

File No. 2-134	MEDINA COUNTY &	MED-224-15.75
	SUMMIT COUNTY	SUM-224-0.00
	Date of Letting _____	196
	Contract No. _____	

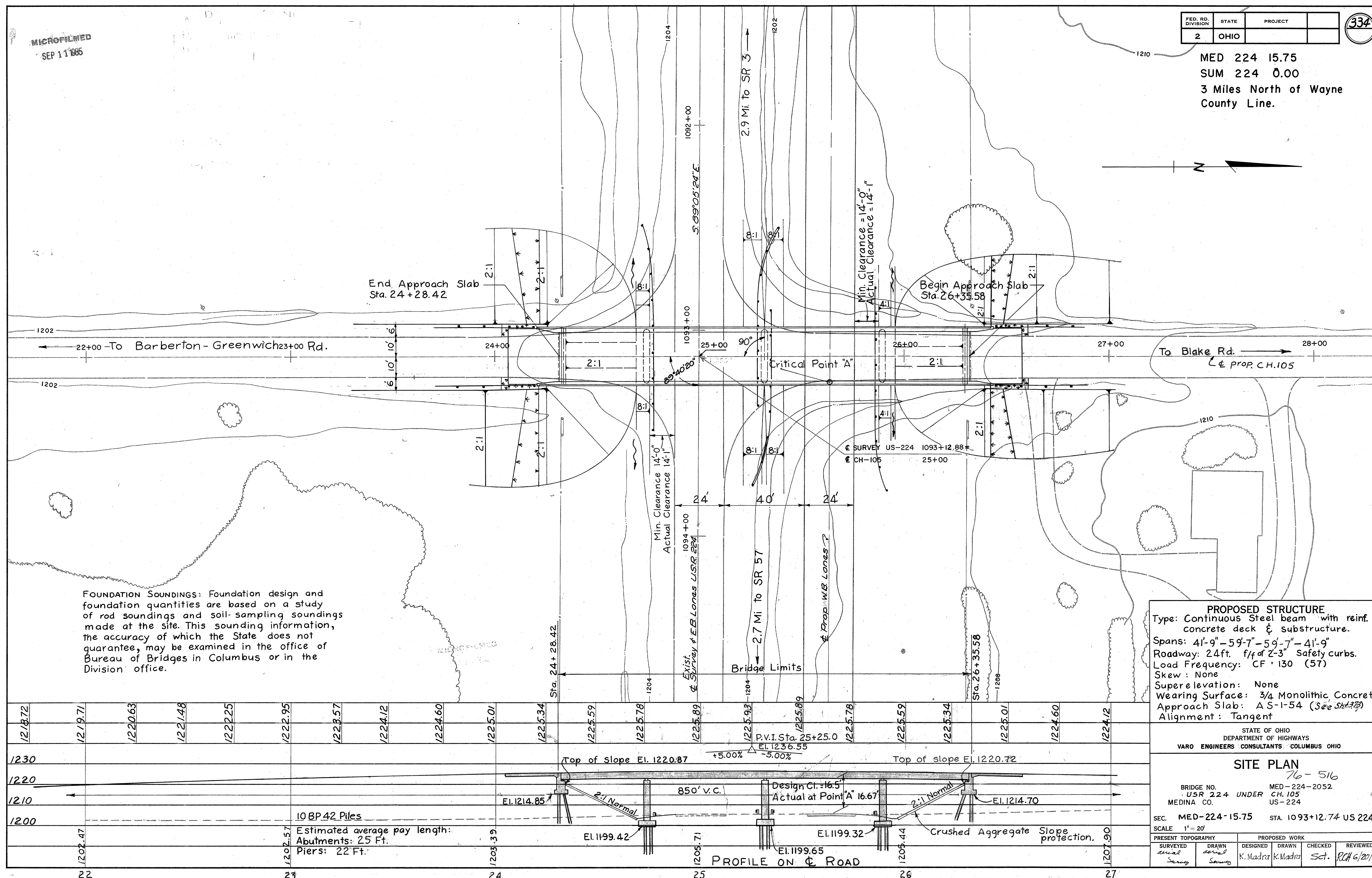
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SEP 11 1985

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

334

MED 224 15.75
SUM 224 0.00
3 Miles North of Wayne
County Line.

T-35 On B-19
Approach Pavement Width = 20'
Berms = 4'
Approach Slab = 25'



FOUNDATION SOUNDINGS: Foundation design and foundation quantities are based on a study of rod soundings and soil sampling soundings made at the site. This sounding information, the accuracy of which the State does not guarantee, may be examined in the office of Bureau of Bridges in Columbus or in the Division office.

PROPOSED STRUCTURE
Type: Continuous Steel beam with reinf. concrete deck & substructure.
Spans: 41'-9" - 59'-7" - 59'-7" - 41'-9"
Roadway: 24ft. f/t of 2'-3" Safety curbs.
Load Frequency: CF = 130 (57)
Skew: None
Superelevation: None
Wearing Surface: 3/4 Monolithic Concrete
Approach Slab: AS-1-54 (See Sta. 24+28.42)
Alignment: Tangent

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
VARO ENGINEERS CONSULTANTS COLUMBUS OHIO

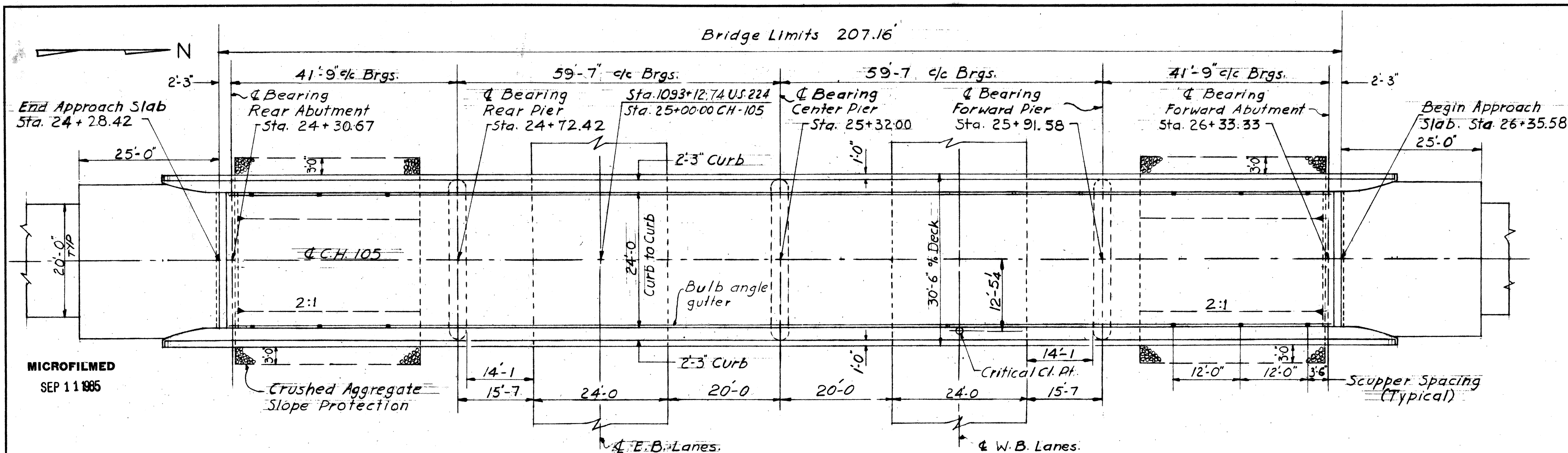
SITE PLAN

BRIDGE NO. MED-224-2052
USR 224 UNDER CH. 105
MEDINA CO. US-224

SEC. MED-224-15.75 STA. 1093+12.74 US 224

SCALE 1" = 20'

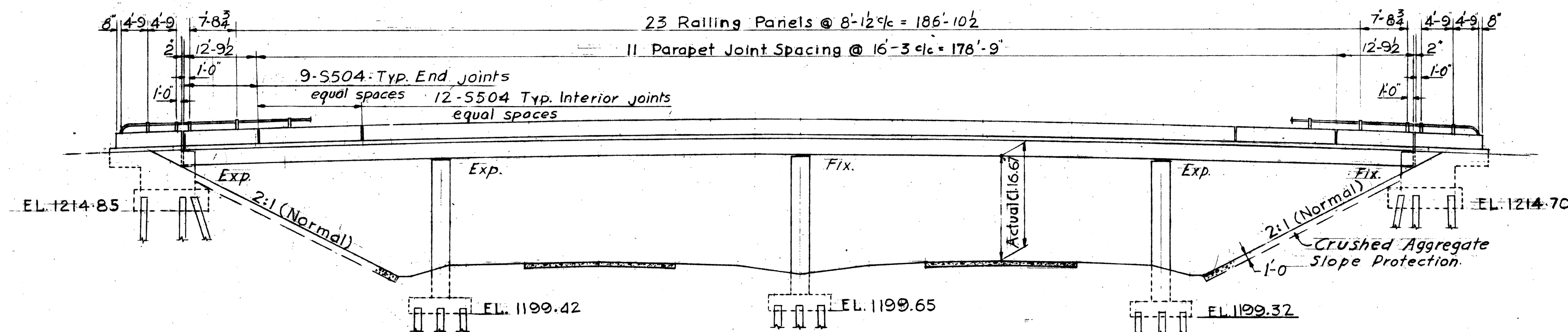
PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Serial Survey	Serial Survey	K. Madra	K. Madra	Sct.	RCH 6/20/62



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PLAN

EL. 1236.55 P.V.I. Sta. 25+25.00
+5.00% -5.00%
850' V.C.



