

ROS-23-13.12

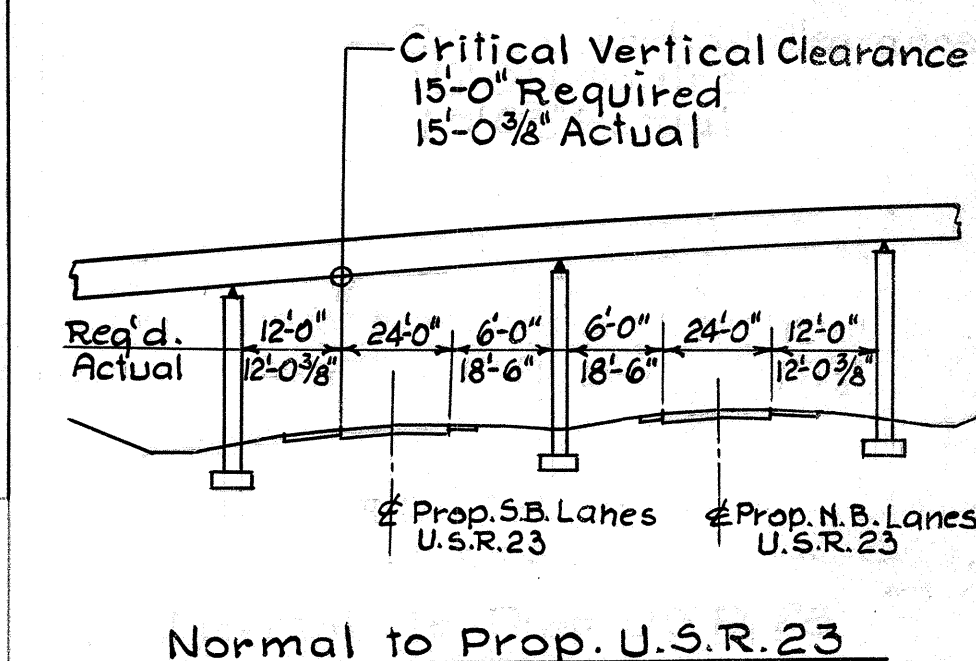
PROPOSED BRIDGE DATA

TYPE: Continuous Steel Beam with reinforced concrete deck and superstructure.
(Two Separate Structures)
SPANS: 62'-9" - 89'-6" - 89'-6" - 69'-0"
ROADWAY: 84'-0" 1/2 Parapets with 3'-0" raised median
LOADING: HS 20 - 44
SKEW: 50°-00' L.F.
WEARING SURFACE: 1" Monolithic Concrete
APPROACH SLABS: AS-1-67 [25' long]
RAILING: Concrete Parapet
ALIGNMENT: Tangent

1987 ADT

S.R. 159	P-7,490
	C-1,070
U.S.R. 23	P-12,350
	C-3,850

CLEARANCE DIAGRAM



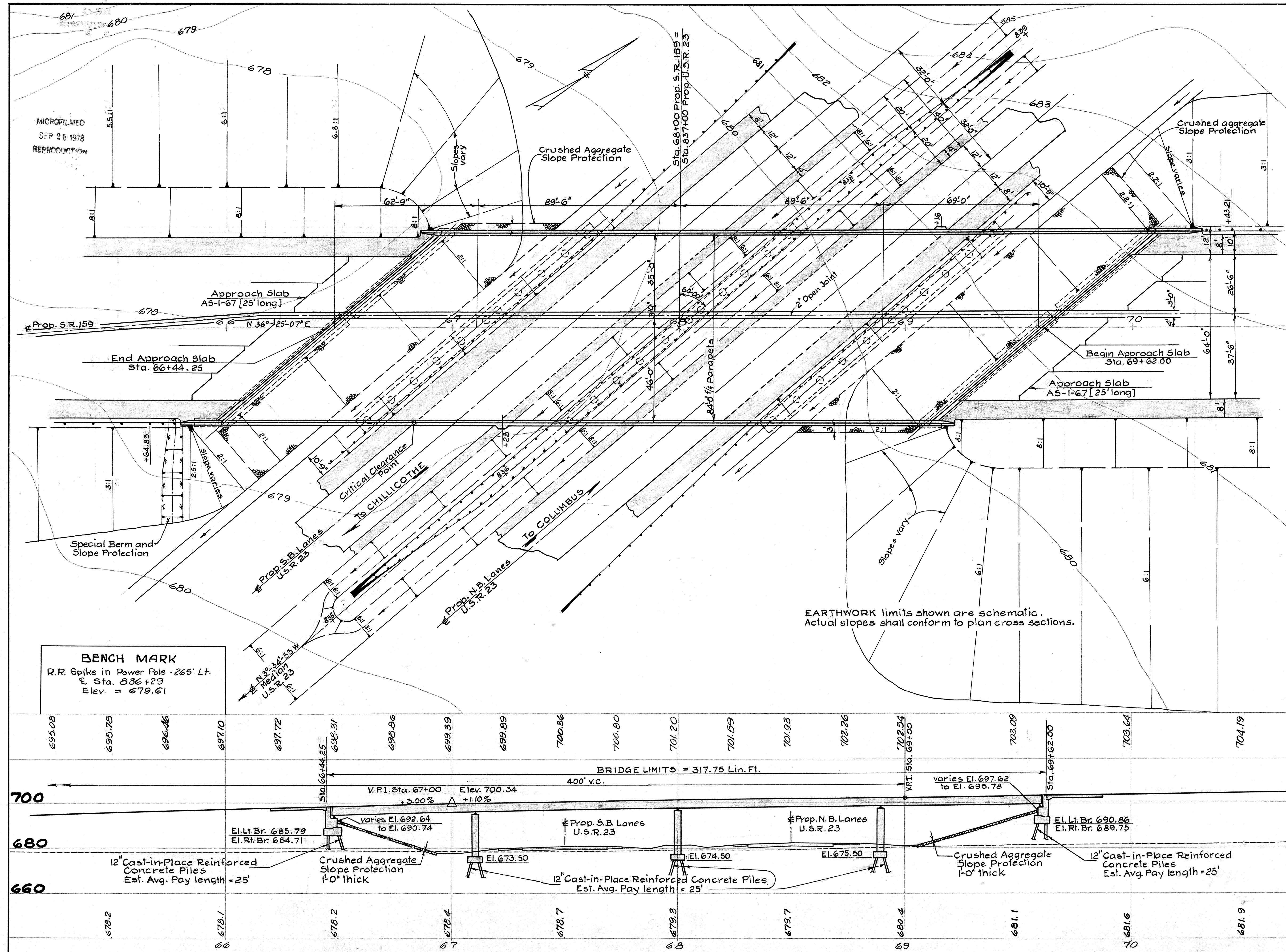
1/17

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CONSULTING ENGINEERS
249 S. PAINT ST. CHILLICOTHE, OHIO

SITE PLAN

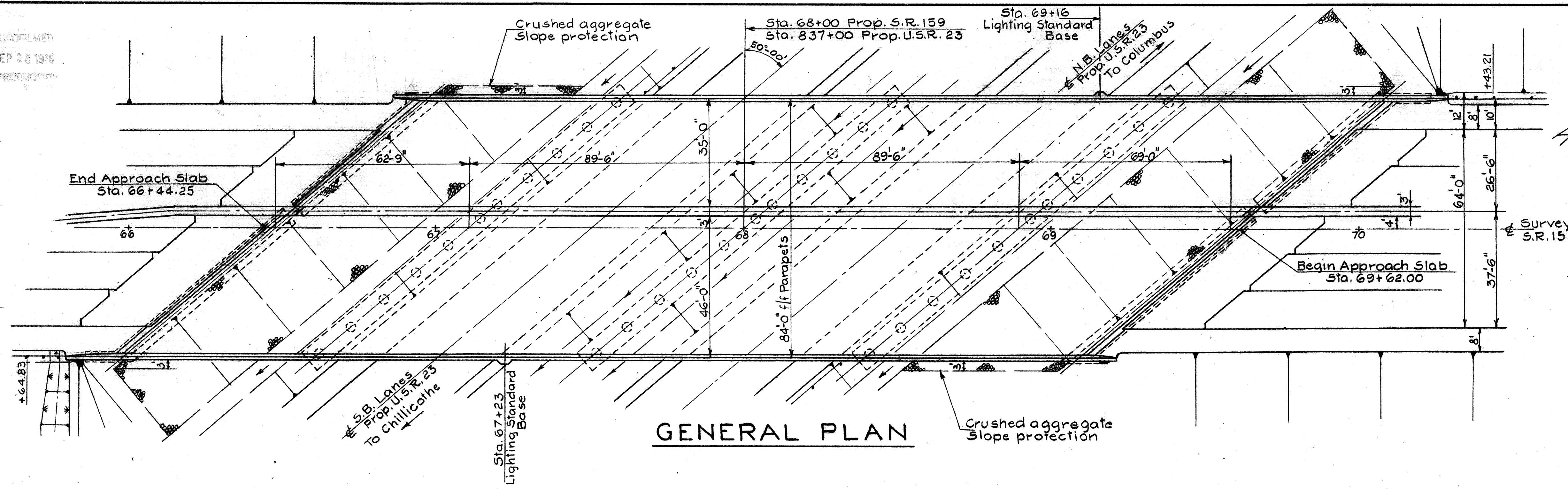
BRIDGE No. ROS-23-1585
U.S.R. 23 UNDER S.R. 159
ROSS COUNTY STA. 837+00 U.S.R. 23

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.A.P.	P.J.M.		P.R.S.	MK	3/19/69	



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GENERAL PLAN

GENERAL NOTES
REFERENCE shall be made to Standard Drawings RB-1-55 revised 2-2-59, SD-1-65 dated 11-8-65, AS-1-67 revised 1-11-68 and Supplemental Specifications 808 dated 1-1-69, 811 dated 1-1-69, 825 dated 1-1-69.

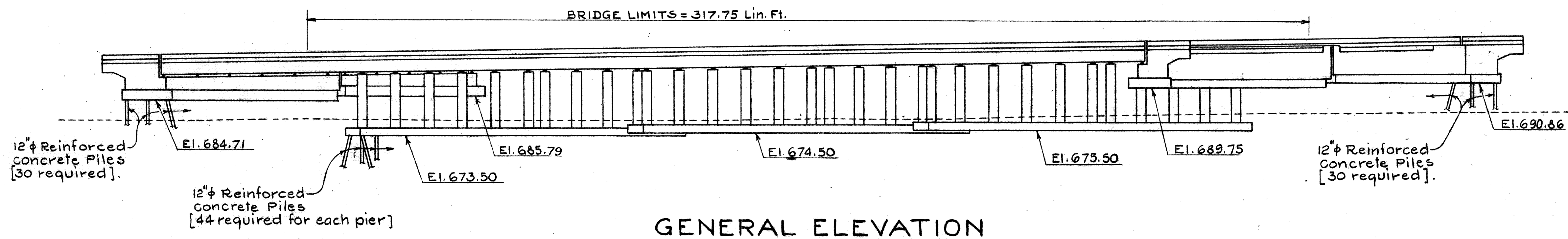
DESIGN SPECIFICATION: This structure conforms to standard Specifications for Highway Bridges adopted by the American Association of State Highway Officials, 1965, including the Ohio "Supplement" to these specifications.

DESIGN DATA:
Design Loading - HS 20-44
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, A616 or A617 - unit stress 20,000 p.s.i.
Spiral reinforcement shall be plain bars ASTM A306 or A439.

PROCEDURE: The embankments shall be constructed up to the finished spill-thru slope and to the level of the subgrade for a distance of 200 feet back of the abutments, after which excavation shall be made for the abutments and piles driven.

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

PILES shall be driven to a minimum bearing capacity of 33 tons per pile for the abutments and 36 tons per pile for the piers.



GENERAL ELEVATION

WELDS on non-stress carrying members are shown thus:

END DAM PAINTING: Portions of end dams which will be in contact with steel or with concrete shall not be painted. All other portions shall be cleaned and painted in accordance with 514.

ESTIMATED			QUANTITIES			Calc. JND 4-8-68 ✓ PRS 5-1-68									
ITEM	QUANTITY	UNIT	DESCRIPTION	LEFT BRIDGE					RIGHT BRIDGE						
				ABUT'S	PIERS	SUPER	GENERAL	AS BUILT	ABUT'S	PIERS	SUPER	GENERAL	AS BUILT		
503	1389	Cu.Yds.	Unclassified Excavation.	300	318				363	408					
505	Lump	Sum	First Test Pile.					Lump							
507	4800	Lin. Ft.	12" Cast-in-place reinforced concrete piles.	680	1,500				820	1,800					
509	334,223	Lbs.	Reinforcing Steel.	13,660	27,238	107,257			17,668	35,228	133,172				
511	781	Cu.Yds.	Class "C" Concrete, Superstructure.			341					440				
511	161	Cu.Yds.	Class "C" Concrete, Pier columns.		75					86					
511	286	Cu.Yds.	Class "C" Concrete, Abutments above footings.	127					159						
511	477	Cu.Yds.	Class "C" Concrete, Footings.	87	122				111	157					
512	38	Lin. Ft.	Premolded sealing strip.	21					17						
513	926,000	Lbs.	Structural steel.			417,600					508,400				
514	926,000	Lbs.	Field painting of structural steel.			417,600					508,400				
516	54	Sq. Ft.	1" Preformed expansion joint filler.	54											
518	121	Cu.Yds.	Porous backfill.	52					69						
518	238	Lin. Ft.	6" Perforated, helical corrugated metal pipe, incl. Specials, 707.01	102					136						
518	189	Lin. Ft.	6" Non-perforated helical corrugated metal pipe, 707.01	81					108						
518	22	Each	Scuppers, including supports.			10					12				
601	1180	Sq.Yds.	Crushed aggregate slope protection.				534					646			
625			See sheet 383 for lighting summary.												
808	781	Units	Water-reducing, set retarding admixture.			341					440				
825	3235	Sq.Yds.	Concrete surface treatment.	41		1,382			48		1,764				

First Test Pile: Payment will be made for only one first test pile. It may be driven for either the Right or Left bridge.

JOINT SEALER: Item 828 joint sealer including bond breaker, shown in Section A-A of Std. Dwg. SD-1-65, Sheet No. 1, shall be omitted.

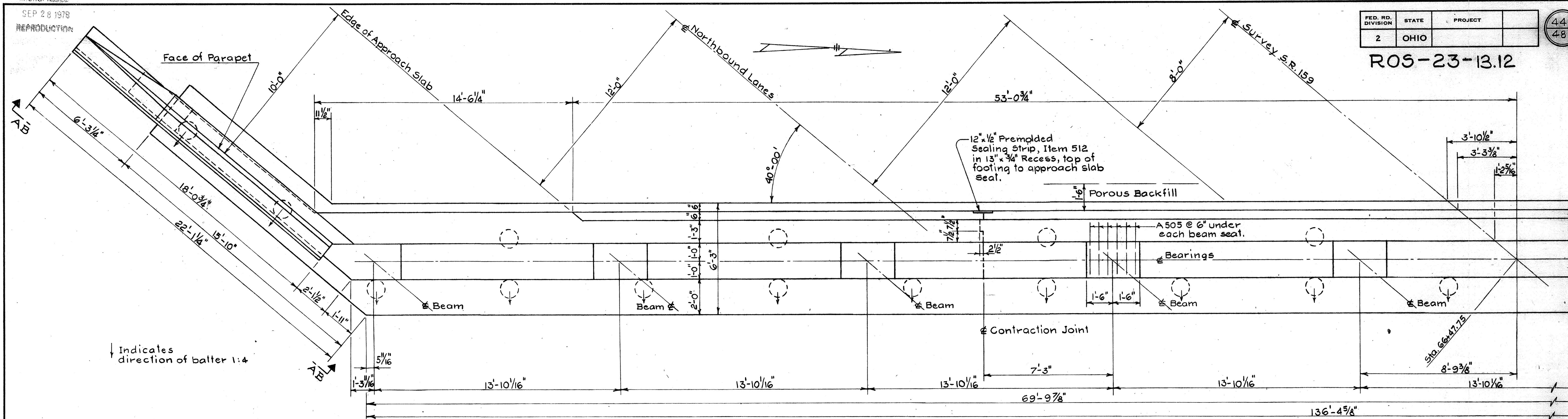
2/17

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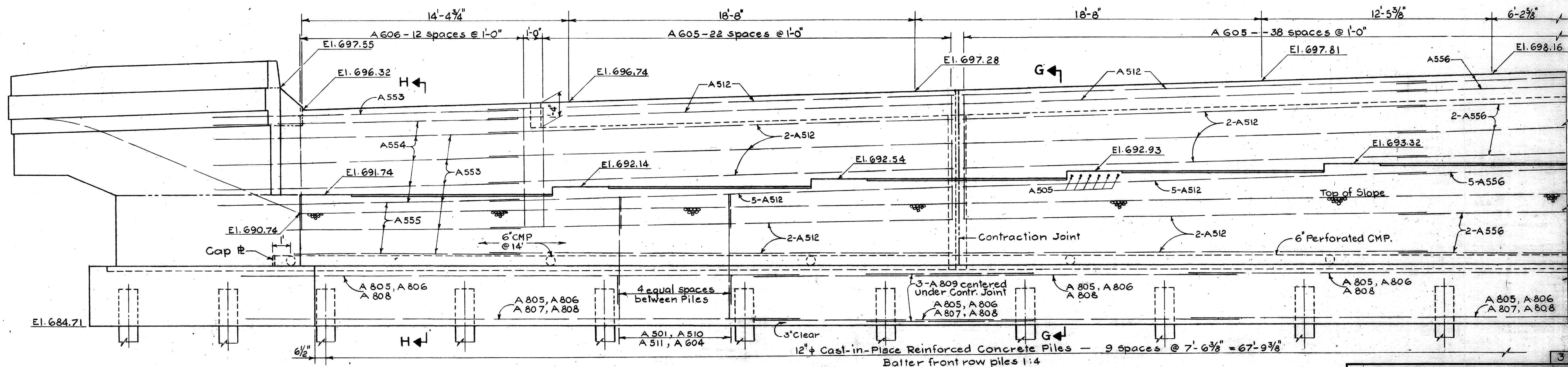
GENERAL PLAN AND ELEVATION
EST. QUANTITIES AND GENERAL NOTES
BRIDGE NO. ROS-23-1585
U.S.R. 23 UNDER S.R. 159
ROSS COUNTY U.S.R. 23
STA. 837+00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
F.H.S.	L.P.		P.R.S.	W.K.	3/19/69	
					5-1-68	

ROS-23-13.12



PLAN
[REAR ABUTMENT - RIGHT BRIDGE]



ELEVATION
[REAR ABUTMENT - RIGHT BRIDGE]

ABUTMENT NOTES

POROUS BACKFILL, 1'-6" thick, shall extend upward to the approach slab and paved shoulders and outward to the abutment wings.

