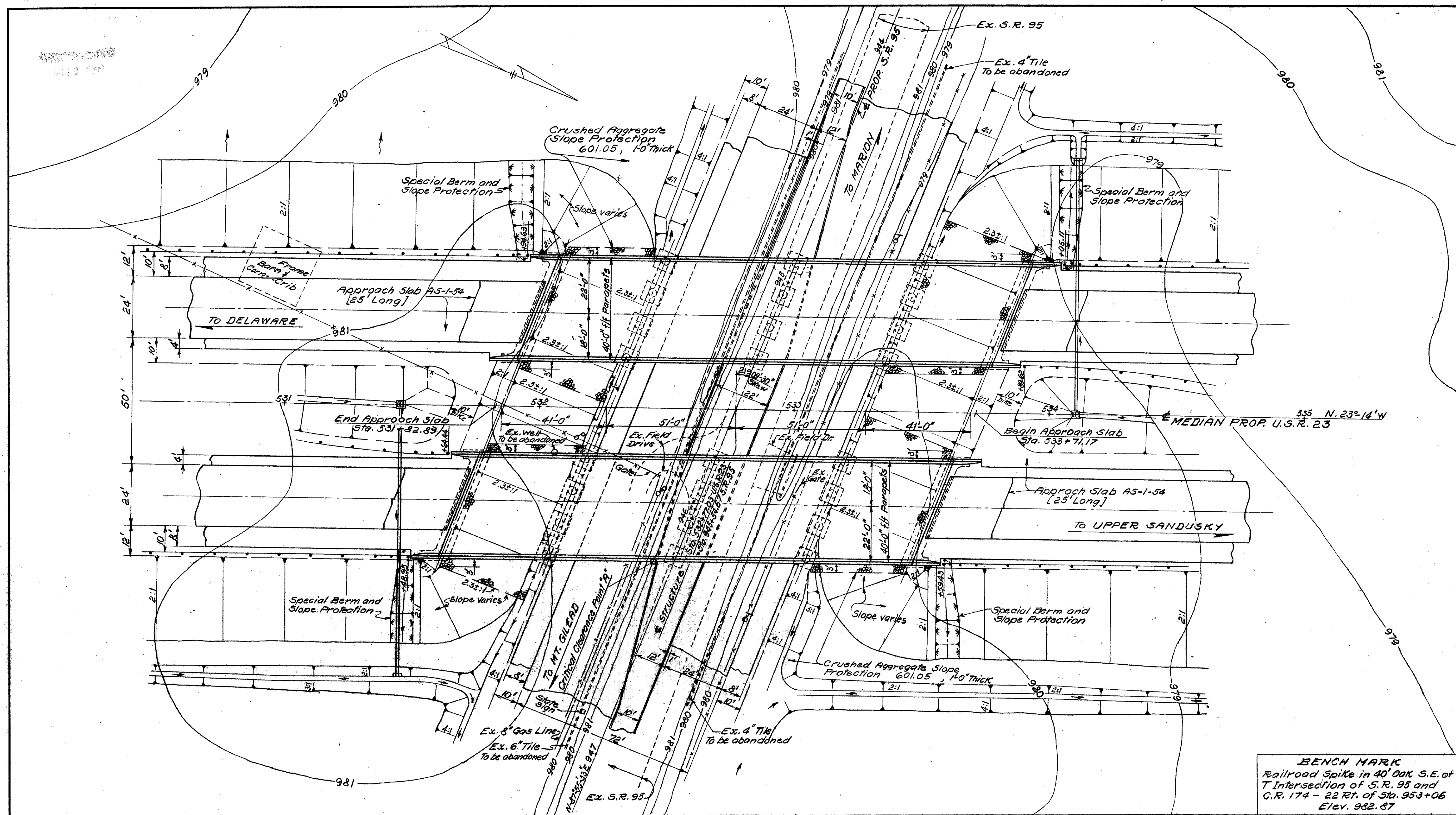


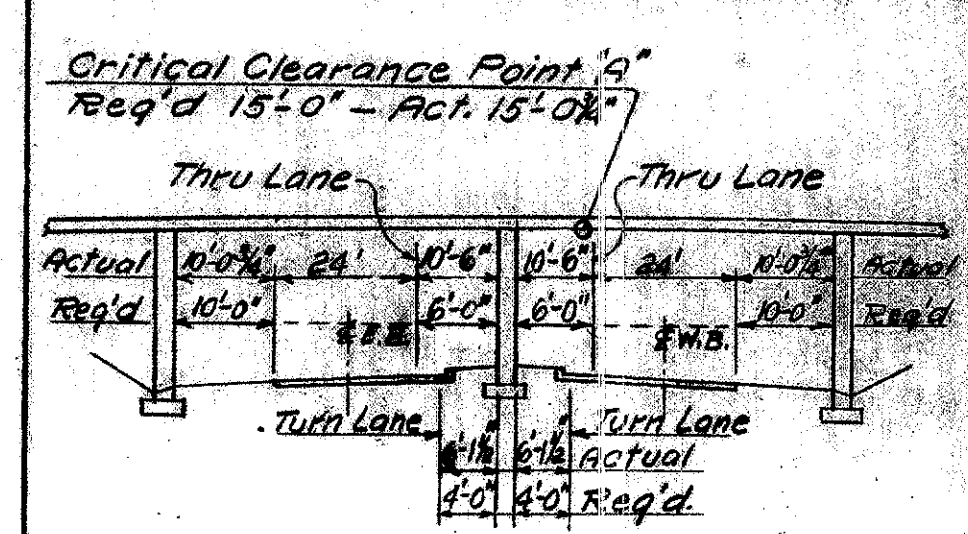


FED. RD. DIVISION	STATE	PROJECT	199
2	OHIO		223

MARION COUNTY
MAR-23-7.57

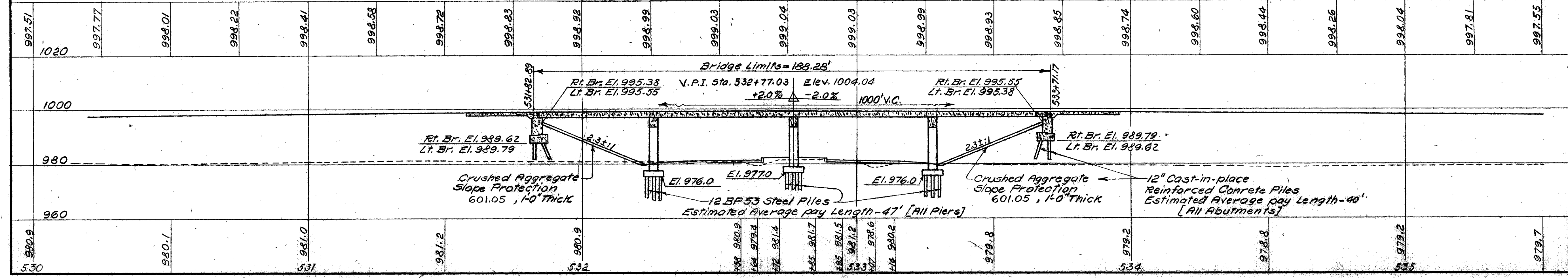
PROPOSED BRIDGE DATA
 TYPE: Continuous Reinforced Concrete Slab with Concrete Substructure [Two Structures]
 SPANS: 41'-0" ~ 51'-0" ~ 51'-0" ~ 41'-0"
 ROADWAY: Two at 40'-0" f/t Parapets
 LOAD FREQUENCY: CF-2000 [57]
 SKEW: 21°-09'-30" L.F.
 APPROACH SLABS: AS-1-54 [25' Long]
 RAILING: Bridge Railing, Type 1
 WEARING SURFACE: 1" Monolithic Concrete
 ALIGNMENT: TANGENT

1984 ADT IN EPV
 U.S.R. 23 ~ 23,730 VPD
 S.R. 95 ~ 11,320 VPD



CLEARANCE DIAGRAM
SECTION NORMAL TO S.R. 95

BENCH MARK
 Railroad Spike in 40' Oak S.E. of
 T Intersection of S.R. 95 and
 C.R. 174 - 22 Rt. of Sta. 953+06
 Elev. 962.87



BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD.
 Consulting Engineers
 245-249 S. Paint Street Chillicothe, Ohio

SITE PLAN
 BRIDGE No. MAR-23-1007 R.&L.
 U.S.R. 23 over S.R. 95
 MARION COUNTY U.S.R. 23
 STA. 531+82.89 TO STA. 533+74.17

SCALE: DATE: 9/1/65

GENERAL NOTES

REFERENCE shall be made to Standard Drawings AS-1-54, revised 8-10-65, BR-1-65 (Sheet 1) revised 11-24-65 and Supplemental Specification 808 dated 1-1-67, 825 dated 1-1-67 and 828 dated 1-1-67.

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.

Design Loading: CF-2000 (57)
Concrete Class "C": basic unit stress - 1,333 p.s.i.
Concrete Class "E": basic unit stress - 1,133 p.s.i.
Structural Steel: ASTM A36, basic unit stress - 20,000 p.s.i.

Reinforcing Steel: ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress - 20,000 p.s.i.
Except spiral reinforcement may be plain.
Structural Grade with basic unit stress of 18,000 p.s.i.

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

ABUTMENT PILES shall be driven to a minimum bearing capacity of 30 tons per pile.

PIER PILES shall be driven with a hammer of not less than 11,000 ft.-lbs. per blow to firm contact with rock. If the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 507.05 is not less than the following value for a pile hammer of the indicated energy rating:

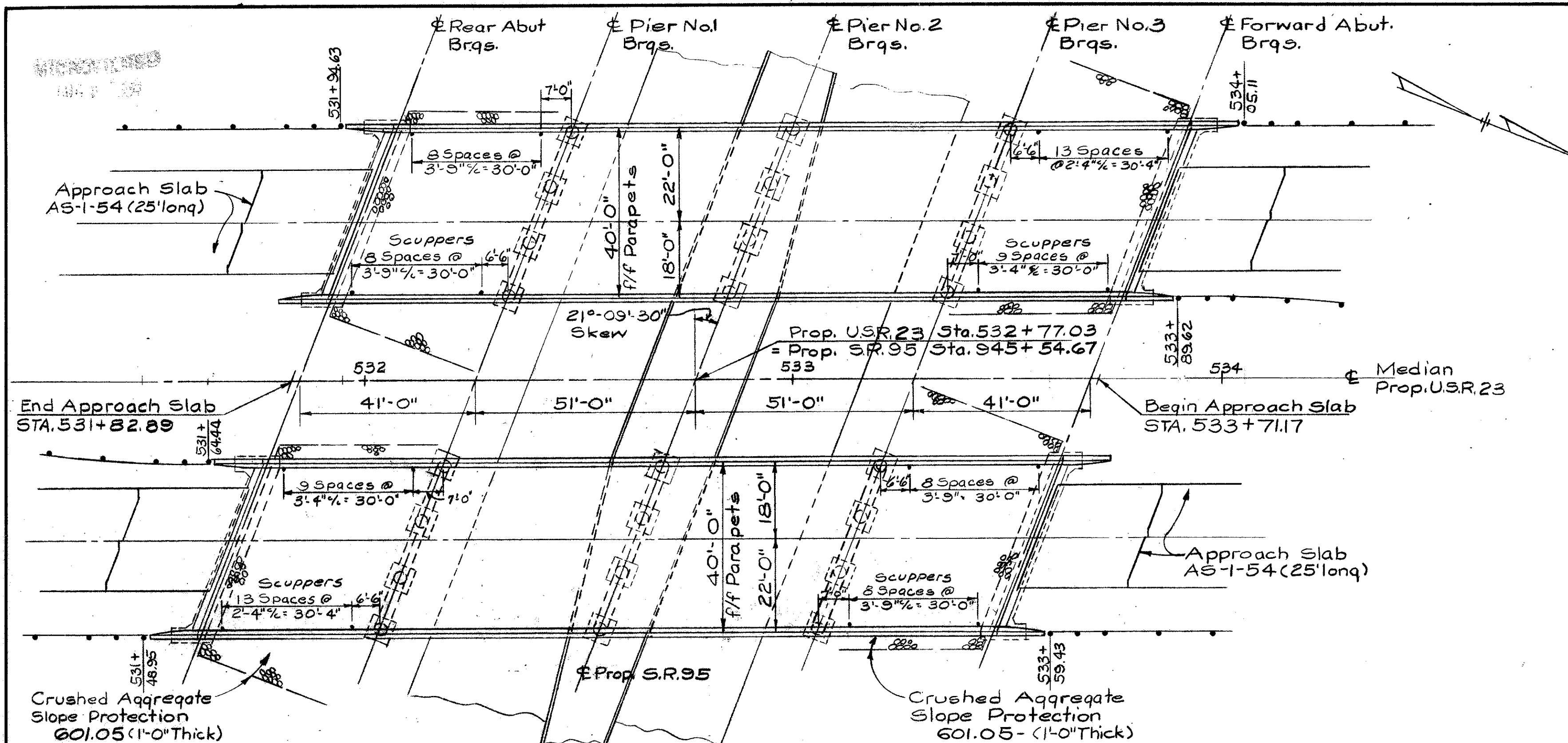
54 tons per pile using an 11,000 ft.-lb. hammer
48 tons per pile using a 15,000 ft.-lb. or greater hammer
If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 48 tons per pile for the pier piles.