ELEVATION

Estimated Quantities.						
Item	Total	Unit	Description	Super.	Abutts.	Piers. Gen'l
E-2	331	Cu. yds.	Unclassified excavation		184	147
S-1	196	Cu. yds.	Class "C" Concrete, Superstructure	196		
S-1	68	Cu. yds.	Class "C" Concrete, Piers above footings			68
S-1	121	Cu. yds.	Class "E" Concrete, Abutments		121	
S-1	47	Cu. yds.	Class "E" Concrete, Pier Footings			47
S-4	82,190	lbs.	Reinforcing Steel	49,567	7,798	24,825
S-7	123,500	lbs.	Structural Steel	123,500		
S-8	123,500	lbs.	Field Painting of Structural Steel	123,500		
S-14	453.34	lin. ft.	Railing (Aluminum Rail & Supports, Concrete parapet)	408.67	44.67	
S-16	Lump	Sum	First Test Pile			Lump
S-18	1260	lin. ft.	Steel Piles, 10 BP 42		600	660
S-29	17	Cu. yds.	Porous Backfill		17	
S-29	12	Each	Scuppers	12		
I-10	310	Sq. yds.	Crushed Aggregate Slope Protection			310
Special	196	Each	Water-reducing set-retarding admixture*	196		

* See proposal note

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

MEDINA COUNTY
SUMMIT COUNTY
MED — 224 — 15.75
SUM — 224 — 0.00

GENERAL NOTES

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57 together with current revisions thereof.

EXCAVATION QUANTITY includes the removal of fill material required for construction of the abutments.

MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.

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

WELDING of structural steel shall be Class 'A' except as otherwise shown. Welds shown as field welds may, at the option of the Contractor, be made in the shop.

REFERENCE shall be made to Standard Drawing AR-1-57, revised 4-2-62.

SHEET LEAD shall conform to the requirements of ASTM Designation B 29 without restriction to the Common Desilverized type.

SURFACE FINISH OF CONCRETE: The requirements of Sec. 5-1.22, Rubbed Finish, shall apply to the entire surface of piers and abutments except bridge seats, backwalls and the face of spill-thru abutments between outside beams and to the entire superstructure except the top and bottom surfaces of sidewalks and roadways.

