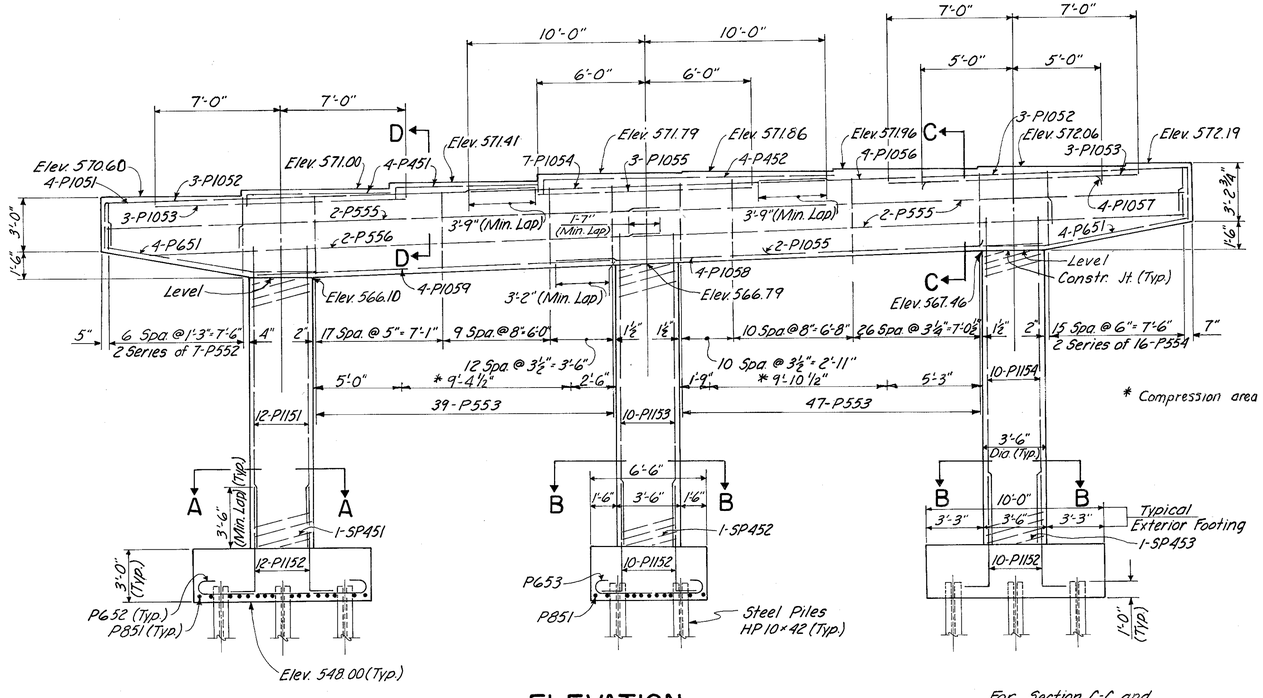
INTERIOR FOOTING

Note:
Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bolt holes.



ANCHOR BOLT LAYOUT

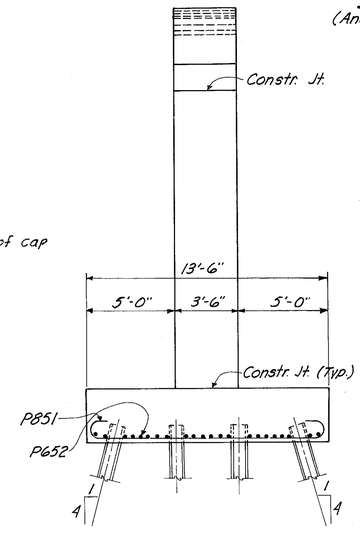
(Anchor bolts only at girders E, D, C & B Span 3.)



* Compression area in top of cap

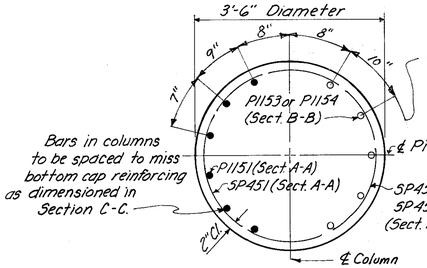
ELEVATION

For Section C-C and Section D-D see Sh. No. 398.



END VIEW

(Exterior Footing Reinforcing Shown)



HALF SECTION A-A
HALF SECTION B-B

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9/23

PIER 2
BRIDGE NO. HAM-471-0076

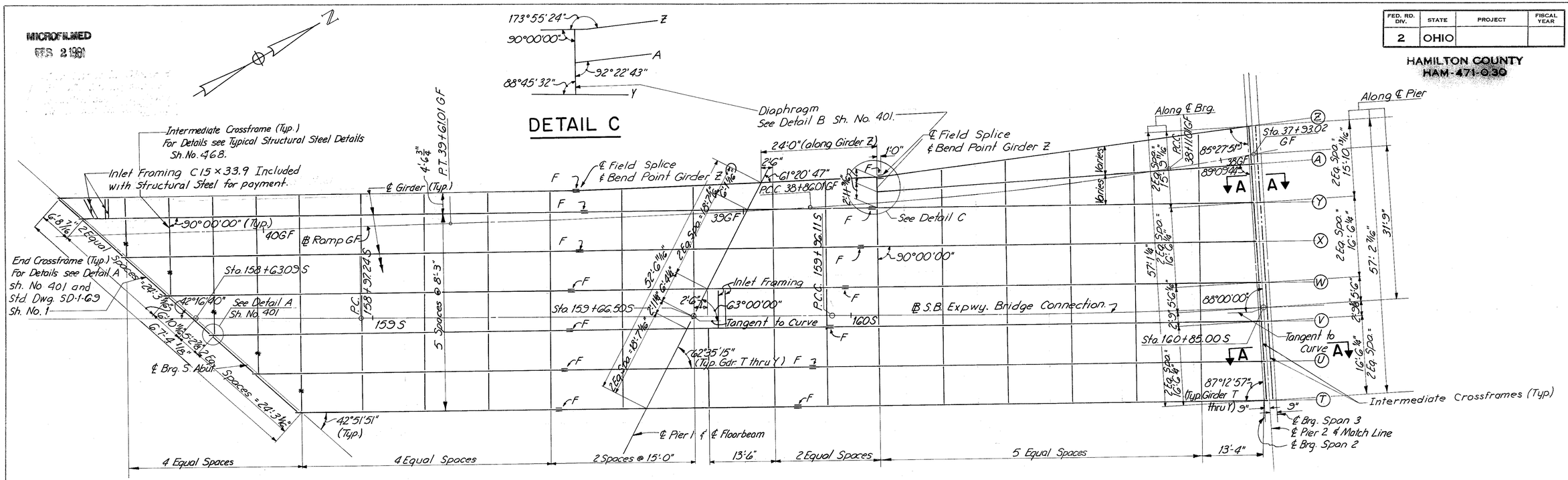
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
CYW	D.B.S.	M.R.K.	W.L. 5-3-72	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

400
494

HAMILTON COUNTY
HAM-471-0.30

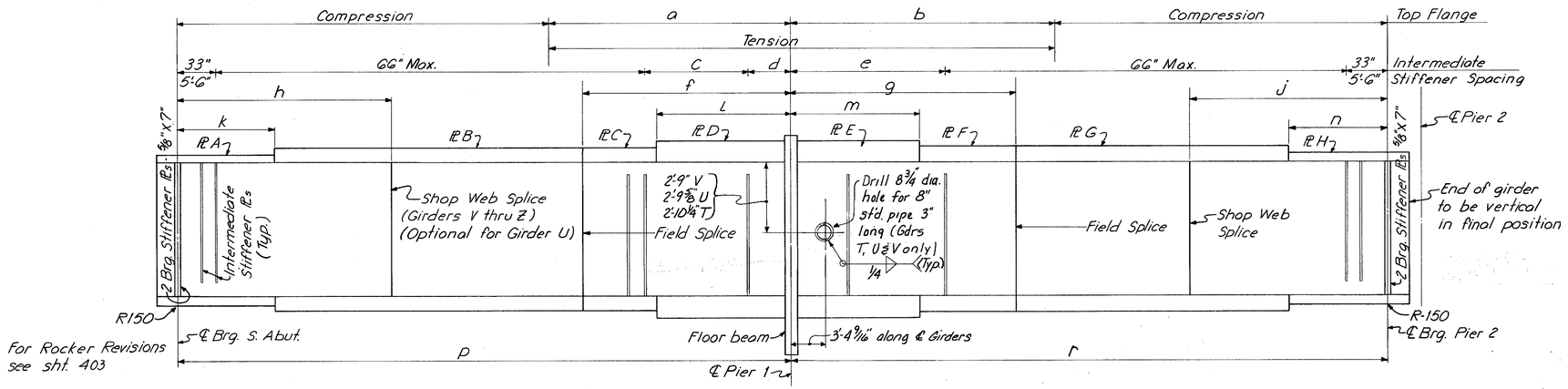


Note:
* denotes crossframes connected to Brg. Stiffeners

SPAN 1

SPAN 2

FRAMING PLAN



For Rocker Revisions see sht. 403

GIRDER ELEVATION

NOTES:
For treatment of ends of girders at Abutments see Std. Dwg SD-1-63 Sh. No. 1
Longitudinal Section Bridge on Grade
Bearing Stiffeners to be vertical in final position
For Bearing Details see Std. Dwg. RB-1-55 and Sh. No. 403
For Inlet Framing Details see Drainage Details Sh. No. 469 and Sh. No. 410
For steel details not shown see Typical Structural Steel Details Sh. No. 468.
Field flange splices shall miss crossframes and intermediate stiffeners by 1'0" minimum and shop flange splices shall miss shop web splices by 5'0" minimum.
Intermediate Stiffeners are 3/8" x 6" ℄s. (One each side of web)
Girders T thru Z web is 7/16" x 66". Top and bottom plates are identical.
Items are identical for each girder except as noted.

GIRDER LENGTHS

Girder \ Dim.	p	r
T	71'-10 1/2"	128'-7 1/16"
U	85'-0 1/2"	123'-10 15/16"
V	98'-2 3/16"	119'-2 3/4"
W	111'-4 3/16"	114'-6 5/8"
X	124'-6 3/16"	109'-10 1/8"
Y	137'-8 3/16"	105'-2 5/16"
Z	145'-5 5/16"	102'-3 1/16"

TABLE OF PLATE SIZES

Girder	Plate A	Plate B	Plate C	Plate D	Plate E	Plate F	Plate G	Plate H
T	—	7/8" x 16"	—	1 7/8" x 16"	—	1 7/8" x 16"	1 7/8" x 16"	1 5/8" x 16"
U	—	7/8" x 16"	—	1 7/8" x 16"	—	1 7/8" x 16"	1 7/8" x 16"	1 5/8" x 16"
V	—	7/8" x 16"	—	2 1/4" x 16"	2 1/4" x 16"	1 5/8" x 16"	1 5/8" x 16"	1 1/4 x 16"
W	—	1 1/8" x 16"	1 1/8" x 16"	2 1/4" x 16"	2 1/4" x 16"	1 3/8" x 16"	1 3/8" x 16"	7/8" x 16"
X	1 1/4" x 16"	1 5/8" x 16"	1 5/8" x 16"	2 3/8" x 16"	2 3/8" x 16"	1 1/4" x 16"	1 1/4" x 16"	—
Y	1 1/2" x 16"	1 3/4" x 16"	1 3/4" x 16"	2 3/8" x 16"	2 3/8" x 16"	3/4" x 16"	7/8" x 16"	—
Z	1 1/2" x 16"	1 3/4" x 16"	1 3/4" x 16"	2 3/8" x 16"	2 3/8" x 16"	3/4" x 16"	7/8" x 16"	—

TABLE OF GIRDER LENGTHS

Girder \ Dim.	a	b	c	d	e	f	g	h	j	k	l	m	n
T	35'-0"	22'-0"	—	1 Spa. @ 60" = 5'-0"	4 Spa. @ 48" = 16'-0"	18'-0"	32'-0"	—	45'-0" ±	0'-0"	18'-0"	0'-0"	40'-0"
U	35'-0"	22'-0"	—	1 Spa. @ 60" = 5'-0"	4 Spa. @ 48" = 16'-0"	21'-0"	31'-0"	30'-0" ±	41'-0" ±	0'-0"	21'-0"	0'-0"	36'-0"
V	33'-0"	24'-0"	—	2 Spa. @ 60" = 10'-0"	2 Spa. @ 60" = 10'-0"	24'-0"	30'-0"	40'-0" ±	34'-0" ±	0'-0"	24'-0"	8'-0"	29'-0"
W	32'-0"	27'-0"	—	2 Spa. @ 60" = 10'-0"	2 Spa. @ 60" = 10'-0"	28'-0"	29'-0"	40'-0" ±	40'-0" ±	0'-0"	11'-0"	8'-0"	17'-6"
X	31'-0"	31'-0"	—	2 Spa. @ 60" = 10'-0"	2 Spa. @ 60" = 10'-0"	31'-0"	28'-0"	45'-0" ±	40'-0" ±	30'-6"	8'-0"	12'-0"	0'-0"
Y	30'-0"	35'-0"	2 Spa. @ 60" = 10'-0"	2 Spa. @ 57" = 9'-6"	3 Spa. @ 60" = 15'-0"	34'-0"	26'-0"	55'-0" ±	40'-0" ±	43'-0" ±	8'-0"	18'-0"	0'-0"
Z	30'-0"	35'-0"	2 Spa. @ 60" = 10'-0"	2 Spa. @ 57" = 9'-6"	3 Spa. @ 60" = 15'-0"	39'-0"	25'-0"	55'-0" ±	40'-0" ±	44'-0" ±	8'-0"	18'-0"	0'-0"

HAZELET & ERDAL
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10/23

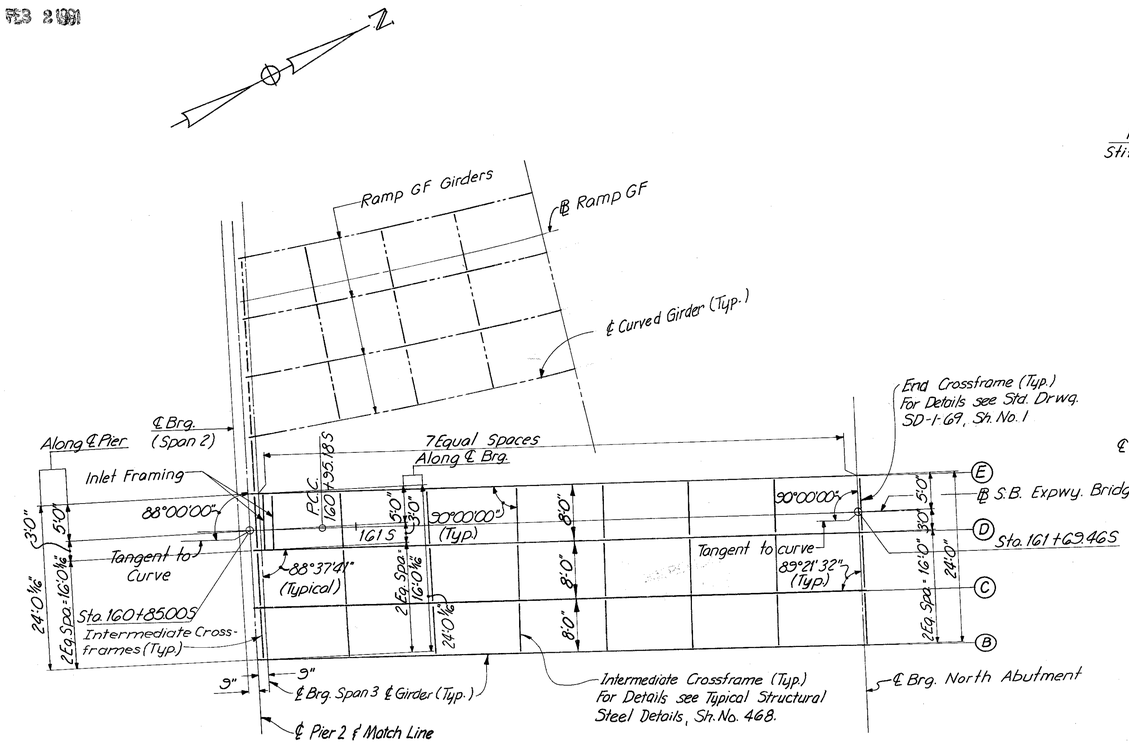
STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM-471-0076
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO.12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	JHD		W.L. 2-24-71	JHD 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

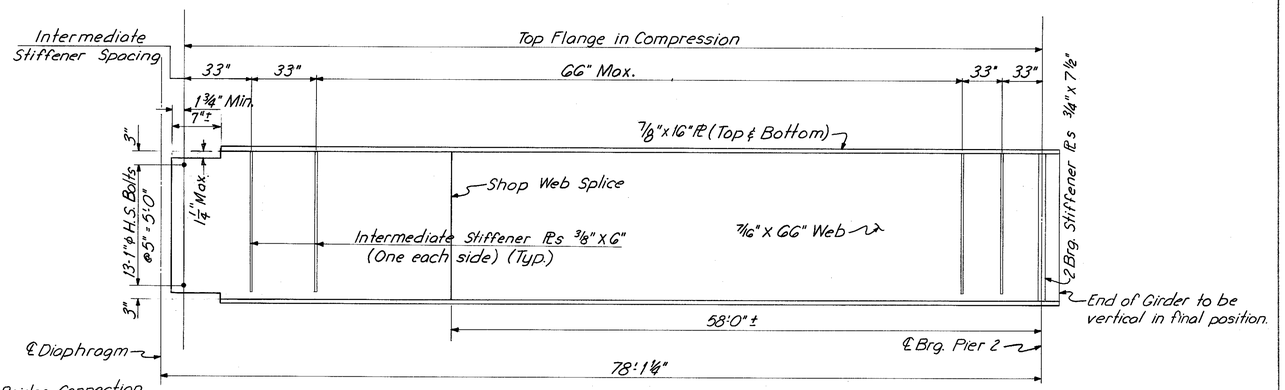
401
494

HAMILTON COUNTY
HAM-471-0.30

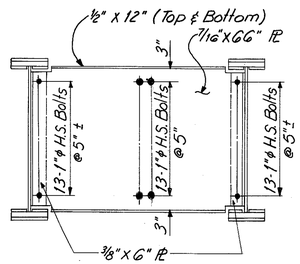


SPAN 3

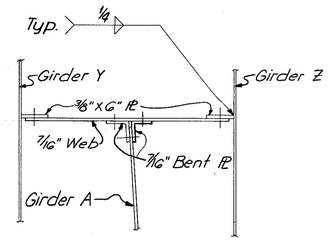
FRAMING PLAN



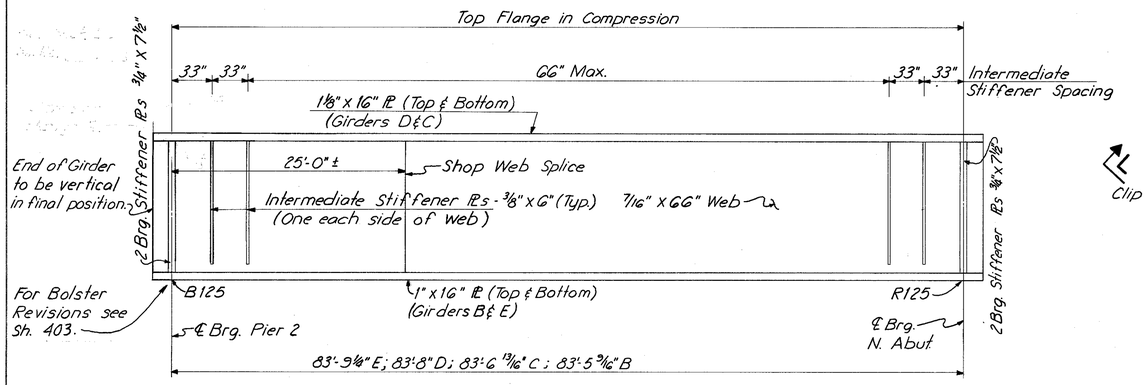
GIRDER A ELEVATION



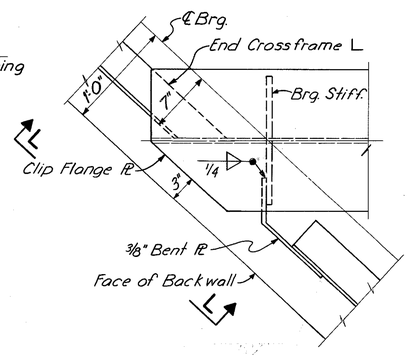
DIAPHRAGM



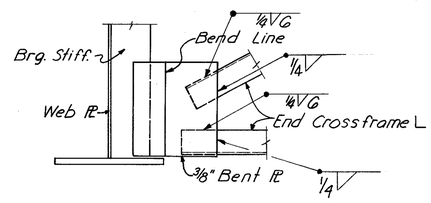
DETAIL B



GIRDER ELEVATION
(GIRDERS B THRU E)



DETAIL A



SECTION L-L

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

11/23

STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM-471-0076

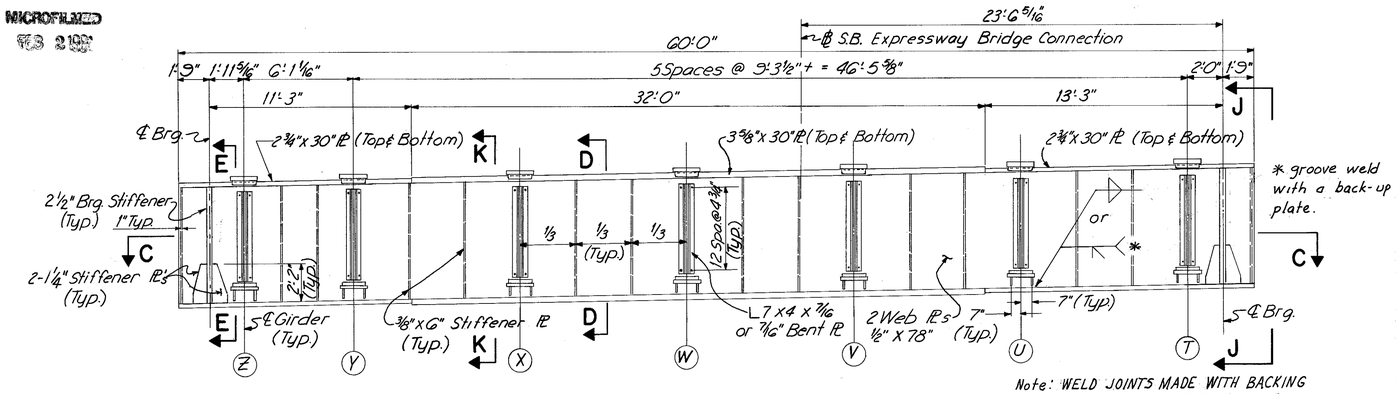
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		WL 2-25-71	JHD 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

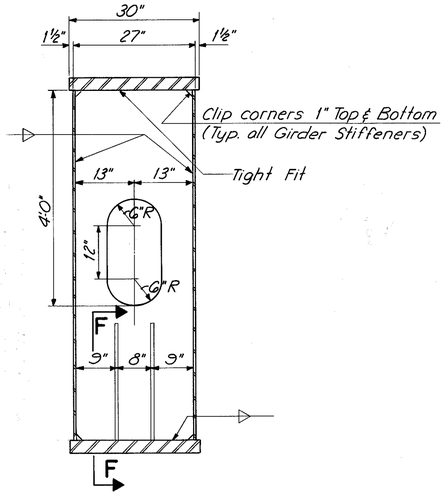
402
494

HAMILTON COUNTY
HAM-471-0.30

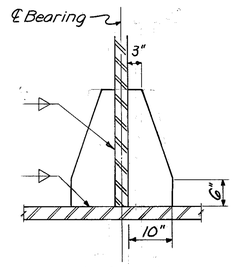


Note: WELD JOINTS MADE WITH BACKING STRIPS TO BE LEFT IN PLACE: Backing strip shall be made continuous for the full length of weld. Joints in backing strip shall be full penetration butt weld.

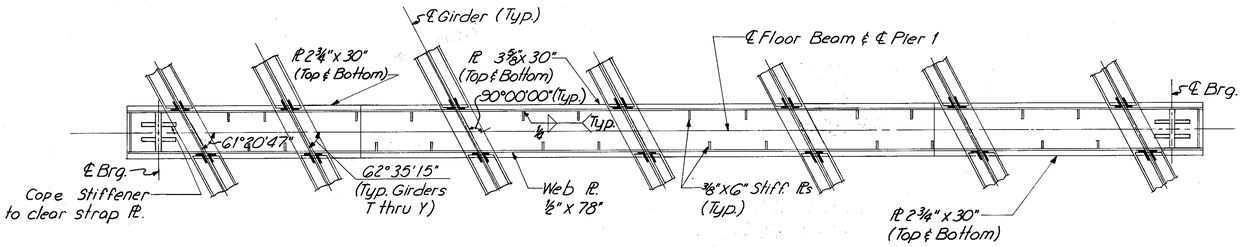
ELEVATION OF FLOORBEAM AT PIER 1



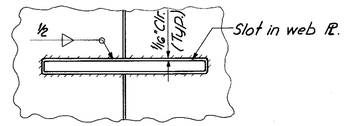
SECTION E-E



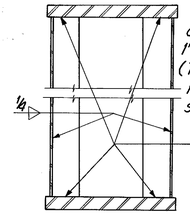
SECTION F-F



SECTION C-C

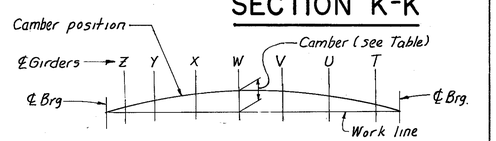


SECTION G-G

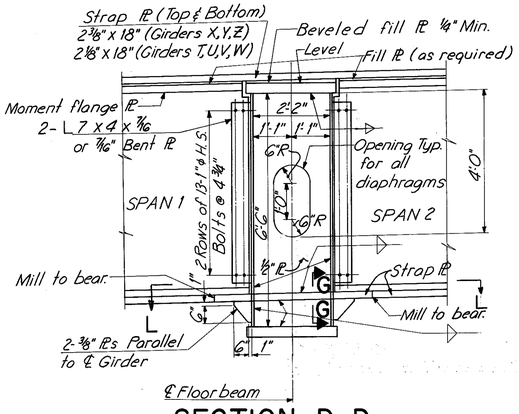


SECTION K-K

Note: Milled ends of Compression Splice on bottom flanges of girders shall be brought to full bearing against milled ends of floorbeam brackets before the holes in the compression strap plate are field drilled full size and bolts tightened. Holes may be sub-punched or sub-drilled in the shop.

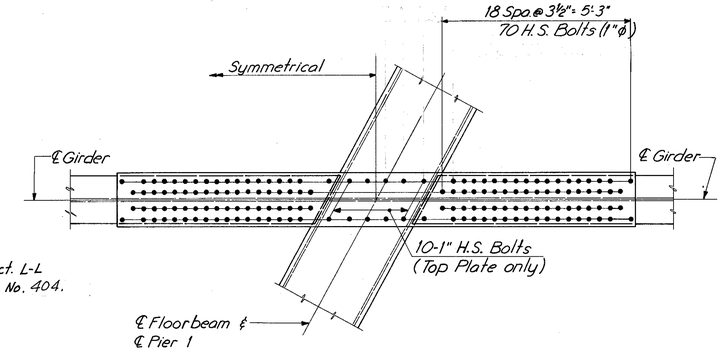


FLOORBEAM CAMBER DIAGRAM

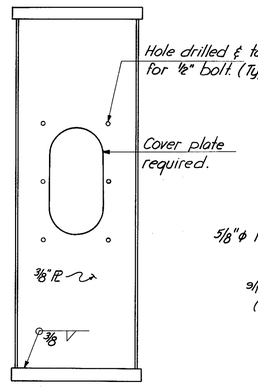


SECTION D-D

For Sect. L-L see Sh. No. 404.

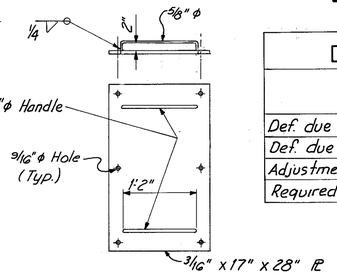


PLAN OF SPLICE PLATE



SECTION J-J

(Typ each end)



COVER PLATE

(For Access Hole)

For fillet weld sizes not shown see "Table of Fillet Weld Sizes" Sh. No. 468.

DEFLECTIONS & CAMBER (INCHES)

	Girders						
	Z	Y	X	W	V	U	T
Def. due to weight of steel	0	0	1/16	1/16	1/16	1/16	0
Def. due to remaining D.L.	1/16	1/8	1/4	5/16	5/16	3/16	0
Adjustment req'd for convexity	1/16	3/4	1 3/16	1 7/8	1 3/8	1/8	3/4
Required shop camber	1/8	7/8	2 1/8	2 1/4	1 3/4	1 3/8	3/4

HAZELET & ERDAL
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CINCINNATI, OHIO

12/23

STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM-471-0076

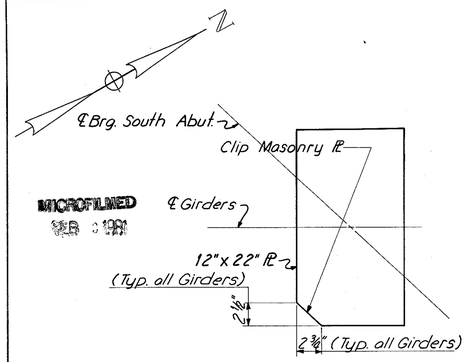
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		YYL 3-1-71	JHD 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

403
494

HAMILTON COUNTY
HAM-471-0.30

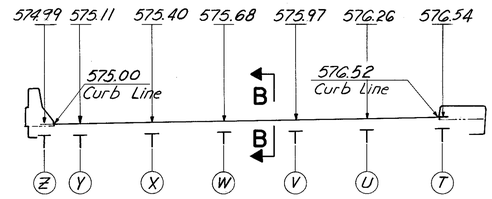


MICROFILMED

MASONRY PLATE DETAILS

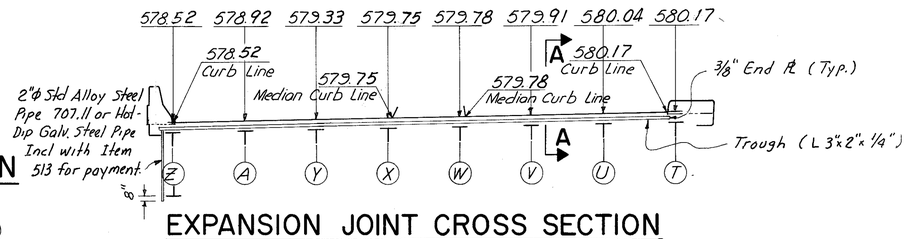
TABLE FOR SHOE REVISIONS AT SOUTH ABUTMENT		
Girder	T	H
T	6 1/4" ±	17 7/8" ±
U & V	6 3/8" ±	18" ±
W	6" ±	17 5/8" ±
X	5 7/8" ±	17 1/8" ±
Y & Z	5 3/4" ±	17 3/8" ±

For location of dimensions and dimensions not shown see Std. Dwg. RB-1-55
Before fabrication of bearing details, the Contr. must first determine the existing bridge seat elevations. See note Sh. No. 392.



EXPANSION JOINT CROSS SECTION FOR SOUTH ABUTMENT

(See Notes for Expansion Joint for North Abutment)

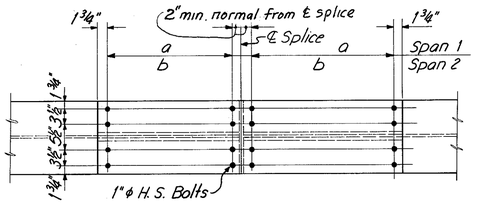


EXPANSION JOINT CROSS SECTION FOR PIER 2

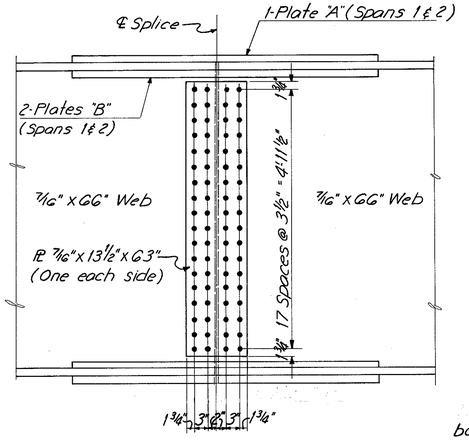
(Ramp GF & Span 3 Girders Not Shown)
For curb plate details see Std. Dwg 50-1-69 Sh No 2

NOTES:
Elevations at North & South Abutments are given at back edge of 8" angle.
Elevations at Pier 2 are given at ℄ Pier.
Expansion Joints shall be bent in shop to conform to contour of roadway.

FIELD SPLICE "F"		
Girder / Dim.	SPAN 1 a	SPAN 2 b
T	2 Spa.@ 3"	5 Spa.@ 3"
U	2 Spa.@ 3"	5 Spa.@ 3"
V	2 Spa.@ 3"	4 Spa.@ 3"
W	3 Spa.@ 3"	4 Spa.@ 3"
X	4 Spa.@ 3"	3 Spa.@ 3"
Y	5 Spa.@ 3"	2 Spa.@ 3"
Z	5 Spa.@ 3"	2 Spa.@ 3"



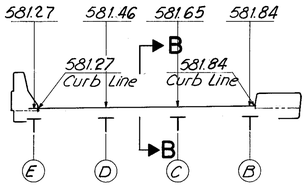
TOP FLANGE



Note: Top & Bottom Splice Material is identical
Contact surface of splice shall be free from all oil or paint.

FIELD SPLICE "F"

FIELD SPLICE "F"				
	SPAN 1		SPAN 2	
Girder	Plate A	Plate B	Plate A	Plate B
T	½" x 16" x 19½"	5/8" x 7" x 19½"	1" x 16" x 37½"	1¼" x 7" x 37½"
U	½" x 16" x 19½"	5/8" x 7" x 19½"	1" x 16" x 37½"	1¼" x 7" x 37½"
V	½" x 16" x 19½"	5/8" x 7" x 19½"	7/8" x 16" x 31½"	1" x 7" x 31½"
W	5/8" x 16" x 25½"	¾" x 7" x 25½"	¾" x 16" x 31½"	7/8" x 7" x 31½"
X	7/8" x 16" x 31½"	1" x 7" x 31½"	¾" x 16" x 25½"	7/8" x 7" x 25½"
Y	1" x 16" x 37½"	1⅛" x 7" x 37½"	½" x 16" x 19½"	5/8" x 7" x 19½"
Z	1" x 16" x 37½"	1⅛" x 7" x 37½"	½" x 16" x 19½"	5/8" x 7" x 19½"

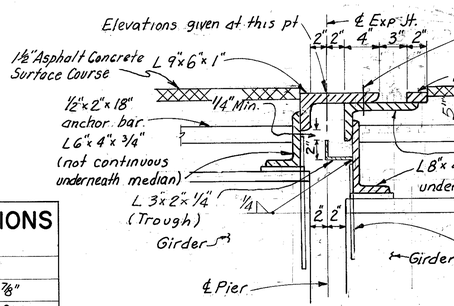


EXPANSION JOINT CROSS SECTION FOR NORTH ABUTMENT

For curb plate details see Std. Dwg. SD-1-69 Sh. No.2. ½"x 2"x 18"

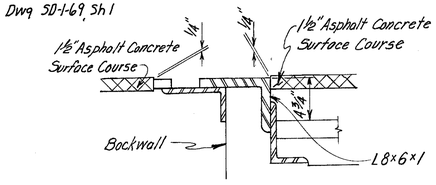
TABLE FOR SHOE REVISIONS AT PIER 2, SPAN 3		
Girder	T	H
B	7¼"	17 7/8"
C	7⅛"	17¾"
D	6 7/8"	17½"
E	6 3/8"	17¼"

For location of dimensions and dimensions not shown see Std. Dwg. RB-1-55.
Revise swedge anchor bolts length from 1'-8" to 2'-1"



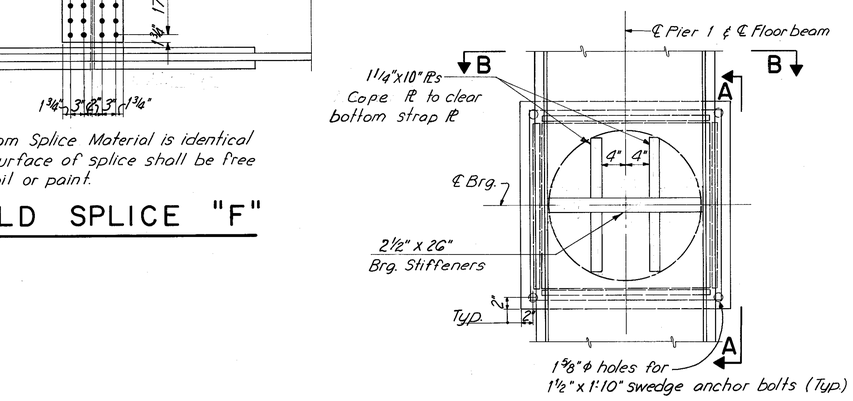
SECTION A-A

Work this section with Sect. A-A shown on Standard Dwg SD-1-69, Sh 1

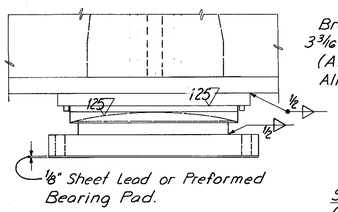


SECTION B-B

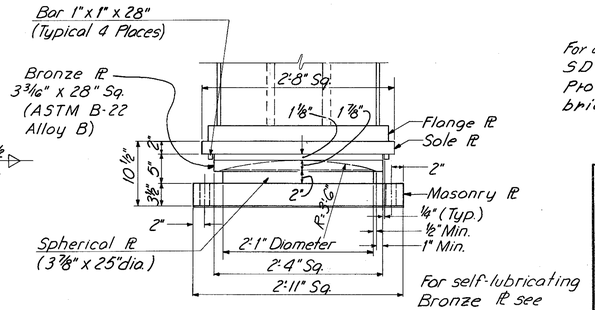
For additional details, See Section A-A, Std. Dwg. SD-1-69 Sht No. 1
Provide 3" beveled bar at both ends of bridge regardless of grade.



PLAN
(BEARING DETAILS AT PIER 1)



ELEVATION A-A



ELEVATION B-B

For self-lubricating Bronze Pl see Supplemental Specifications No. 927.

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STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM-471-0076

SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO.12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		YYL 3-1-71	JHD 11-9-72	

Revised 7-3-73

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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494

HAMILTON COUNTY
HAM-471-0.30

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SEP 1972

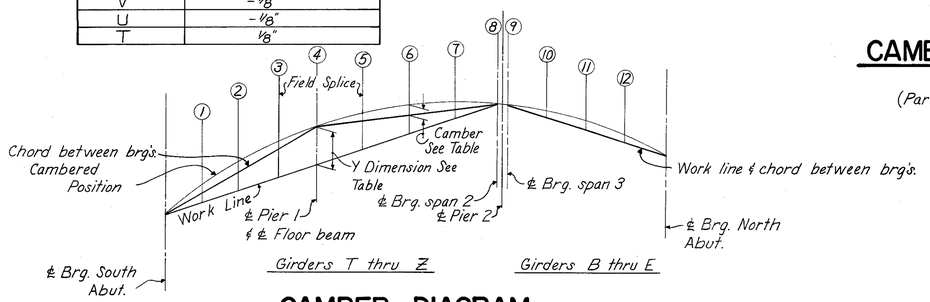
DEFLECTION and CAMBER (inches)

		SPAN 1			SPAN 2			SPAN 3			SPAN 2		
		(1) 1/4	(2) 1/2	(3) F.S.	(5) F.S.	(6) 1/2	(7) 3/4	(10) 1/4	(11) 1/2	(12) 3/4	(13) 1/4	(14) 1/2	(15) 3/4
Girder Z	Def. due to weight of steel	1	1 3/8	1	7/16	5/8	9/16						
	Def. due to remaining D.L.	1	1 5/16	11/16	1/16	5/16	3/8						
	Adjustment reqd. for *	5/8	1 3/16	1 5/16	1/4	-3/16	-1 3/16						
	Required Shop Camber	2 5/8	3 7/8	3	3/4	1/8	-3/8						
Girder Y	Def. due to weight of steel	7/8	1 3/16	7/8	1/2	1 1/16	1/2						
	Def. due to remaining D.L.	1 1/8	1 5/16	1 1/16	1/16	1/2	1/2						
	Adjustment reqd. for *	3/8	3/4	1 3/16	-1 1/16	-2 3/16	-2 3/8						
	Required Shop Camber	2 3/8	3 1/4	2 3/4	-1/2	-1	-1 3/8						
Girder X	Def. due to weight of steel	5/8	1 3/16	5/8	7/16	9/16	7/16						
	Def. due to remaining D.L.	7/8	1 1/16	1/2	1/4	5/8	9/16						
	Adjustment reqd. for *	1/8	0	1/8	-1 1/16	-2 1/16	-2 1/4						
	Required Shop Camber	1 3/8	1 7/8	1 1/4	-3/8	-7/8	-1 1/4						
Girder W	Def. due to weight of steel	7/16	5/8	7/16	7/16	5/8	7/16						
	Def. due to remaining D.L.	9/16	5/8	3/16	7/16	1	1 3/16						
	Adjustment reqd. for *	0	-1/8	0	0	-1/8	0						
	Required Shop Camber	1	1 1/8	5/8	7/8	1 1/2	1 1/4						
Girder V	Def. due to weight of steel	5/16	3/8	5/16	1/2	1 1/16	1/2						
	Def. due to remaining D.L.	5/16	1/4	1/16	5/8	1 1/16	7/8						
	Adjustment reqd. for *	0	0	0	0	-1/8	0						
	Required Shop Camber	5/8	5/8	3/8	1 1/8	1 5/8	1 3/8						
Girder U	Def. due to weight of steel	3/16	1/4	3/16	9/16	1 3/16	9/16						
	Def. due to remaining D.L.	1/16	0	-3/16	4/16	1 5/16	1 1/16						
	Adjustment reqd. for *	0	0	0	1/8	-1/8	-1/8						
	Required Shop Camber	1/4	1/4	0	1 1/8	2	1 1/2						
Girder T	Def. due to weight of steel	1/16	1/8	1/16	5/8	7/8	5/8						
	Def. due to remaining D.L.	-1/16	-1/8	-3/16	3/4	1 3/8	1						
	Adjustment reqd. for *	0	0	0	-1/8	-1/8	0						
	Required Shop Camber	0	0	-1/8	1 1/4	2 1/8	1 5/8						
Girder A	Def. due to weight of steel										1/8"	3/16	1/8
	Def. due to remaining D.L.										9/16	3/4	9/16
	Adjustment reqd. for *										-15/16	-9/16	-3/16
	Required Shop Camber										-1/4	3/8	-1/8
Girder E	Def. due to weight of steel							1/8	3/16	1/8			
	Def. due to remaining D.L.							1/2	11/16	1/2			
	Adjustment reqd. for *							0	0	1/8			
	Required Shop Camber							5/8	7/8	3/4			
Girder D	Def. due to weight of steel							3/16	1/4	3/16			
	Def. due to remaining D.L.							9/16	3/4	9/16			
	Adjustment reqd. for *							0	-1/8	-1/8			
	Required Shop Camber							3/4	7/8	5/8			
Girder C	Def. due to weight of steel							3/16	1/4	3/16			
	Def. due to remaining D.L.							9/16	3/4	9/16			
	Adjustment reqd. for *							-1/8	-1/8	0			
	Required Shop Camber							5/8	7/8	3/4			
Girder B	Def. due to weight of steel							1/8	3/16	1/8			
	Def. due to remaining D.L.							1/2	11/16	1/2			
	Adjustment reqd. for *							0	-1/8	-1/8			
	Required Shop Camber							5/8	3/4	1/2			

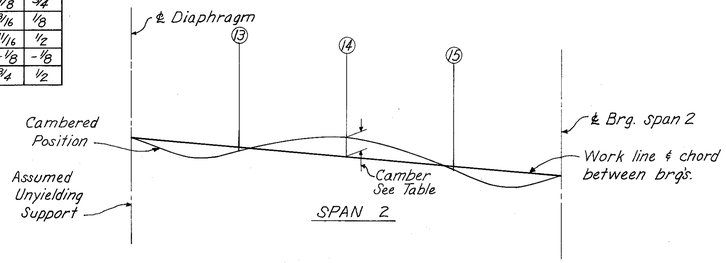
* Horizontal Curve and Superelevation Transition.

Negative values (-) are measured downward.
No camber required for floor beam.
Total deflection of floor beam is zero.

GIRDER	Y DIMENSIONS
Z	3 5/8"
Y	-1/2"
X	-1/8"
W	-1/8"
V	-1/8"
U	-1/8"
T	1/8"

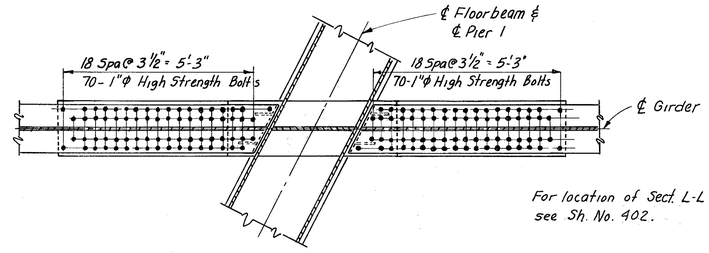


CAMBER DIAGRAM



CAMBER DIAGRAM

Girder A
(Partial length girder)



For location of Sect. L-L see Sh. No. 402.

SECTION L-L

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STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM-471-0076

SOUTHBOUND EXPRESSWAY BRIDGE
CONNECTION AND RAMP GF OVER
RAMP GD H&E BRIDGE NO.12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.B.M.		W.L. 3-22-71	J.H.S. 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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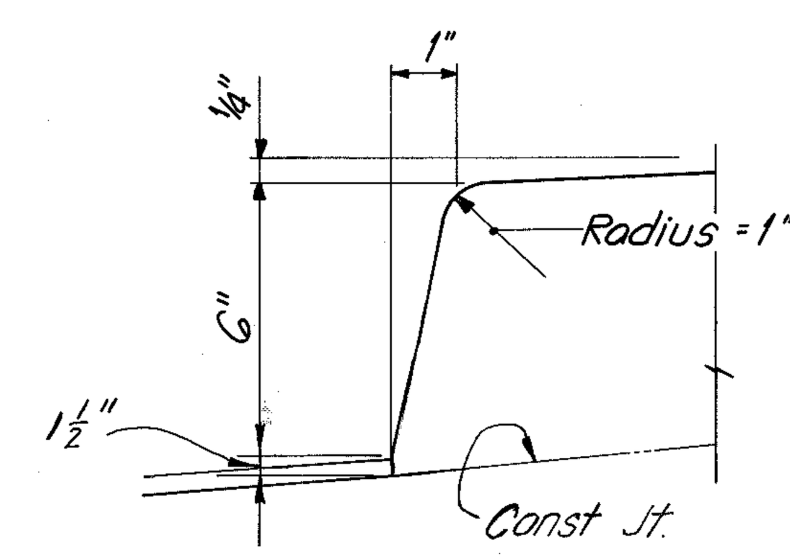
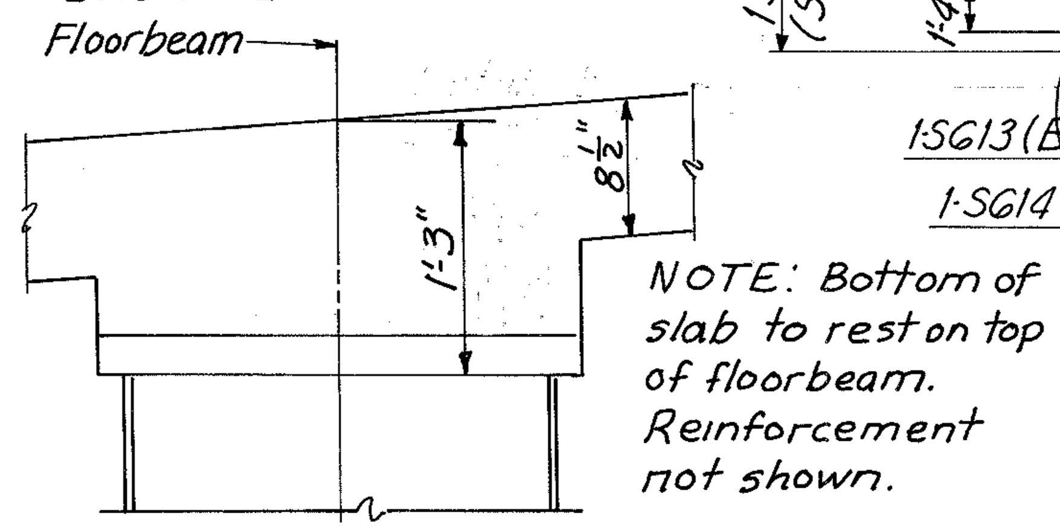
2-S601 (Top & Bott.) (Slab) (See Section A-A for spacing)
165-X501, X503, X504 @ 1'-6" = 246'-0" (Curb) (Measured along curb Line) (See Section A-A)
5-S416 (Curb) (See Section A-A for spacing)
5-S401 (Curb) (See Section A-A for spacing)
P.T. 40+28.67 GF
Curb Line
Fascia Line
Curve No. 1
Curb P.C.C.
P.T. Sta. 39+61.01 G.F.
(Typ.) 1'-3" Min. Lap S4 Bars
1'-11" Min. Lap S6 Bars
Fan 3-S621 (Top & Bott.) (Slab) (See Section AA for spa.)
P.C.C. Sta. 38+86.01 GF
Fan 2-S727 (Top & Bott.)
Drain Inlet
1-S725 (Top & Bott.)
1-S726 (Top & Bott.)
1 Series 4-S612 (Bott.) (Eq. Spa.)
Fan 5-S601 Bottom
Fan 8-S401 (Top)
Fan 7-S601 (Bott.)
Fan 9-S401 (Top)
Fan 7-S611 (Bott.)
Fan 9-S412 (Top)
Curve No. 3 GF
40GF
℄ Ramp GF
Curve No. 4GF
39GF
1 Series 42-S717 @ 9½" = 32'-5½" (Top)
1 Series 42-S718 @ 9½" = 32'-5½" (Bottom)
1 Series 31-S715 @ 9½" = 23'-9" (Top)
1 Series 31-S716 @ 9½" = 23'-9" (Bottom)
1 Series 26-S713 @ 9½" = 19'-9½" (Top)
1 Series 26-S714 @ 9½" = 19'-9½" (Bottom)
1 Series 22-S709 @ 9½" = 16'-7½" (Top)
1 Series 22-S710 @ 9½" = 16'-7½" (Bottom)
SPAN 1
SPAN 2
Median Curb Line
1 Series 100-S405 @ 1'-6" = 148'-6" (Median)
Drain Inlet
6" ⌀ Pipe
63°00'00"
Tangent to curve
℄ Pier No. 1 Sta. 159+66.50 S
℄ Brg. South Abutment Sta. 158+63.09 S
42°16'40"
℄ S.B. Expwy Bridge Connection
74-S417, S408 (Top) (Staggered) (Spaced between S401) (Curb & Slab) (See Section A-A for spacing)
42-S702 @ 9½" = 32'-5½" (Top)
42-S701 @ 9½" = 32'-5½" (Bottom)
31-S702 @ 9½" = 23'-9" (Top)
31-S701 @ 9½" = 23'-9" (Bottom)
26-S702 @ 9½" = 19'-9½" (Top)
26-S701 @ 9½" = 19'-9½" (Bottom)
22-S702 @ 9½" = 16'-7½" (Top)
22-S701 @ 9½" = 16'-7½" (Bottom)
1 Series 7-S414 (Curb & Slab) (See Section A-A for spacing)
7-S401 (Curb & Slab) (See Section A-A for spacing)
Curb Line
Edge of Concrete
Match Line
1 Series 4-S415 (eq. spa.) (Top)
1-S613 (Bottom)
1-S614 (Bottom)
Detail B
133-S501 & S503 @ 1'-6" = 198'-0" (Curb) (See Section A-A) (Measured along Edge of Concrete)

PLAN

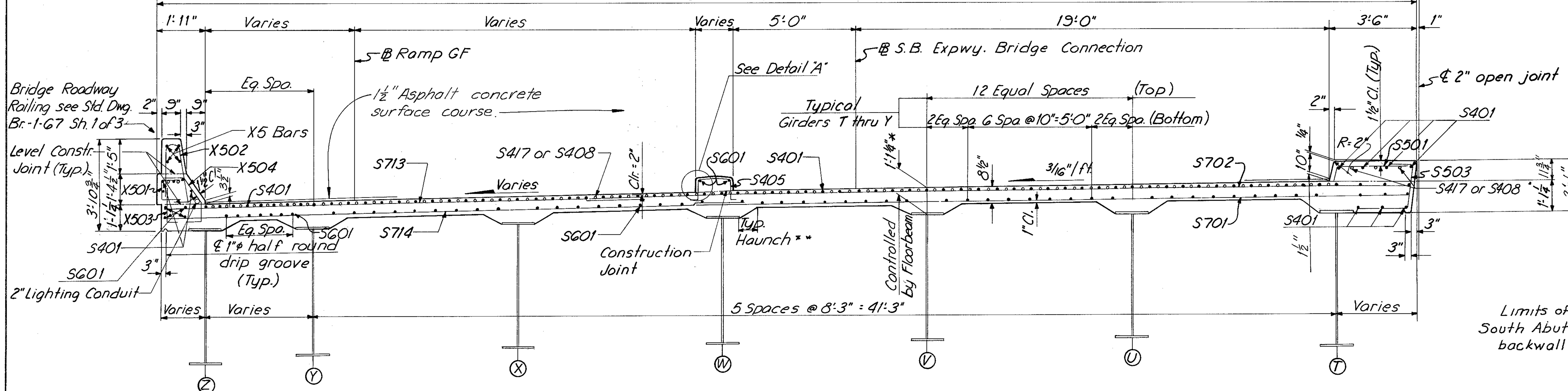
(Parapet not shown)



DETAIL A

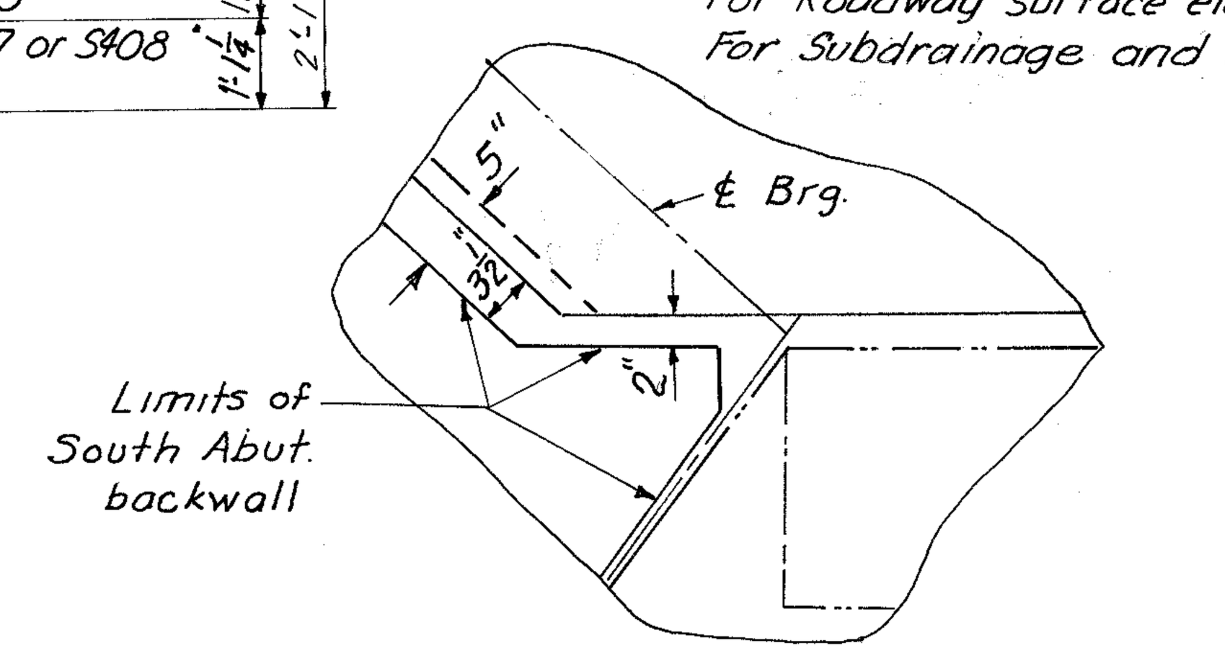


SECTION E-E



Bridge Roadway Railing see Std. Dwg. Br-1-67 Sh. 1 of 3
Level Constr. Joint (Typ.)
X5 Bars
X502
X504
℄ Ramp GF
1½" Asphalt concrete surface course
See Detail "A"
℄ S.B. Expwy. Bridge Connection
Typical Girders T thru Y
12 Equal Spaces (Top)
2 Eq. Spa. 6 Spa. @ 10" = 5'-0" 2 Eq. Spa. (Bottom)
℄ 2" open joint
℄ 1" ⌀ half round drip groove (Typ.)
2" Lighting Conduit
Construction Joint
Typ. Haunch **
Controlled by Floorbeam
5 Spaces @ 8'-3" = 41'-3"

SECTION A-A



DETAIL B

Notes:

Transverse reinforcing steel shall be placed ⊥ to ℄ Girder Y.
S7 bar spacings are measured along ℄ Girder Y.
For (*) note see sh. 406
For haunch note see sh. 406
For edge of concrete layout see sh. 407
For fascia layout see sh. 407.
For drainage details see sh. 410.
For railing details see sh. 409.
Cut or field bend longitudinal bars to miss drain inlets.
For end finish details at abutments see sh. 403.
For screed elevations see sh. 407.
For stagger diagram of bars over Pier 1 see sh. 406
For Roadway surface elevations see sh. 408.
For Subdrainage and surface course details, see sht. 408.

HAZELET & ERDAL
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CINCINNATI, OHIO

15/23

SUPERSTRUCTURE DETAILS

BRIDGE NO. HAM-471-0076

SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD

H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		W.L. 3-22-71	JHD 11-9-72	

MICROFILMED

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

406/494

HAMILTON COUNTY
HAM-471-0.30

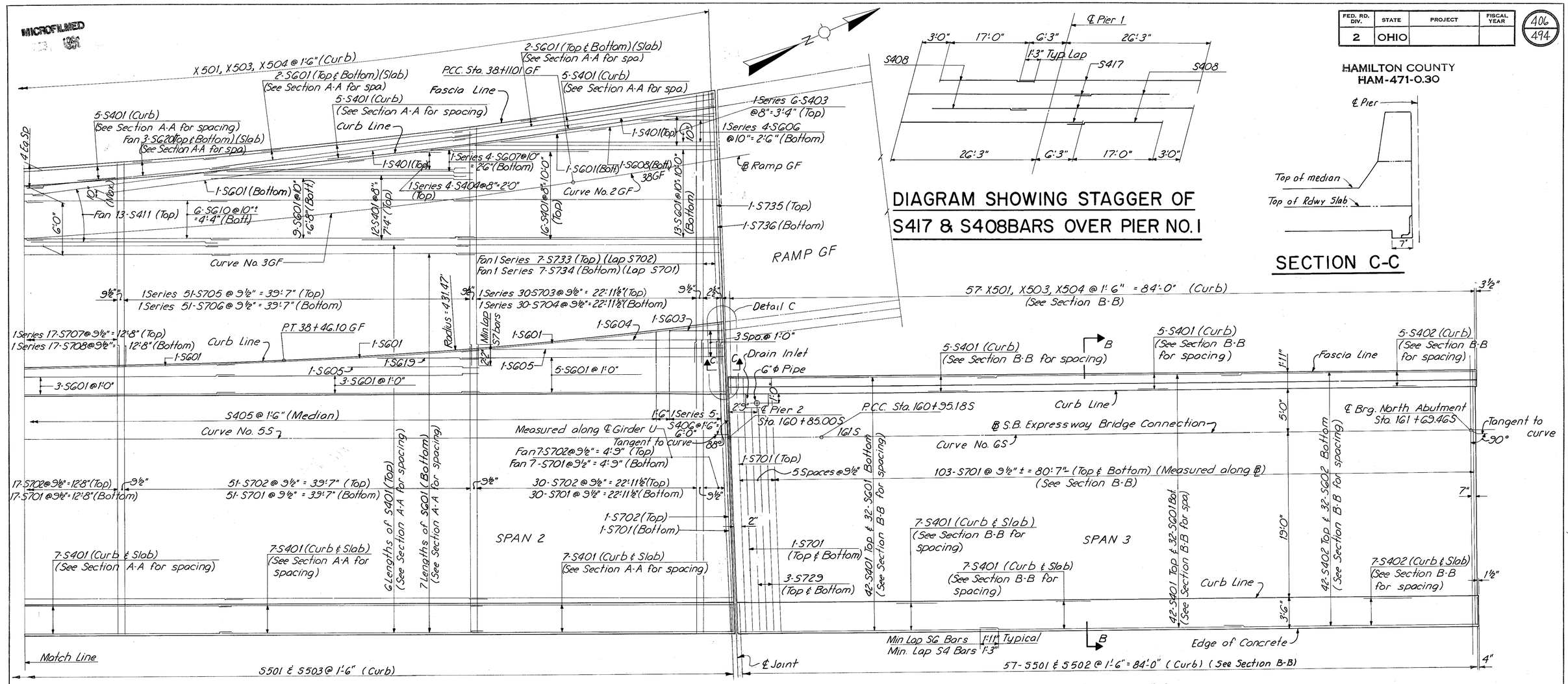
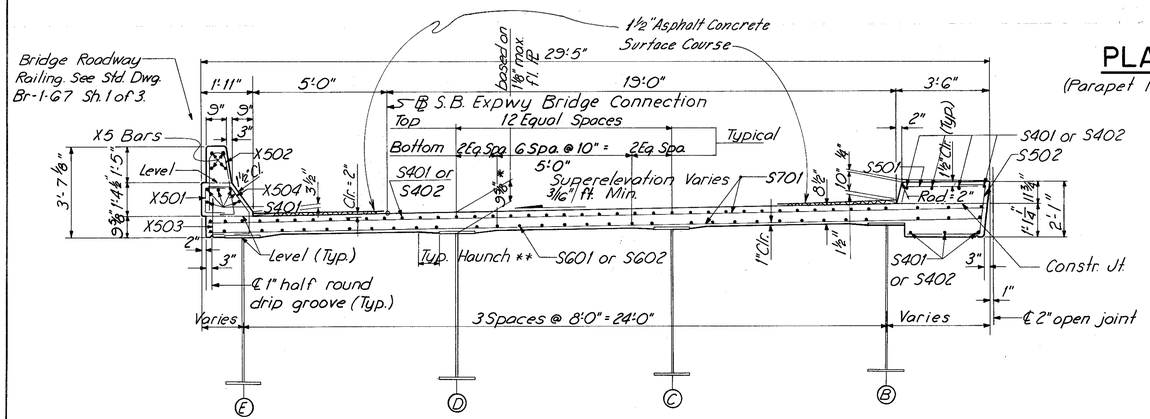


DIAGRAM SHOWING STAGGER OF S417 & S408 BARS OVER PIER NO. 1

SECTION C-C



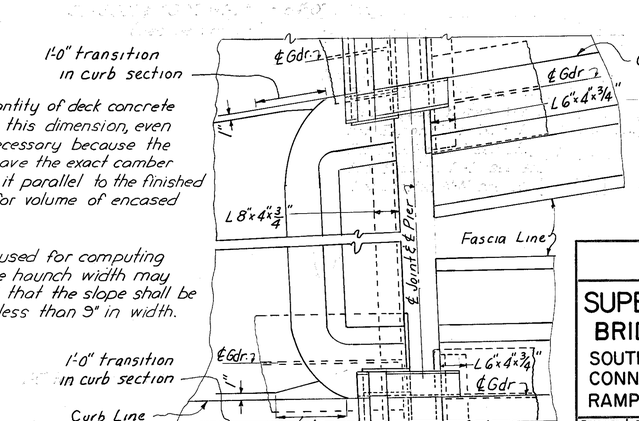
SECTION B-B

PLAN

(Parapet Not Shown)

* This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.18.