ADJUSTABLE TYPE ELBOWS meeting specification requirements for gage and coating are acceptable for making bends in perforated corrugated metal pipe. Elbows and the stem of tees need not be perforated.

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REAR ABUTMENT DETAILS
BRIDGE No. ROS-23-1585
U.S.R. 23 UNDER S.R. 159
ROSS COUNTY U.S.R. 23
STA. 837+00

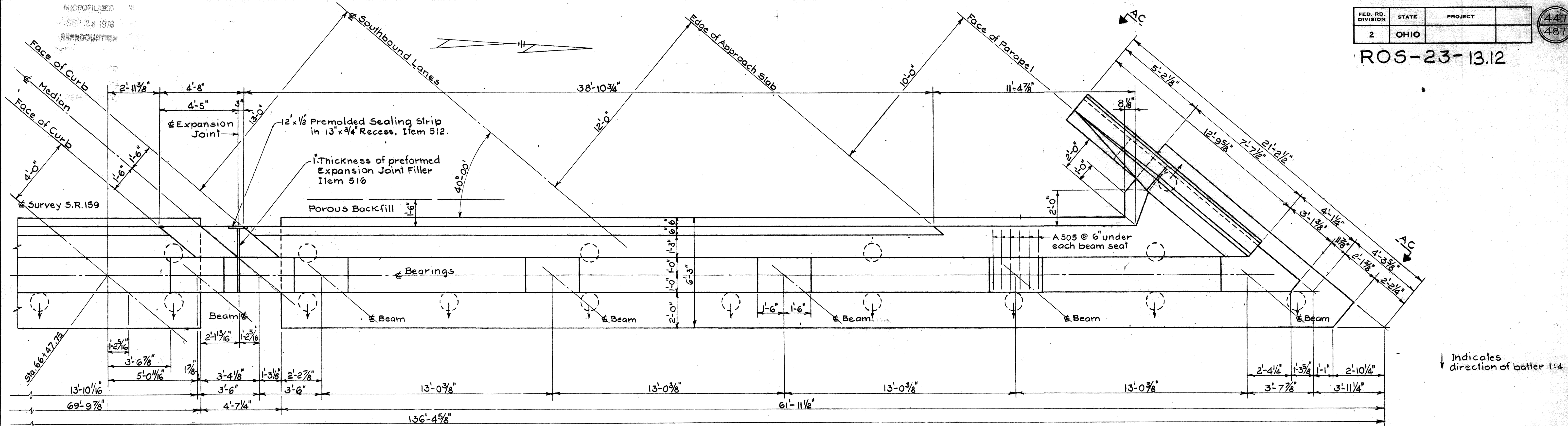
SCALE		DATE			
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
F.H.S.	F.H.S.	L.P.	P.R.S.	HK	3/19/69

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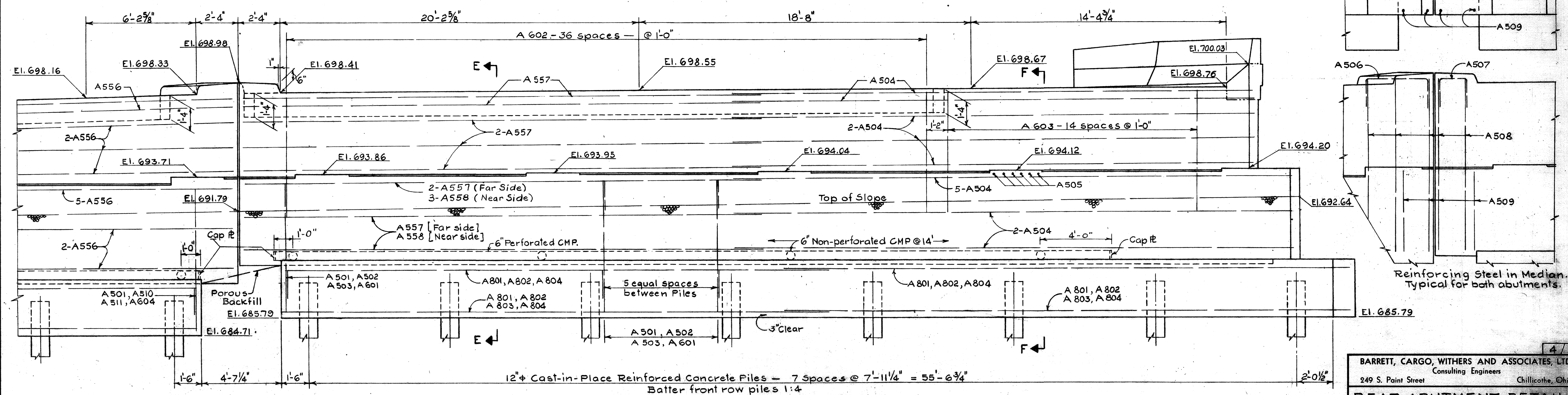
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

447
487

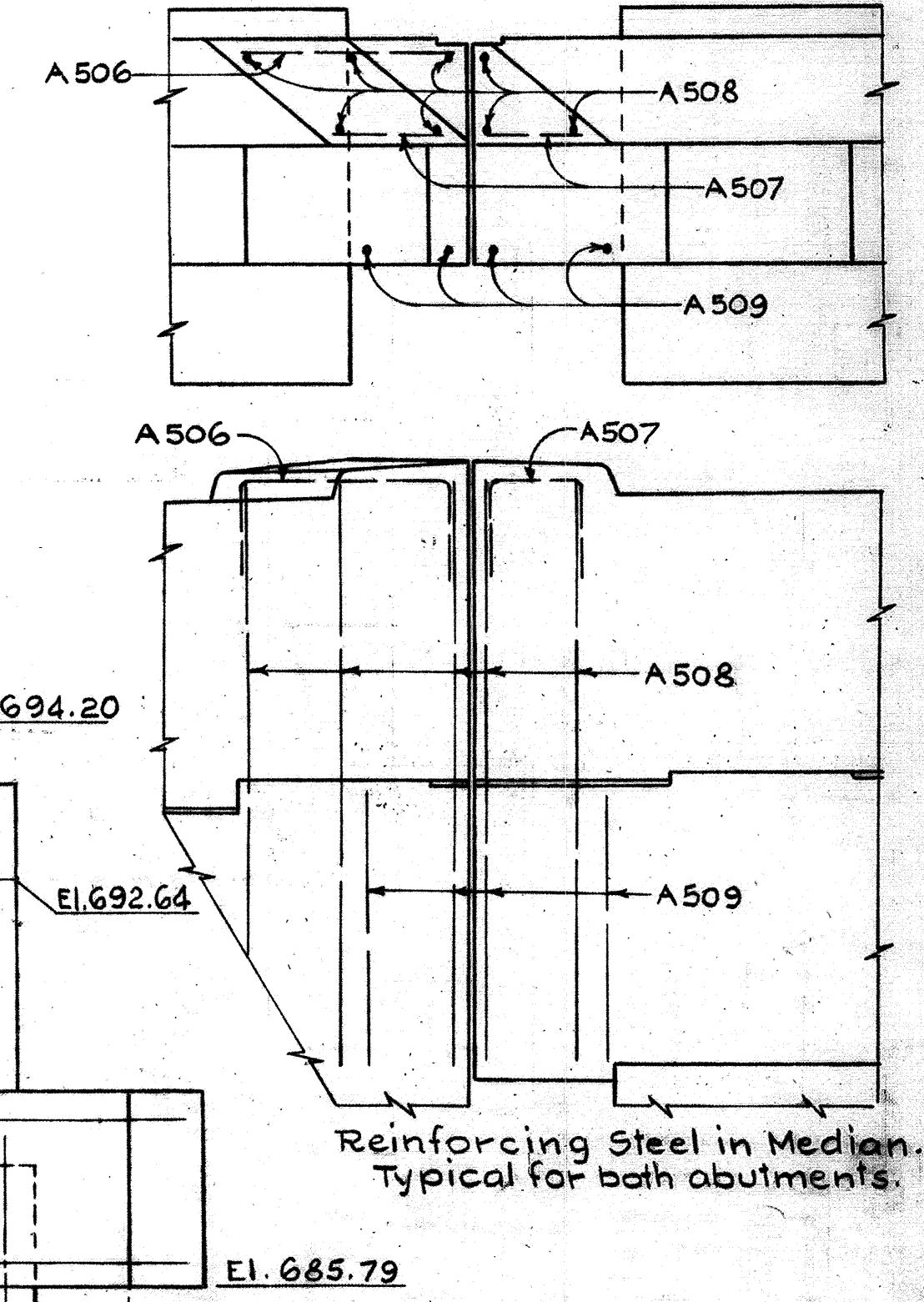
ROS-23-13.12



PLAN
[REAR ABUTMENT- LEFT BRIDGE]