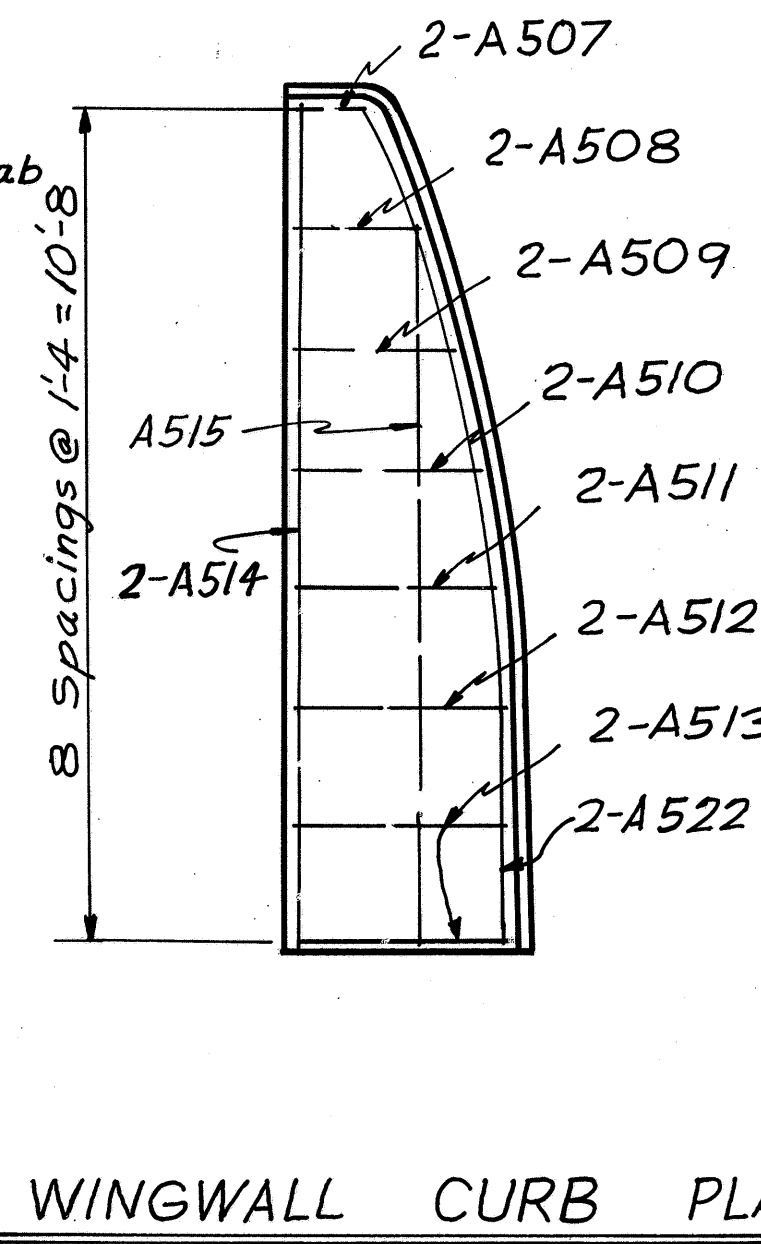
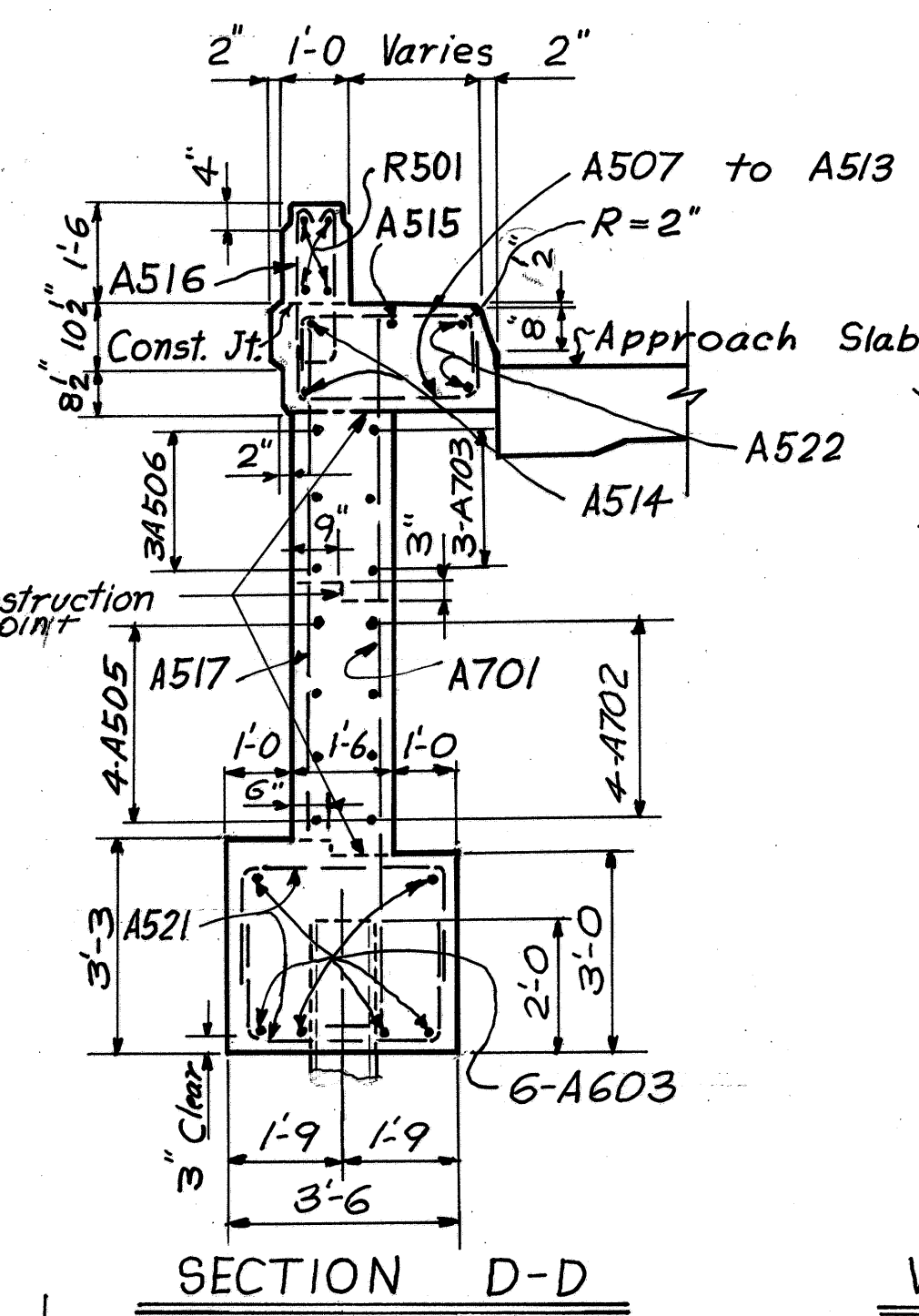
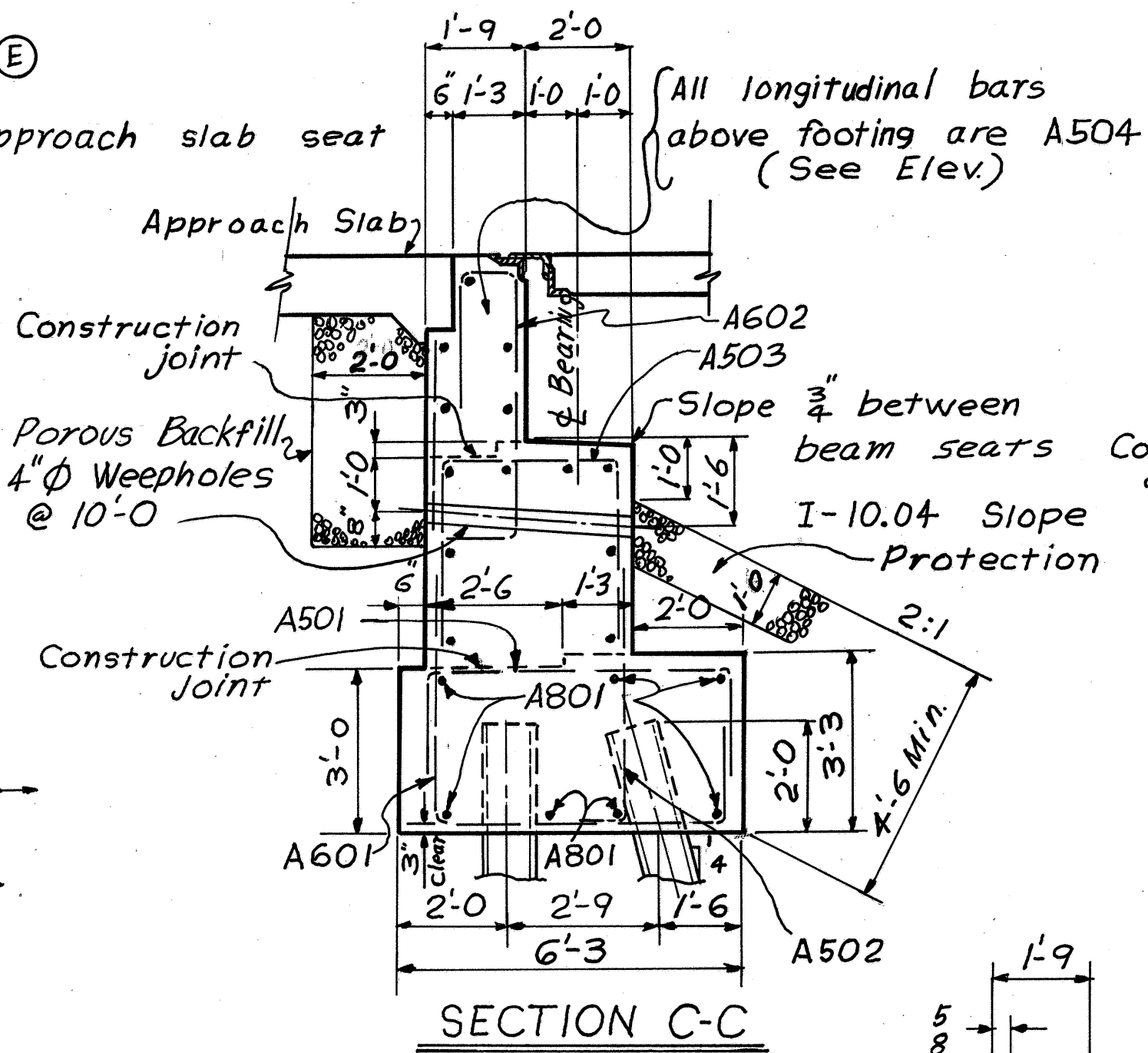
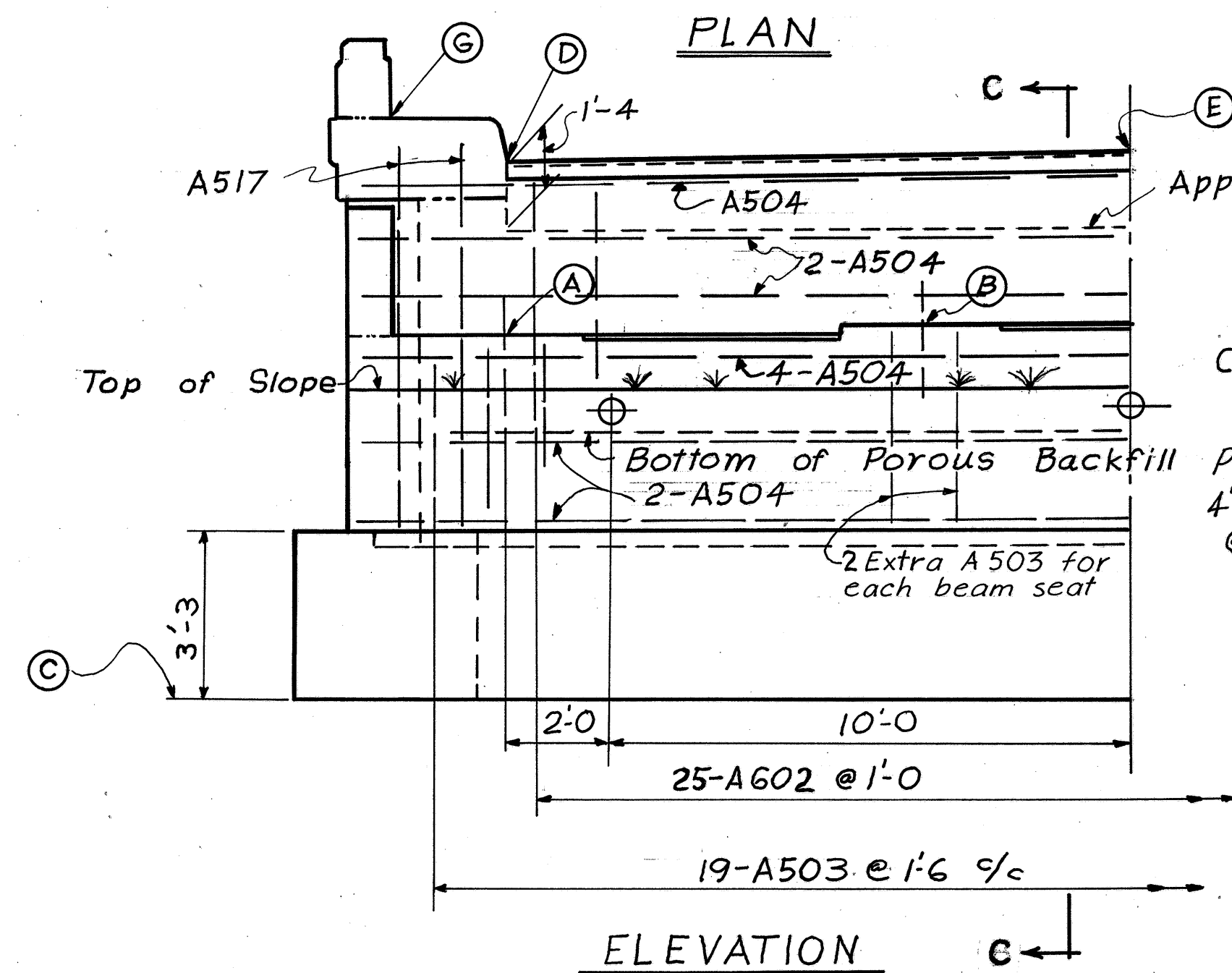
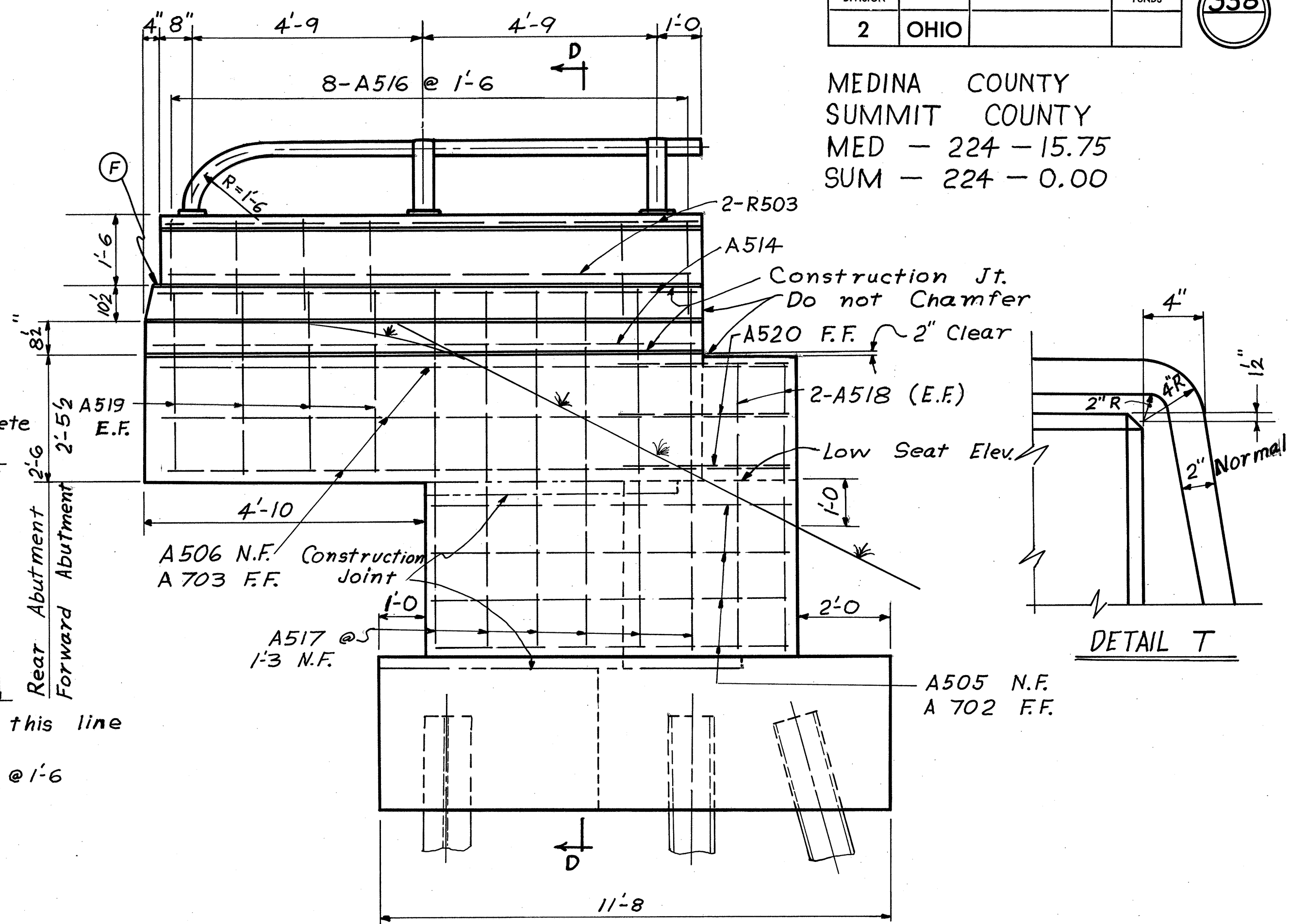
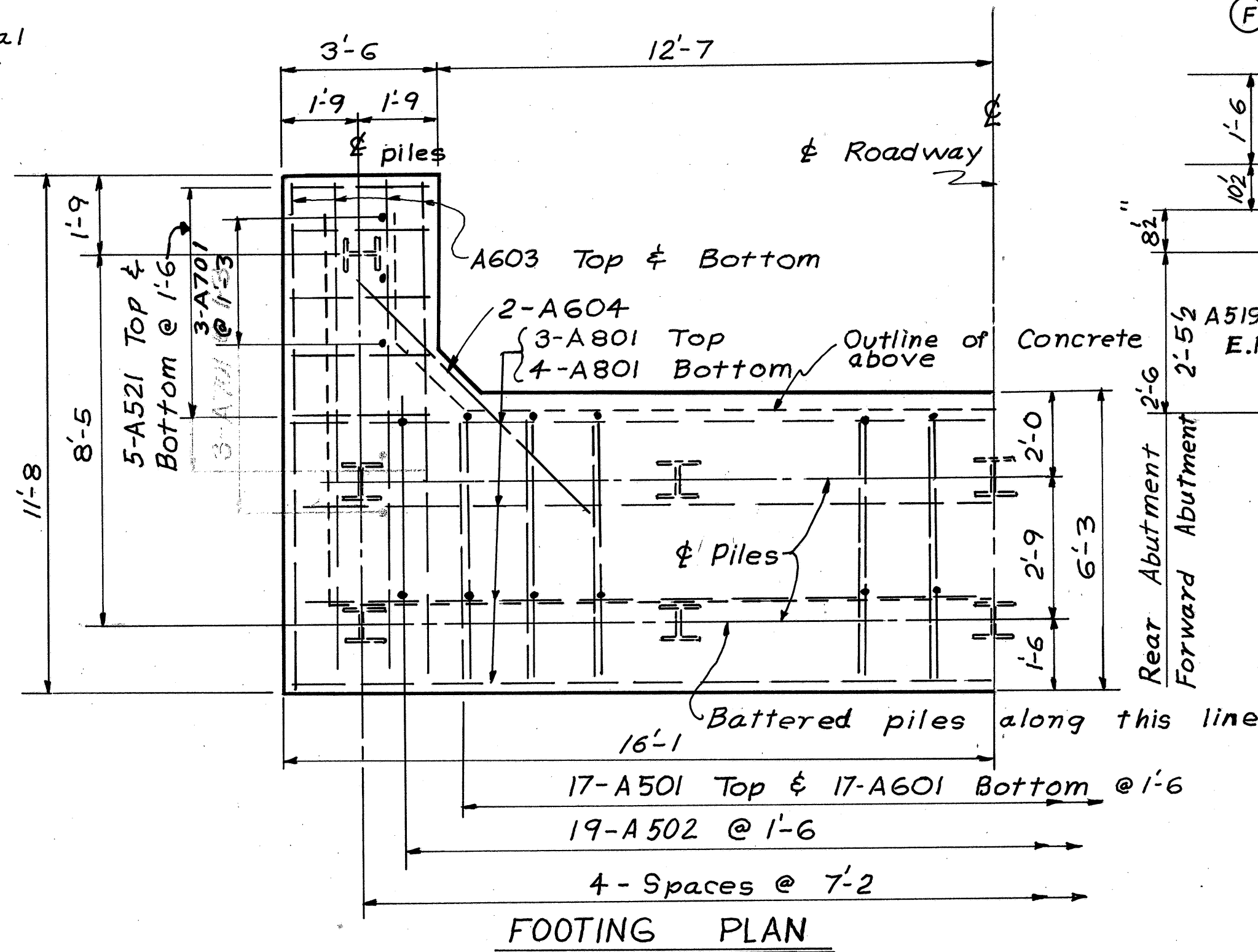
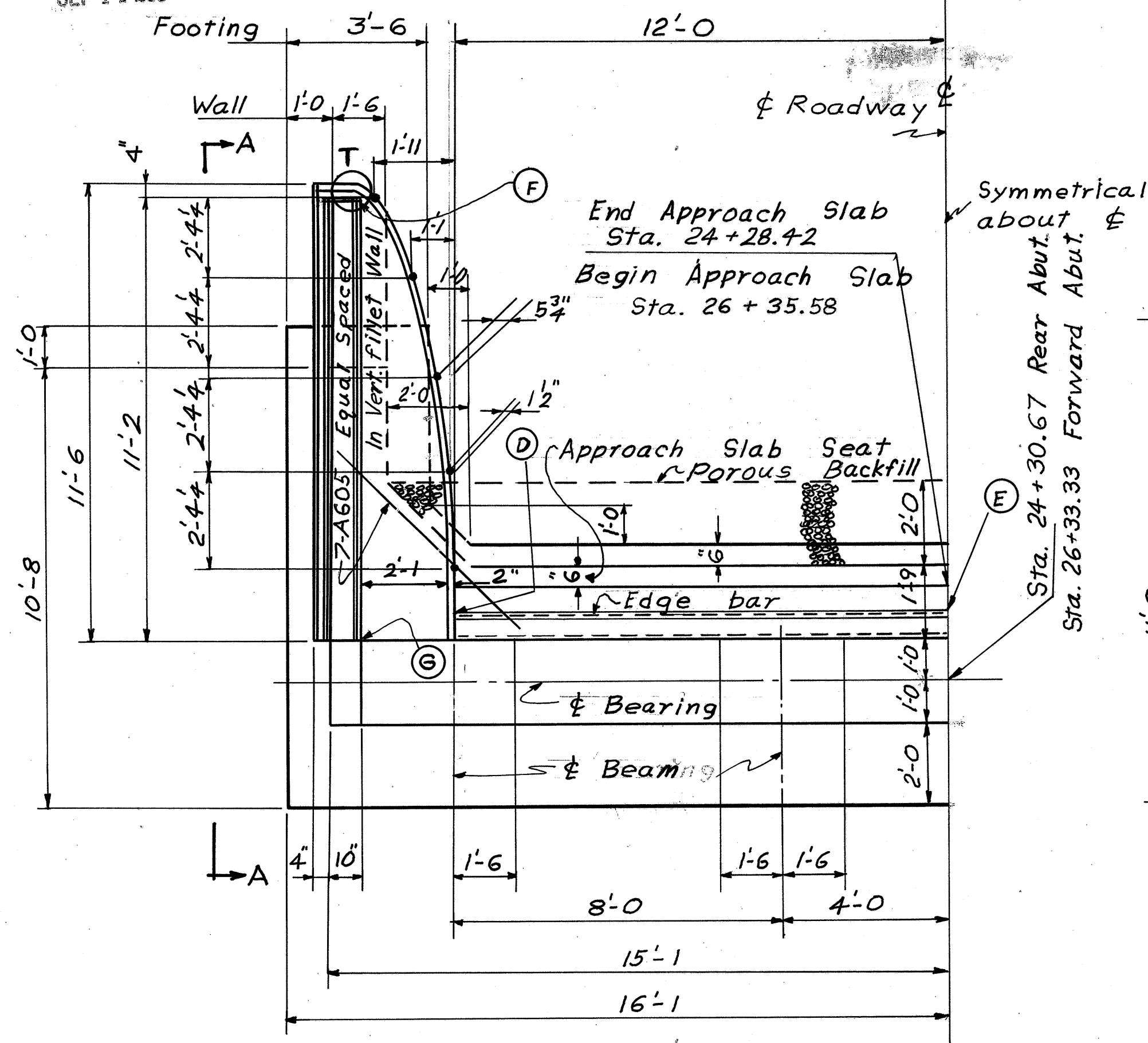
PILES shall be driven to a minimum bearing capacity of 25 tons per pile for the abutments and 32 tons per pile for the piers.