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

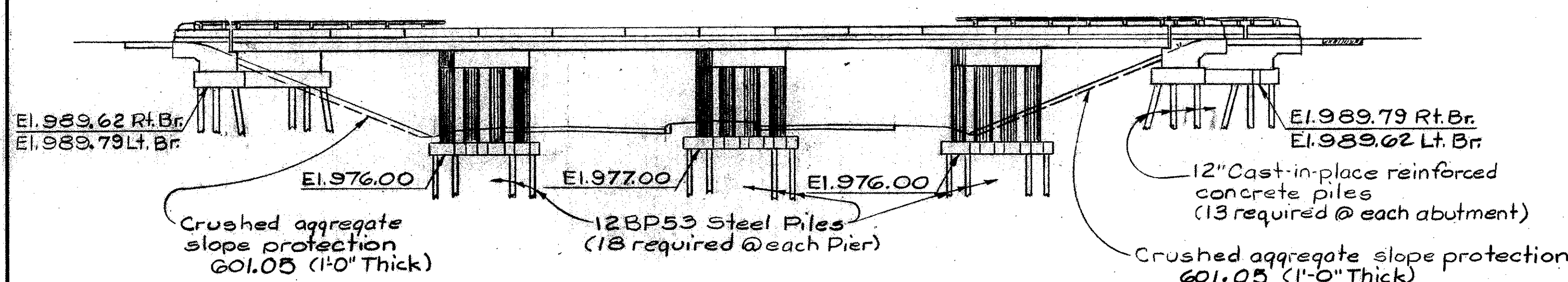
UTILITY LINES: All expense involved in relocating the affected utility lines shall be borne by the owners. The Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

MAINTENANCE AND PROTECTION OF TRAFFIC: Two lanes of traffic with a minimum horizontal width of 26'-0" shall be maintained on S.R. 95 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 12'-9" shall be provided at all times.

BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD. Consulting Engineers 245-249 S. Paint Street Chillicothe, Ohio			
GENERAL PLAN & ELEVATION- EST. QUANTITIES & GEN. NOTES BRIDGE NO. MAR-23-1007 R&L. U.S.R. 23 OVER S.R. 95 MARION COUNTY U.S.R. 23 STA. 531+82.89 TO STA. 533+71.17 SCALE DATE			
DESIGNED	DRAWN	TRACED	CHECKED
WIC	W.D.J.		F.H.S.
			7/16
			9/1/65



GENERAL PLAN



GENERAL ELEVATION

ESTIMATED QUANTITIES (TWO STRUCTURES)									
ITEM	QUANTITY	UNIT	DESCRIPTION	ABUT'S	PIERS	SUPER	GENERAL	AS BUILT	
503	765	Cu. Yds.	Unclassified Excavation	408	357				
511	1144	Cu. Yds.	Class "C" Concrete, superstructure			1,144			
511	196	Cu. Yds.	Class "C" Concrete, pier caps and columns		196				
511	132	Cu. Yds.	Class "E" Concrete, abutments above footings	132					
511	261	Cu. Yds.	Class "E" Concrete, footings	132	125				
509	363,490	Lbs.	Reinforcing Steel	22,100	58,740	282,650			
516	563	Lbs.	1/4" Rolled Bronze sliding plates (Sec. 711.16)	563					
516	160	Sq. Ft.	1/4" Preformed expansion joint filler	160					
516	16,100	Lbs.	Structural steel expansion joints				16,100		
517	829.91	Lin. Ft.	Bridge Rolling, Type 1	85.33		744.58			
505	Lump	Sum	First test pile (Steel or concrete)				Lump		
825	2036	Sq. Yds.	Concrete surface treatment	82		1954			
828	164	Lin. Ft.	Joint sealer (end dam)			164			
507	2080	Lin. Ft.	12" Cast-in-place reinforced concrete piles	2080					
507	5080	Lin. Ft.	12BP53 Steel piles		5080				
518	45	Cu. Yds.	Porous backfill	45					
518	84	Each	Scuppers, 4" cast or wrought iron pipe			84			
518	148	Lin. Ft.	6" Helical perforated C.M.P. Sec. 707.06, including specials	148					
518	87	Lin. Ft.	6" Helical C.M.P. Sec. 707.06 non-perforated	87					
601	1,012	Sq. Yds.	Crushed aggregate slope protection				1,012		
808	1,144	Units	Water-reducing, set-retarding admixture			1,144			

MARION COUNTY
MAR-23-7.57

NOTES

For additional details of end post, railing and parapet see Standard Drawing BR-1-65 sheet No. 1.

Concrete above curb surface construction joint is included with item 517 for payment.

LEGEND

N.S. = Near Side
F.S. = Far Side

SECTION "E"- "E"

SECTION "G"- "G"

VIEW "B"-B"

SECTION "D"- "D"

SECTION "F"-"F"

VIEW "C"- "C"

BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD.
Consulting Engineers
245-249 S. Paint Street Chillicothe, Ohio

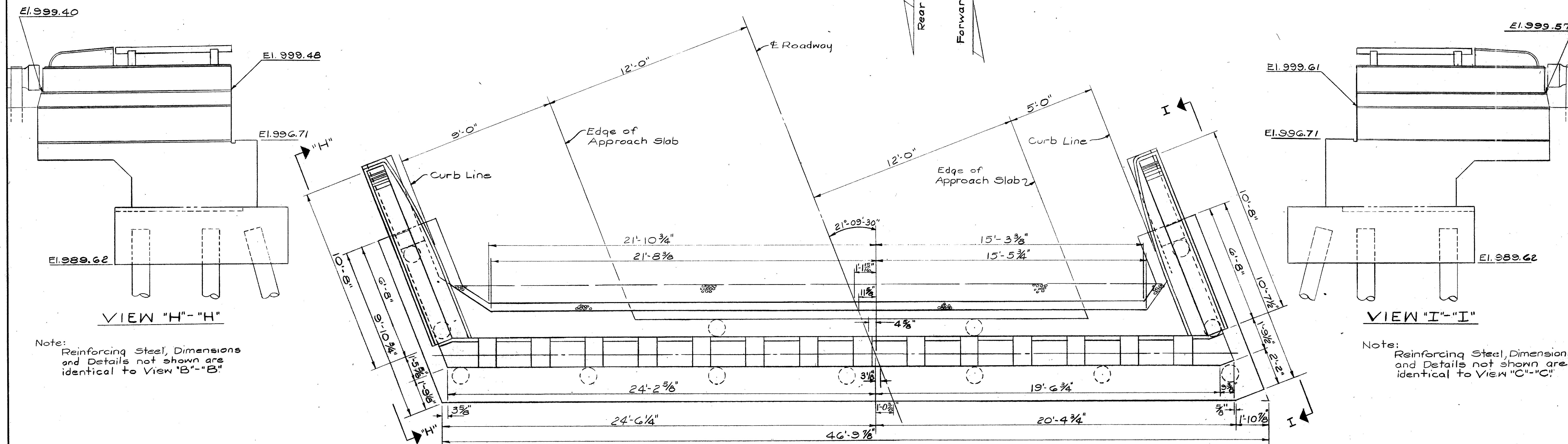
ABUTMENT DETAILS	
1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16
17	18
19	20
21	22
23	24
25	26
27	28
29	30
31	32
33	34
35	36
37	38
39	40
41	42
43	44
45	46
47	48
49	50
51	52
53	54
55	56
57	58
59	60
61	62
63	64
65	66
67	68
69	70
71	72
73	74
75	76
77	78
79	80
81	82
83	84
85	86
87	88
89	90
91	92
93	94
95	96
97	98
99	100

BRIDGE NO. MAR-23-1007R&L
U.S.R. 23 over S.R. 95

MARION COUNTY U.S.R. 23
STA. 531+82.89 TO STA. 533+71.17

SCALE		DATE				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
WIC	W.D.J.		FHS	WK	9/7/65	

MARION COUNTY
MAR-23-7.57



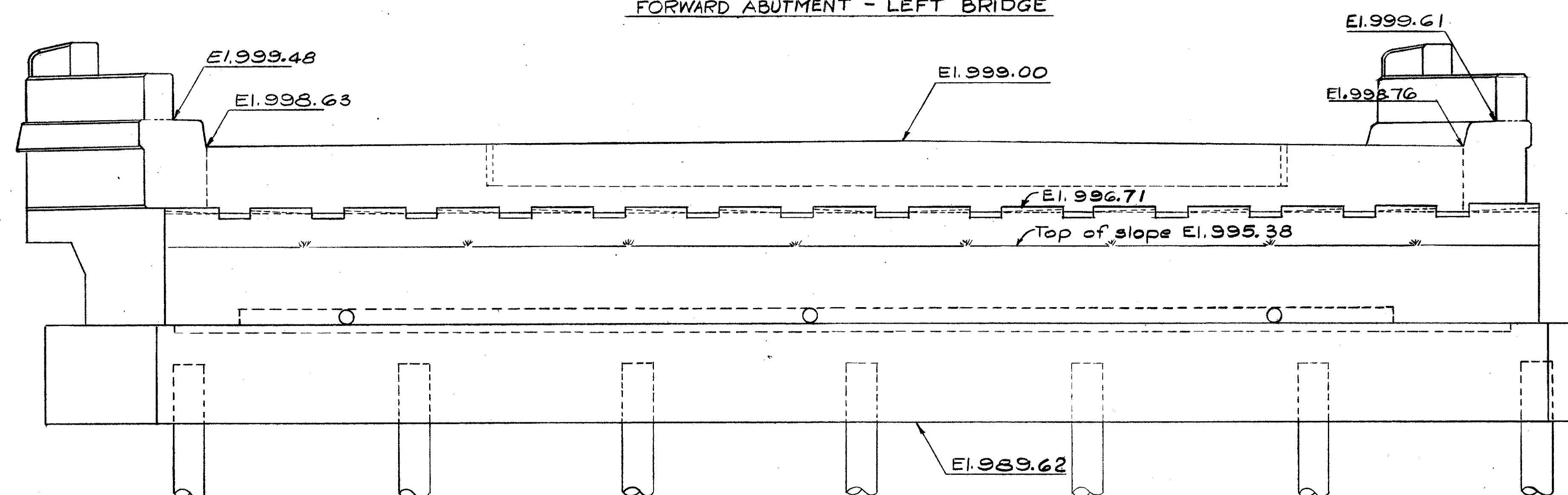
VIEW "H"- "H"

Note: Reinforcing Steel, Dimensions and Details not shown are identical to View "B"- "B"

VIEW "I"- "I"

Note: Reinforcing Steel, Dimensions and Details not shown are identical to View "C"- "C"

PLAN
REAR ABUTMENT - RIGHT BRIDGE
FORWARD ABUTMENT - LEFT BRIDGE

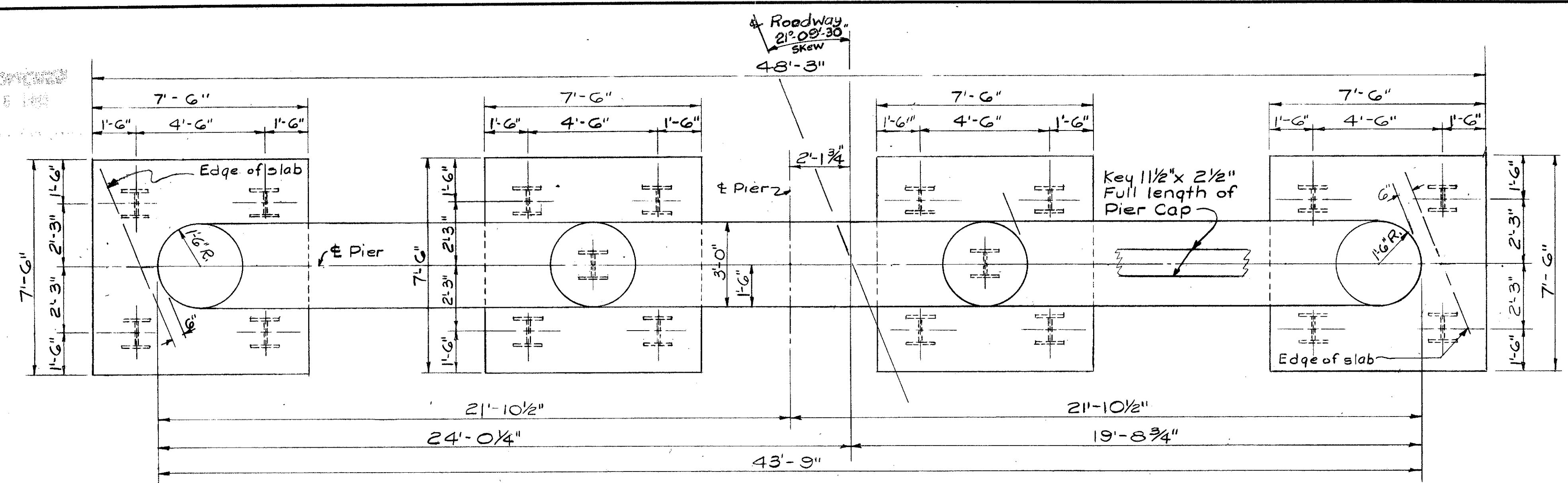


ELEVATION
REAR ABUTMENT - RIGHT BRIDGE
FORWARD ABUTMENT - LEFT BRIDGE

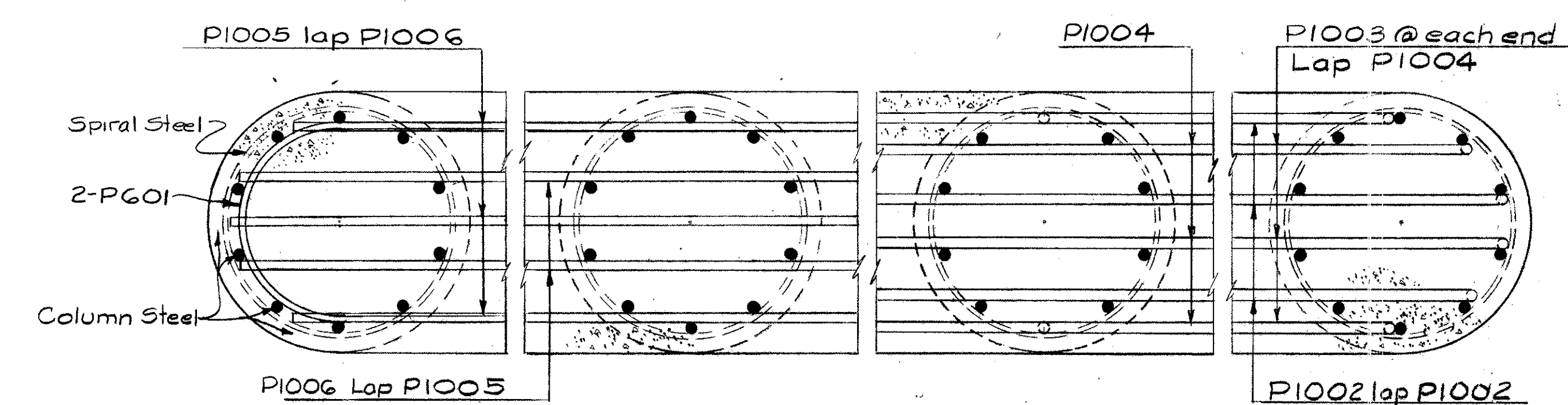
Note: Reinforcing Steel, Dimensions and Details not shown are identical to Rear Abutment - Left Bridge.

BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD.						
Consulting Engineers						
245-249 S. Paint Street			Chillicothe, Ohio			
ABUTMENT DETAILS						
BRIDGE NO. MAR-23-1007R4L						
U.S.R. 23 over S.R. 95						
MARION COUNTY					U.S.R. 23	
STA. 531+82.89 TO STA. 533+71.17						
SCALE			DATE			
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVIS
WIC	W.D.U.		F.H.S.	W.H.	9/1/65	

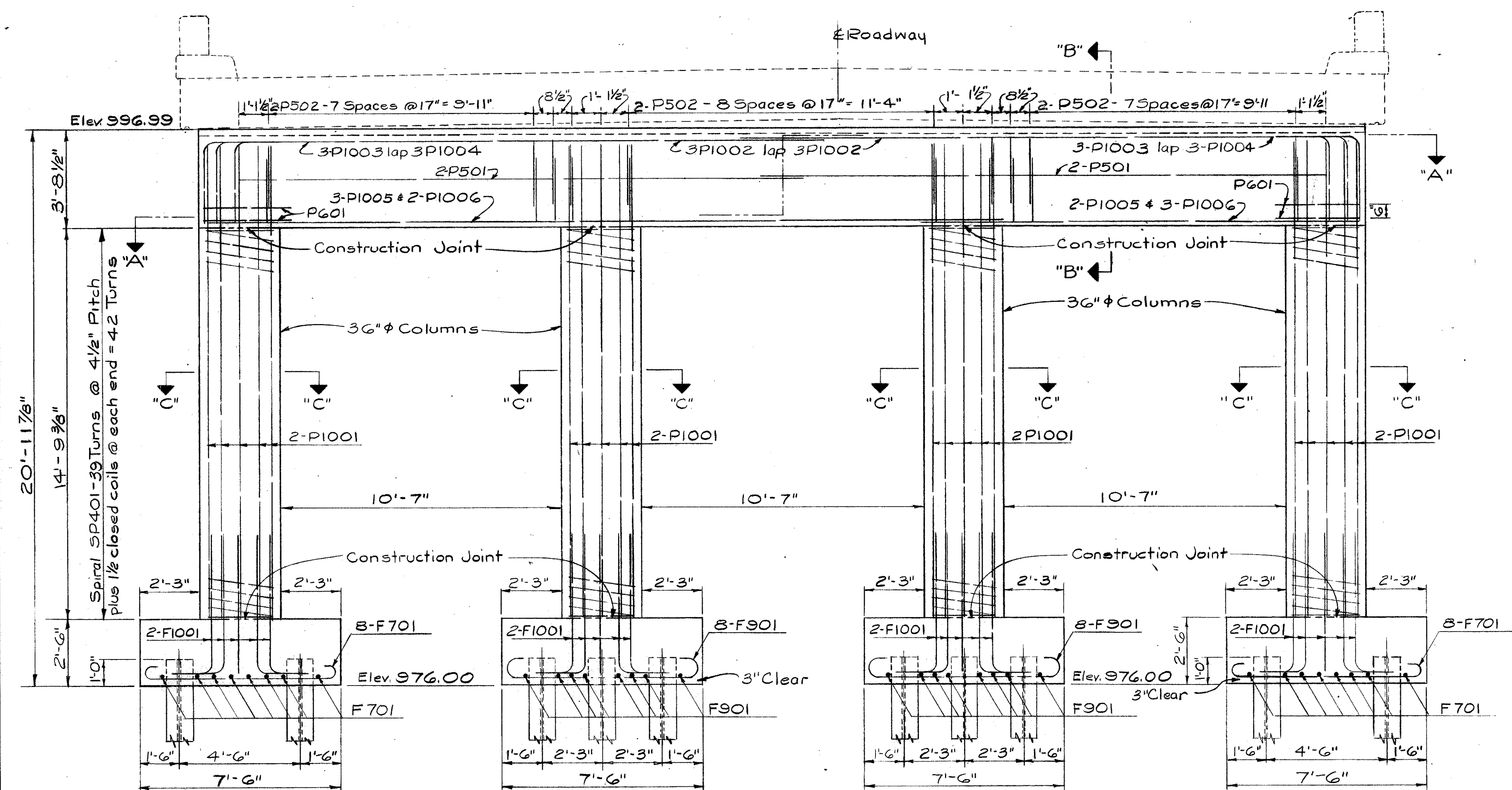
MARION COUNTY
MAR-23-7.57



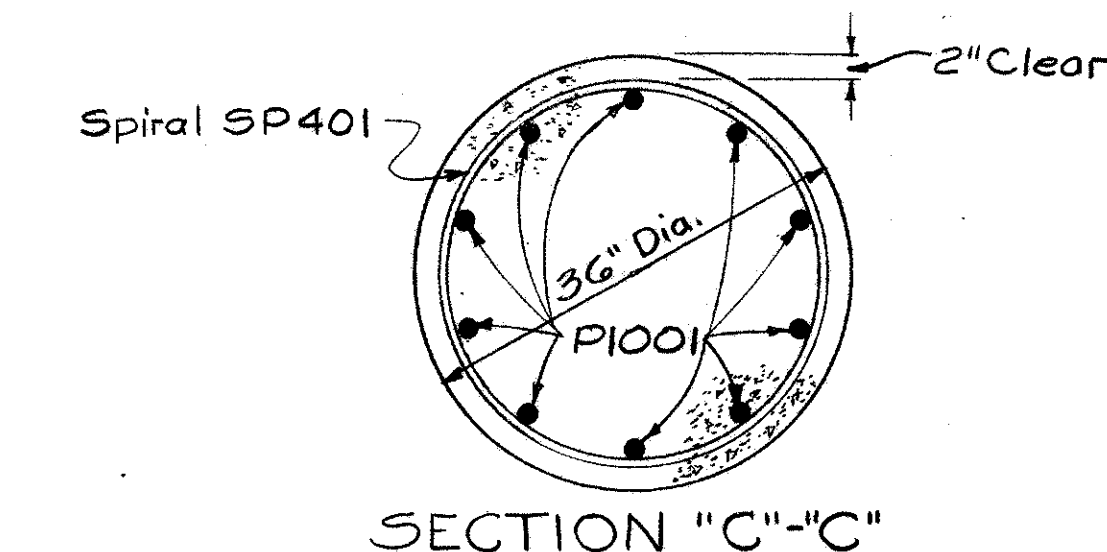
PLAN PIER NO. 1
LEFT BRIDGE



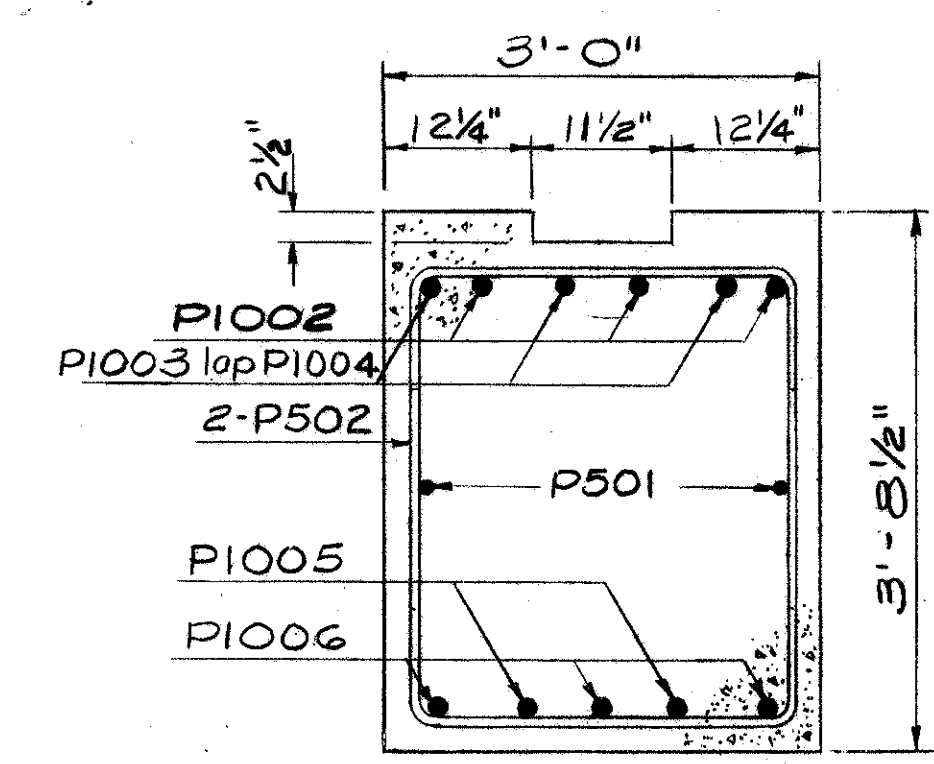
SECTION "A"-A"



ELEVATION - PIER NO. 1
LEFT BRIDGE



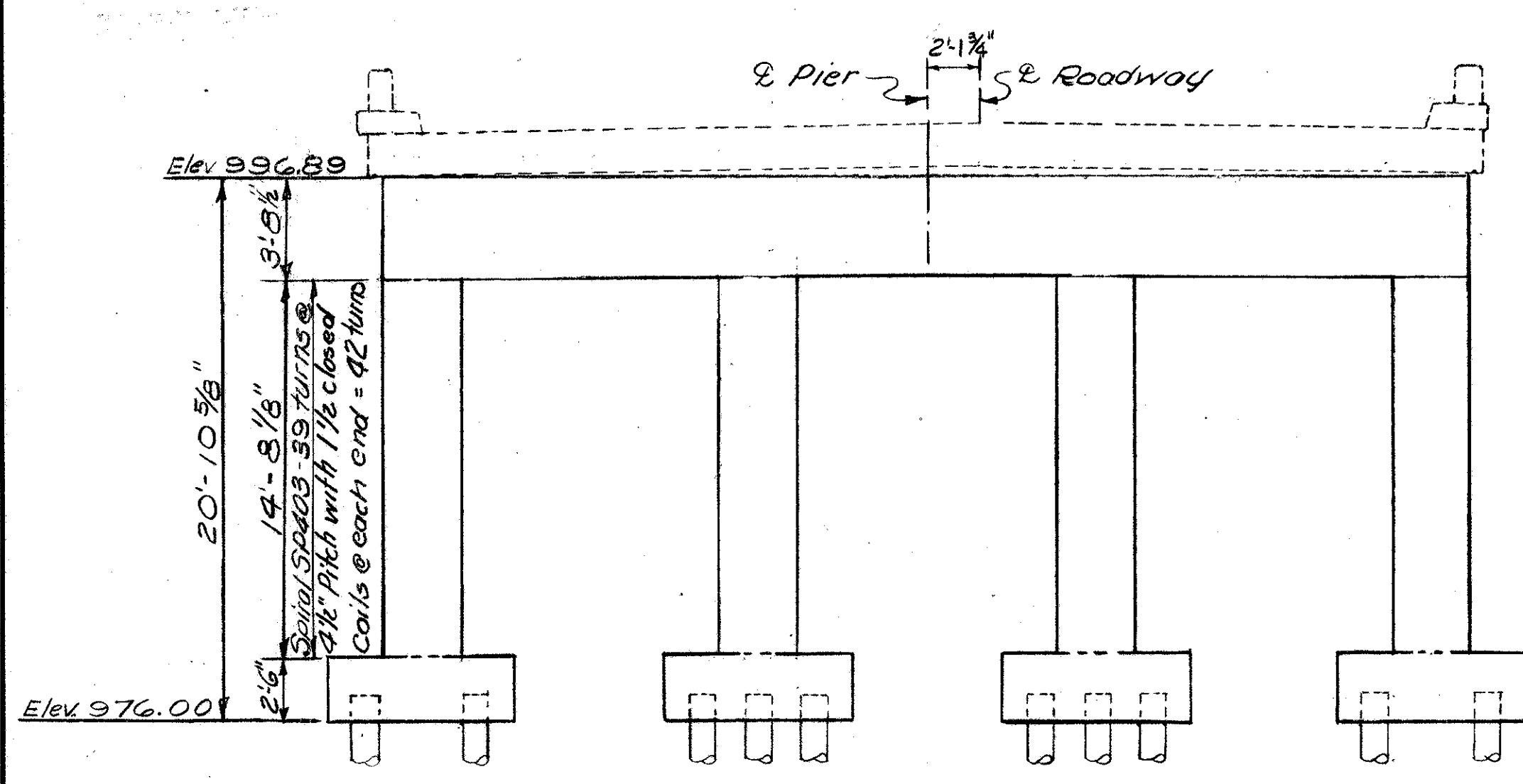
SECTION "C"-C"