** A haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.



DETAIL C

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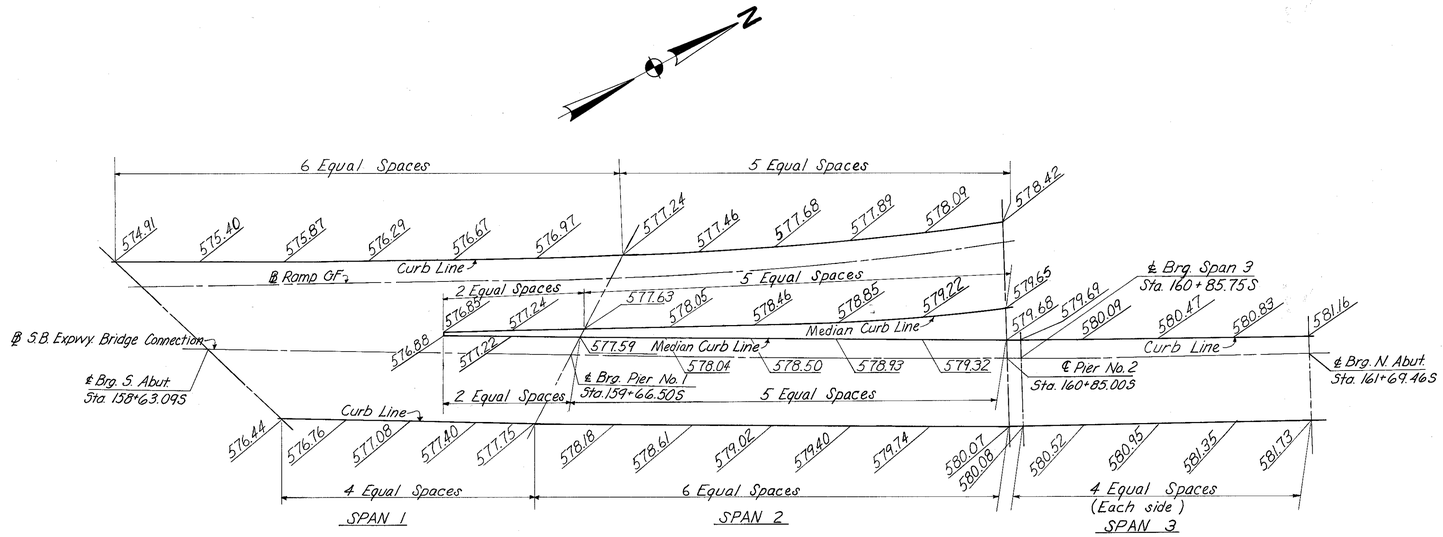
SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM-471-0076
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		W.L. 3-22-71	JHD 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

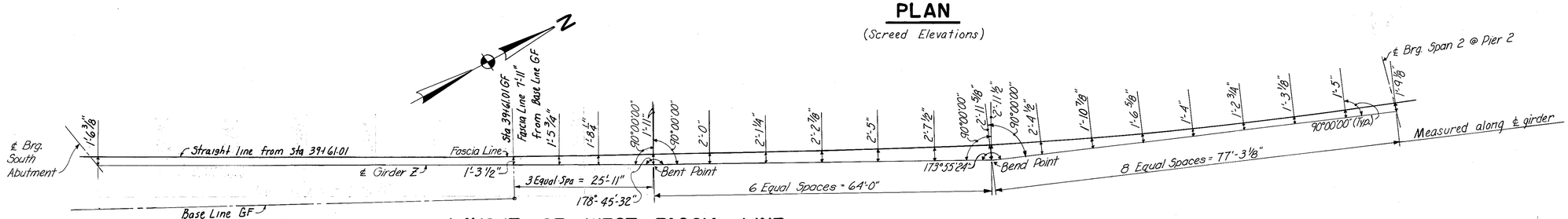
407
494

HAMILTON COUNTY
HAM-471-0.30

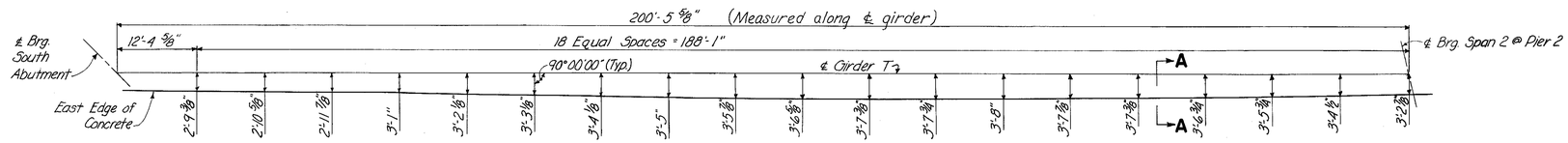


PLAN
(Screed Elevations)

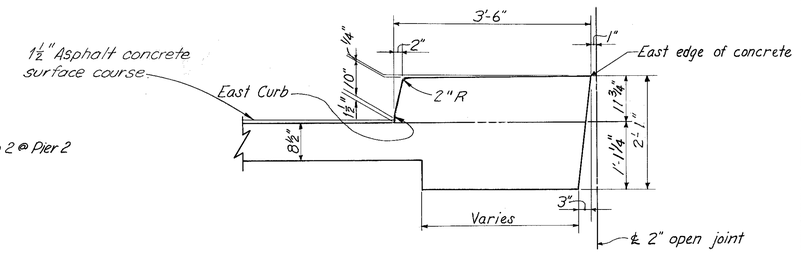
Note:
Screed elevations shown equal final grade elevations plus anticipated dead load deflections due to weight of deck concrete.



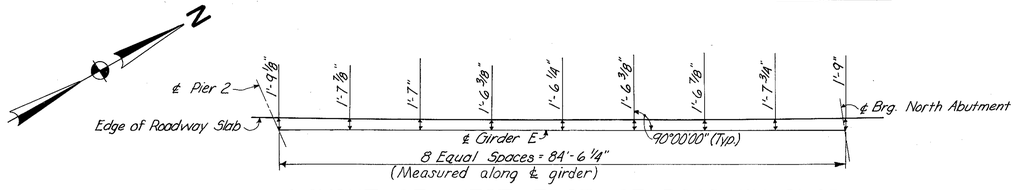
LAYOUT OF WEST FASCIA LINE
SPANS 1 & 2



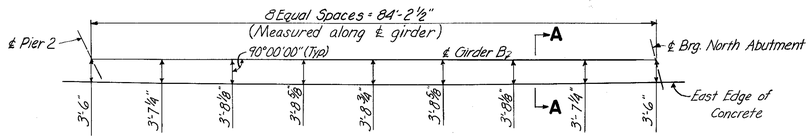
LAYOUT OF EAST EDGE OF CONCRETE
SPANS 1 & 2



SECTION A-A



LAYOUT OF WEST EDGE OF ROADWAY SLAB
SPAN 3



LAYOUT OF EAST EDGE OF CONCRETE
SPAN 3

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SUPERSTRUCTURE DETAILS

SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.B.M.		W.L. 3-22-71	JHS 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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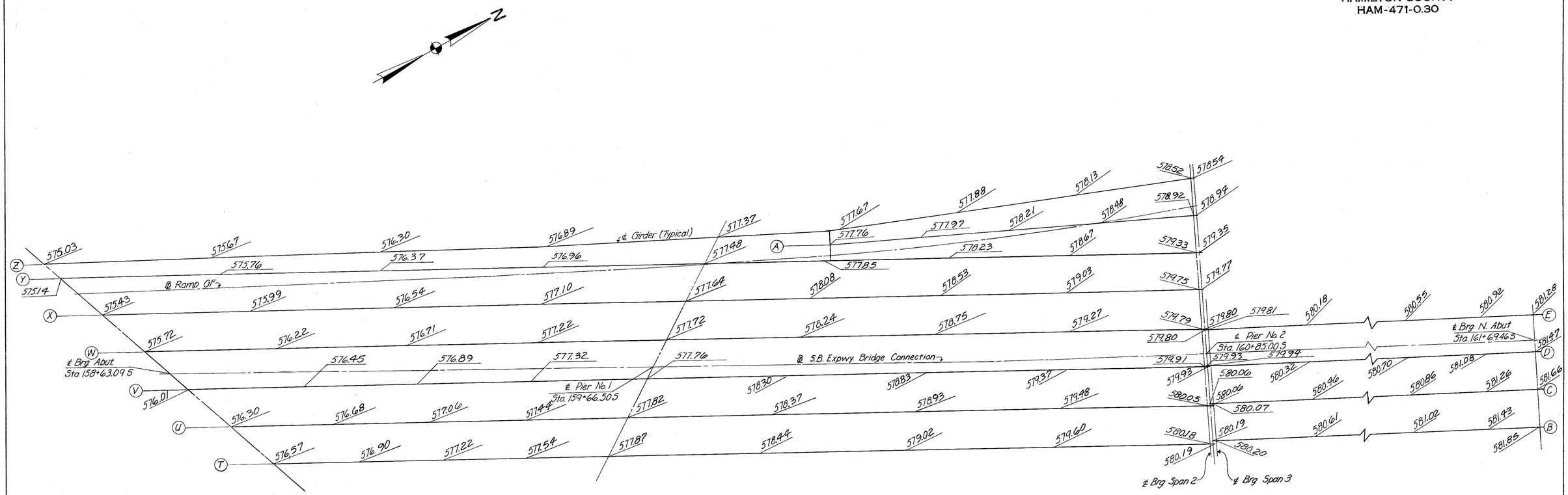
494

HAMILTON COUNTY
HAM-471-0.30

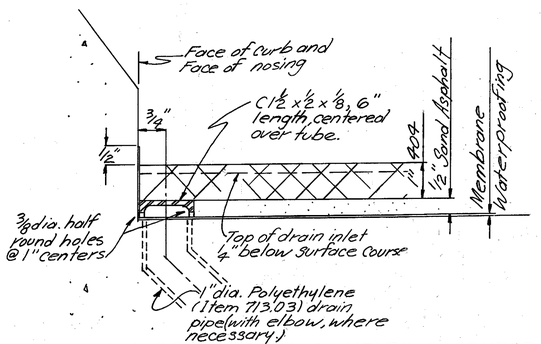


SPAN 1

SPAN 2

SPAN 3

PLAN



SUB DRAINAGE AND WEARING COURSE DETAILS
AT PARAPET AND NOSING

In addition to location and spacing provisions of 518.07, the polyethylene duct drain pipes shall be located so that discharge from them will clear all structural members including crossbracing by at least 6". Place the top of the pipes flush with the concrete surface. Place membrane over pipes, puncturing if membrane is a sheet type, with the hole sealed around the lip of the pipe. Include Subdrainage with Item 404, Asphalt Concrete for payment.

Note:
Elevations are final top of surface course elevations.
Elevations are given at ℄ of Piers, Brgs, and ¼ points of Girder spans.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

19/23

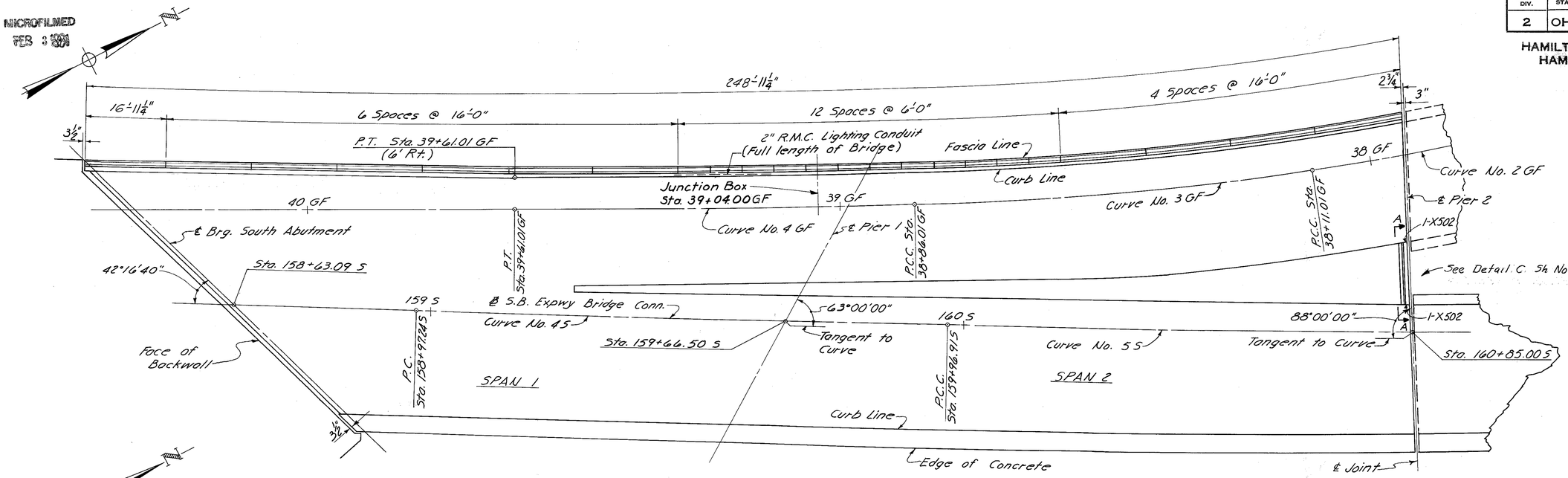
ROADWAY SURFACE ELEVATIONS
BRIDGE No. HAM-471-0076
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	NRK		W.L. 12-18-70	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

409
494

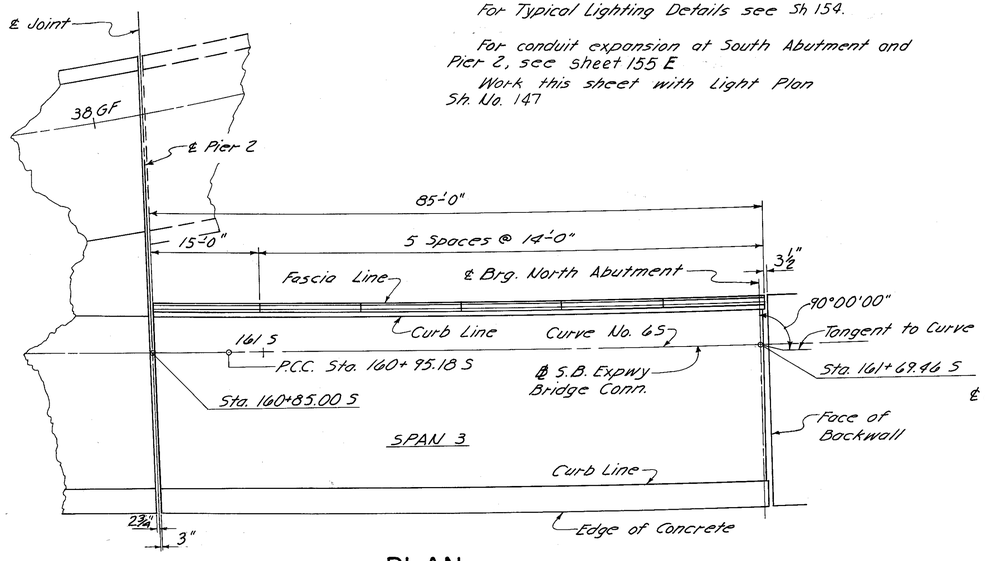
HAMILTON COUNTY
HAM-471-0.30



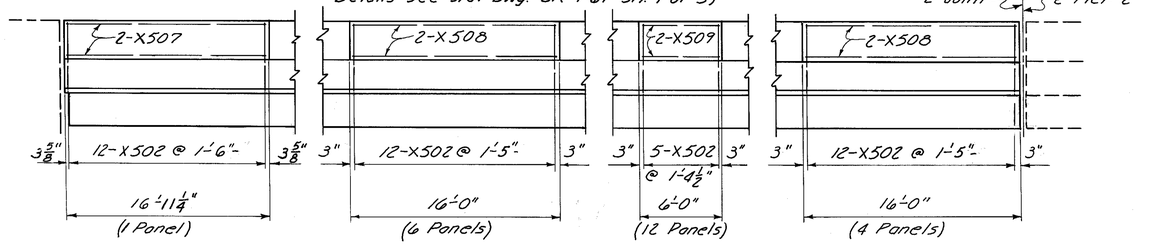
PLAN

NOTES:
Parapet deflection Joint Spacing measured along Curb Line.
Field Bend longitudinal bars as required.
For Typical Lighting Details see Sh 154.

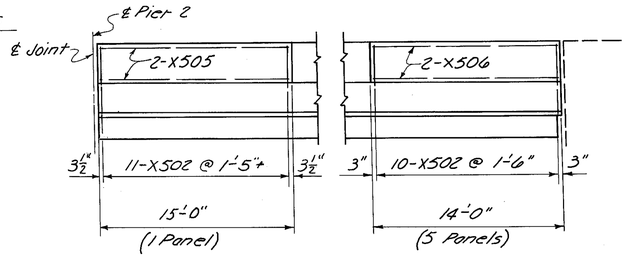
For conduit expansion at South Abutment and Pier 2, see sheet 155 E
Work this sheet with Light Plan Sh. No. 147



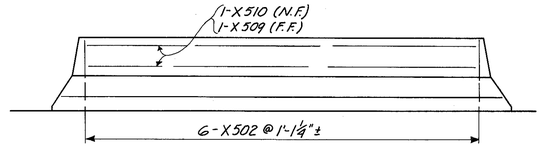
PLAN



WEST ELEVATION
(Spans 1 & 2)



WEST ELEVATION
(Span 3)



ELEVATION A-A

HAZELET & ERDAL
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CINCINNATI, OHIO

20 / 23

RAILING & LIGHTING DETAILS
BRIDGE No. HAM-471-0076
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD

H & E BRIDGE No. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	D.B.S.		W.L. 11-7-71	11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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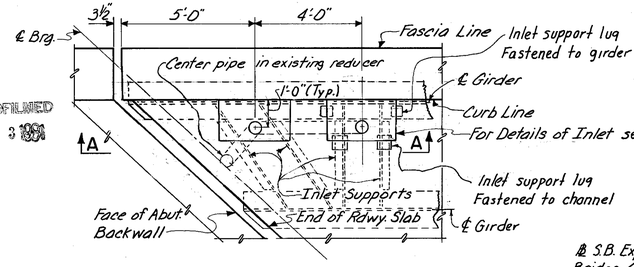
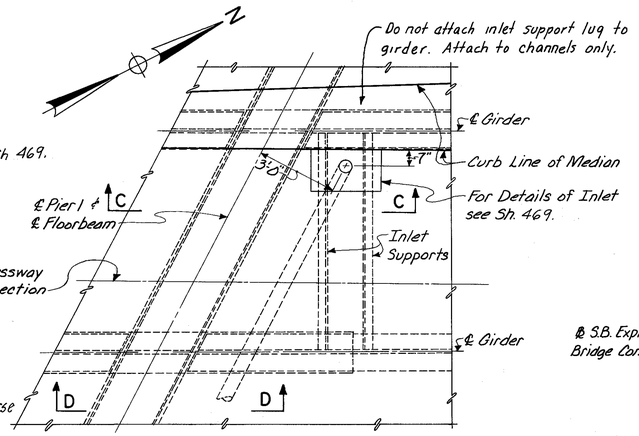
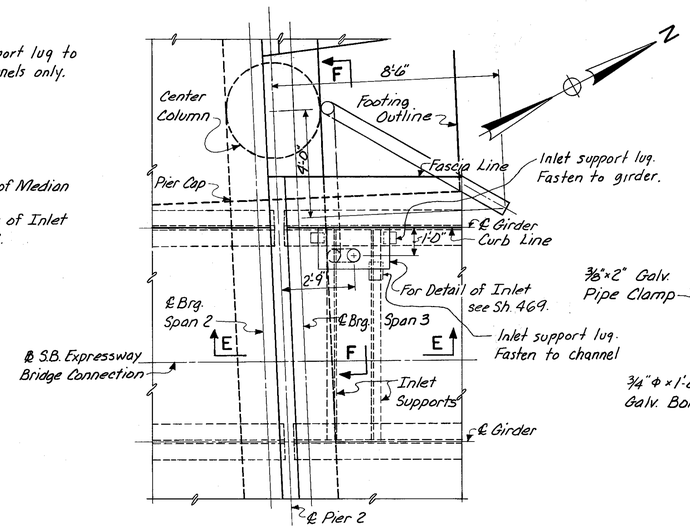
494

HAMILTON COUNTY
HAM-471-0.30

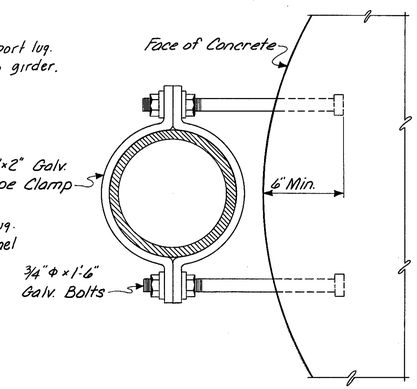


SOUTH ABUTMENT

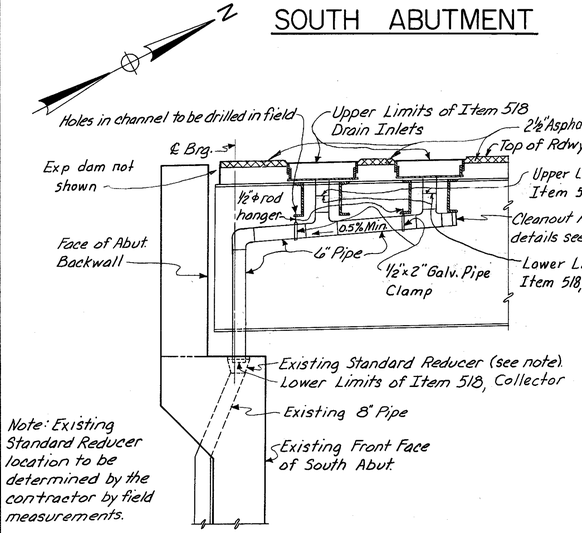




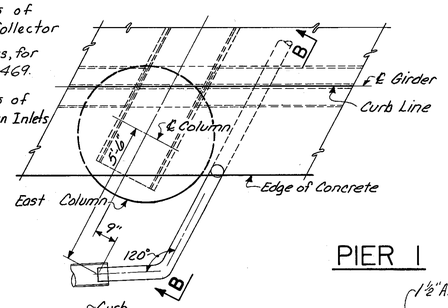
PIER 2



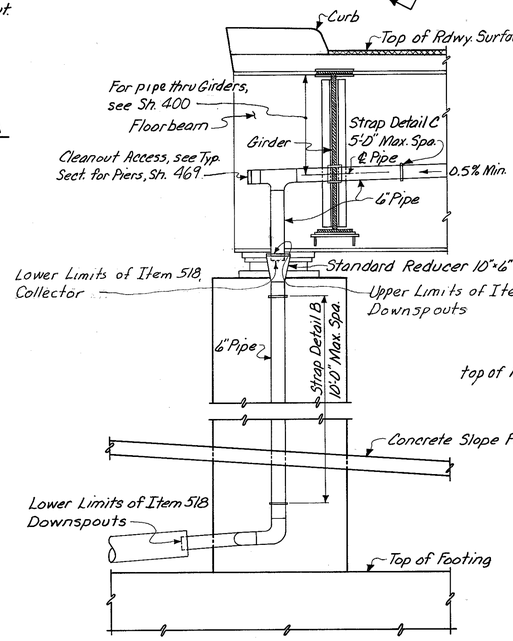
STRAP DETAIL "B"



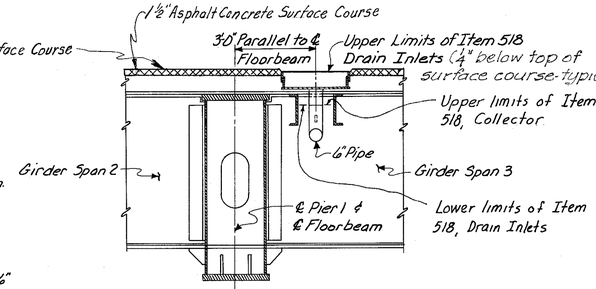
SECTION A-A



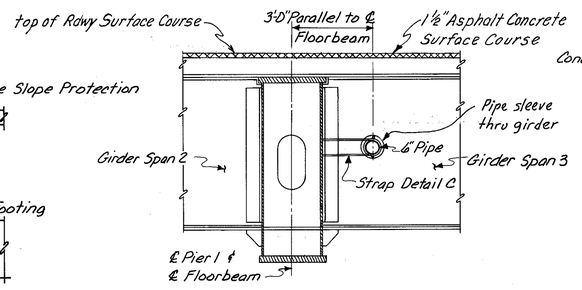
PIER 1



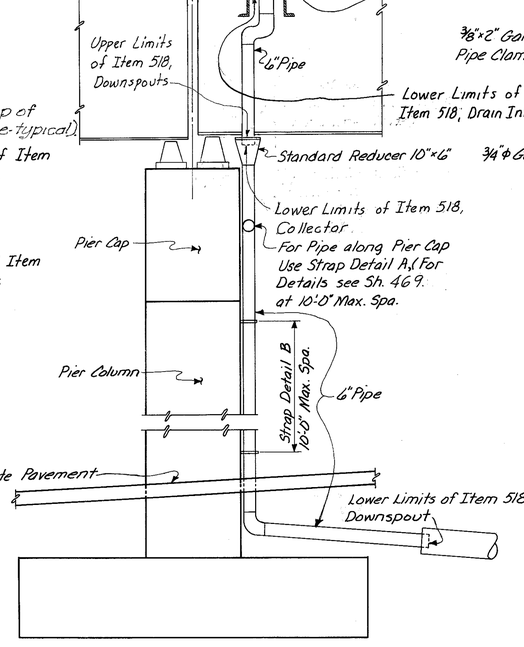
SECTION B-B



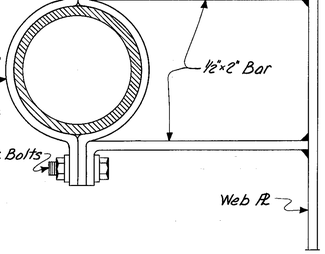
SECTION C-C



SECTION D-D



SECTION E-E



STRAP DETAIL "C"

For Section F-F see Typical Section (for piers) Sh. 469.
Work this sheet with Typical Drainage Details, Sh. 469.
Total depth of inlet frame box equals 8½"
Drain inlets shall be galvanized in accordance with 711.02. and, are set ¼" below top of Surface Course.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

21/23

DRAINAGE DETAILS
BRIDGE NO. HAM 471-0076
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	G.C.K.		W.L. 9-26-71	J.H.G. 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

411
494

HAMILTON COUNTY
HAM-471-0.30

SUPERSTRUCTURE

MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	G or Radius
S401	Str.	30'-0"	714	14309							
S402	Str.	27'-7"	54	995							
S403	Str.	6'-9" to 28'-1"	1 Series of 6	69							
S404	Str.	6'-4" to 25'-5"	1 Series of 4	42							
S405	8	2'-9" to 8'-11"	1 Series of 100	390	9	8" to 6'-10"	6½"	6½"			
S406	8	9'-0" to 9'-7"	1 Series of 5	31	9	6'-11" to 7'-6"	6½"	6½"			
S407	Str.	3'-7" to 30'-3"	1 Series of 39	441							
S408	Str.	18'-3"	74	902							
S409	Str.	30'-5"	1	20							
S410	Str.	3'-0" to 14'-3"	1 Series of 17	98							
S411	Str.	21'-3"	13	185							
S412	Str.	26'-4"	9	158							
S413	Str.	27'-3" to 30'-5"	1 Series of 6	116							
S414	Str.	27'-3" to 30'-5"	1 Series of 7	135							
S415	Str.	27'-3" to 29'-9"	1 Series of 4	76							
S416	Str.	17'-11"	5	60							
S417	Str.	32'-6"	74	1607							
S501	16	3'-6"	190	694	7½"	3'-0"	7½"	1¾"			
S502	7	4'-5"	57	263	7½"	1'-9"	1'-9"	2½"	2'-4"		
S503	7	3'-8"	133	509	7½"	1'-9"	1'-9"	2½"	1'-7"		
S601	Str.	30'-0"	510	22981							
S602	Str.	28'-1"	32	1350							
S603	Str.	3'-7"	1	5							
S604	Str.	11'-1"	1	17							
S605	Str.	20'-7"	2	62							
S606	Str.	8'-10" to 25'-1"	1 Series of 4	101							
S607	Str.	5'-4" to 28'-7"	1 Series of 4	102							
S608	Str.	14'-10"	1	22							
S609	Str.	3'-11" to 19'-4"	1 Series of 18	314							
S610	Str.	23'-0"	6	207							
S611	Str.	27'-9"	7	292							
S612	Str.	29'-10" to 32'-2"	1 Series of 4	186							
S613	Str.	4'-10"	1	7							
S614	Str.	3'-9"	1	6							
S615	Str.	6'-0" to 30'-3"	1 Series of 27	735							
S616	Str.	26'-2"	1	39							
S617	Str.	35'-0"	1	53							
S618	Str.	16'-10"	2	51							
S619	Str.	8'-10"	1	13							
S620	Str.	23'-6"	6	212							
S621	Str.	29'-3"	6	264							
S701	Str.	28'-8"	456	26722							
S702	Str.	33'-0"	247	16661							
S703	Str.	27'-2" to 30'-3"	1 Series of 30	1760							
S704	Str.	31'-6" to 34'-7"	1 Series of 30	2026							
S705	Str.	23'-2" to 27'-2"	1 Series of 51	2623							
S706	Str.	27'-6" to 31'-6"	1 Series of 51	3015							
S707	Str.	22'-2" to 23'-2"	1 Series of 17	788							
S708	Str.	26'-6" to 27'-6"	1 Series of 17	938							
S709	Str.	21'-4" to 22'-2"	1 Series of 22	978							
S710	Str.	25'-8" to 26'-6"	1 Series of 22	1173							
S711	Str.	20'-9" to 20'-11"	1 Series of 7	298							
S712	Str.	25'-1" to 25'-3"	1 Series of 7	360							
S713	Str.	19'-11" to 20'-9"	1 Series of 26	1081							
S714	Str.	24'-2" to 25'-1"	1 Series of 26	1309							
S715	Str.	18'-11" to 19'-11"	1 Series of 31	1230							
S716	Str.	23'-2" to 24'-2"	1 Series of 31	1500							
S717	Str.	18'-2" to 18'-11"	1 Series of 42	1592							
S718	Str.	22'-5" to 23'-2"	1 Series of 42	1957							
S719	Str.	30'-0"	38	2330							
S720	Str.	11'-3" to 34'-2"	2 Series of 32	2971							
S721	Str.	7'-3" to 21'-2"	2 Series of 19	1104							
S722	Str.	5'-8" to 7'-3"	2 Series of 3	79							
S723	Str.	1'-11" to 3'-5"	2 Series of 3	33							

SUPERSTRUCTURE

MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	G or Radius
S724	Str.	2'-10" to 4'-5"	2 Series of 3	44							
S725	Str.	7'-5"	2	30							
S726	Str.	8'-2"	2	33							
S727	Str.	2'-3"	4	18							
S728	Str.	35'-10"	4	293							
S729	Str.	25'-7"	14	732							
S730	Str.	24'-2"	8	395							
S731	Str.	21'-1" to 21'-4"	1 Series of 13	569							
S732	Str.	25'-5" to 25'-8"	1 Series of 13	679							
S733	Str.	30'-5" to 30'-10"	1 Series of 7	438							
S734	Str.	34'-9" to 35'-2"	1 Series of 7	500							
S735	Str.	31'-1"	1	64							
S736	Str.	35'-5"	1	72							
X501	1	2'-0"	222	463	7½"	1'-0"					
X502	46	5'-4"	261	1452	2'-2"	2'-5"	7½"				2¼"
X503	17	2'-3"	222	521	7½"	1'-9"					
X504	45	3'-4"	222	771	7½"	10½"	11½"	8"	9"	1'-2"	
X505	Str.	14'-5"	4	60							
X506	Str.	13'-8"	20	285							
X507	Str.	16'-6"	4	69							
X508	Str.	15'-8"	40	654							
X509	Str.	5'-8"	50	296							
X510	1	6'-1"	2	13							
		Total Weight Reinforcing Steel (Superstructure) = 129,153 lbs.									

NORTH ABUTMENT

A501	1	6'-4"	38	251	1'-7"	3'-5"					
A502	17	8'-3"	6	52	7½"	7'-9"					
A503	17	8'-5"	5	44	7½"	7'-11"					
A504	17	8'-8"	6	54	7½"	8'-2"					
A505	17	8'-10"	4	37	7½"	8'-4"					
A506	Str.	29'-0"	19	575							
A507	Str.	9'-5"	15	147							
A508	Str.	5'-0"	5	26							
A509	17	3'-9"	2	8	7½"	3'-3"					
A510	Str.	20'-0"	1	21							
A511	Str.	6'-2"	1	6							
A512	Str.	2'-5"	1	3							
A513	Str.	7'-8"	8	64							
A514	Str.	14'-8"	10	153							
A515	Str.	12'-8"	4	53							
A516	Str.	14'-11"	2	31							
A517	Str.	20'-8"	6	129							
A518	28	6'-11"	2	14	2'-7½"	7½"	5'-11"	7½"	5'-3"		
A519	Str.	3'-6" to 5'-0"	1 Series of 3	13							
A520	Str.	3'-5"	2	7							
A521	18	9'-0"	11	103	1'-1½"	1'-1½"	1'-7"	5'-10"	1'-7"	1'-1½"	1'-1½"
A601	17	13'-5"	6	121	5'-10"	7'-9"					
A602	17	13'-7"	5	102	5'-10"	7'-11"					
A603	17	13'-10"	6	125	5'-10"	8'-2"					
A604	17	14'-0"	4	84	5'-10"	8'-4"					
A605	Str.	29'-11"	4	180							
A606	1	10'-5"	30	469	4'-8"	1'-5"					
A607	1	13'-11"	1	21	6'-5"	1'-5"					
A608	1	11'-9"	6	107	5'-4"	1'-5"					
A609	1	9'-1"	20	273	4'-0"	1'-5"					
A610	1	11'-3"	20	338	5'-4"	11"					
A611	1	13'-1"	2	39	6'-0"	1'-5"					
A612	Str.	5'-3"	1	8							
A613	Str.	17'-6"	2	53							
A614	1	20'-4"	8	244	9'-9"	1'-2"					
A615	Str.	7'-5"	8	89							
A616	Str.	8'-3"	3	37							
A617	Str.	6'-6"	3	29							
A618	Str.	3'-2" to 4'-8"	1 Series of 3	18							
A619	Str.	3'-1"	2	9							

For Notes see Sh. 412.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

22/23

REINFORCING STEEL LIST
BRIDGE NO. HAM-471-0076
SOUTHBOUND EXPRESSWAY BRIDGE
CONNECTION AND RAMP GF OVER
RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	NRK		WL ALT	JHD 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

412
494

HAMILTON COUNTY
HAM-471-0.30

MICROFILMED
FEB 3 1981

NORTH ABUTMENT (cont'd)

MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	Radius
Y501	1	2'-0"	15	31	7½"	1'-0"					
Y502	Str.	2'-10"	25	74							
Y503	47	6'-4"	10	66	2'-5"	3'-2"	7½"				2¼"
Y504	Str.	20'-9"	8	173							
Y505	Str.	7'-3"	2	15							
Y506	Str.	14'-9"	2	31							
Y601	28	4'-11"	15	111	11½"	3'-2"	1'-2"	7½"	8"		

Total Weight Reinforcing Steel (North Abutment) = 4638 lbs.

SOUTH ABUTMENT

A551	Str.	23'-8"	8	197							
A552	Str.	23'-1"	5	120							
A553	Str.	11'-9"	1	12							
A554	17	7'-6"	1	8	1'-7½"	6'-0"					
A555	16	23'-11"	6	150	1'-0"	22'-7"	1'-4"	11"			
A556	16	23'-9"	4	99	7½"	22'-10"	11"	8"			
A557	17	8'-6"	1	9	1'-7½"	7'-0"					
A558	Str.	25'-3"	8	211							
A559	Str.	11'-0"	1	11							
A560	Str.	5'-11"	12	74							
A561	16	2'-2"	4	9	7"	1'-5"	9"	5 3/4"			
A651	1	12'-9"	6	115	5'-10"	1'-5"					
A652	1	10'-11" to 11'-2"	1 Series of 6	100	4'-11" to 5'-0½"	1'-5"					
A653	1	6'-5"	52	501	2'-11"	11"					
A654	1	6'-7" to 7'-7"	1 Series of 25	266	2'-9" to 3'-3"	1'-5"					
A655	1	14'-7"	15	329	6'-9"	1'-5"					
A656	1	17'-3"	8	207	8'-1"	1'-5"					
A657	Str.	7'-9"	8	93							
A658	1	7'-9" to 8'-3"	1 Series of 12	144	3'-4" to 3'-7"	1'-5"					
Y551	1	2'-0"	5	10	7½"	1'-0"					
Y552	Str.	2'-10"	5	15							
Y553	47	6'-8"	5	35	2'-5"	3'-6"	7½"				2¼"
Y554	Str.	5'-11"	10	62							
Y651	28	4'-11"	5	37	11½"	3'-2"	1'-2"	7½"	8"		

Total Weight Reinforcing Steel (South Abutment) = 2814 lbs.

PIER 1

P801	Str.	15'-6"	18	745							
P802	Str.	16'-6"	18	793							
P1101	26	18'-8"	48	4760	15'-6"						
P1102	26	19'-8"	48	5015	16'-6"						
P1103	17	8'-5"	40	1789	1'-5½"	7'-3"					
P1104	Str.	19'-2"	20	2037							
P1105	Str.	20'-11"	20	2223							
P501	1	5'-11"	24	148	1'-7"	3'-0"					

PIER 1

MARK	LENGTH	No. of BARS	WEIGHT	SHAPE	BENDING DIAGRAM
SP501	19'-2"	1	896	Bent	Type 39 Sheet No. 470
SP502	20'-11"	1	974	Bent	Type 39 Sheet No. 470

SPIRALS - Core Diameter 56" %
- Pitch 4½" %
- Other details in accordance with CRSI Standard Practice

Total Weight Reinforcing Steel (Pier 1) = 19,380 lbs.

PIER 2

MARK	TYPE	LENGTH	No. of BARS	WEIGHT	DIMENSIONS a	b	c	d	e	f	Radius
P451	17	9'-4"	8	50	1'-5½"	8'-0"					
P452	17	17'-4"	4	46	1'-5½"	16'-0"					
P551	1	6'-1"	60	381	1'-7"	3'-2"					
P552	1	7'-5" to 8'-9"	2 Series of 7	118	2'-3" to 2'-11"	3'-2"					
P553	37	15'-1"	86	1353	4'-2"	3'-2"					
P554	1	7'-7" to 8'-9"	2 Series of 16	273	2'-4" to 2'-11"	3'-2"					
P555	Str.	31'-0"	6	194							
P556	Str.	29'-0"	2	60							
P651	16	10'-2"	8	122	1'-5½"	1'-11"	8'-3"	8'-1½"			
P652	26	10'-10"	44	716	9'-6"						
P653	26	7'-4"	16	176	6'-0"						
P851	26	15'-2"	43	1741	13'-0"						
P1051	17	26'-2"	4	450	2'-6"	23'-11½"					
P1052	Str.	24'-0"	6	620							
P1053	Str.	14'-0"	6	361							
P1054	Str.	20'-0"	7	602							
P1055	Str.	12'-0"	5	258							
P1056	17	26'-6"	4	456	2'-10"	23'-11½"					
P1057	Str.	10'-0"	4	172							
P1058	Str.	27'-1"	4	466							
P1059	Str.	20'-4"	4	350							
P1151	Str.	18'-7"	12	1185							
P1152	17	7'-4"	32	1247	1'-5½"	6'-2"					
P1153	Str.	19'-3"	10	1023							
P1154	Str.	19'-11"	10	1058							

PIER 2

MARK	LENGTH	No. of BARS	WEIGHT	SHAPE	BENDING DIAGRAM
SP451	15'-1"	1	332	Bent	Type 39 Sheet No.
SP452	15'-9"	1	346	Bent	Type 39 Sheet No.
SP453	16'-5"	1	360	Bent	Type 39 Sheet No.

SPIRALS - Core Diameter 38" %
- Pitch 4½" %
- Other details in accordance with CRSI Standard Practice

Total Weight Reinforcing Steel (Pier 2) = 14,516 lbs.

REPLACEMENT BARS

MARK	TYPE	NUMBER	LENGTH
RE401	Str.	2	6'-3"
RE501	Str.	1	6'-7"
RE601	Str.	2	6'-11"
RE701	Str.	4	7'-2"
RE801	Str.	1	7'-6"
RE1001	Str.	1	8'-2"
RE1101	Str.	2	8'-6"

NOTES:

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, A501 is a No. 5 size bar and P1101 is a No. 11 size bar.

For bar bending schedule see sheet No. 470.

Total weight of reinforcing steel equals 170,511 lbs.

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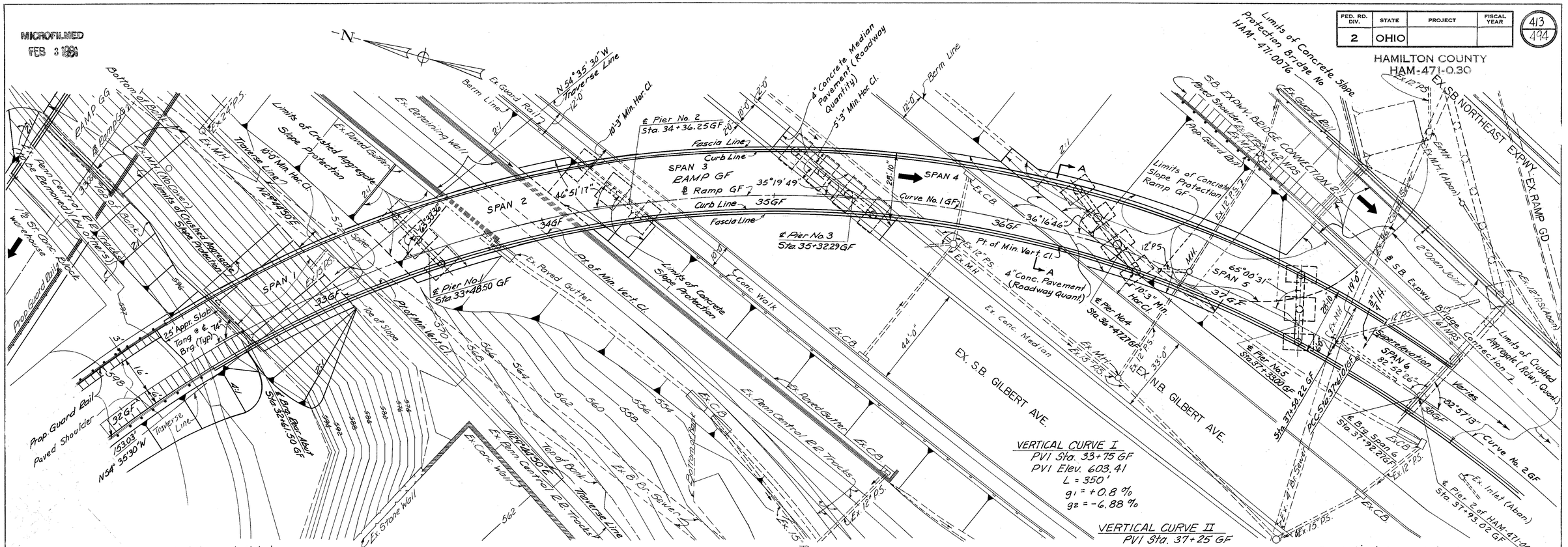
REINFORCING STEEL LIST
BRIDGE NO. HAM-471-0076
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	NRK.		W.L. ALT	JHO 11-9-72	



MICROFILMED FEB 3 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

413/494

HAMILTON COUNTY
HAM-471-0.30

VERTICAL CURVE I
PVI Sta. 33+75 GF
PVI Elev. 603.41
L = 350'
$g_1 = +0.8\%$
$g_2 = -6.88\%$

VERTICAL CURVE II
PVI Sta. 37+25 GF
PVI Elev. 579.33
L = 200'
$g_1 = -6.88\%$
$g_2 = -1.10\%$

The Vertical Curve data does not apply to bridge or graphic curve elevations. The bridge elevations were obtained by adding 1/2" to elevations obtained from Vertical Curve data.

PLAN

Bridge Limits = 533.86 (Measured Along Base Line)

For Bench Marks see Sh 33.

PROFILE ON BASE LINE

NOTES

Earthwork limits shown are schematic. Actual slopes shall conform to plan cross-sections.
Pier 1 and ℄ Brg. Rear Abut. are parallel.
Piers 2 and 3 are parallel.
Piles to be HP 10×42 Steel Piles for Pier 5
Piles to be HP 12×53 Steel Piles for Rear Abut. and Piers 1 thru 4

1984 TRAFFIC COUNT	
ADT	DHV
7900	1010

CURVE DATA	
Curve No. 1 GF	
P.I. Sta. 34+88.84	R = 477.47'
Δ = 87°42'41"	L = 730.93'
D = 12°00'00"	T = 458.76'
Curve No. 2 GF	
P.I. Sta. 37+86.02	R = 544.38'
Δ = 5°15'45"	L = 50.00'
D = 10°31'30"	T = 25.02'

SECTION A-A

PROPOSED STRUCTURE

TYPE: Continuous Curved Welded Plate Girder with reinforced concrete deck and substructure.
SPAN: 87.00', 87.75', 96.04', 114.98', 85.73', & 59.27 (Spans 1 through 6) ℄ Brg. measured along base line.
ROADWAY: 26.5' f/f Parapets
LIVE LOADING: HS 20-44 and the Interstate Alternate Loading.
SKEW: Varies, see plan.
SURFACE COURSE: 1 1/2" Asphalt Concrete
ALIGNMENT: Varies, see plan
SUPERELEVATION: Varies, see plan.
APPROACH SLAB: AS-1-67 (25'-0" long)

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1/23

SITE PLAN

RAMP GF OVER PENN-CENTRAL
RAILROAD AND GILBERT AVENUE

H&E BRIDGE NO. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	SCC	R.J.R.	HLL	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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FEB 3 1981

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER-STRUCTURE	REAR ABUTMENT	PIERS	GENERAL
503		Lump Sum	Cofferdams, Cribs and Sheeting				LUMP
503	766	Cu. Yd.	Unclassified Excavation		111	655	
505		Lump Sum	Test Pile				LUMP
506		Lump Sum	Pile Test Load				LUMP
506	1	Each	Subsequent Pile Test Load				1
507	6040	Lin. Ft.	Steel Piles, HP 12×53		1190	4850	
507	620	Lin. Ft.	Steel Piles, HP 10×42			620	
509	222,078	Lb.	Reinforcing Steel	148,851	7,560	65,567	
511	580	Cu. Yd.	Class "C" Concrete, Superstructure	580			
511	212	Cu. Yd.	Class "C" Concrete, Pier Caps and Columns			212	
511	58	Cu. Yd.	Class "C" Concrete, Abutment above Footing		58		
511	226	Cu. Yd.	Class "C" Concrete, Footings		31	195	
513	600,000	Lb.	Structural Steel	600,000			
514	600,000	Lb.	Field Painting of Structural Steel	600,000			
518	34	Cu. Yd.	Porous Backfill		34		
518	4	Each	Drain Inlets	4			
518	84	Lin. Ft.	6" Standard Pipe Downspout, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials			84	
518	20	Lin. Ft.	6" Non-Perforated, Helical Corrugated Metal Pipe including Specials, 707.01		20		
518	22	Lin. Ft.	6" Perforated, Helical Corrugated Metal Pipe, 707.01		22		
518	23	Lin. Ft.	6" Standard Pipe Collector, Alloy Steel (707.11) or Hot-dip Galvanized Steel Including Specials			23	
601	453	Sq. Yd.	Crushed Aggregate Slope Protection		227	226	
601	488	Sq. Yd.	Concrete Slope Protection			488	
625			See Sheet 143 for Lighting Summary				
808	580	Units	Chemical Admixture for Concrete, Type A, B or D	580			
404	41	Cu. Yd.	Asphalt concrete (70-80 or AC20)	41			
Special	20	Cu. Yd.	Sand Asphalt (see proposal note)	20			
Special	1480	Sq. yd.	Membrane Waterproofing (see proposal note)	1480			

QUANTITIES
BY ALT DATE 3-29-71
CHECKED RJF DATE 3-31-71

GENERAL NOTES

REFERENCE — shall be made to Standard Drawings AS-1-67 revised 6-12-69, SD-1-69, Sheets 1 and 2 dated 6-12-69, BR-1-67, Sheet 1 revised 10-15-71, RB-1-55 revised 2-2-59, and and to Supplemental Specifications 808 dated 1-1-71, and 836 dated 1-1-71.

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by The American Association of State Highway Officials, 1969, including the Ohio "Supplement" to these specifications.

DESIGN DATA:

Design Loading - HS20-44 "and the Interstate Alternate Loading"

Concrete Class C - unit stress 1200 psi. for superstructure
unit stress 1333 psi. for substructure

Structural Steel - ASTM A36- unit stress 20,000 psi.

Reinforcing Steel - ASTM A 615, A616 or A617 - unit stress 20,000 psi.

Spiral reinforcement may be plain bars ASTM A82, A306, A499 or A615. If bars in accordance with ASTM A616 are provided they shall be subject to bend tests as per AASHO Designation M42-70.

PILES shall be driven to firm contact with bedrock. If the length of penetration is approximately equal to the depth to bedrock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in 507.05 is not less than the following value for a pile hammer of the indicated energy rating:

For the Rear Abutment and Piers 1 thru 4

55 tons per pile using an 11,000 ft. lb. hammer
50 tons per pile using a 15,000 ft. lb. or greater hammer

For Pier 5

60 tons per pile using an 11,000 ft. lb. hammer
55 tons per pile using a 15,000 ft. lb. or greater hammer

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 40 tons per pile for the Rear Abutment and Piers 1 thru 4 piles and 35 tons per pile for Pier 5 piles.

UTILITY LINES: All expense involved in relocating (installing) the affected utility lines shall be borne by the Owner(s). The Contractor and Owner(s) are requested to cooperate by arranging their work in such a manner that inconvenience to either would be held to a minimum.

CONSTRUCTION CLEARANCE of 19'-0" vertically above the top of the railroad rails and 8'-0" horizontally from the center of tracks shall be maintained at all times.

DECK REINFORCING BARS: At the Contractor's option, a portion (not to exceed 25%) of the upper longitudinal bars (S4) in the deck slab may be placed beneath the upper transverse bars for support of the top mat.

MAINTENANCE OF TRAFFIC - Refer to sheets 13 and 13A

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2/23

ESTIMATED QUANTITIES AND GENERAL NOTES

RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVE.

H&E BRIDGE No. 11

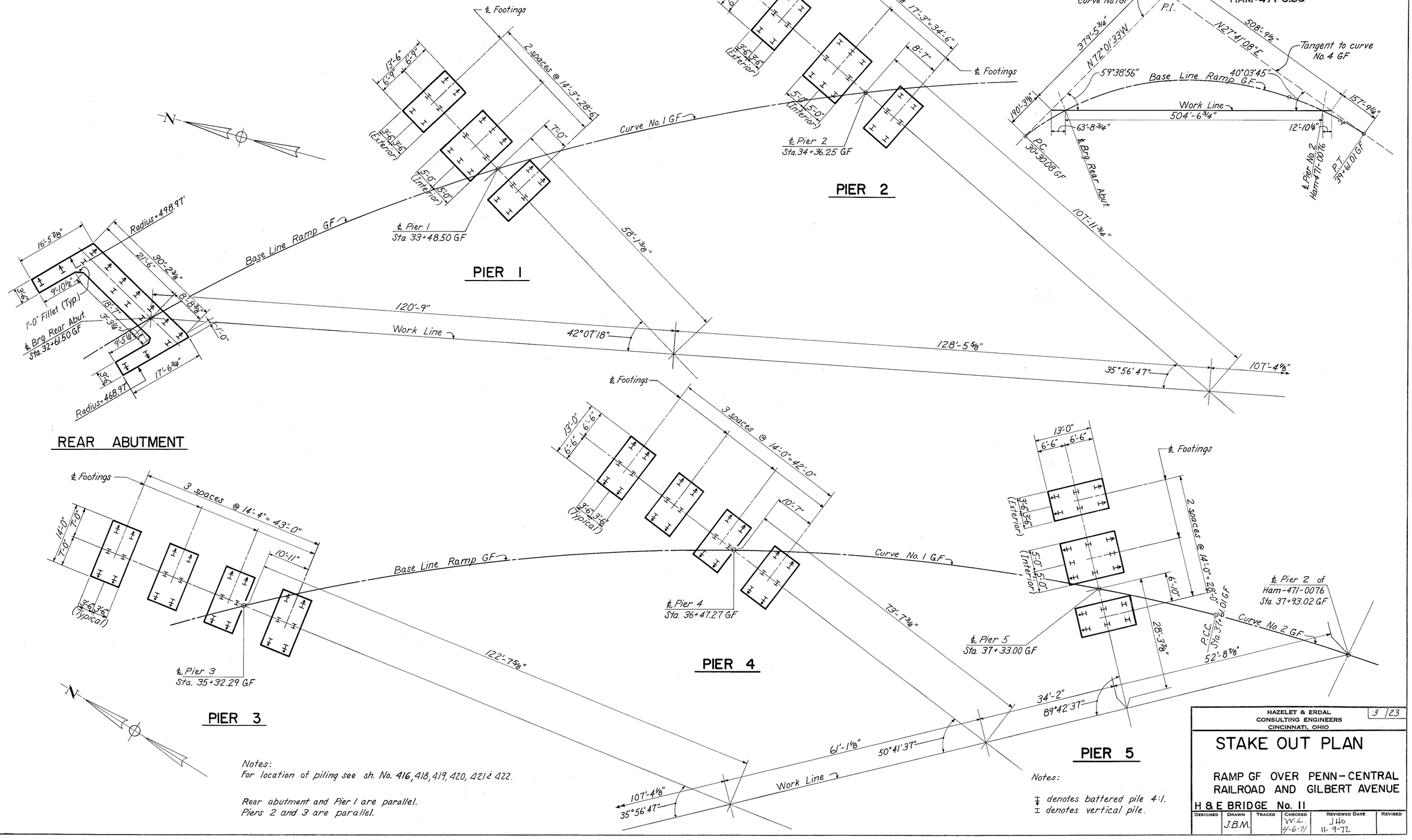
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DH		WL	JHO 11-9-72	

MICROFILMED
FEB 3 1983

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

415
494

HAMILTON COUNTY
HAM-471-0.30



Notes:
For location of piling see sh. No. 416, 418, 419, 420, 421 & 422.

Rear abutment and Pier 1 are parallel.
Piers 2 and 3 are parallel.

Notes:

‡ denotes battered pile 4:1.
I denotes vertical pile.