MAINTENANCE AND PROTECTION OF TRAFFIC: Two lanes of traffic with a minimum horizontal width of 28'-0" shall be maintained on U.S.R. 224 at all times. The Contractor shall safeguard the traveling public by providing platforms, nets or other suitable protection above the traveled lanes. A minimum vertical clearance of 14'-0" shall be provided at all times.

VARO ENGINEERS COLUMBUS and NEWARK, OHIO							
GENERAL PLAN, ELEVATION & ESTIMATED QUANTITIES							
U.S.R. 224 UNDER CH-105.							
BRIDGE NO. MED-224-2052							
MEDINA COUNTY							
STA. 1093+12.88							
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
A.S.	A.S.		H	Set.	9/1/62		

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SEP 11 1985

MEDINA COUNTY
SUMMIT COUNTY
MED - 224 - 15.75
SUM - 224 - 0.00



NOTES

POROUS BACKFILL, 2 ft thick, full length of abutment and shall extend up to the underside of the approach slab. Excavation therefore, in excess of that required for construction of the abutment, shall be considered as paid for in the bid price per cu yd. paid for porous backfill.

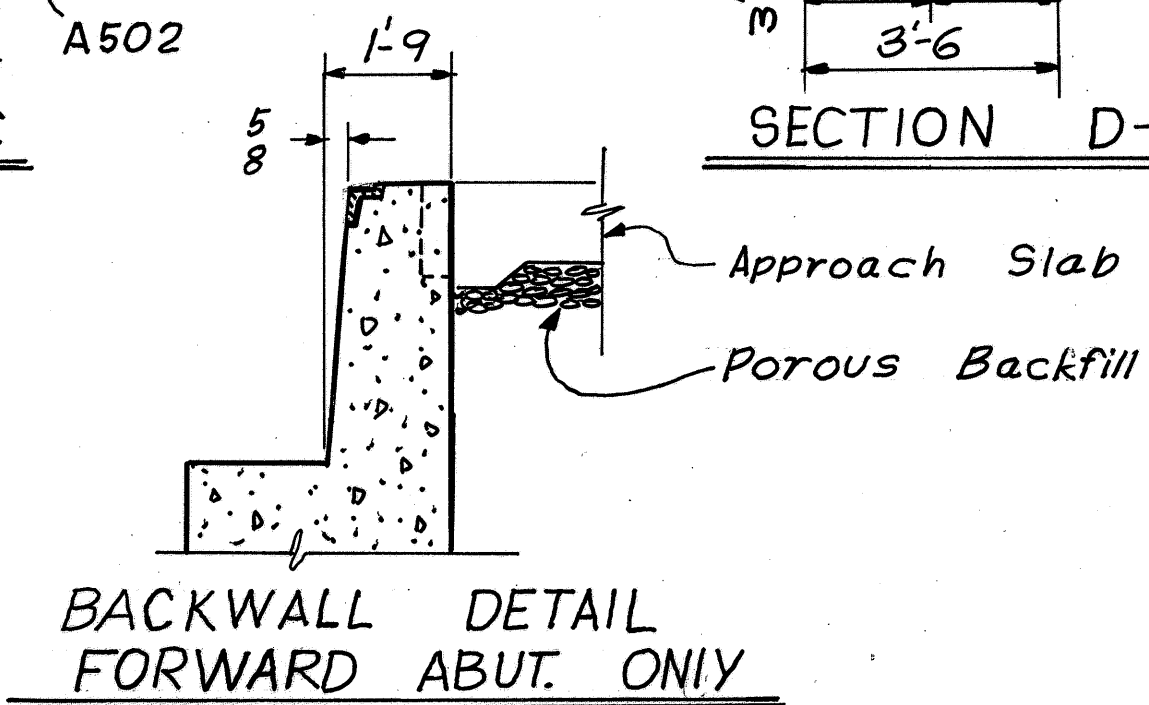
CONCRETE shall be class "E" except for parapet which shall be class "C"

PROCEDURE: The embankment shall be placed and compacted up to the finished spill-thru slope and to the level of the subgrade for a distance of 200 feet back of the abutments, after which excavation shall be made for the abutment.