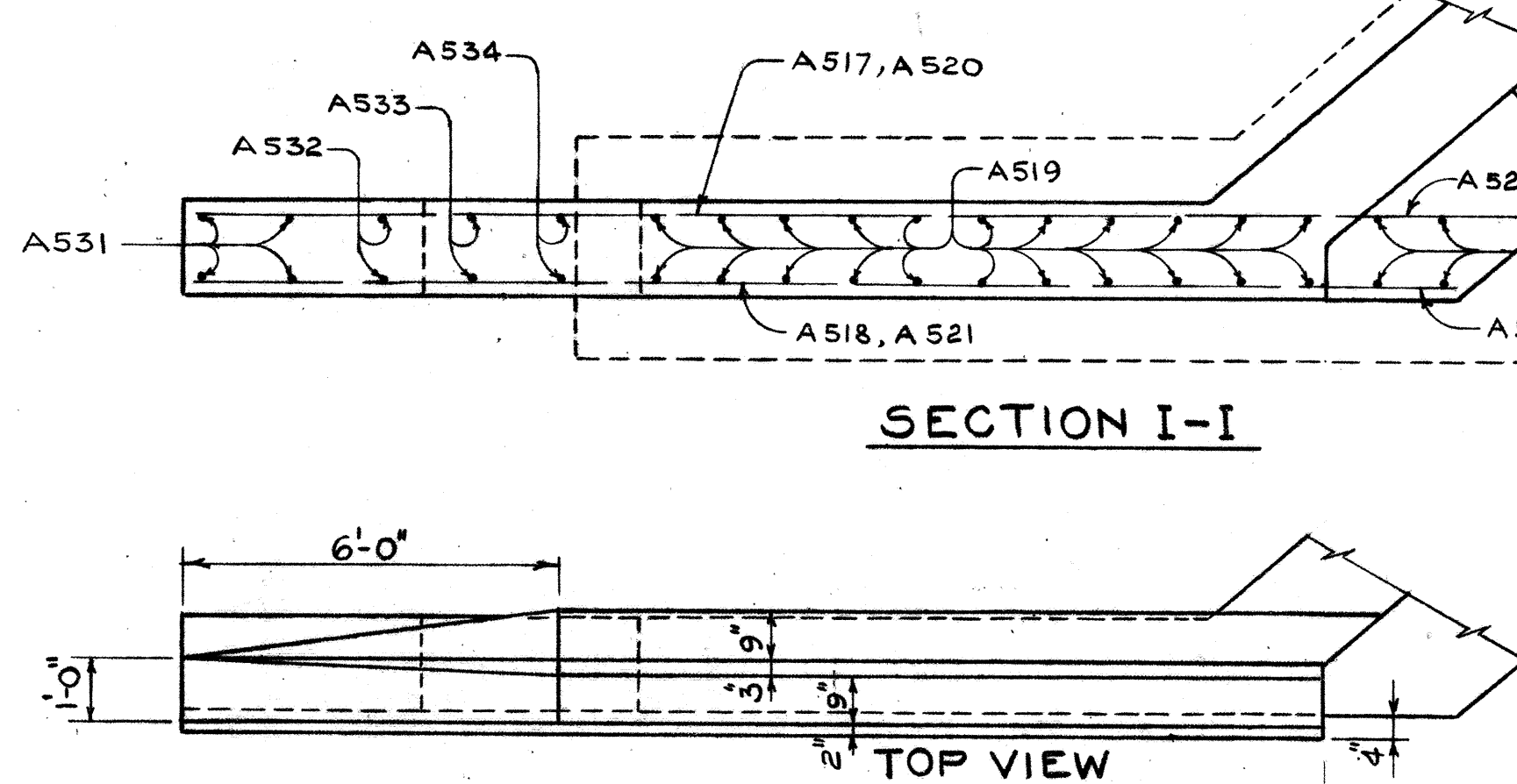
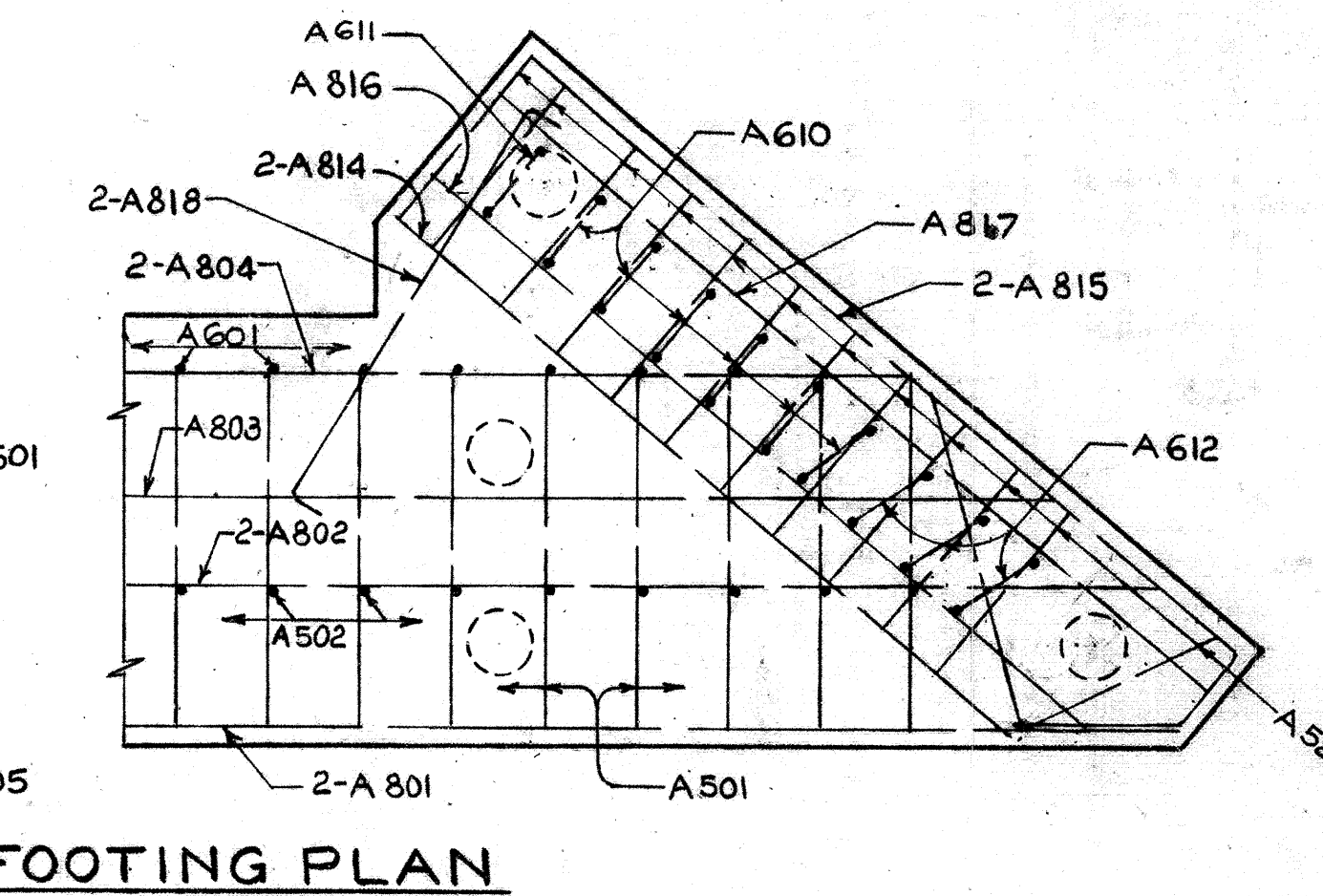
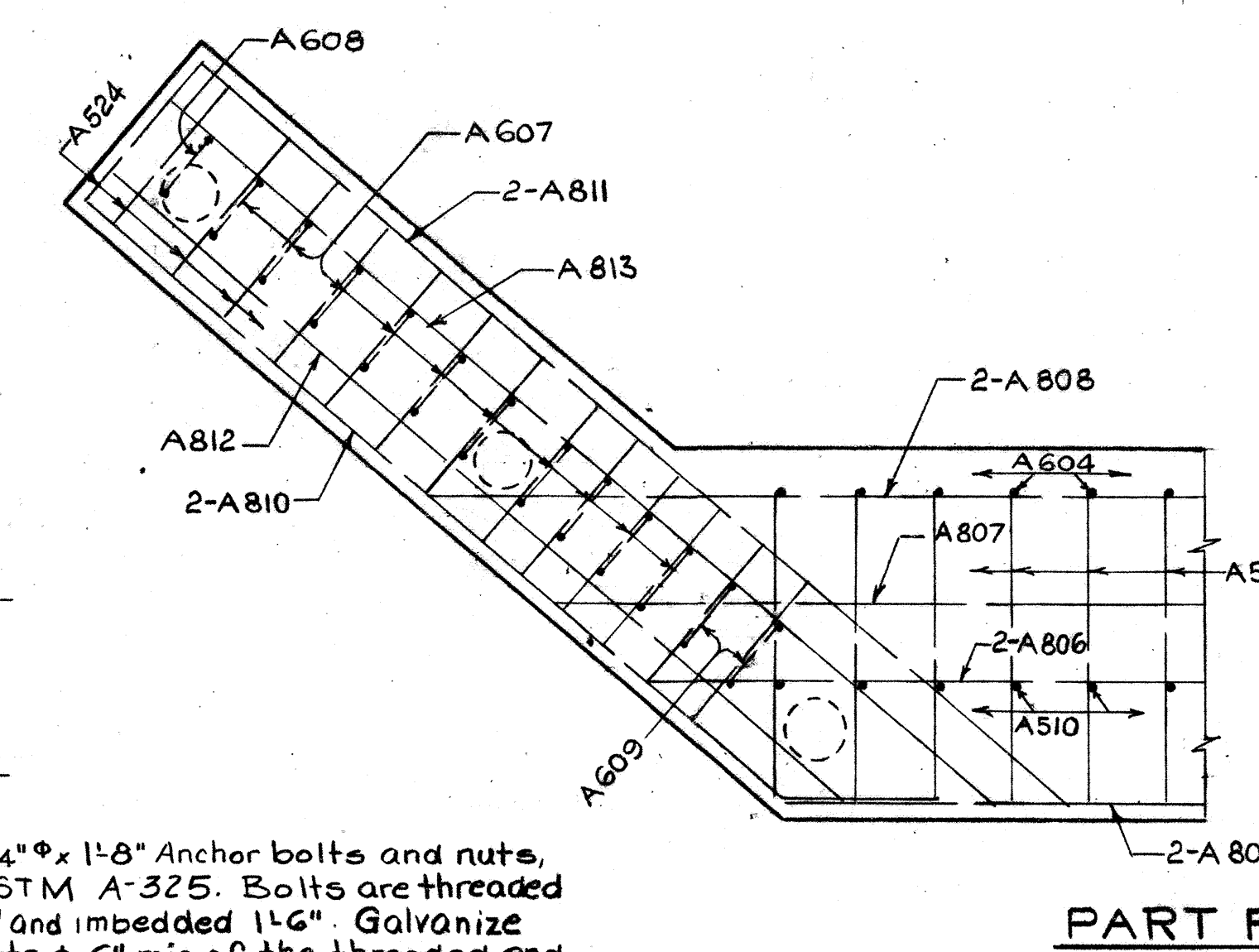
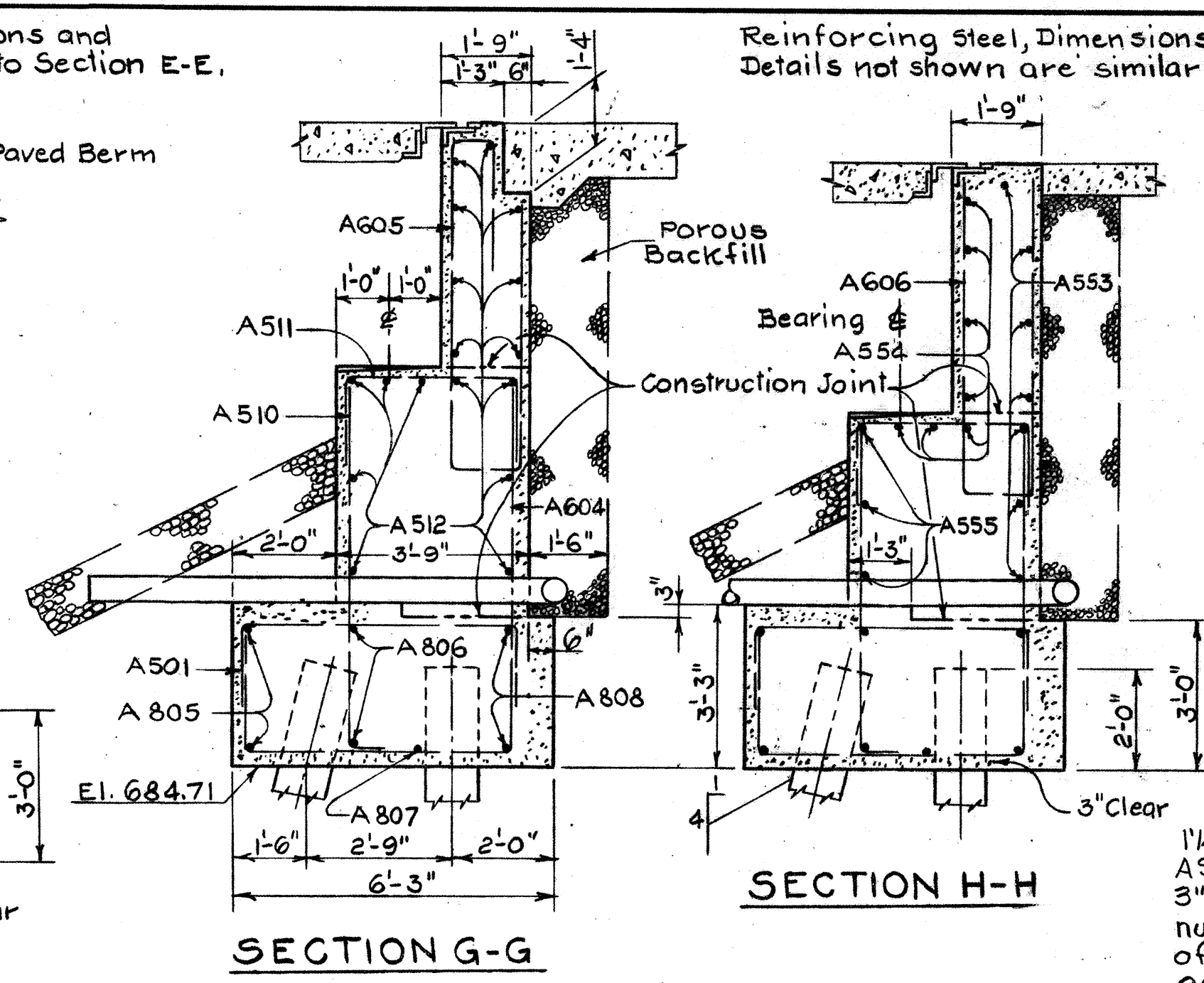
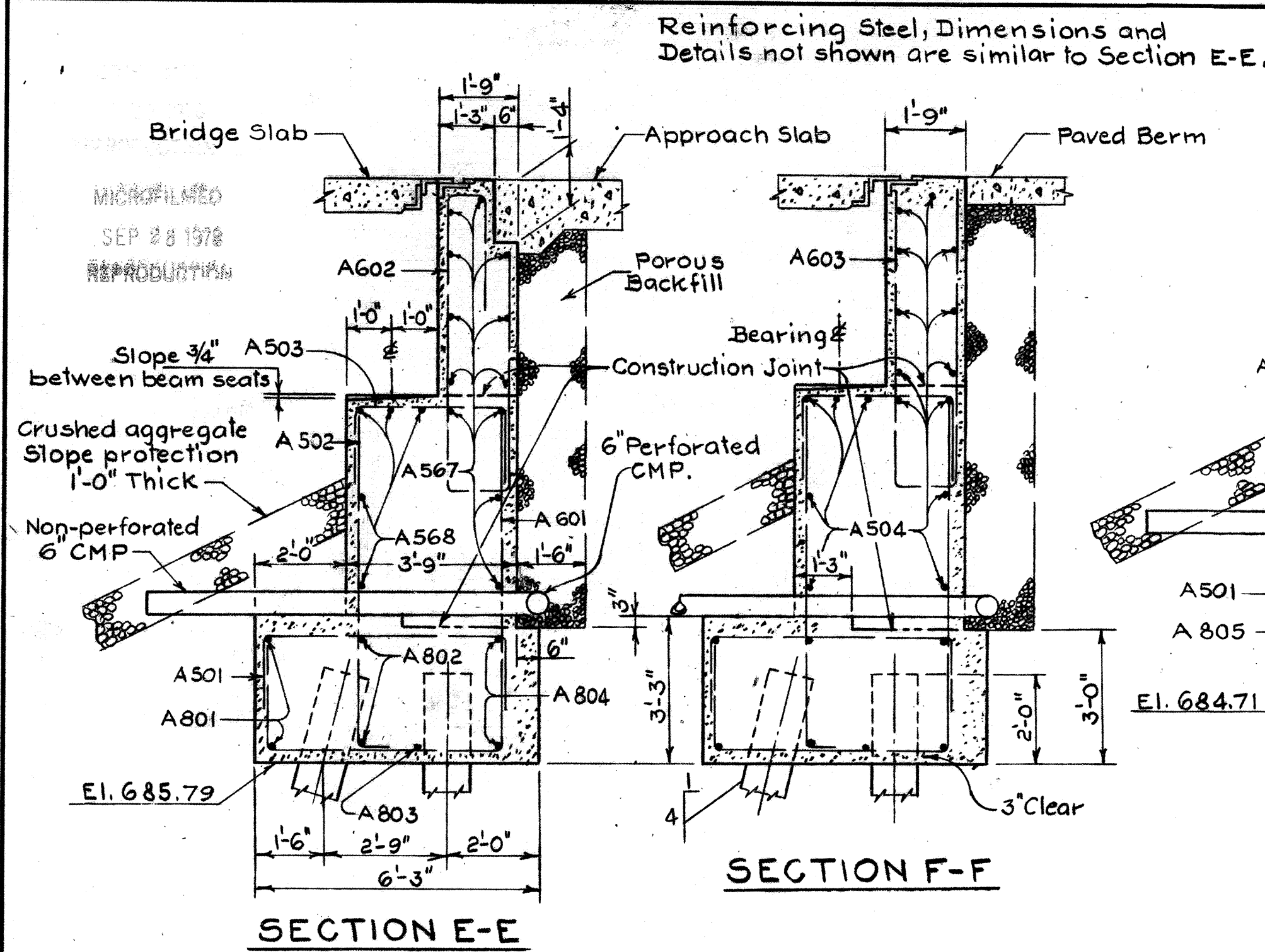


ELEVATION
[REAR ABUTMENT- LEFT BRIDGE]



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REAR ABUTMENT DETAILS BRIDGE No. ROS-23-1585 U.S.R. 23 UNDER S.R. 159 ROSS COUNTY U.S.R. 23 STA. 837+00							
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
F.H.S.	F.H.S.	L.P.	R.R.S.	W.K.	3/19/69		

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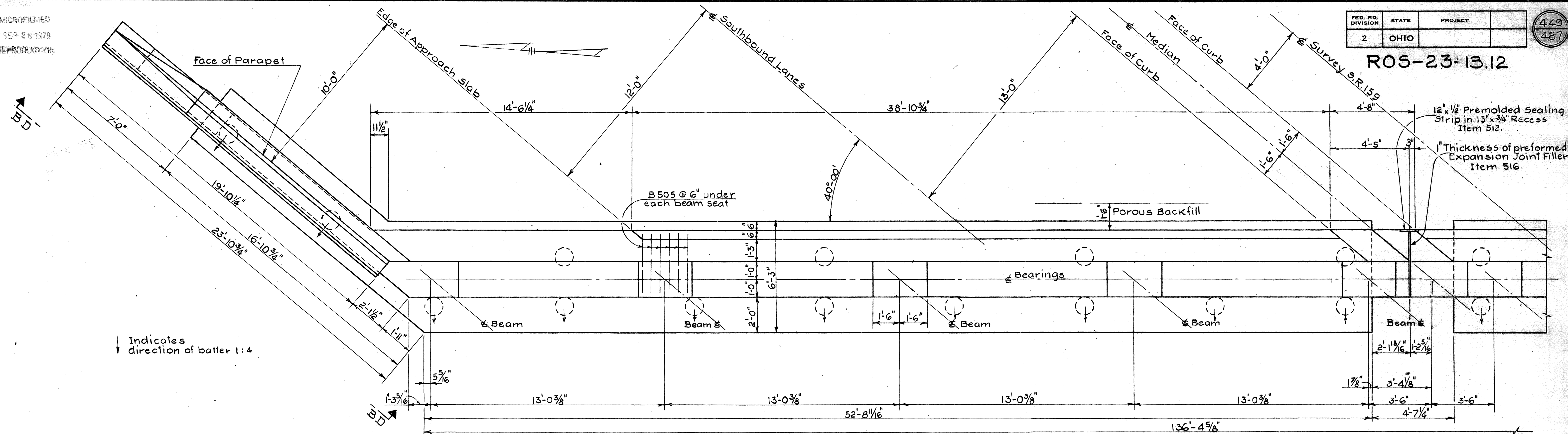


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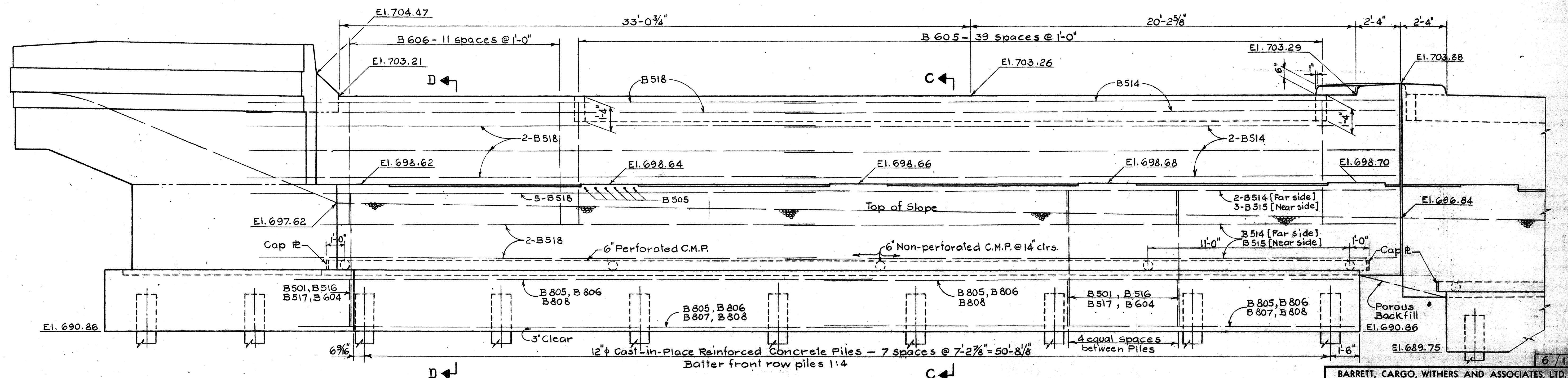
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

449
487

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PLAN
[FORWARD ABUTMENT-LEFT BRIDGE]



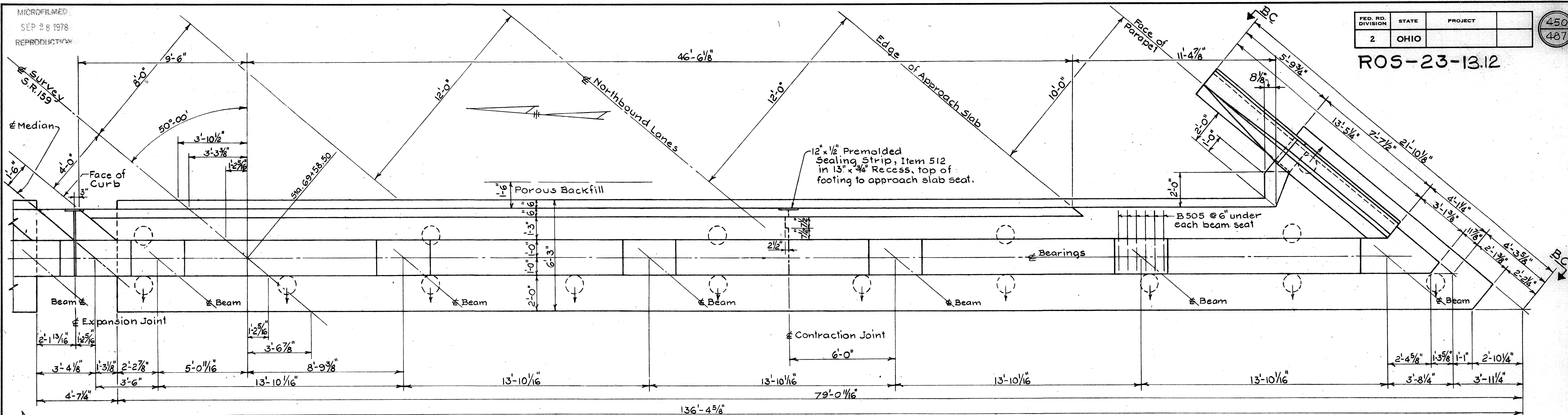
ELEVATION
[FORWARD ABUTMENT-LEFT BRIDGE]