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3 23

STAKE OUT PLAN

RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE

H & E BRIDGE No. 11

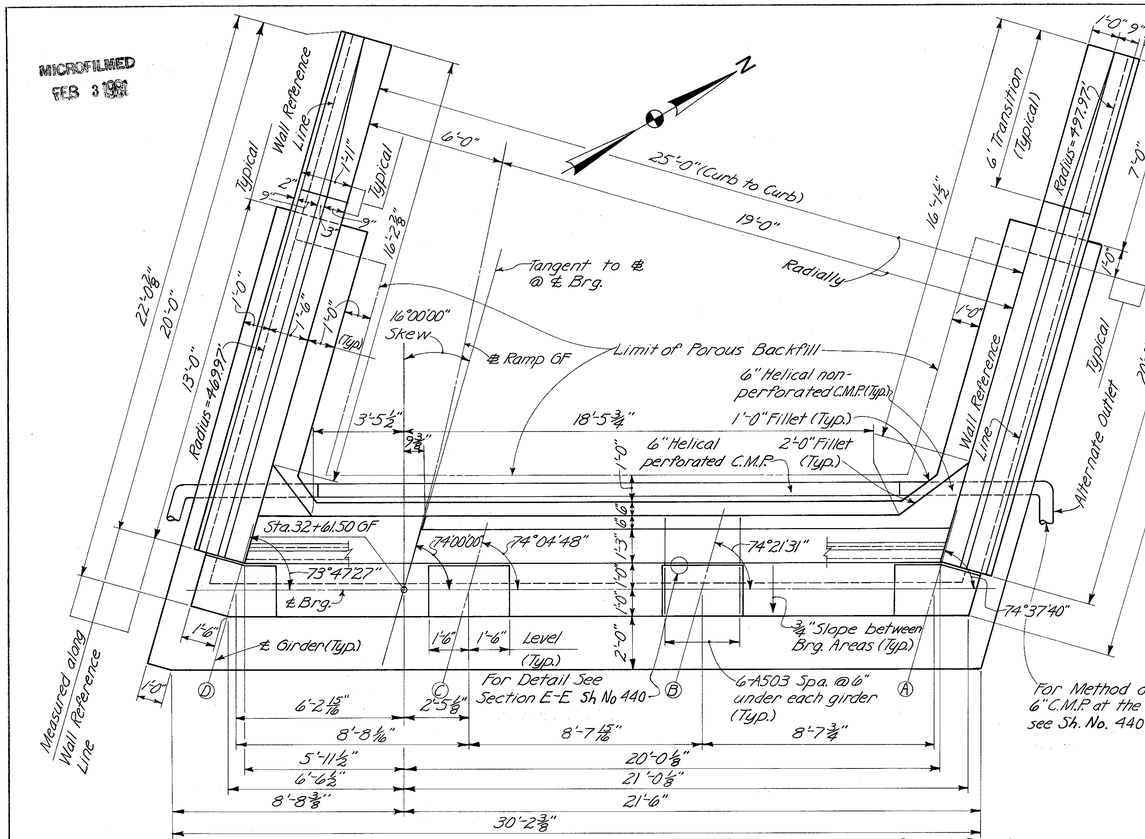
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.B.M.		W.K. 4-6-71	JHO 11-9-72	

MICROFILMED
FEB 3 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

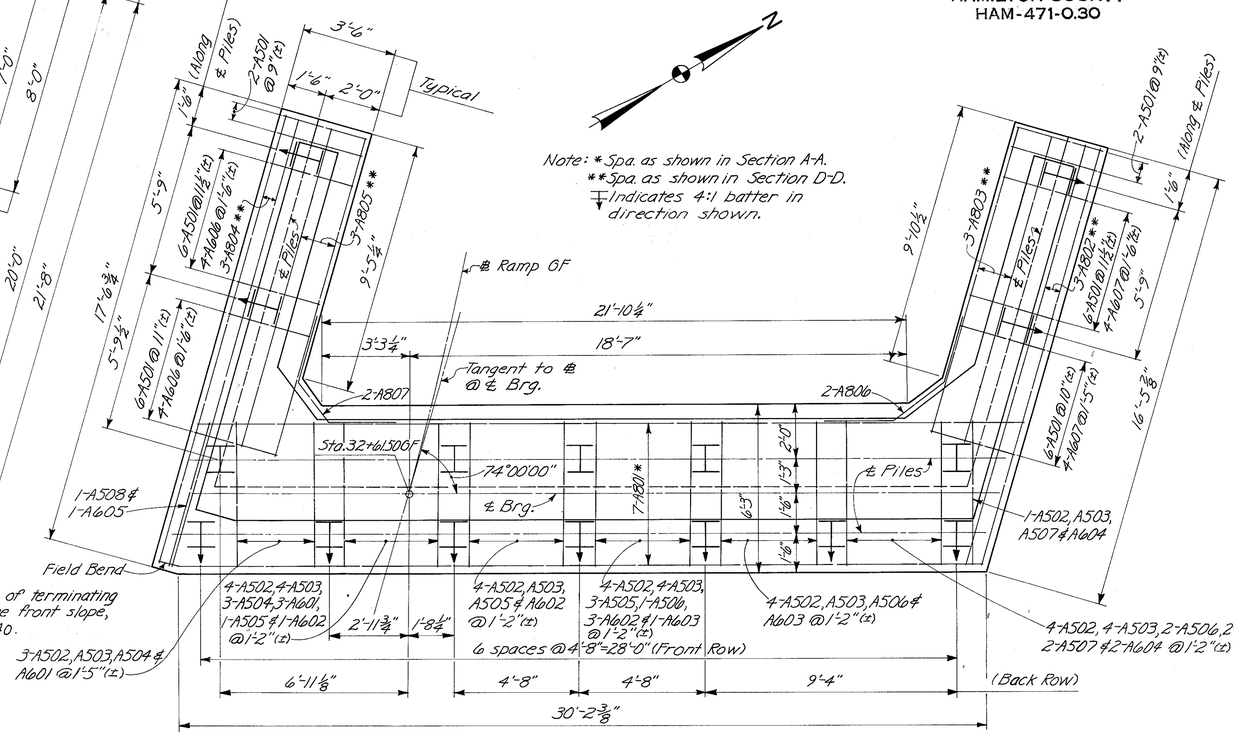
416
494

HAMILTON COUNTY
HAM-471-0.30

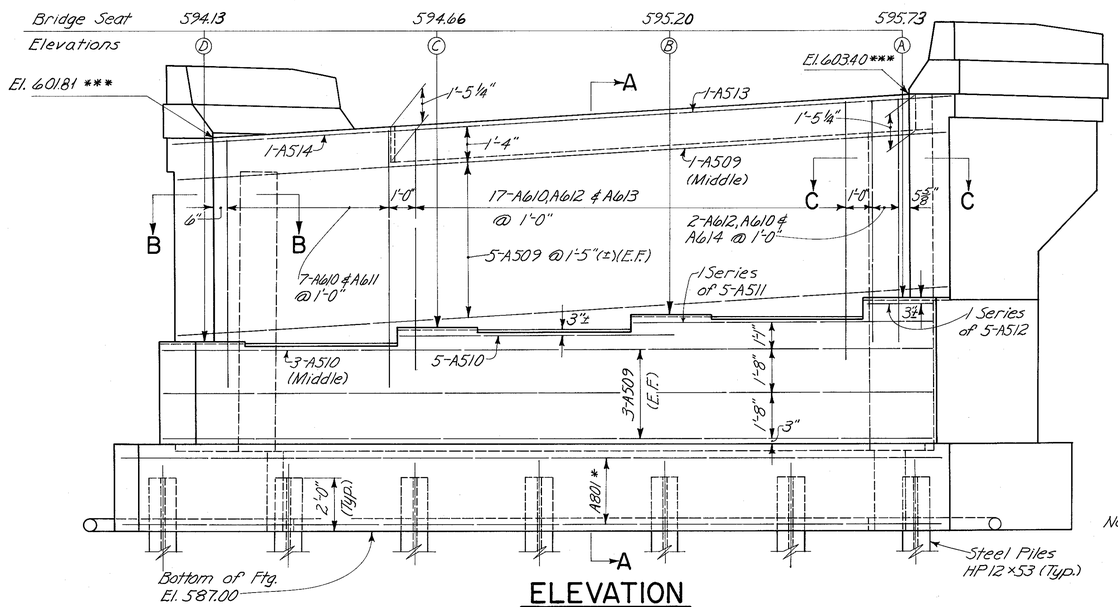


PLAN

Note: Angles are given from ℄ Brg. to tangent to curves @ ℄ or ℄ Girders.

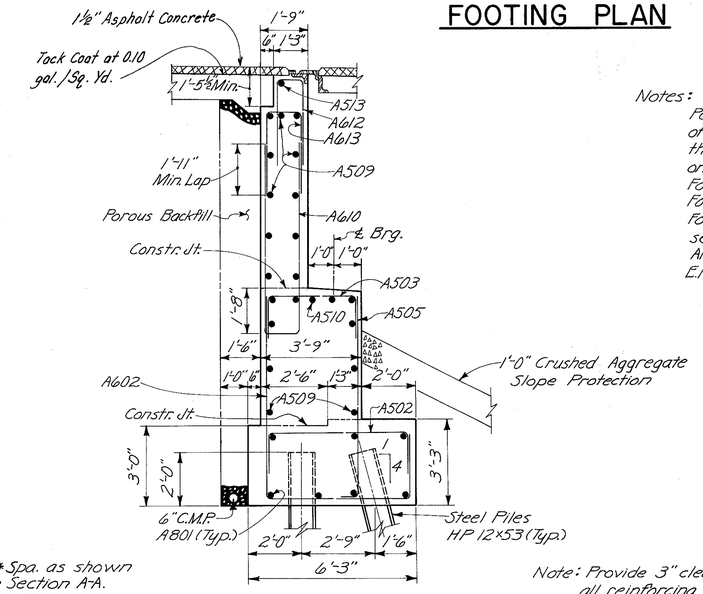


FOOTING PLAN



ELEVATION

Note: * Spa. as shown in Section A-A.
*** El. shown are at Front Face of Backwall.



SECTION A-A

Note: Provide 3" clearance for all reinforcing steel in footing, minimun, unless noted otherwise.

Notes:
Porous Backfill, 1'-0" thick outside back edge of footing shall extend up to the plane of the subgrade and laterally to the limits on the wingwalls as shown in plan.
For Sections B-B & CC, see Sh. No. 417.
For Wingwall Details, see Sh. No. 417.
For Roadway & Curb End Finish Details, see Std. Dwg. SD-1-69 Sh. No. 142.
All Concrete shall be Class "C" Concrete.
E.F. denotes Each Face.

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4/23

REAR ABUTMENT

RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE

H&E BRIDGE NO. 11

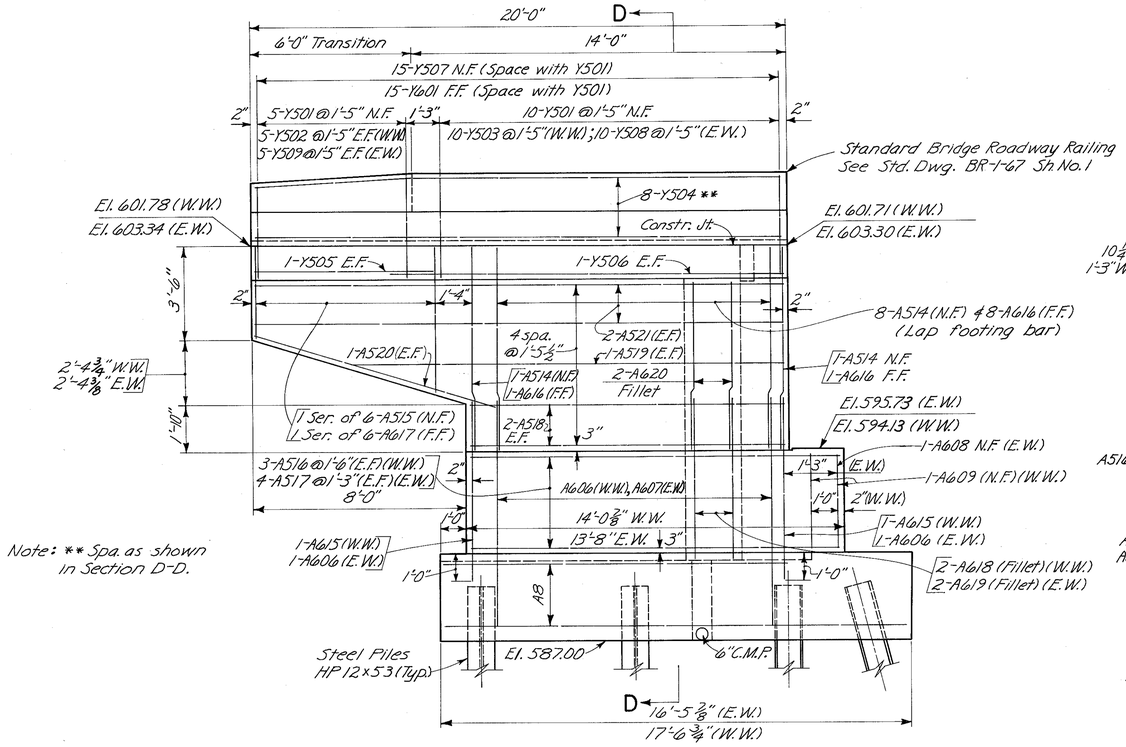
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CES		WL 2-24-71	JHO 11-9-72	

MICROFILMED
FEB 3 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

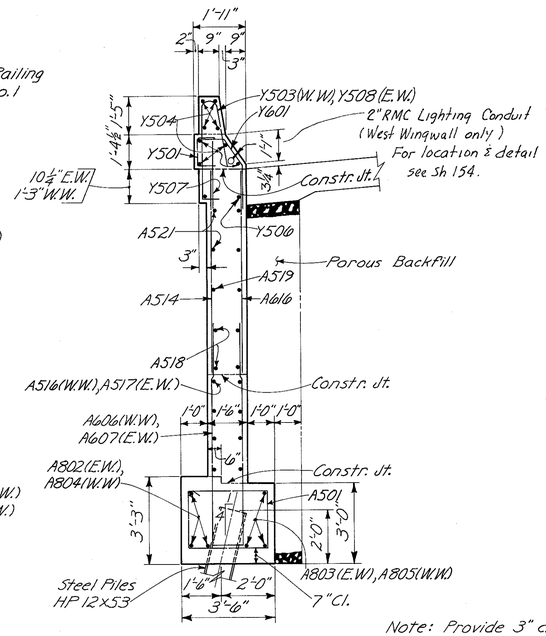
417
494

HAMILTON COUNTY
HAM-471-0.30



WINGWALL ELEVATION

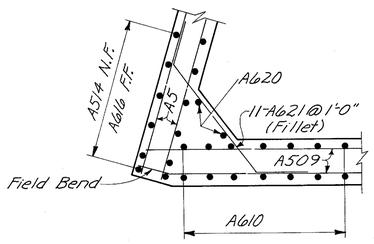
(Reinforcing steel typical for both wingwalls unless noted)



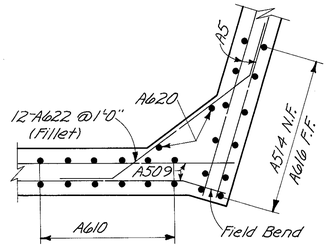
Notes:
N.F. denotes Near Face.
F.F. denotes Far Face.
E.F. denotes Each Face.
W.W. denotes West Wingwall.
E.W. denotes East Wingwall.
For Details of parapet transition see, CURB ON APPROACHES, Std. Dwg. BR-1-67 Sh. No. 1.

Note: Provide 3" clearance for all reinforcing steel in footing, minimum, unless noted otherwise.

SECTION D-D



SECTION B-B



SECTION C-C

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5/23

REAR ABUTMENT

RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE

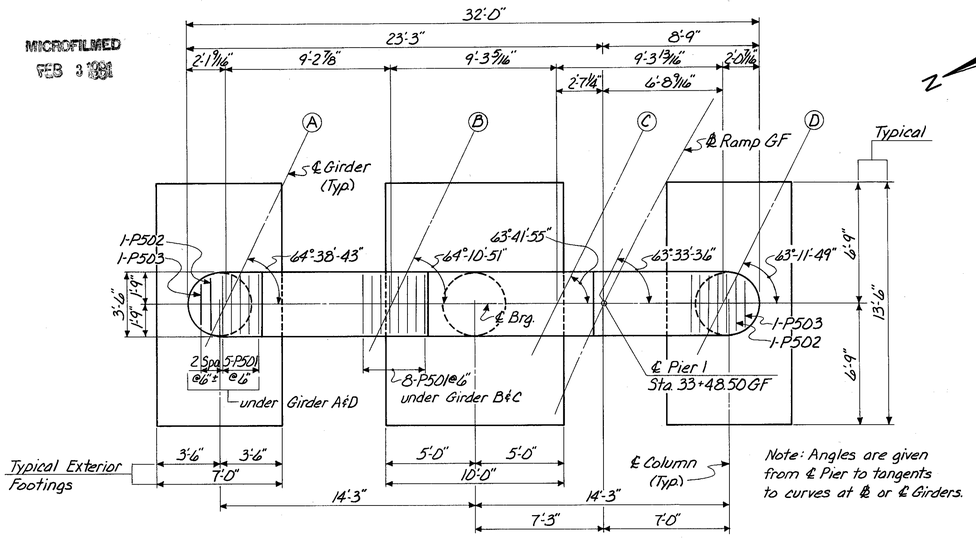
H&E BRIDGE NO. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CES		YYL 12-24-71	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

418
494

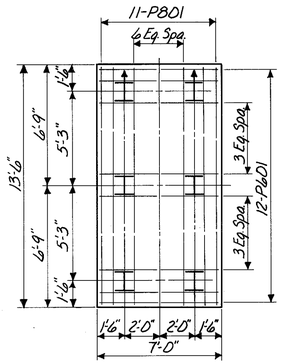
HAMILTON COUNTY
HAM-471-0.30



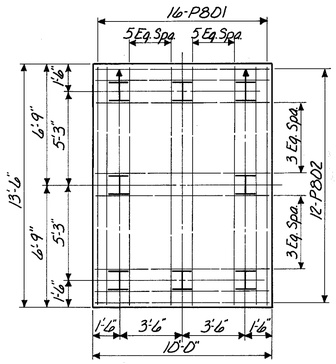
Note: Angles are given from ℄ Pier to tangents to curves at ℄ or ℄ Girders.

PLAN
(Piles Not Shown)

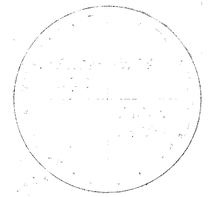
Note: I denotes battered piles. Provide 3" clearance to reinforcing steel in footing, minimum.

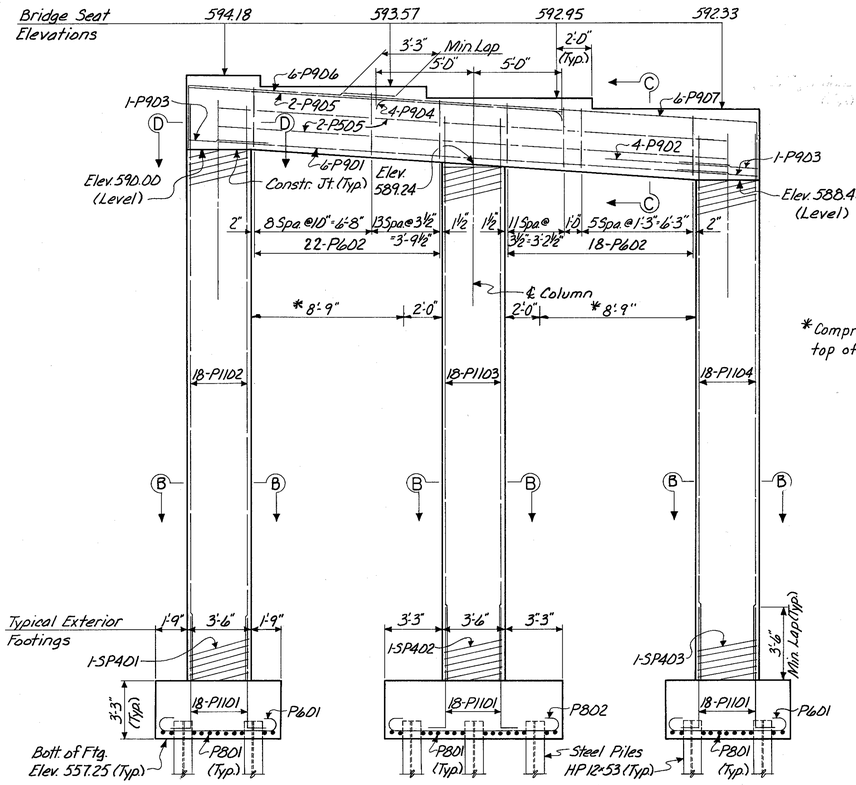


EXTERIOR FOOTING



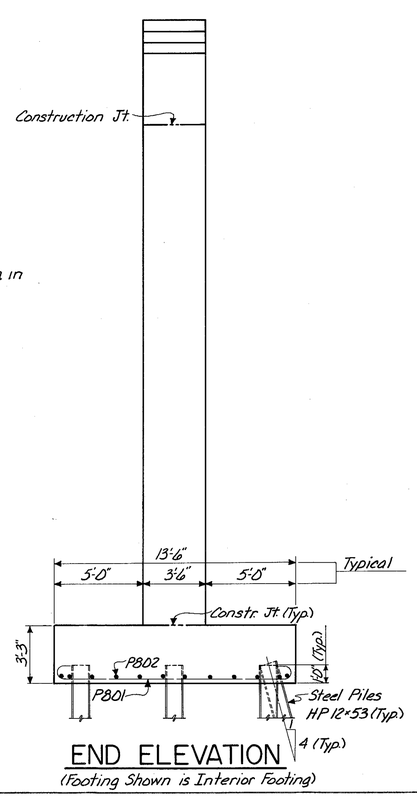
INTERIOR FOOTING



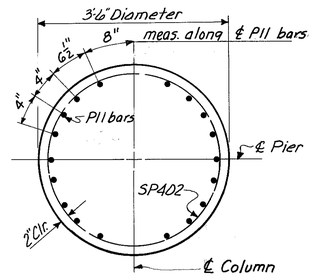


* Compression area in top of cap.

ELEVATION



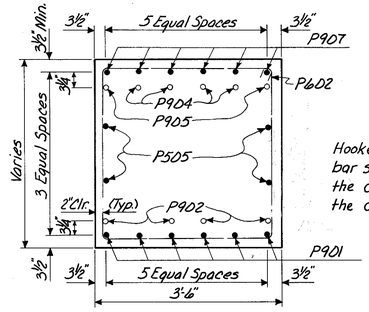
END ELEVATION
(Footing Shown is Interior Footing)



SECTION B-B

Note: Bars in Columns to be spaced to miss bottom cap reinforcing as dimensioned in Section C-C.

SECTION D-D



Hooked corner of P602 bar shall be placed in the compression area of the cap.

SECTION C-C

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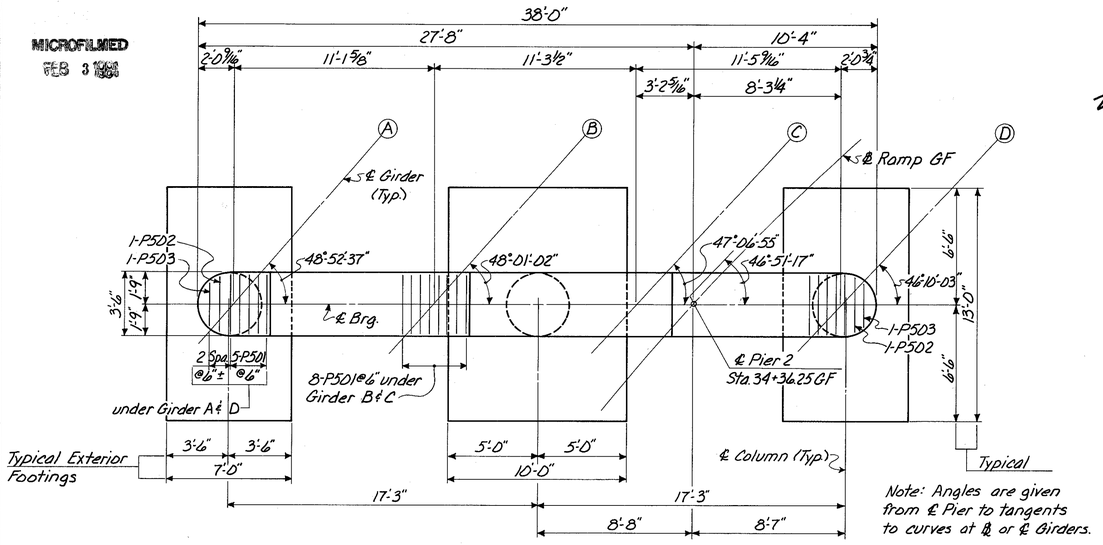
PIER NO. 1
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE
H&E BRIDGE NO. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.B.M.	G.C.K.	YVL 9-5-72	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

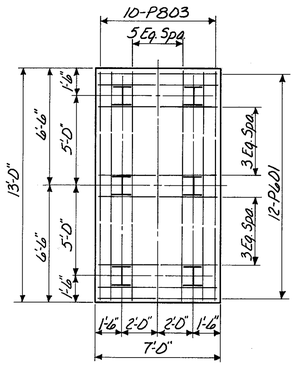
419
494

HAMILTON COUNTY
HAM-471-0.30

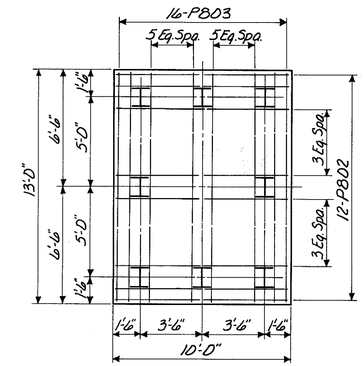


PLAN
(Piles Not Shown)

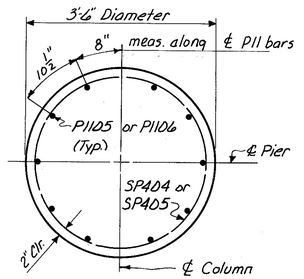
Note: Provide 3" clearance to reinforcing steel in footing, minimum.



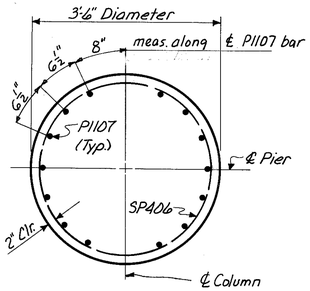
EXTERIOR FOOTING



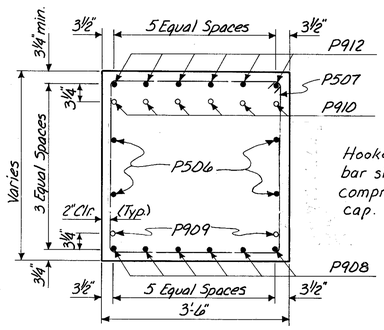
INTERIOR FOOTING



SECTION A-A

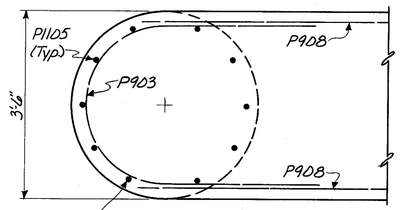


SECTION B-B

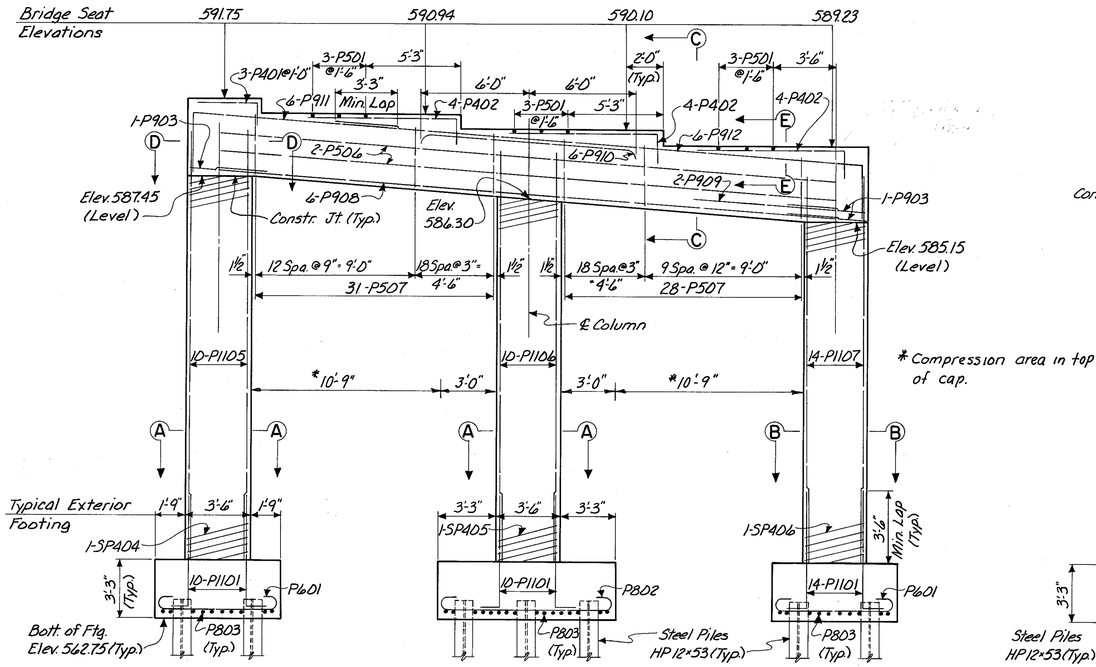


Hooked corner of P507 bar shall be placed in the compression area of the cap.

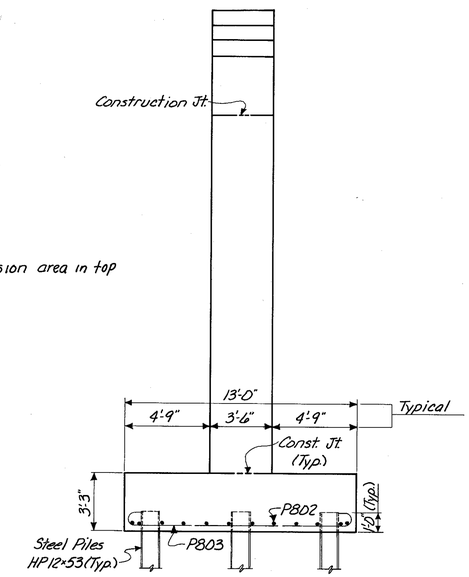
SECTION C-C



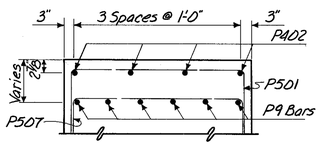
SECTION D-D



ELEVATION



END ELEVATION
(Footing Shown is Interior Footing)



SECTION E-E

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

7/23

PIER NO. 2
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE

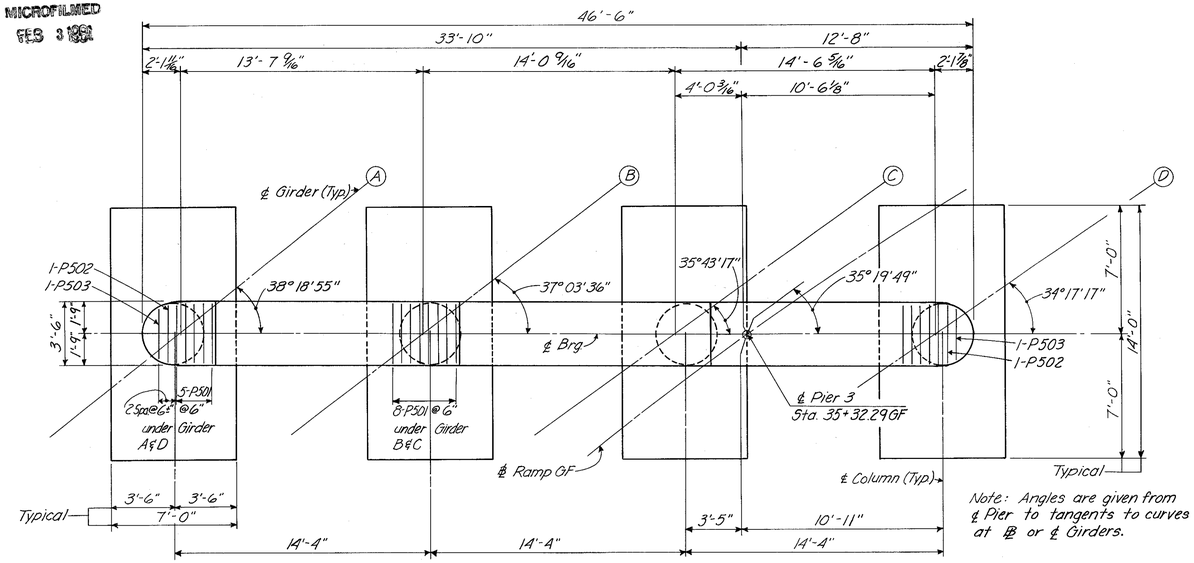
H&E BRIDGE NO. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.B.M.	G.C.K.	W.K. 9-5-72	J.H.O. 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

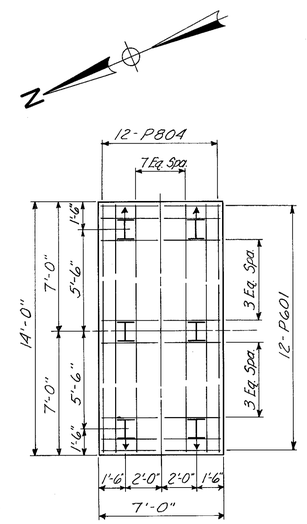
4-20
494

HAMILTON COUNTY
HAM-471-0.30



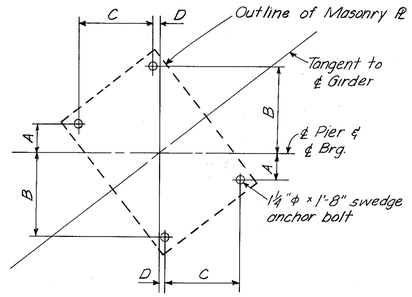
Note: Angles are given from ℄ Pier to tangents to curves at ℬ or ℄ Girders.

PLAN
(Piles not shown)



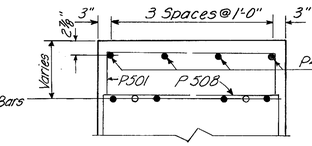
TYPICAL FOOTING

Note: ⌶ denotes battered pile.

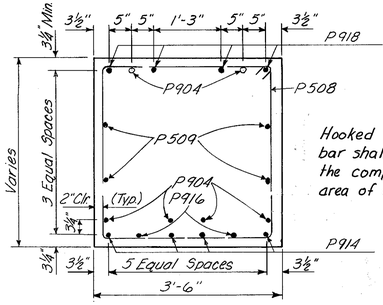


ANCHOR BOLT LAYOUT

ANCHOR BOLT LAYOUT				
GIRDER	DIMENSIONS			
	A	B	C	D
A	4 7/16"	1'-2 3/8"	1'-0 9/16"	1 3/16"
B	4 3/8"	1'-2 3/8"	1'-0 3/4"	7/8"
C	5 1/16"	1'-2 7/16"	1'-1"	1/2"
D	5 1/16"	1'-2 7/16"	1'-1 1/4"	1/8"

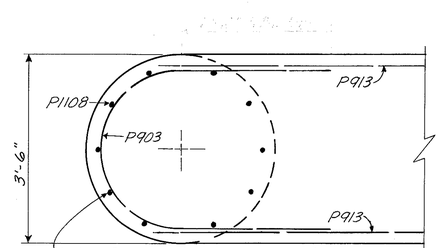


SECTION E-E



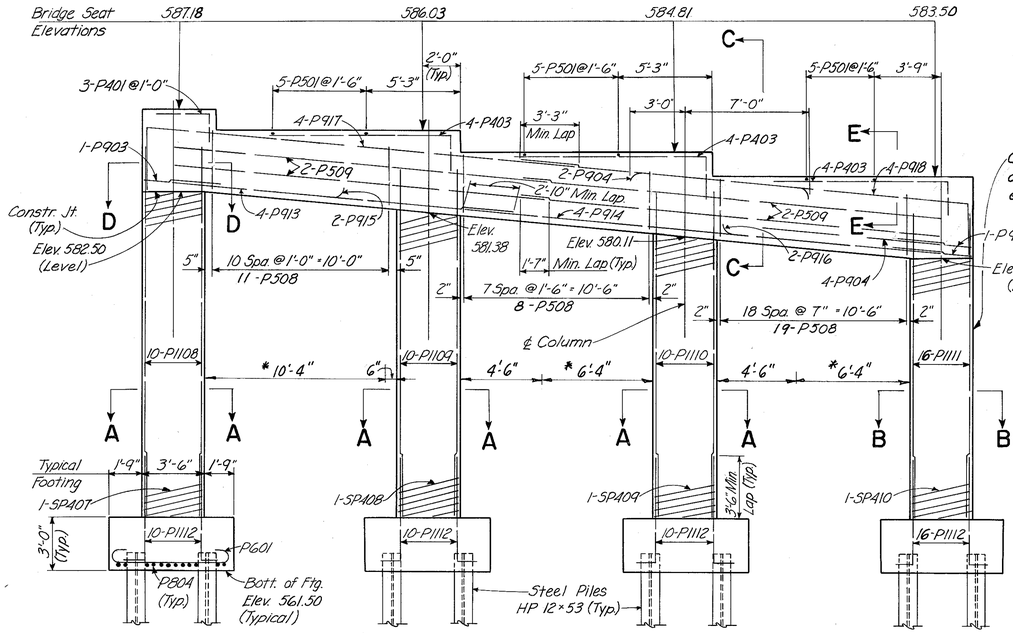
Hooked corner of P508 bar shall be placed in the compression area of the cap.

SECTION C-C



Note: Bars in columns to be spaced to miss bottom cap reinforcing as dimensioned in section C-C.

SECTION D-D

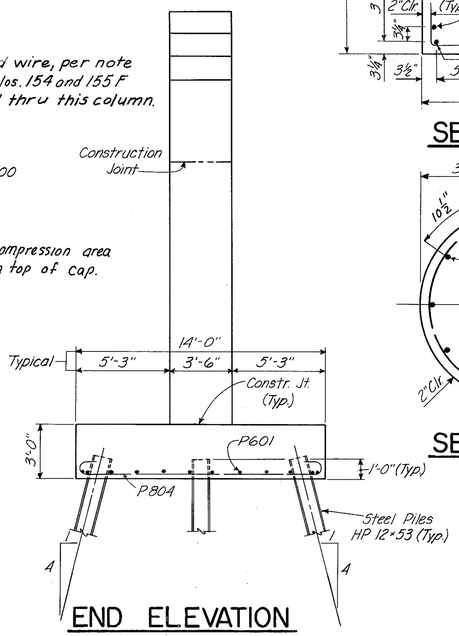


Ground wire, per note on Sh. Nos. 154 and 155 F extend thru this column.

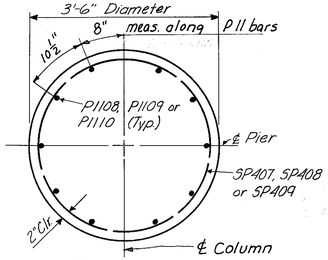
* Compression area in top of cap.

Note: Reinforcing Steel Typical for all Footings, except dowels.

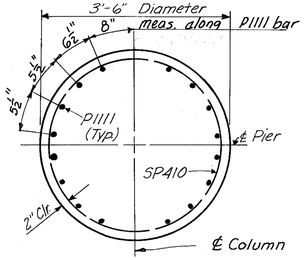
ELEVATION



END ELEVATION



SECTION A-A



SECTION B-B

Note: Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bolt holes. Provide 3" clearance to reinforcing steel in footings, minimum.

HAZELET & ERDAL
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CINCINNATI, OHIO

8 | 23

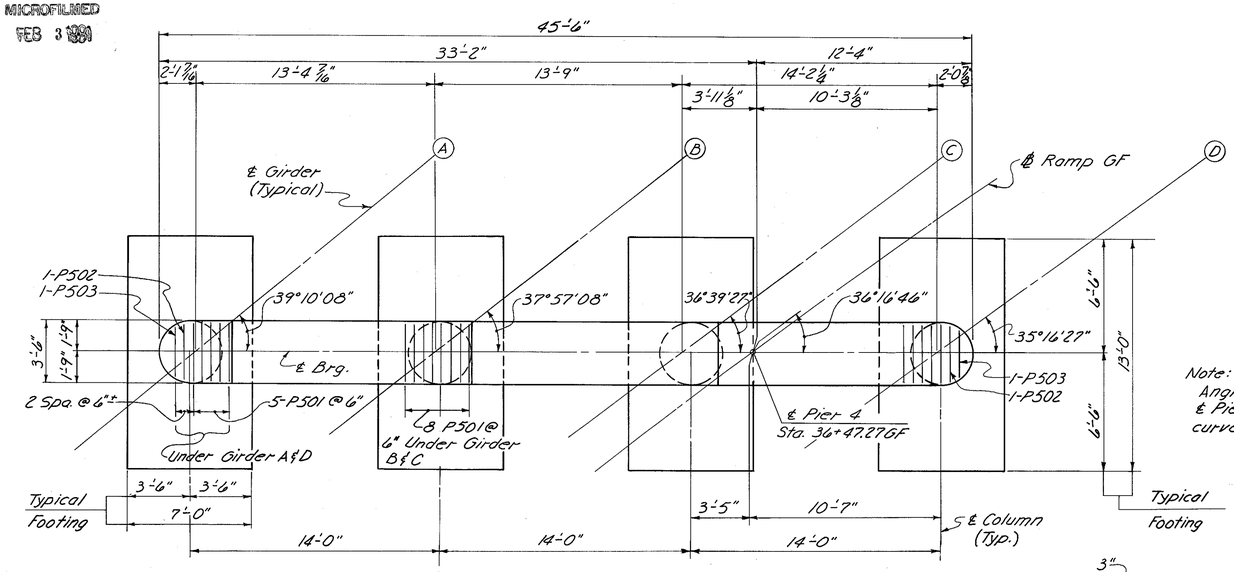
PIER NO. 3
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE
H&E BRIDGE NO. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	J.B.M.	N.R.K.	W.L. 4-5-71	JHS 11-9-72	

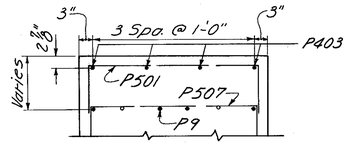
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

421/494

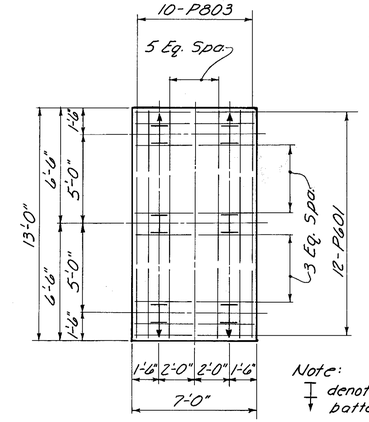
HAMILTON COUNTY
HAM-471-0.30



PLAN
(Piles Not Shown)



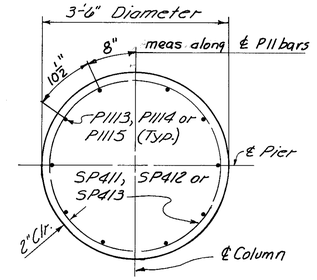
SECTION E-E



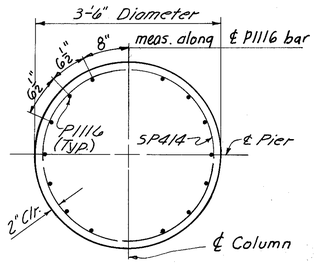
Note:
Angles are given from ℄ Pier to tangents to curves at ℄ or ℄ Girders.

Note:
‡ denotes battered Piles

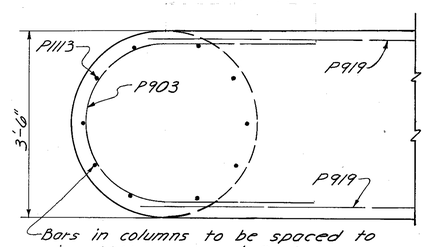
TYPICAL FOOTING



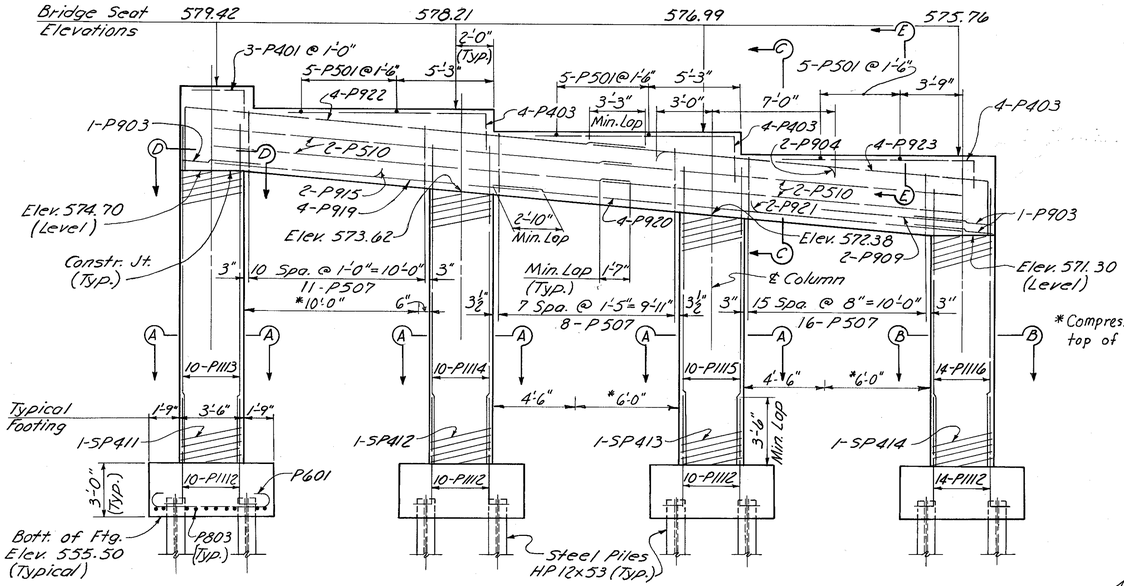
SECTION A-A



SECTION B-B

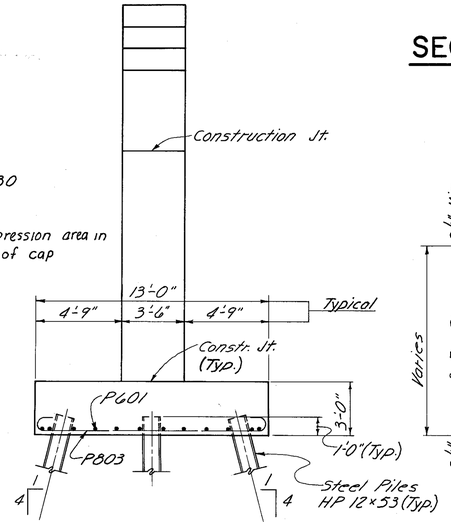


SECTION D-D

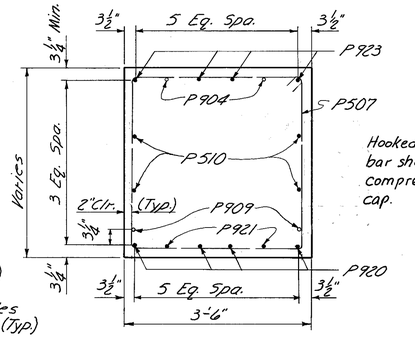


Note: Reinforcing Steel Typical for all footings, except dowels.

ELEVATION



END ELEVATION



Hooked corner of P507 bar shall be placed in the compression area of the cap.

SECTION C-C

Note:
Provide 3" clearance to reinforcing steel in footings, minimum.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

9/23

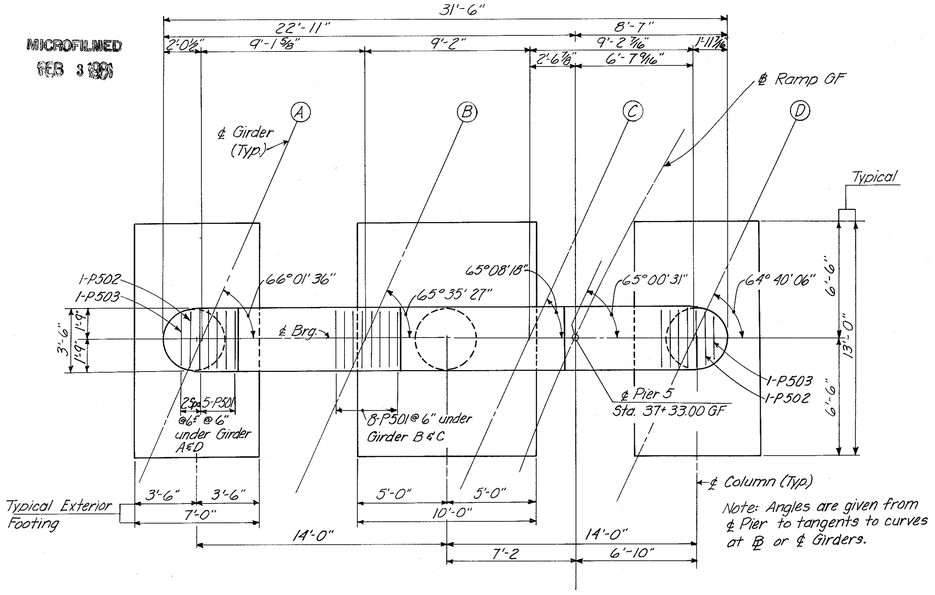
PIER NO. 4
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE
H&E BRIDGE NO.11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.B.M.	D.B.S.	W.L. 9-6-71	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

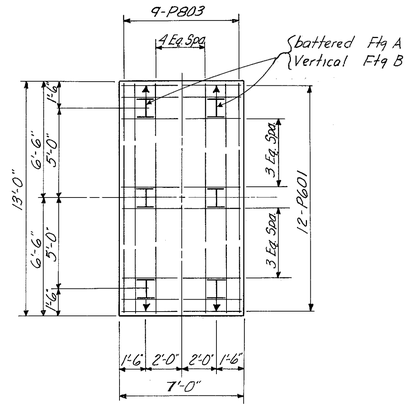
422
494

HAMILTON COUNTY
HAM-471-0.30

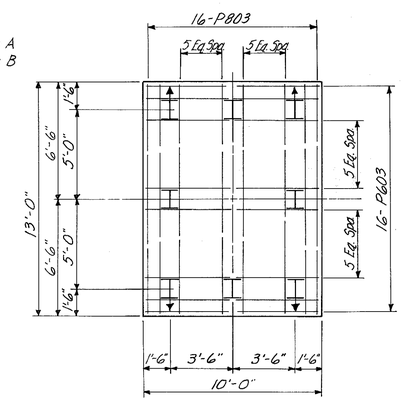


PLAN
(Piles not shown)

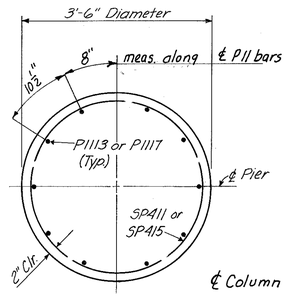
Note: ⊥ denotes battered pile 4:1 (except as noted)



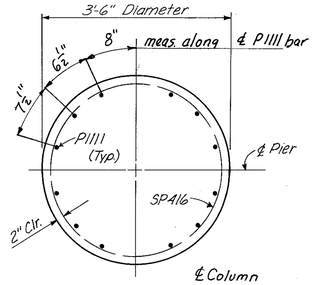
EXTERIOR FOOTING A&B



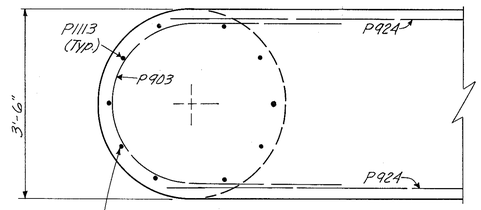
INTERIOR FOOTING



SECTION A-A

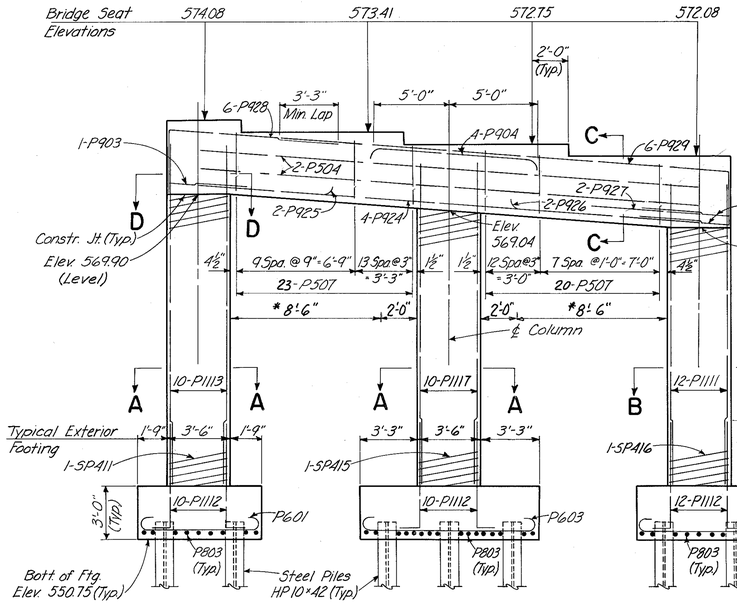


SECTION B-B



SECTION D-D

Note: Bars in Columns to be spaced to miss bottom cap reinforcing as dimensioned in Section C-C.
Provide 3" clearance to reinforcing steel in footings, minimum.

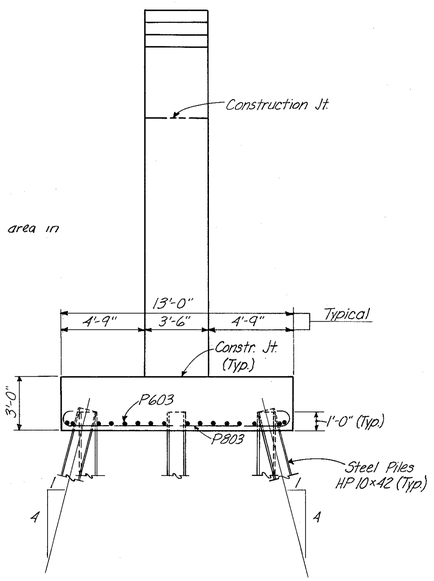


FOOTING A

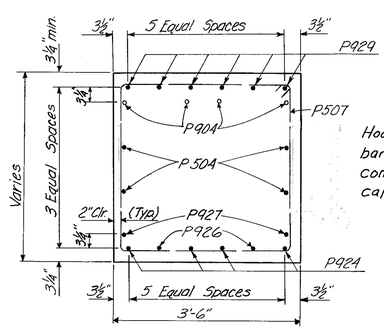
FOOTING B

ELEVATION

* Compression area in top of cap.



END ELEVATION
(Footing Shown is Interior Footing)



SECTION C-C

Hooked corner of P507 bar shall be placed in the compression area of the cap.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

10 / 23

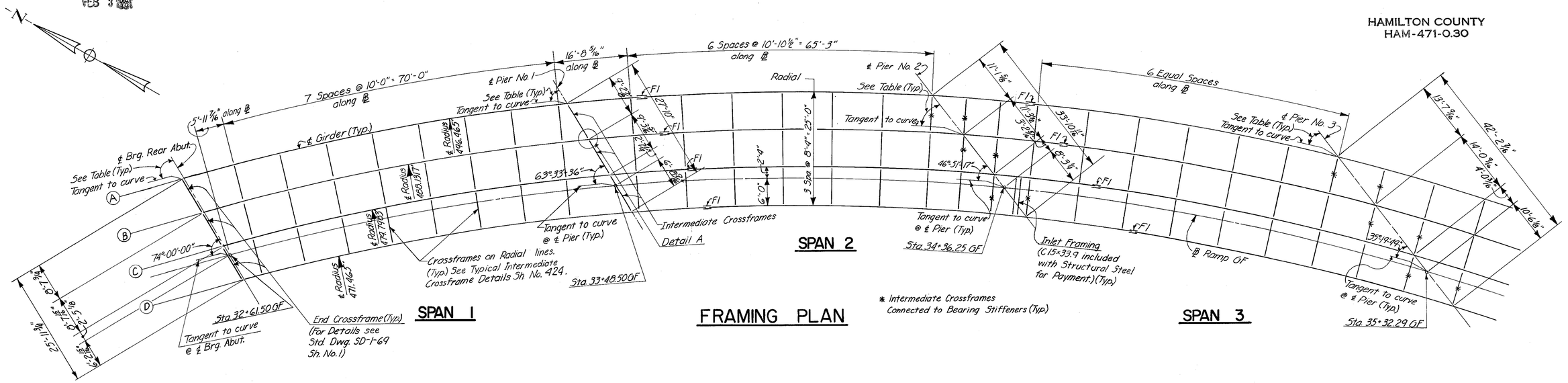
PIER NO. 5
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE
H&E BRIDGE NO. 11

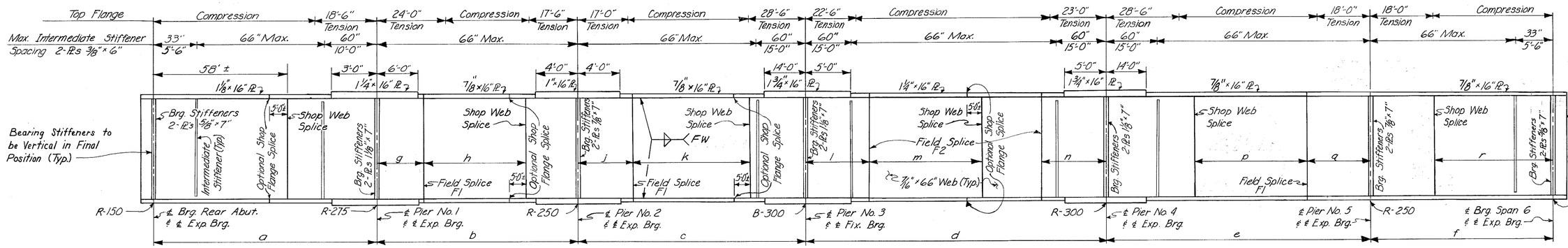
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.B.M.	N.R.K.	W.L. 4-5-71	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

423
494

HAMILTON COUNTY
HAM-471-0.30





FW for sizes see Table of Fillet Weld Sizes sh no 468.

GIRDER ELEVATION (Developed)

(Girders shall be fabricated on Curves)

Note:
Top and Bottom plates are identical.

TABLE OF GIRDER LENGTH DATA

Girder \ Dimen	a	b	c	d	e	f	g	h	j	k	l	m	n	p	q	r
A	86'-5 15/16"	83'-1 5/8"	91'-6 3/16"	120'-4 13/16"	105'-4 1/2"	72'-7 3/8"	17'-0"	45'-0"±	22'-0"	50'-0"±	25'-6"	25'-0"±	25'-6"	50'-0"±	28'-0"	50'-0"±
B	86'-8 3/4"	85'-1 3/8"	93'-4 3/16"	118'-0 3/16"	96'-11 1/2"	66'-9 3/8"	17'-0"	45'-0"±	22'-6"	50'-0"±	25'-6"	25'-0"±	25'-6"	50'-0"±	24'-0"	45'-0"±
C	86'-11 3/16"	87'-1 7/8"	95'-4 13/16"	115'-7 7/8"	88'-2 5/16"	60'-10 3/8"	17'-0"	45'-0"±	23'-0"	50'-0"±	25'-0"	25'-0"±	24'-6"	45'-0"±	22'-0"	40'-0"±
D	87'-2 1/16"	89'-3 3/8"	97'-9"	113'-2 13/16"	79'-2 3/16"	55'-0"	16'-6"	45'-0"±	24'-0"	50'-0"±	24'-6"	25'-0"±	24'-0"	40'-0"±	20'-6"	36'-0"±

Note: The dimensions are measured horizontally along the girders curvature.

TABLE OF GIRDER ANGLES

Girder	Rear Abut.	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	℄ Brg. Span 6 Side, Pier 2 Br. No. HAM-471-0076
A	74° 37' 40"	64° 38' 43"	48° 52' 37"	38° 18' 55"	39° 10' 08"	66° 01' 36"	83° 35' 21"
B	74° 21' 31"	64° 10' 51"	48° 01' 02"	37° 03' 36"	37° 51' 08"	65° 35' 27"	83° 28' 45"
C	74° 04' 48"	63° 41' 55"	47° 06' 55"	35° 43' 17"	36° 39' 27"	65° 08' 18"	83° 21' 55"
D	73° 47' 27"	63° 11' 49"	46° 10' 03"	34° 17' 17"	35° 16' 27"	64° 40' 06"	83° 14' 51"

Erection Note:
Girders to be plumb and in correct horizontal position before crossframes are welded. Complete all welding before placing concrete deck.

Notes:
Additional shop flange splices may be provided by the contractor with the approval of the Director. However, no additional flange splices will be permitted within 8'-0"± of the ℄ of piers or midpoint of the spans. All field flange splices shall miss crossframes and intermediate stiffeners by 1'-0" min., and shop flange splices shall miss shop web splices by 5'-0" min.
For Bearing Details see Standard Dwg. RB-1-55 and Sh. No. 429.
For Inlet Framing details see Drainage Details Sh. No. 469 and Sh. No. 433.
For treatment of ends of girders and end dam details see Standard Dwg. SD-1-69 Sh. No. 1.
For Curb plate details see Standard Dwg. SD-1-69 Sh. No. 2.
For Structural Steel details not shown see Typical Structural Steel Details Sh. No. 468.
For Detail A, see Detail B Sh. No. 453.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

11/23

STRUCTURAL STEEL DETAILS

RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE

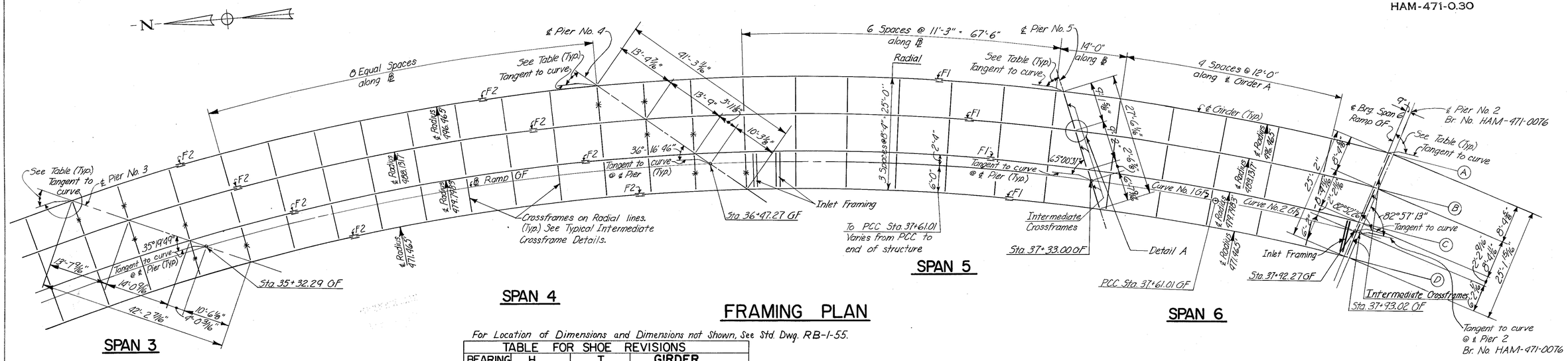
H&E BRIDGE NO. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	CYW	N.R.K.	W.L. 2-24-71	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

424
494

HAMILTON COUNTY
HAM-471-0.30



FRAMING PLAN

For Location of Dimensions and Dimensions not Shown, See Std. Dwg. RB-1-55.