BRIDGE SEAT REINFORCING: 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 bar holes.

ALL PILES are 10BP42.

TABLE OF ELEVATIONS							
	A	B	C	D	E	F	G
Rear Abut.	1221.87	1221.99	1214.85	1225.19	1225.38	1225.95	1126.08
Forward Abut.	1221.72	1221.84	1214.70	1225.03	1225.22	1225.77	1125.91



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

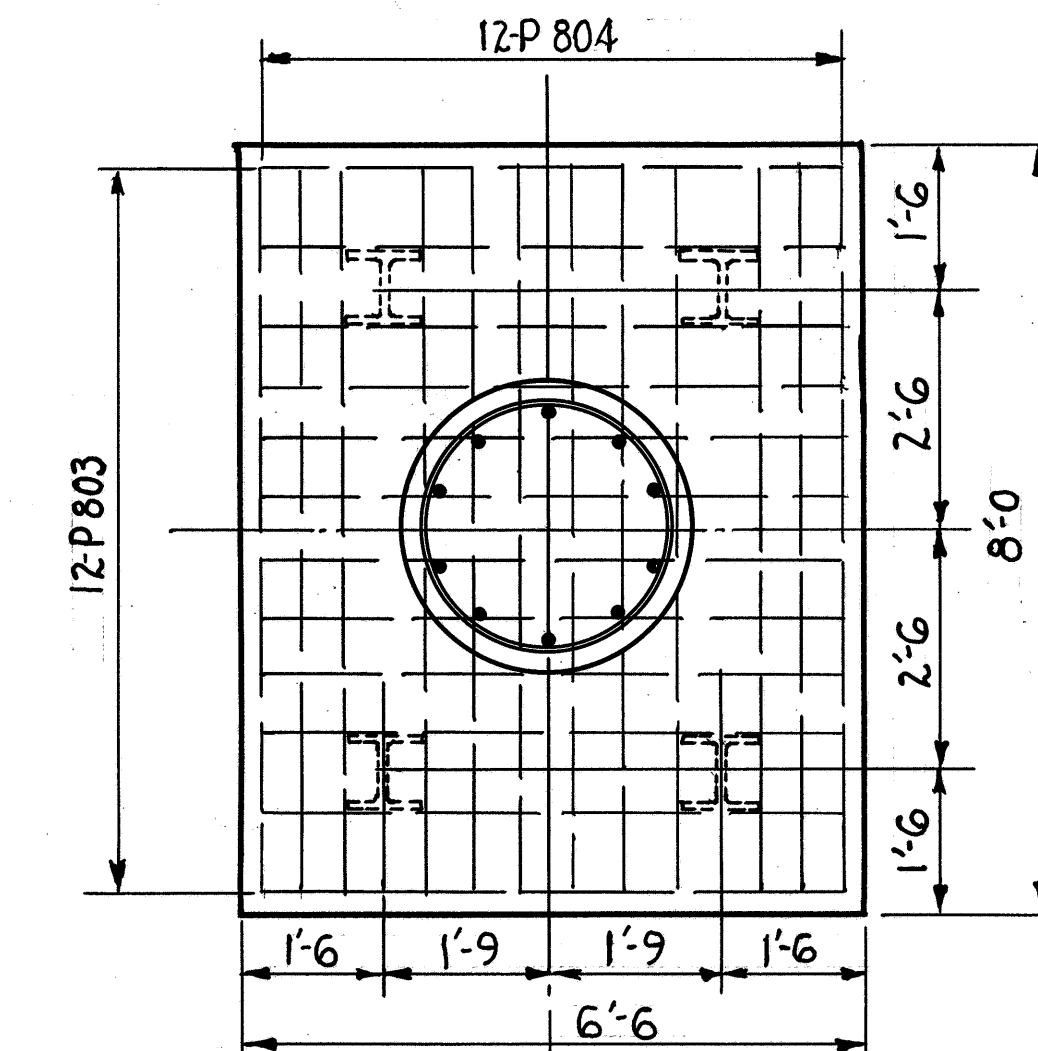
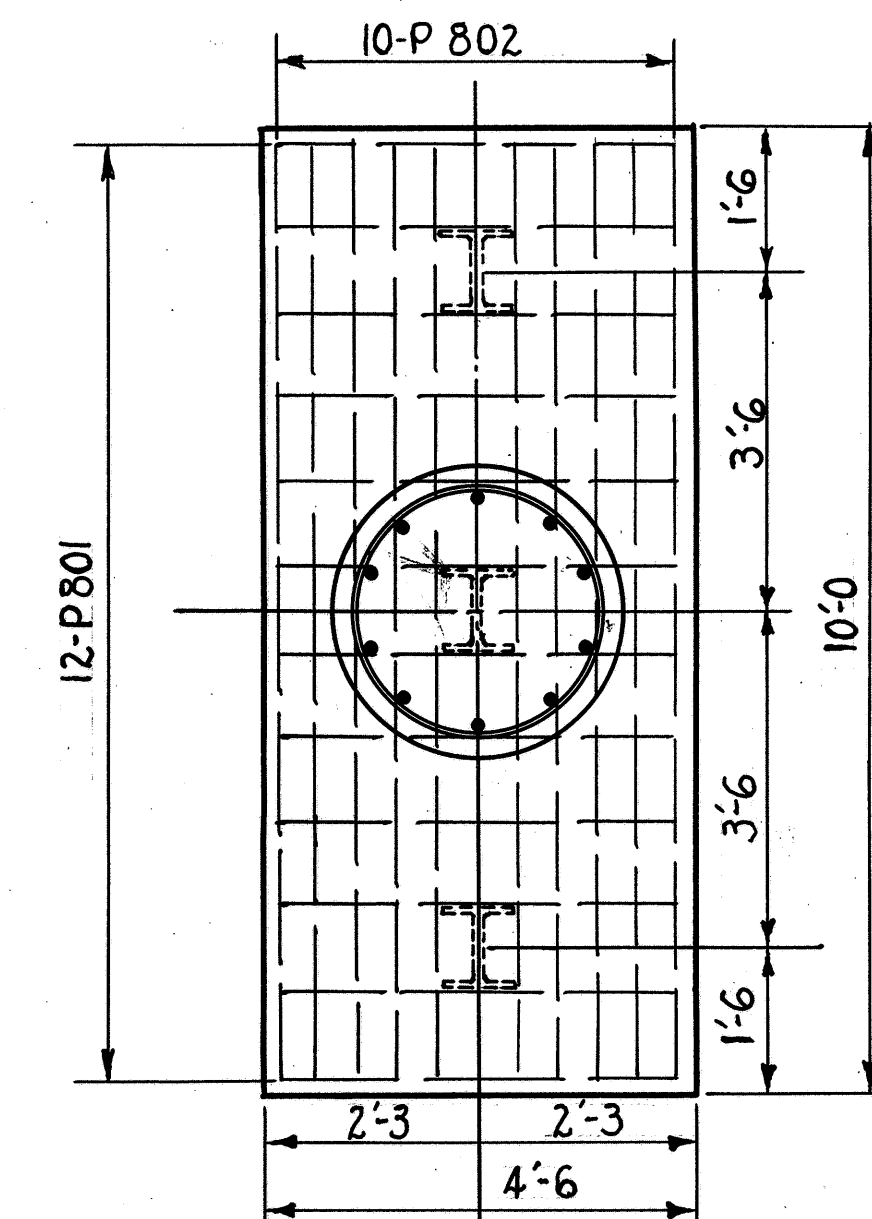
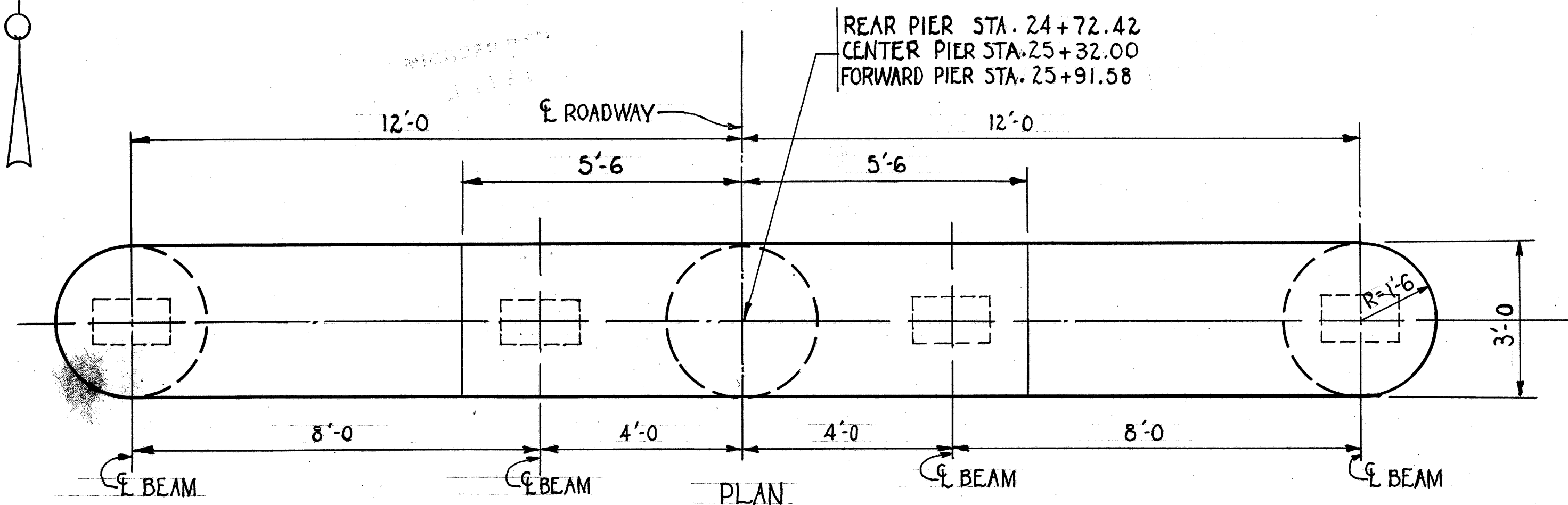
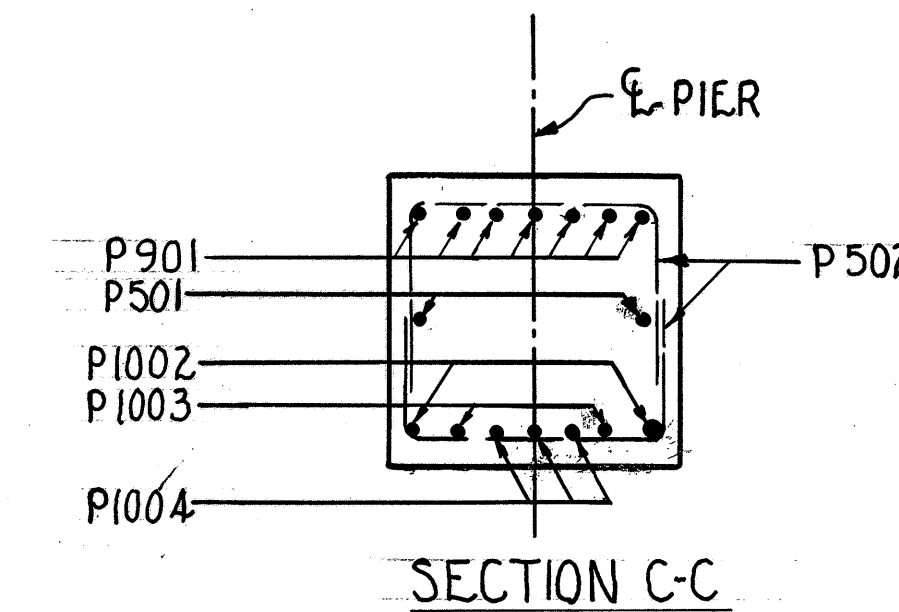
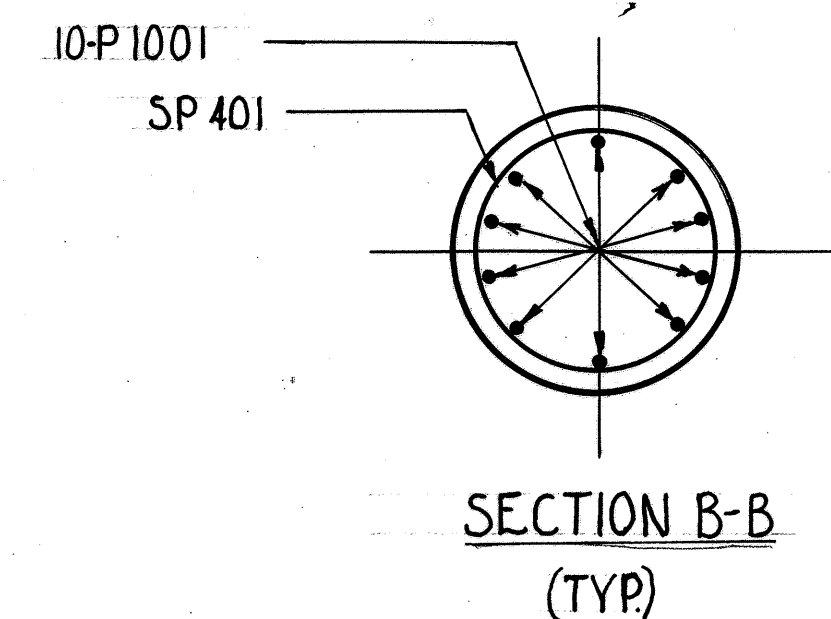
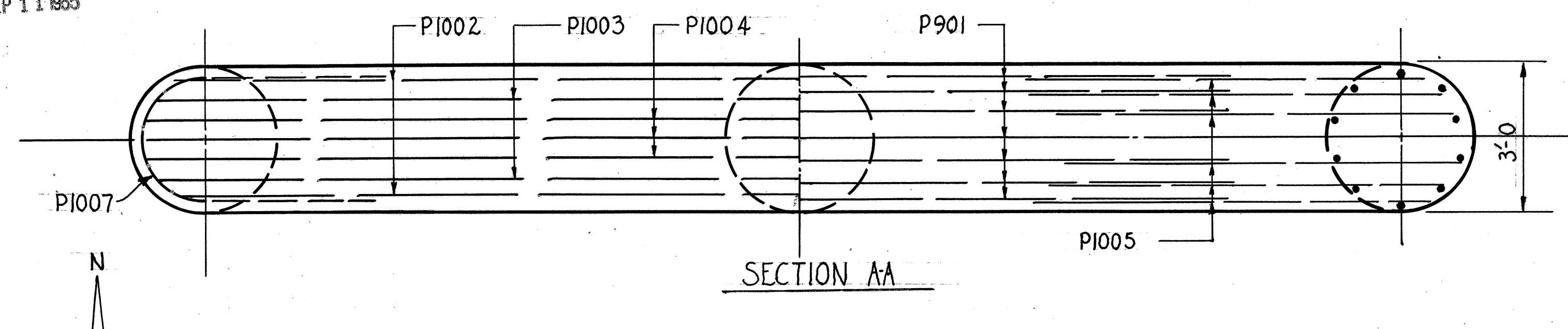
VARO ENGINEERS COLUMBUS and NEWARK, OHIO					
ABUTMENT DETAILS					
USR. 224 UNDER C.H. 105					
BRIDGE NO. MED-224-2052					
MEDINA COUNTY U.S.R. 224					
STA. 1093 + 12.88					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
VAD	VAD	RLS	N.T.	MSR	8/17/62