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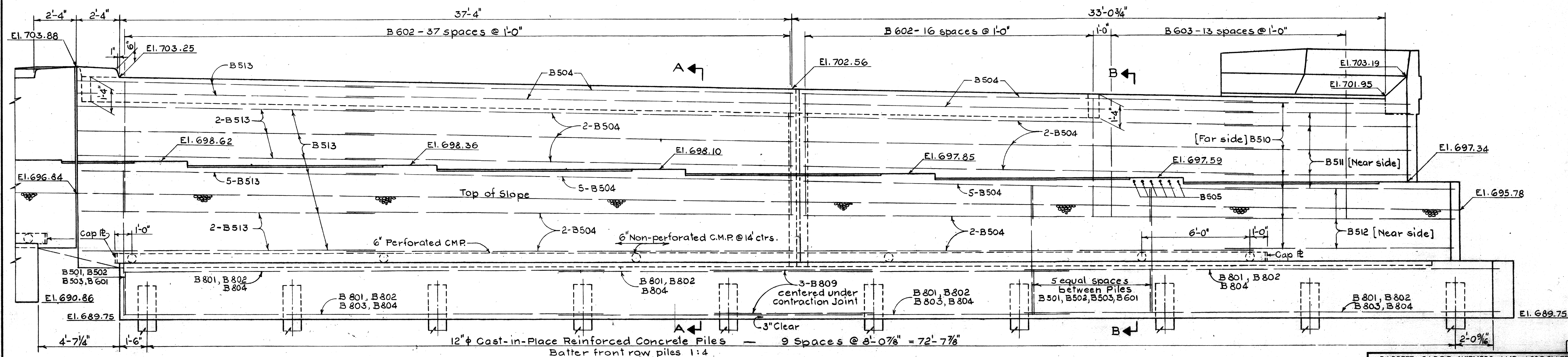
FORWARD ABUTMENT DETAILS
BRIDGE No. ROS-23-1585
U.S.R. 23 UNDER S.R. 159
ROSS COUNTY U.S.R. 23
STA. 837+00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
F.H.S.	F.H.S.	L.P.	P.R.S.	7/11	3/19/69	

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PLAN
[FORWARD ABUTMENT-RIGHT BRIDGE]



ELEVATION
[FORWARD ABUTMENT-RIGHT BRIDGE]

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FORWARD ABUTMENT DETAILS
BRIDGE No. ROS-23-1585
U.S.R. 23 UNDER S.R. 159
ROSS COUNTY U.S.R. 23
STA. 837+00

SCALE	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
F.H.S.	F.H.S.	L.R.	P.R.S.	7/11	3/19/69	

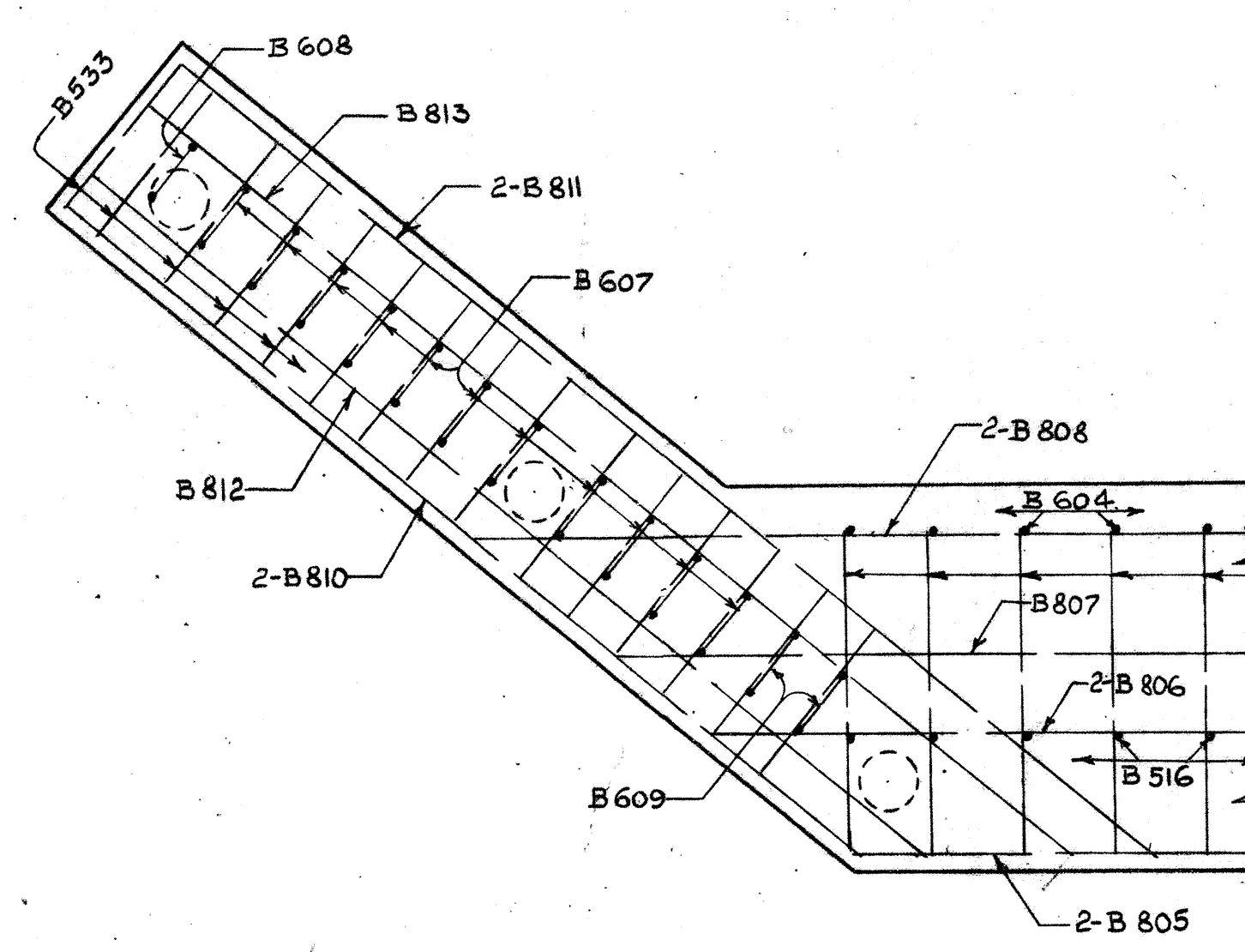
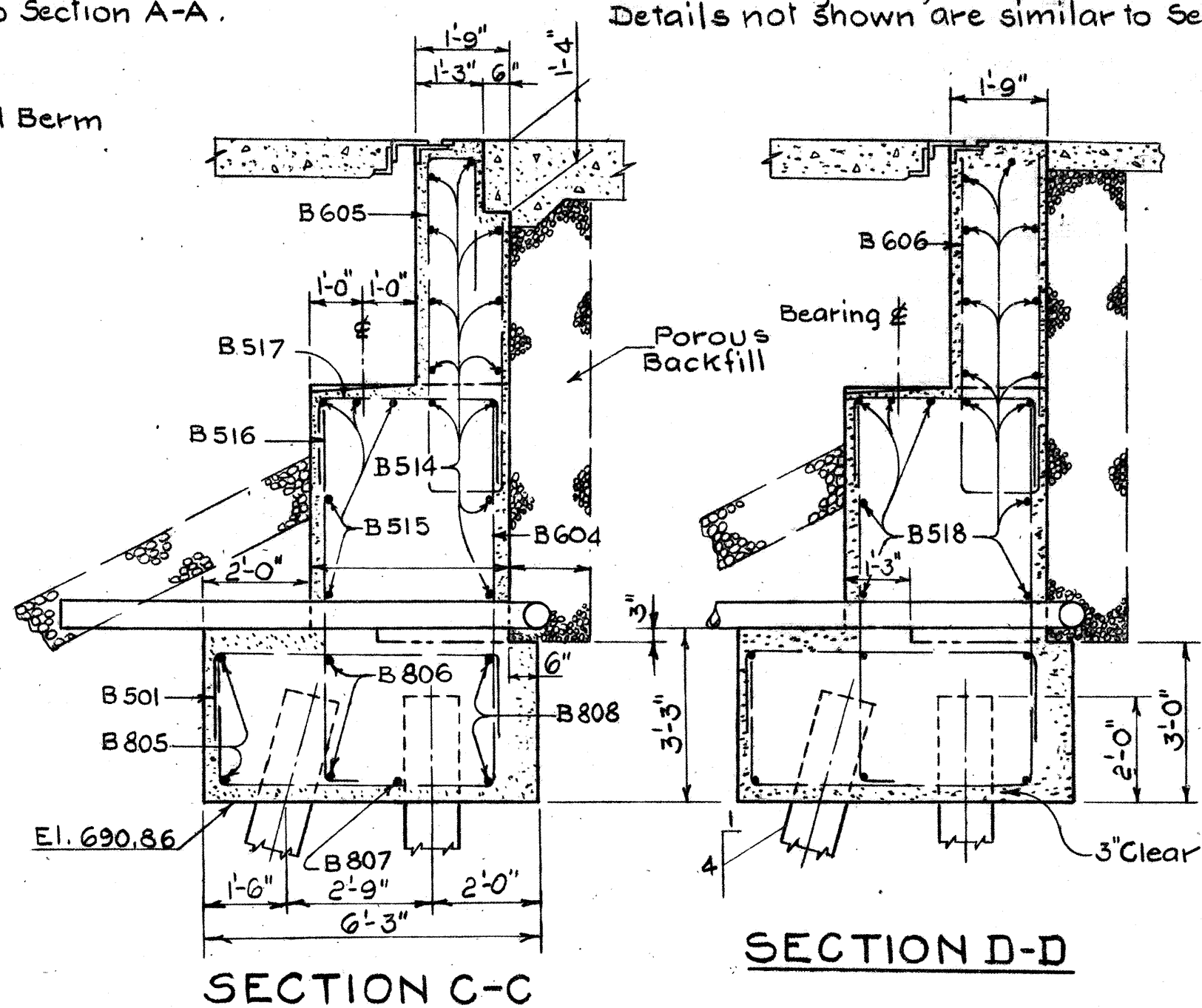
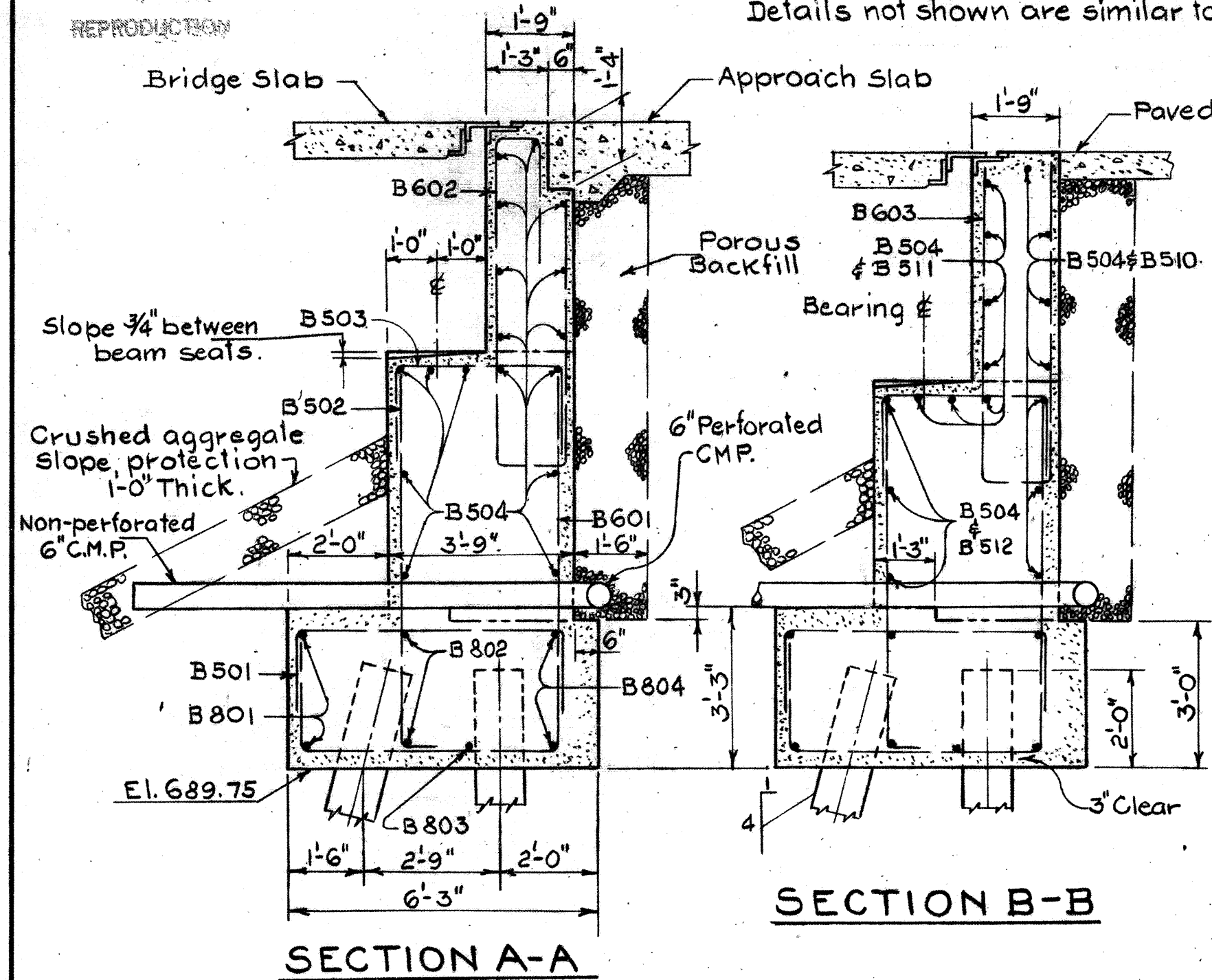
Reinforcing Steel, Dimensions and
Details not shown are similar to Section A-A.

Reinforcing Steel, Dimensions and
Details not shown are similar to Section C-C.