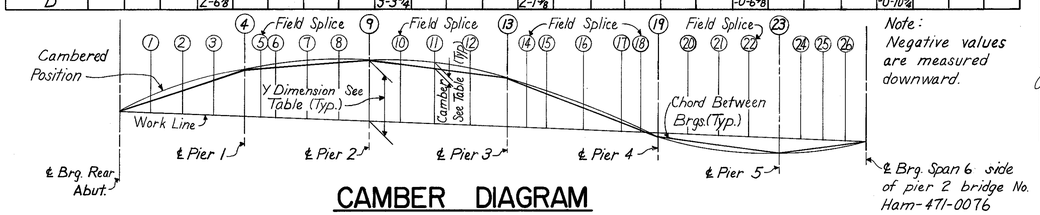
TABLE FOR SHOE REVISIONS			
BEARING	H	T	GIRDER
R-125	17 1/4"	6 3/8"	A & B
	17"	6 3/8"	C
	16 3/4"	6 1/8"	D

DEFLECTION and CAMBER (inches)

		SPAN 1			SPAN 2			SPAN 3			SPAN 4				SPAN 5			SPAN 6		
		(1) 1/4	(2) 1/2	(3) 3/4	(5) F.S.	(6) 1/4	(7) 1/2	(8) 3/4	(10) F.S.	(11) 1/2	(12) 3/4	(14) F.S.	(15) 1/4	(16) 1/2	(17) 3/4	(18) F.S.	(20) 1/4	(21) 1/2	(22) F.S.	(24) 1/4	(25) 1/2	(26) 3/4
Girder A	Def. due to weight of steel	1/16	1/8	1/4	0	0	0	0	0	1/16	0	1/8	1/8	3/16	1/8	1/8	0	1/4	1/16	0	0	0
	Def. due to remaining D.L.	1/4	3/8	1/4	0	0	1/8	1/16	1/8	1/8	0	5/16	3/8	5/8	3/8	1/4	1/4	3/8	3/16	1/4	1/8	1/8
	Adjustment reqd. for *	1 1/16	2 1/4	1 1/16	1 3/8	1 5/8	2 1/8	1 9/16	1 3/8	2 3/16	1 7/8	1 3/8	2	2	1 1/8	7/8	-3 5/16	-4 1/16	-3 1/2	-1 1/4	-1	-1 1/4
	Required Shop Camber	2	2 3/4	2	1 3/8	1 5/8	2 1/4	1 5/8	2	2 3/4	1 7/8	1 3/8	2	2	1 1/8	7/8	-3 1/4	-4	-3 1/4	-1	-1/8	-1 1/8
Girder B	Def. due to weight of steel	1/16	1/16	0	0	0	0	0	0	1/16	0	1/8	1/8	3/16	1/8	1/8	0	0	1/16	0	0	0
	Def. due to remaining D.L.	7/16	7/16	1/4	0	0	1/8	1/8	1/8	3/16	0	3/8	3/8	11/16	3/8	3/8	1/16	1/4	3/16	1/8	1/8	1/8
	Adjustment reqd. for *	1 3/4	2 3/8	1 3/4	1 1/2	1 3/4	2 1/4	1 3/4	2	2 3/4	2	1	1	5/8	1/4	1/4	-2 15/16	-3 7/8	-2 7/8	-1 1/8	-1/4	-1 1/8
	Required Shop Camber	2 1/4	2 7/8	2	1 1/2	1 3/4	2 3/8	1 7/8	2 1/8	3	2	1 1/2	1 1/2	1 1/2	3/4	3/4	-2 7/8	-3 3/8	-2 5/8	-1	-1 1/8	-1
Girder C	Def. due to weight of steel	1/16	1/16	0	0	0	0	0	1/16	1/16	0	1/8	1/8	3/16	1/8	1/8	0	0	0	0	0	0
	Def. due to remaining D.L.	7/16	7/16	1/4	0	0	1/8	1/8	3/16	3/16	0	3/8	3/8	11/16	7/16	3/8	0	3/16	1/8	1/8	3/16	1/8
	Adjustment reqd. for *	1 7/8	2 1/2	1 7/8	1 1/2	1 7/8	2 1/2	1 7/8	2 1/8	3	2 1/4	3/8	1/4	0	-5/8	-1/4	-2 1/2	-3 5/16	-2 1/2	-1 1/8	-1 3/16	-1 1/8
	Required Shop Camber	2 3/8	3	2 1/2	1 1/2	1 7/8	2 5/8	2	2 3/8	3 1/4	2 1/4	7/8	3/4	7/8	1/4	1/4	-2 1/2	-3 1/8	-2 3/8	-1	-1/4	-1
Girder D	Def. due to weight of steel	1/16	1/8	0	0	0	0	0	0	1/16	0	1/8	1/16	1/8	1/8	1/8	0	0	0	0	0	0
	Def. due to remaining D.L.	1/4	3/8	3/16	0	0	1/8	0	1/8	3/16	0	1/4	5/16	1/2	5/16	5/16	-1/16	-1/16	0	0	1/8	1/8
	Adjustment reqd. for *	1 5/16	2 5/8	1 5/16	1 5/8	2	2 3/4	2	2 3/8	3 1/4	2 3/8	1/4	3/8	3/4	1 3/16	1 3/16	-2 1/16	-2 7/16	-2 1/8	-1 1/8	-1 1/2	-1 1/8
	Required Shop Camber	2 1/4	3 1/8	2 1/8	1 5/8	2	2 7/8	2	2 1/2	3 1/2	2 3/8	1/8	0	1/8	3/4	3/4	-2 1/8	-2 7/8	-2 1/8	-1 1/8	-1 3/8	-1

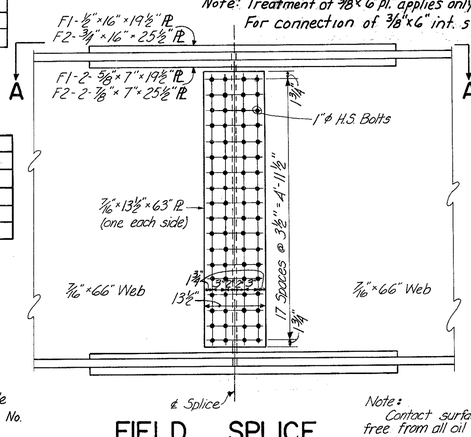
Note: Negative values are measured downward.
* Horizontal & vertical curves and superelevation transition.

GIRDER	Y DIMENSIONS																							
	4						9						13						19					
A	2'-6 3/8"						3'-6 3/8"						3'-0 1/4"						0'-5"					
B	2'-6 1/4"						3'-5 5/8"						2'-9"						0'-0 1/8"					
C	2'-6 1/4"						3'-4 3/8"						2'-5 5/8"						0'-3 5/8"					
D	2'-6 1/8"						3'-3 3/4"						2'-1 5/8"						0'-6 5/8"					



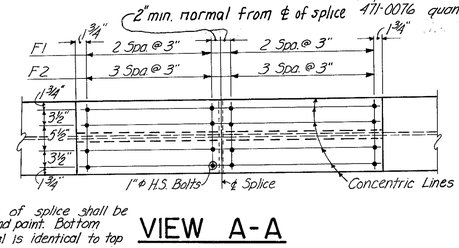
Note: Negative values are measured downward.

CAMBER DIAGRAM

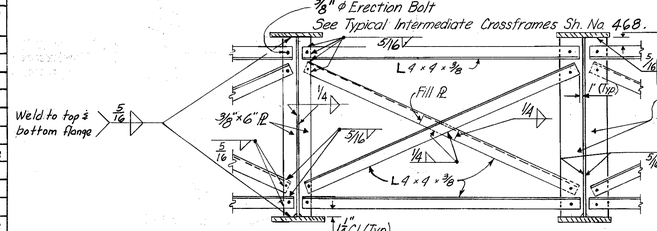


FIELD SPLICE

Note: Contact surface of splice shall be free from all oil and paint. Bottom flange splice material is identical to top flange material.

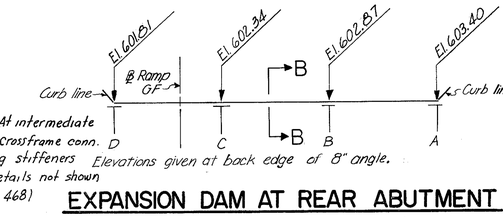


VIEW A-A



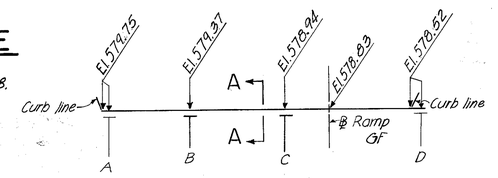
TYPICAL INTERMEDIATE CROSSFRAME

Note: Treatment of 3/8" x 6" pl. applies only at typ. intermediate cross. conn. For connection of 3/8" x 6" int. stiff. pls to girder see Typ. Dwg. 468.



Note: Expansion Dams are to be bent in the shop to conform to the contour of the top of slab.

EXPANSION DAM AT REAR ABUTMENT



For Section B-B see Section B-B Sh. 403.

For Section A-A see Section A-A Sh. 403.

ROADWAY EXPANSION JOINT PIER 2 BR. NO. HAM-471-0076

(Expansion Joint included with Br. No. HAM-471-0076 quantities for payment)

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12/23

STRUCTURAL STEEL DETAILS

RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE

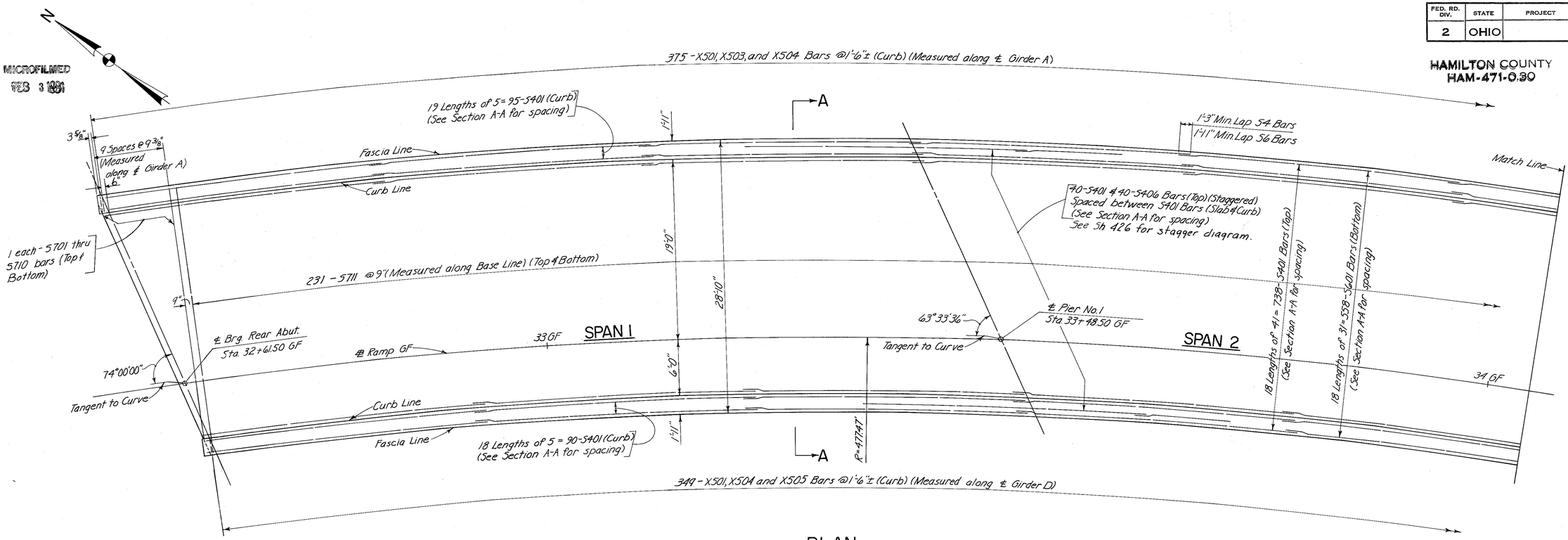
H & E BRIDGE NO. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CYW	NRK	WL 2-24-71	JHO 11-9-72	

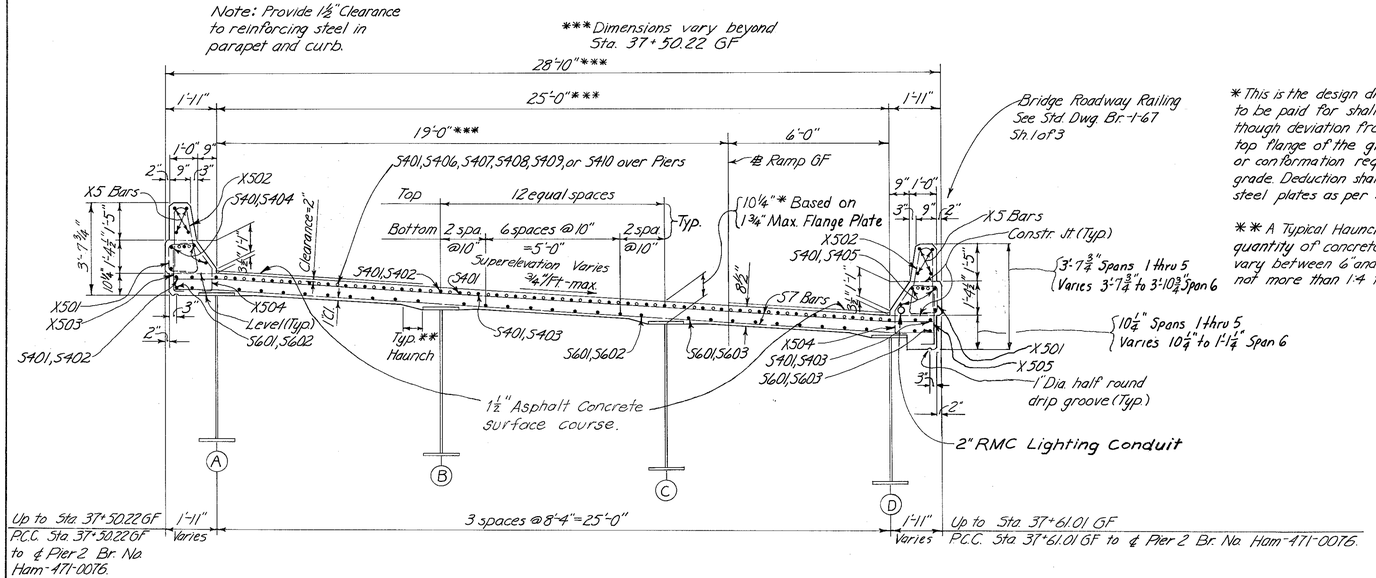
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

425
494

HAMILTON COUNTY
HAM-471-0.39



PLAN



TRANSVERSE SECTION A-A

* This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.18.

** A Typical Haunch Width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

Notes: For Drainage Details, see Sh. 433.
Cut or field bend longitudinal reinforcing steel to miss drain inlets.
For Screed Elevations, and Top of Slab Elevations, see Sh. 430.
For Railing Details, see Sh. 431.
For Lighting Details, see Sh. 431.
For End Finish Details, see Sh. 424.

For Subdrainage and wearing course details, see sh 427

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SUPERSTRUCTURE DETAILS RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE

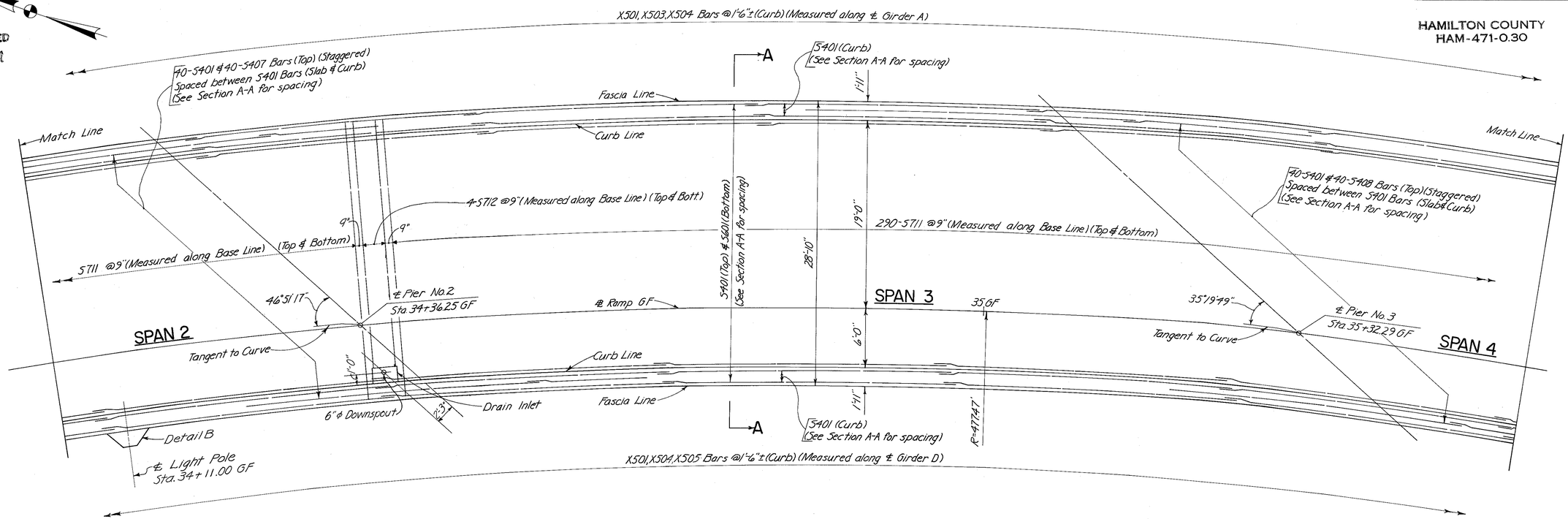
H & E BRIDGE No. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	CES		WL 2-24-71	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

426
494

HAMILTON COUNTY
HAM-471-0.30



PLAN

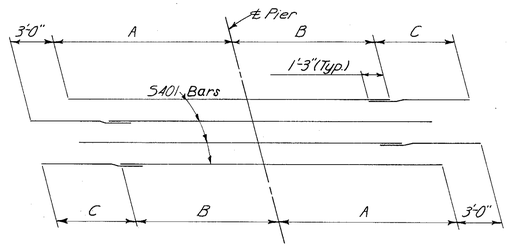
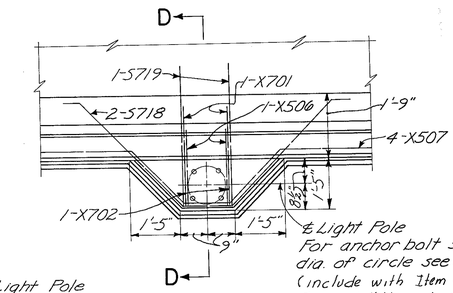


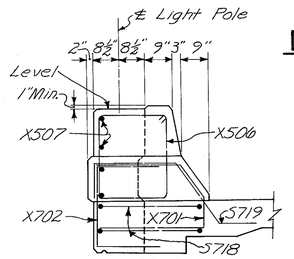
DIAGRAM SHOWING STAGGER OF
S401 & S406 THRU S410 BARS OVER PIERS
(For Dimensions A, B & C, see Table)

BARS OVER PIERS			
Location	A	B	C
Pier 1	18'-0"	12'-0"	9'-0"
Pier 2	19'-0"	11'-0"	11'-0"
Pier 3	22'-6"	7'-6"	18'-0"
Pier 4	21'-0"	9'-0"	15'-0"
Pier 5	15'-0"	15'-0"	3'-0"



DETAIL B

For Notes, see Sh. 425.
For Section AA, see Sh. 425.



SECTION D-D

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14/23

SUPERSTRUCTURE DETAILS
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE

H & E BRIDGE No. 11

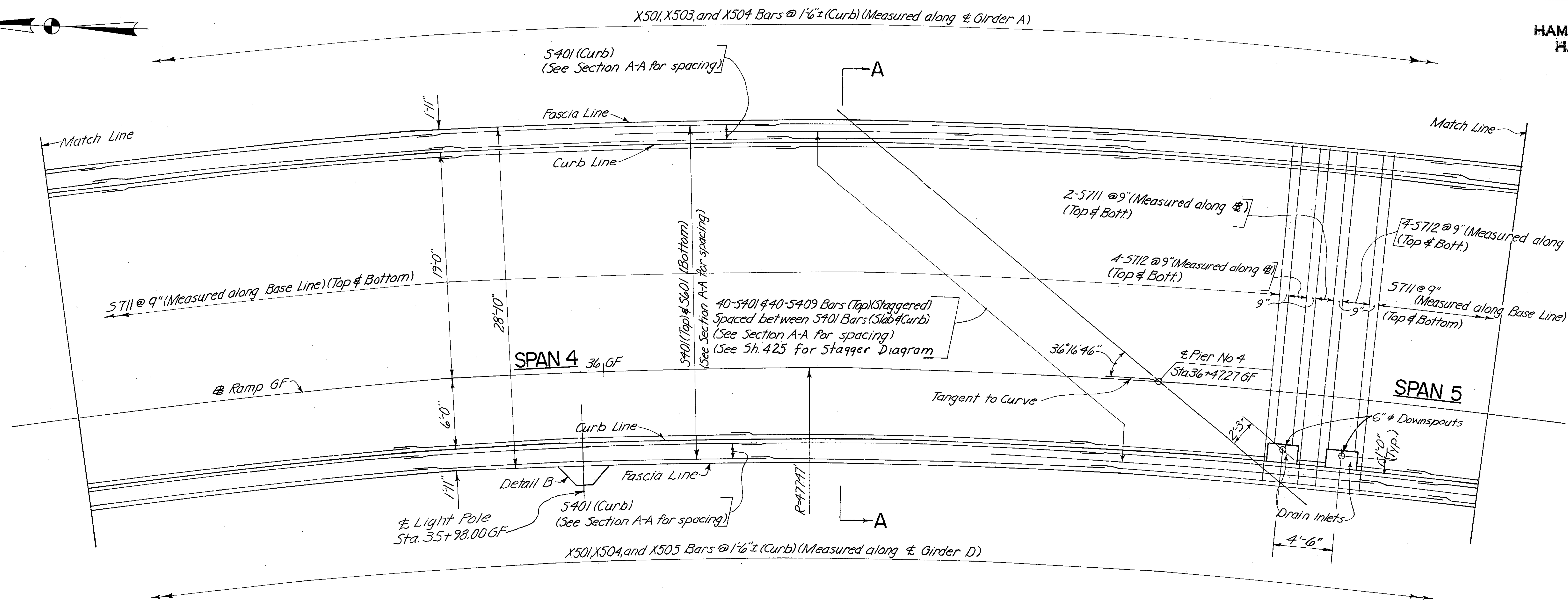
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	CES		W. L. 2-24-71	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

427/494

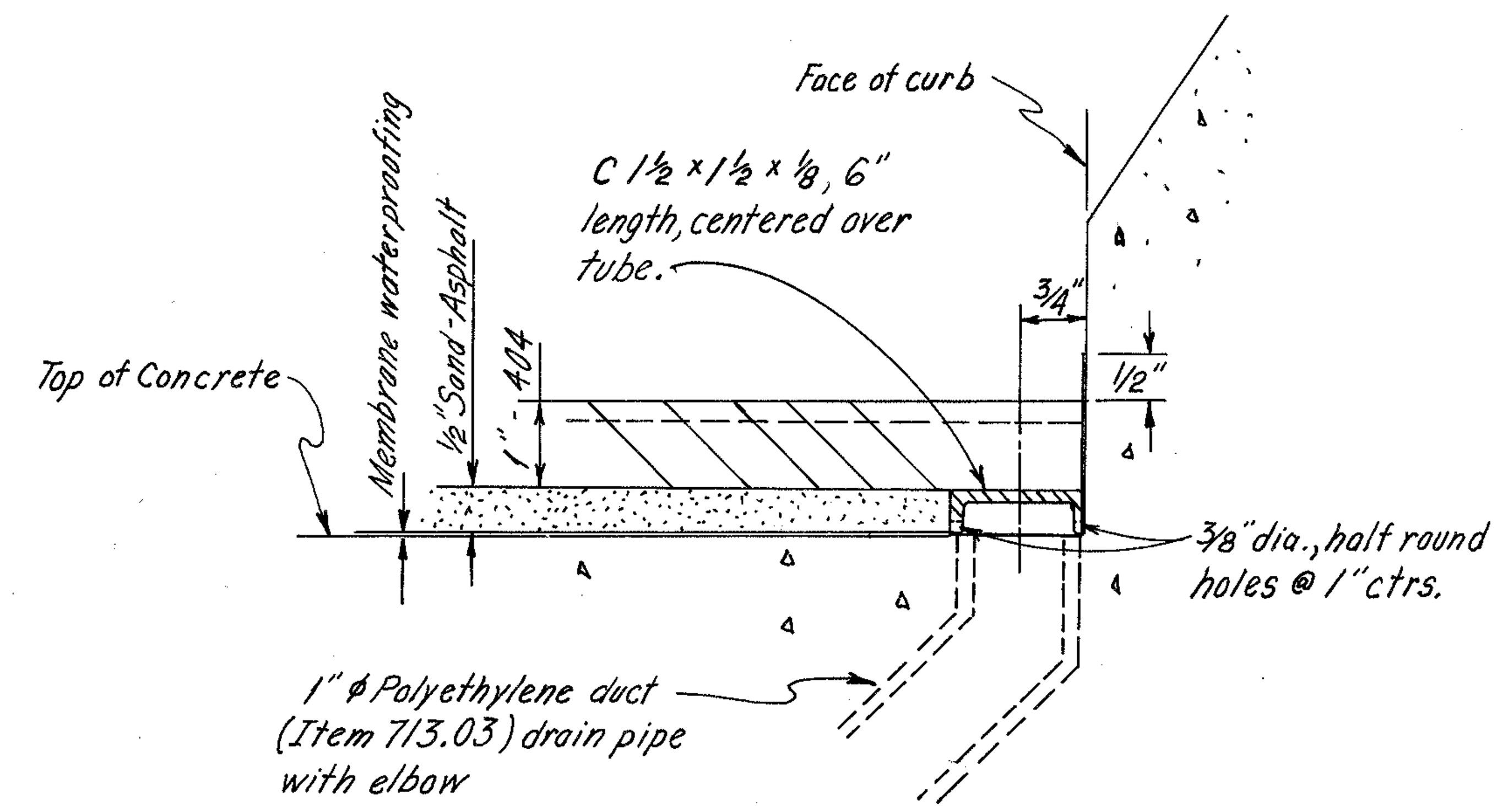
HAMILTON COUNTY
HAM-471-0.30

392
427-494
Plus Scale Profile



PLAN

For Notes, see Sh. 425.
For Section A-A, see Sh. 425.
For Detail B, see Sh. 426.



SUBDRAINAGE AND WEARING COURSE DETAILS

In addition to the location and spacing provisions of 518.07, the polyethylene duct drain pipes shall be located so that discharge from them will clear all structural members, including crossbracing by at least 6". Place the top of the pipe flush with the concrete surface. Place membrane over pipe, puncturing if membrane is a sheet type, with the hole sealed around the lip of the pipe.

Include Subdrainage with item 404, Asphalt Concrete, for payment.

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15/23

SUPERSTRUCTURE DETAILS
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE

H & E BRIDGE No. 11

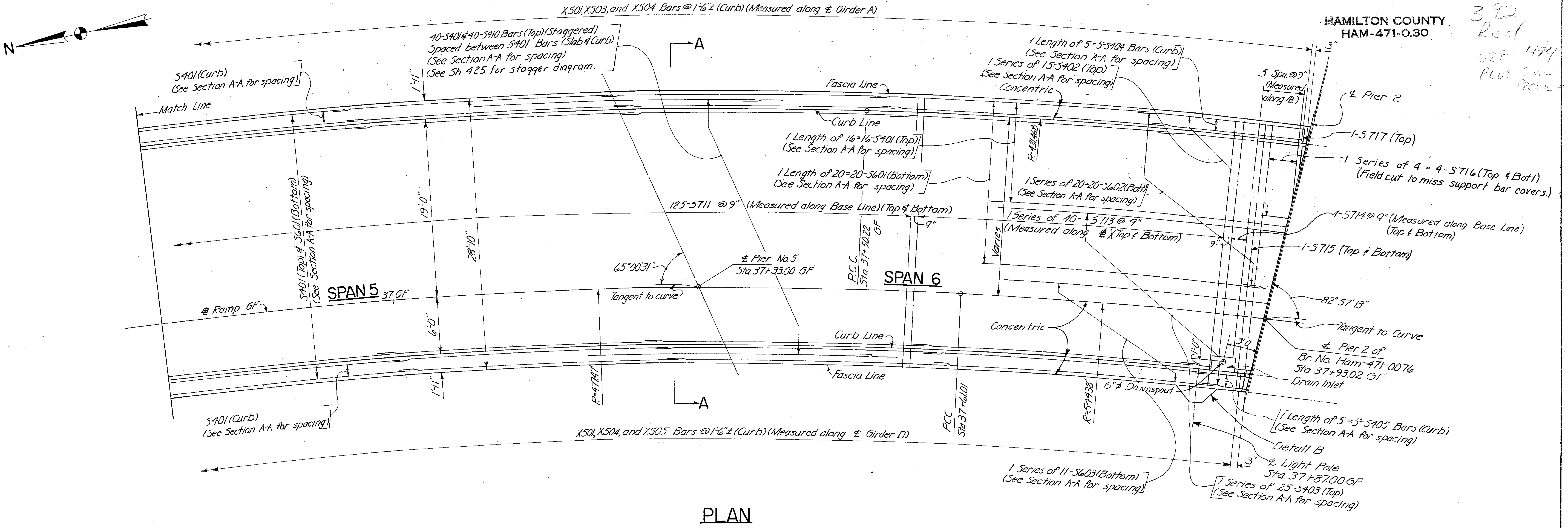
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	CES		W.L. 2-24-71	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

428/494

MICROFILMED FEB 3 1981

HAMILTON COUNTY
HAM-471-0.30



PLAN

For details of Expansion Joint at Pier 2 see Sh. 403.

For Notes, see Sh. 425.
For Section A-A, see Sh. 425.
For Detail B, see Sh. 426.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

16/23

SUPERSTRUCTURE DETAILS
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE

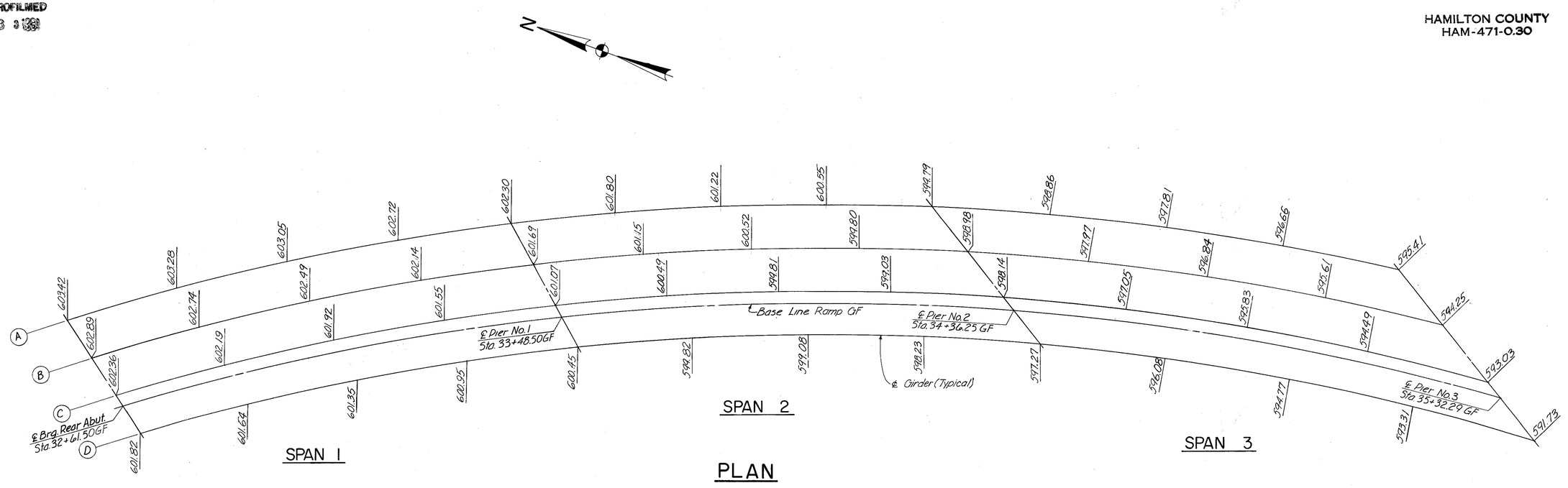
H & E BRIDGE No. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	CES		W.L. 2-24-71	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

429/494

HAMILTON COUNTY
HAM-471-0.30



Note:
Elevations are final top of surface course elevations. Elevations are given at ℄ of Piers, ℄ Brgs. and ¼ points of girder spans.

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17/23

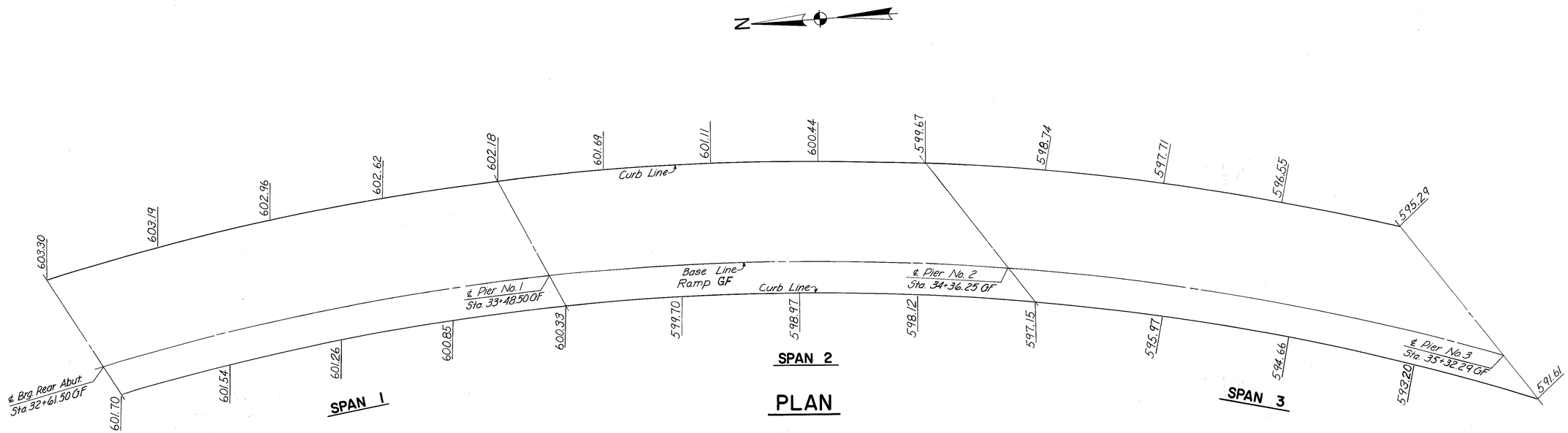
ROADWAY SURFACE ELEVATIONS
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE
H & E BRIDGE No. 11

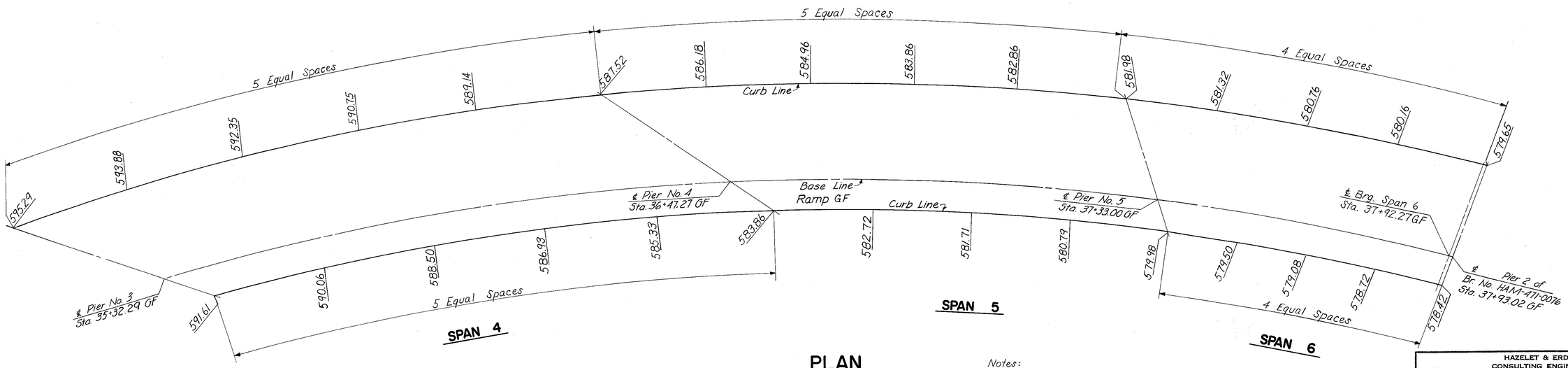
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	NRK		W. K. 12-18-70	JWO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

430/494

HAMILTON COUNTY
HAM-471-0.30





Notes:
Screed elevations shown equal final grade elevations plus anticipated dead load deflection due to weight of deck concrete.
All elevations shown are at ¼ points of spans (measured along their own curb lines) and at ℄ of Brg's unless noted otherwise.

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18123

SCREED ELEVATIONS
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE
H & E BRIDGE No. II

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.B.M.		W.L. 2-24-71	J.H.O. 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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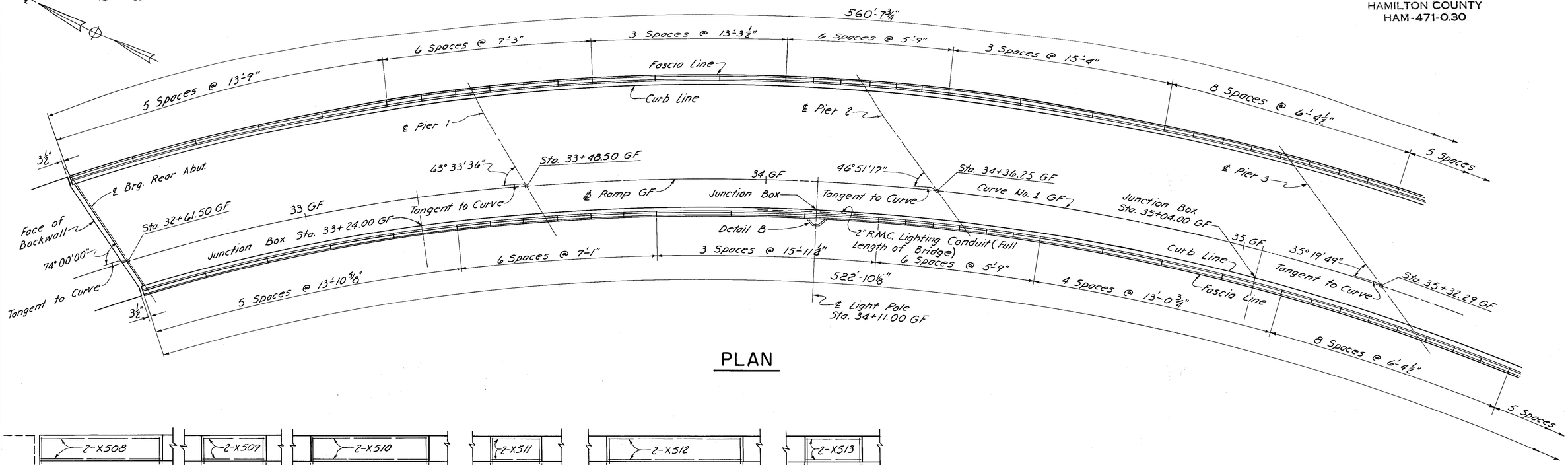
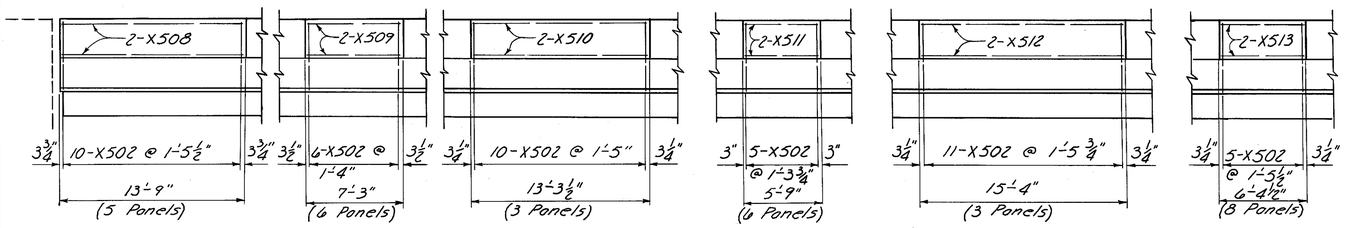
494

HAMILTON COUNTY
HAM-471-0.30

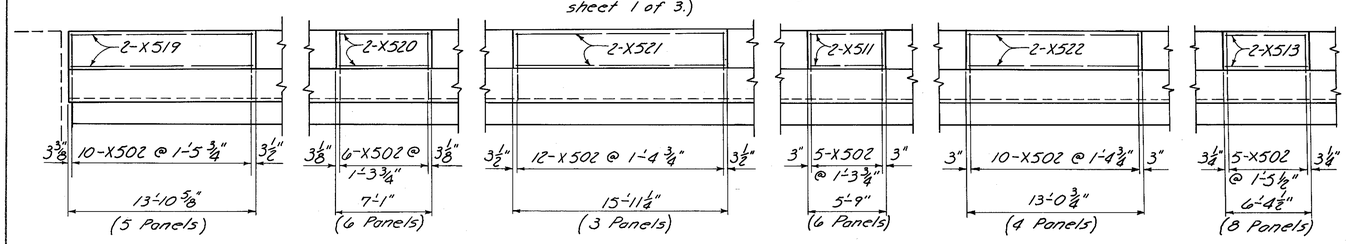


PLAN



EAST ELEVATION

Standard Bridge Roadway Railing
(For details see Std. Dwg. BR-1-67, sheet 1 of 3.)



WEST ELEVATION

(Light Pole not Shown)

NOTES:
Parapet deflection joint spacing measured along Curb Line.
Field Bend longitudinal bars as required.
For Detail B see Sh. 426.
For Typical Lighting Details see Sh. 154.

For conduit expansion at abutment and Pier 2, HAM-471-0076 see Sheet 155 E
Work this sheet with Light Plan Sh. No. 147 and with Sh. 432.

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19 / 23

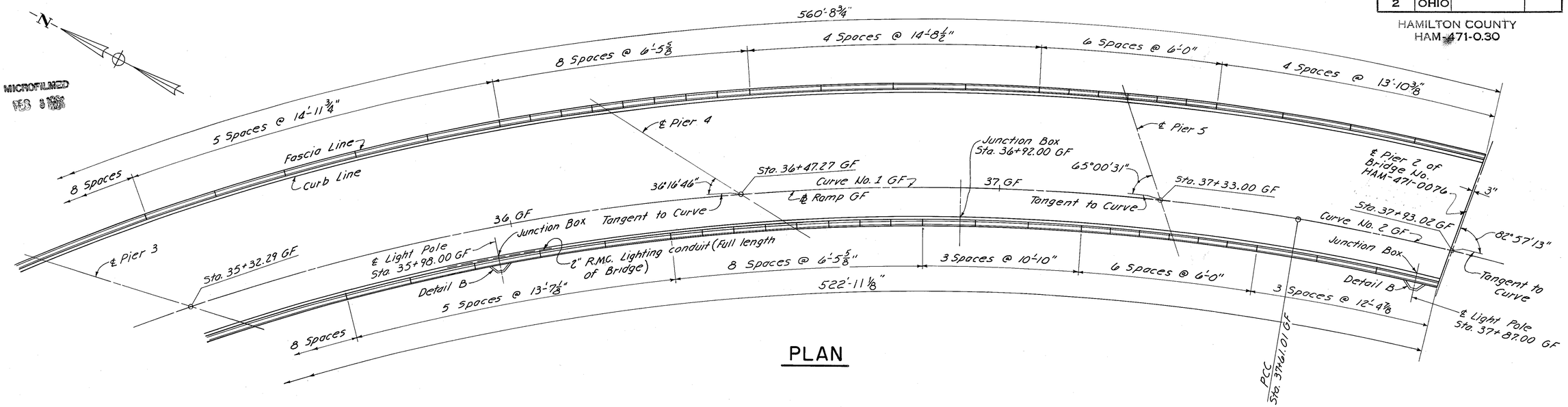
RAILING & LIGHTING DETAILS
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE
H & E BRIDGE No. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	D.B.S.		WL 3-15-71	JHD 11-9-72	

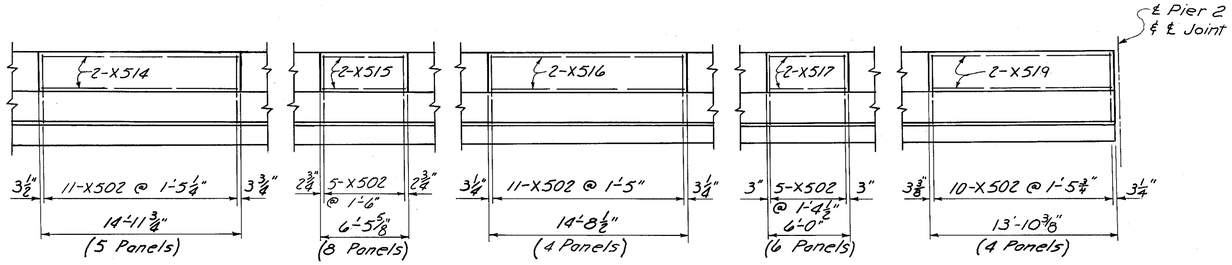
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

432
494

HAMILTON COUNTY
HAM-471-0.30

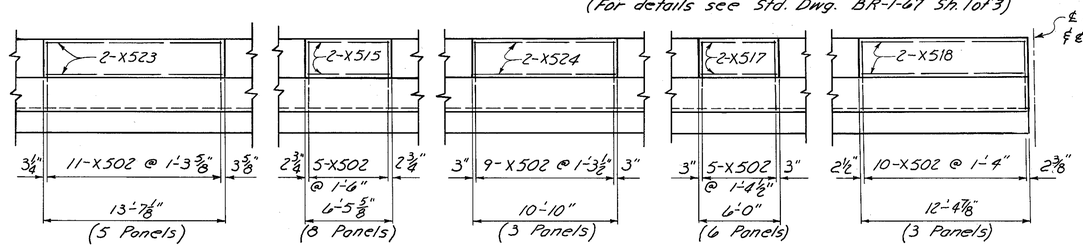


PLAN



EAST ELEVATION

Standard Bridge Roadway Railing
(For details see Std. Dwg. BR-1-67 Sh. 1 of 3)



WEST ELEVATION

(Light Poles not Shown)

For Notes see Sh. 431.
Work this sheet with Sh. 431.

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CINCINNATI, OHIO

20/23

RAILING & LIGHTING DETAILS
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE

H & E BRIDGE No. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	D.B.S.		YWL 3-15-71	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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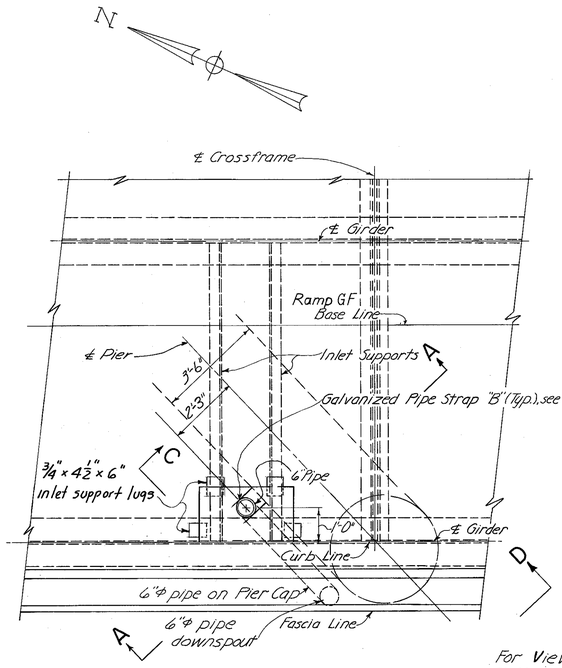
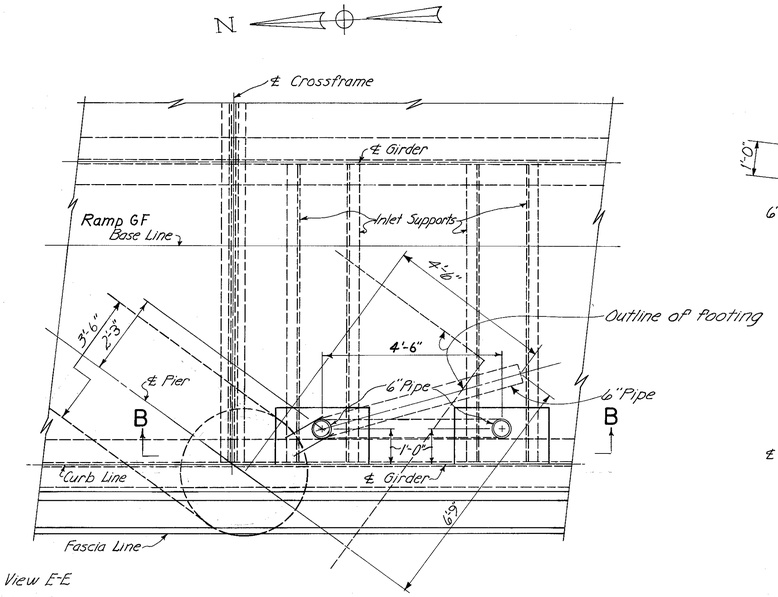
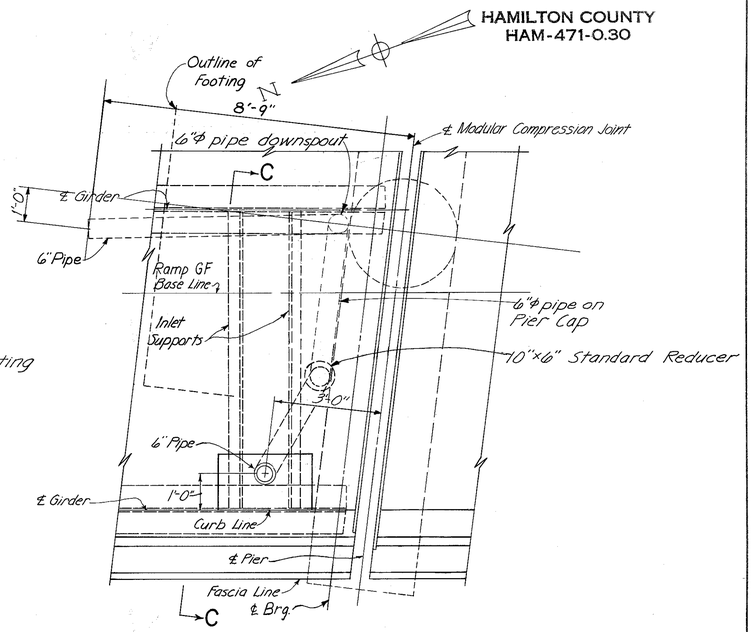


PIER 2

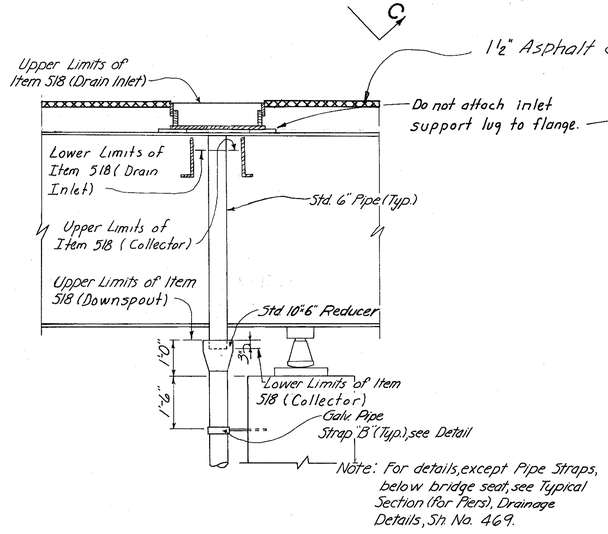


PIER 4

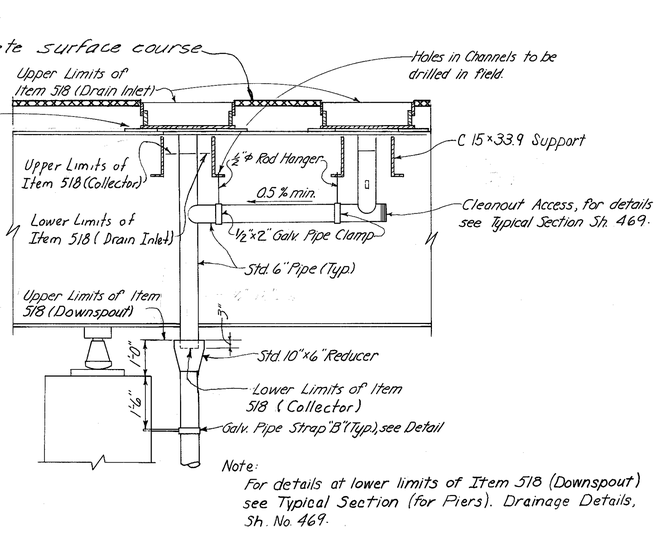
HAMILTON COUNTY
HAM-471-0.30



PIER 2
BRIDGE No. HAM-471-0076



SECTION A-A



SECTION B-B

Notes: For Section C-C, except Pipe Straps, see Typical Section (for Piers), Drainage Details. Sh. No. 469 for similar section.
For Inlet Framing and additional details, see Sh. No. 469.
For Galvanized Pipe Strap "B" Details, see Sh. 464.
Total Depth of Inlet Frame Box Equals 8 1/2"
Drain Inlets shall be galvanized in accordance with 711.02 and are placed 1/4" below top of the asphalt concrete surface course.

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CINCINNATI, OHIO

21/23

DRAINAGE DETAILS
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE
H&E BRIDGE NO. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CES		W.L.	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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494

HAMILTON COUNTY
HAM-471-0.30

SUPERSTRUCTURE

MARK	TYPE	LENGTH	No. of BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	Radius
S401	Str.	30'-0"	1139	22,826.							
S402	Str.	1'-10" to 16'-5"	1 Series of 15	91.							
S403	Str.	2'-8" to 30'-1"	1 Series of 25	273.							
S404	Str.	16'-5"	5	55.							
S405	Str.	5'-1"	5	17.							
S406	Str.	10'-3"	40	274.							
S407	Str.	12'-3"	40	327.							
S408	Str.	19'-3"	40	514.							
S409	Str.	16'-3"	40	434.							
S410	Str.	4'-3"	40	114.							
S601	Str.	30'-0"	578	26,045.							
S602	Str.	2'-6" to 29'-1"	1 Series of 20	474.							
S603	Str.	14'-8" to 29'-6"	1 Series of 11	366.							
S701	Str.	1'-10"	2	7.							
S702	Str.	4'-7"	2	19.							
S703	Str.	7'-5"	2	30.							
S704	Str.	10'-2"	2	42.							
S705	Str.	12'-11"	2	53.							
S706	Str.	15'-8"	2	64.							
S707	Str.	18'-4"	2	75.							
S708	Str.	21'-1"	2	86.							
S709	Str.	23'-8"	2	97.							
S710	Str.	26'-3"	2	107.							
S711	Str.	28'-2"	1296	74,614.							
S712	Str.	25'-0"	24	1,226.							
S713	Str.	28'-1" to 27'-10"	2 Series of 40	4,572.							
S714	Str.	24'-7"	8	402.							
S715	Str.	27'-9"	2	113.							
S716	Str.	24'-0" to 6'-0"	2 Series of 4	245							
S717	Str.	3'-9"	1	8.							
S718	44	11'-5"	6	140.	1'-5"	2'-11½"	4'-2"	2'-11½"	1'-0"		
S719	21	6'-0"	6	74.	2'-4"	2'-0"	1'-2"	1'-8"	1'-0"	1'-0"	
X501	1	2'-0"	724	1,510.	7½"	1'-0"					
X502	46	5'-4"	842	4,684.	2'-2"	2'-5"	7½"				2¼"
X503	17	2'-3"	375	880.	7½"	1'-9"					
X504	45	3'-3"	724	2,454.	7½"	10½"	11½"	8"	9"	1'-2"	
X505	17	2'-8"	349	971.	7½"	2'-2"					
X506	37	8'-11"	6	56.	2'-4"	1'-11"					
X507	44	7'-1"	12	89.	1'-4"	1'-5"	2'-0"	1'-5"	1'-0"		
X508	Str.	13'-5"	20	280.							
X509	Str.	6'-11"	24	173.							
X510	Str.	13'-0"	12	163.							
X511	Str.	5'-5"	48	271.							
X512	Str.	15'-0"	12	188.							
X513	Str.	6'-1"	64	406.							
X514	Str.	14'-8"	20	306.							
X515	Str.	6'-2"	64	412.							
X516	Str.	14'-5"	16	240.							
X517	Str.	5'-8"	48	284.							
X518	Str.	12'-1"	12	151.							
X519	Str.	13'-7"	36	510.							
X520	Str.	6'-9"	24	169.							
X521	Str.	15'-7"	12	195.							
X522	Str.	12'-9"	16	213.							
X523	Str.	13'-3"	20	276.							
X524	Str.	10'-6"	12	131.							
X701	45	6'-10"	6	84.	2'-10"	10"	11½"	8"	2'-4"	1'-2"	
X702	1	5'-9"	6	71.	2'-0"	2'-1"					

Total Weight (Superstructure)= 148,951 lbs.

REAR ABUTMENT

MARK	TYPE	LENGTH	No. of BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	Radius
A501	37	10'-9"	28	314.	3'-0"	2'-2"					
A502	1	8'-3"	24	206.	1'-7"	5'-4"					
A503	1	6'-4"	48	317.	1'-7"	3'-5"					
A504	17	7'-1"	6	44.	7½"	6'-7"					
A505	17	7'-7"	8	63.	7½"	7'-1"					
A506	17	8'-2"	7	60.	7½"	7'-8"					
A507	17	8'-8"	3	27.	7½"	8'-2"					
A508	1	8'-5"	1	9.	1'-7"	5'-6"					
A509	Str.	28'-9"	17	510.							
A510	Str.	10'-2"	8	85.							
A511	Str.	11'-2" to 12'-0"	1 Series of 5	60							
A512	Str.	2'-6" to 3'-4"	1 Series of 5	15.							
A513	Str.	22'-9"	1	24.							
A514	Str.	7'-5"	21	162.							
A515	Str.	3'-2" to 5'-2"	2 Series of 6	52.							
A516	Str.	13'-8"	6	85.							
A517	Str.	13'-4"	8	111.							
A518	Str.	11'-8"	8	97.							
A519	Str.	15'-8"	4	65							
A520	Str.	10'-0"	4	42.							
A521	Str.	19'-8"	8	164.							
A601	2	14'-1"	6	127.	6'-7"	5'-4"	2'-6"				
A602	2	14'-7"	8	175.	7'-1"	5'-4"	2'-6"				
A603	2	15'-2"	7	159.	7'-8"	5'-4"	2'-6"				
A604	2	15'-8"	3	71.	8'-2"	5'-4"	2'-6"				
A605	1	10'-2"	1	15.	2'-6"	5'-6"					
A606	1	17'-10"	10	268.	8'-6"	1'-2"					
A607	1	20'-10"	8	250.	10'-0"	1'-2"					
A608	Str.	5'-4"	1	8.							
A609	Str.	3'-8"	2	11.							
A610	1	16'-1"	26	628.	7'-6"	1'-5"					
A611	1	8'-11"	7	94.	3'-11"	1'-5"					
A612	1	6'-11"	19	197.	3'-2"	11"					
A613	1	6'-3"	17	160.	2'-7"	1'-5"					
A614	1	5'-5"	2	16.	2'-2"	1'-5"					
A615	1	14'-6"	2	44.	6'-10"	1'-2"					
A616	Str.	7'-5"	20	223.							
A617	Str.	3'-2" to 5'-2"	2 Series of 6	75.							
A618	Str.	6'-1"	2	18.							
A619	Str.	7'-8"	2	23.							
A620	Str.	5'-10"	4	35.							
A621	10	9'-5"	11	156.	1'-6"	1'-2"	5'-7"	1'-11"			
A622	10	11'-1"	12	200.	1'-2"	1'-6"	7'-3"	1'-11"			
A801	Str.	30'-8"	7	573.							
A802	Str.	16'-0"	3	128.							
A803	Str.	11'-10"	3	95.							
A804	Str.	17'-0"	3	136.							
A805	Str.	12'-3"	3	98.							
A806	10	7'-2"	2	38.	1'-6"	1'-11½"	2'-2"	2'-6"			
A807	10	6'-7"	2	35.	2'-0"	1'-6"	1'-7"	2'-6"			
Y501	1	2'-0"	30	63.	7½"	1'-0"					
Y502	Str.	3'-4"	10	35.							
Y503	47	6'-10"	10	71.	2'-5"	3'-8"	7½"				2¼"
Y504	Str.	19'-8"	16	328.							
Y505	Str.	7'-3"	4	30.							
Y506	Str.	14'-0"	4	58.							
Y507	Str.	2'-10"	30	89.							
Y508	47	6'-5"	10	67.	2'-5"	3'-3"	7½"				2¼"
Y509	Str.	2'-11"	10	30.							
Y601	28	4'-11"	30	221.	11½"	3'-2"	1'-2"	7½"	8"		

Total Weight (Rear Abutment)= 7,560 lbs.