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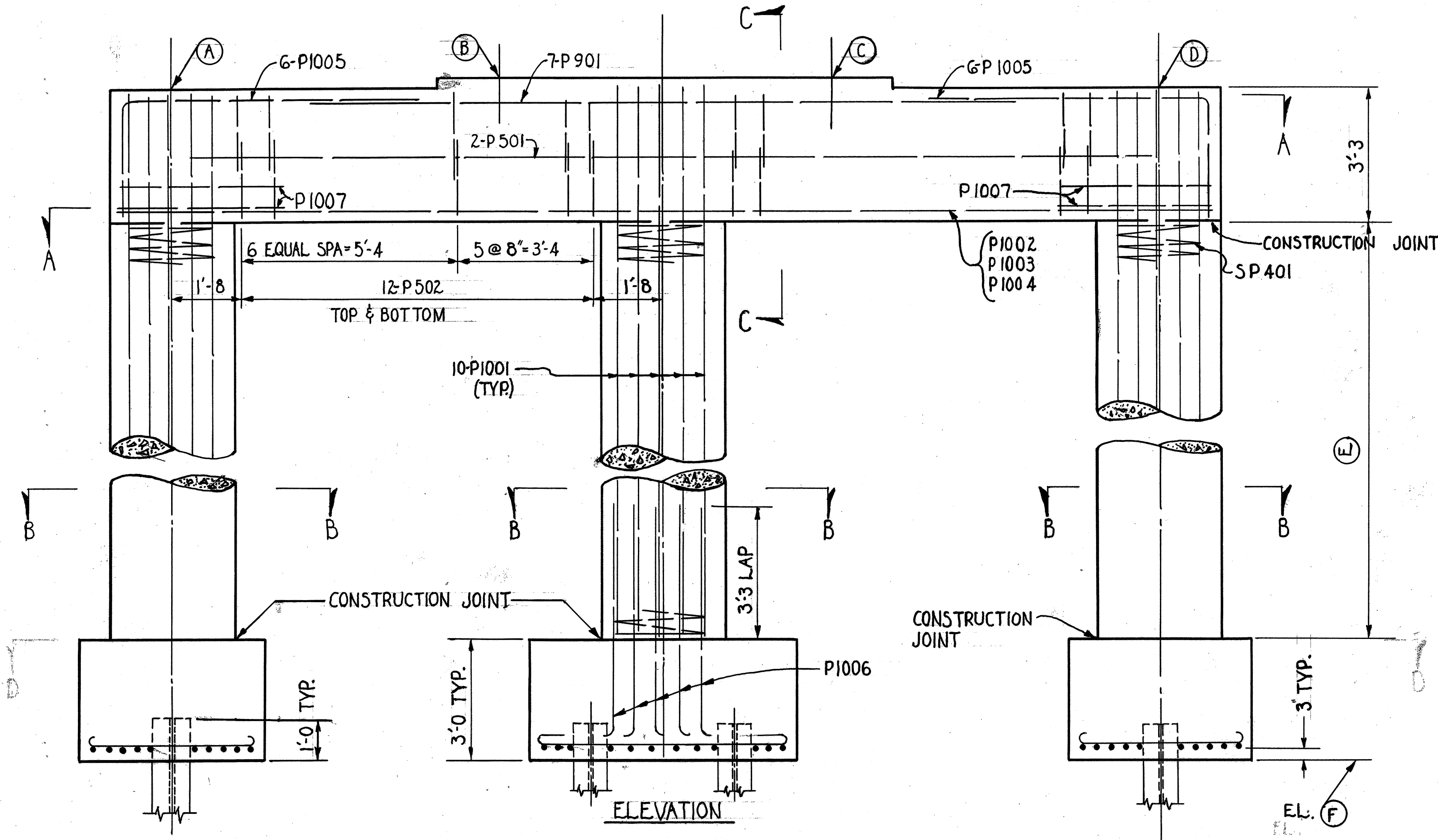
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

337

MEDINA COUNTY
SUMMIT COUNTY
MED-224-15.75
SUM-224-0.00



HALF FOOTING PLAN
SECTION D-D
(ALL PIERS)
FOOTING SYMMETRICAL ABOUT C



ALL PILES ARE 10 BP 42
SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN BRIDGE SEATS OF ALL PIERS, SO AS NOT TO INTERFERE WITH THE DRILLING OF ANCHOR BAR HOLES.
CONCRETE SHALL BE CLASS "C" FOR PIER CAPS AND COLUMNS AND CLASS "E" FOR FOOTINGS.