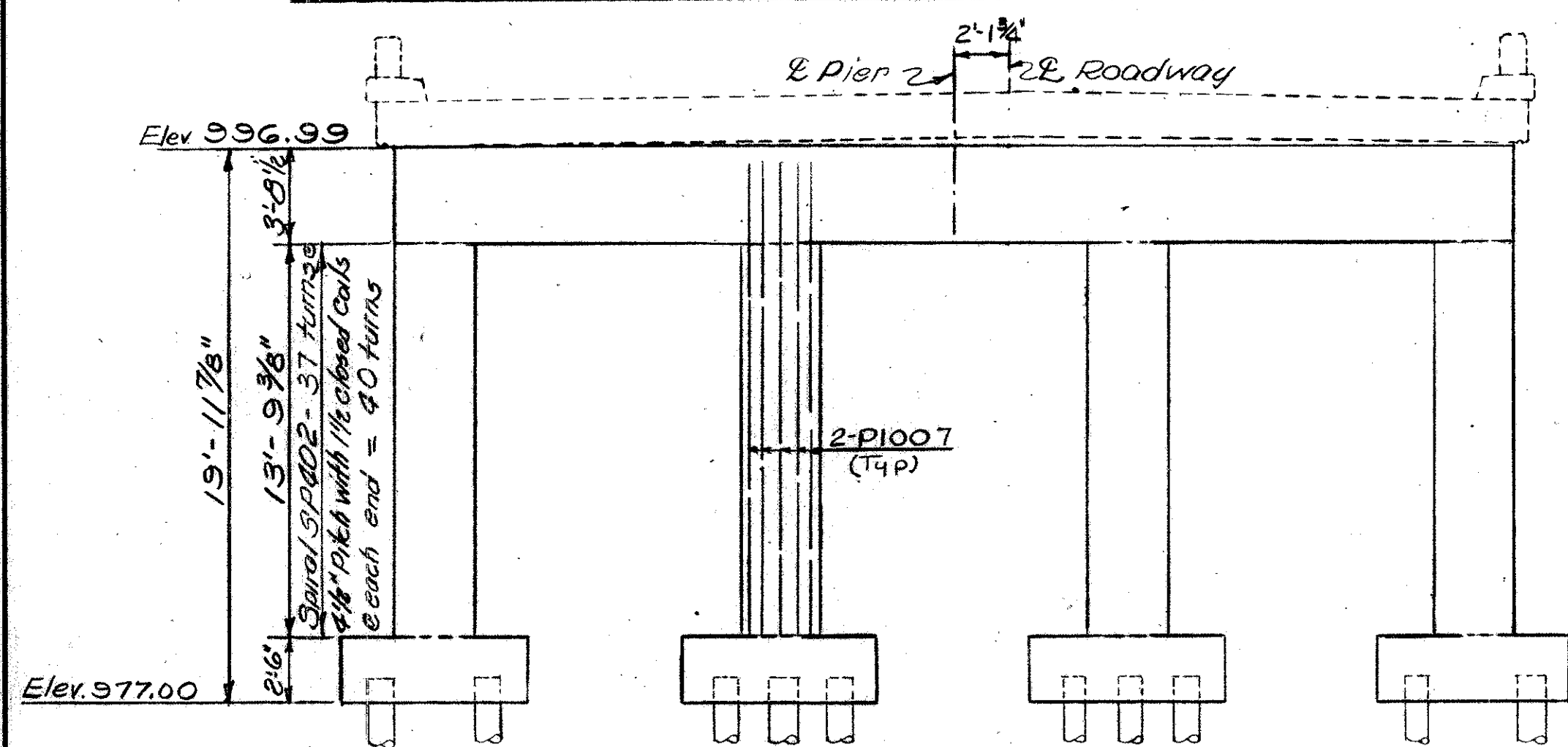
SECTION "B"-B"

NOTES
Concrete shall be Class "C" for Pier Caps and Columns and Class "E" for Footings.
All piles shall be 12BP53 Steel Piles.

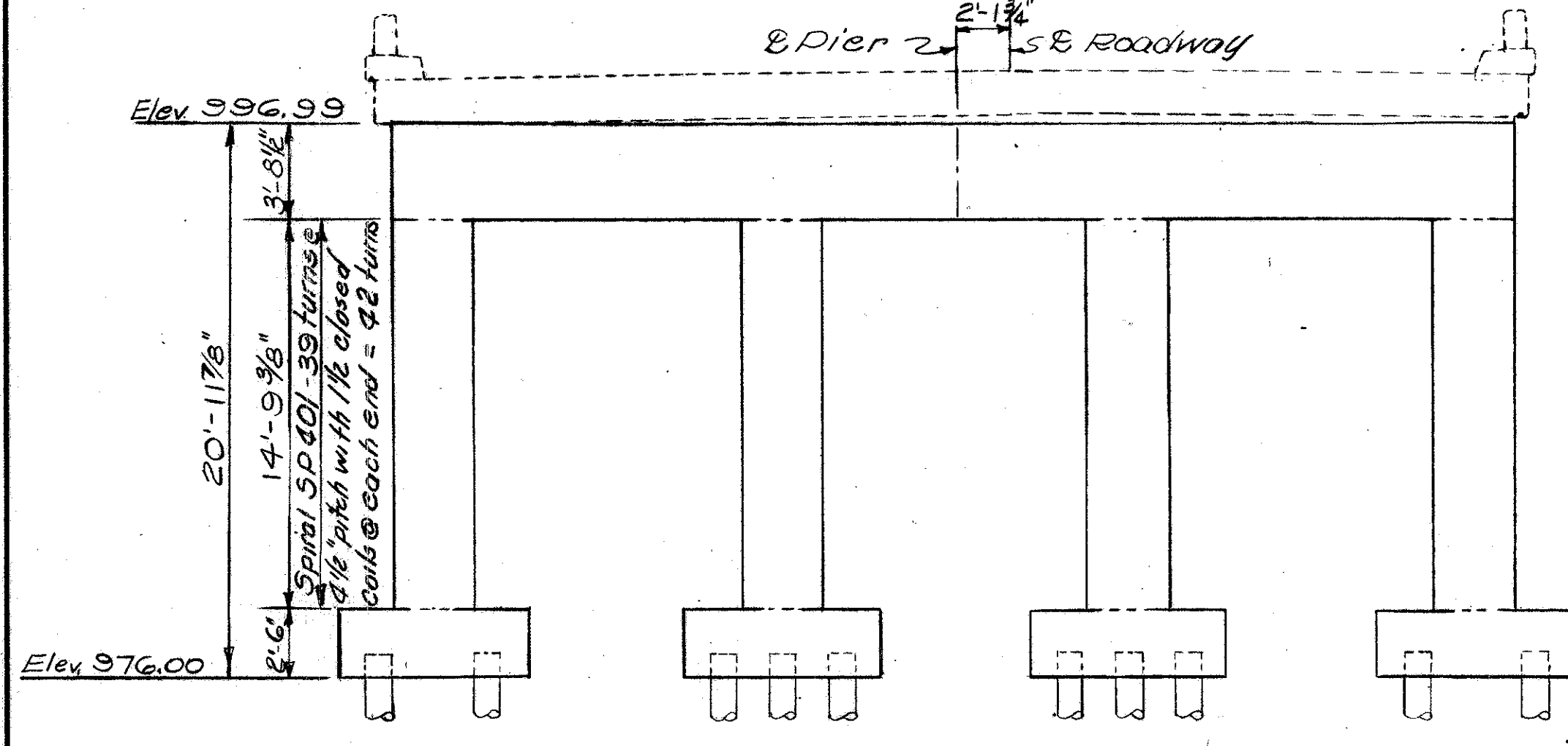
BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD. Consulting Engineers 245-249 S. Paint Street Chillicothe, Ohio							
PIER NO. 1 DETAILS LEFT BRIDGE BRIDGE NO. MAR-23-1007 R.&L. U.S.R. 23 OVER S.R. 95 MARION COUNTY U.S.R. 23 STA. 531+82.89 TO STA. 533+71.17							
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
W.C.	W.D.		J.H.	J.H.	9/7/65		