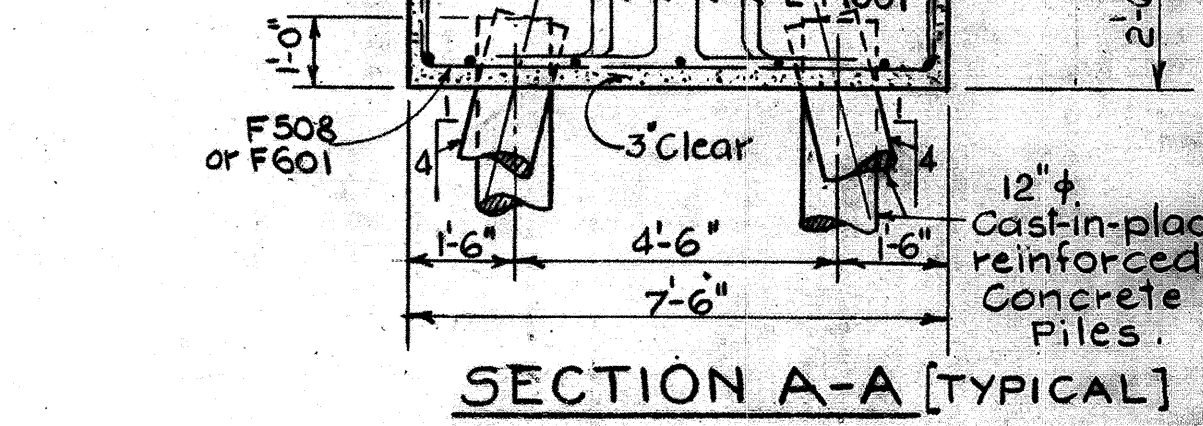
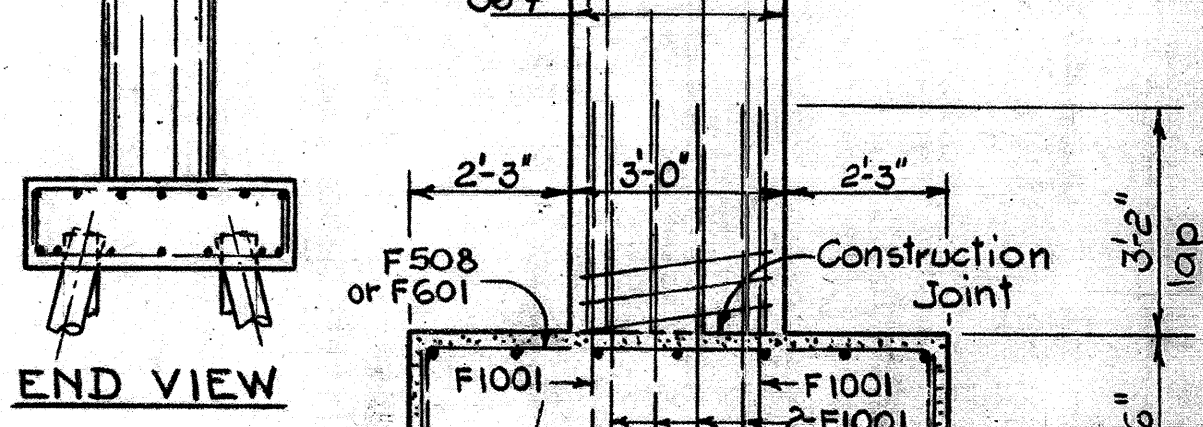
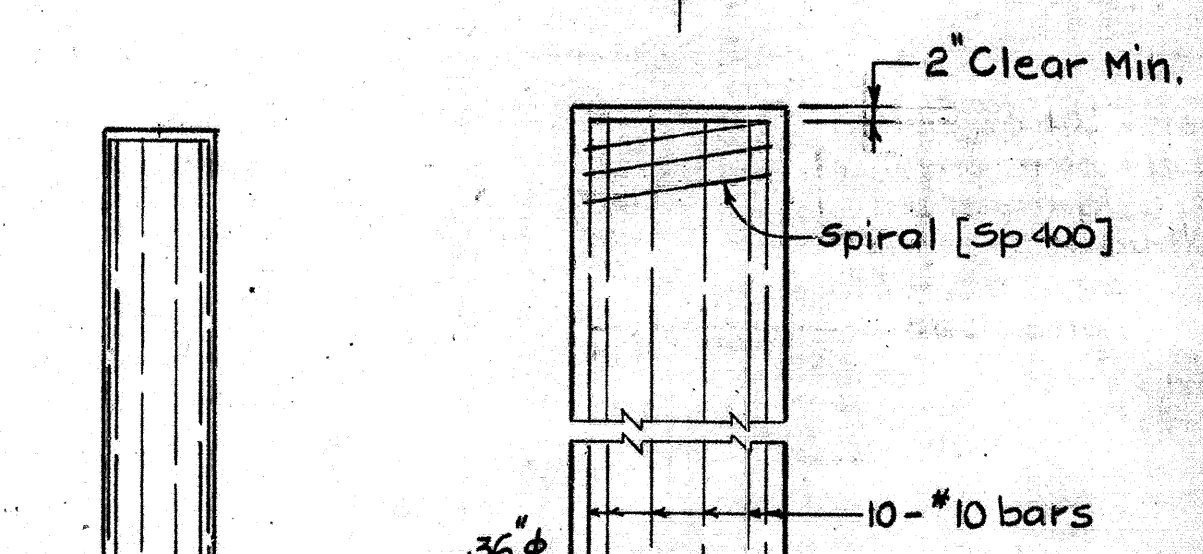
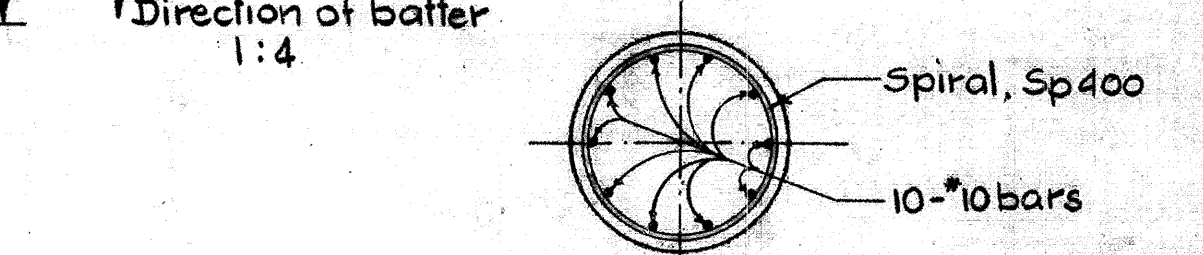
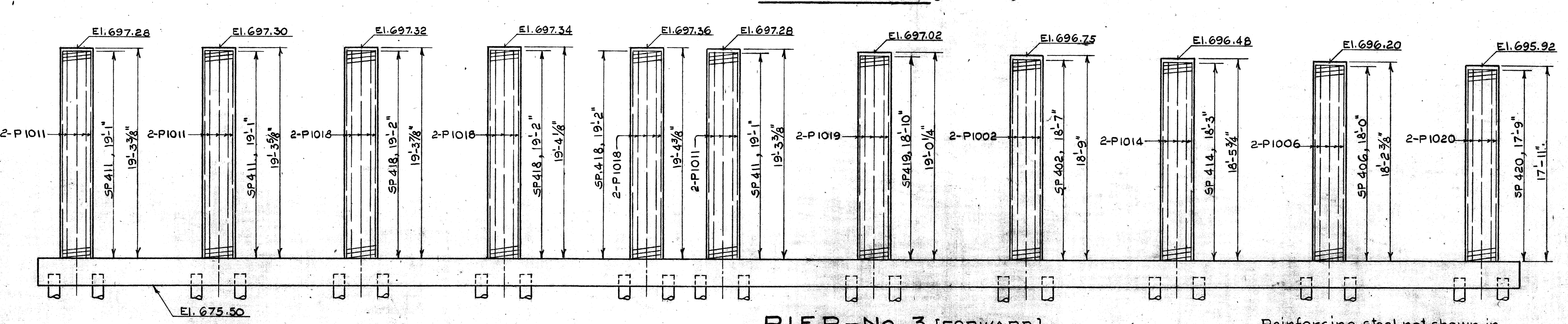
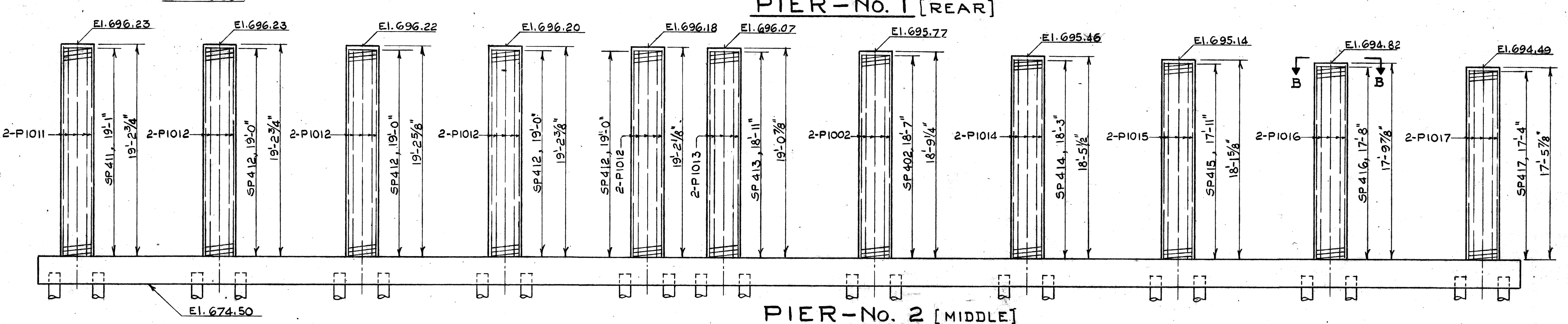
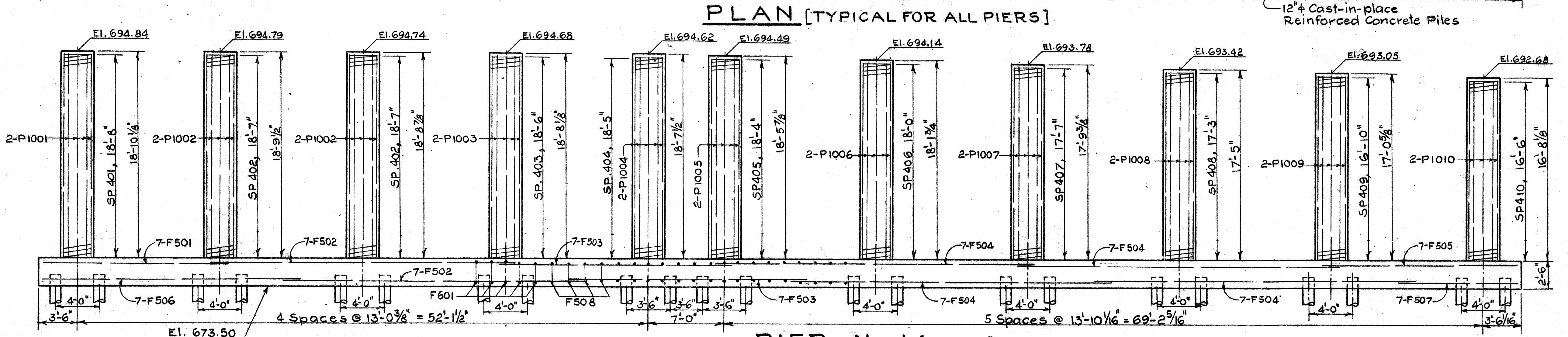
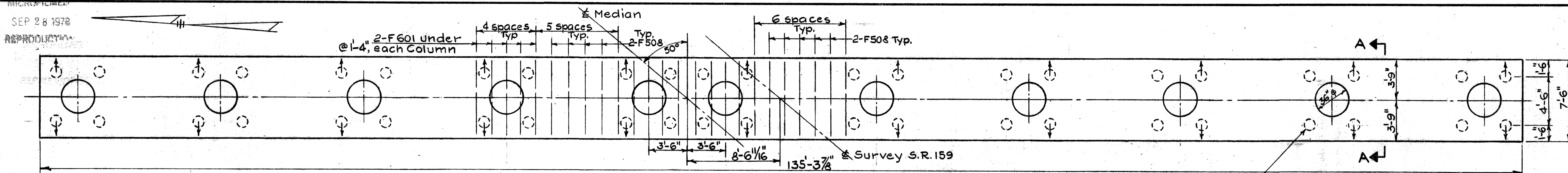
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

451
487

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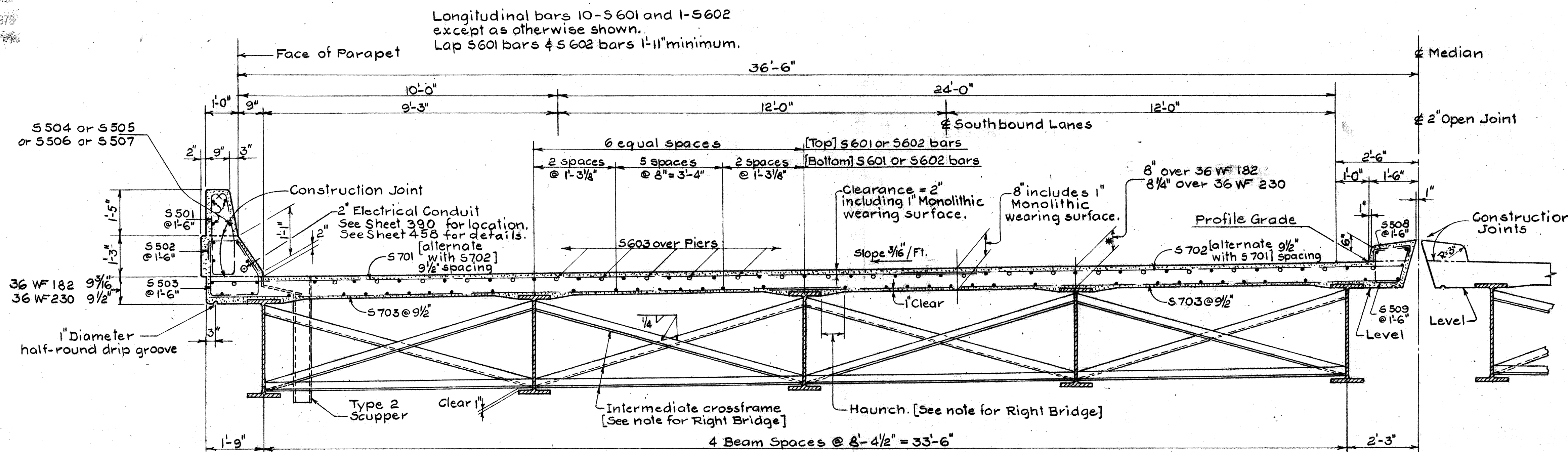
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NOTE:
BRIDGE SEAT REINFORCING: Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat on the interior columns of Pier No. 2 so as to avoid interference with the drilling of anchor bolt holes.

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PIER DETAILS					
BRIDGE No. ROS-23-1585					
U.S.R. 23 UNDER S.R. 159					
ROSS COUNTY U.S.R. 23					
STA. 837+00					
SCALE	DATE	DESIGNED	DRAWN	CHECKED	REVIEWED
F.H.S.	L.P.	L.P.	P.R.S.	NK	2/19/69

Reinforcing steel not shown in Piers No. 2 and No. 3 are similar to Pier No. 1.

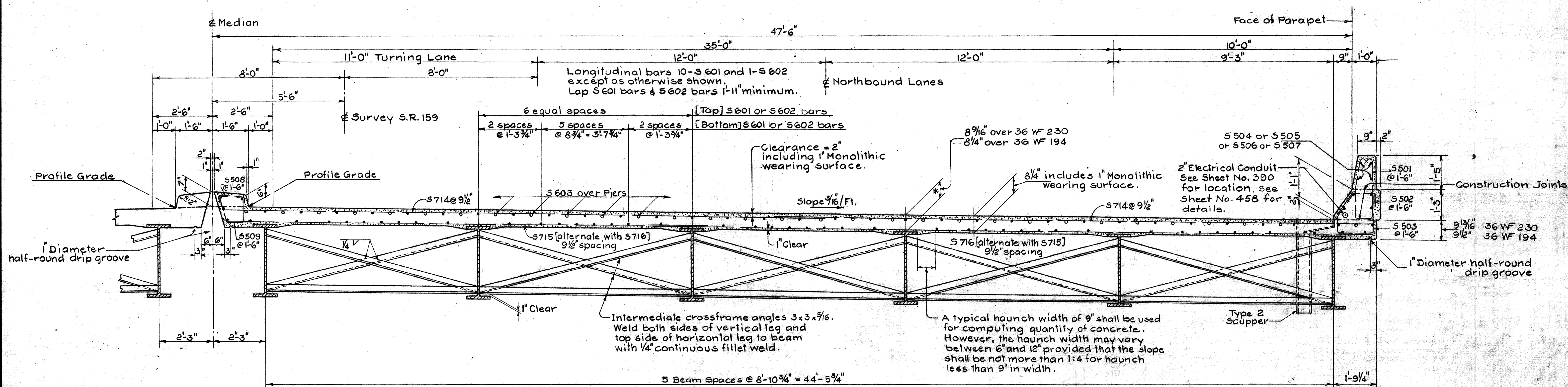


All longitudinal bars S 601 except as otherwise shown. Lap S 601 bars 1'-11" minimum.

TRANSVERSE SECTION [LEFT BRIDGE]

* DECK SLAB DEPTH: The distances shown from the top of deck slab to the top of steel beams, are the nominal dimensions. The quantity of deck concrete to be paid for shall be based upon these dimensions even though deviation from them may be necessary because the top flange of the beams may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for the volume of encased steel plates as per Sec. 511.19 of the Construction and Material Specifications.

SCUPPERS including support angles shall be galvanized according to 711.02. The 1 1/2" x 2" lateral support bar as shown on SD-1-65 shall be deleted.



TRANSVERSE SECTION [RIGHT BRIDGE]

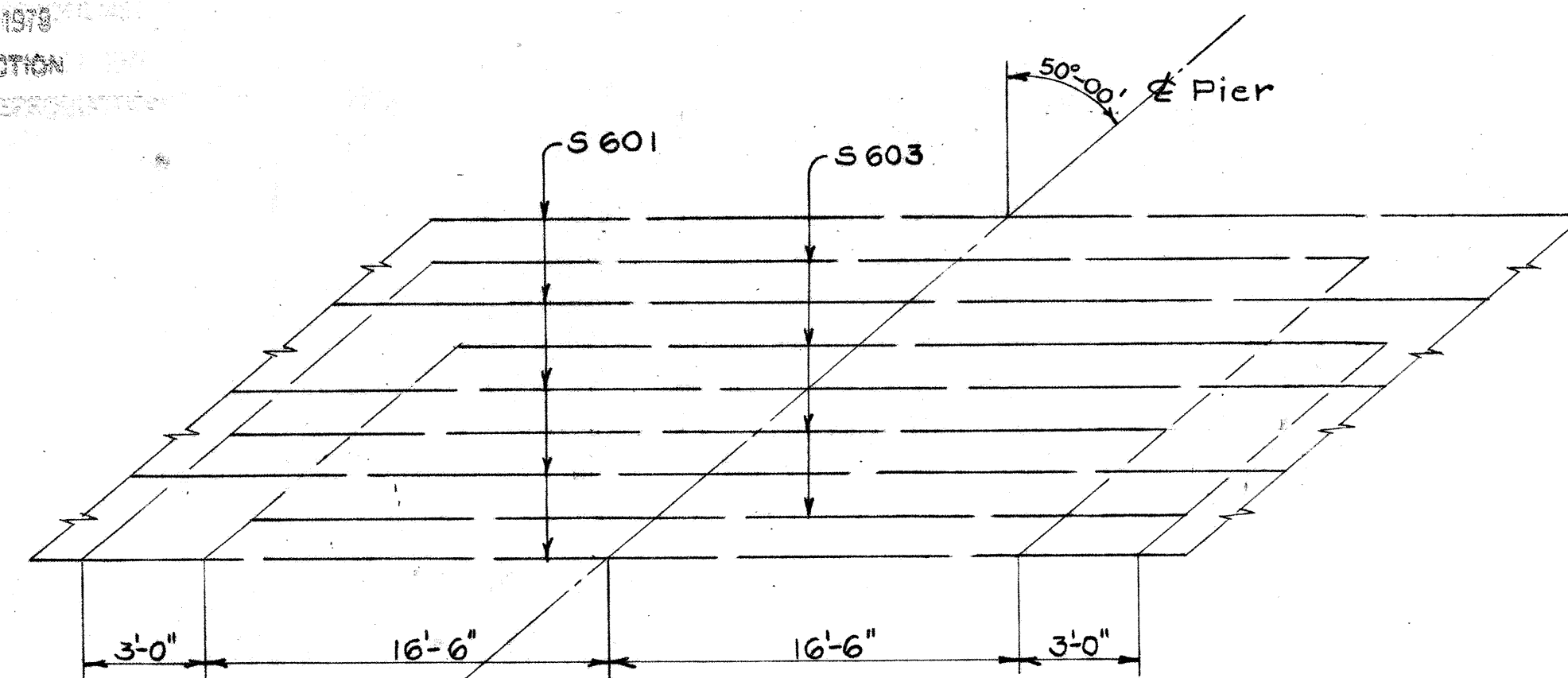
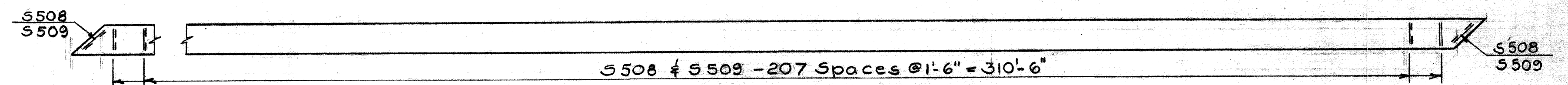
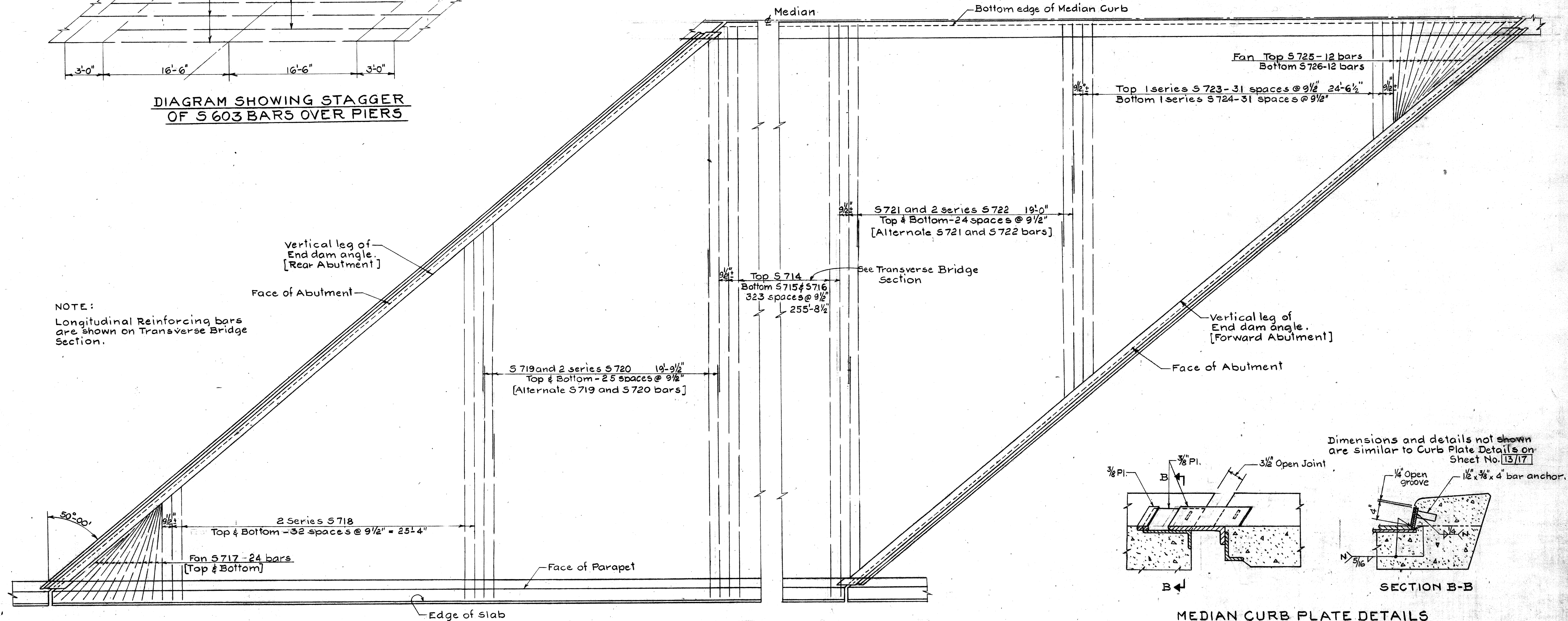