TABLE OF ELEVATIONS & DIMENSIONS						
	A	B	C	D	E	F
REAR PIER	1222.17	1222.30	1222.30	1222.17	16'-6"	1199.42
CENTER PIER	1222.40	1222.53	1222.53	1222.40	16'-6"	1199.65
FORWARD PIER	1222.07	1222.20	1222.20	1222.07	16'-6"	1199.32

VARO ENGINEERS COLUMBUS and NEWARK, OHIO						
PIER DETAILS USR 224 UNDER CH.105 BRIDGE NO. MED-224-2052 MEDINA COUNTY U.S.R.-224 STA: 1093+12.88						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MSB	MSB	GRS	SCT	MSR	8/17/62	

WELDING PROCEDURE:

- * DECK SLAB DEPTH: The distance shown from top of deck slab to top of steel beam is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to finished grade.

SHOP PAINTING STEEL: The surface preparation of all steel, requiring shop painting as per Plans and Specifications, shall be accomplished by blast cleaning or power tool cleaning, except as noted in the Specifications regarding the use of Chromate Primers.

REFERENCE: shall be made to common detail sheets 374 & 375 for additional superstructure details.

CONTINUOUS BEAM SPLICES: If beams having depths differing by more than $\frac{1}{8}$ " are to be spliced by butt welding, the depth of the smaller-depth beam shall be increased by splitting the web longitudinally at a distance of $\frac{1}{2}$ " below the bottom of the top flange and for a distance sufficient to allow the flange to be bent up at a slope of not more than $\frac{1}{8}$ " per foot, after which the split in the web shall be completely welded with full depth penetration and ground flush.



(Note: Welds not shown same as Center Pier)

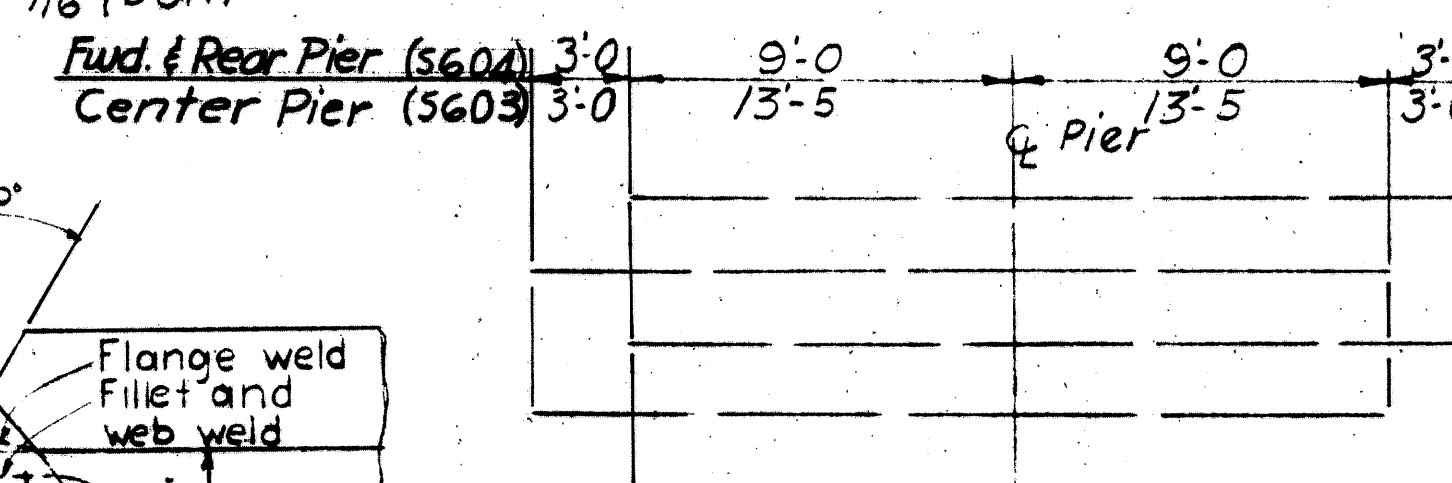
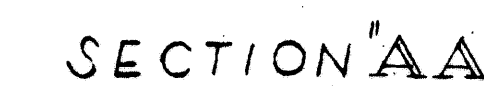
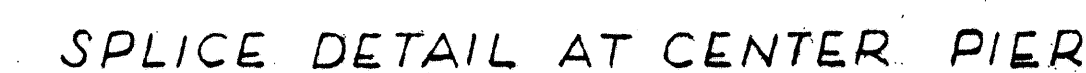


DIAGRAM SHOWING STAGGER
OF S603 BARS OVER PIERS

DEFLECTION AND CAMBER				
Location	Outside Beams		Inside Beams	
	Span	span	Span	span
Deflection due to weight of steel	-	-	-	-
Deflection due to remaining dead load	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$
Convexity required for vertical curve	$\frac{3}{8}$	$\frac{3}{4}$	$\frac{3}{8}$	$\frac{3}{4}$
Sum of deflection and convexity	$\frac{1}{2}$	1	$\frac{1}{2}$	1
Required camber	0	1"	0	1"