ELEVATION - PIER No.3 - LEFT BRIDGE

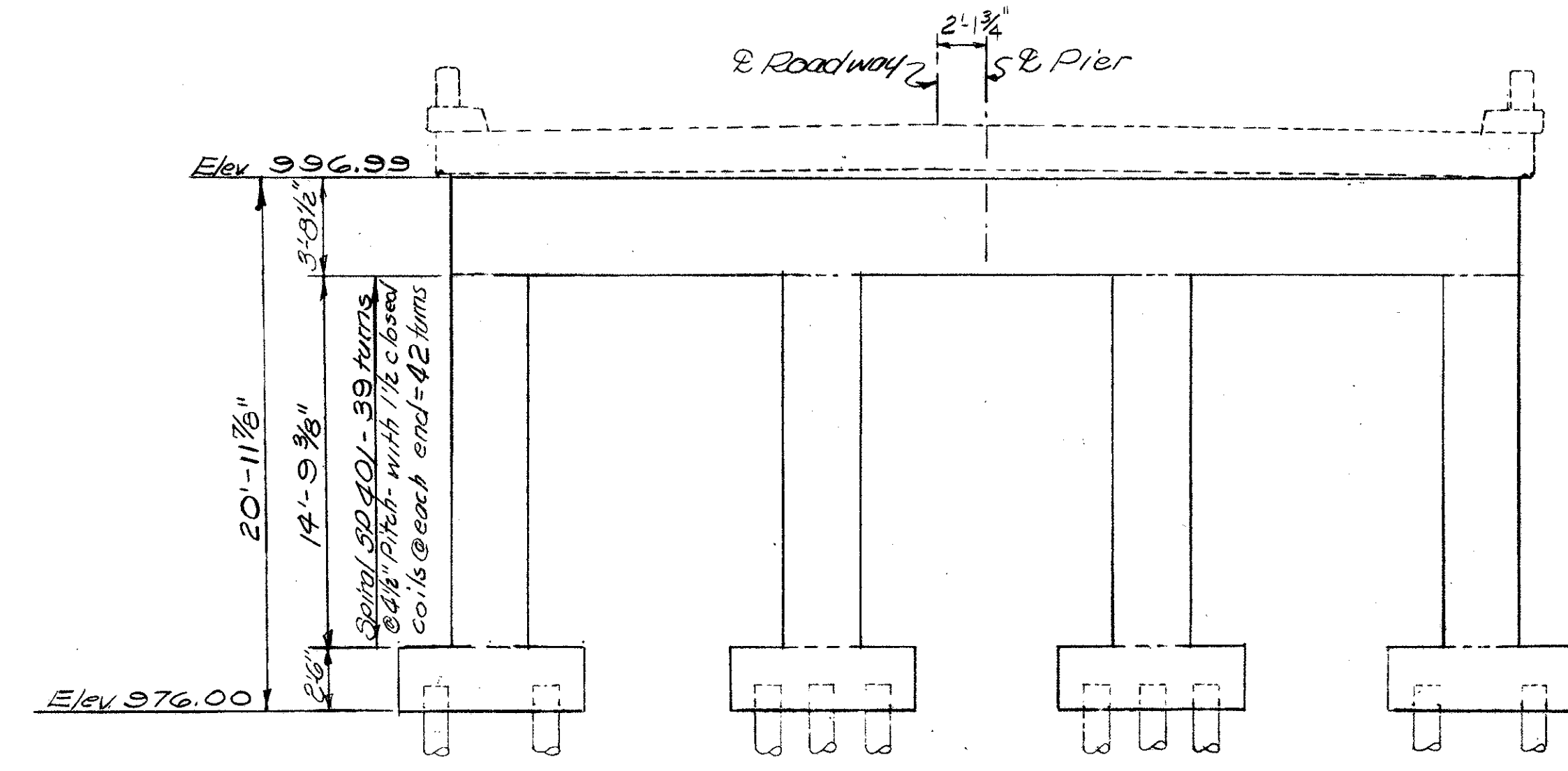


ELEVATION - PIER No.2 LEFT BRIDGE



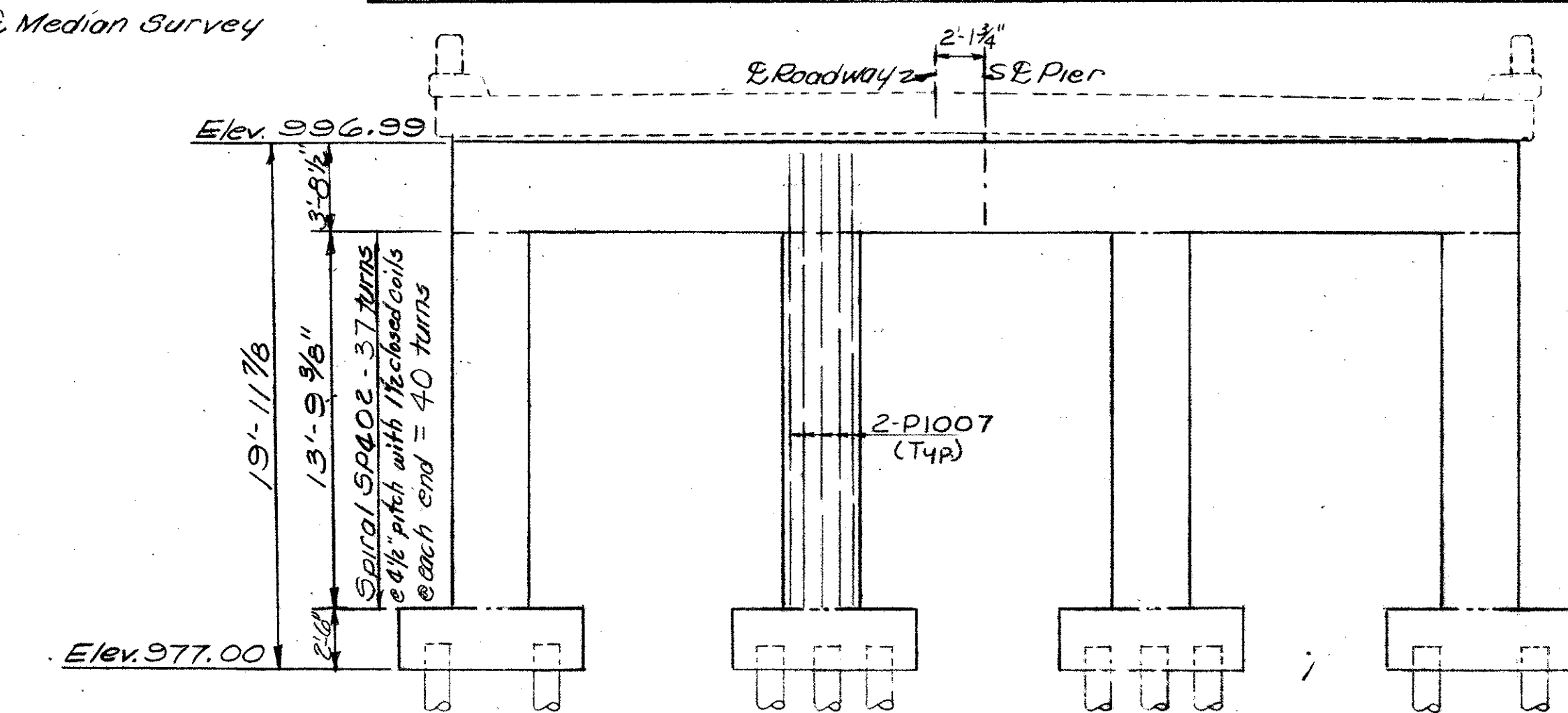
ELEVATION - PIER No.1 LEFT BRIDGE

& Median Survey



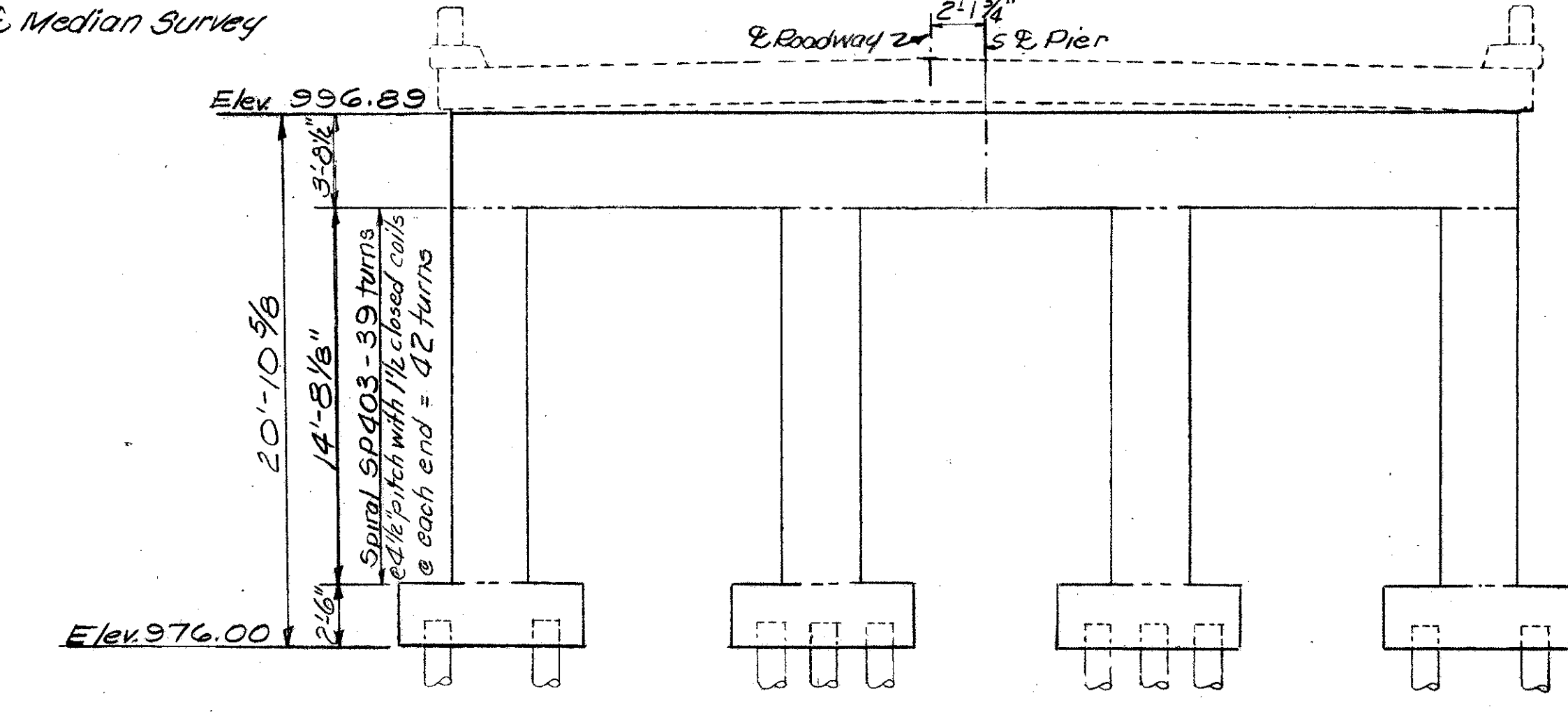
ELEVATION - PIER No.3 - RIGHT BRIDGE

& Median Survey



ELEVATION- PIER No.2 - RIGHT BRIDGE

& Median Survey



ELEVATION - PIER No.1 - RIGHT BRIDGE

NOTES

Dimensions, details, reinforcing steel, piles and notes not shown are similar to PIER No.1 - Left Bridge.

BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD.

Consulting Engineers

245-249 S. Paint Street Chillicothe, Ohio

PIER DETAILS

BRIDGE NO. MAR-23-1007R. & L.

U.S.R. 23 OVER S.R. 95

MARION COUNTY U.S.R. 23

STA. 531+82.89 TO STA. 533+71.17

SCALE DATE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WIC	BDM	W.D.U.	F.H.S.	N.W.	9/7/65	

MARION COUNTY
MAR-23-7.57

Symmetrical about
C of Structure

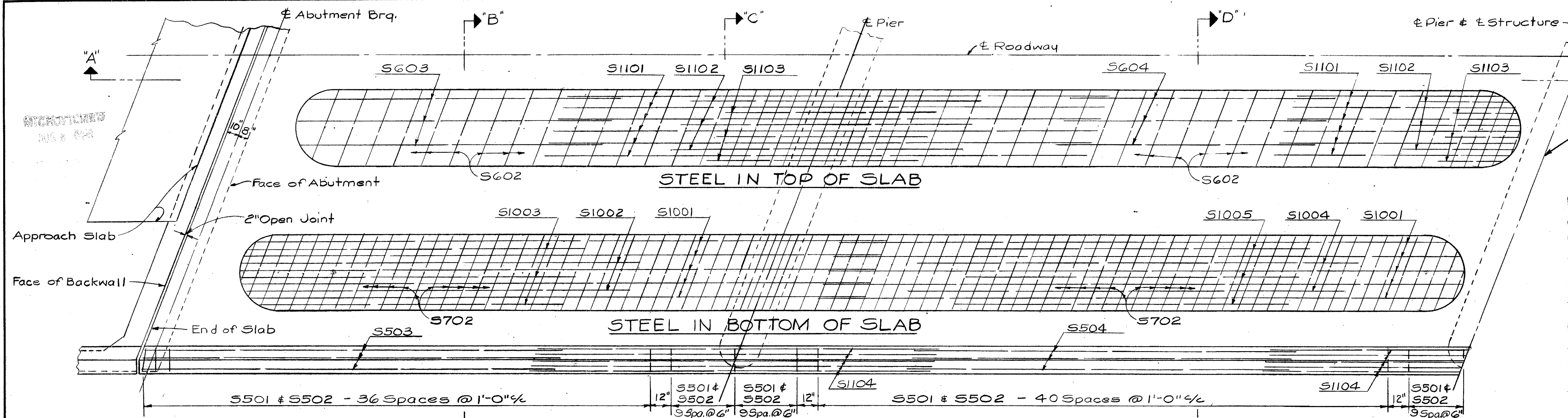
NOTES

Concrete shall be Class "C".

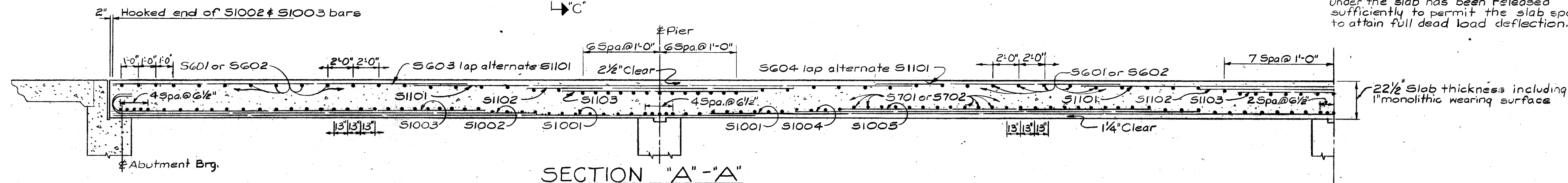
CAMBER of $\frac{1}{800}$ of the span shall be provided in each span (in addition to any required for conformance with the profile of the highway) to allow for dead load deflection. This is the amount of camber required before falsework is released. To obtain this, proper allowance shall be made for the deflection of falsework members.

CONSTRUCTION JOINTS: One construction joint in bridge slab shall be placed on the transverse centerline of the interior span or 1'-0" off the transverse centerline if necessary to miss transverse reinforcing bars. One longitudinal joint on the centerline of roadway will be permitted. A horizontal construction joint shall be placed between each curb and the top of the slab and between each curb and the bottom of the parapet wall.

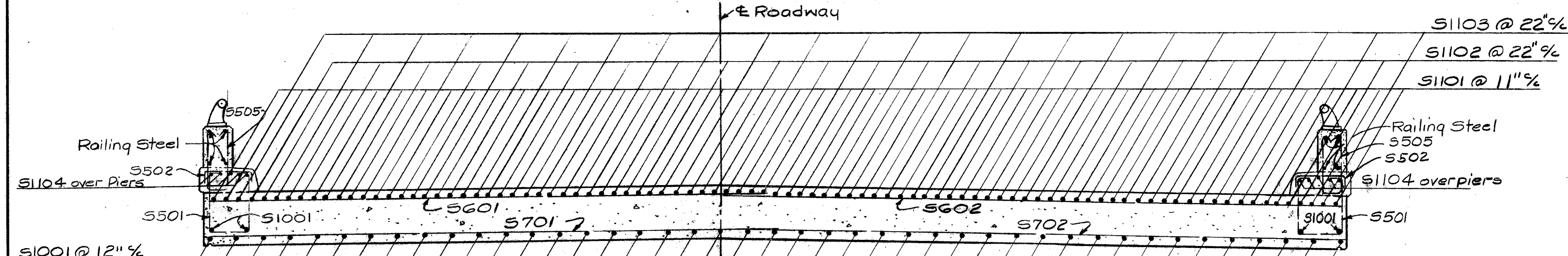
CURBS shall be placed after the shoring under the slab has been released sufficiently to permit the slab spans to attain full dead load deflection.