DIAGRAM SHOWING STAGGER
OF S 603 BARS OVER PIERS

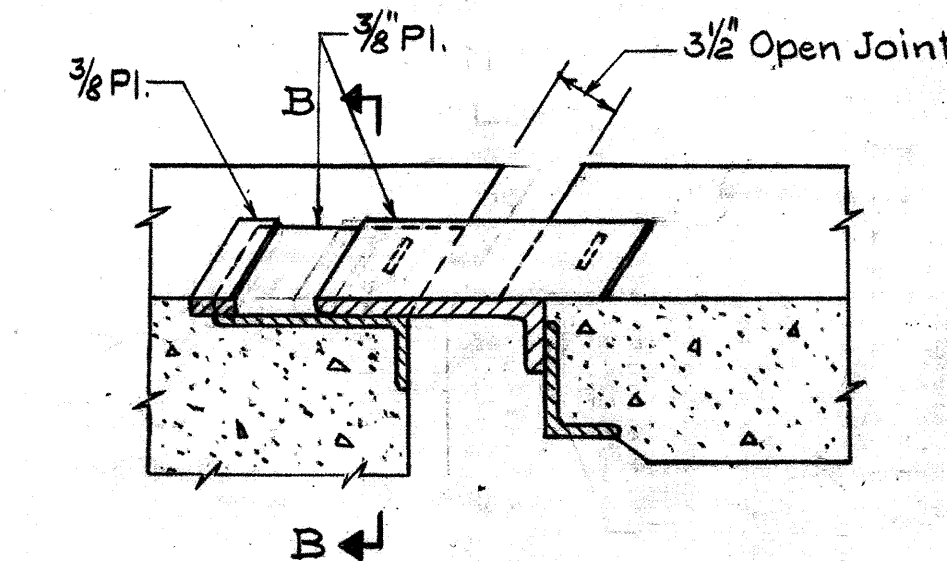


MEDIAN CURB REINFORCING PLAN



NOTE:
Longitudinal Reinforcing bars
are shown on Transverse Bridge
Section.

Dimensions and details not shown
are similar to Curb Plate Details on
Sheet No. 13/17



SECTION B-B

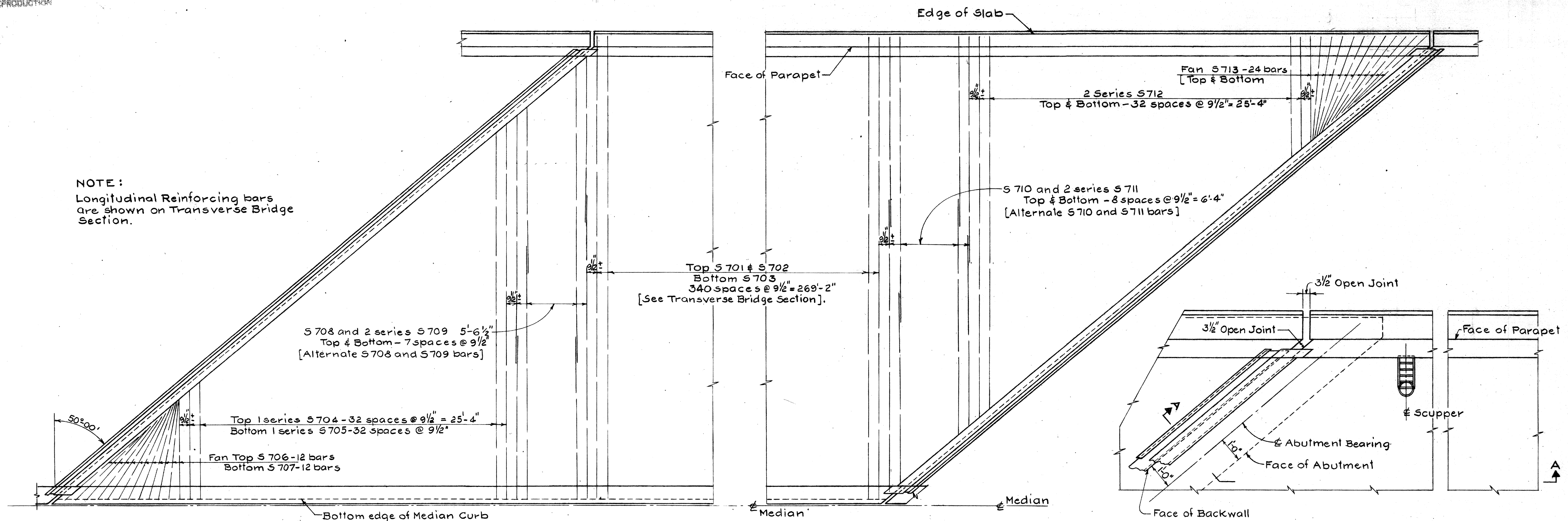
MEDIAN CURB PLATE DETAILS

SLAB REINFORCING PLAN [RIGHT BRIDGE DECK]

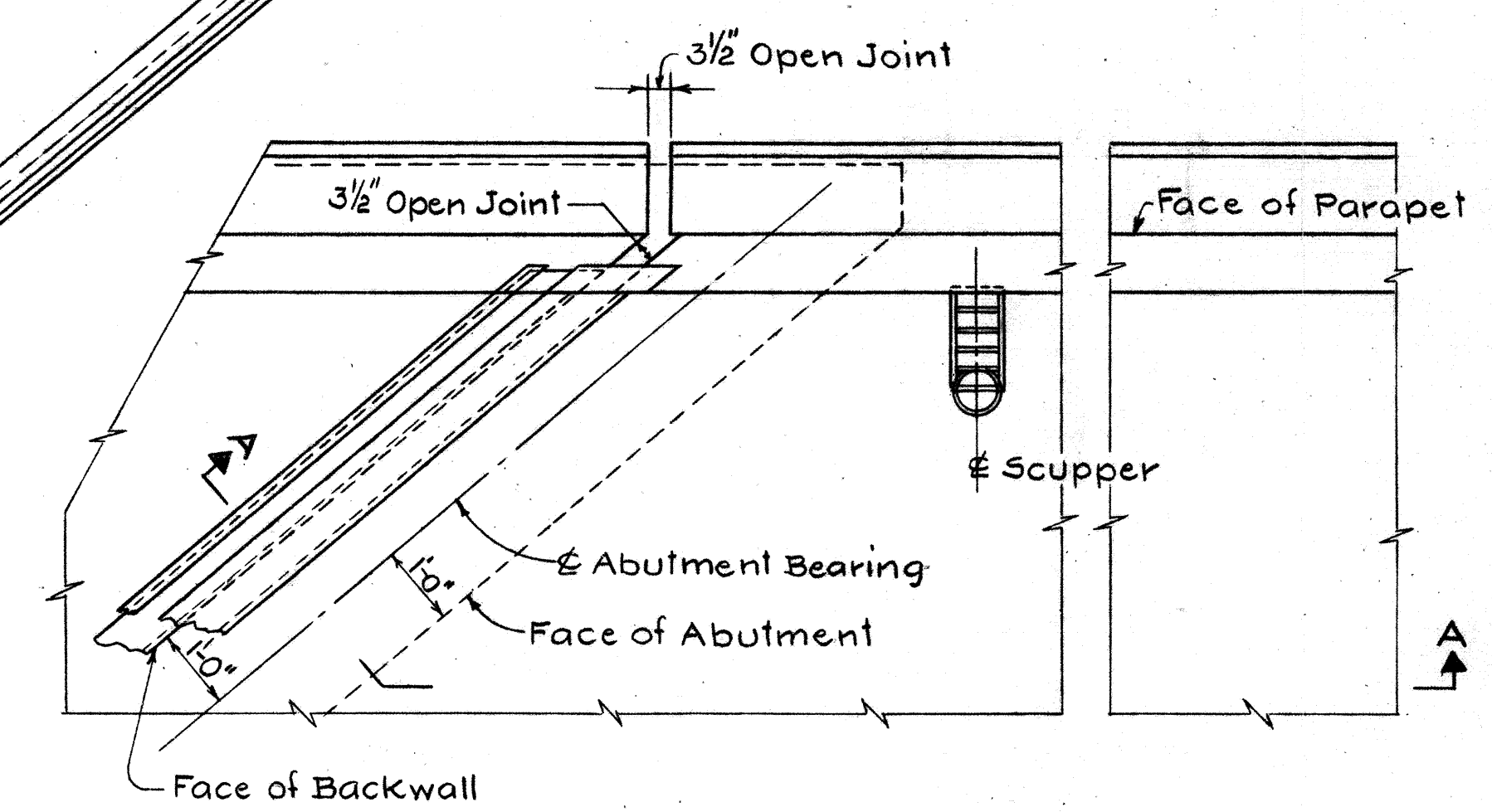
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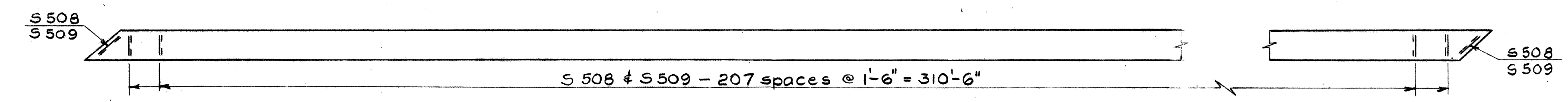
NOTE:
Longitudinal Reinforcing bars
are shown on Transverse Bridge
Section.



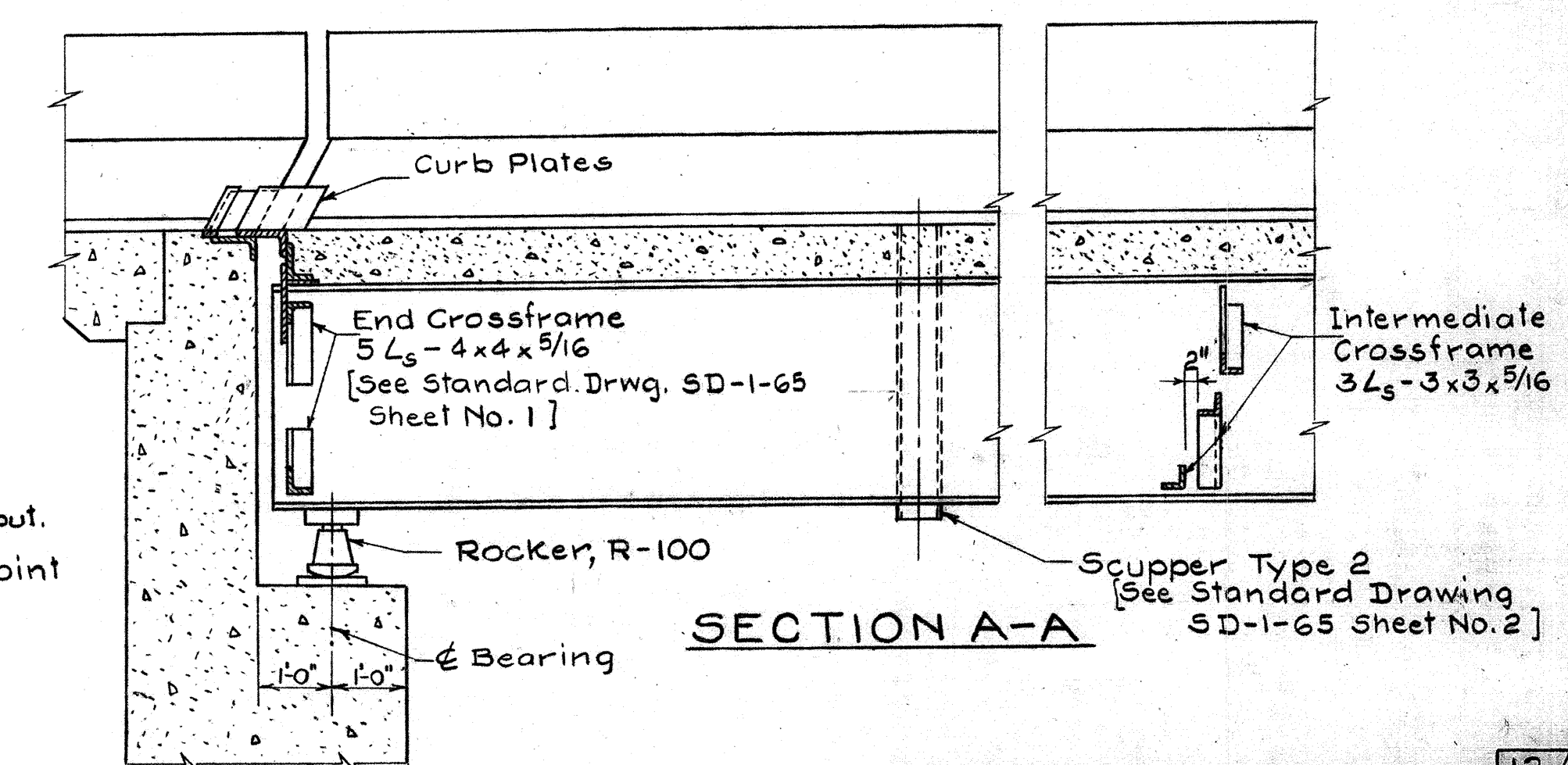
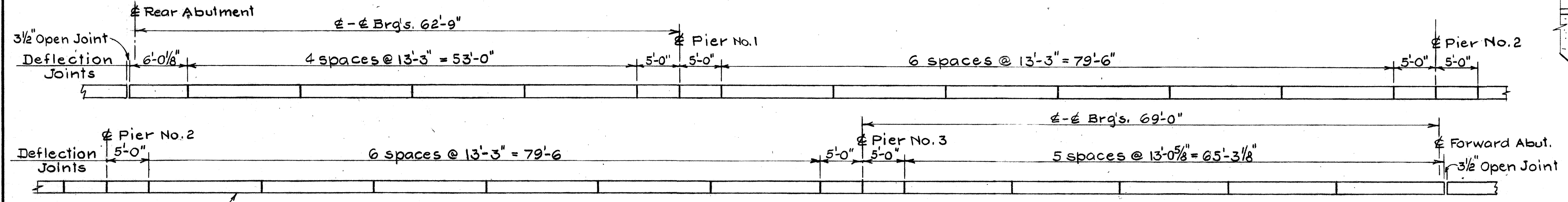
SLAB REINFORCING PLAN [LEFT BRIDGE DECK]



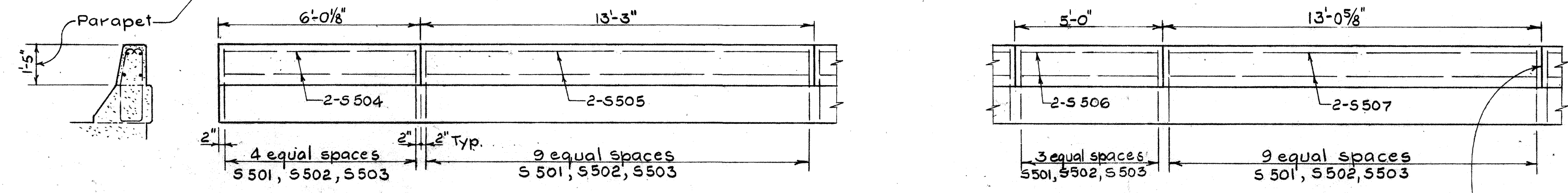
PART PLAN AT ABUTMENT



MEDIAN CURB REINFORCING PLAN



SECTION A-A



PARAPET DETAILS
[SIMILAR ON BOTH SIDES]

1/4" gray sponge rubber expansion joint filler, AASHO M-153 at each deflection joint. [Included with superstructure concrete for payment].