For notes see sh. 435.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

22/23

REINFORCING STEEL LIST

RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE

H&E BRIDGE NO. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.B.M.		W.L. A.L.T.	JHO 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

435/494

MICROFILMED
FEB 3 1981

HAMILTON COUNTY
HAM-471-0.30

PIERS

MARK	TYPE	LENGTH	No. of BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	Radius
P401	17	4'-10"	9	29	1'-9½"	3'-2"					
P402	17	9'-11"	12	79	1'-9½"	8'-3"					
P403	17	12'-11"	24	207	1'-9½"	11'-3"					
P501	1	6'-1"	169	1072	1'-7"	3'-2"					
P502	1	5'-9"	10	60	1'-7"	2'-10"					
P503	1	5'-4"	10	57	1'-7"	2'-5"					
P504	Str.	28'-0"	4	117							
P505	Str.	28'-7"	4	119							
P506	Str.	34'-7"	4	144							
P507	37	13'-1"	137	1869	3'-2"	3'-2"					
P508	37	13'-3"	38	525	3'-3"	3'-2"					
P509	Str.	22'-4"	8	186							
P510	Str.	21'-10"	8	182							
P601	26	7'-10"	168	1977	6'-6"						
P602	35	14'-2"	40	851	3'-2"	3'-2"	2'-0"	3'-2"	3'-2"		
P603	26	10'-10"	16	260	9'-6"						
P801	26	15'-2"	38	1539	13'-0"						
P802	26	11'-8"	24	748	9'-6"						
P803	26	14'-8"	110	4308	12'-6"						
P804	26	15'-8"	48	2008	13'-6"						
P901	Str.	29'-6"	6	602							
P902	Str.	8'-6"	4	116							
P903	33	9'-11"	15	506	4'-3"	2'-10"					1'-3¾"
P904	Str.	10'-0"	16	544							
P905	Str.	20'-10"	2	142							
P906	19	13'-5"	6	274	10'-4"	3'-4"	3'-4"	2½"			
P907	16	27'-2"	6	554	2'-10"	24'-7"	2'-10"	2"			
P908	Str.	35'-6"	6	724							
P909	Str.	9'-6"	4	129							
P910	Str.	12'-0"	6	245							
P911	19	15'-11"	6	325	12'-11"	3'-3"	3'-3"	3"			
P912	16	30'-7"	6	624	2'-10"	28'-0"	2'-10"	2½"			
P913	Str.	20'-6"	4	279							
P914	Str.	28'-6"	4	388							
P915	Str.	11'-0"	4	150							
P916	Str.	14'-0"	2	95							
P917	19	27'-10"	4	379	24'-9"	3'-4"	3'-4"	3½"			
P918	16	27'-4"	4	372	2'-10"	24'-9"	2'-10"	3"			
P919	Str.	20'-0"	4	272							
P920	Str.	27'-9"	4	377							
P921	Str.	13'-9"	2	94							
P922	19	27'-4"	4	372	24'-3"	3'-4"	3'-4"	3½"			
P923	16	26'-10"	4	365	2'-10"	24'-3"	2'-10"	3"			
P924	Str.	29'-0"	4	394							
P925	Str.	9'-0"	2	61							
P926	Str.	12'-0"	2	82							
P927	Str.	6'-6"	2	44							
P928	19	12'-5"	6	253	9'-5"	3'-3"	3'-3"	3"			
P929	16	27'-7"	6	563	2'-10"	25'-0"	2'-10"	2½"			
P1101	17	7'-7"	88	3546	1'-5½"	6'-5"					
P1102	Str.	32'-6"	18	3108							
P1103	Str.	31'-10"	18	3044							
P1104	Str.	31'-0"	18	2965							
P1105	Str.	24'-5"	10	1297							
P1106	Str.	23'-4"	10	1239							
P1107	Str.	22'-2"	14	1649							
P1108	Str.	21'-0"	10	1116							
P1109	Str.	19'-10"	10	1054							
P1110	Str.	18'-7"	10	987							
P1111	Str.	17'-5"	28	2591							
P1112	17	7'-4"	122	4753	1'-5½"	6'-2"					
P1113	Str.	19'-2"	20	2037							
P1114	Str.	18'-1"	10	961							
P1115	Str.	16'-10"	10	894							
P1116	Str.	15'-10"	14	1179							
P1117	Str.	18'-3"	10	970							

PIERS

MARK	LENGTH	No. of BARS	WEIGHT	SHAPE	BENDING DIAGRAM
SP401	29'-6"	1	630	Bent	Type 39 Sheet No. 470
SP402	28'-9"	1	615	Bent	Type 39 Sheet No. 470
SP403	28'-0"	1	599	Bent	Type 39 Sheet No. 470
SP404	21'-5"	1	463	Bent	Type 39 Sheet No. 470
SP405	20'-4"	1	441	Bent	Type 39 Sheet No. 470
SP406	19'-2"	1	416	Bent	Type 39 Sheet No. 470
SP407	18'-0"	1	392	Bent	Type 39 Sheet No. 470
SP408	16'-10"	1	368	Bent	Type 39 Sheet No. 470
SP409	15'-7"	1	342	Bent	Type 39 Sheet No. 470
SP410	14'-6"	1	320	Bent	Type 39 Sheet No. 470
SP411	16'-2"	2	354	Bent	Type 39 Sheet No. 470
SP412	15'-1"	1	332	Bent	Type 39 Sheet No. 470
SP413	13'-10"	1	306	Bent	Type 39 Sheet No. 470
SP414	12'-9"	1	284	Bent	Type 39 Sheet No. 470
SP415	15'-3"	1	335	Bent	Type 39 Sheet No. 470
SP416	14'-5"	1	318	Bent	Type 39 Sheet No. 470

SPIRALS - Core Diameter 38" %
- Pitch 4½" %
- Other Details in Accordance with CRSI Standard Practice

Total Weight (Piers) = 65,567 lbs

REPLACEMENT BARS

MARK	TYPE	NUMBER	LENGTH
RE401	Str.	2	6'-3"
RE501	Str.	2	6'-7"
RE601	Str.	2	6'-11"
RE701	Str.	5	7'-2"
RE801	Str.	1	7'-6"
RE901	Str.	1	7'-10"
RE1101	Str.	2	8'-6"

NOTES:

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, A501 is a No. 5 size bar and P1101 is a No. 11 size bar.

For bar bending schedule see sheet No. TD/3

Total weight of reinforcing steel equals 222,078 lbs.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

23/23

REINFORCING STEEL LIST

RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE

H&E BRIDGE NO. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	N.R.K.		A.L.T.	JHD 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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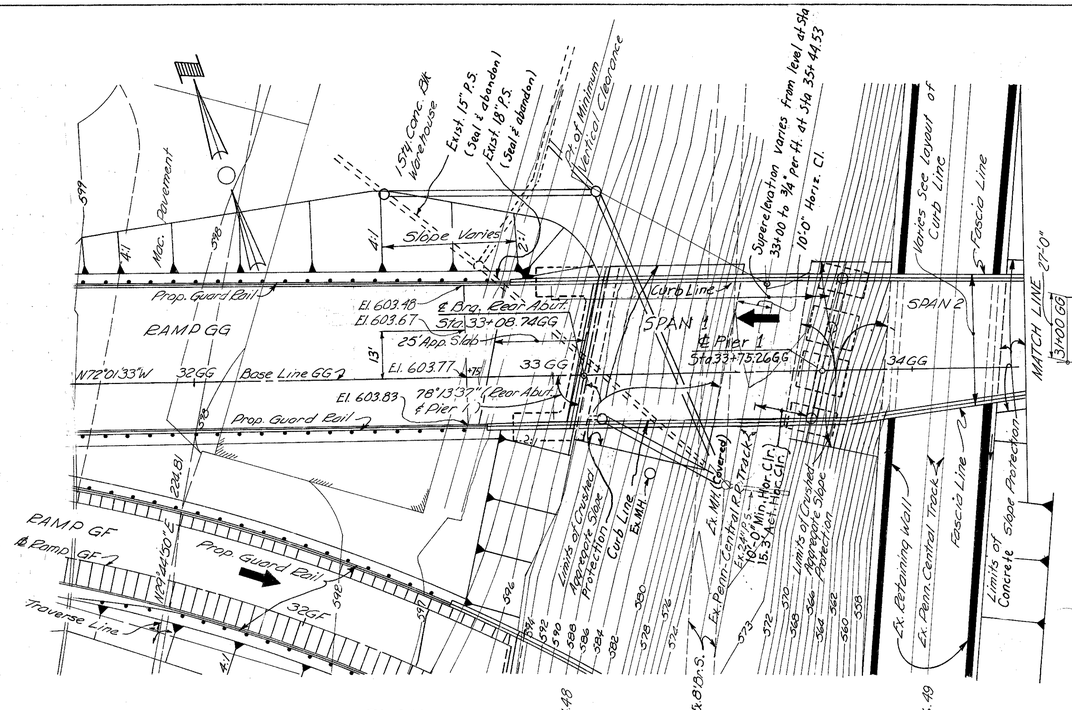
494

HAMILTON COUNTY
HAM-471-0.30

VERTICAL CURVE I see sheet 2/33
PVI Sta. 36+00 GG
PVI Elev. 611.57
L = 230'
g_1 = +2.4 %
g_2 = -1.6 %

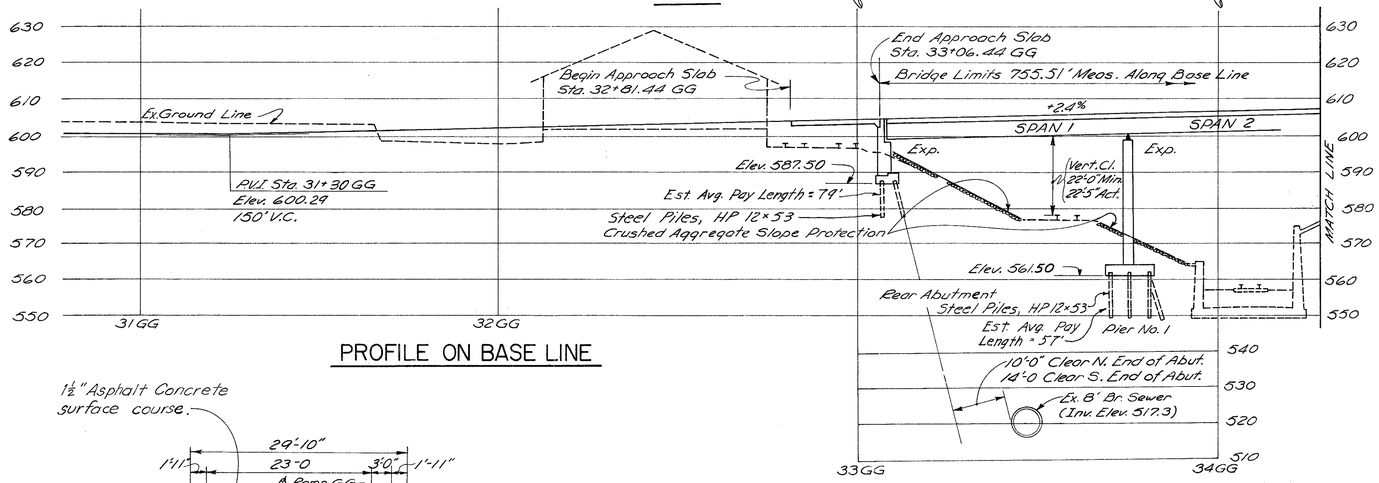
VERTICAL CURVE II see sheet 2/33
PVI Sta. 38+65 GG
PVI Elev. 607.33
L = 300'
g_1 = 1.6 %
g_2 = -5.2 %

Note
The Vertical curve data does not apply to bridge or graphic curve elevations. The bridge elevations were obtained by adding 1½" to elevations obtained from vertical curve data.

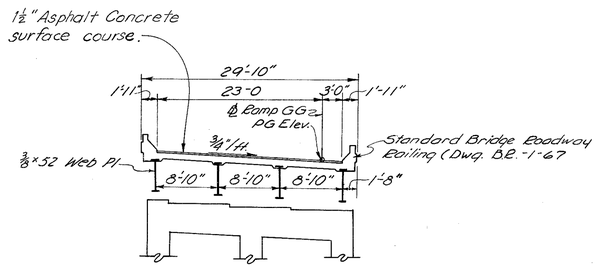


LAYOUT OF CURB LINES

PLAN



PROFILE ON BASE LINE



SECTION A-A
For location of Section see Sh. No. 437.

NOTE
Piers 6, 7, 8, 9, and the footings only for Pier No. 3 as shown on Sheet 2 have been constructed under a previous contract. The remaining substructure units, and all superstructure shall be constructed under this contract.

NOTE
For Design Specifications, Proposed Structure Data and Notes see Sheet 437.

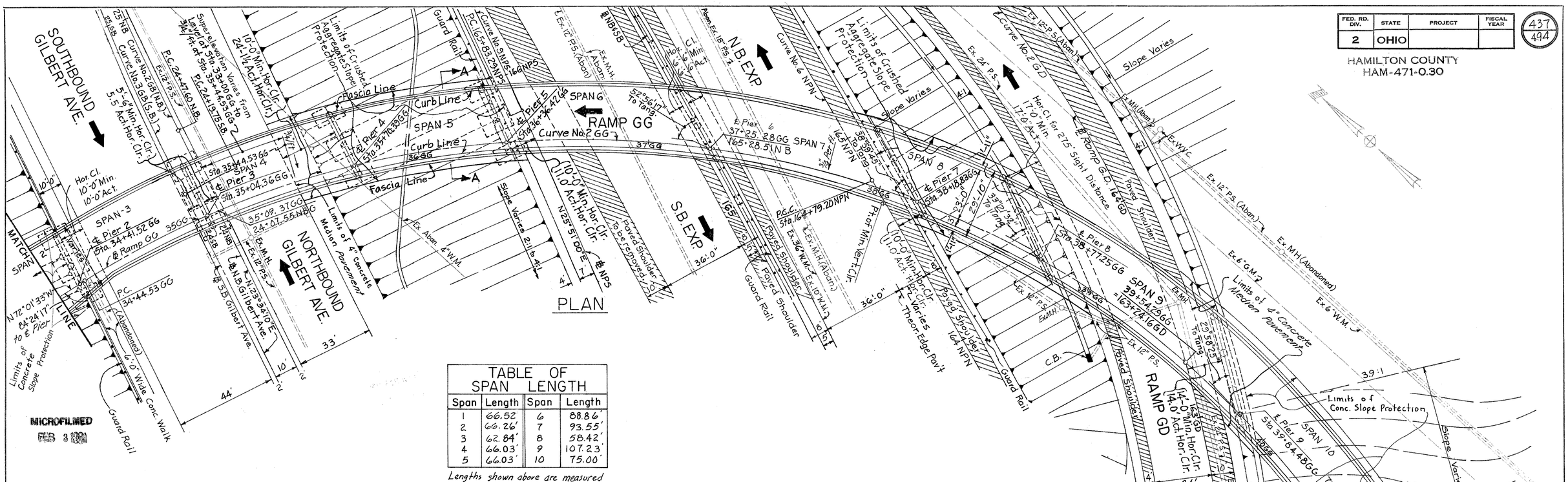
HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

1/33

SITE PLAN
BRIDGE NO. HAM.-71-0184
RAMP GG OVER GILBERT AVE. AND I-71

H & E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
		R.T.E.	H.L.L.	JHO 11-7-72	



FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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HAMILTON COUNTY
HAM-471-0.30

TABLE OF SPAN LENGTH			
Span	Length	Span	Length
1	66.52'	6	88.86'
2	66.26'	7	93.55'
3	62.84'	8	58.42'
4	66.03'	9	107.23'
5	66.03'	10	75.00'

Lengths shown above are measured along baseline.

CURVE DATA
BASE LINE RAMP GG
P.I. Sta. 40+40.54 GG
P.C. Sta. 34+44.53 GG
P.T. Sta. 42+28.30 GG
Δ = 112°-15'-58"
D = 14°-19'-26"
R = 400.00'
L = 783.77'
T = 596.01'

NOTES

For Bench Marks, see sheet 33.
Piers 6, 7, 8, 9 and the footing only for Pier No. 3 have been constructed under a previous contract. The remaining portions of the bridge shall be constructed under this contract.
Rear Abutment and Pier 1 are parallel.
Piers 2, 3, 4 and 5 are parallel.

PROPOSED STRUCTURE
TYPE: Continuous Steel Plate Curved Girders with reinforced concrete deck and substructure
SPANS: Lengths Vary, see tabulation
ROADWAY: 26'-0" f/f Curbs *(Spans 4 thru. 10)*
Varies, See Layout of Curb lines (Spans 1, 2 & 3)
SKEW: Varies, See Plan
LIVE LOADING: HS 20-44 and the Interstate Alternate Loading.
SURFACE COURSE: 1½" Asphalt surface course
APPROACH SLABS: AS-1-67 25' long
ALIGNMENT: Varies, See Plan
SUPERELEVATION: Varies, See Plan

1984 Traffic Count ATD = 6800
DHV = 730

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

2/33

SITE PLAN
BRIDGE No. HAM-71-0184
RAMP GG OVER
GILBERT AVE. AND I-71

H & E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	A.L.T.	A.L.T.	H.L.L.	JHO 11-7-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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494

HAMILTON COUNTY
HAM-471-0.30

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER-STRUCTURE	REAR ABUTMENT	FORWARD ABUTMENT	PIERS	GENERAL
503		Lump Sum	Cofferdams, Cribs and Sheeting					Lump
503	1010	Cu. Yd.	Unclassified Excavation		194	256	560	
504	234	Sq. Ft.	Steel Sheet Piling Left in Place (minimum section modulus of 7 in.^{3} per foot of wall)			234		
505		Lump Sum	Test Pile					Lump
507	6800	Lin. Ft.	Steel Piles, HP 12×53		2210		4590	
507	610	Lin. Ft.	Steel Piles, HP 10×42			610		
509	304,557	Lb.	Reinforcing Steel	222,505	11,314	11,921	58,817	
511	866	Cu. Yd.	Class "C" Concrete, Superstructure	866				
511	222	Cu. Yd.	Class "C" Concrete, Pier Caps and Columns				222	
511	190	Cu. Yd.	Class "C" Concrete, Abutments above Footings		95	95		
511	284	Cu. Yd.	Class "C" Concrete, Footings		65	66	153	
512	13	Lin. Ft.	Premolded Sealing Strip			13		
513	864,000	Lb.	** Structural Steel	864,000				
514	864,000	Lb.	Field Painting of Structural Steel	864,000				
516	36	Sq. Ft.	1" Preformed Expansion Joint Filler			36		
518	178	Cu. Yd.	Porous Backfill		100	78		
518	4	Each	Drain Inlets	4				
518	60	Lin. Ft.	6" Standard Pipe Downspout, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials					60
518	78	Lin. Ft.	6" Non-Perforated, Helical Corrugated Metal Pipe including Specials, 707.01		56	22		
518	112	Lin. Ft.	6" Perforated, Helical Corrugated Metal Pipe, 707.01		54	58		
518	21	Lin. Ft.	6" Standard Pipe Collector, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials					21
601	366	Sq. Yd.	Crushed Aggregate Slope Protection					366
601	625	Sq. Yd.	Concrete Slope Protection					625
625			See Sheet 143 for Lighting Summary					
808	866	Units	Chemical Admixture for Concrete, Type A, B or D	866				
404	65	Cu. Yd.	Asphalt concrete (70-80 or AC20)	65				
Special	32	Cu. Yd.	Sand Asphalt (See proposal note)	32				
Special	2328	Sq. Yd.	Membrane Waterproofing (See proposal note)	2328				

** Includes 104 pounds of bronze.

GENERAL NOTES

REFERENCE shall be made to Standard Drawings AS-1-67 revised 6-12-69, SD-1-69, Sheets 1 and 2 dated 6-12-69, BR-1-67, Sheet 1 revised 10-15-71, RB-1-55 revised 2-2-59, FSB-1-62 revised 1-15-63 and to Supplemental Specifications 808 dated 1-1-71, 836 dated 1-1-71, and 927 dated 1-1-71.

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1969, including the Ohio "Supplement" to these specifications.

DESIGN DATA:

Design Loading - HS20-44 "and the Interstate Alternate Loading"

Concrete Class C - unit stress 1200 psi. for superstructure
unit stress 1333 psi. for substructure

Structural Steel - ASTM A36 - unit stress 20,000 psi.

Reinforcing Steel - ASTM A615, A616 or A617 - unit stress 20,000 psi..
Spiral reinforcement may be plain bars ASTM A82, A306, A499 or A615. If bars in accordance with ASTM A616 are provided they shall be subject to bend tests as per AASHO Designation M42-70.

PILES shall be driven to firm contact with bedrock. If the length of penetration is approximately equal to the depth to bedrock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in 507.05 is not less than the following value for a pile hammer of the indicated energy rating:

For the Rear Abutment and Pier Piles

55 tons per pile using an 11,000 ft. lb. hammer
50 tons per pile using a 15,000 ft. lb. or greater hammer

For the Forward Abutment

60 tons per pile using an 11,000 ft. lb. hammer
55 tons per pile using a 15,000 ft. lb. or greater hammer

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 40 tons per pile for the Rear Abutment and Pier piles and 35 tons per pile for the Forward Abutment piles.

UTILITY LINES: All expense involved in relocating (installing) the affected utility lines shall be borne by the Owner(s). The Contractor and Owner(s) are requested to cooperate by arranging their work in such a manner that inconvenience to either would be held to a minimum.

PIERS 6,7,8 AND 9 have been constructed under a previous contract. It shall be the responsibility of the Contractor to determine all the existing bridge seat elevations. The Contractor shall revise, if necessary, the proposed heights of the bearing details at Piers 6, 7,8 and 9, and shall grind, if necessary, the existing concrete areas underneath the proposed masonry plates, in order to provide a level bearing surface.

The cost of this work shall be considered as included in the unit price bid for Item 513, "Structural Steel".

DECK REINFORCING BARS: At the Contractor's option, a portion (not to exceed 25%) of the upper longitudinal bars (S4__) in the deck slab may be placed beneath the upper transverse bars for support of the top mat.

MAINTENANCE OF TRAFFIC: Refer to Sheets 13 and 13A.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

3/33

ESTIMATED QUANTITIES AND GENERAL NOTES
BRIDGE No. HAM-71-0184
RAMP GG

H & E BRIDGE No. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DH		WWL 2-10-71	JHO 11-7-72	

HAMILTON COUNTY
HAM-471-0.30

Note: For locations of Piling see sh. No. 440, 442 & 444 thru 448.
Pier 1 and Rear Abutment are Parallel.
Piers 2, 4, and 5 are Parallel.

STAKEOUT PLAN

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

4/33

STAKE OUT PLAN
BRIDGE No. HAM-71-0184
RAMP GG

H & E BRIDGE No. 15

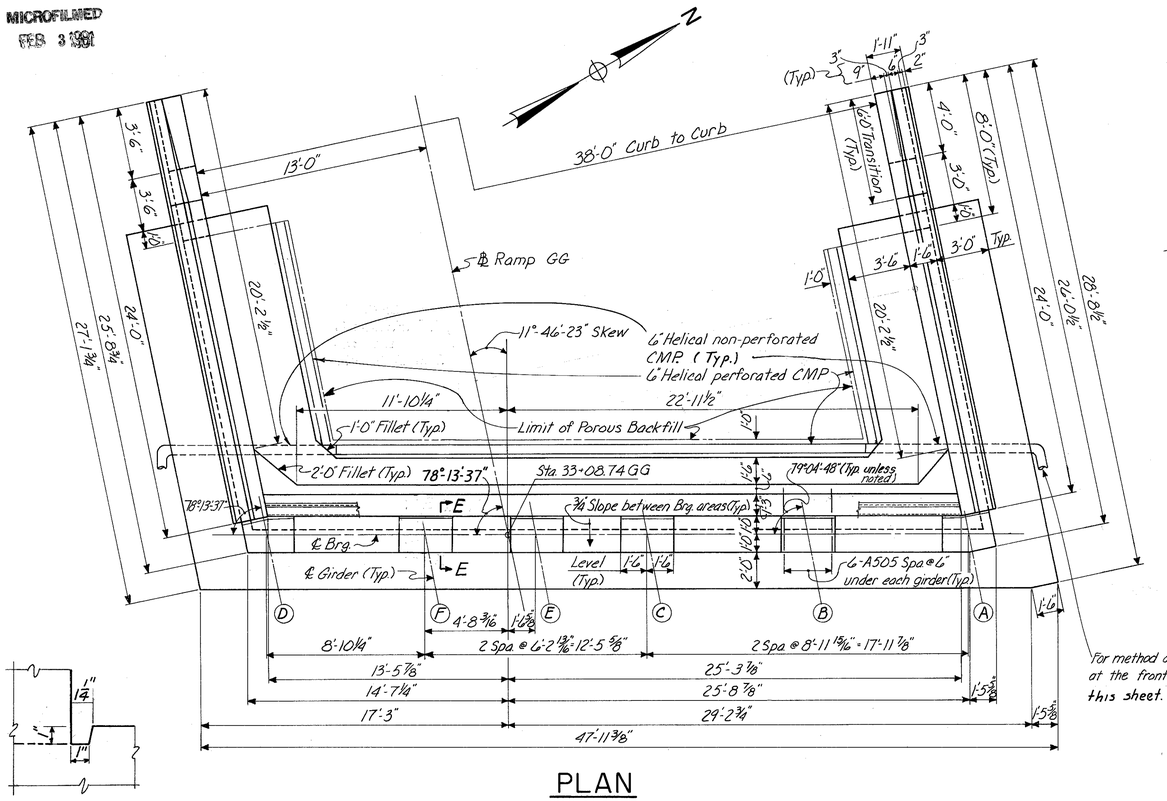
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	NRK		W.L. 1-19-71	JHD 11-7-72	

MICROFILMED
FEB 3 1972

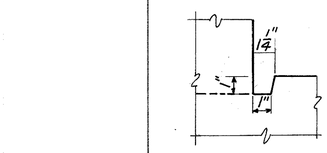
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

440
494

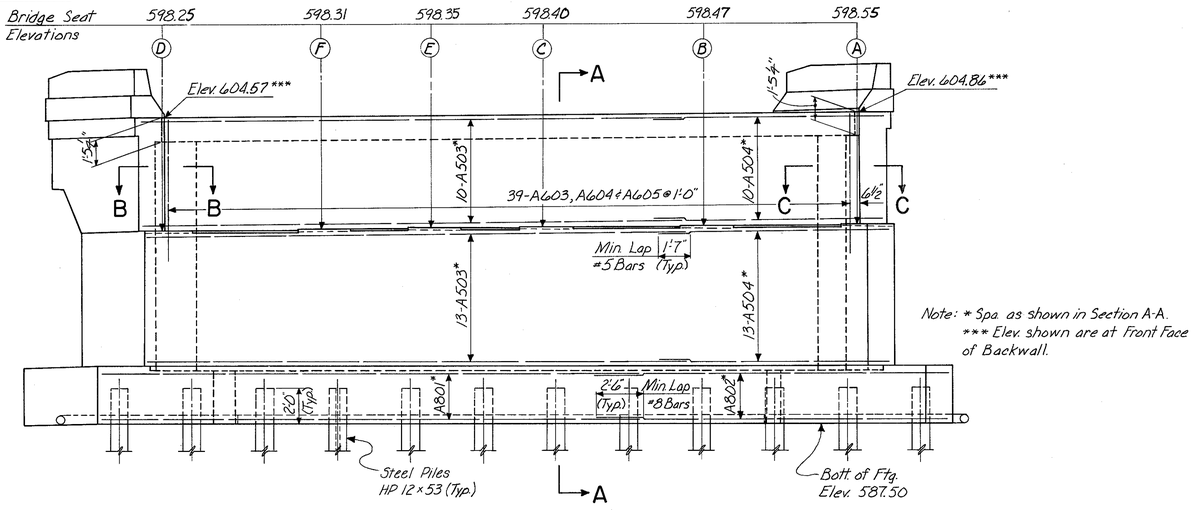
HAMILTON COUNTY
HAM-471-0.30



PLAN



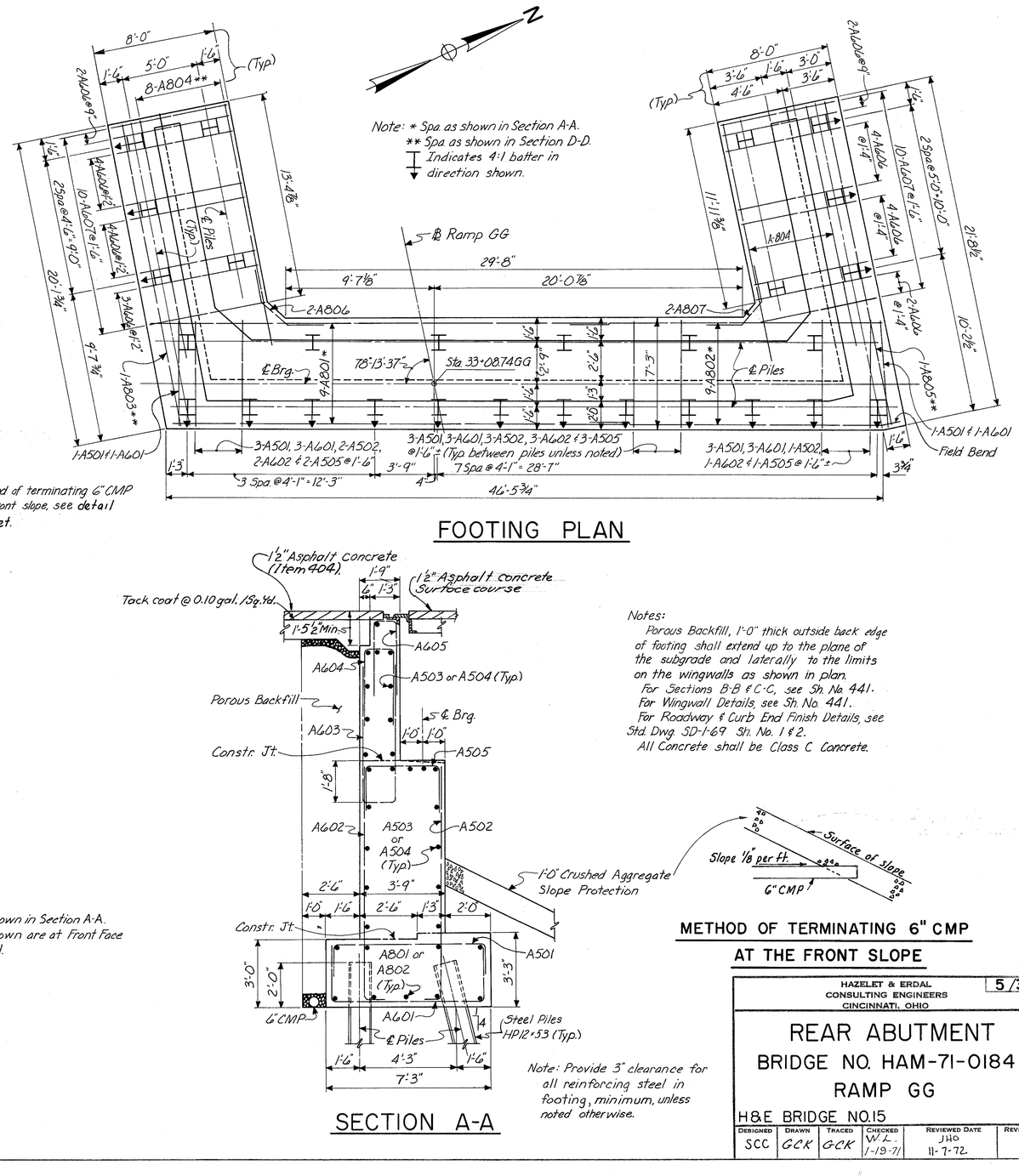
SECTION E-E



ELEVATION

Note: * Spa. as shown in Section A-A.
*** Elev. shown are at Front Face of Backwall.

For method of terminating 6" CMP at the front slope, see detail this sheet.



FOOTING PLAN

SECTION A-A

Notes:
Porous Backfill, 1'-0" thick outside back edge of footing shall extend up to the plane of the subgrade and laterally to the limits on the wingwalls as shown in plan.
For Sections B-B & C-C, see Sh. No. 441.
For Wingwall Details, see Sh. No. 441.
For Roadway & Curb End Finish Details, see Std. Dwg. SD-1-69 Sh. No. 1 & 2.
All Concrete shall be Class C Concrete.

METHOD OF TERMINATING 6" CMP AT THE FRONT SLOPE

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

5/33

REAR ABUTMENT
BRIDGE NO. HAM-71-0184
RAMP GG

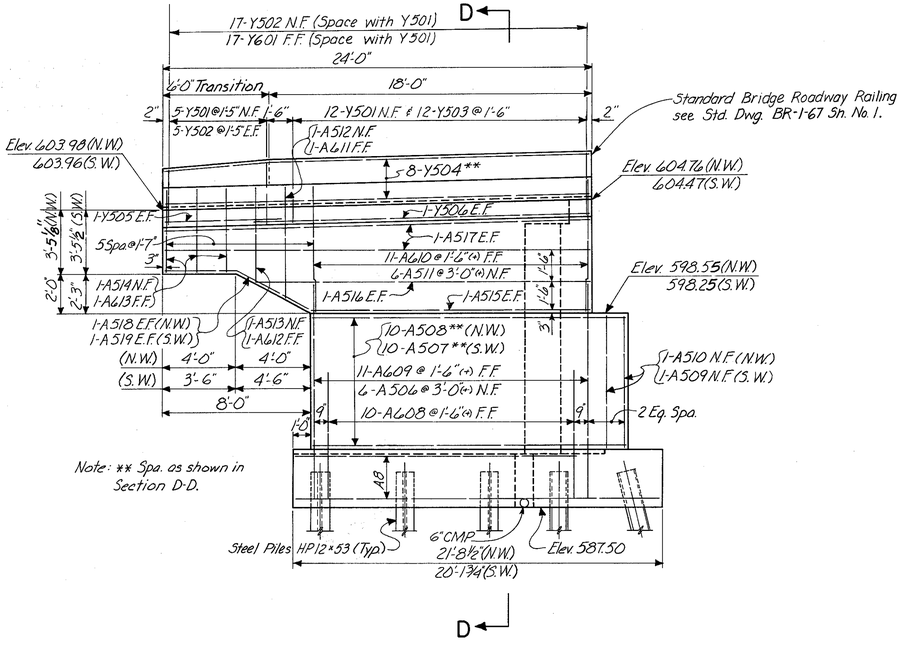
H&E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SCC	GCK	GCK	W.L. 1-19-71	JHO 11-7-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

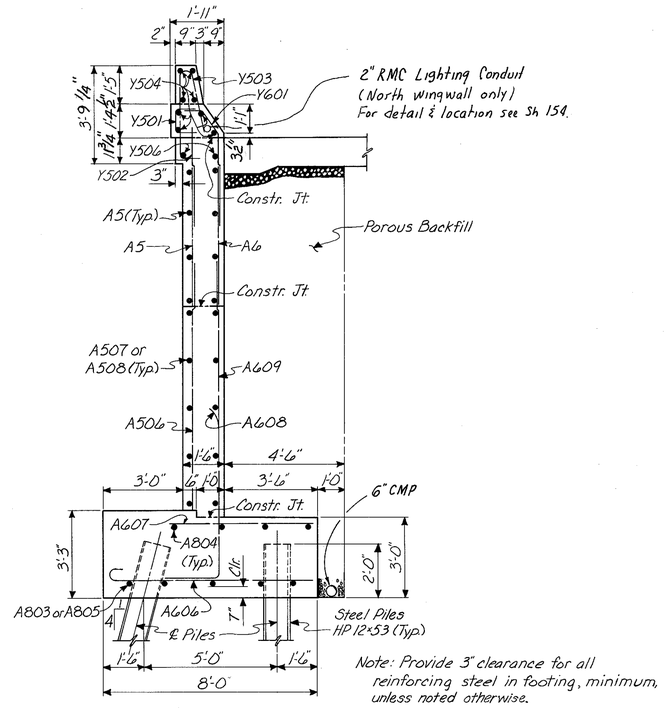
441
494

HAMILTON COUNTY
HAM-471-0.30

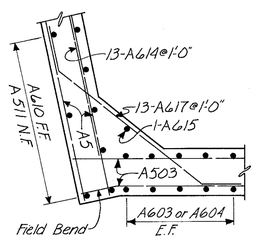


WINGWALL ELEVATION

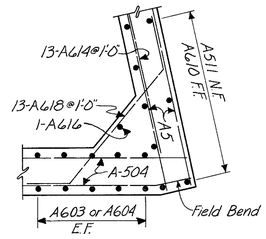
(Reinforcing steel typical for both wingwalls unless noted)



SECTION D-D



SECTION B-B



SECTION C-C

NOTES:
- N.F. denotes Near Face.
- F.F. denotes Far Face.
- E.F. denotes Each Face.
- N.W. denotes North Wingwall.
- S.W. denotes South Wingwall.
- For details of parapet transition see Curbs on Approaches, Std. Dwg. BR-1-67 Sh. No. 1.

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CINCINNATI, OHIO

6/33

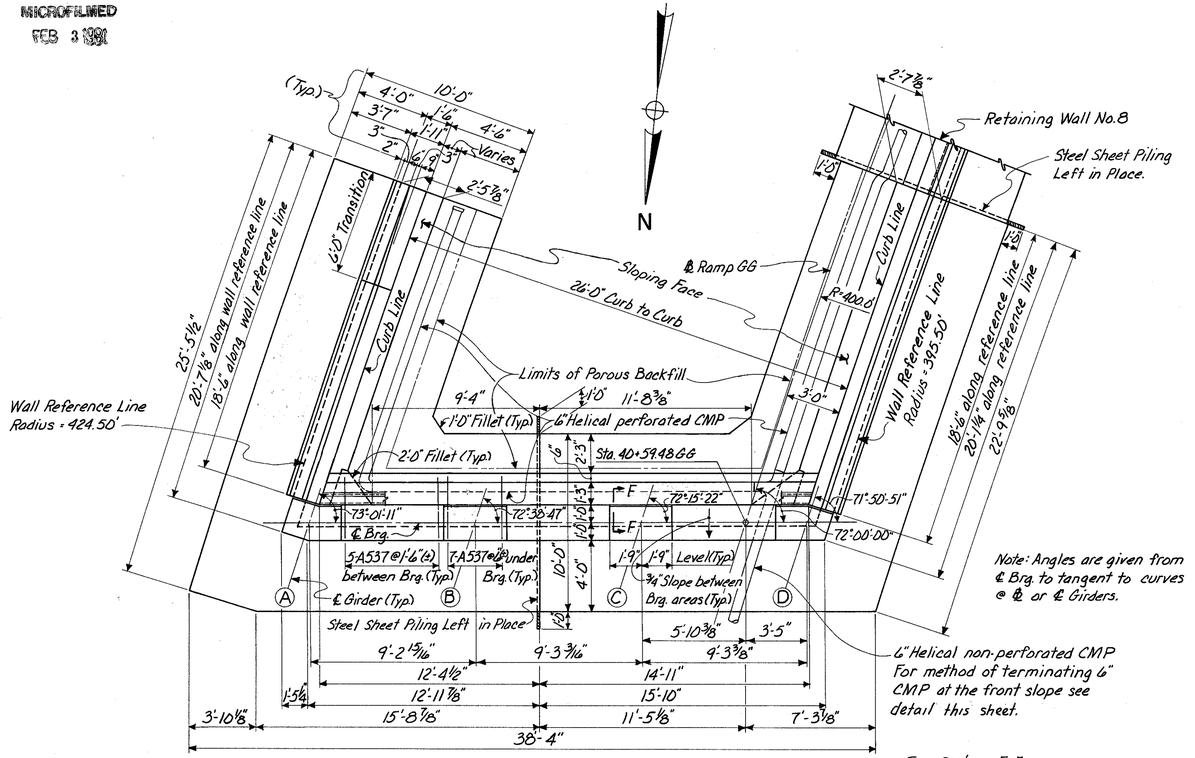
REAR ABUTMENT
BRIDGE NO. HAM-71-0184
RAMP GG

H&E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SCC	GCK	GCK	W.L. 1-19-71	JHO 11-7-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

HAMILTON COUNTY
HAM-471-0.30

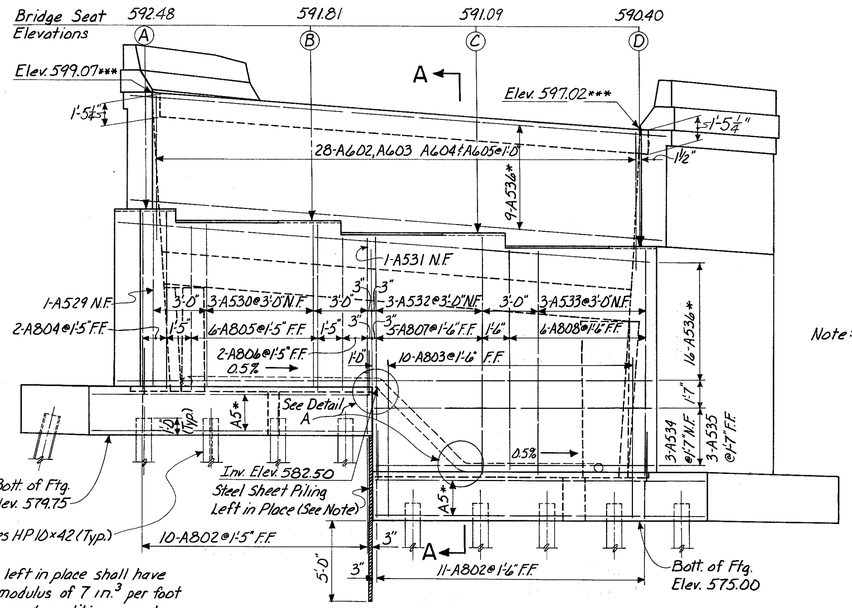


PLAN

Note: Angles are given from ℄ Brg. to tangent to curves @ ℄ or ℄ Girders.

6" Helical non-perforated CMP For method of terminating 6" CMP at the front slope see detail this sheet.

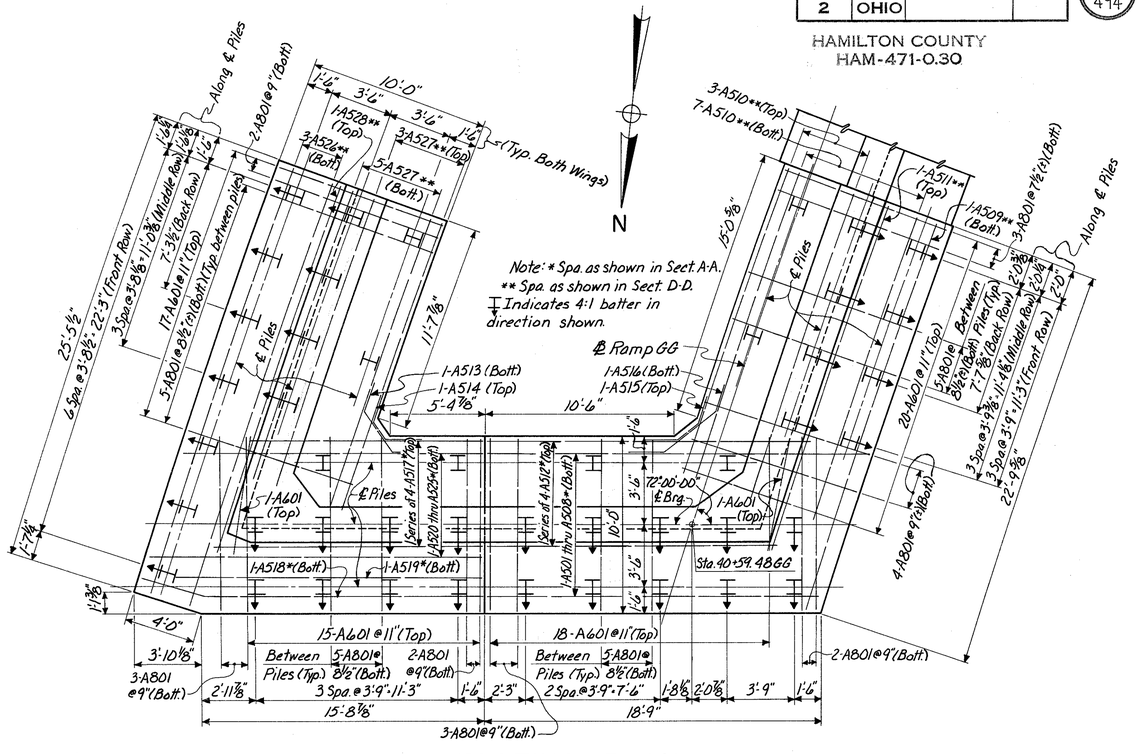
For Section F-F see Section E-E Sh No. 440.



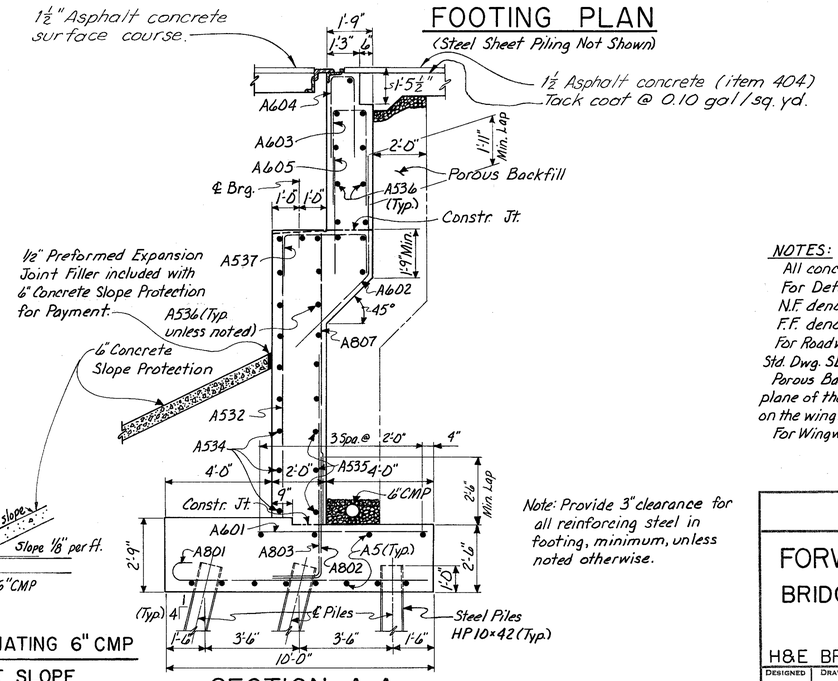
ELEVATION

Note: Steel Sheet Piling left in place shall have a minimum section modulus of 7 in.³ per foot of wall. Used piling in good condition may be used.

Note: * Spa. as shown in Section A-A.
*** Elev. shown are at Front Face of Backwall.



FOOTING PLAN
(Steel Sheet Piling Not Shown)

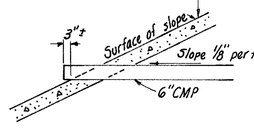


SECTION A-A

1½" Preformed Expansion Joint Filler included with 6" Concrete Slope Protection for Payment.

A536 (Typ. unless noted)

6" Concrete Slope Protection



METHOD OF TERMINATING 6" CMP AT THE FRONT SLOPE

Note: Provide 3" clearance for all reinforcing steel in footing, minimum, unless noted otherwise.

NOTES:
All concrete shall be Class C Concrete.
For Detail A, see Sh. 443.
N.F. denotes Near Face.
F.F. denotes Far Face.
For Roadway & Curb End Finish Details, see Std. Dwg. SD-1-69 Sh. No. 1 & 2.
Porous Backfill, 2'-0" thick shall extend up to the plane of the subgrade and laterally to the limits on the wingwalls as shown in plan.
For Wingwall Details, see Sh. 443.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

7 / 33

FORWARD ABUTMENT
BRIDGE NO. HAM-71-0184
RAMP GG

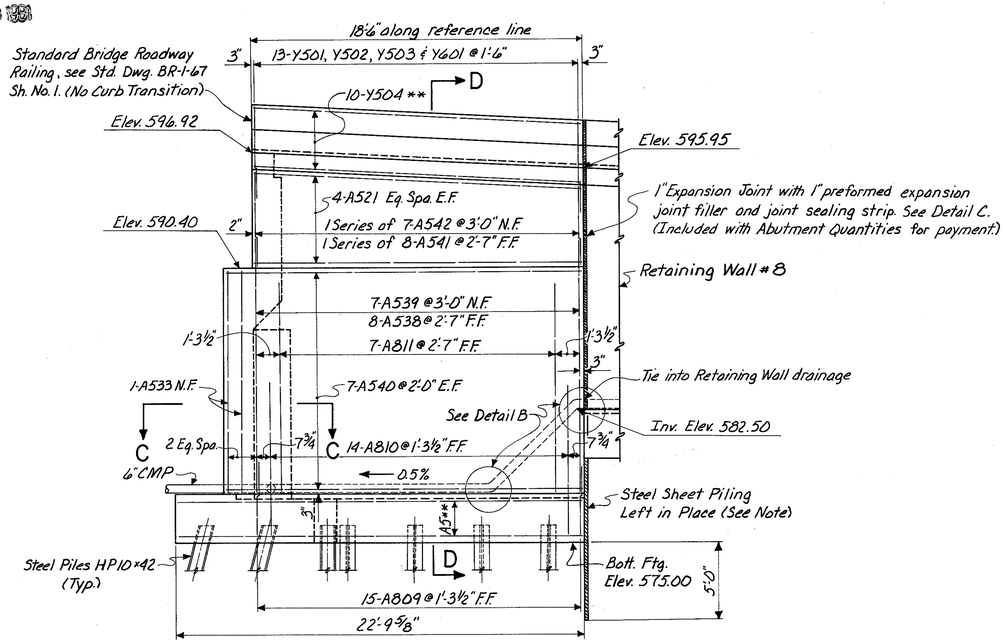
H&E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	G.C.K.		W.K. 2-10-71	JHo 11-7-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

443
494

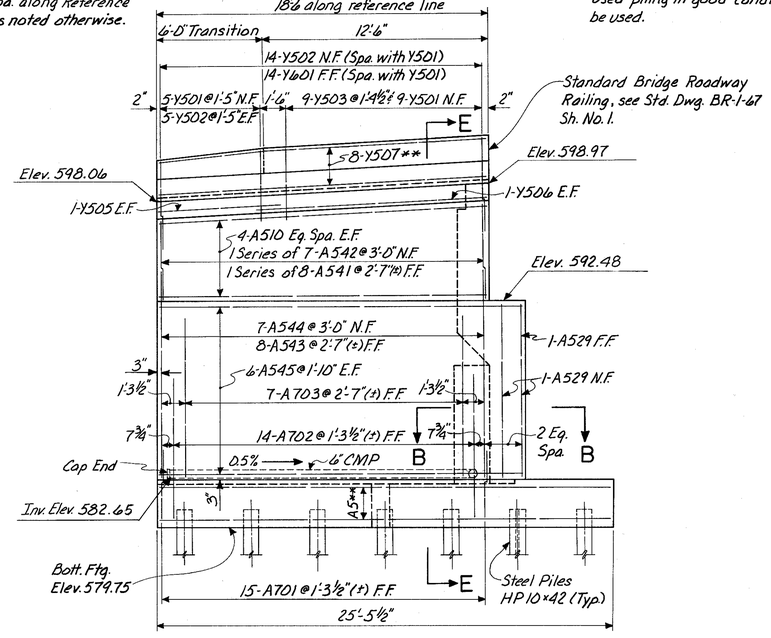
HAMILTON COUNTY
HAM-471-0.30



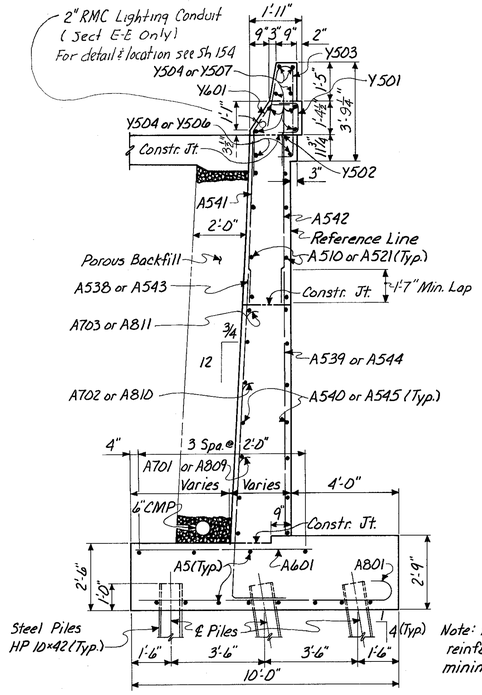
WEST WINGWALL ELEVATION

Note: ** Spa. as shown in Section D-D or E-E. All vertical reinforcing bars are spa. along Reference Line unless noted otherwise.

Note: Steel Sheet Piling left in place shall have a minimum section modulus of 7 in.³ per foot of wall. Used piling in good condition may be used.

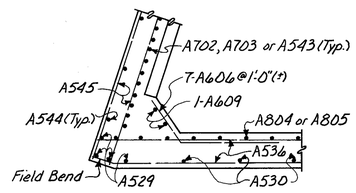


EAST WINGWALL ELEVATION

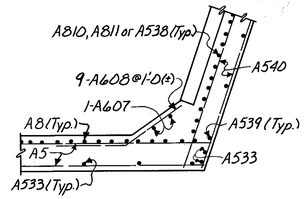


SECTION D-D
SECTION E-E

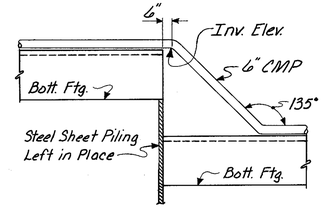
Note: Provide 3" clearance for all reinforcing steel in footing, minimum, unless noted otherwise.



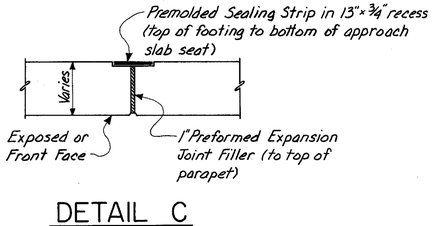
SECTION B-B



SECTION C-C



DETAIL A
DETAIL B (Opposite Hand)



DETAIL C

NOTES:
N.F. denotes Near Face.
F.F. denotes Far Face.
E.F. denotes Each Face.
For Details of Parapet Transition see Curbs on Approaches, Std. Dwg. BR-1-67 Sh. No. 1. (For East Wingwall only)

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

8/33

FORWARD ABUTMENT
BRIDGE NO. HAM-71-0184
RAMP GG

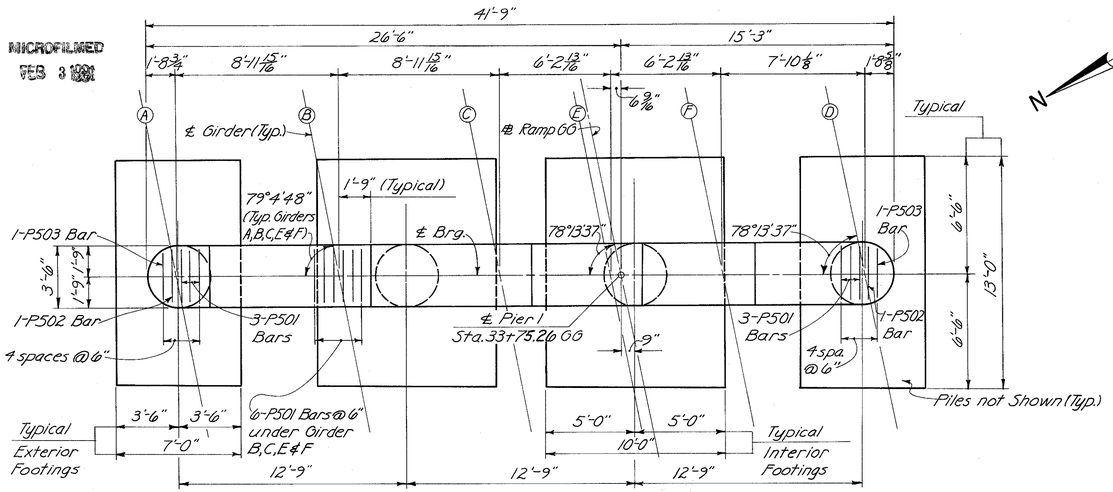
H&E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	GCK		YYL 2-10-71	JHO 11-7-72	

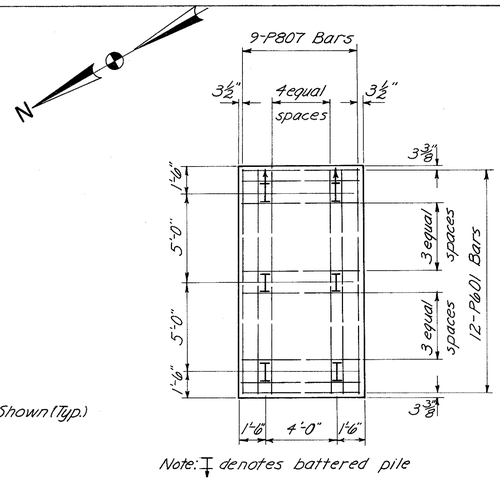
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

444
494

HAMILTON COUNTY
HAM-471-0.30

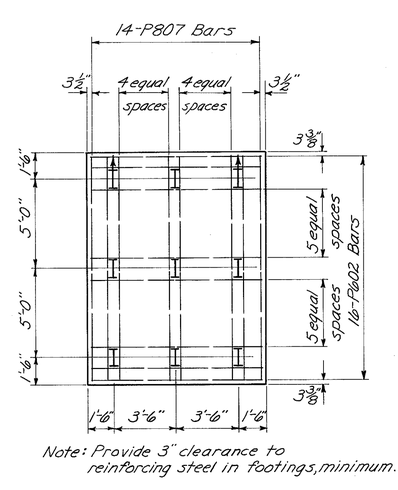


PLAN



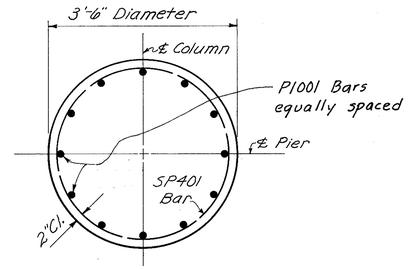
Note: ⊥ denotes battered pile

TYPICAL EXTERIOR FOOTING

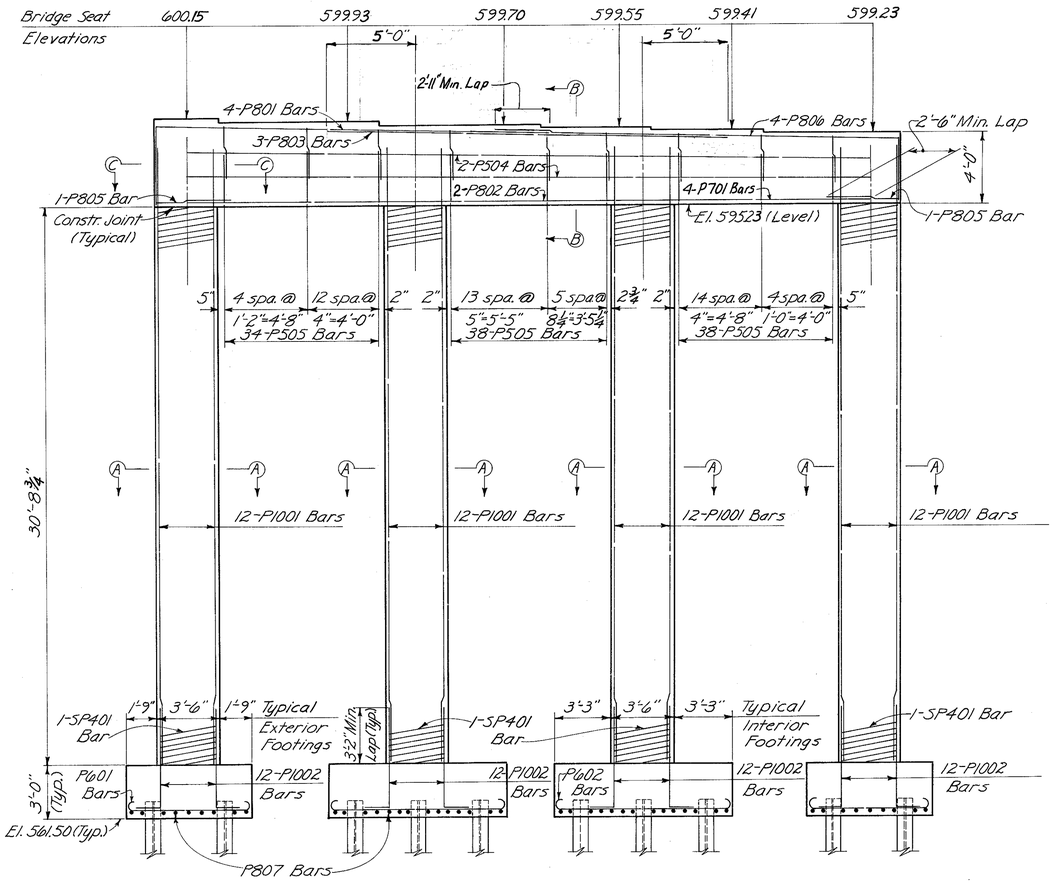


Note: Provide 3" clearance to reinforcing steel in footings, minimum.