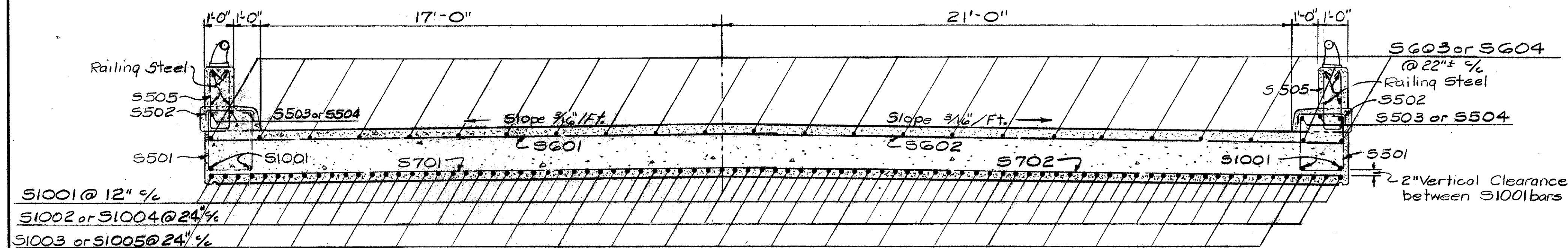
PART PLAN



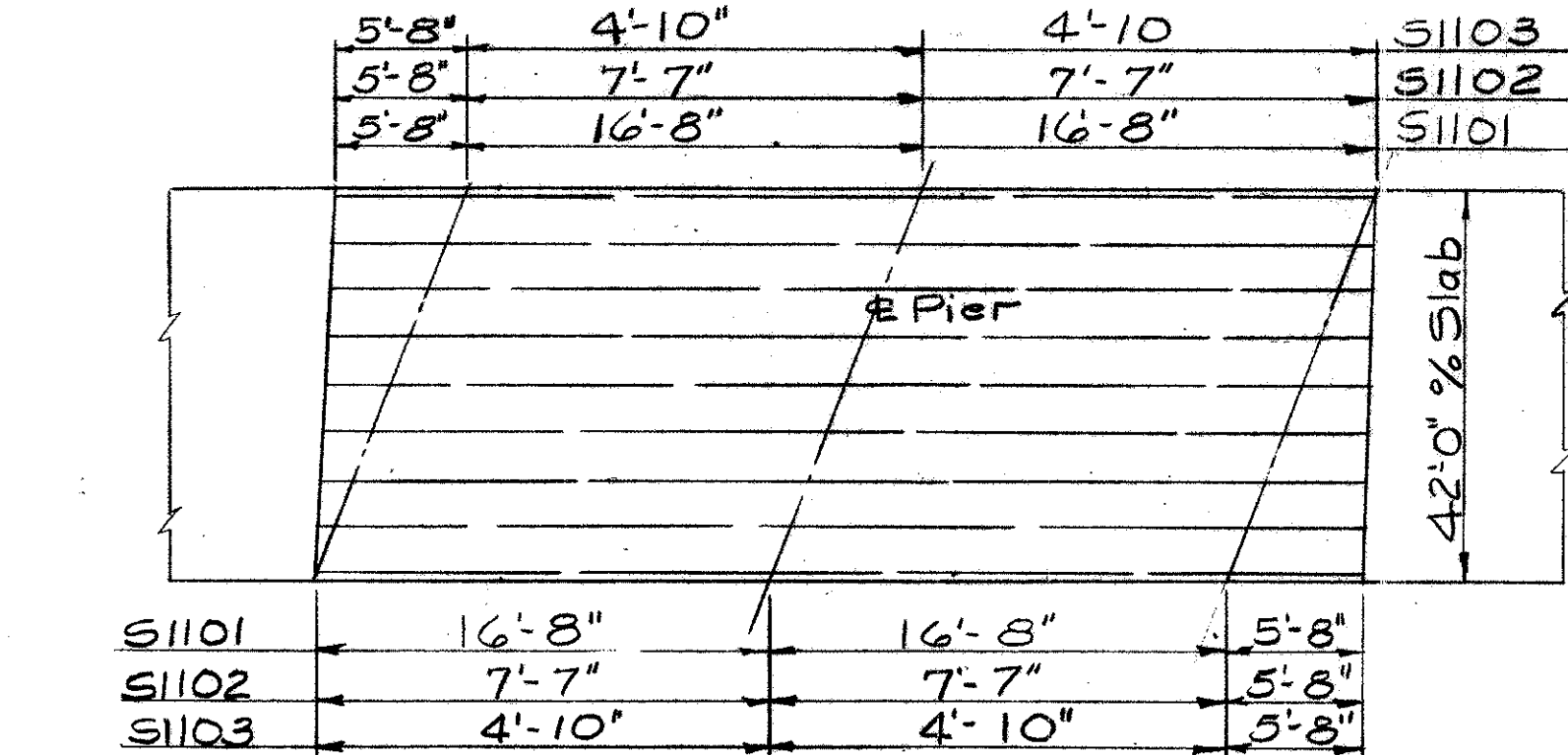
SECTION "A"-A



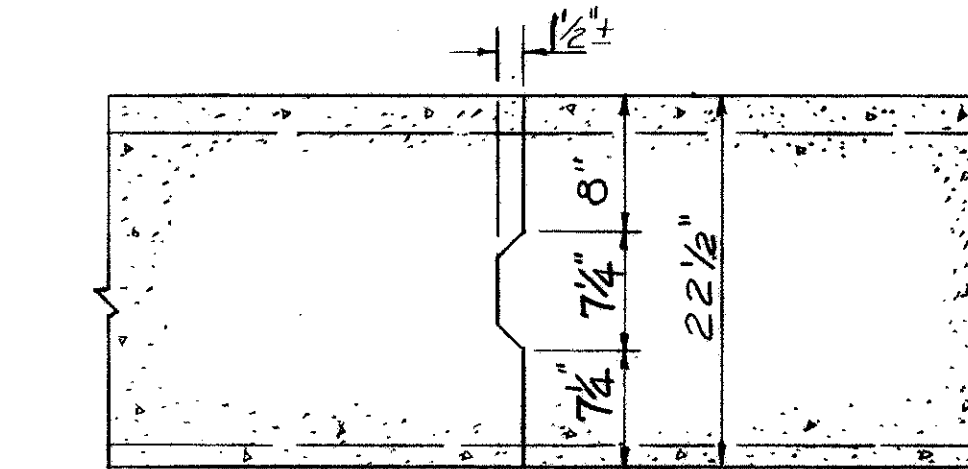
SECTION "C"-C



SECTION "B"-B' AND "D"-D'

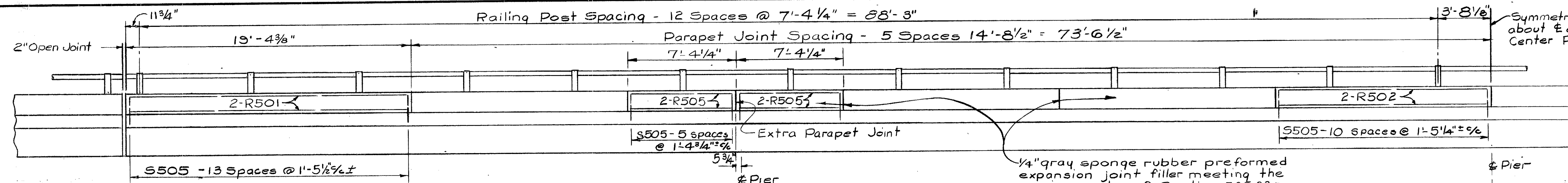


PLACEMENT DIAGRAM FOR S1101, S1102 AND S1103 BARS OVER PIERS



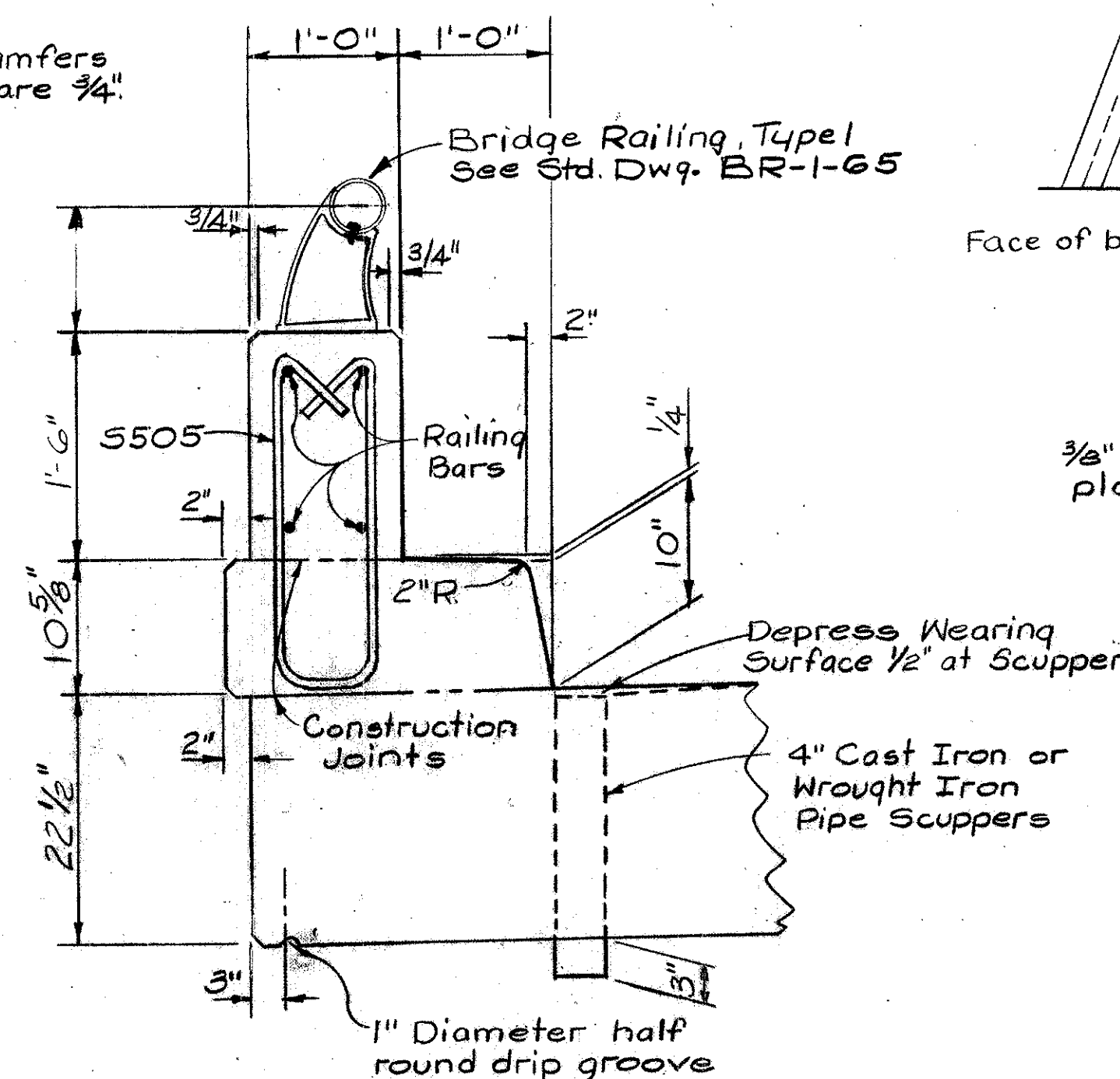
CONSTRUCTION JOINT DETAIL

BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD. Consulting Engineers 245-249 S. Paint Street Chillicothe, Ohio					
SLAB REINFORCING DETAILS					
BRIDGE NO. MAR-23-1007 R&L U.S.R.23 OVER S.R.95					
MARION COUNTY U.S.R. 23 STA. 531+82.89 TO STA. 533+71.7					
SCALE	DATE				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
WC	W.D.J.		F.H.	W.H.	9/7/65



ELEVATION
RAILING AND PARAPET

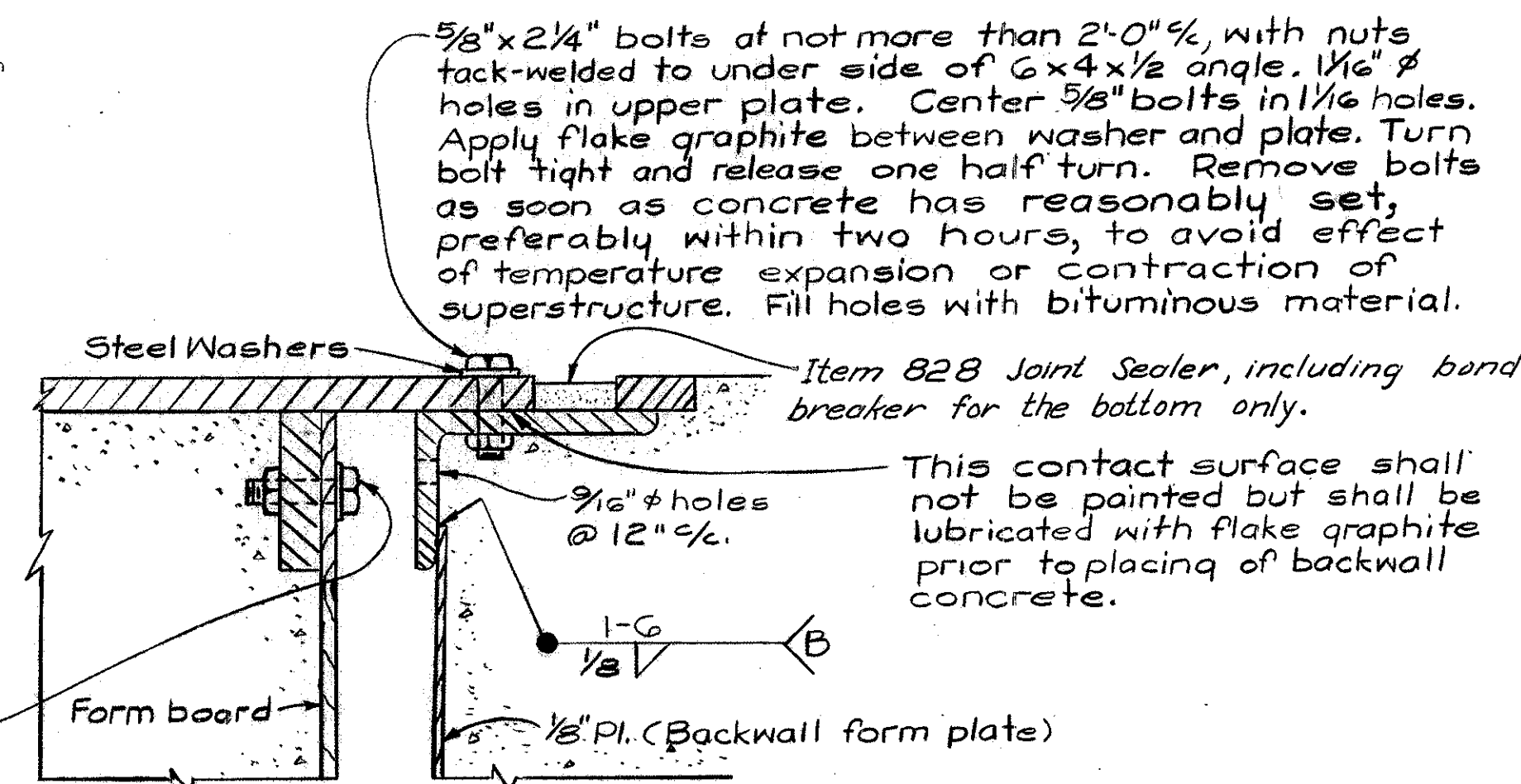
Note:
All chamfers
shown are 3/4".