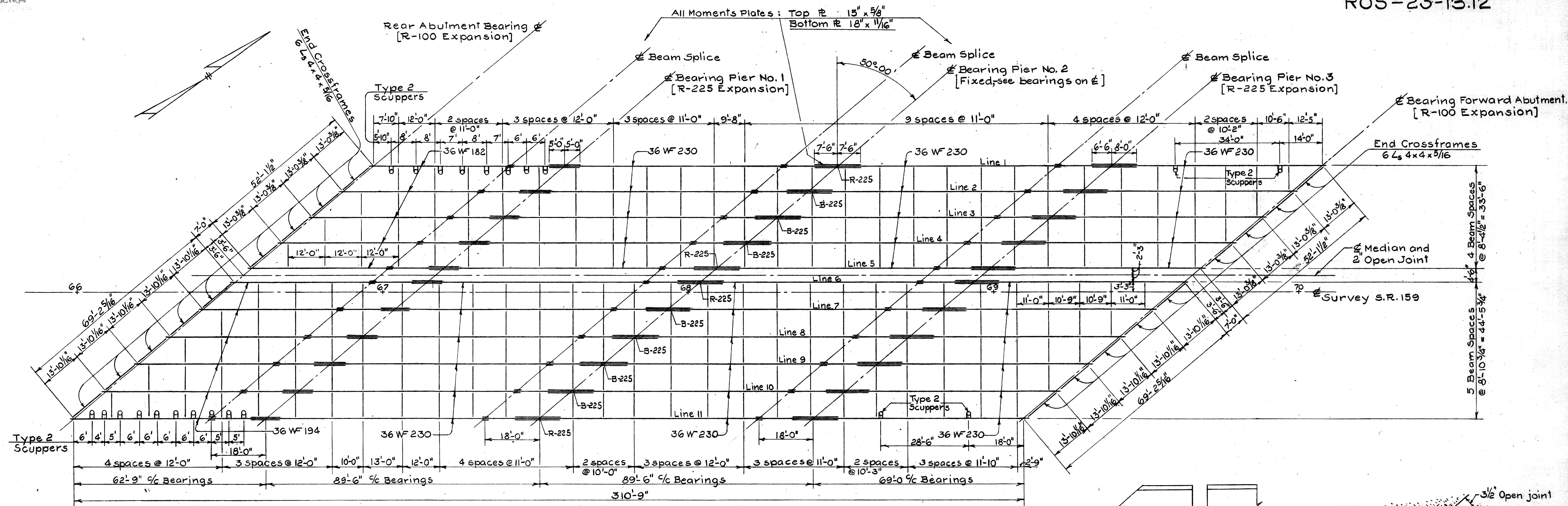
NOTE:
For Roadway End Dam details see Standard Drawing: SD-1-65 Sheet No. 1, CF = 2000. JOINT SEALER: Item 828 joint sealer including bond breaker, shown in Section A-A of Std. Dwg. SD-1-65, Sheet No. 1, shall be omitted.

12/17

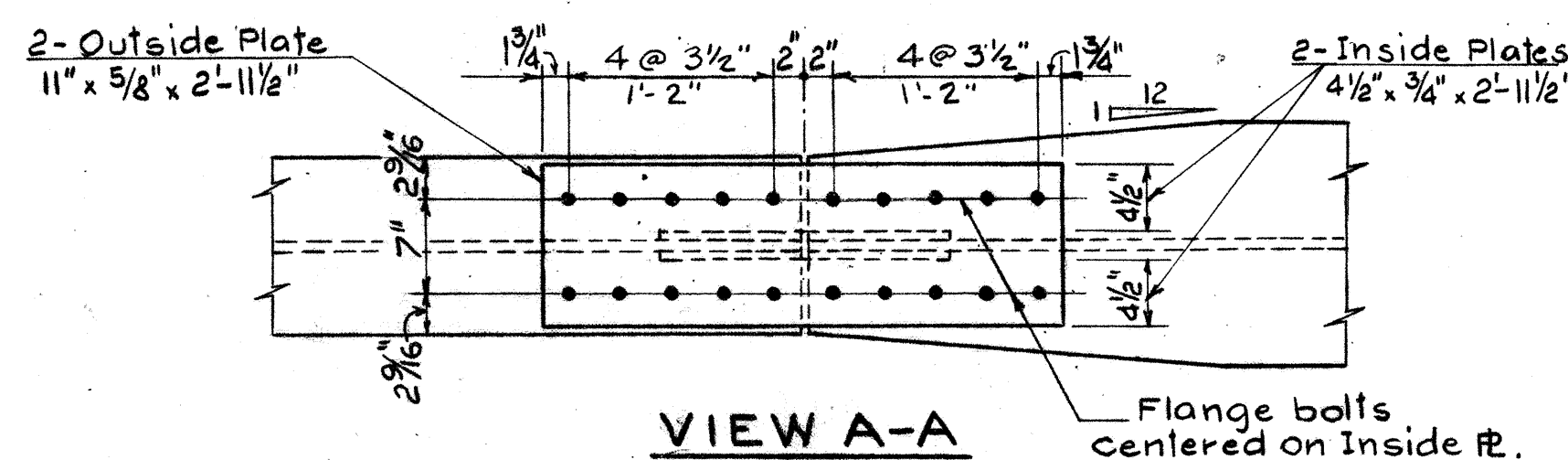
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249 S. Paint Street
Chillicothe, Ohio

SUPERSTRUCTURE DETAILS
SLAB REINFORCING PLAN, L.T.
BRIDGE No. ROS-23-1585
U.S.R. 23 UNDER S.R. 159
ROSS COUNTY
STA. 837+00
USR 23

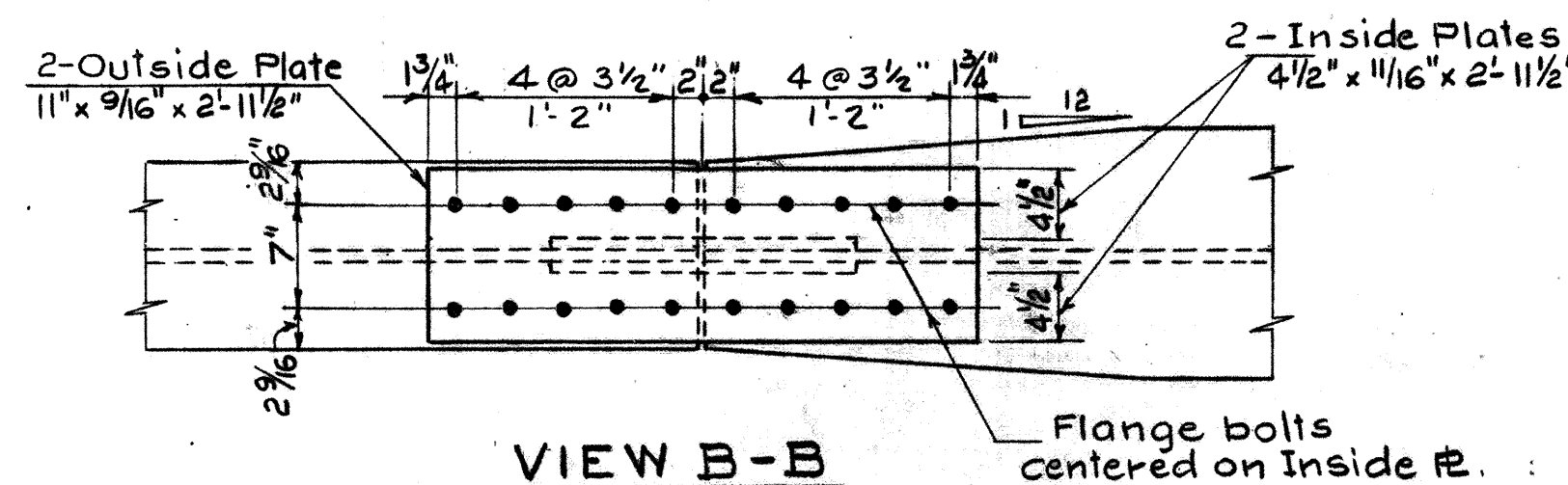
SCALE	DATE
DESIGNED	DRAWN
TRACED	CHECKED
REVIEWED	DATE
F.H.S.	L.P.
P.R.S.	7/11
	3/19/69



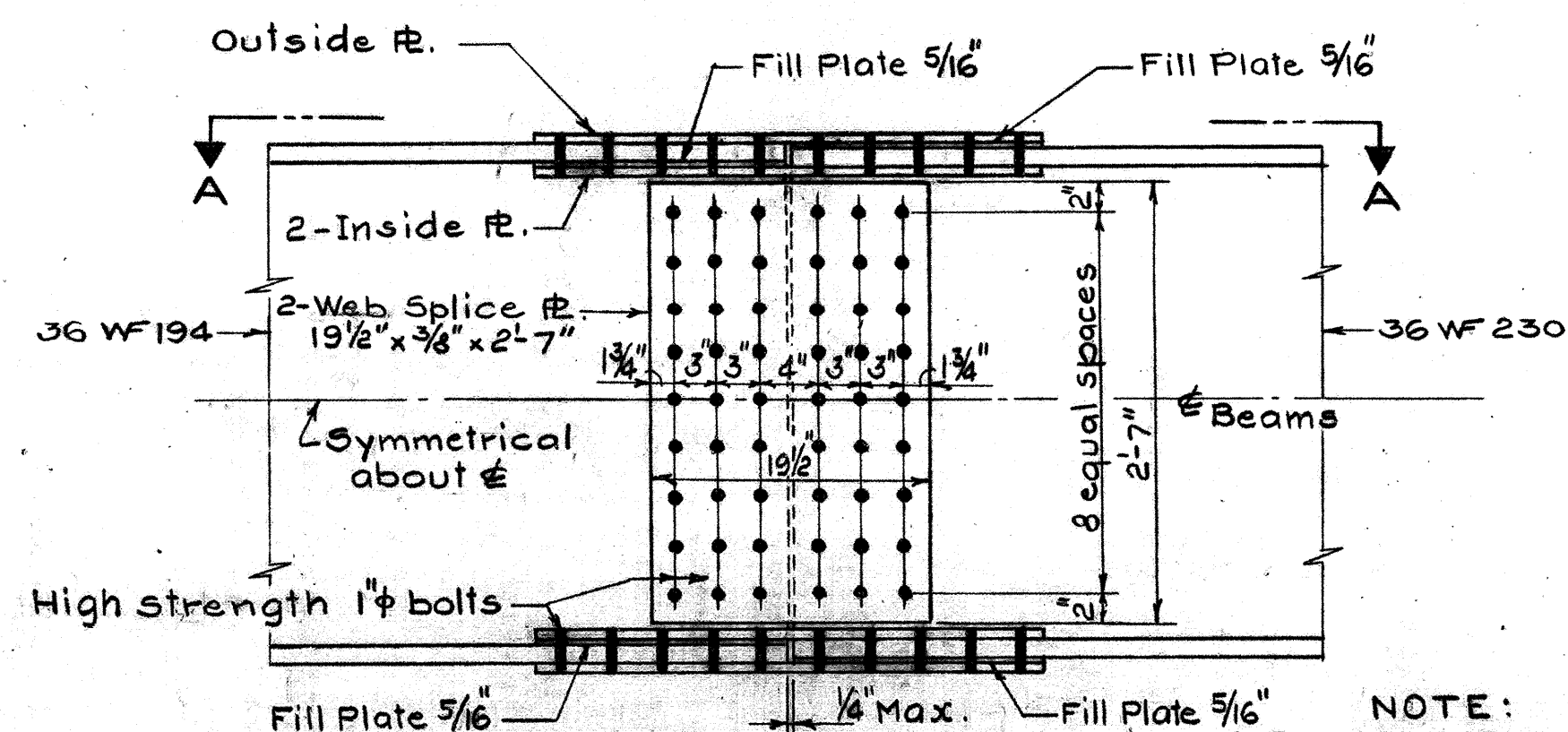
STEEL FRAMING PLAN



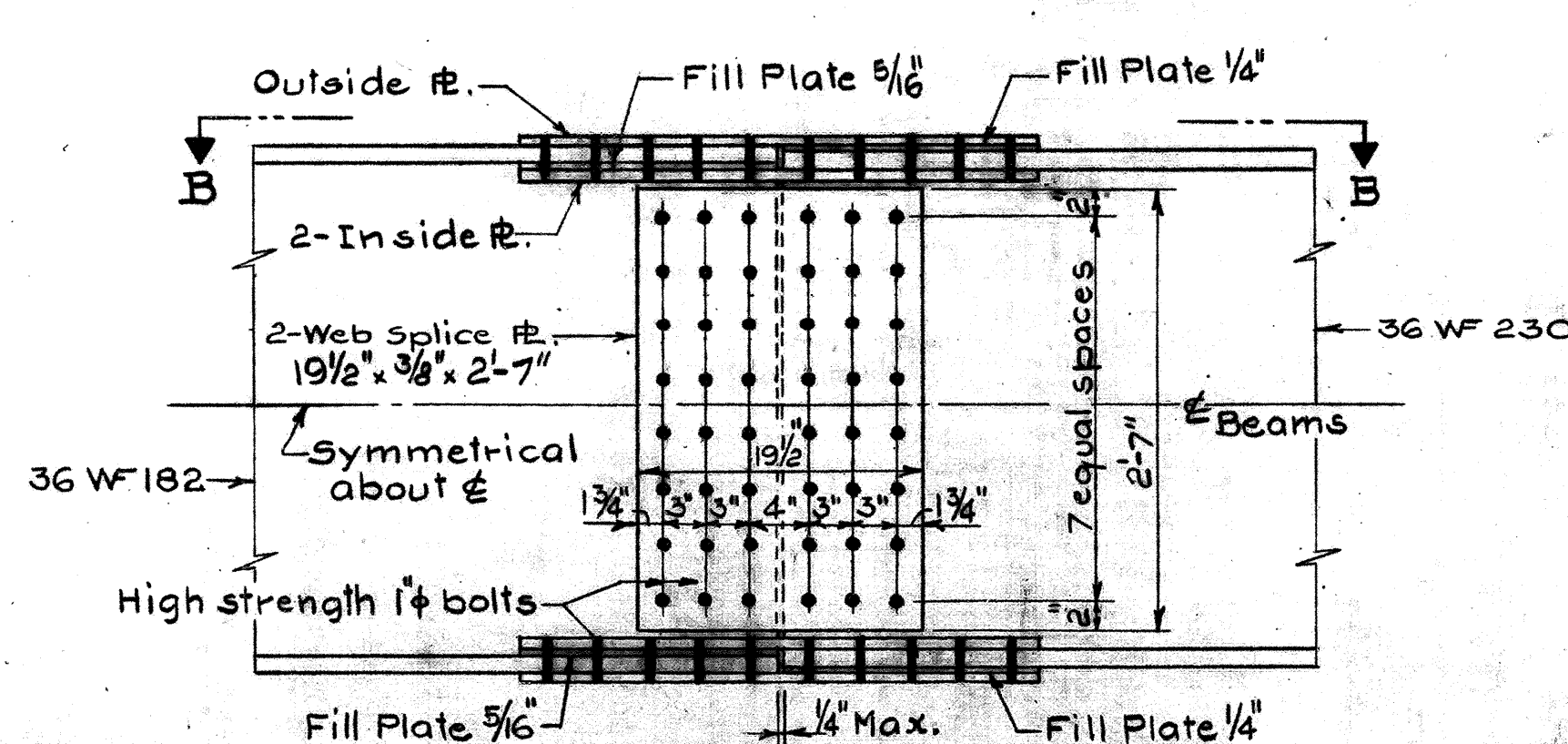
VIEW A-A



VIEW B-B

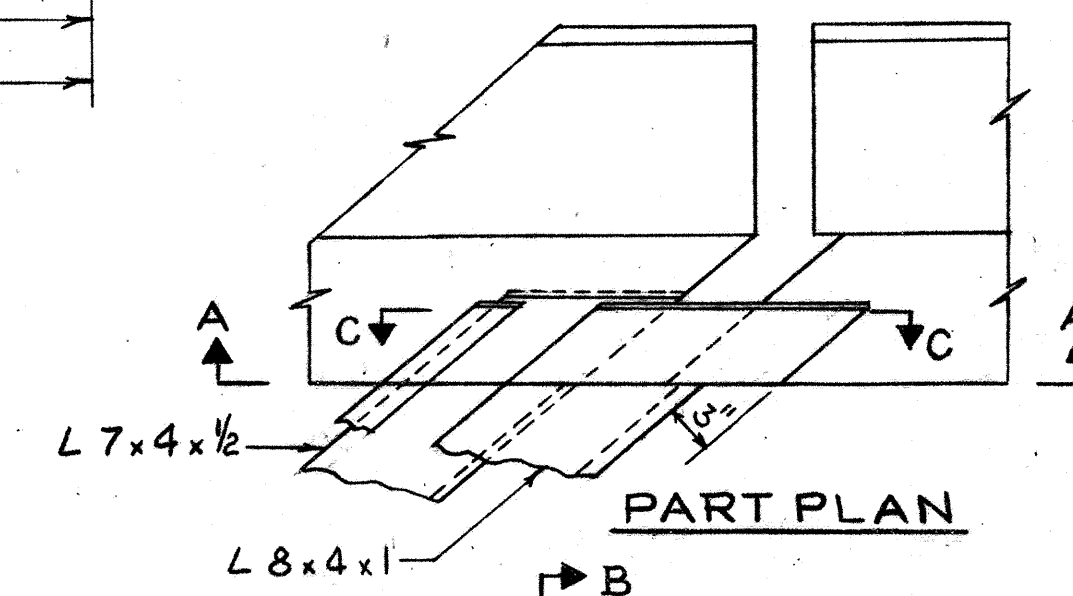


BEAM SPICE DETAIL
[For 36 WF 194 and 36 WF 230 Beams]