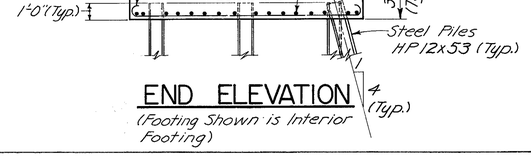
TYPICAL INTERIOR FOOTING



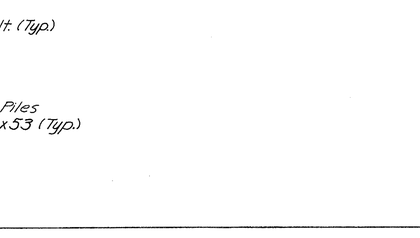
SECTION A-A



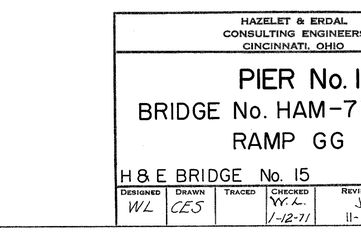
ELEVATION



END ELEVATION
(Footing Shown is Interior Footing)



SECTION B-B



SECTION C-C

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

9/33

PIER No. 1
BRIDGE No. HAM-71-0184
RAMP GG

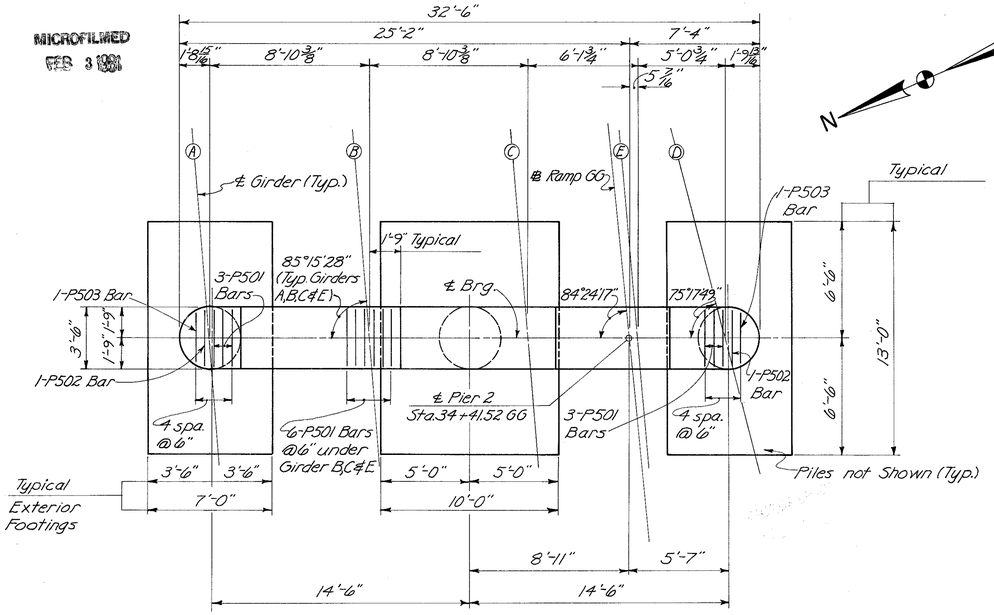
H & E BRIDGE No. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CES		W. L. 1-12-71	JHD 11-7-72	

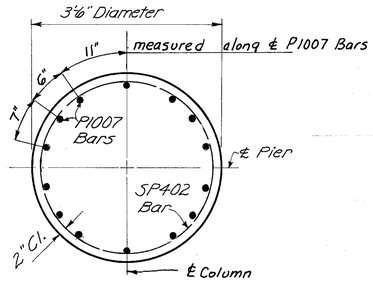
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

445
494

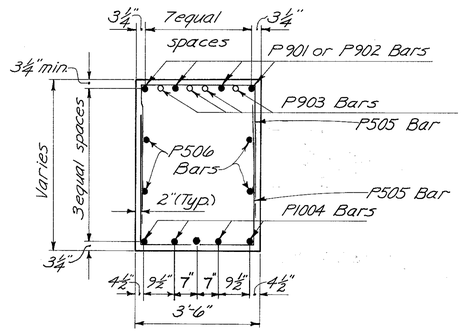
HAMILTON COUNTY
HAM-471-0.30



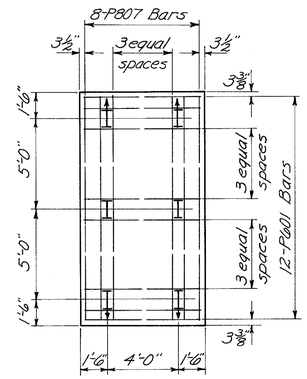
PLAN



SECTION A-A

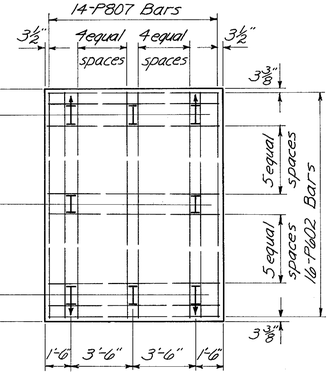


SECTION C-C



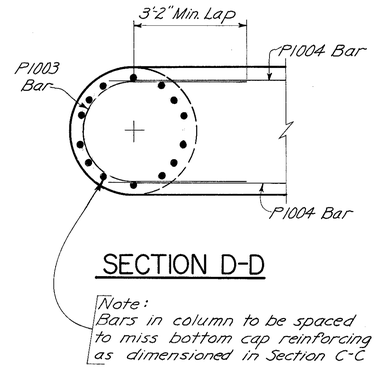
TYPICAL EXTERIOR FOOTING

Note: ∓ denotes battered pile



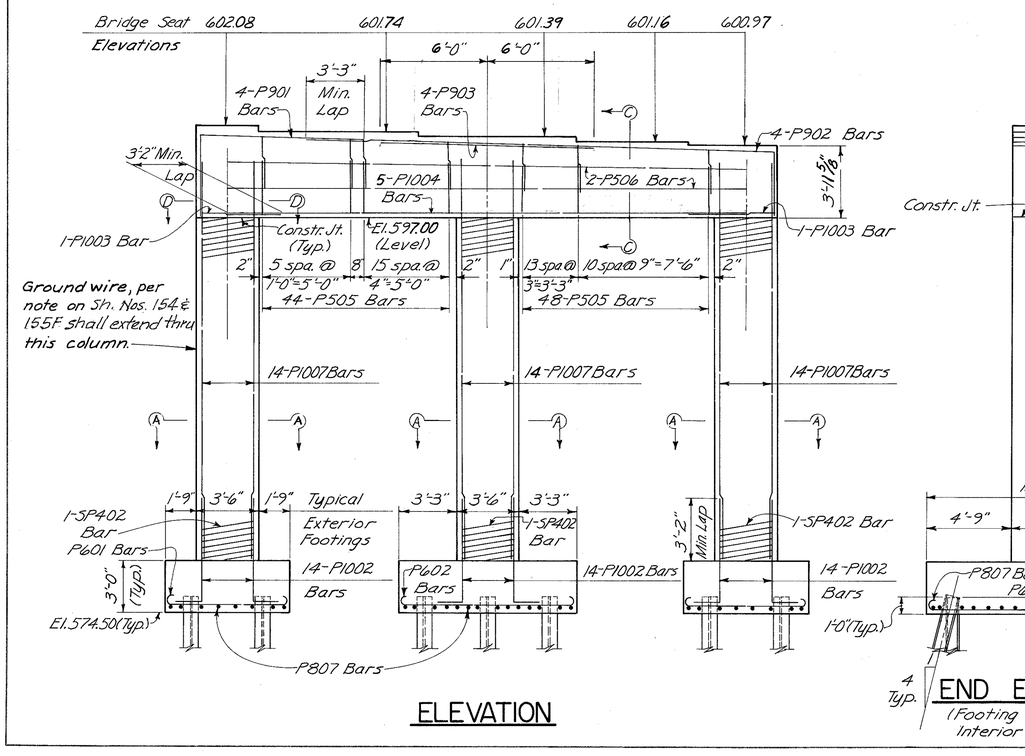
INTERIOR FOOTING

Note: Provide 3" clearance to reinforcing steel in footings, min.

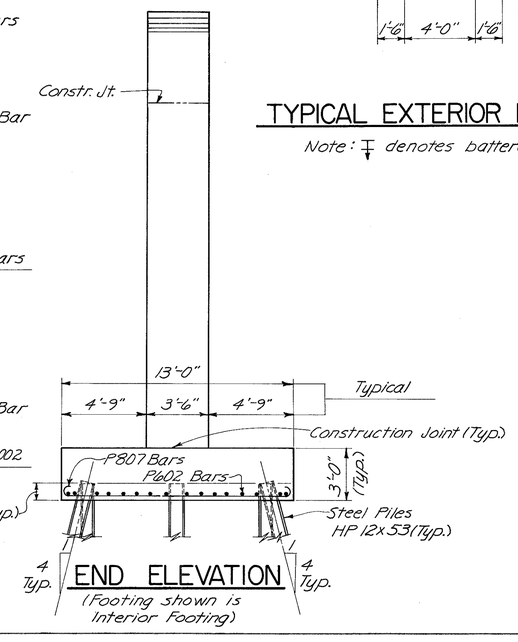


SECTION D-D

Note:
Bars in column to be spaced to miss bottom cap reinforcing as dimensioned in Section C-C



ELEVATION



END ELEVATION
(Footing shown is Interior Footing)

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

10/33

PIER No. 2
BRIDGE No. HAM-71-0184
RAMP GG

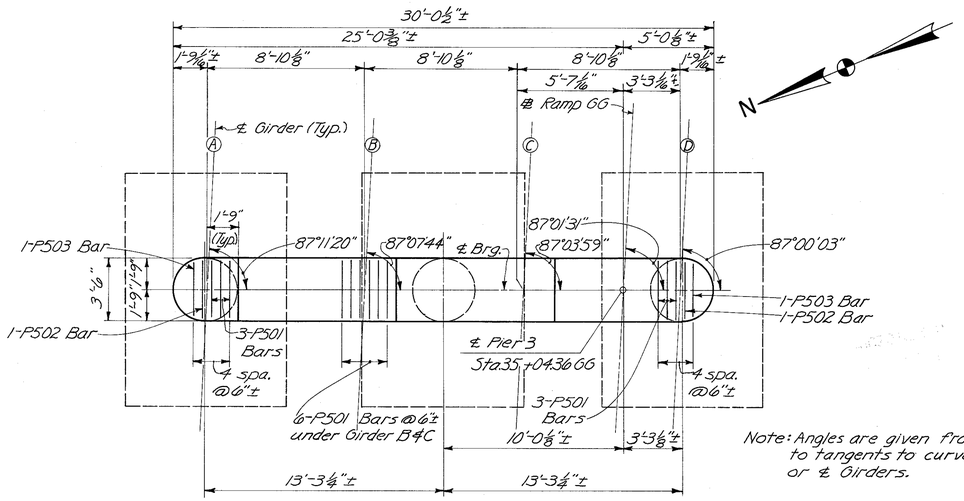
H & E BRIDGE No. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CES		W.L. 1-12-71	JHD 11-7-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

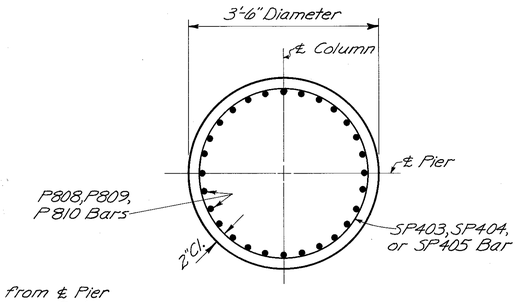
446
494

HAMILTON COUNTY
HAM-471-0.30

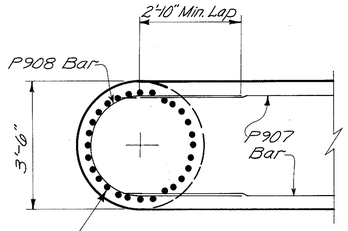


PLAN

Note: Angles are given from ℄ Pier to tangents to curves @ ℬ or ℄ Girders.

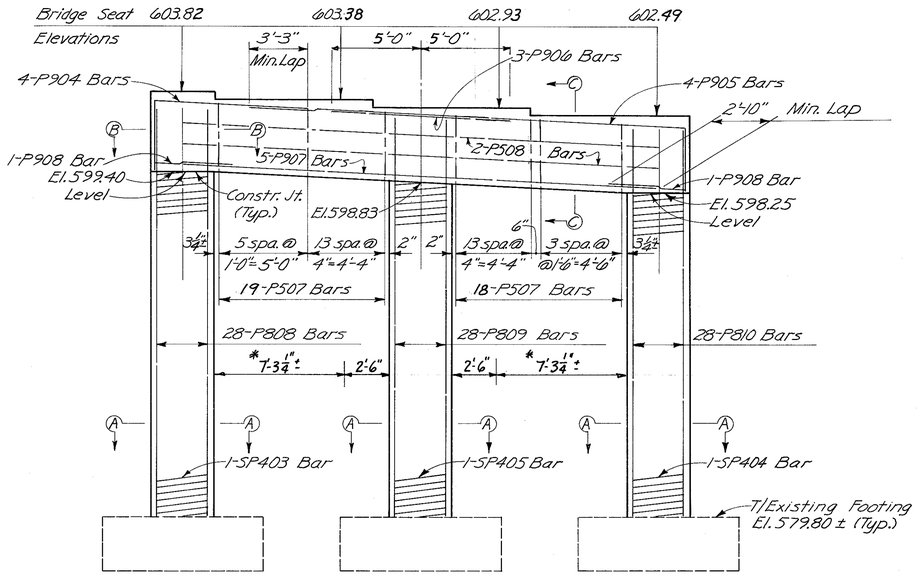


SECTION A-A



SECTION B-B

Note:
Column bars to lap existing dowel bars in footing. Care must be exercised in order that the bottom lawyer of cap bars can thread through column bars.

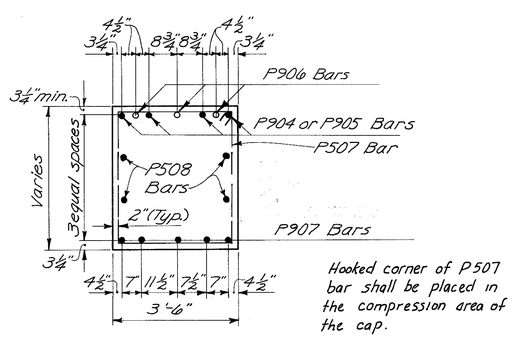


Note: Existing footings built under a previous contract.

* Compression area in top of Cap

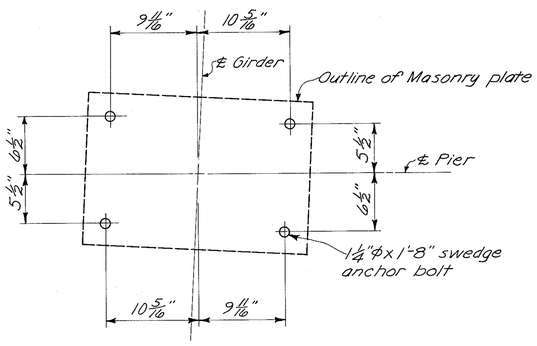
ELEVATION

Note: The existing dowel bars projecting out of the footings shall be cleaned of the asphaltic coating before new column reinforcing is placed. This work shall be incidental to the concrete work.



SECTION C-C

Hooked corner of P507 bar shall be placed in the compression area of the cap.



ANCHOR BOLT LAYOUT
(Typical all Girders)

Notes:
Dimensions marked (±) shall be verified from field measurements to the existing footings by the contractor.
Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bolt holes.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

11/33

PIER No. 3
BRIDGE No. HAM-71-0184
RAMP GG

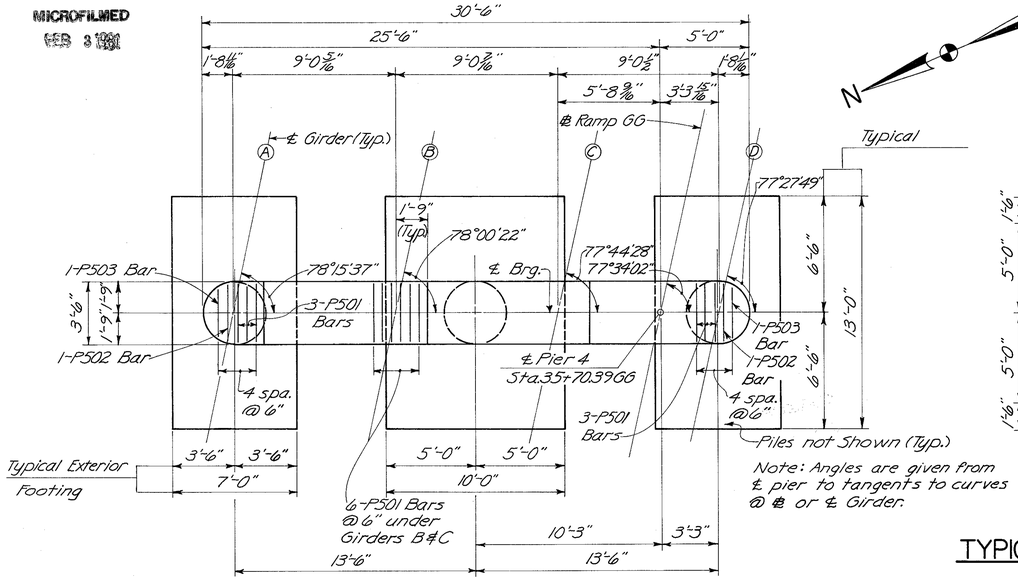
H & E BRIDGE No. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CES		W. L. 1-12-71	JHO 11-7-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

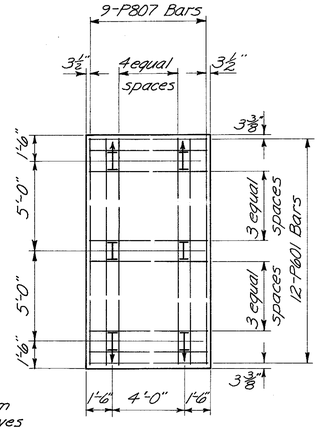
447
494

HAMILTON COUNTY
HAM-471-0.30



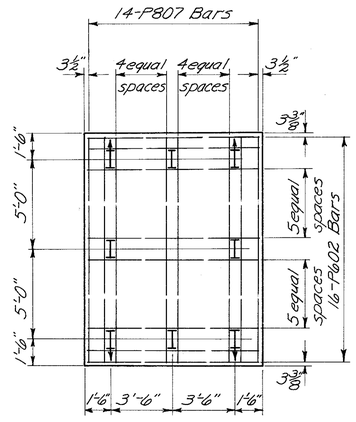
PLAN

Note: Angles are given from ℄ pier to tangents to curves @ ℄ or ℄ Girder.



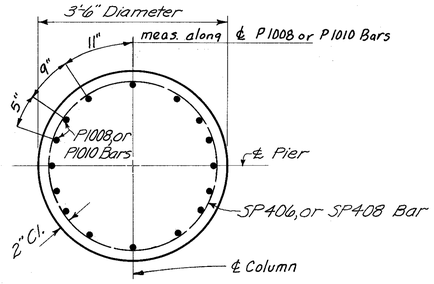
TYPICAL EXTERIOR FOOTING

Note: ∓ denotes battered pile

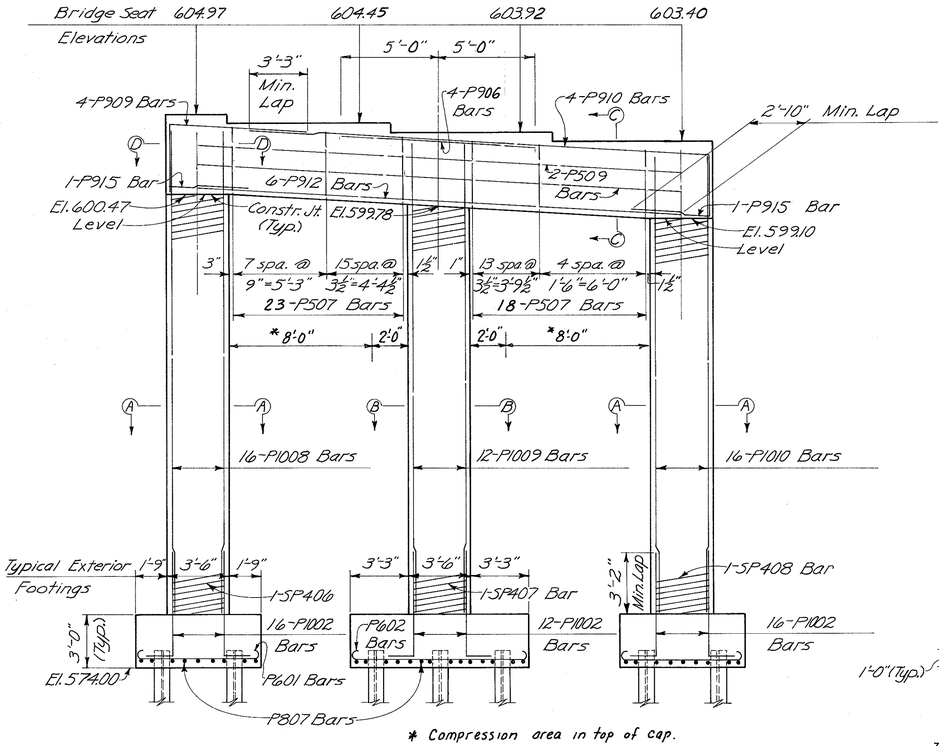


INTERIOR FOOTING

Note: Provide 3" clearance to reinforcing steel in footings, minimum.

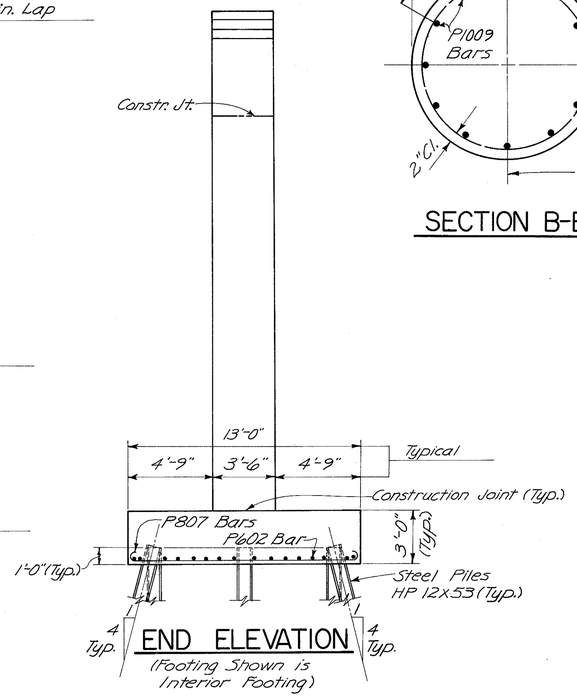


SECTION A-A

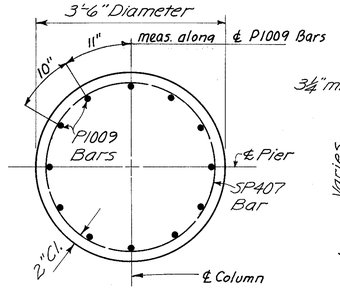


* Compression area in top of cap.

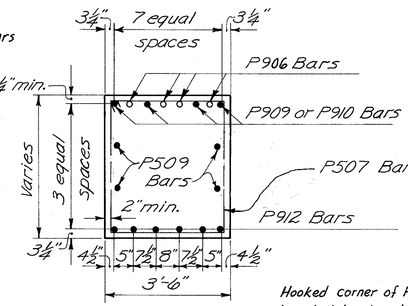
ELEVATION



END ELEVATION
(Footing Shown is Interior Footing)

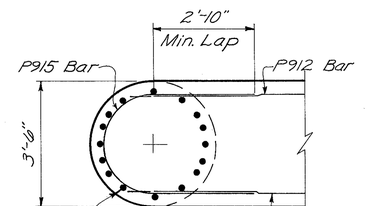


SECTION B-B



SECTION C-C

Hooked corner of P507 bar shall be placed in the compression area of the cap.



SECTION D-D

Note:
Bars in column to be spaced to miss bottom cap reinforcing as dimensioned in Section C-C.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

12/33

PIER No.4
BRIDGE No. HAM-71-0184
RAMP GG

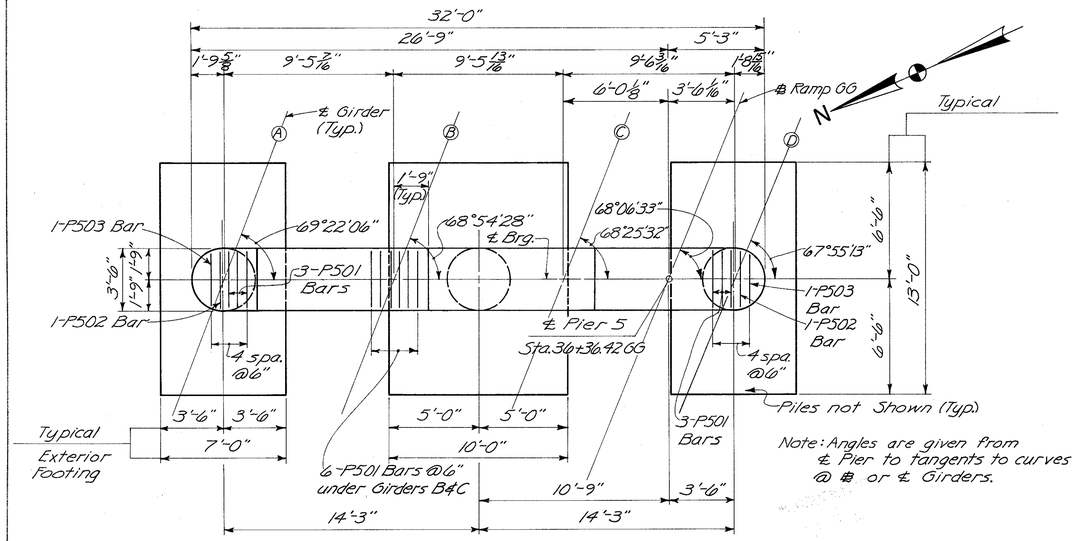
H & E BRIDGE No. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CES		W.L. 1-12-71	JHC 11-7-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

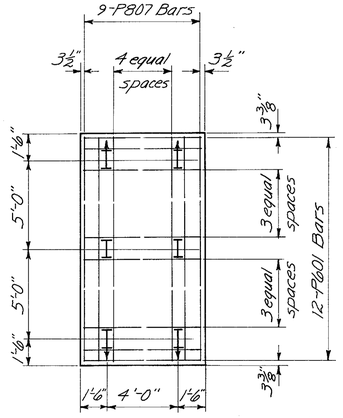
448
494

HAMILTON COUNTY
HAM-471-0.30



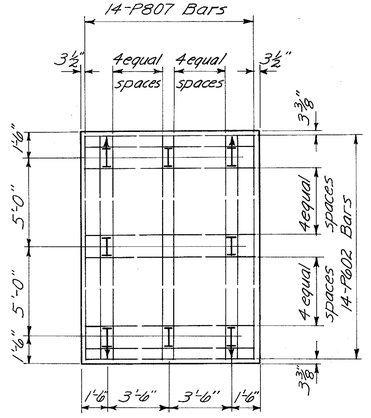
Note: Angles are given from ℄ Pier to tangents to curves @ ⊕ or ℄ Girders.

PLAN



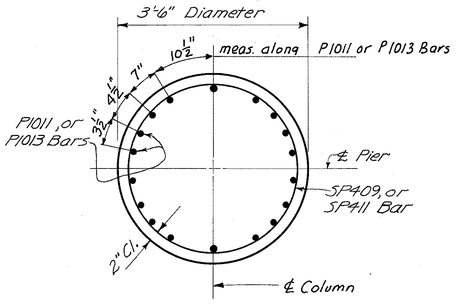
TYPICAL EXTERIOR FOOTING

Note: ⧺ denotes battered pile.

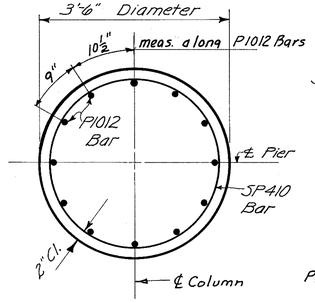


INTERIOR FOOTING

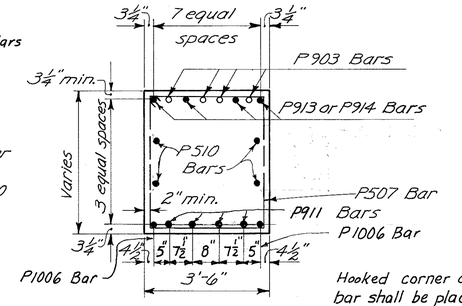
Note: Provide 3" clearance to reinforcing steel in footings, minimum.



SECTION A-A

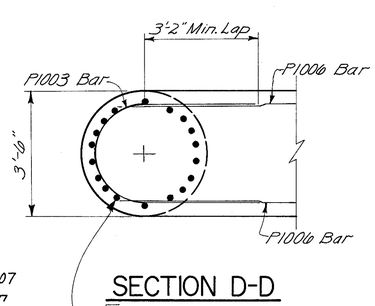


SECTION B-B



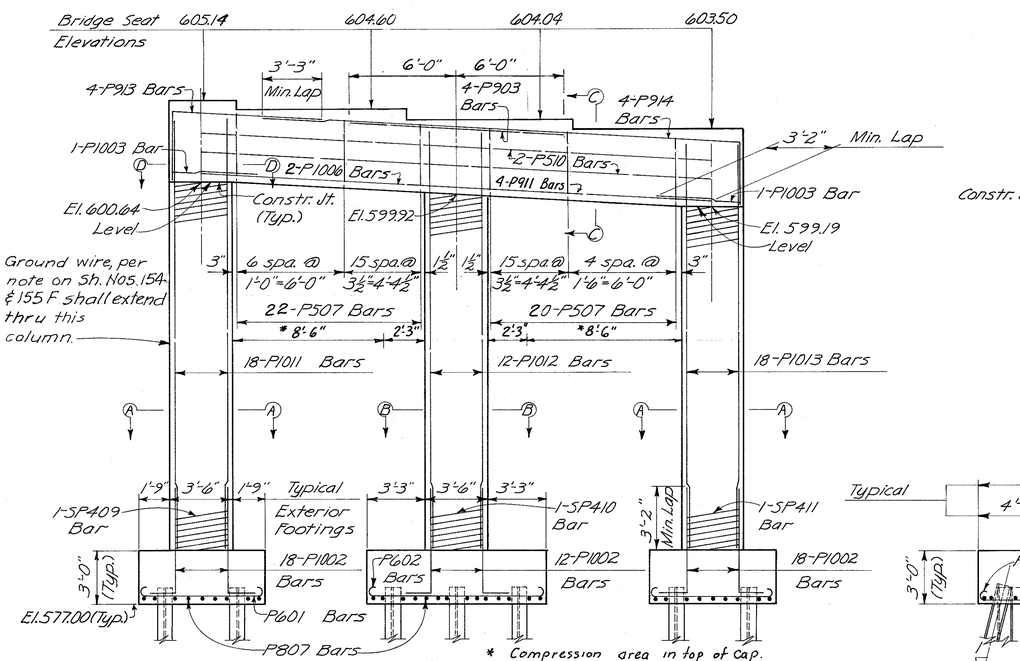
SECTION C-C

Hooked corner of P507 bar shall be placed in the compression area of the cap.

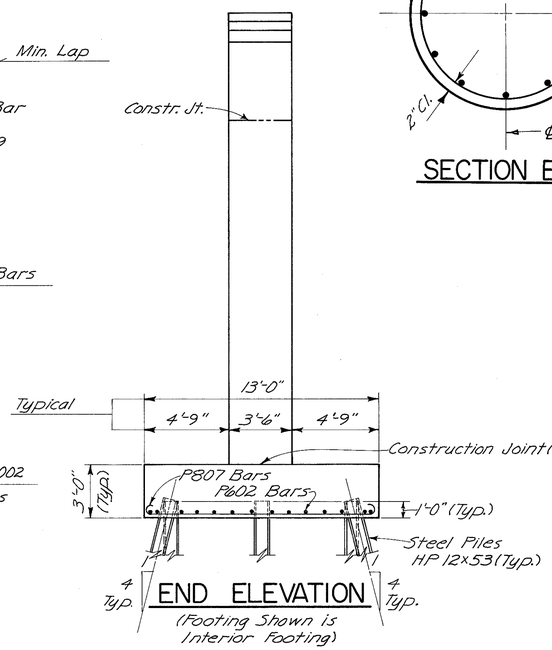


SECTION D-D

Note: Bars in column to be spaced to miss bottom cap reinforcing as dimensioned in Section C-C.



ELEVATION



END ELEVATION

(Footing Shown is Interior Footing)

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

13/33

PIER No. 5
BRIDGE No. HAM-71-0184
RAMP GG

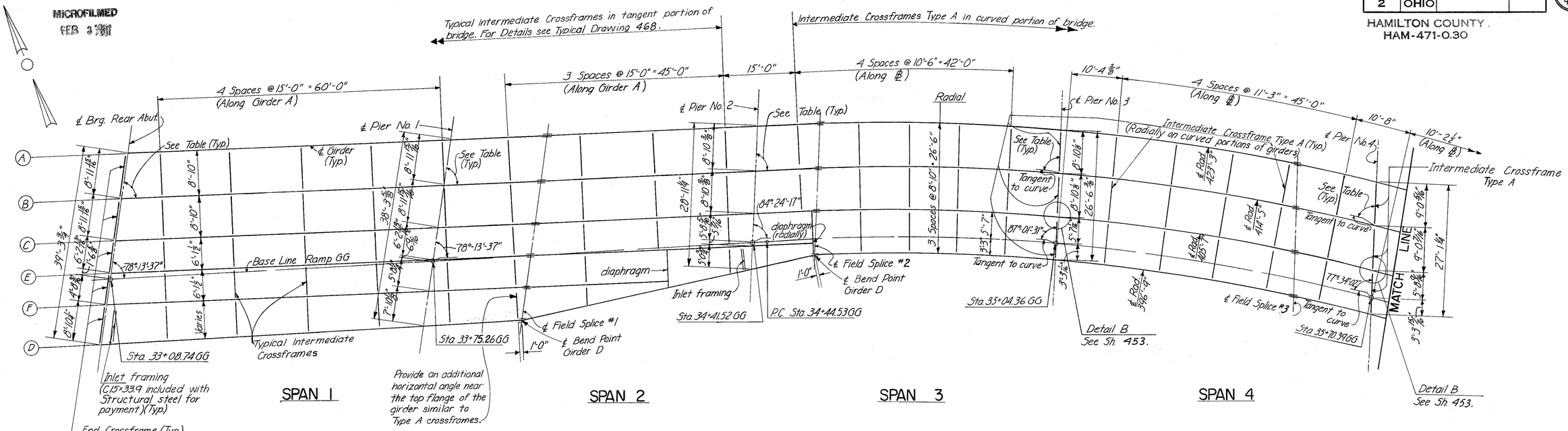
H & E BRIDGE No. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CES		WL 1-12-71	JHS 11-7-72	

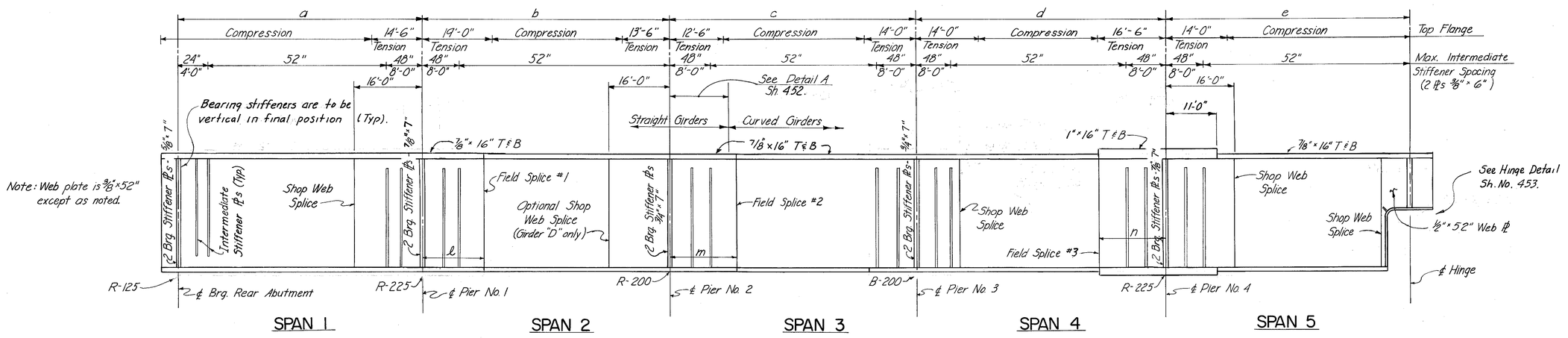
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

449
494

HAMILTON COUNTY
HAM-471-0.30



FRAMING PLAN



GIRDER ELEVATION (Developed)

Erection Notes:

Girders to be plumb and in correct horizontal position before crossframes are welded. Complete all welding before placing concrete deck.

Additional shop flange splices may be provided by the contractor, with the approval of the Director as per 513.02. However, no additional flange splices will be permitted within 8'-0" of the ℄ of piers or midpoint of the spans. All flange splices shall miss crossframes and intermediate stiffeners by 1'-0" minimum and shop web splices by 5'-0" minimum.

Notes:

Before any fabrication of structural steel is started, the contractor shall first determine the exact location of the existing piers No. 6, 7, 8, & 9.
For Bearing Details see Std. Dwg. RB-1-55 and FSB-1-62 and Sh. 453.
For Inlet Framing details see Drainage Details Sh. No. 469 and Sh. No. 469.
For treatment of ends of girders and end dam details at abutments see Std. Drwg SD-1-69, Sh 1.
For Curb plate details see Std. Dwg. SD-1-69 Sh. No. 2.
For steel details not shown see Typical Structural Steel Details Sh. No. 468.
T denotes Top; B denotes Bottom.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

14/33

STRUCTURAL STEEL DETAILS

BRIDGE NO HAM-71-0184
RAMP GG

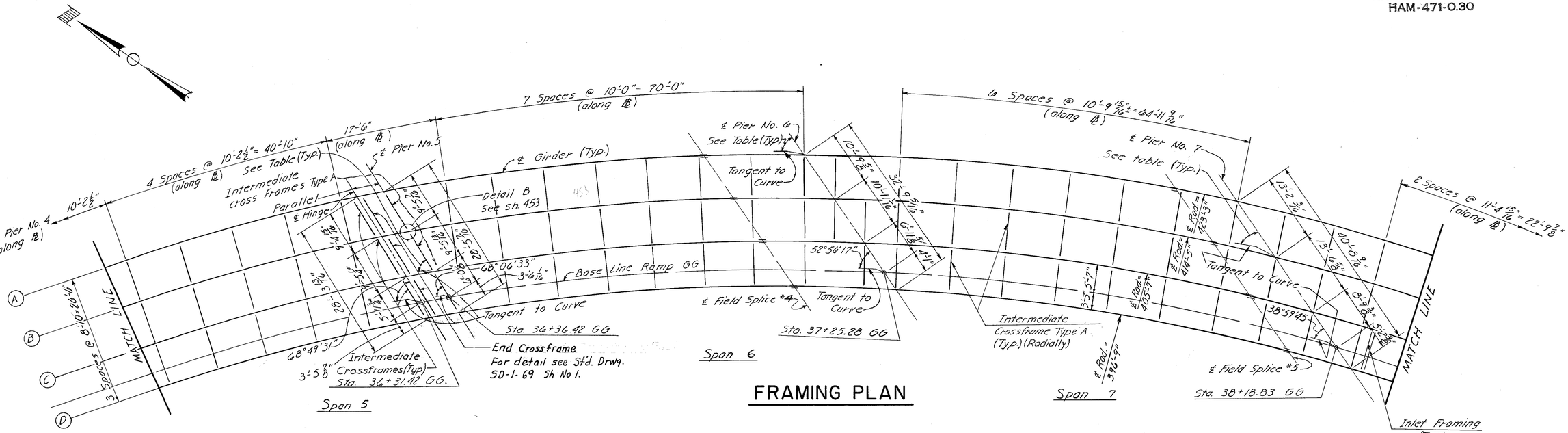
H&E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CYW	NRK	WL 12-17-70	JJD 11-7-72	

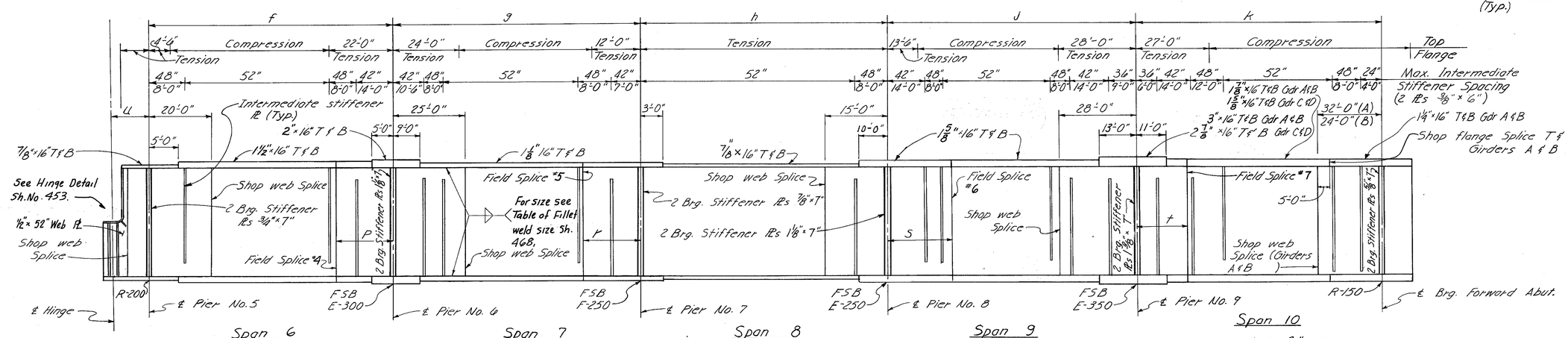
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

450
494

HAMILTON COUNTY
HAM-471-0.30



FRAMING PLAN



GIRDER ELEVATION (developed)

Note: Web ℔ is 3/8" × 52 except as noted.
Intermediate Cross Frames Type A @ Joint ℄ Pier 5.

TABLE OF GIRDER LENGTH DATA

Girder \ Dimen.	a	b	c	d	e	f	g	h	j	k	l	m	n	p	r	s	t	u
A	66'-3 3/8"	63'-5 13/16"	62'-9 15/16"	65'-11 1/2"	60'-8 11/16"	86'-0 3/8"	88'-7 15/16"	56'-1"	109'-4"	109'-3 3/4"	20'-0"	12'-11 3/8"	16'-5 7/16"	20'-5 3/8"	12'-6 15/16"	23'-9 3/16"	17'-11 3/4"	4'-11 1/2"
B	66'-3 7/8"	64'-5 3/8"	62'-9 15/16"	65'-11 13/16"	60'-10"	87'-0 11/16"	90'-4 1/8"	56'-9 3/8"	108'-4 3/8"	96'-10 3/16"	20'-0"	12'-11 7/8"	16'-5 3/4"	20'-7 11/16"	12'-10 5/8"	24'-9 13/16"	18'-10 15/16"	4'-11 7/8"
C	66'-3 3/8"	65'-5 1/4"	62'-9 15/16"	66'-0 5/8"	60'-11 7/16"	88'-1 1/16"	92'-2 3/4"	57'-8 1/2"	107'-7 1/16"	83'-8 11/16"	20'-0"	12'-11 7/8"	16'-5 7/8"	20'-10 1/4"	13'-2 15/16"	26'-0 11/16"	20'-1"	4'-11 7/8"
D	66'-6 1/4"	69'-1 1/4"	63'-2 3/4"	66'-0 1/2"	61'-0 15/16"	89'-3 1/2"	94'-4 7/16"	58'-10 7/8"	107'-1"	69'-8 7/8"	20'-0 11/16"	13'-4 5/8"	16'-6 1/16"	21'-1 1/16"	13'-7 15/16"	27'-7 7/16"	21'-7 3/8"	5'-0 1/16"
E	66'-3 7/8"	66'-1 5/16"									20'-0"							
F	66'-3 3/8"										20'-0"							

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

15/33

STRUCTURAL STEEL DETAILS

BRIDGE NO. HAM-71-0184
RAMP GG

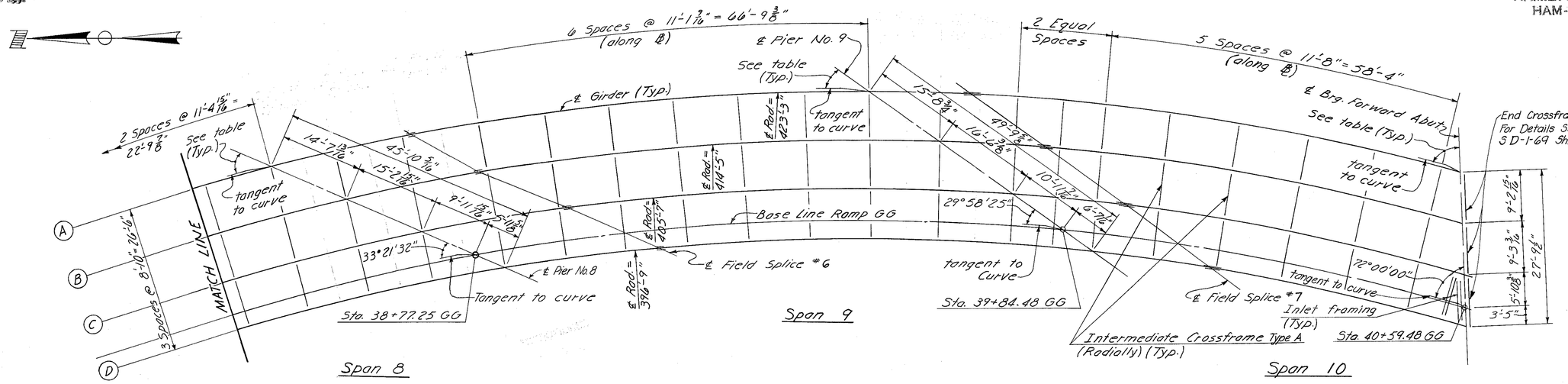
H&E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	C.Y.W.	D.B.S.	W.L. 12-17-70	J.H.D. 11-8-72	

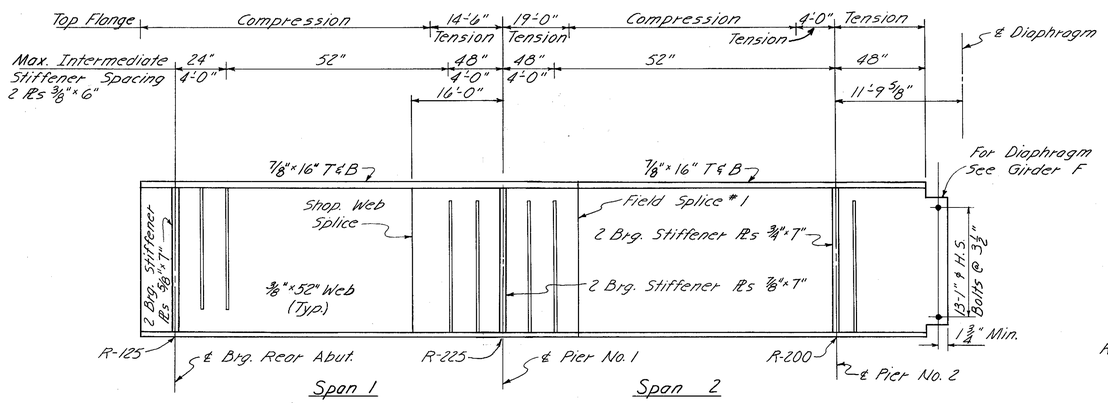
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

451
494

HAMILTON COUNTY
HAM-471-0.30

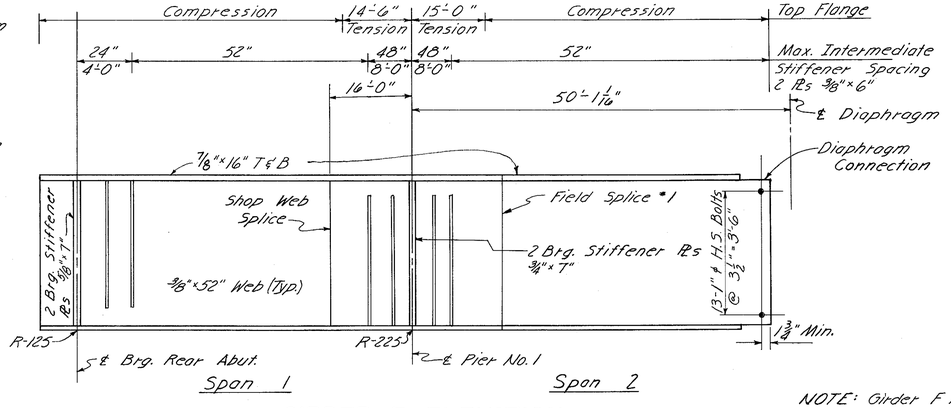


FRAMING PLAN



GIRDER E ELEVATION

NOTE: Girder E is not curved

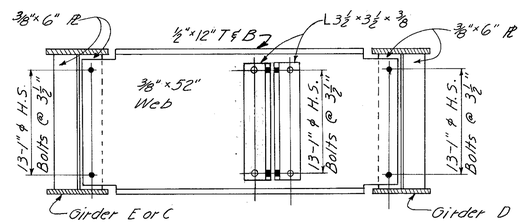


GIRDER F ELEVATION

NOTE: Girder F is not curved

TABLE OF GIRDER ANGLES

	Rear Abut.	Pier No. 1	Pier No. 2	Pier No. 3	Pier No. 4	Pier No. 5	Pier No. 6	Pier No. 7	Pier No. 8	Pier No. 9	Forward Abut.
Girder A	79°04'48"	79°04'48"	85°15'28"	87°11'20"	78°15'37"	69°22'06"	55°16'47"	42°44'06"	37°52'27"	35°02'53"	73°01'11"
Girder B	79°04'48"	79°04'48"	85°15'28"	87°07'44"	78°00'22"	68°54'28"	54°25'44"	41°23'46"	36°16'30"	33°16'02"	72°38'47"
Girder C	79°04'48"	79°04'48"	85°15'28"	87°03'59"	77°44'28"	68°25'32"	53°31'53"	39°57'36"	34°32'19"	31°18'51"	72°15'22"
Girder D	78°13'37"	78°13'37"	75°17'49"	87°00'03"	77°27'49"	67°55'13"	52°34'58"	38°24'45"	32°38'21"	29°08'58"	71°50'51"
Girder E	79°04'48"	79°04'48"	85°15'28"								
Girder F	79°04'48"	79°04'48"									



DIAPHRAGM

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

16/33

STRUCTURAL STEEL DETAILS

BRIDGE NO. HAM-71-0184
RAMP GG

H&E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	C.Y.W.	D.B.S.	W.L. 12-17-70	J.H.S. 11-7-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

452
494

HAMILTON COUNTY
HAM-471-0.30

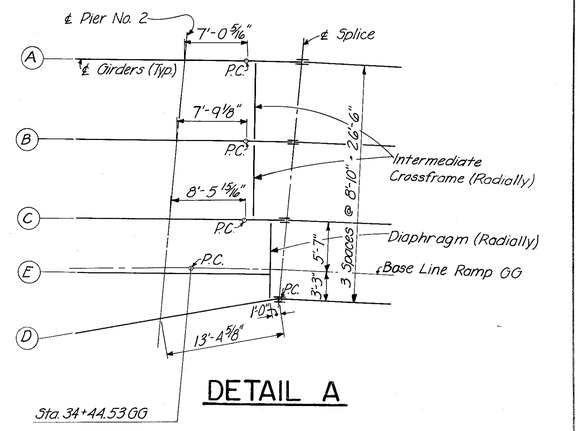
DEFLECTION and CAMBER (inches)

		SPAN 1			SPAN 2				SPAN 3				SPAN 4			SPAN 5				SPAN 6			SPAN 7				SPAN 8			SPAN 9				SPAN 10			
		1/4 (1)	Center (2)	3/4 (3)	1/4 (5)	Splice (6)	Center (7)*	3/4 (8)**	Splice ⊕(10)	1/4 (11)	Center (12)	3/4 (13)	1/4 (15)	Center (16)	Splice (17)	1/4 (19)	Center (20)	3/4 (21)	Hinge (22)	1/4 (24)	Center (25)	Splice (26)	1/4 (28)	Center (29)	3/4 (30)	Splice (31)	1/4 (33)	Center (34)	3/4 (35)	Splice +(37)	1/4 ++(38)	Center (39)	3/4 (40)	Splice +(42)	1/4 ++(43)	Center (44)	3/4 (45)
Girder A	Def. due to weight of steel	1/16	1/16	1/16	0	0	0	0	0	0	0	0	0	0	0	0	1/16	0	0	1/16	1/8	1/16	1/16	1/8	1/16	1/16	0	0	0	1/8	1/8	3/16	1/8	1/16	1/16	1/8	1/8
	Def. due to remaining dead load	1/4	5/16	3/16	0	0	1/16	1/16	1/16	1/16	1/8	1/16	1/16	1/8	1/16	1/8	3/16	1/16	-1/16	5/16	3/8	3/16	3/16	7/16	5/16	3/16	-1/8	-1/8	-1/8	7/16	1/2	5/8	5/16	1/8	3/16	3/8	3/8
	Adjustment req. for *	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	3/16	1/4	1/8	1/4	1/2	3/4	1	3/4	1/4	1 5/16	1 3/4	1/4	1 5/16	1 1/4	1 5/16	5/8	3/8	1/2	3/8	5/16	1 7/16	1 5/16	1/16	7/8	1 3/16	1 7/16	1 3/16
	Required Shop Camber	3/8	7/16	5/16	1/16	1/16	1/8	1/8	1/8	1/8	5/16	5/16	1 3/16	1 7/8	1 3/16	7/8	1 1/4	1 3/16	3/16	1 1/16	2 1/4	1 1/2	1 3/16	1 3/16	1 3/16	7/8	1/4	3/8	1/4	7/8	2 1/16	2 3/4	1 1/8	1 1/16	1 1/16	1 5/16	1 3/16
Girder B	Def. due to weight of Steel	1/16	1/16	1/16	0	0	0	0	0	0	0	0	0	0	0	0	1/16	0	0	1/8	1/8	1/16	1/16	1/8	1/16	1/16	0	0	0	1/8	1/8	3/16	1/8	1/16	1/16	1/8	1/8
	Def. due to remaining dead load	5/16	3/8	3/16	0	0	1/16	1/16	1/16	1/16	1/8	1/16	1/16	1/8	1/16	1/8	1/4	1/8	-1/16	7/16	1/2	1/4	1/4	9/16	7/16	1/4	-1/8	-3/16	-3/16	9/16	5/8	7/8	7/16	1/8	3/16	9/16	1/2
	Adjustment req. for *	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	3/16	1/4	1 1/16	1 9/16	1/4	1 3/16	1 1/16	1 3/16	5/16	1 3/8	1 13/16	1 3/16	1 1/16	1 3/8	1 1/16	1/2	3/8	9/16	3/8	1 3/8	1 1/2	1 3/8	3/4	7/8	1	1/2
	Required Shop Camber	7/16	1/2	5/16	1/16	1/16	1/8	1/8	1/8	1/8	5/16	5/16	1/8	1 1/16	1 5/16	1 3/16	1 3/8	1 3/16	1/4	1 15/16	2 1/16	1 1/2	1 3/16	1 3/16	1 3/16	13/16	1/4	3/8	3/16	2 1/16	2 1/4	3	2 1/16	1 5/16	1 1/8	1 1/16	1 1/8
Girder C	Def. due to weight of Steel	1/16	1/16	1/16	0	0	0	0	0	0	0	0	0	0	0	0	1/16	0	0	1/8	1/8	1/16	1/16	1/8	1/16	1/16	0	0	0	1/8	1/8	3/16	1/8	1/16	1/16	1/8	1/8
	Def. due to remaining dead load	1/4	3/8	3/16	0	0	1/16	1/16	1/16	1/16	1/8	1/16	1/16	1/8	1/16	1/8	1/4	1/8	-1/16	7/16	1/2	1/4	1/4	9/16	7/16	1/4	-1/8	-3/16	-3/16	9/16	5/8	7/8	7/16	1/8	3/16	9/16	1/2
	Adjustment req. for *	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	3/16	1/4	1 5/16	1 5/16	1	1 3/16	1 3/16	1 3/16	5/16	1 1/2	1 13/16	1 3/8	1 3/16	1 3/16	1 3/16	3/4	7/16	9/16	7/16	1 1/2	1 1/2	2	1 1/2	9/16	9/16	9/16	5/16
	Required Shop Camber	3/8	1/2	5/16	1/16	1/16	1/8	1/8	1/8	1/8	5/16	5/16	1	1 7/16	1 1/16	1 5/16	1 7/16	1 5/16	1/4	2 1/16	2 9/16	1 8/16	1 7/16	2 3/16	1 5/8	1 1/16	5/16	5/16	1/4	2 3/16	2 1/8	3 1/16	2 1/16	3/4	1 3/16	1 1/4	1 5/16
Girder D	Def. due to weight of Steel	1/16	1/16	1/16	0	0	0	0	0	0	0	0	0	0	0	0	1/16	0	0	1/16	1/8	1/16	1/16	1/8	1/16	1/16	0	0	0	1/8	1/8	3/16	1/8	1/16	1/16	1/8	1/8
	Def. due to remaining dead load	1/4	1/4	1/8	0	0	1/16	1/16	1/16	1/16	1/8	1/16	1/16	1/8	1/16	1/8	3/16	1/16	-1/16	5/16	3/8	3/16	3/16	7/16	5/16	3/16	-1/8	-1/8	-1/8	1/2	1/2	5/8	5/16	3/16	3/16	3/8	3/8
	Adjustment req. for *	0	0	0	-1 3/16	-5/16	-7/8	-9/16	1 3/16	1 3/16	5/8	1/2	1 3/16	1 1/16	3/4	7/8	1 3/16	7/8	5/16	1 9/16	2 1/16	1 1/2	1/4	1 3/8	1/4	15/16	1/2	5/8	1/2	1 9/16	1 7/8	2 1/8	1 9/16	5/16	5/16	1/8	1/8
	Required Shop Camber	5/16	5/16	3/16	-1 3/16	-1 5/16	-1 3/16	-1/2	7/8	7/8	3/4	9/16	7/8	1 3/16	13/16	1	1 7/16	15/16	1/4	1 13/16	2 9/16	1 3/4	1 1/8	1 1/8	1 5/8	1 3/16	3/8	1/2	3/8	2 3/16	2 1/16	2 5/16	2	9/16	9/16	5/8	5/8
Girder E	Def. due to weight of Steel	1/16	1/16	1/16	0	0	0	0	0																													
	Def. due to remaining dead load	1/4	5/16	3/16	0	0	1/16	1/16	0																													
	Adjustment req. for *	1/16	1/16	1/16	1/16	1/16	1/16	1/16	0																													
	Required Shop Camber	3/8	7/16	3/16	1/16	1/16	1/8	1/8	0																													
Girder F	Def. due to weight of Steel	1/16	1/16	1/16		0	0	0																													
	Def. due to remaining dead load	1/4	5/16	3/16		1/16	1/16	1/16																													
	Adjustment req. for *	1/16	1/16	1/16		1/16	-1/8	-1/4																													
	Required Shop Camber	3/8	7/16	5/16		1/8	-1/16	-3/16																													

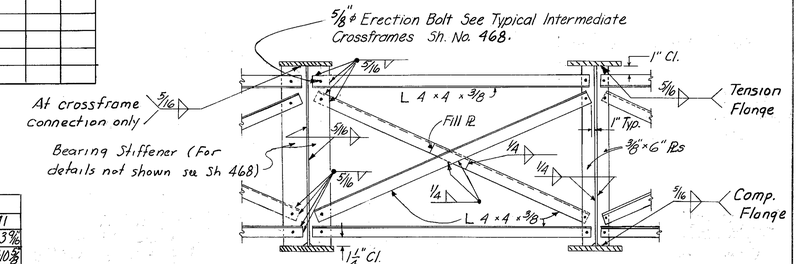
Negative Values (-) are measured downward.
* denotes a point 33.393' from ℄ Pier 1 for Girder F only.
** denotes ℄ Diaphragm for Girder F.
⊕ denotes ℄ Diaphragm for Girder E.
Horizontal & Vertical Curves and Superelevation Transition.

+ denotes 1/4 point for Girder D.
++ denotes Splice point for Girder D.