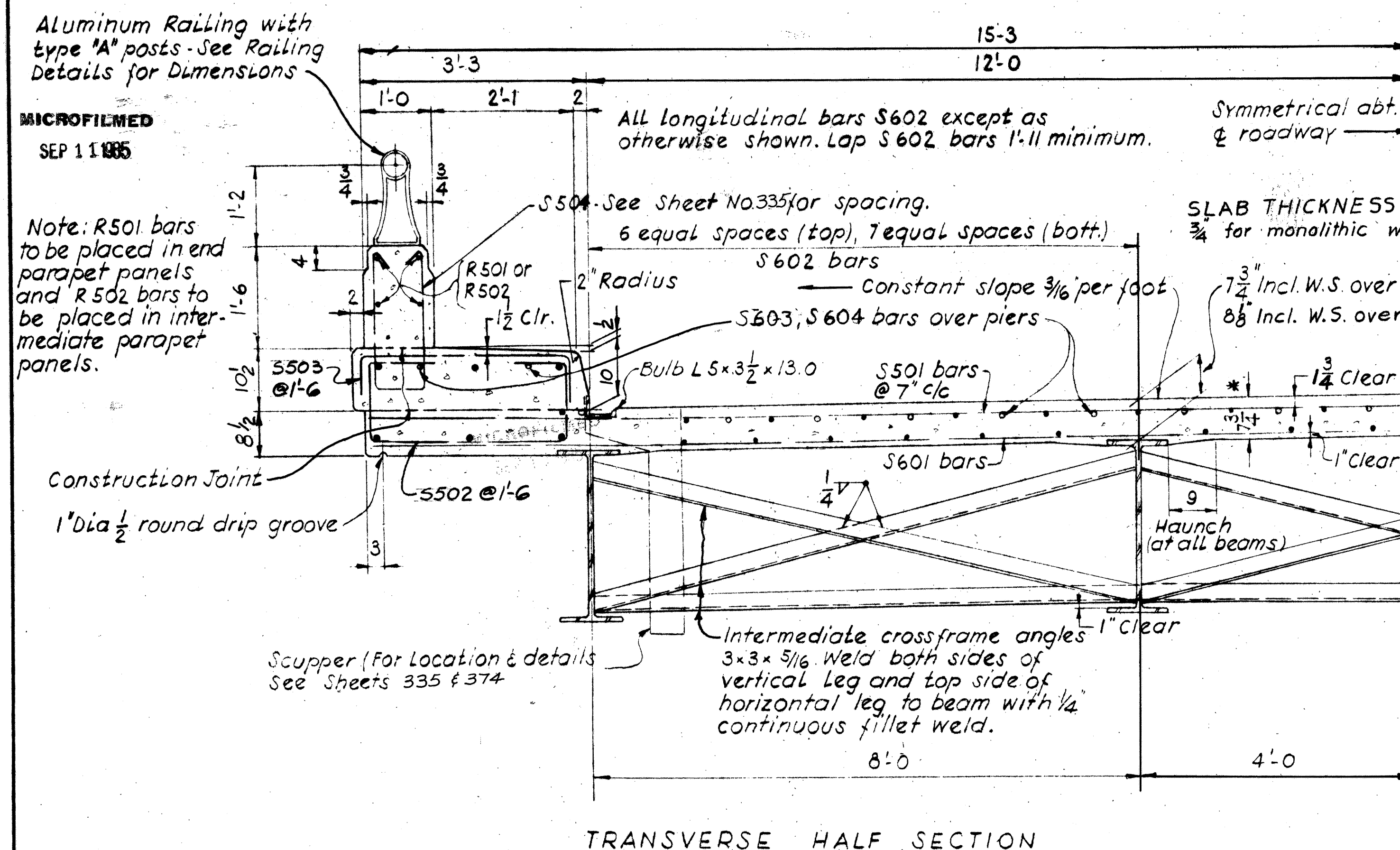
SUPERSTRUCTURE DETAILS

U.S.R. 224 UNDER C.H. 105

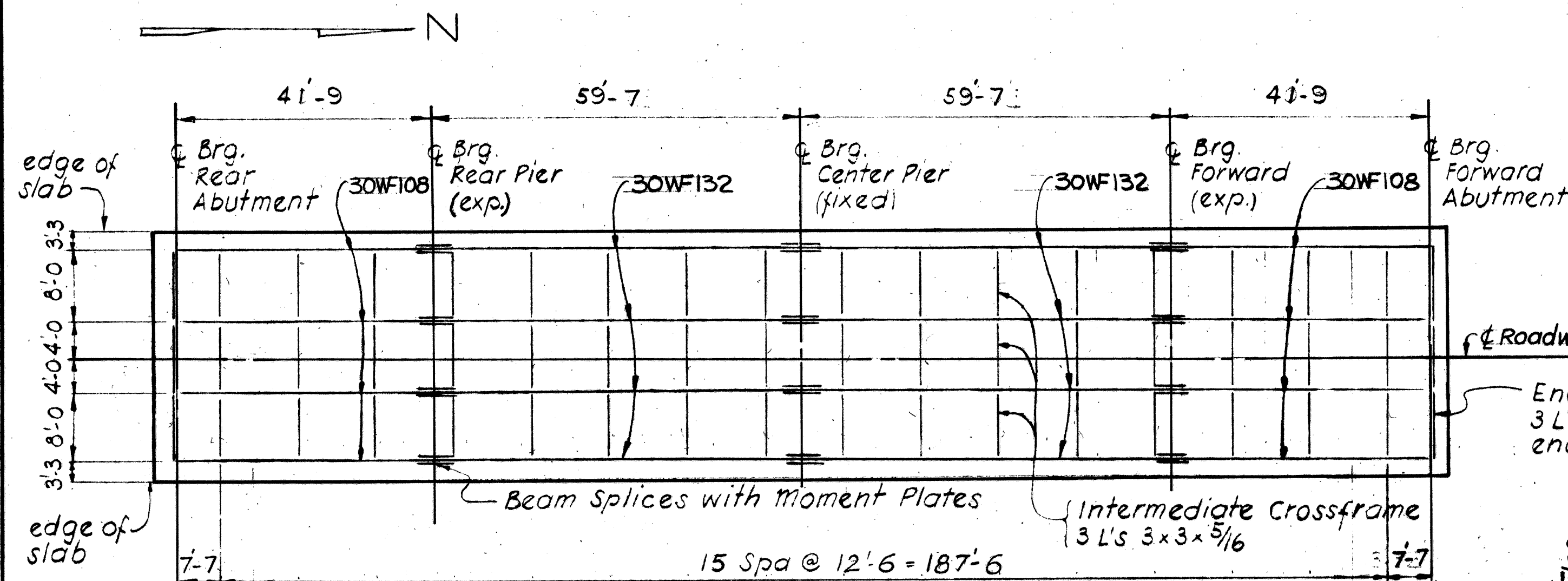
BRIDGE NO. MED-224-2052

MEDINA COUNTY STA. 1093+12.88

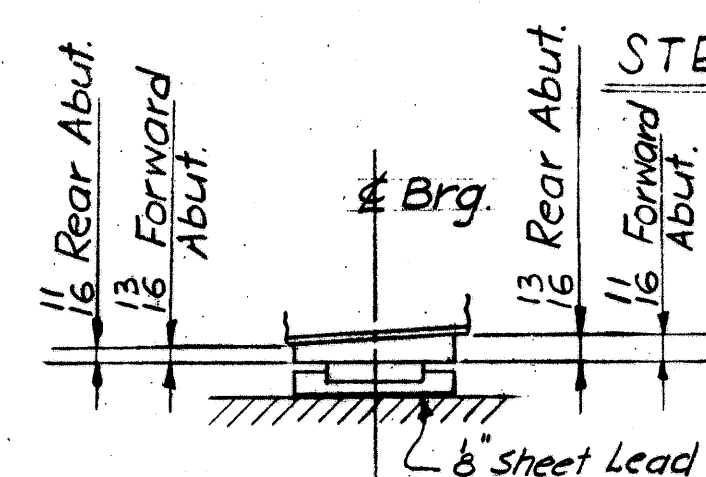
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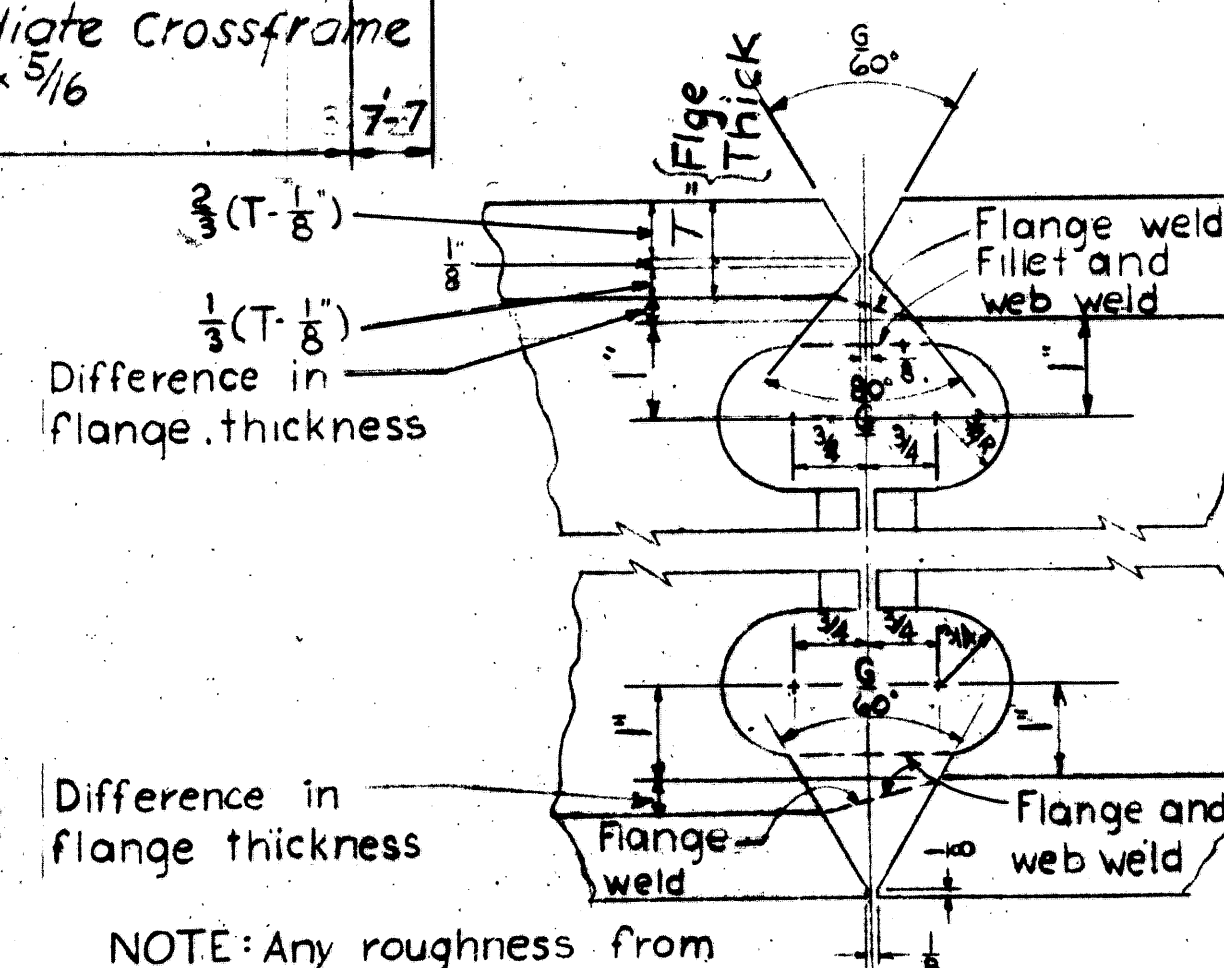
TRANSVERSE HALF SECTION



STEEL FRAMING PLAN



EXPANSION
BEVELED SOLE PLATES
AT REAR & FORWARD ABUTMENTS



NOTE: Any roughness from burning shall be removed by grinding

END PREPARATION of ROLLED BEAMS FOR FIELD WELDING

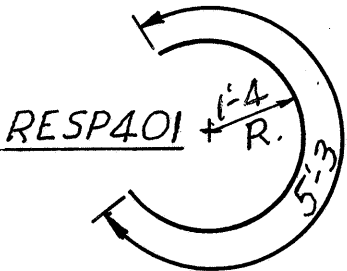
REINFORCING STEEL LIST & NOTES									
Mark	No	Length	Weight	Shp.	Bending Diagrams				
ABUTMENTS					PIERS				
A501	34	6'-1"	216	B					
A502	38	5'-4"	211	B					
A503	54	9'-8"	544	B					
A504	26	29'-10"	809	S					
A505	16	8'-4"	139	S					
A506	12	13'-2"	165	S					
A507	8	3'-1"	26	B					
A508	8	3'-8"	31	B					
A509	8	4'-1"	34	B					
A510	8	4'-5"	37	B					
A511	8	4'-8"	39	B					
A512	8	4'-10"	40	B					
A513	16	4'-11"	82	B					
A514	8	11'-2"	93	S					
A515	4	9'-3"	39	S					
A516	32	5'-8"	189	B					
A517	24	7'-9"	194	S					
A518	16	6'-2"	103	S					
A519	32	3'-8"	122	S					
A520	12	3'-7"	45	S					
A521	40	7'-5"	310	B					
A522	8	11'-0"	92	B					
A601	34	12'-11"	655	B					
A602	50	13'-0"	976	B					
A603	24	11'-4"	409	S					
A604	8	8'-0"	96	S					
A605	28	6'-0"	252	S					
A701	12	11'-2"	274	B					
A702	16	8'-4"	273	S					
A703	12	11'-2"	274	S					
A801	14	31'-10"	1190	S					
Mark	No	Length	Weight	Shp.	Bending Diagrams				
RAILING					SPIRAL REINFORCING				
R501	16	13'-0"	139	S					
R502	16	15'-11"	165	S					
R503	16	10'-10"	103	S					
Mark	No.	Length	Pitch	No. Turns	Weight				
SP401	9	32'	16'-6"	4 1/2	47	2775			
REPLACEMENT BARS									
RE1001	1	7'-3"	-	S					
RE 901	1	6'-10"	-	S					
RE 801	1	6'-6"	-	S					
RE 701	1	6'-3"	-	S					
RE 601	2	5'-11"	-	S					
RE 501	1	5'-7"	-	S					
RESP401	1	5'-3"	-	B					

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
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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, A500 is No 5 Size bar and 1004 is No. 10 Size.

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap. The "No. of Turns" shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item S-4. 1 1/2 closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle Spacers weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these Spacers, based on 0.68 lb. per lin. ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.



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VARO ENGINEERS COLUMBUS and NEWARK, OHIO						
REINFORCING STEEL LIST U.S.R. 224 UNDER C.H. 105 BRIDGE NO. MED-224-2052 MEDINA COUNTY U.S.R. 224 STA. 1093+12.88						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
A.S.	N.T.	JA	N.T.	HAR	8/17/62	5-10-63