PART SECTION
TREATMENT OF PARAPET AND FASCIA

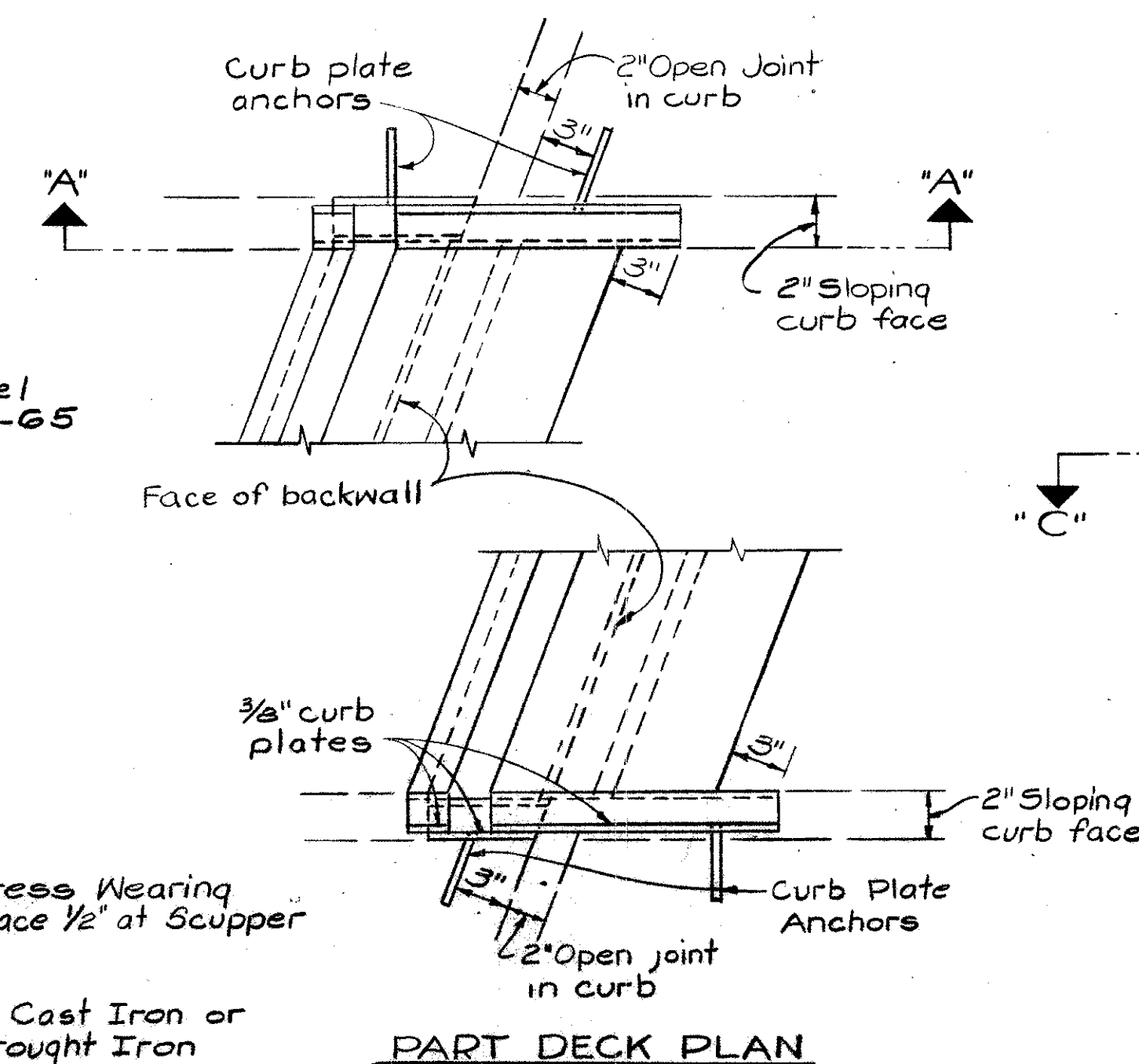
A welded butt joint in the end dam, at or near the centerline of roadway, will be required for that portion of the end dam attached to the superstructure. The portion attached to the backwall shall be placed in segments not less than 6'-0" in length with a joint at or near the centerline of roadway. These shall be closely butted but shall not be welded.

5/8"x2 1/2" bolts at 1'-6" c/c with nuts welded to the bar, temporary support for end finish during placing of slab concrete. Remove bolts with forms.

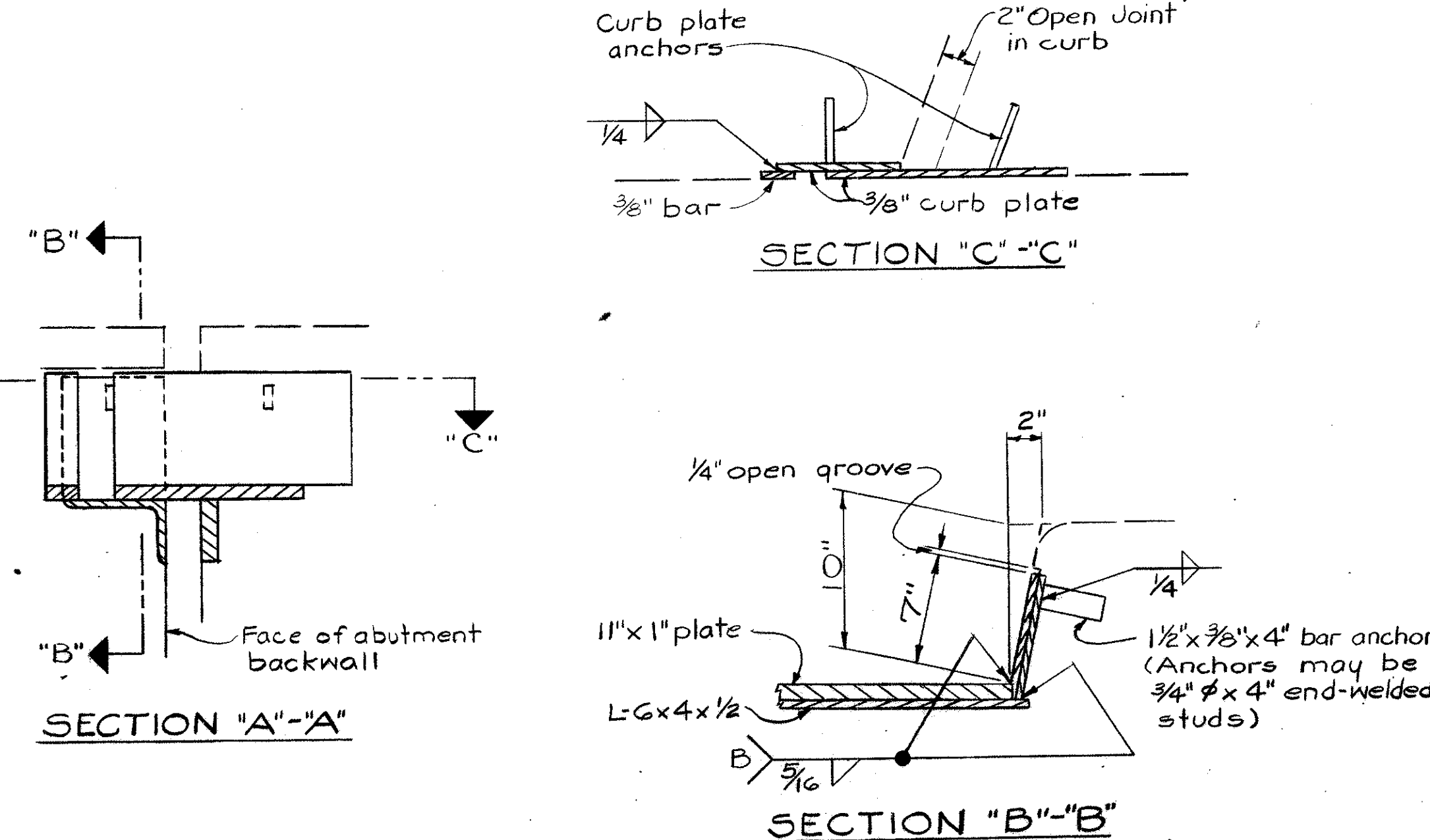


Omit shop coat on all portions of end dam. Portions in contact with steel or with concrete shall not be painted. All other portions shall be cleaned and given the shop coat in the field as well as two field coats.