GIRDER	Y DIMENSIONS																																			
	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	30	31	32	33	34	35	36	37	38	39	40	41
A				2'-5 5/8"					4'-10 1/2"					7'-0 3/8"				8'-9"					9'-6 5/8"				9'-6 7/8"				8'-5 1/8"				7'-4 3/4"				4'-3 9/16"
B				2'-4 1/8"					4'-8 1/16"					6'-10 1/2"				8'-6 1/2"					9'-4 1/4"				9'-4 7/16"				8'-3"				7'-1 1/8"				3'-10 3/8"
C				2'-3 3/4"					4'-6 3/4"					6'-8 1/4"				8'-4"					9'-2 3/8"				9'-2"				8'-0"				6'-9 3/8"				3'-5 5/8"
D				2'-0 1/2"					4'-5 3/4"					6'-7 1/16"				8'-2 7/8"					9'-1"				9'-0 1/16"				7'-9 1/8"				6'-5 7/16"				2'-11 1/16"
E				3/16"					0"																													
F				0"																																		

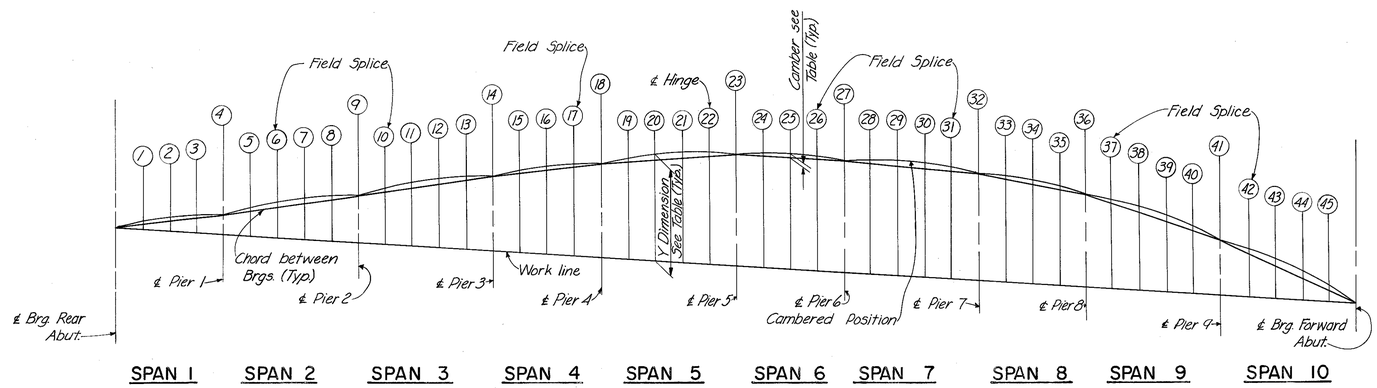


DETAIL A



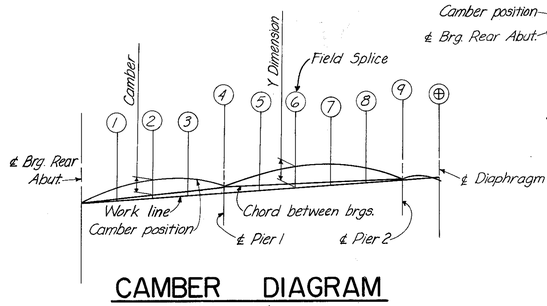
INTERMEDIATE CROSSFRAMES TYPE A

Note: Treatment of 3/8"x 6" pls only at intermediate crossframe type A connection. For connection of 3/8"x 6" intermediate stiffener pls to girders see typical drawing 468.



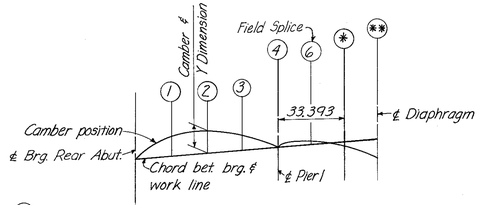
CAMBER DIAGRAM

(Girders A thru D.)



CAMBER DIAGRAM

(Girder E)



CAMBER DIAGRAM

(Girder F)

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

17/33

STRUCTURAL STEEL DETAILS

BRIDGE NO. HAM-71-0184
RAMP GG

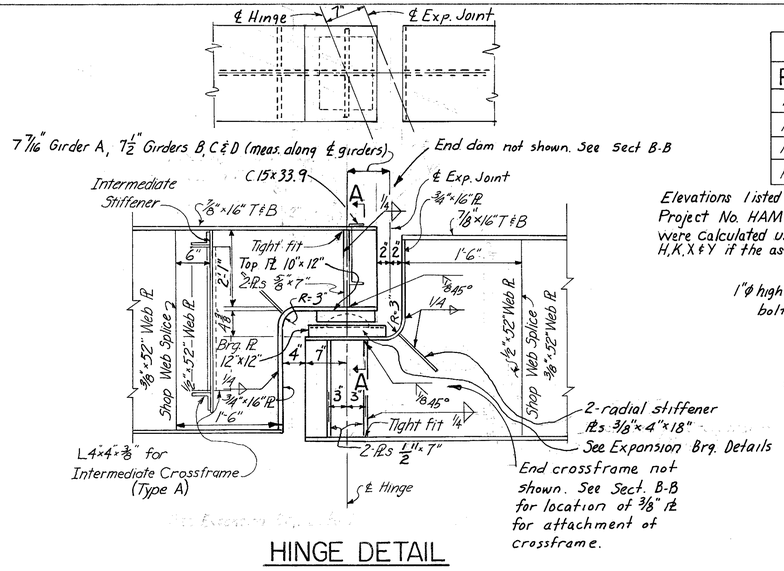
H&E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CYW	NRK	W.L. 12-17-70	JHO 11-7-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

453/494

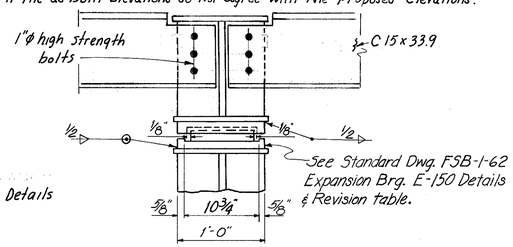
HAMILTON COUNTY
HAM-471-0.30



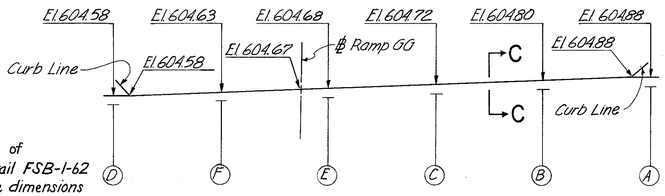
HINGE DETAIL

PIER	PIER BRIDGE SEATS GIRDER A	B	C	D
No. 6	605.13	604.49	603.83	603.17
No. 7	603.20	602.41	601.62	600.76
No. 8	601.98	601.07	600.14	599.12
No. 9	597.93	596.82	595.68	594.40

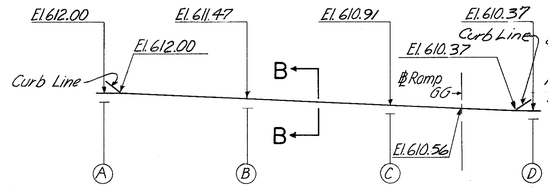
Elevations listed above were proposed elevations for construction of Piers 6, 7, 8, & 9 of Project No. HAM-71-(1.56)(2.51). Dimensions H, K, X & Y listed below for Bearing Detail FSB-1-62 were calculated using these above elevations. However, the Contractor may have to revise dimensions H, K, X & Y if the as built elevations do not agree with the proposed elevations.



SECTION A-A



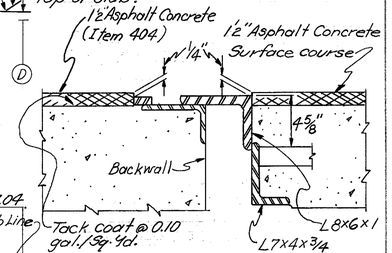
REAR ABUTMENT EXPANSION DAM
(Provide curb plates)

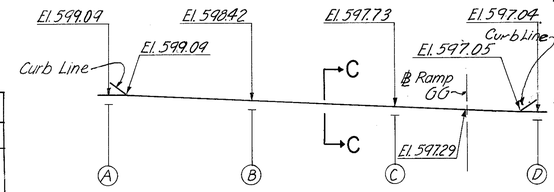


ROADWAY EXPANSION DAM
(Provide curb plates)

Note:
Elevations given @ Abutments are at the back edge of 8" angle.

Expansion dams are to be bent in shop to conform to contour of Top of slab.

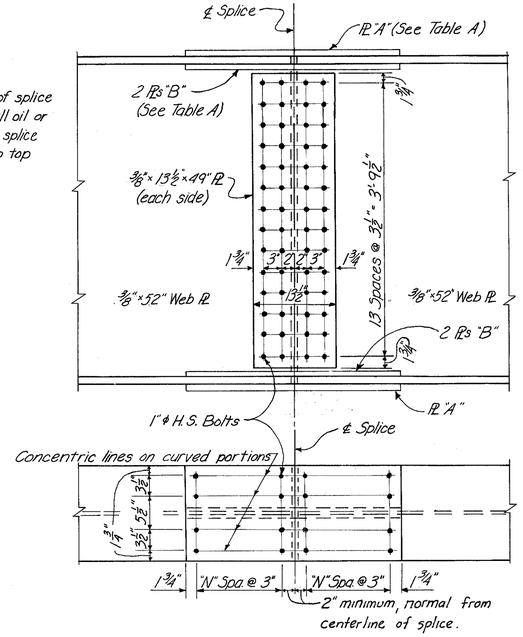




FORWARD ABUTMENT EXPANSION DAM
(Provide curb plates)

For additional details see SD-1-69 Sht 1

SECTION C-C



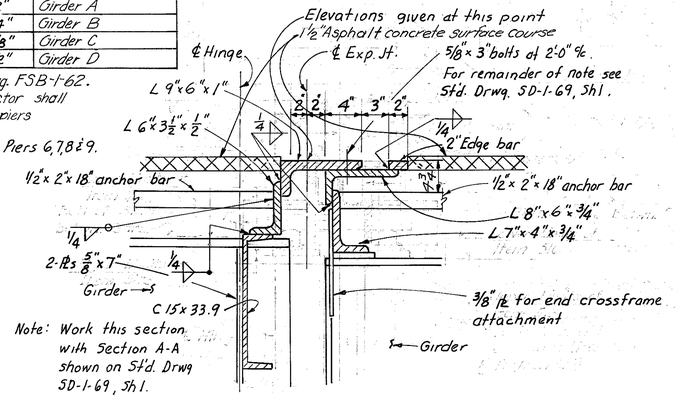
Note:
Contact surface of splice shall be free from all oil or paint. Bottom flange splice material is identical to top flange material.

FIELD SPLICE

FIELD SPLICE TABLE A			
LOCATION	PL "A"	PL "B"	"N" Spaces
Field Splices #1, 2 & 3	1/2"x16"x19 1/2"	5/8"x7"x19 1/2"	2 Spaces
Field Splice #4	3/8"x16"x31 1/2"	7/8"x7"x31 1/2"	4 Spaces
Field Splice #5	5/8"x16"x25 1/2"	3/4"x7"x25 1/2"	3 Spaces
Field Splice #6	7/8"x16"x31 1/2"	1"x7"x31 1/2"	4 Spaces
Field Splice #7	1"x16"x31 1/2"	1 1/8"x7"x31 1/2"	4 Spaces

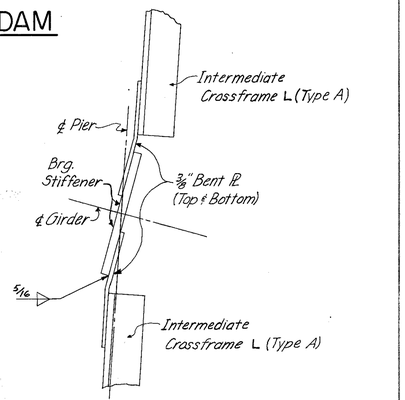
FIXED AND SLIDING BEARINGS REVISIONS							
LOCATION	SIZE	DIMENSIONS H	K	U	X	Y	REMARKS
HINGE	E-150						Omit Anchor Rods & Sheet Lead. Revise PLs as shown.
PIER 6	E-300				4 3/4"	7 5/8"	Girder A
					5"	7 7/8"	Girder B & C
					5 1/4"	8 1/8"	Girder D
PIER 7	F-250	4 7/8"	11 1/4"				Girder A & D
		5 1/8"	11 1/2"				Girder B
		4 3/4"	11 1/8"				Girder C
PIER 8	E-250				4 3/8"	7 1/4"	Girder A & D
					4 5/8"	7 1/2"	Girder B
					4 1/4"	7 1/8"	Girder C
PIER 9	E-350				4 5/8"	7 1/2"	Girder A
					4 7/8"	7 3/4"	Girder B
					4 1/2"	7 3/8"	Girder C
					4 5/8"	7 1/2"	Girder D

For Location of Dimensions, and dimensions not shown, see Standard Dwg. FSB-1-62.
Note: Before fabrication of Fixed and Sliding Bearings, the contractor shall first determine the bridge seat elevations of the existing piers No. 6, 7, 8, and 9 built under a previous contract.
Size of anchor rods 1 1/4" ø x 1'-10" for all FSB-1-62 bearings at Piers 6, 7, 8 & 9.



Note: Work this section with Section A-A shown on Std. Drwg SD-1-69, Sh 1.

SECTION B-B



DETAIL B

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

18/33

STRUCTURAL STEEL DETAILS

BRIDGE NO. HAM-71-0184
RAMP GG

H&E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	C.Y.W.	N.R.K.	W.L. 12-17-70	J.H.D. 11-9-72	

HAMILTON COUNTY
HAM-471-0.30


N
215-X501,X503,and X504 @ 1'-6"± (Curb)
Detail B
11 Lengths of 8= 88-S401 (Top) See Sect. A-A for Spacing
11 Lengths of 2 =22-S601 (Bottom) See Sect. A-A for Spacing
1'3" Typical Minimum Lap, S4 Bars
1'1" Typical Minimum Lap, S6 Bars
℄ Light Pole Sta. 34+00 GG
Match Line
Fascia Line
Curb Line
Curb Tangent
Curb Curved
1 Series of 99-S707 @ 9½" (Top & Bottom)
1 Series of 57-S708 @ 9½" (Top & Bottom)
1 Series of 6-S710 (Top & Bottom)
1 Series of 3-S709 (Top & Bottom)
1 Series of 13-S711 @ 9" (T&B)
S712 @ 9" (Top & Bottom)
37-S403 Bars Staggered (Top) Spaced between S401, S411, or S412 Bars (Slab & Curb)
SPAN 1
SPAN 2
SPAN 3
Varies
11 Lengths of 24=264-S401 Top (See Sect. A-A & B-B for Spacing)
11 Lengths of 18=198-S601 Bott. (See Section A-A & B-B for Spacing)
54-S401 Bars Staggered (Top) Spaced between S401 Bars (Slab & Curb) (See Section A-A for Location)
℄ Brg. Rear Abut. Sta. 33+08.74 GG
1 Series of 6-S706 @ 9½" (Top & Bottom)
78°13'37"
℄ Ramp GG
4 Lengths of 14= 56-S401 Top (See Sect. A-A for Spacing)
4 Lengths of 14= 56-S601 Bott (See Sect. A-A for Spacing)
℄ Pier No. 1 Sta. 33+75.26 GG
1 Length of 11=11-S411 Top
1 Length of 12=12-S606 Bott.
(See Sect. A-A for Spacing)
℄ Pier No. 2 Sta. 34+41.52 GG
84°24'17" PC Sta. 34+44.53 GG
1 Series of 3-S412 Top
1 Length of 2=2-S607 Bott.
(See Sect. A-A for Spacing)
1-S403 Bar (Curb)
1-S705 (T&B)
1-S704 (T&B)
1-S703 (T&B)
1-S702 (T&B)
1-S701 (T&B)
3 Lengths of 11=33-S401 Top (See Section A-A for Spacing)
13'-0"
3 Lengths of 9 = 27-S601 Bott (See Section A-A for Spacing)
Curb Line
Fascia Line
Drain Inlet
Detail C
X501, X503, and X504 Bars @ 1'-6"± (Curb)
1 Length of 8=8-S407 Top
1 Length of 2=2-S610 Bott.
(See Sect. A-A for Spacing)
Detail A
Drain Inlet
1'-1"
3 Lengths of 8 =24-S401 Top
3 Lengths of 2 = 6-S601 Bott.
(See Sect. A-A for Spacing)
A
42-X501, X503, and X504 Bars @ 1'-6"± (Curb)
1 Length of 8=8-S401 Top
1 Length of 2=2-S601 Bott.
(See Sect. A-A for Spacing)
1 Series of 11-S408 Top
1 Series of 9-S605 Bott.
(See Sect. A-A for Spacing)
58-X501, X503, and X504 Bars @ 1'-6"± (Curb)
1 Length of 8=8-S407 Top
1 Length of 2=2-S610 Bott.
(See Section A-A for Spacing)

PLAN
(Railing not Shown)

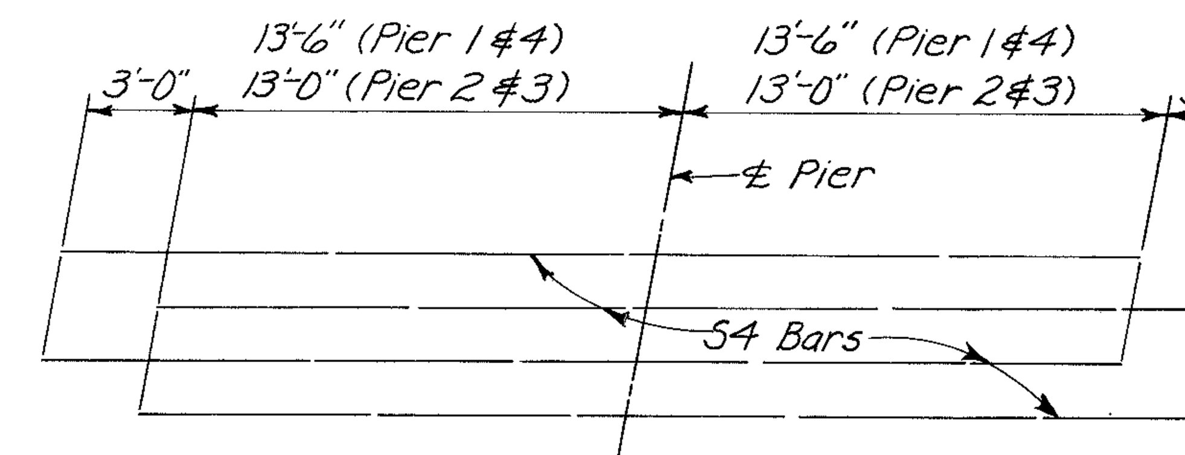
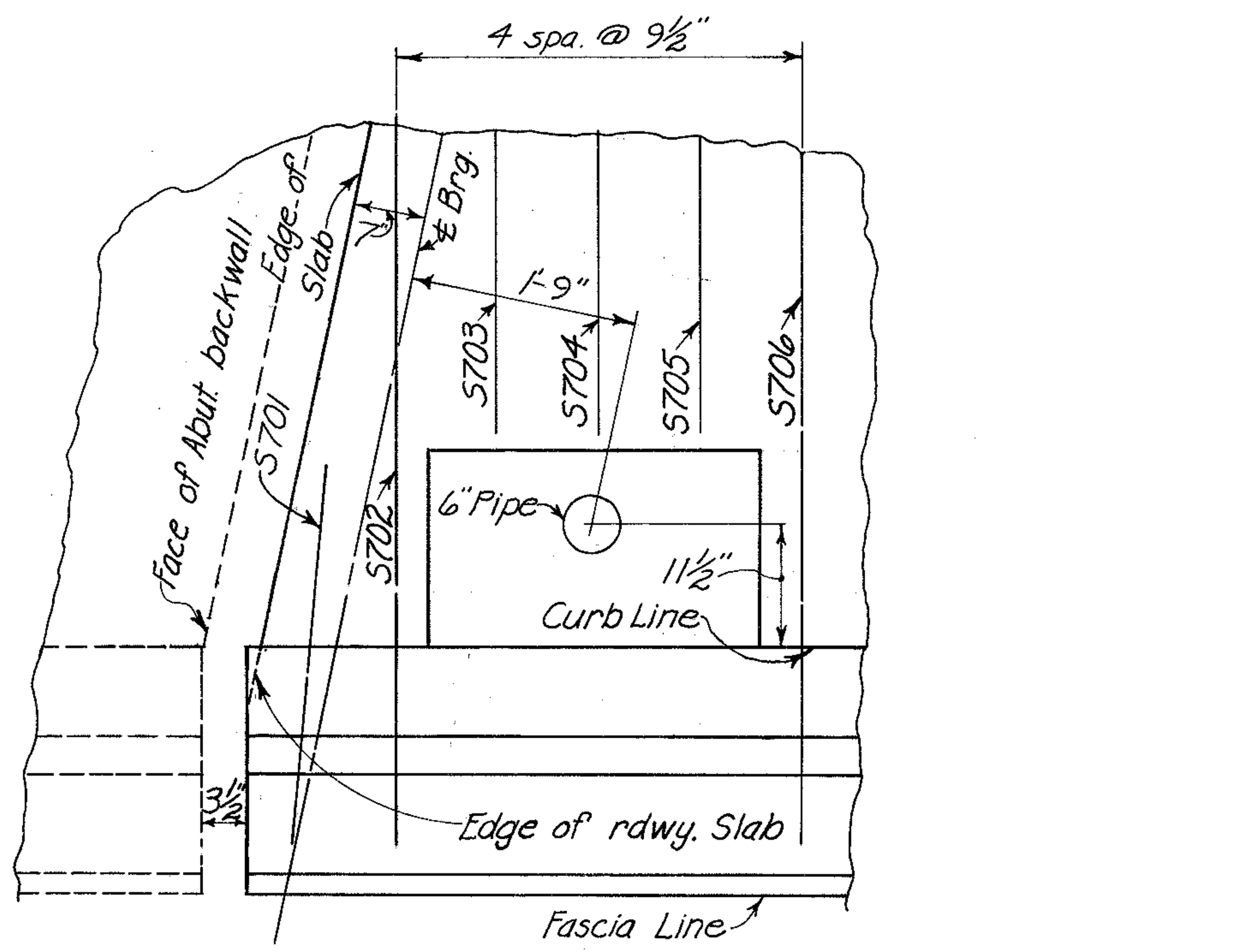
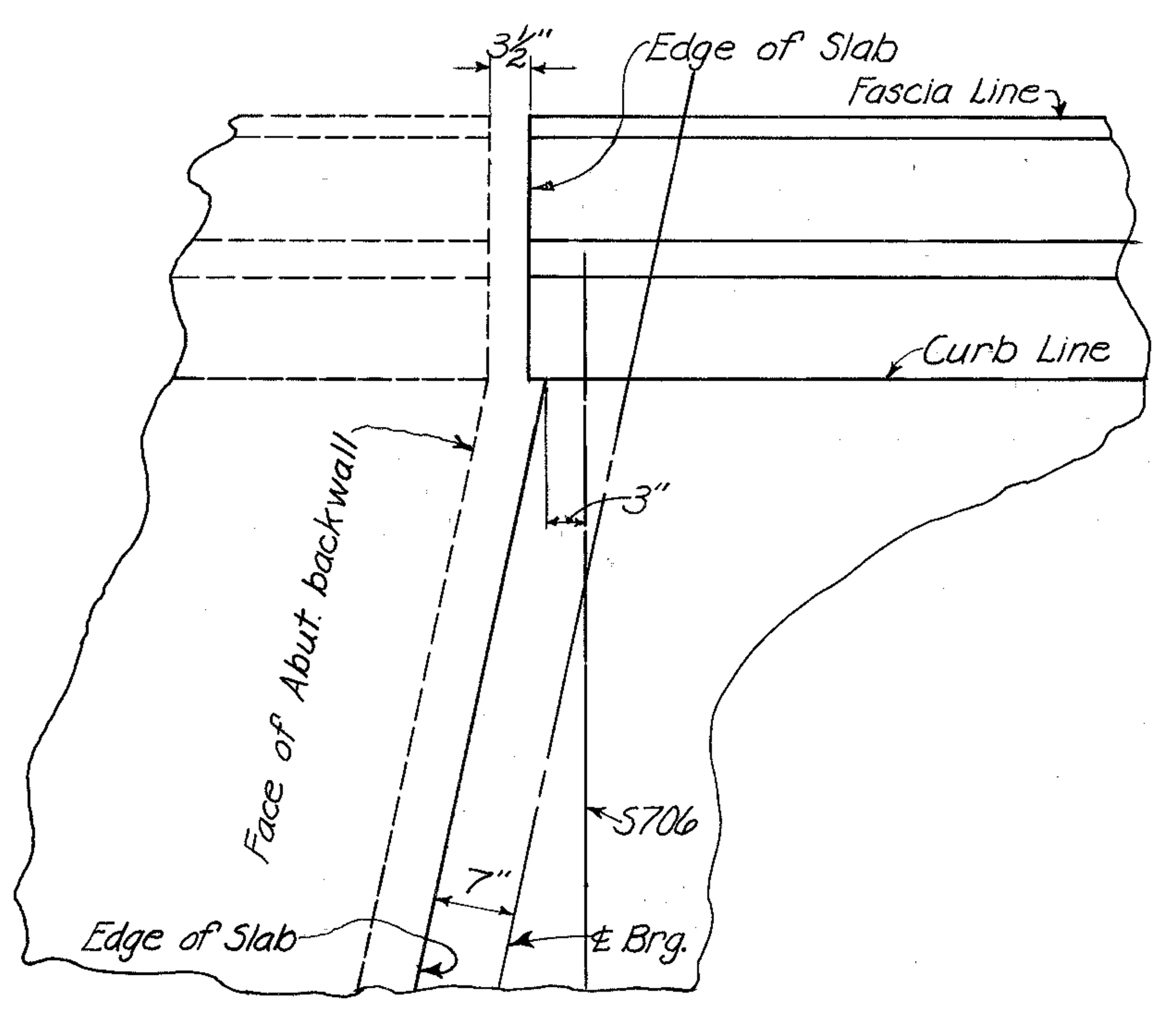


DIAGRAM SHOWING STAGGER OF S4 BARS OVER PIERS

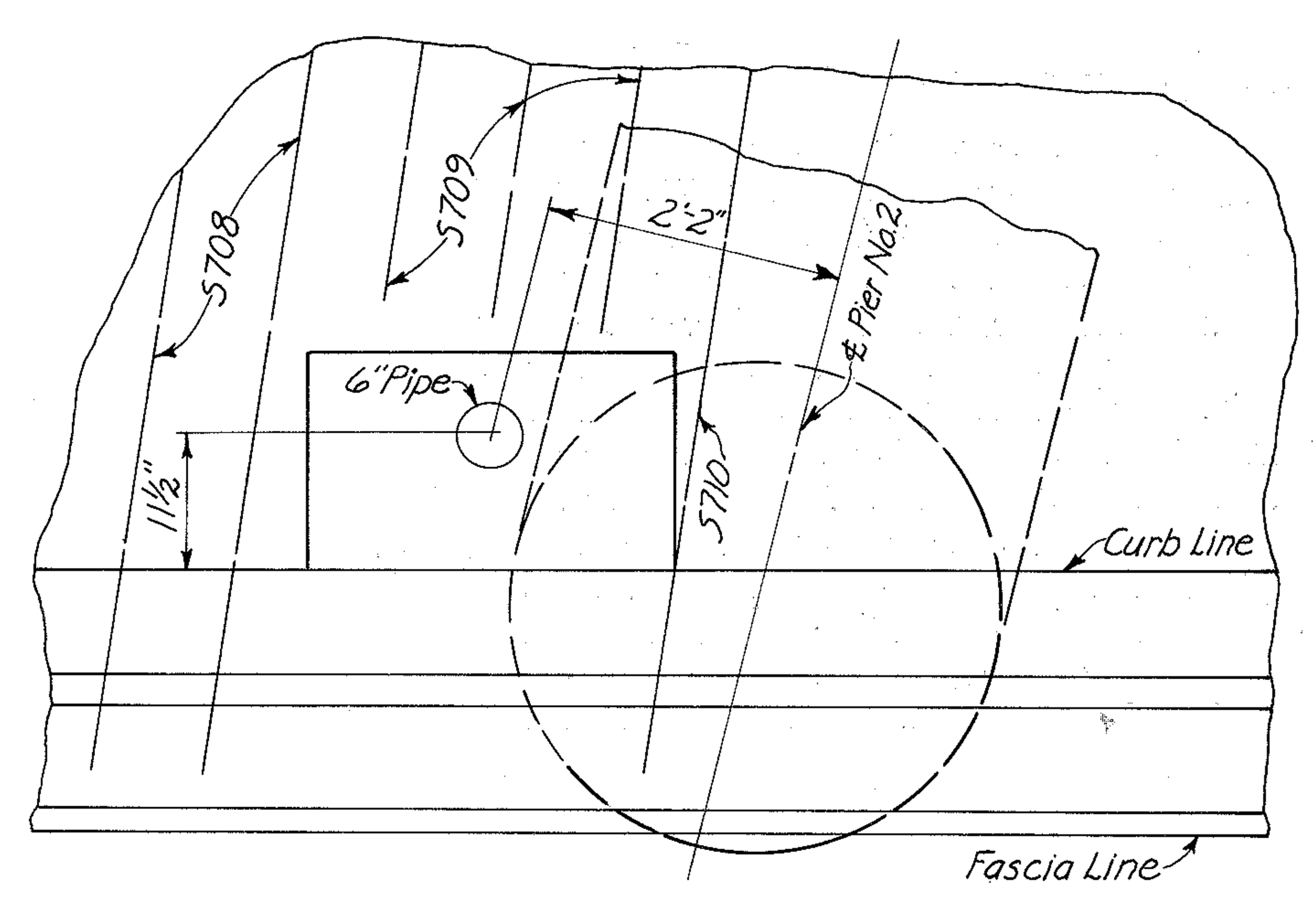


DETAIL A

Note: Metal end finish not shown.



DETAIL B



DETAIL C

NOTES:

For Drainage Details see sh. 464.
For Railing Details see sh. 461.
For Lighting Details see sh. 461.
For Screed Elevations see sh. 460.
Field bend or cut longitudinal bars to miss drain inlets.
Transverse bars are to be placed perpendicular to the ℄ up to sta. 34+44.53 and beyond this station they are to be placed radially to the ℄.
All longitudinal bars shall be field bent as required to conform to the roadway curvature.
For end finish details see sh. 453.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

19/33

SUPERSTRUCTURE DETAILS
BRIDGE No. HAM-71-0184
RAMP GG

H & E BRIDGE No. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CES		W.L. 1-11-71	JHO 11-8-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

455
494

HAMILTON COUNTY
HAM-471-0.30

N

X501, X503, and X504 Bars @ 1'-6"± (Curb)
(Measured along edge of slab)

℄ Light Pole
Sta. 35+70 GG

5401 Bars (Top)
See Sect B-B for spa.

5601 Bars (Bottom)
See Sect B-B for spa.

B

1 Length of 8 = 8-5406 (Top)
1 Length of 2 = 2-5604 (Bottom)
(See Section B-B for spacing)

3½"

2"

℄ Hinge

℄ Joint

7"

Fascia Line

Match Line

Curb Line

40-5403 Staggered (Top) Spaced between 5401 Bars (Slab ℄ Curb)
(See Section B-B for spacing)

5401 Bars (Top)
(See Section B-B for spacing)

5601 Bars (Bottom)
(See Section B-B for spacing)

40-5401 Staggered (Top) Spaced between 5401 Bars (Slab ℄ Curb)
(See Section B-B for spacing)

1 Series of 9-5608 (Bott)
(See Sect. B-B for spacing)

1 Series of 24-5409 (Top)
(See Sect. B-B for spacing)

1 Series of 9-5609 (Bott)
(See Sect. B-B for spacing)

225-5712 @ 9" (measured along Base Line) (Top & Bottom)

SPAN 4

SPAN 5

SPAN 3

29'-10"

23'-0"

3'-0"

1'-1"

1'-1"

6 Lengths of 11 = 66-5401 (Top)
6 Lengths of 9 = 54-5601 (Bottom)
(See Section B-B for spacing)

87°01'31"

℄ Pier No. 3
Sta. 35+04.36 GG

Tangent to Curve

77°34'02"

℄ Pier No. 4
Sta. 35+70.39 GG

℄ Ramp GG

Tangent to Curve

Curb Line

Fascia Line

R=400.00'

1 Series of 11-5402 (Top)
1 Series of 9-5603 (Bottom)
(See Sect. B-B for spacing)

6 Lengths of 8 = 48-5401 (Top)
6 Lengths of 2 = 12-5601 (Bottom)
(See Section B-B for spacing)

119-X501, X503, and X504 Bars @ 1'-6"± (Curb)
(Measured along Curb Line)

1 Length of 8 = 8-5404 (Top)
1 Length of 2 = 2-5602 (Bottom)
(See Section B-B for spacing)

1-5701 (T℄B)

9"

1 Series of 12-5713 (Top & Bott.)

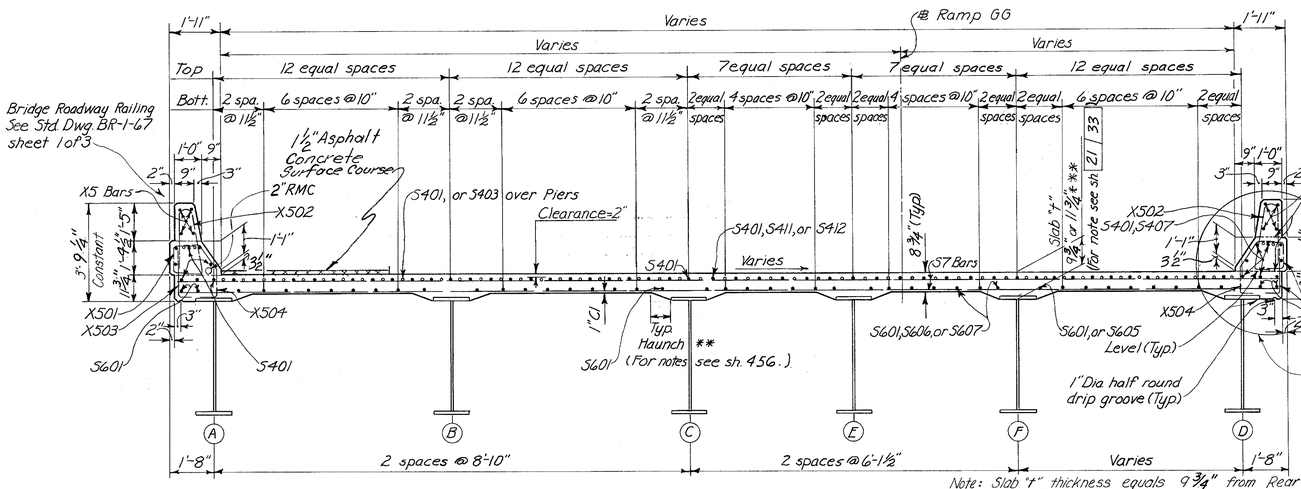
2"

Field cut bars to miss support bar covers

6"

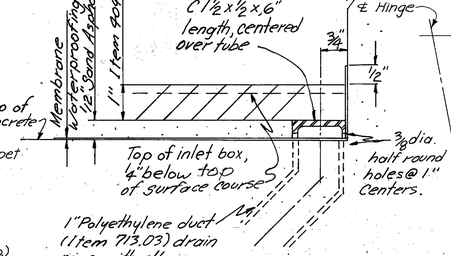
PLAN

(Railing not Shown)



Note: Slab "t" thickness equals 9¾" from Rear Abutment to hinge @ Pier 5 and 11¾" from hinge @ Pier 5 to Forward Abutment.

TRANSVERSE SECTION A-A



Note: Provide 1½" Clearance to reinforcing steel in parapet and curb.

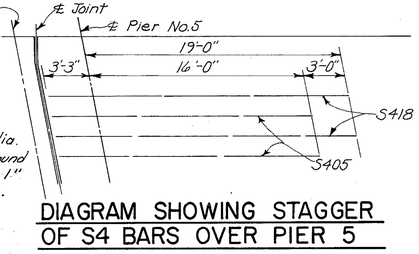


DIAGRAM SHOWING STAGGER OF S4 BARS OVER PIER 5

SUB DRAINAGE AND WEARING COURSE DETAILS

In addition to the location and spacing provision of 518.07, the Polyethylene tubes shall be located so that discharge from them will clear all structural members, including crossbracing, by at least 6". Place the top of the tube flush with the concrete surface. Place membrane over pipe, puncturing if membrane is a sheet type, with the hole sealed around the lip of the pipe. Include subdrainage with Item 404, Asphalt Concrete, for payment.

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20/33

SUPERSTRUCTURE DETAILS
BRIDGE No. HAM-71-0184
RAMP GG

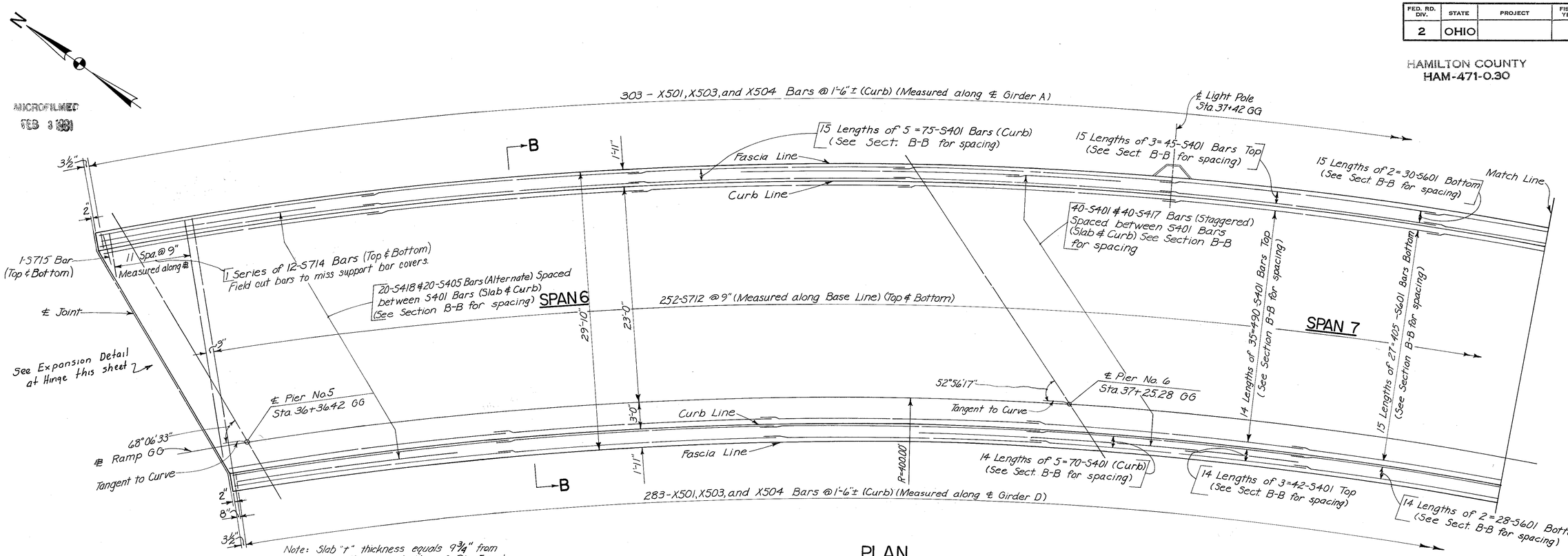
H & E BRIDGE No. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CES		W.L. 1-11-71	JAG 11-8-72	

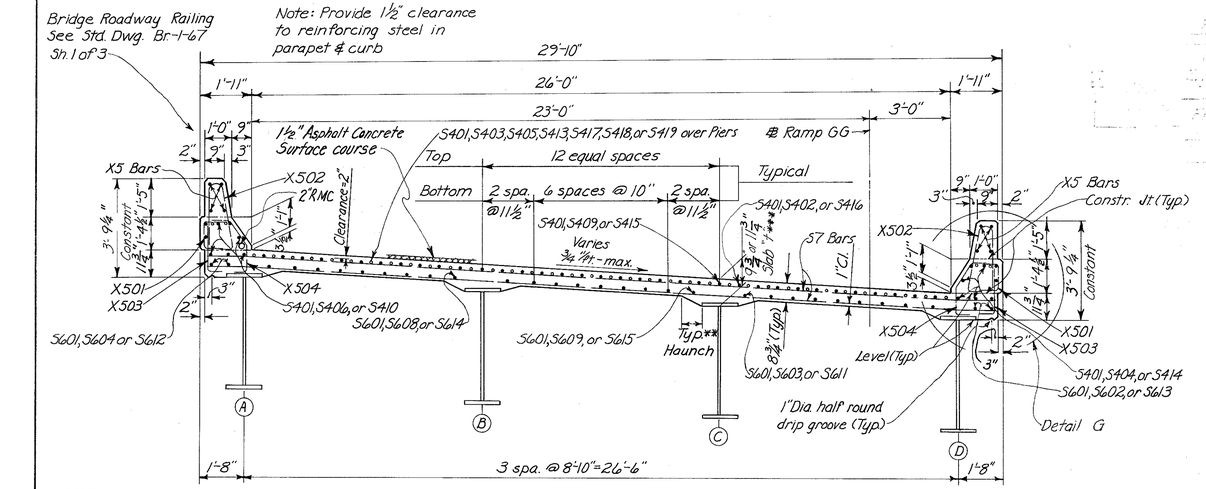
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

456/494

HAMILTON COUNTY
HAM-471-0.30



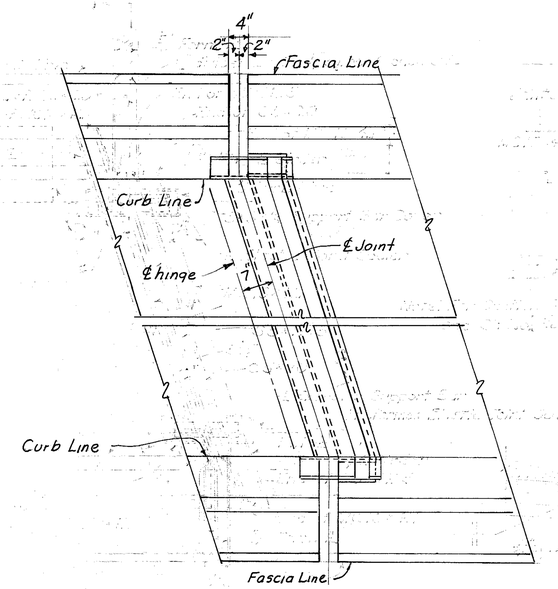
PLAN
(Railing not Shown)



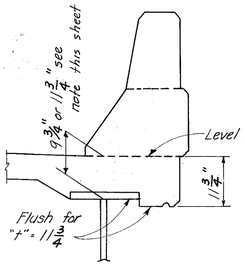
*** This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.18.

TRANSVERSE SECTION B-B

** A Haunch Width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.



EXPANSION DETAIL AT HINGE



DETAIL G

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21/33

SUPERSTRUCTURE DETAILS
BRIDGE No. HAM-71-0184
RAMP GG

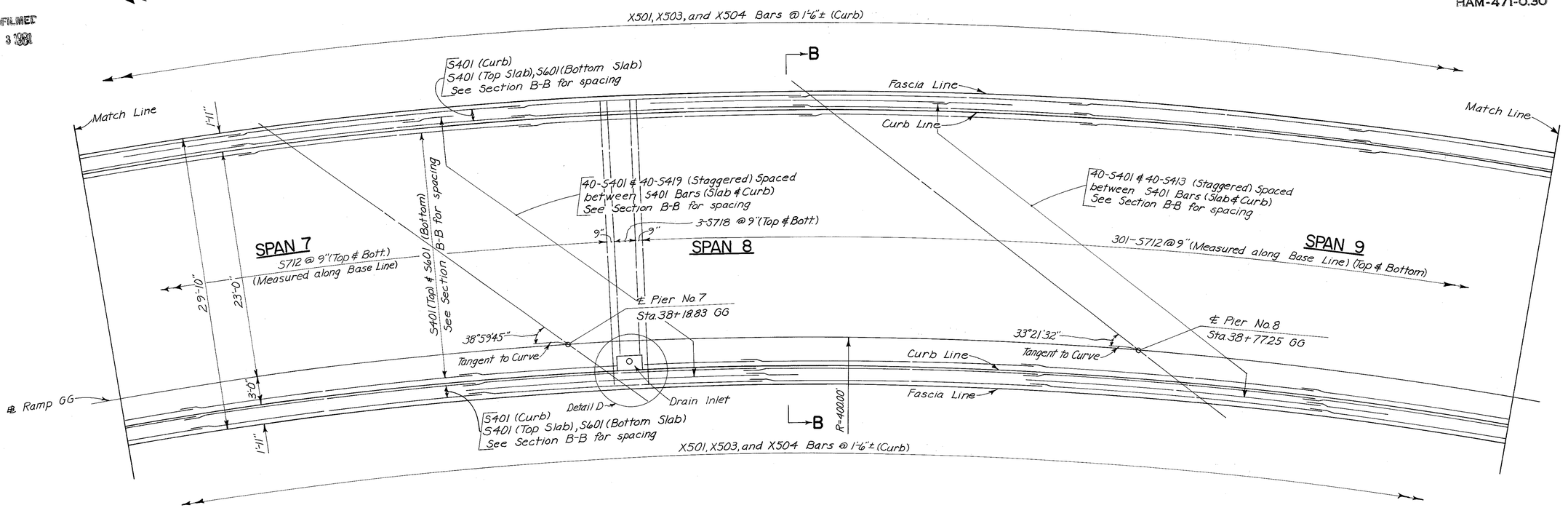
H & E BRIDGE No. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CES		WL 1-11-71	JHS 11-8-72	

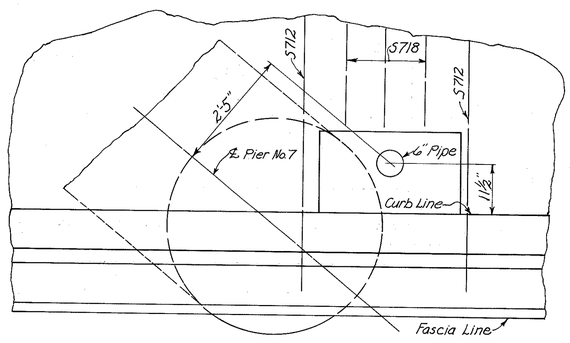
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

457
494

HAMILTON COUNTY
HAM-471-0.30



PLAN
(Railing not Shown)



DETAIL D

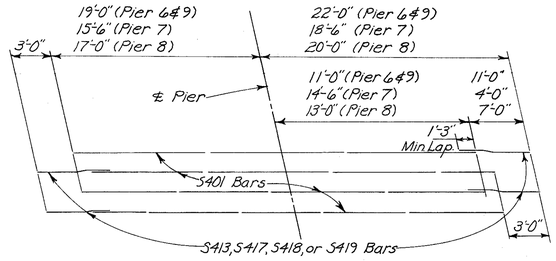


DIAGRAM SHOWING STAGGER OF S4 BARS OVER PIERS

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CINCINNATI, OHIO

22/33

SUPERSTRUCTURE DETAILS
BRIDGE No. HAM-71-0184
RAMP GG

H & E BRIDGE No. 15

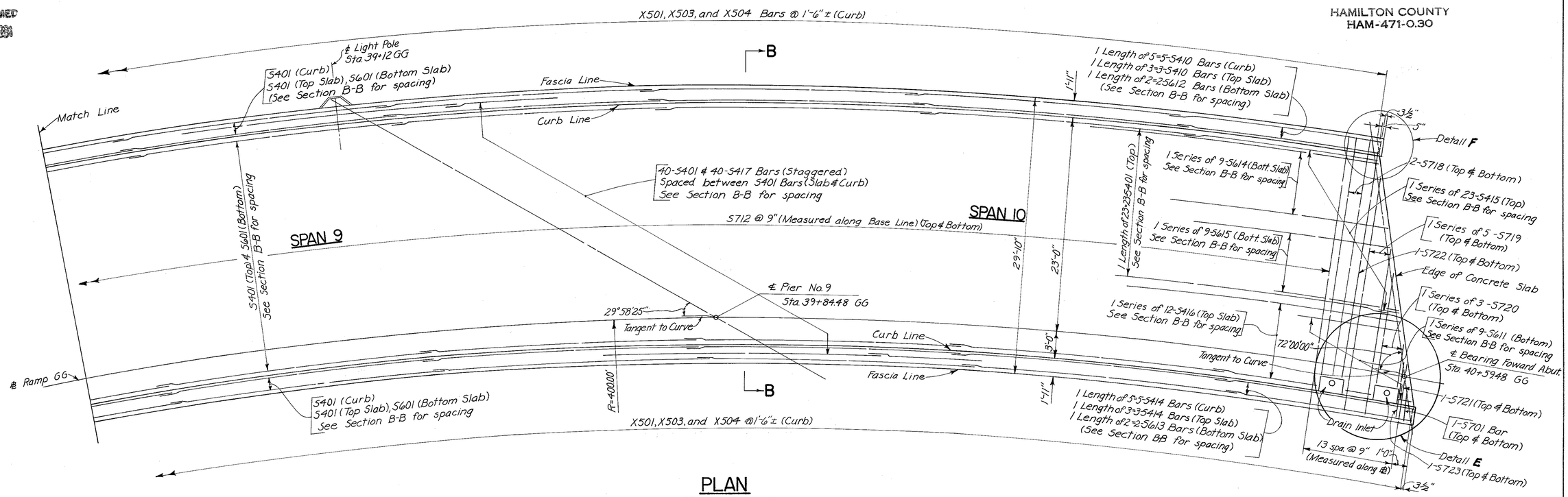
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CES		W.L. 1-11-71	JHO 11-8-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

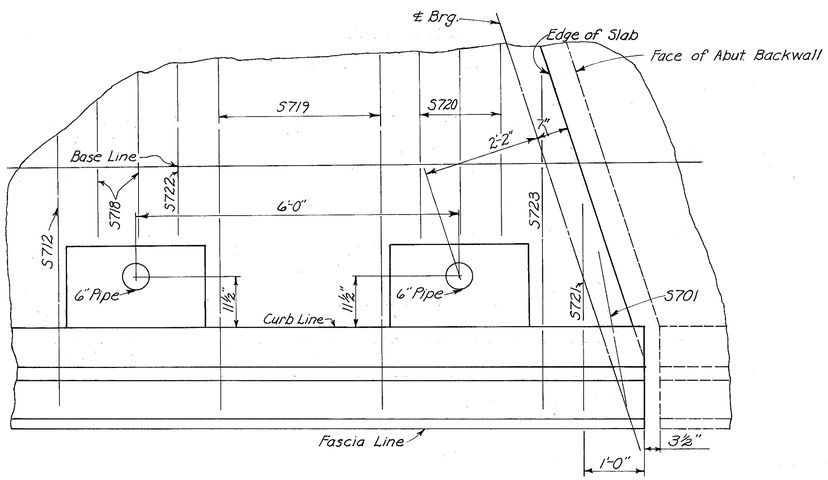
458
494

HAMILTON COUNTY
HAM-471-0.30

N

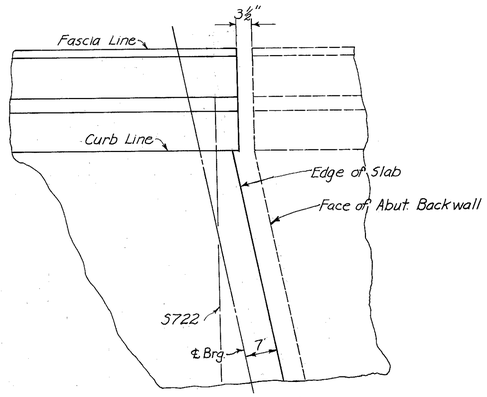


PLAN
(Railing not Shown)

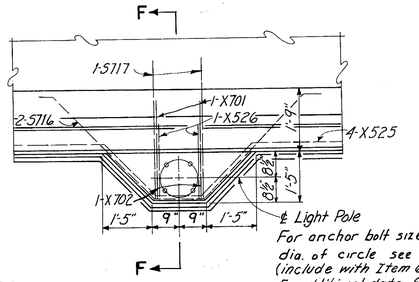


DETAIL E

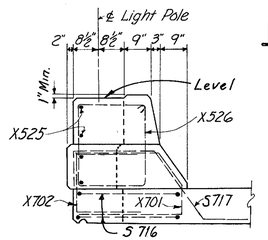
Note: Metal end finish not shown.



DETAIL F



DETAIL H



SECTION F-F

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SUPERSTRUCTURE DETAILS
BRIDGE No. HAM-71-0184
RAMP GG

H&E BRIDGE No. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CES		W.L. 1-11-71	JHO 11-8-72	

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FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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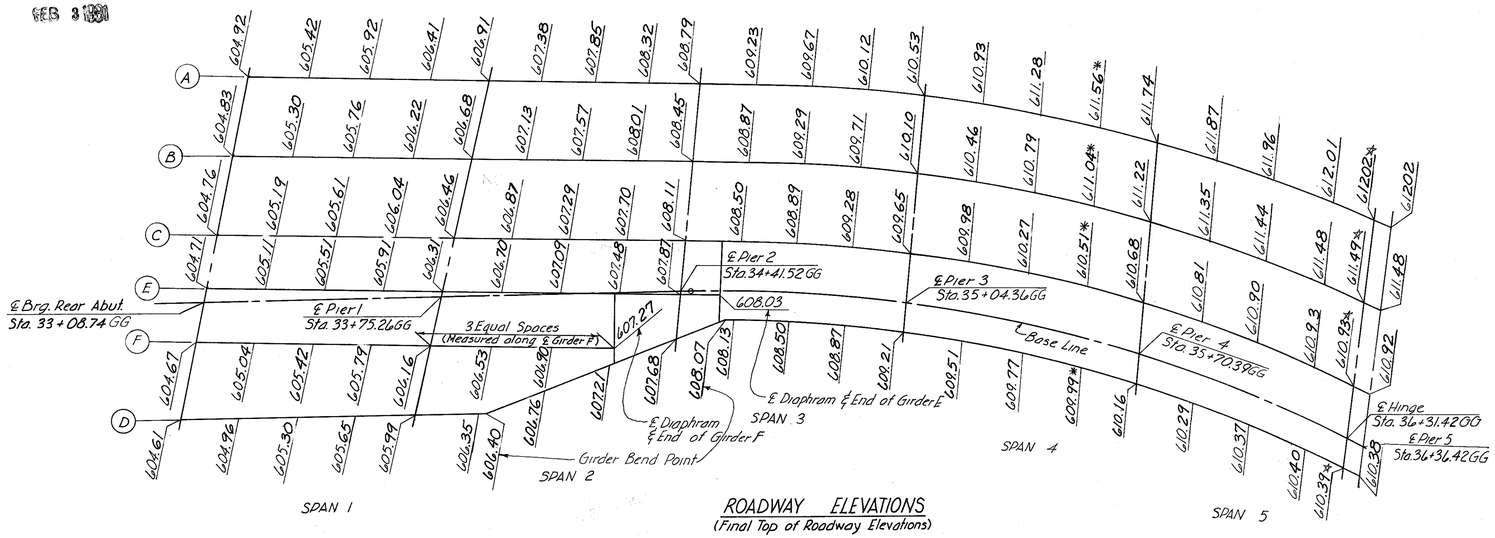
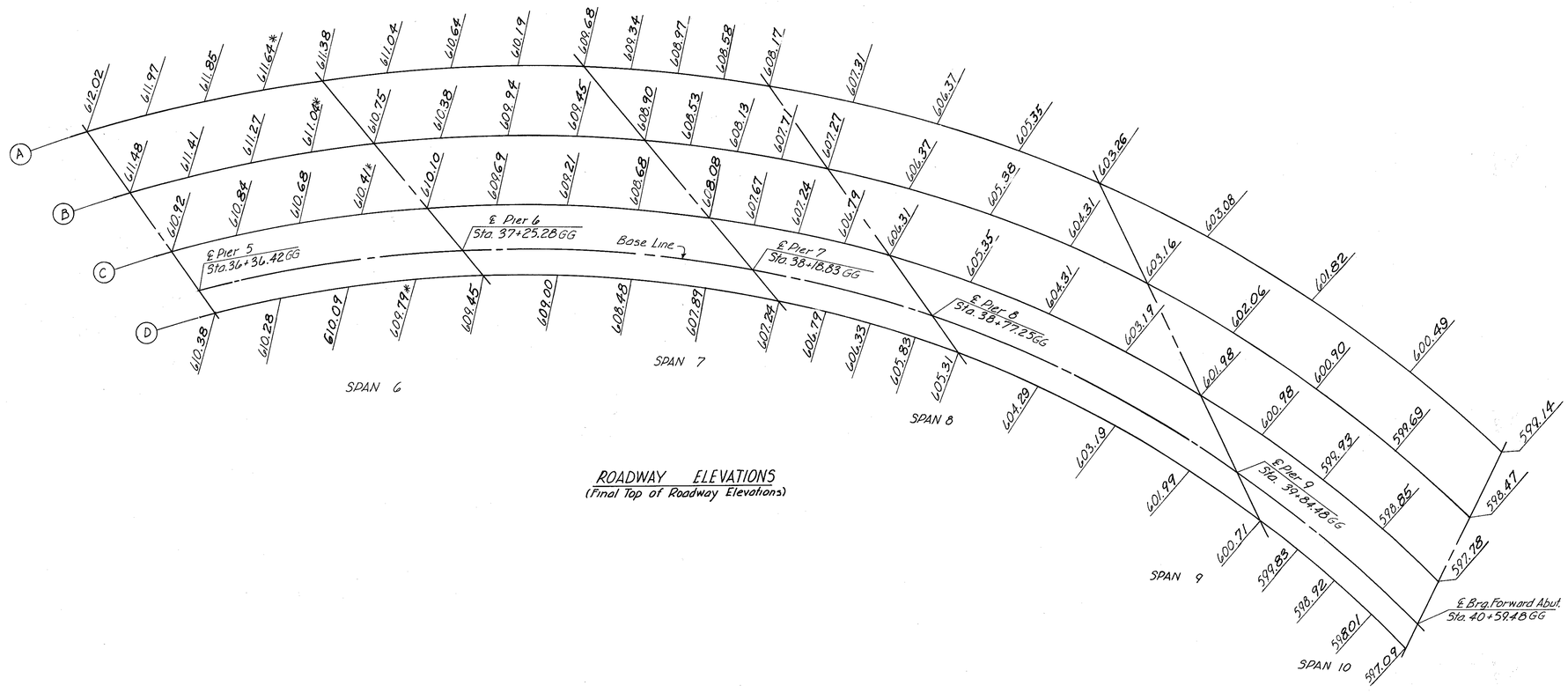
494

HAMILTON COUNTY
HAM-471-0.30



ROADWAY ELEVATIONS
(Final Top of Roadway Elevations)



ROADWAY ELEVATIONS
(Final Top of Roadway Elevations)

Notes : All elevations shown are at 1/4 points of span (measured along their own Girder ℄) and at ℄ of Brg. unless otherwise noted.
Elevations marked with an asterisk (*) are located at a field splice.
Elevations marked with a (*) are located at the ℄ of a girder hinge.

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ROADWAY ELEVATIONS

BRIDGE NO. HAM-71-0184
RAMP GG

H & E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DEV.		W. L. 12-7-70	JHS 11-8-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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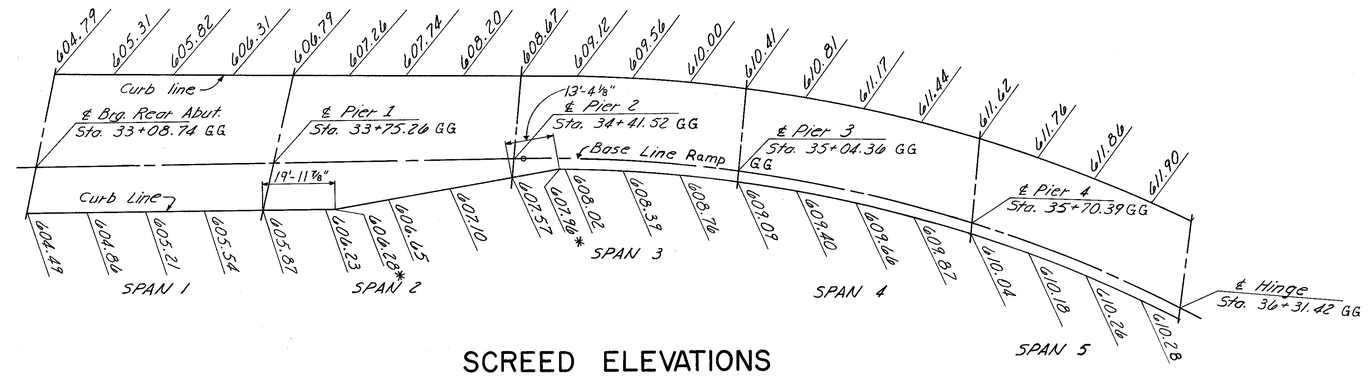
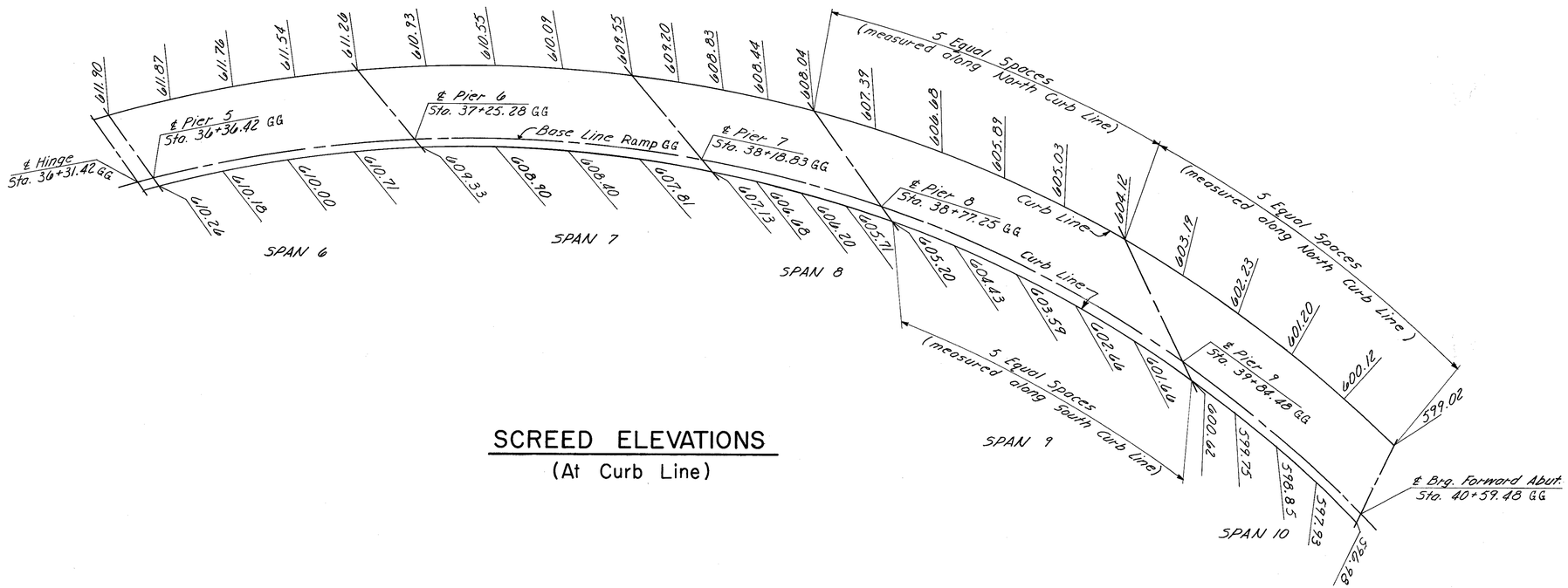
494

HAMILTON COUNTY
HAM-471-0.30



SCREED ELEVATIONS
(At Curb Line)



SCREED ELEVATIONS
(At Curb Line)

Notes: Screed elevations shown equal final grade elevations plus anticipated dead load deflection due to weight of deck concrete. All elevations shown are at ¼ points of span (measured along their own curb lines) and at ℄ of Brg. unless otherwise noted.

: * Denotes Bend Point

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SCREED ELEVATIONS
BRIDGE No. HAM-71-0184
RAMP GG

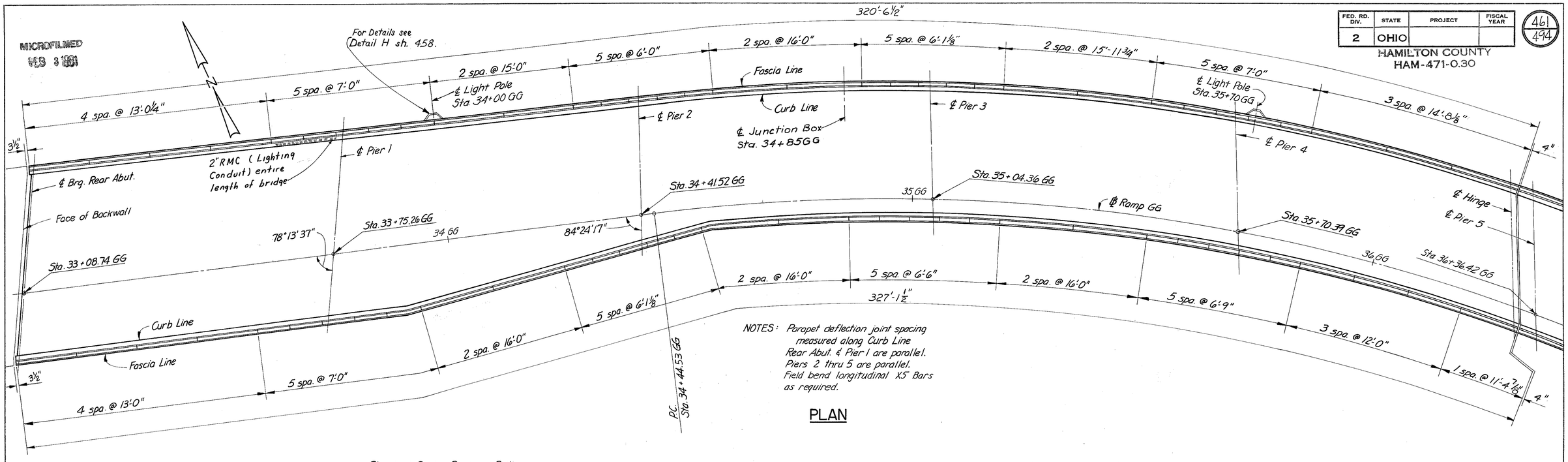
H&E BRIDGE No. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	GCK	GCK	W.L. 1-14-71	JHO 11-8-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

461
494

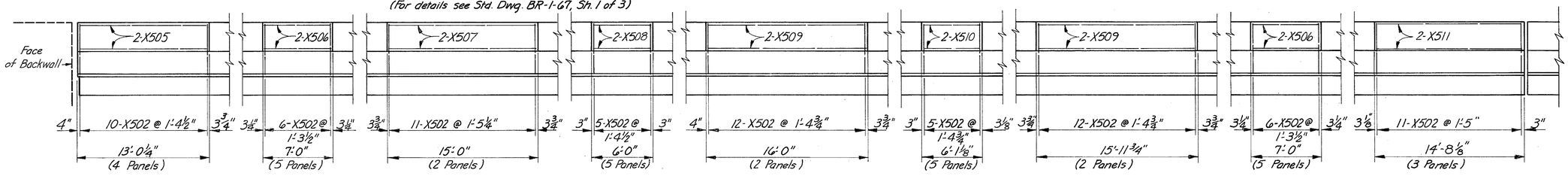
HAMILTON COUNTY
HAM-471-0.30



NOTES: Parapet deflection joint spacing measured along Curb Line
Rear Abut. & Pier 1 are parallel.
Piers 2 thru 5 are parallel.
Field bend longitudinal X5 Bars as required.

PLAN

Standard Bridge Roadway Railing
(For details see Std. Dwg. BR-1-67, Sh. 1 of 3)

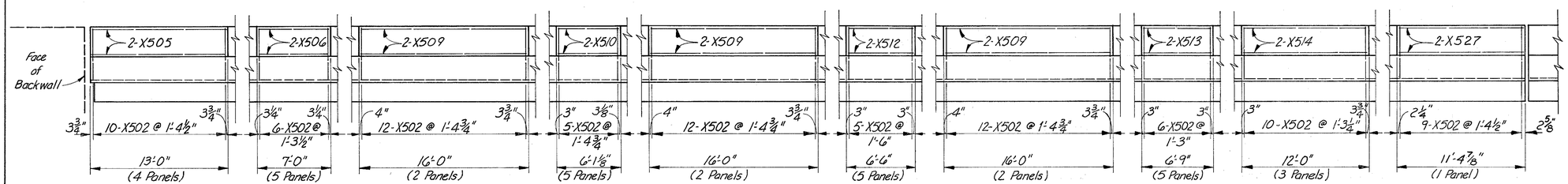


NORTH ELEVATION

(Light Poles Not Shown)

NOTES:

For conduit expansion at abutments and hinge near Pier 5 see sheet 155E
Work this sheet with Light Plan, Sh. No. 147 and with Sh. Nos. 154.



SOUTH ELEVATION

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26/33

RAILING & LIGHTING DETAILS
BRIDGE No. HAM-71-0184
RAMP GG

H & E BRIDGE No. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JAG		W.L. 1-14-72	JHS 11-8-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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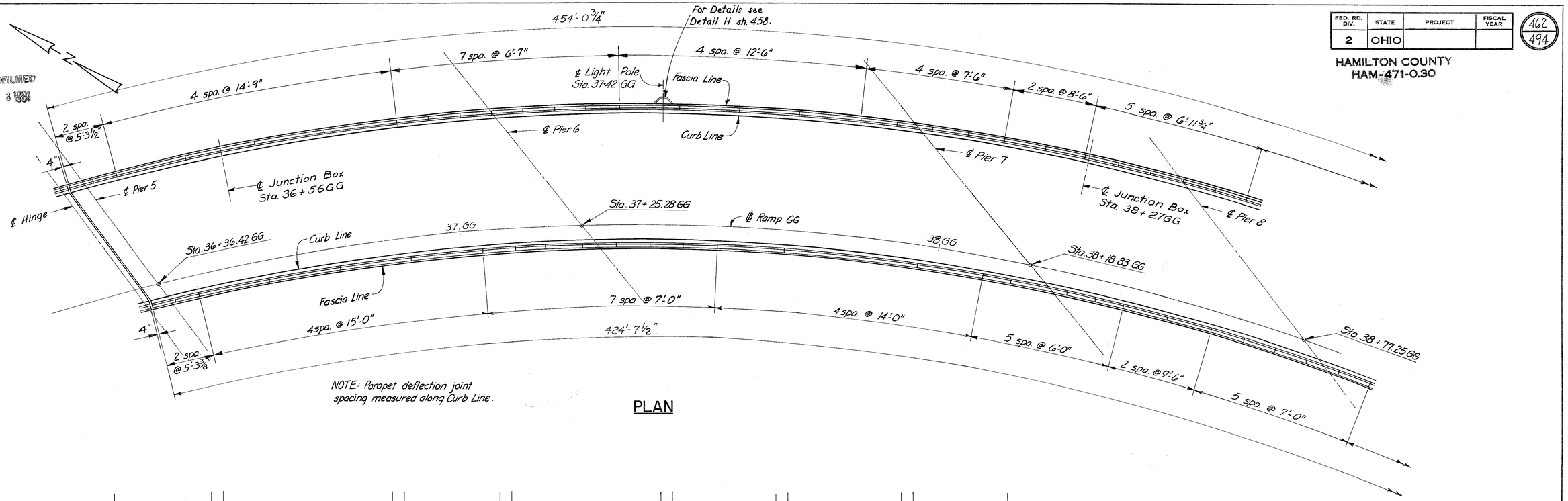
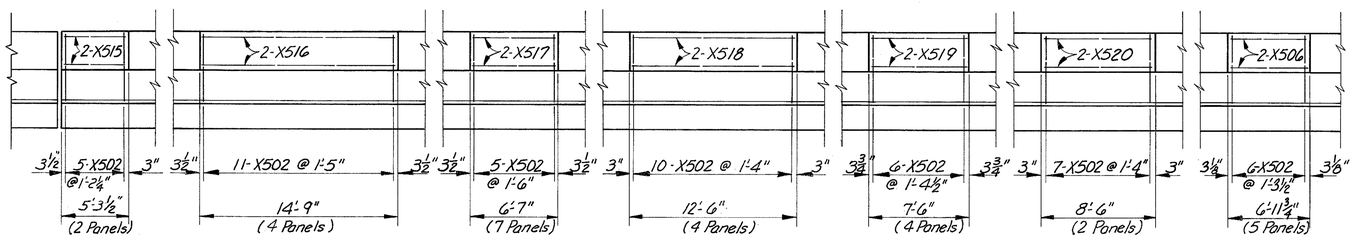
494

HAMILTON COUNTY
HAM-471-0.30



NOTE: Parapet deflection joint spacing measured along Curb Line.

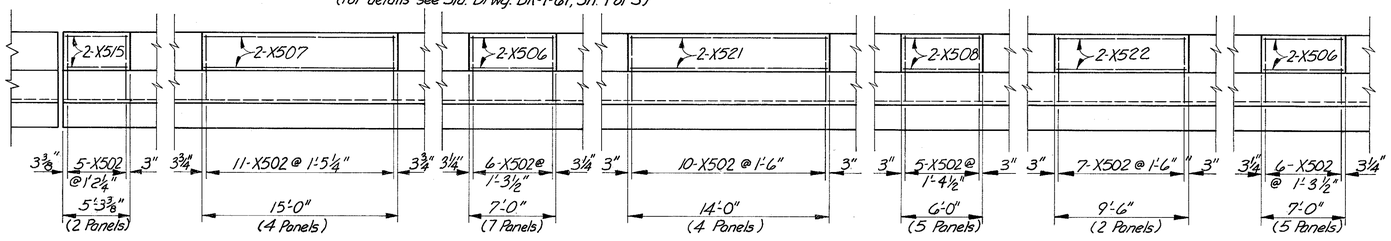
PLAN



NORTH ELEVATION

(Light Poles Not Shown)

Standard Bridge Roadway Railing
(For details see Std. Drwg. BR-1-67, Sh. 1 of 3)



SOUTH ELEVATION

Note:
For notes See Sh. 461.
Work with Sh. 461 & 463.

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RAILING & LIGHTING DETAILS
BRIDGE No. HAM-71-0184
RAMP GG

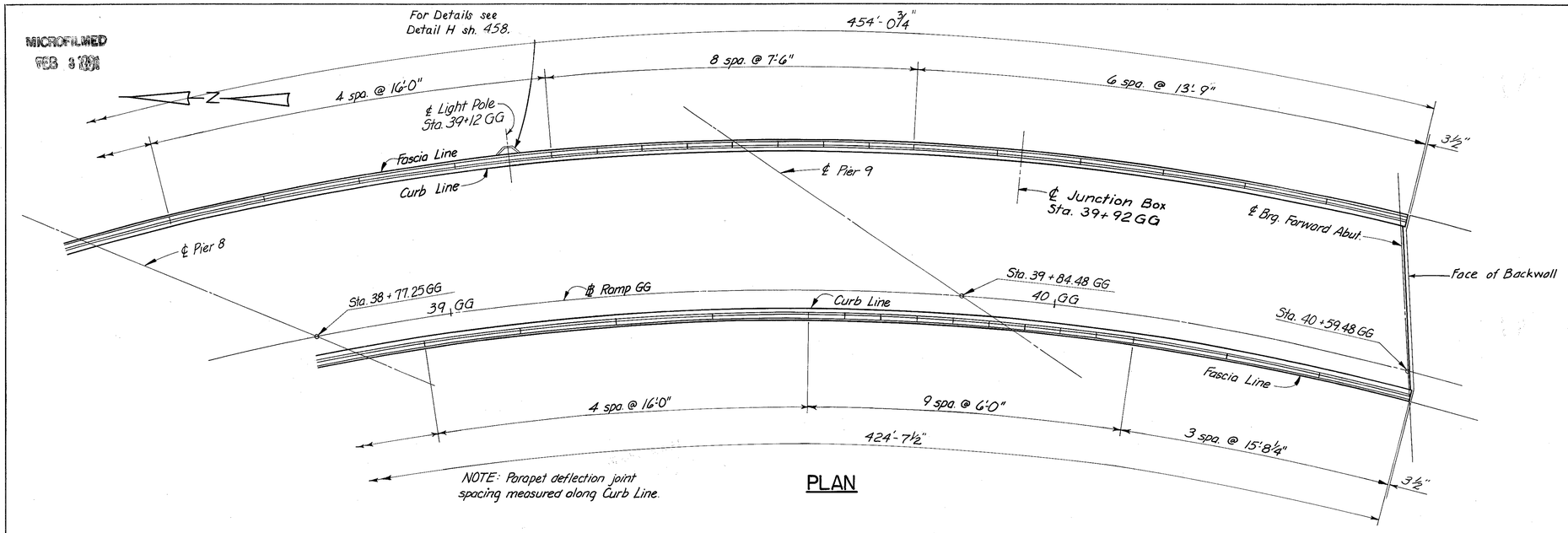
H & E BRIDGE No. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JAG		WL 1-14-71	JHO 11-8-72	

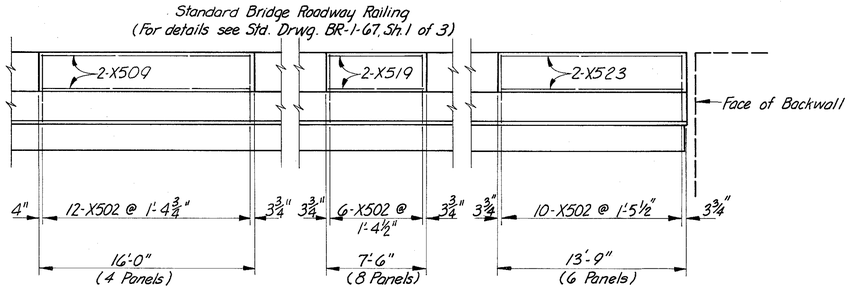
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

463
494

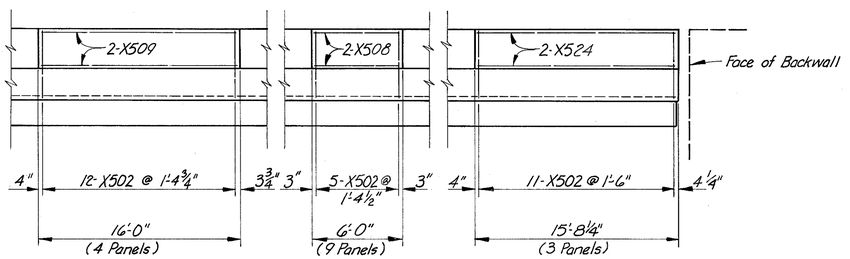
HAMILTON COUNTY
HAM-471-0.30



PLAN



NORTH ELEVATION
(Light Poles Not Shown)



SOUTH ELEVATION

Note:
For notes See Sh. 461.
Work with Sh. 461 & 462.

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RAILING & LIGHTING DETAILS
BRIDGE No. HAM-71-0184
RAMP GG

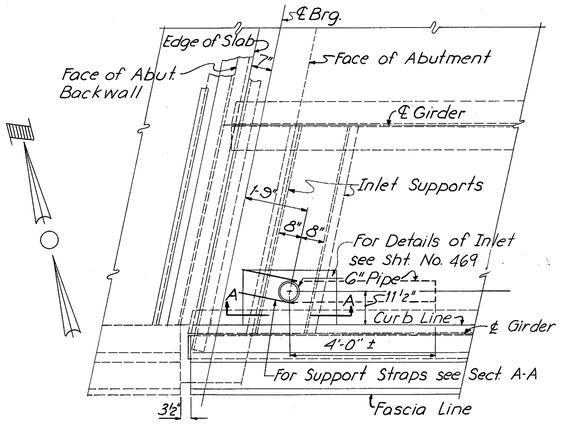
H & E BRIDGE No. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JAG		W.L. 11-19-71	JHO 11-8-72	

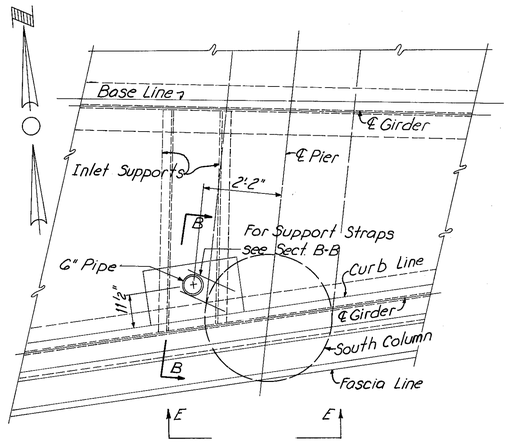
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

464
494

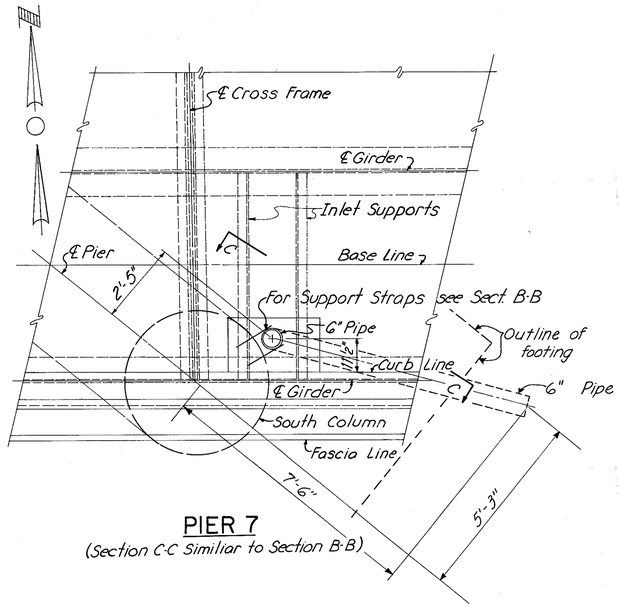
HAMILTON COUNTY
HAM-471-0.30



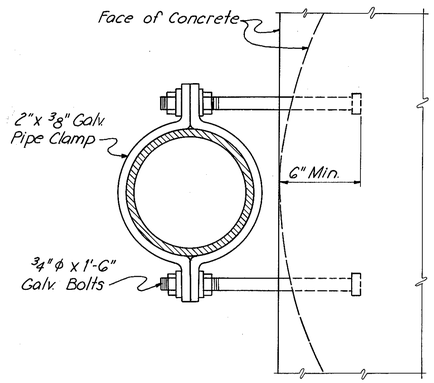
REAR ABUTMENT
(Curb Plates not shown)



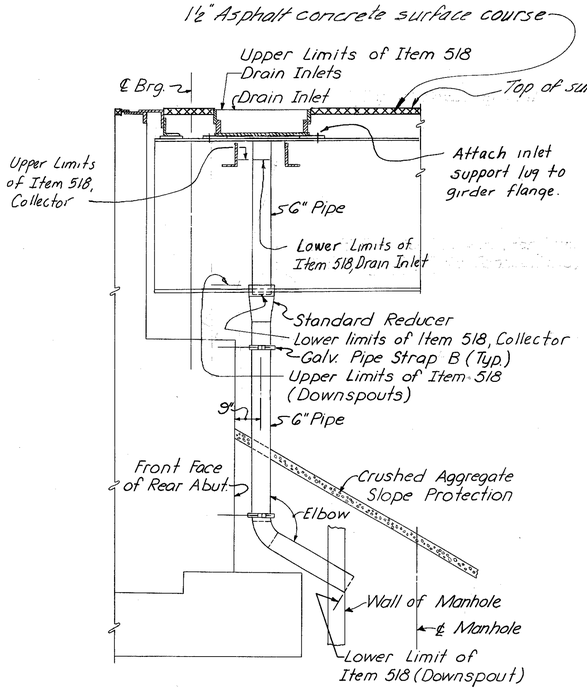
PIER 2



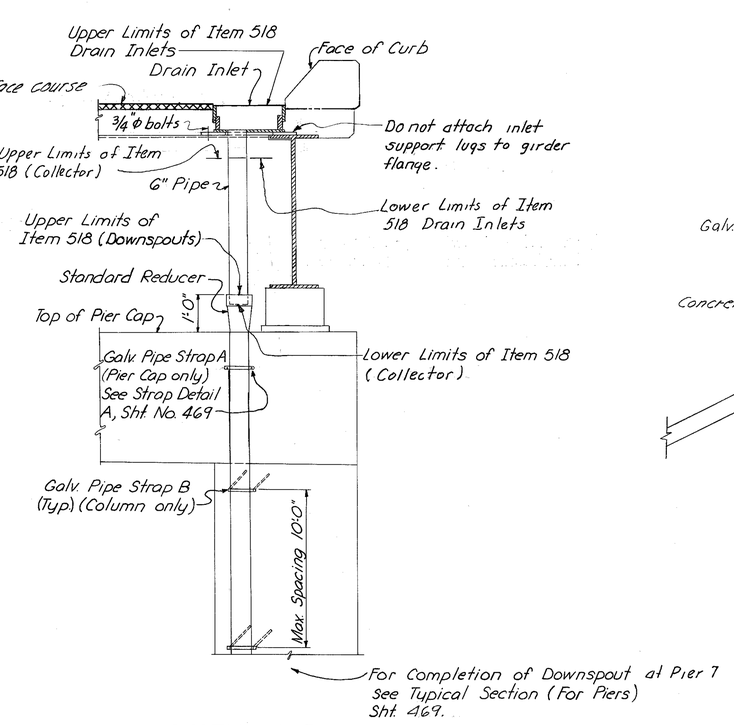
PIER 7
(Section C-C Similiar to Section B-B)



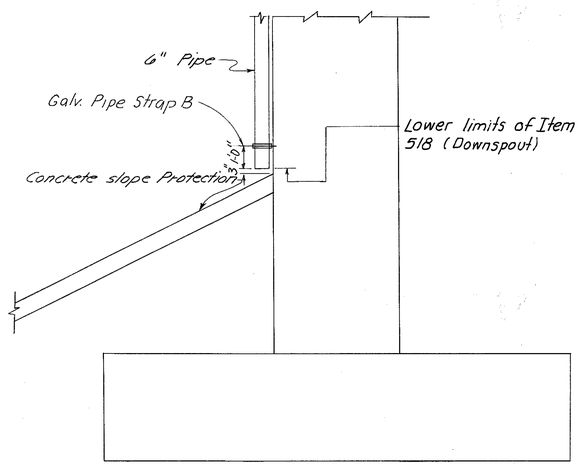
STRAP DETAIL "B"



SECTION A-A



SECTION B-B



VIEW E-E

Notes: Drain inlets shall be galvanized in accordance with 711.02. Work this sheet with Typical Drainage Details sht. 469 & 465. Total depth of inlet frame box equals 8¾". Drain Inlets shall be placed ¼" below Top of surface course.

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DRAINAGE DETAILS
BRIDGE NO HAM-71-0184
RAMP GG

H&E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	GCK	JHD	WL 1-12-71	JHo 11-8-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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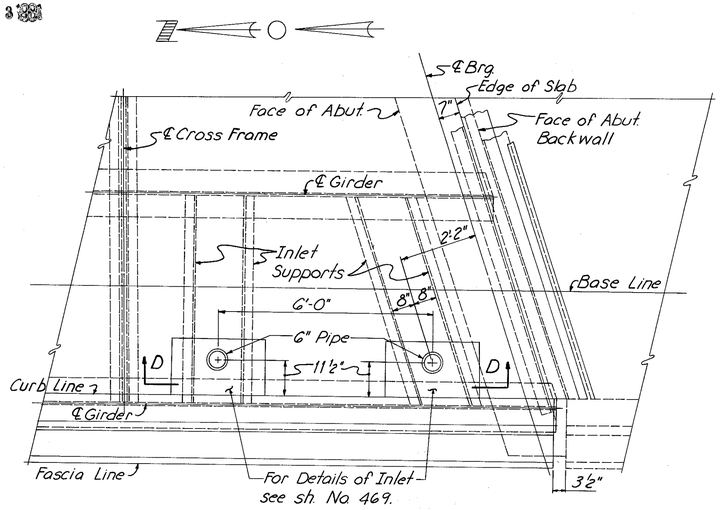
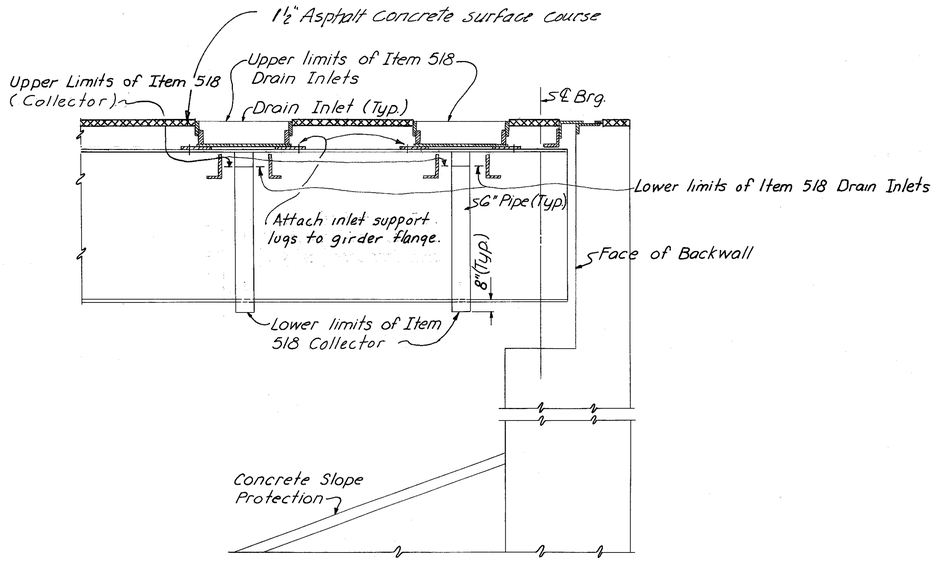
494

HAMILTON COUNTY
HAM-471-0.30



FORWARD ABUTMENT
(Curb Plates not shown)



SECTION D-D

Note: Work this sheet with sh. no. 464.

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DRAINAGE DETAILS
BRIDGE NO HAM-71-0184
RAMP G G

H&E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	GCK	JHD	WWL 1-12-71	JHD 11-8-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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HAMILTON COUNTY
HAM-471-0.30

MICROFILMED
FEB 3 1983

SUPERSTRUCTURE

MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	Radius
S401	Str.	30'-0"	1586	31783.							
S402	Str.	4'-5" to 4'-11"	1 Series of 11	34.							
S403	Str.	29'-0"	79	1530.							
S404	Str.	4'-10"	8	26.							
S405	Str.	19'-3"	20	257.							
S406	Str.	4'-5"	8	24.							
S407	Str.	18'-1"	16	193.							
S408	Str.	9'-6" to 40'-0"	1 Series of 11	182.							
S409	Str.	4'-1" to 6'-7"	1 Series of 24	85.							
S410	Str.	24'-7"	8	131.							
S411	Str.	33'-0"	11	242.							
S412	Str.	27'-0" to 15'-9"	1 Series of 3	43.							
S413	Str.	8'-3"	40	220.							
S414	Str.	22'-2"	8	118.							
S415	Str.	2'-11" to 22'-11"	1 Series of 23	199.							
S416	Str.	22'-3" to 31'-10"	1 Series of 12	217.							
S417	Str.	12'-3"	80	655.							
S418	Str.	22'-3"	20	297.							
S419	Str.	5'-3"	40	140.							
S601	Str.	30'-0"	840	37850.							
S602	Str.	8'-10"	2	27.							
S603	Str.	7'-9" to 8'-0"	1 Series of 9	106.							
S604	Str.	11'-1"	2	33.							
S605	Str.	10'-0" to 40'-0"	1 Series of 9	338.							
S606	Str.	36'-0"	12	649.							
S607	Str.	17'-9"	2	53.							
S608	Str.	10'-10" to 11'-10"	1 Series of 9	153.							
S609	Str.	12'-1" to 13'-1"	1 Series of 9	170.							
S610	Str.	19'-1"	4	114.							
S611	Str.	4'-2" to 13'-7"	1 Series of 9	120.							
S612	Str.	34'-5"	2	103.							
S613	Str.	31'-6"	2	95.							
S614	Str.	33'-5" to 24'-4"	1 Series of 9	390.							
S615	Str.	14'-3" to 23'-6"	1 Series of 9	254.							
S701	Str.	3'-0"	6	37.							
S702	Str.	5'-11"	2	24.							
S703	Str.	6'-4"	2	26.							
S704	Str.	10'-1"	2	41.							
S705	Str.	13'-11"	2	57.							
S706	Str.	21'-0" to 40'-0"	2 Series of 6	748.							
S707	Str.	41'-2" to 40'-0"	2 Series of 99	16424.							
S708	Str.	40'-0" to 32'-2"	2 Series of 57	8408.							
S709	Str.	28'-11" to 28'-8"	2 Series of 3	353.							
S710	Str.	31'-7" to 30'-11"	2 Series of 6	766.							
S711	Str.	30'-9" to 29'-3"	2 Series of 13	1594.							
S712	Str.	29'-2"	1556	92763							
S713	Str.	26'-10" to 4'-6"	2 Series of 12	769.							
S714	Str.	5'-1" to 27'-2"	2 Series of 12	791.							
S715	Str.	3'-3"	2	13.							
S716	44	11'-5"	8	187.	1'-5"	2'-11½"	4'-2"	2'-11½"	1'-0"		
S717	21	6'-7"	8	108.	2'-4"	2'-4"	1'-4"	1'-11"	1'-0"	1'-3"	
S718	Str.	26'-0"	10	531.							
S719	Str.	25'-2" to 15'-4"	2 Series of 5	414.							
S720	Str.	9'-9" to 5'-2"	2 Series of 3	91.							
S721	Str.	3'-8"	2	15.							
S722	Str.	24'-6"	2	100.							
S723	Str.	6'-0"	2	24.							

SUPERSTRUCTURE

MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	RADIUS
X501	1	2'-0"	1020	2128.	7½"	1'-0"					
X502	46	5'-4"	1198	6664.	2'-2"	2'-5"	7½"				2⅛"
X503	17	2'-4"	1020	2483.	7½"	1'-10"					
X504	45	3'-4"	1020	3546.	7½"	11"	11½"	8"	9"	1'-2"	
X505	Str.	12'-9"	32	426.							
X506	Str.	6'-9"	128	901.							
X507	Str.	14'-9"	24	369.							
X508	Str.	5'-9"	76	456.							
X509	Str.	15'-9"	72	1183.							
X510	Str.	5'-10"	40	243.							
X511	Str.	14'-5"	12	180.							
X512	Str.	6'-3"	20	130.							
X513	Str.	6'-6"	20	136.							
X514	Str.	11'-9"	12	147.							
X515	Str.	5'-0"	16	83.							
X516	Str.	14'-6"	16	242.							
X517	Str.	6'-4"	28	185.							
X518	Str.	12'-3"	16	204.							
X519	Str.	7'-3"	48	363.							
X520	Str.	8'-3"	8	69.							
X521	Str.	13'-9"	16	229.							
X522	Str.	9'-3"	8	77.							
X523	Str.	13'-6"	24	338.							
X524	Str.	15'-5"	12	193.							
X525	44	7'-1"	16	118.	1'-4"	1'-5"	2'-0"	1'-5"	1'-0"		
X526	37	8'-11"	8	74.	2'-4"	1'-11"					
X527	Str.	11'-1"	4	47.							
X701	45	6'-11"	8	113.	2'-10"	10½"	11½"	8	2'-4"	1'-2"	
X702	1	3'-10"	8	63.	1'-2"	1'-10"					

Total Weight (Superstructure) = 222,505 lbs.

PIERS

MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	RADIUS
P501	1	6'-1"	108	685.	1'-7"	3'-2"					
P502	1	6'-0"	10	63.	1'-7"	3'-1"					
P503	1	5'-8"	10	59.	1'-7"	2'-9"					
P504	Str.	38'-3"	4	160.							
P505	1	9'-11"	202	2089.	3'-6"	3'-2"					
P506	Str.	29'-0"	4	121.							
P507	37	13'-9"	120	1721.	3'-6"	3'-2"					
P508	Str.	26'-7"	4	111.							
P509	Str.	27'-0"	4	113.							
P510	Str.	28'-6"	4	119.							
P601	26	7'-10"	96	1129.	6'-6"						
P602	26	10'-10"	78	1269.	9'-6"						
P701	Str	40'-8"	4	332.							
P801	17	26'-1"	4	279.	4'-2"	22'-2"					
P802	Str.	39'-6"	2	211.							
P803	Str.	22'-9"	3	182.							
Not used											
P805	33	9'-4"	2	50.	4'-6"	2'-6"					1'-4¼"
P806	17	25'-5"	4	271.	3'-6"	22'-2"					
P807	26	14'-8"	140	5482.	12'-6"						
P808	Str.	22'-1"	28	1651.							
P809	Str.	21'-6"	28	1607.							
P810	Str.	20'-11"	28	1564.							

For notes see sh. 467.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

31/33

REINFORCING STEEL LIST
BRIDGE No. HAM-71-0184
RAMP GG

H&E BRIDGE NO.15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.B.M.		W.A. A.L.T.	J.H.O. 11-8-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

466A
494

HAMILTON COUNTY
HAM-471-0.30

MICROFILMED
FEB 3 1981

PIERS

MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	RADIUS
P901	17	14'-6"	4	197.	4'-4"	10'-5"					
P902	17	28'-3"	4	384.	3'-6"	25'-0"					
P903	Str.	12'-0"	8	326.							
P904	17	13'-4"	4	181.	3'-9"	9'-10"					
P905	17	26'-4"	4	358.	3'-5"	23'-2"					
P906	Str.	10'-0"	7	238.							
P907	Str.	27'-10"	5	473.							
P908	33	10'-1"	2	69.	4'-5"	2'-10"					1'-4¼"
P909	17	13'-5"	4	183.	3'-9"	9'-11"					
P910	17	26'-8"	4	363.	3'-5"	23'-6"					
P911	Str.	30'-11"	4	420.							
P912	Str.	29'-5"	6	600.							
P913	17	13'-10"	4	188.	3'-9"	10'-4"					
P914	17	27'-9"	4	377.	3'-5"	24'-7"					
P915	33	9'-9"	2	66.	4'-1"	2'-10"					1'-4"
P1001	Str.	33'-11"	48	7006.							
P1002	17	6'-11"	180	5357.	1'-4½"	5'-10"					
P1003	33	10'-8"	4	183.	4'-6"	3'-2"					1'-4"
P1004	Str.	30'-4"	5	653.							
Not used											
P1006	Str.	29'-9"	2	256.							
P1007	Str.	22'-8"	42	4096.							
P1008	Str.	26'-7"	16	1830.							
P1009	Str.	25'-11"	12	1338.							
P1010	Str.	25'-3"	16	1738.							
P1011	Str.	23'-10"	18	1846.							
P1012	Str.	23'-1"	12	1192.							
P1013	Str.	22'-4"	18	1730.							

PIERS

MARK	LENGTH	NO. of BARS	WEIGHT	SHAPE	BENDING DIAGRAM
SP 401	30'-9"	4	2625.	Bent	Type 39 Sheet No. 470
SP 402	19'-6"	3	1270.	Bent	Type 39 Sheet No. 470
SP 403	19'-7"	1	425.	Bent	Type 39 Sheet No. 470
SP 404	18'-5"	1	401.	Bent	Type 39 Sheet No. 470
SP 405	19'-0"	1	413.	Bent	Type 39 Sheet No. 470
SP 406	23'-5"	1	504.	Bent	Type 39 Sheet No. 470
SP 407	22'-9"	1	491.	Bent	Type 39 Sheet No. 470
SP 408	22'-1"	1	477.	Bent	Type 39 Sheet No. 470
SP 409	20'-8"	1	447.	Bent	Type 39 Sheet No. 470
SP 410	19'-11"	1	432.	Bent	Type 39 Sheet No. 470
SP 411	19'-2"	1	416.	Bent	Type 39 Sheet No. 470

SPIRALS – Core Diameter 38%
– Pitch 4½" c/c
– Other Details in Accordance With C.R.S.I. Standard Practice

Total Weight (Piers) = 58,817 lbs.

REAR ABUTMENT

MARK	TYPE	LENGTH	No. of BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	RADIUS
A501	1	9'-8"	35	353.	1'-7"	6'-9"					
A502	17	10'-10"	30	339.	7½"	10'-4"					
A503	Str.	30'-0"	23	720.							
A504	Str.	13'-2"	23	316.							
A505	1	7'-0"	66	482.	1'-11"	3'-5"					
A506	Str.	9'-11"	12	124.							
A507	Str.	17'-4"	10	180.							
A508	Str.	17'-8"	10	184.							
A509	Str.	7'-4"	2	15.							
A510	Str.	7'-8"	2	16.							
A511	Str.	5'-9"	12	72.							
A512	Str.	4'-10"	2	10.							
A513	Str.	4'-1"	2	8.							
A514	Str.	3'-3"	6	20.							
A515	Str.	15'-10"	4	66.							
A516	Str.	19'-0"	4	79.							
A517	Str.	23'-8"	8	197.							
A518	16	8'-5"	2	17.	2'-0½"	3'-10"	4'-6"	4'-0"			
A519	16	8'-4"	2	17.	2'-3½"	3'-4"	5'-1"	4'-6½"			
A601	1	11'-5"	35	600.	2'-6"	6'-9"					
A602	17	11'-0"	30	496.	10"	10'-4"					
A603	1	11'-1"	39	649.	5'-0"	1'-5"					
A604	1	7'-9"	39	454.	3'-4"	1'-5"					
A605	1	6'-11"	39	405.	3'-2"	11"					
A606	24	8'-2	25	307.	7'-6"						
A607	Str.	5'-3"	20	158.							
A608	17	8'-2"	20	245.	1'-11"	6'-5"					
A609	17	14'-8"	22	485.	1'-11"	12'-11"					
A610	Str.	5'-7"	22	184.							
A611	Str.	4'-8"	2	14.							
A612	Str.	3'-9"	2	11.							
A613	Str.	3'-3"	6	29.							
A614	Str.	10'-0"	26	390.							
A615	Str.	12'-6"	1	19.							
A616	Str.	12'-9"	1	19.							
A617	10	10'-10"	13	211.	1'-2½"	1'-6"	7'-0"	1'-11"			
A618	10	9'-7"	13	187.	1'-6"	1'-2½"	5'-9"	1'-11"			
A801	Str.	30'-0"	9	721.							
A802	Str.	20'-0"	9	481.							
A803	Str.	19'-7"	1	52.							
A804	Str.	16'-9"	16	715.							
A805	Str.	21'-2"	1	56.							
A806	10	6'-9"	2	36.	1'-7"	1'-11½"	1'-9"	2'-6"			
A807	10	6'-7"	2	35.	1'-11½"	1'-7"	1'-7"	2'-6"			
Y501	1	2'-0"	34	71.	7½"	1'-0"					
Y502	Str.	2'-10"	54	160.							
Y503	47	6'-4"	24	158.	2'-5"	3'-2"	7½"				2¼"
Y504	Str.	23'-8"	16	395.							
Y505	Str.	7'-3"	4	30.							
Y506	Str.	18'-0"	4	75.							
Y601	28	4'-11"	34	251.	11½"	3'-2"	1'-2"	7½"	8"		

Total Weight (Rear Abutment) = 11,314 lbs.

For notes see sh. 467.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

32/33

REINFORCING STEEL LIST
BRIDGE No. HAM-71-0184
RAMP GG

H&E BRIDGE NO.15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.B.M.		W.L. A.L.T.	JHS 11-8-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

467
494

HAMILTON COUNTY
HAM-471-0.30

MICROFILMED
FEB 3 1982

FORWARD ABUTMENT

MARK	TYPE	LENGTH	No. of BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	RADIUS
A501	Str.	18'-7"	1	19.							
A502	Str.	18'-10"	1	20.							
A503	Str.	19'-3"	1	20.							
A504	Str.	19'-9"	1	21.							
A505	Str.	20'-0"	1	21.							
A506	Str.	20'-5"	1	21.							
A507	Str.	20'-10"	1	22.							
A508	Str.	21'-2"	1	22.							
A509	Str.	22'-3"	1	23.							
A510	Str.	18'-0"	18	338.							
A511	Str.	20'-3"	1	21.							
A512	Str.	15'-10" to 17'-9"	1 Series of 4	70.							
A513	10	6'-6"	1	7.	1'-3½"	11"	3'-4	1'-7"			
A514	10	4'-8"	1	5.	1'-3½"	11"	1'-6"	1'-7"			
A515	10	5'-0"	1	5.	11"	1'-3½"	1'-10"	1'-7"			
A516	10	7'-6"	1	8.	11"	1'-3½"	4'-4"	1'-7"			
A517	Str.	14'-11" to 13'-0"	1 Series of 4	58.							
A518	Str.	19'-0"	1	20.							
A519	Str.	17'-1"	1	18.							
A520	Str.	18'-5"	1	19.							
A521	Str.	18'-1"	9	170.							
A522	Str.	17'-9"	1	18.							
A523	Str.	17'-4"	1	18.							
A524	Str.	16'-11"	1	18.							
A525	Str.	16'-8"	1	17.							
A526	Str.	24'-11"	3	78.							
A527	Str.	17'-0"	8	142.							
A528	Str.	21'-6"	1	22.							
A529	Str.	9'-9"	4	41.							
A530	Str.	9'-1"	3	29.							
A531	Str.	8'-5"	1	9.							
A532	Str.	13'-2"	3	41.							
A533	Str.	12'-6"	5	65.							
A534	Str.	15'-6"	3	48.							
A535	Str.	16'-0"	3	50.							
A536	Str.	30'-0"	25	782.							
A537	1	6'-0"	43	269.	1'-5"	3'-5"					
A538	Str.	14'-6"	8	121.							
A539	Str.	14'-3"	7	104.							
A540	Str.	19'-8"	14	287.							
A541	Str.	5'-4" to 6'-4"	2 Series of 8	97.							
A542	Str.	5'-4" to 6'-4"	2 Series of 7	85.							
A543	Str.	11'-10"	8	99.							
A544	Str.	11'-7"	7	85.							
A545	Str.	20'-1	12	251.							
A601	Str.	6'-3"	72	676.							
A602	16	9'-9"	28	410.	2'-10"	5'-9"	4'-0"	2'-10"			
A603	1	8'-1"	28	340.	3'-6"	1'-5"					
A604	1	7'-1"	28	298.	3'-3"	11"					
A605	Str.	5'-9"	28	242.							
A606	16	4'-4"	7	46.	1'-6½"	2'-5"	1'-11"	1'-1"			
A607	Str.	8'-8"	2	26.							
A608	16	5'-3"	9	71.	1'-1"	3'-4"	1'-11"	1'-6½"			
A609	Str.	6'-0"	2	18.							

FORWARD ABUTMENT

MARK	TYPE	LENGTH	No. of BARS	WEIGHT	DIMENSIONS A	B	C	D	E	F	RADIUS
A701	19	5'-5"	15	166.	1'-0"	4'-7"	4'-7"	3½"			
A702	19	9'-10"	14	281.	1'-0"	9'-0"	9'-0"	6¾"			
A703	Str.	10'-2"	7	145.							
A801	24	10'-7"	89	2515.	9'-6"						
A802	17	5'-7"	21	313.	4'-8"	1'-1"					
A803	17	9'-7"	10	256.	8'-8"	1'-1"					
A804	Str.	9'-11"	2	53.							
A805	Str.	9'-4"	6	149.							
A806	Str.	8'-7"	2	46.							
A807	Str.	13'-4"	5	178.							
A808	Str.	12'-8"	6	203.							
A809	19	5'-10"	15	234.	1'-1"	4'-11"	4'-11"	3¾"			
A810	19	11'-4"	14	424.	1'-1"	10'-5"	10'-5"	7¾"			
A811	Str.	12'-9"	7	238.							
Y501	1	2'-0"	27	56.	7½"	1'-0"					
Y502	Str.	2'-10"	37	109.							
Y503	47	6'-4"	22	145.	2'-5"	3'-2"	7½"				2¼"
Y504	Str.	18'-2"	10	189.							
Y505	Str.	7'-3"	2	15.							
Y506	Str.	12'-7"	2	26.							
Y507	Str.	18'-0"	8	150.							
Y601	28	4'-11"	27	199.	11½"	3'-2"	1'-2"	7½"	8"		

Total Weight (Foward Abutment) = 11,921 lbs.

REPLACEMENT BARS

MARK	TYPE	NUMBER	LENGTH
RE401	Str.	3	6'-3"
RE501	Str.	2	6'-7"
RE601	Str.	3	6'-11"
RE701	Str.	7	7'-2"
RE801	Str.	1	7'-6"
RE901	Str.	1	7'-10"
RE1001	Str.	2	8'-2"

NOTES:

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, A501 is a No. 5 size bar and P1001 is a No. 10 size bar.

For bar bending schedule see sheet No. 470.

Total weight of reinforcing steel equals 304,557 lbs.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

33/33

REINFORCING STEEL LIST

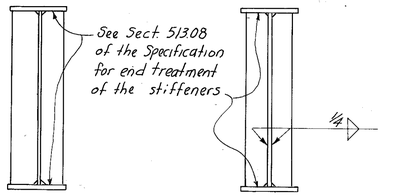
BRIDGE No. HAM-71-0184
RAMP GG

H&E BRIDGE No. 15

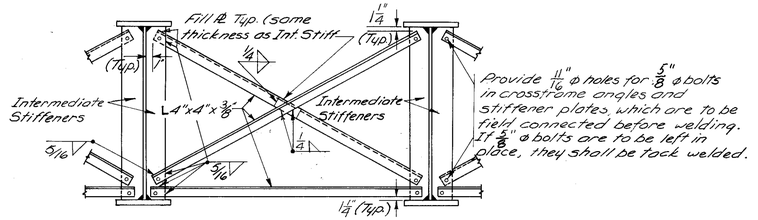
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.B.M.		W.L. A.L.T.	11-8-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

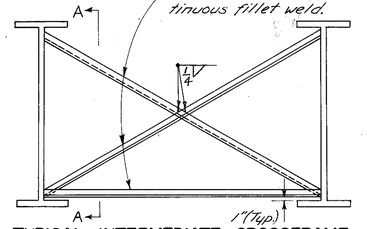
HAMILTON COUNTY
HAM-471-0.30



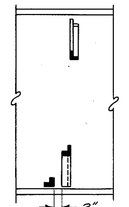
BEARING STIFFENERS INTERMEDATE STIFFENERS



TYPICAL INTERMEDIATE CROSSFRAME
(For Plate Girders)



TYPICAL INTERMEDIATE CROSSFRAME
(For Rolled Beams)



SECTION A–A

TABLE OF FILLET WELD SIZES	
Plate Thickness	Fillet Weld Size
Up to 3/4"	1/4"
Over 3/4" to 1 1/2"	5/16"
Over 1 1/2" to 2 1/4"	3/8"
Over 2 1/4" to 6"	1/2"

Plate Thickness refers to the thickness of the thicker part joined. However, weld size need not exceed the thickness of the thinner part joined.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

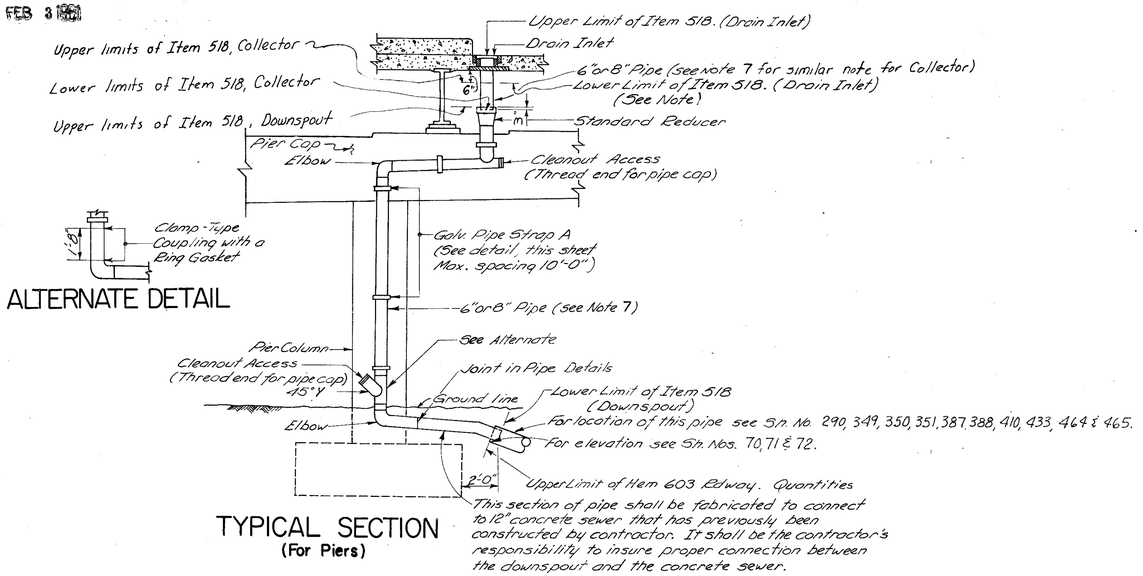
TYPICAL STRUCTURAL STEEL DETAILS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	RJR		RJF	JHO 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

469
494

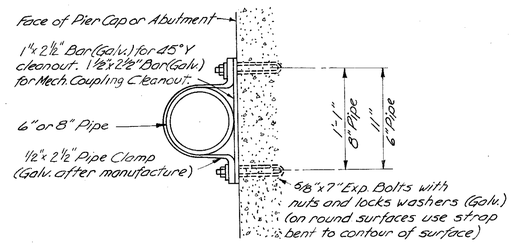
FEB 3



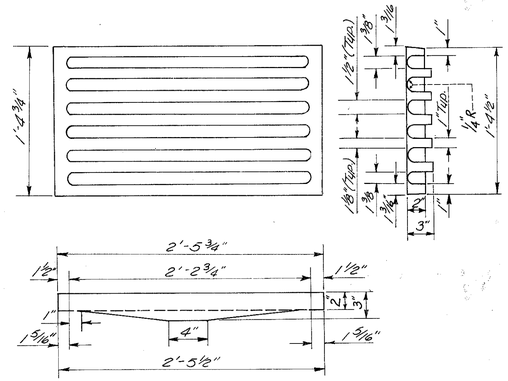
ALTERNATE DETAIL

TYPICAL SECTION
(For Piers)

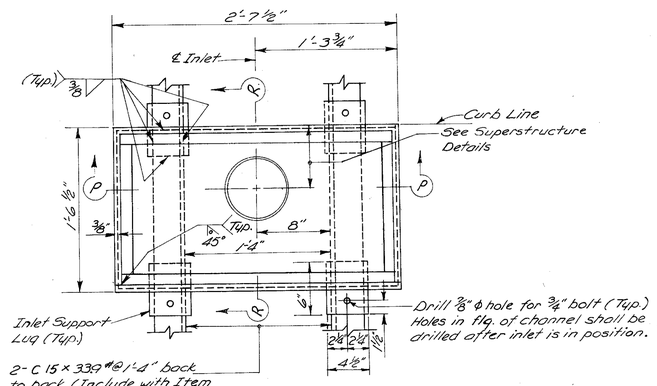
Note: "Drain Inlet" shall include inlet grating, 3/4" bolts, shims inlet frame, lugs and 6 inches of standard pipe for payment, Item 518, Each.



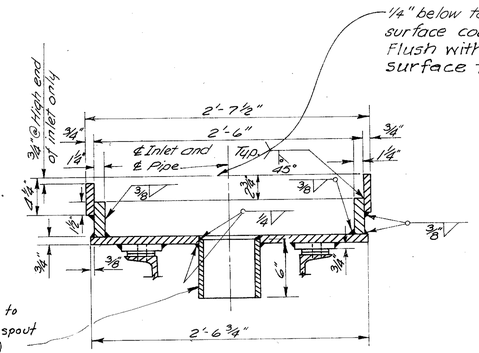
STRAP DETAIL "A"
For mounting on flat surface



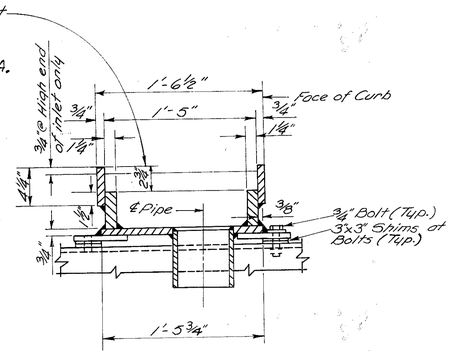
INLET GRATING
(City of Cincinnati Acc. No. 49012)



INLET FRAME



SECTION P P



SECTION R R

HAMILTON COUNTY
HAM-471-0.30

NOTES

(1) INLET GRATING CASTINGS SHALL MEET THE REQUIREMENTS OF SEC. 711.12 OF THE MATERIAL SPECIFICATIONS OF THE STATE OF OHIO.

(2) GRATINGS AND INLETS SHALL BE FITTED TO EACH OTHER WITHOUT RATTLING BY GRINDING GRATING CASTINGS AS NECESSARY.

(3) INLET FRAME TO BE WELDED STRUCTURAL STEEL PLATES AND STANDARD STEEL PIPE, GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH 711.02.

(4) WELD CHANNELS TO BEAM WITH 5 INCH CONTINUOUS FILLET WELD. WELD TO BEAM WEBS ONLY.

(5) SPACE LUGS ON INLETS TO PERMIT BOLTING TO SUPPORTING CHANNELS AND BEAMS.

(6) COPE CHANNELS SO THAT TOP OF CHANNEL IS FLUSH WITH TOP OF FLANGE PLATE.

(7) DOWNSPOUTS SHALL BE 6" OR 8" (AS INDICATED ON BRIDGE PLANS) STANDARD ALLOY STEEL PIPE, 707.11 OF HOT-DIP GALVANIZED STEEL PIPE. JOINTS SHALL BE MADE BY WELDING OR BY THE USE OF CLAMP-TYPE COUPLING WITH A RING GASKET. ALL WELDING SHALL BE DONE BEFORE GALVANIZING. STRAPS OR CLAMPS FOR ATTACHING DOWNSPOUTS SHALL BE ALLOY STEEL OR HOT-DIP GALVANIZED STEEL. ON BOLTS, GALVANIZING AS CALLED FOR IN ASTM A-153 IS ACCEPTABLE.

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

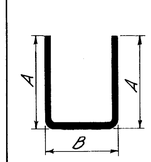
DRAINAGE DETAILS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	RJR		ALT	JHD 11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

470
494

HAMILTON COUNTY
HAM-471-0.30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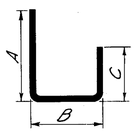
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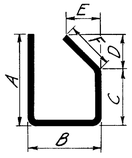
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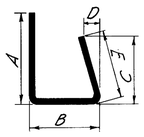
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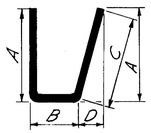
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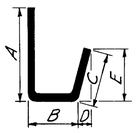
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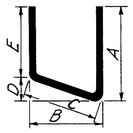
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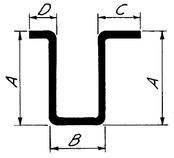
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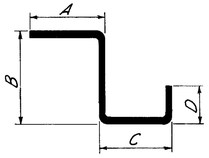
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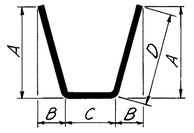
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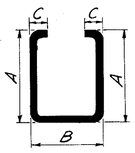
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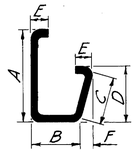
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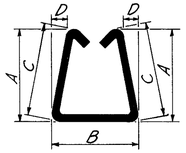
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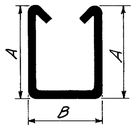
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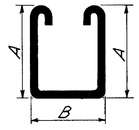
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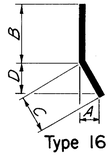
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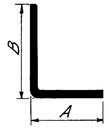
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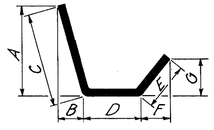
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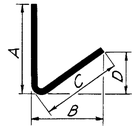
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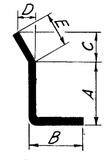
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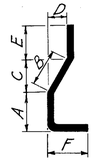
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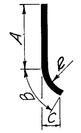
Type 22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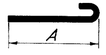
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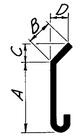
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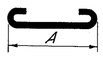
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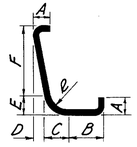
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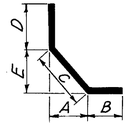
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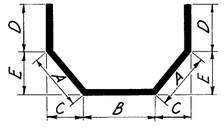
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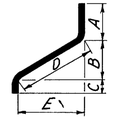
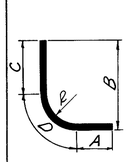

Type 30

Bars shall be carefully shaped to the pertinent dimensions shown in the table of Standard Bends, Sheet 157 of the State of Ohio Construction and Material Specifications unless otherwise indicated above.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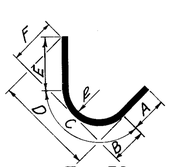
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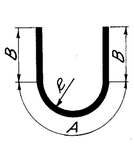
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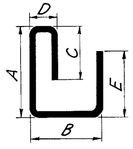
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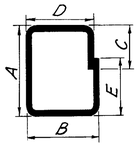
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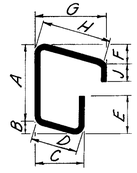
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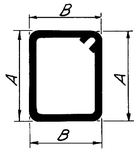
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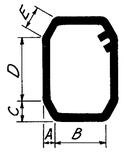
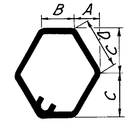

Type 38

Spiral Bar for pitch see Reinforcing Steel List
Type 39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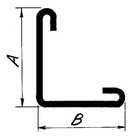
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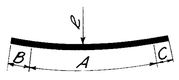
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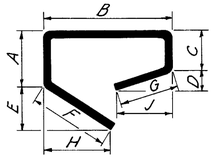
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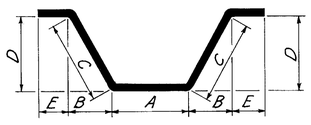
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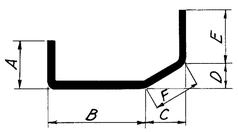
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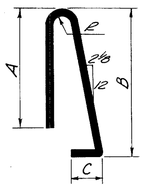
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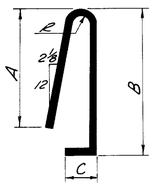
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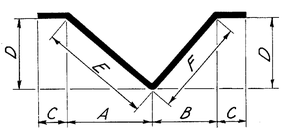
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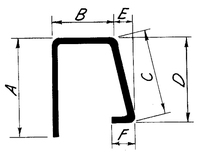
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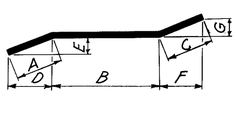
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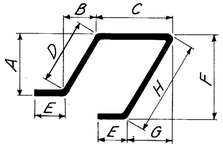
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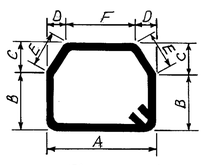
Type 52

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

BAR BENDING SCHEDULE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	RJR		ALT	JHD 11-13-72	