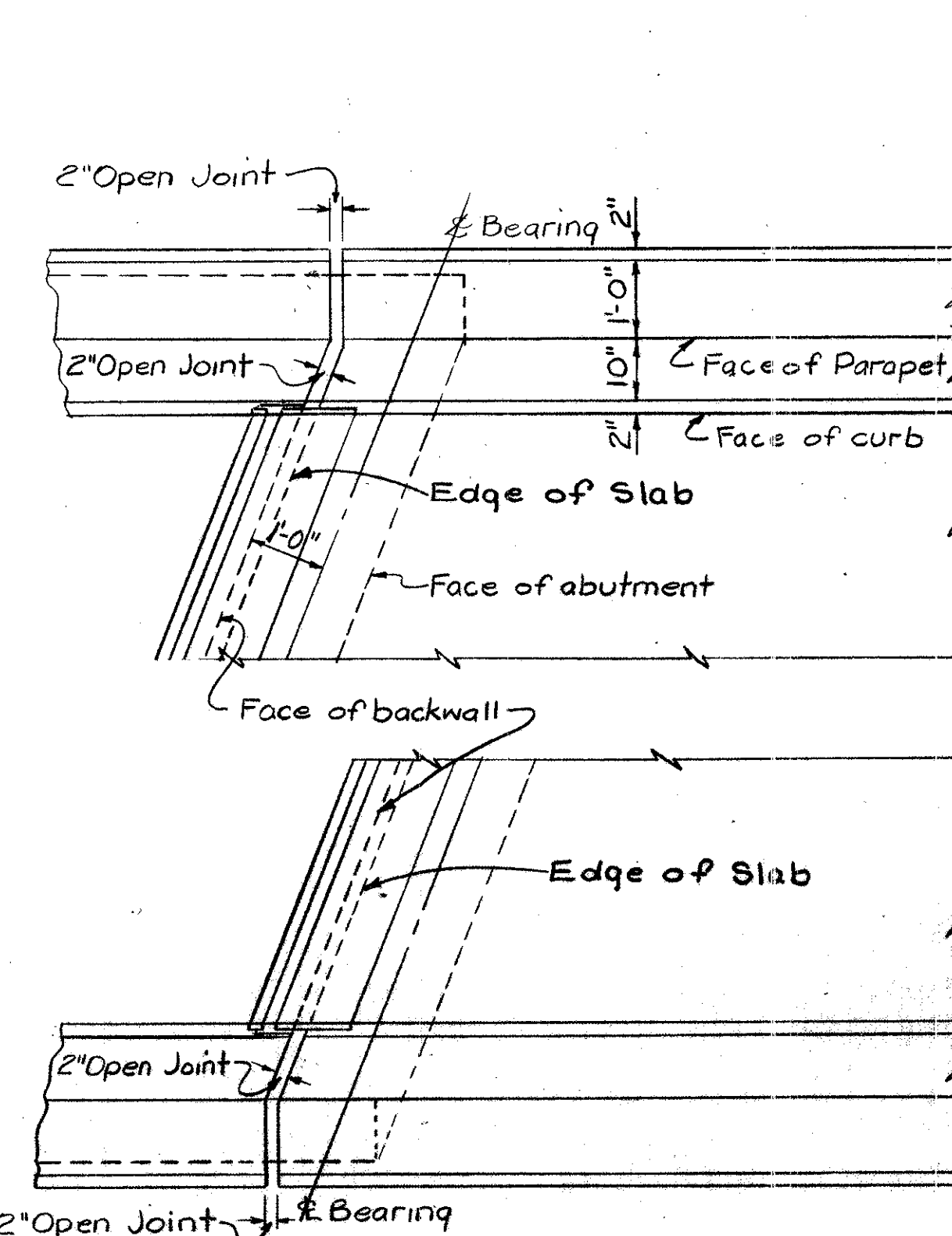
END FINISH DETAILS



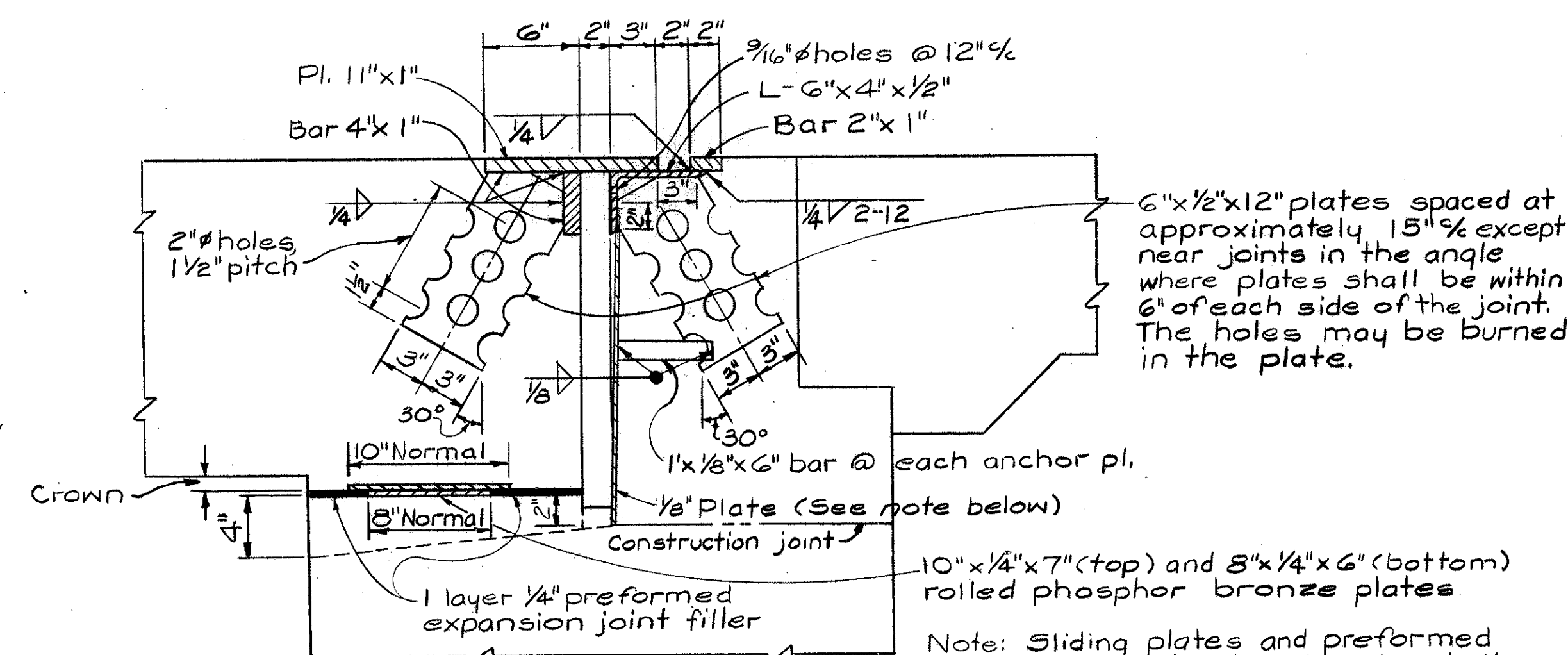
PART DECK PLAN



CURB PLATE DETAILS

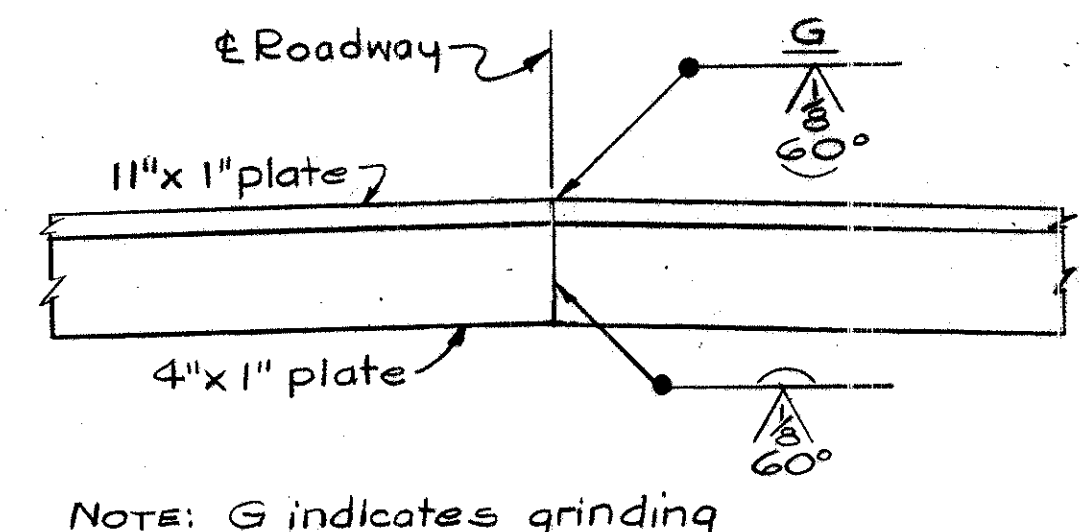


PART PLAN AT ABUTMENT



NOTE:
1/8" Backwall form plate shall be provided in lengths not to exceed 6'-0"; joints between lengths shall be tightly butted and no joints shall be placed opposite drainage slots in bridge seat; plates shall be notched to fit around anchor plates.

Note: Sliding plates and preformed expansion joint filler shall be at all raised portions of the bridge seat.



WELDED BUTT JOINT IN
SUPERSTRUCTURE END FINISH
PLATES AT E OF ROADWAY

BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD. Consulting Engineers 245-249 S. Paint Street Chillicothe, Ohio					
SUPERSTRUCTURE DETAIL BRIDGE NO. MAR-23-1007 R.&L. U.S.R. 23 OVER S.R. 95 MARION COUNTY STA. 531+82.89 , TO STA. 533+71.17 U.S.R. 23					
SCALE			DATE		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
W.C.	W.D.J.		PHS	W.C.	9/7/65

ROADWAY END FINISH

MARION COUNTY
MAR-23-7.57

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.

RAILING STEEL in the parapet wall is included in Item 517, Railing for payment.

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 509. 1 1/2 closed coils shall be provided at the ends of each spiral unit.

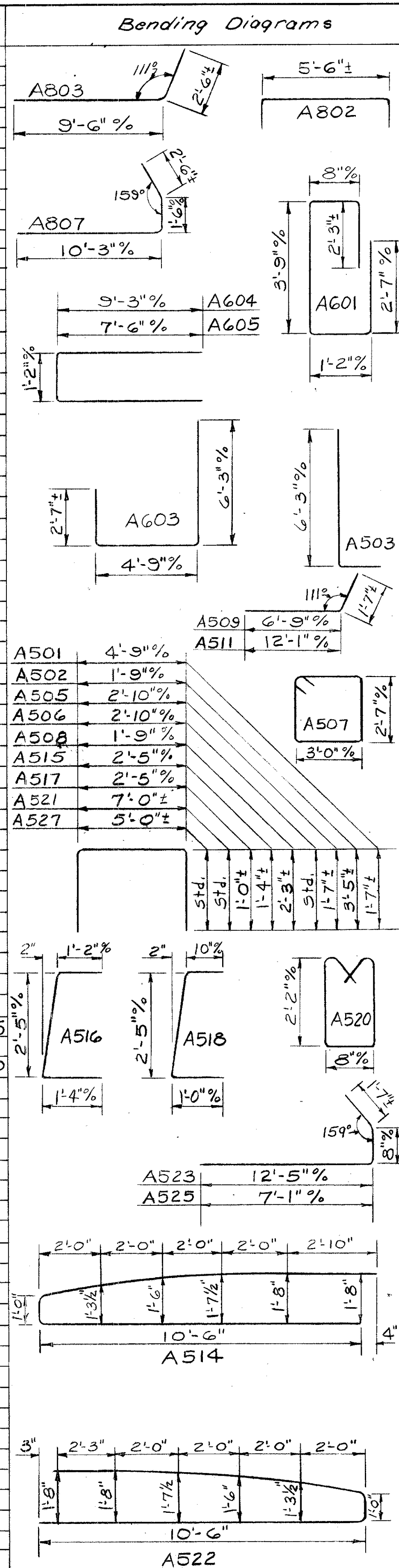
Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lb. per lin. ft., will be paid for as reinforcing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

See Std. Dwg. BR. 1-65

RE 401

REINFORCING STEEL LIST

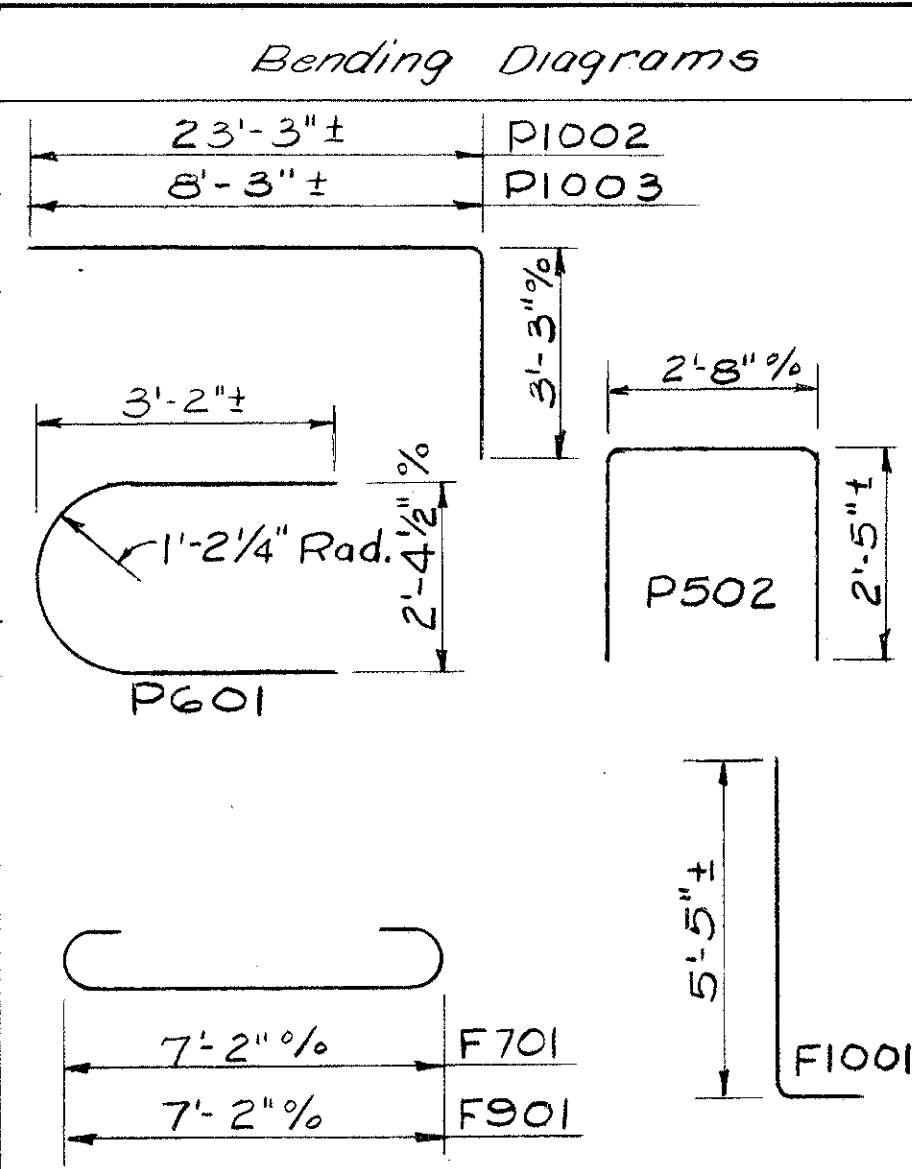
Bar Number	Number Required	Length	Shape	Weight
ONE ABUTMENT				
A801	14	24'-11"		931
A802	4	7'-6"		80
A803	2	11'-10"		63
A804	1	9'-11"		26
A805	1	10'-5"		28
A806	2	10'-10"		58
A807	2	13'-10"		74
A808	1	10'-3"		27
A809	1	9'-11"		26
A810	2	9'-6"		51
A601	26	9'-9"		381
A602	30	3'-9"		169
A603	30	13'-3"		597
A604	9	13'-4"		261
A605	4	15'-10"		95
A501	30	7'-8"		240
A502	28	8'-4"		243
A503	30	6'-9"		211
A504	22	22'-11"		526
A505	30	5'-9"		180
A506	75	3'-10"		300
A507	20	11'-7"		242
A508	8	6'-0"		50
A509	2	8'-3"		17
A510	2	7'-2"		15
A511	2	13'-7"		28
A512	2	12'-6"		26
A513	8	3'-6"		29
A514	3	22'-2"		69
A515	10	4'-10"		50
A516	10	4'-9"		50
A517	2	4'-2"		9
A518	2	4'-0"		8
A519	16	3'-5"		57
A520	16	5'-7"		93
A521	4	8'-0"		33
A522	3	21'-6"		67
A523	2	14'-5"		30
A524	2	12'-4"		26
A525	2	9'-1"		19
A526	2	7'-0"		15
A527	4	6'-0"		25
TOTAL ONE ABUTMENT				5,525
TOTAL FOUR ABUTMENTS				22,100



Bar Number	Number Required	Length	Shape	Weight
SIX PIERS				
P1001	160	18'-0"		12,393
P1002	36	26'-2"		4,053
P1003	36	11'-2"		1,730
P1004	18	30'-4"		2,349
P1005	30	30'-2"		3,894
P1006	30	16'-6"		2,130
P1007	80	17'-0"		5,852
P601	24	7'-8"		276
P501	24	21'-2"		530
P502	348	7'-3"		2,631
F1001	240	6'-6"		6,713
F901	192	9'-8"		6,310
F701	192	8'-10"		3,467
SUB-TOTAL SIX PIERS				52,328

SPIRAL - SIX PIERS					
Bar No.	No. Req'd	Core Dia.	Length	Pitch	No. of Turns
SP401	8	32"	14'-9 3/4"	4 1/2"	42
SP402	8	32"	13'-9 3/4"	4 1/2"	40
SP403	8	32"	14'-8 3/4"	4 1/2"	42
TOTAL SPIRAL					6,412

TOTAL SIX PIERS 58,740



Bar Number	Number Required	Length	Shape	Weight
ONE SUPERSTRUCTURE				
S1101	138	39'-0"		28,595
S1102	66	20'-10"		7,305
S1103	69	15'-4"		5,621
S1104	30	28'-1"		4,476
S1001	188	48'-6"		39,235
S1002	42	33'-3"		6,009
S1003	42	29'-3"		5,286
S1004	42	30'-0"		5,422
S1005	42	21'-10"		3,946
S701	181	22'-6"		8,324
S702	181	24'-5"		9,033
S601	115	22'-3"		3,843
S602	115	24'-5"		4,217
S603	48	27'-1"		1,953
S604	48	21'-6"		1,550
S501	426	6'-11"		3,073
S502	426	2'-6"		1,111
S503	12	29'-6"		369
S504	12	26'-1"		326
S505	280	5'-7"		1,631
TOTAL ONE SUPERSTRUCTURE				141,325
TOTAL TWO SUPERSTRUCTURES				282,650

RAILING STEEL
(TWO STRUCTURES)

R501	32	19'-0"	
R502	128	14'-4"	
R503	24	4'-2"	
R504	16	5'-4"	
R505	64	7'-0"	
R506	32	10'-4"	

REPLACEMENT STEEL

RE1101	5	7'-6"	
RE1001	8	7'-2"	
RE901	1	6'-10"	
RE801	1	6'-6"	
RE701	2	6'-2"	
RE601	2	5'-11"	
RE501	2	5'-7"	
RE401	1	5'-3"	