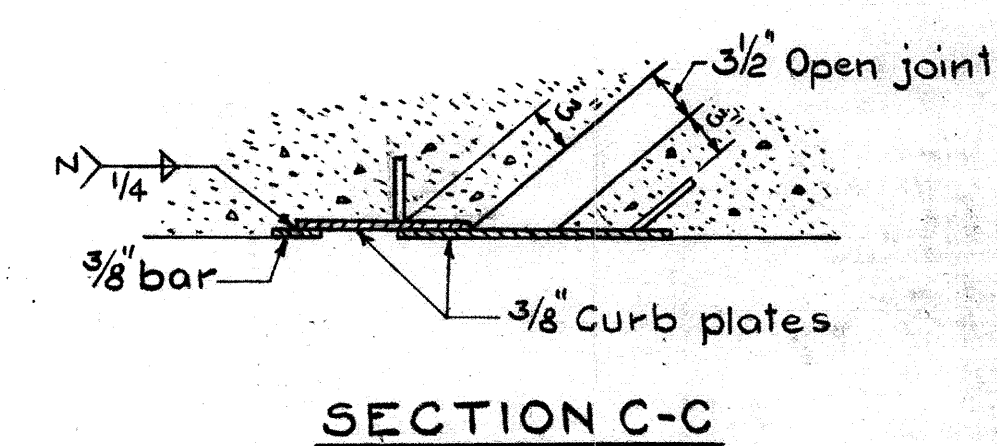


BEAM SPICE DETAIL
[For 36 WF 182 and 36 WF 230 Beams]

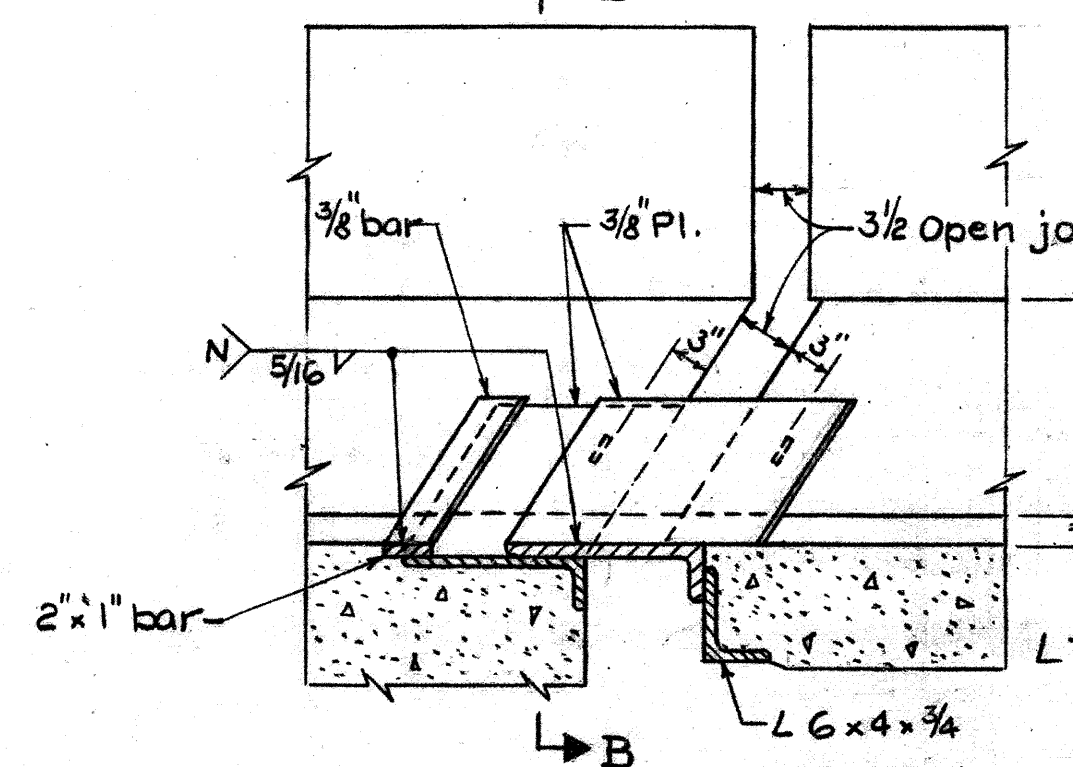
NOTE:
For Beam Splice Details
between 36 WF 230 and
36 WF 230 See Standard
Drawing: SD-1-65.
Sheet No. 3



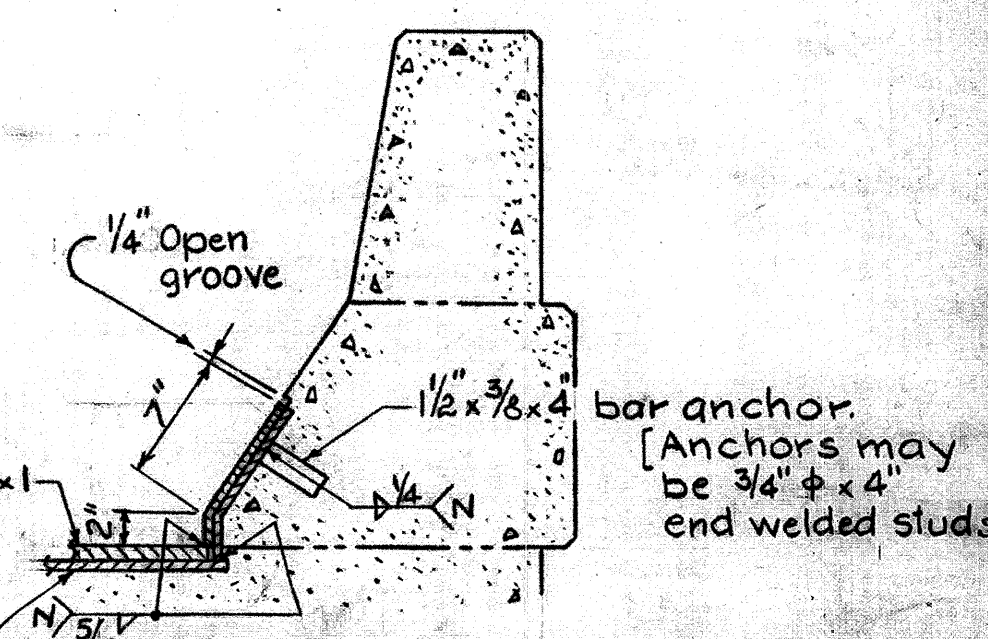
PART PLAN



SECTION C-C



SECTION A-A

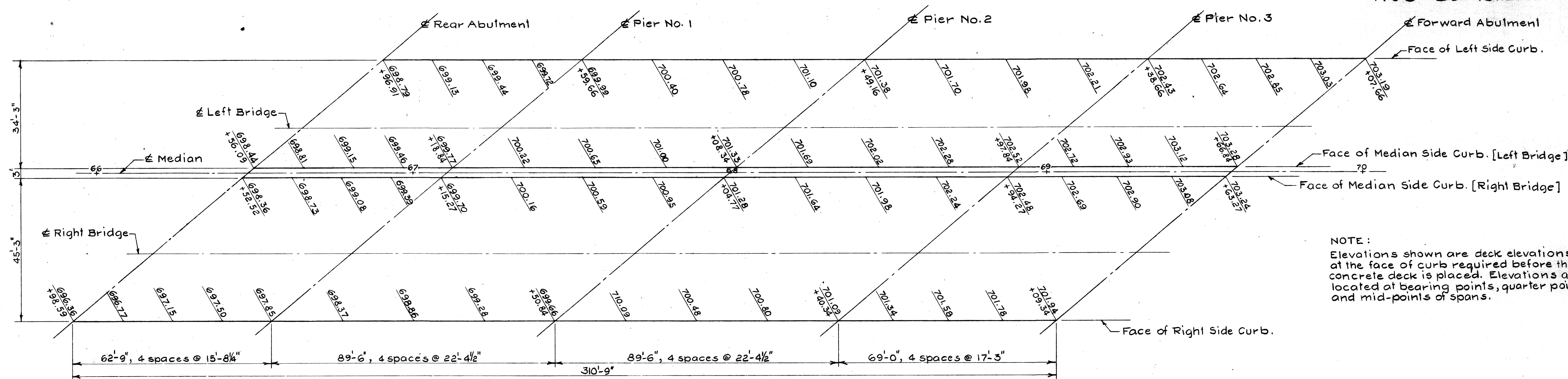


SECTION B-B

CURB PLATE DETAILS

BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD. Consulting Engineers 249 S. Paint Street Chillicothe, Ohio					
SUPERSTRUCTURE DETAILS STEEL FRAMING PLAN BRIDGE No. ROS-23-1585 U.S.R. 23 UNDER S.R. 159 ROSS COUNTY STA. 837+00 U.S.R. 23					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
F.H.S.	F.H.S.	L.P.	P.R.S.	N.K.	3/19/69

ROS-23-13.12



NOTE:
Elevations shown are deck elevations at the face of curb required before the concrete deck is placed. Elevations are located at bearing points, quarter points and mid-points of spans.

ELEVATION DIAGRAM

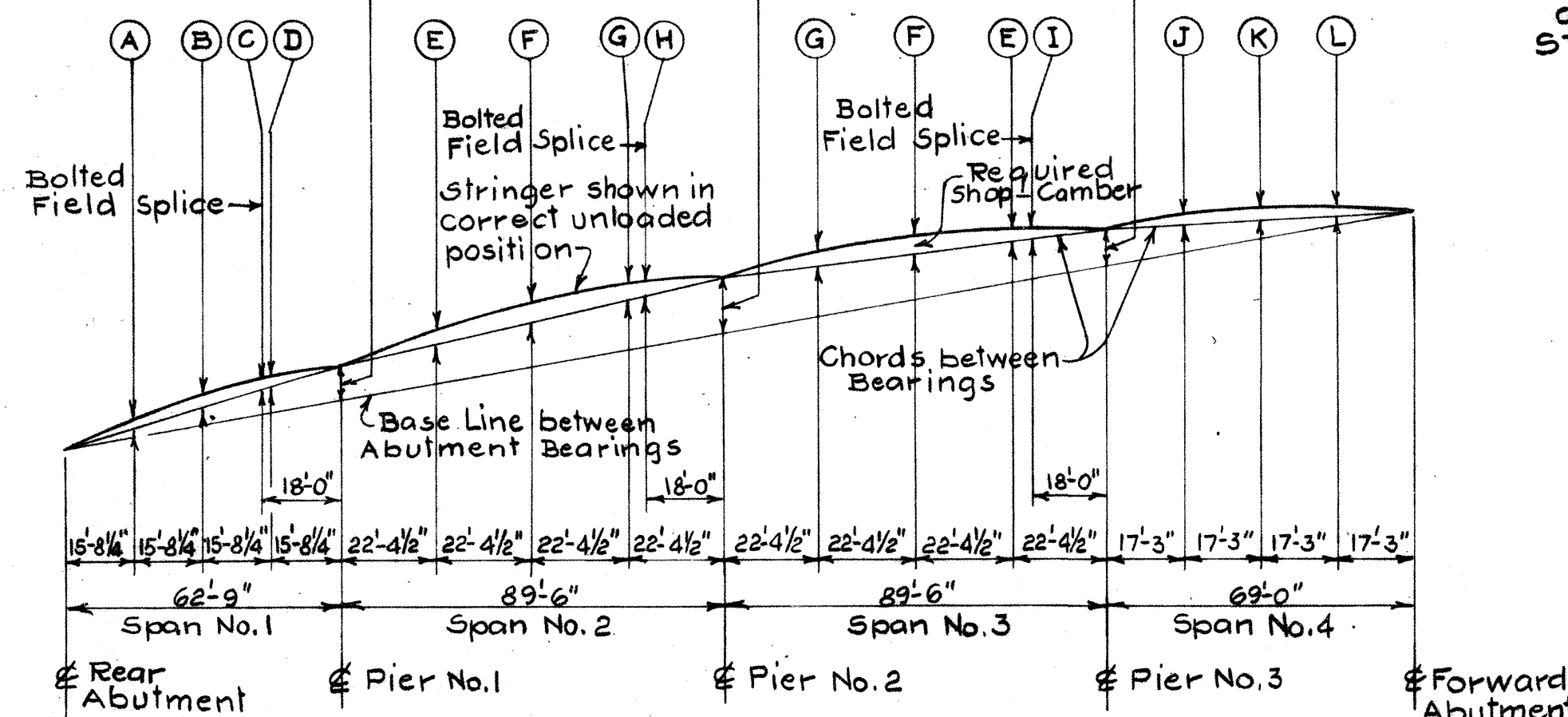
Left Bridge

Beam Line 1	3 3/4"	5 1/4"	2 5/8"
Beam Line 2	3 7/8"	5 9/16"	2 7/8"
Beam Line 3	4"	5 13/16"	3 1/8"
Beam Line 4	4 1/16"	6 1/4"	3 3/16"
Beam Line 5	4 3/16"	6 1/4"	3 3/4"

Right Bridge

Beam Line 6	4 3/16"	6 7/8"	3 7/8"
Beam Line 7	4 1/4"	6 1/2"	4 3/16"
Beam Line 8	4 9/16"	6 5/8"	4 3/8"
Beam Line 9	4 3/8"	6 3/4"	4 9/16"
Beam Line 10	4 7/16"	6 13/16"	4 11/16"
Beam Line 11	4 7/16"	6 7/8"	4 3/4"

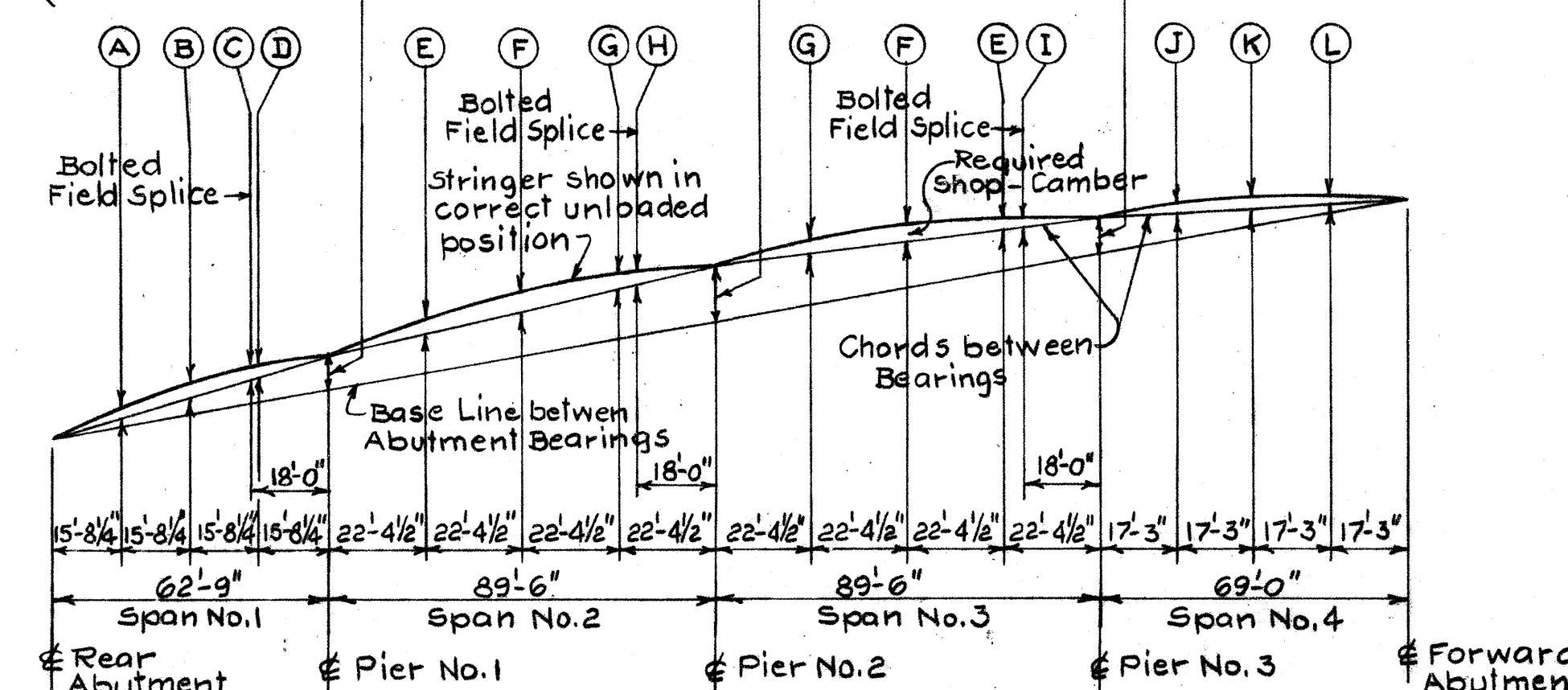
For identification of Beam Lines see: STEEL FRAMING PLAN.



FIT-UP DIAGRAM

LEFT BRIDGE

	DEFLECTION AND CAMBER											
	END SPAN NO. 1			INTERIOR SPAN NO. 2			INTERIOR SPAN NO. 3			END SPAN NO. 4		
	1/4 Point A	Center Point B	3/4 Point C	1/4 Point D	Center Point E	3/4 Point F	1/4 Point G	Center Point H	3/4 Point I	1/4 Point J	Center Point K	3/4 Point L
Deflection due to weight of steel	0.06"	0.06"	0.02"	0.02"	0.10"	0.17"	0.09"	0.07"	0.09"	0.17"	0.10"	0.07"
Deflection due to remaining dead load	0.24"	0.26"	0.08"	0.06"	0.33"	0.58"	0.32"	0.23"	0.32"	0.58"	0.24"	0.20"
Adjustment required for vertical curve	0.21"	0.28"	0.23"	0.21"	0.43"	0.57"	0.43"	0.37"	0.32"	0.58"	0.24"	0.20"
Required shop camber	1/2"	5/8"	5/16"	5/16"	7/8"	1 1/16"	1 1/16"	1 1/16"	1 1/16"	7/8"	1 1/16"	1 1/16"



FIT-UP DIAGRAM

RIGHT BRIDGE

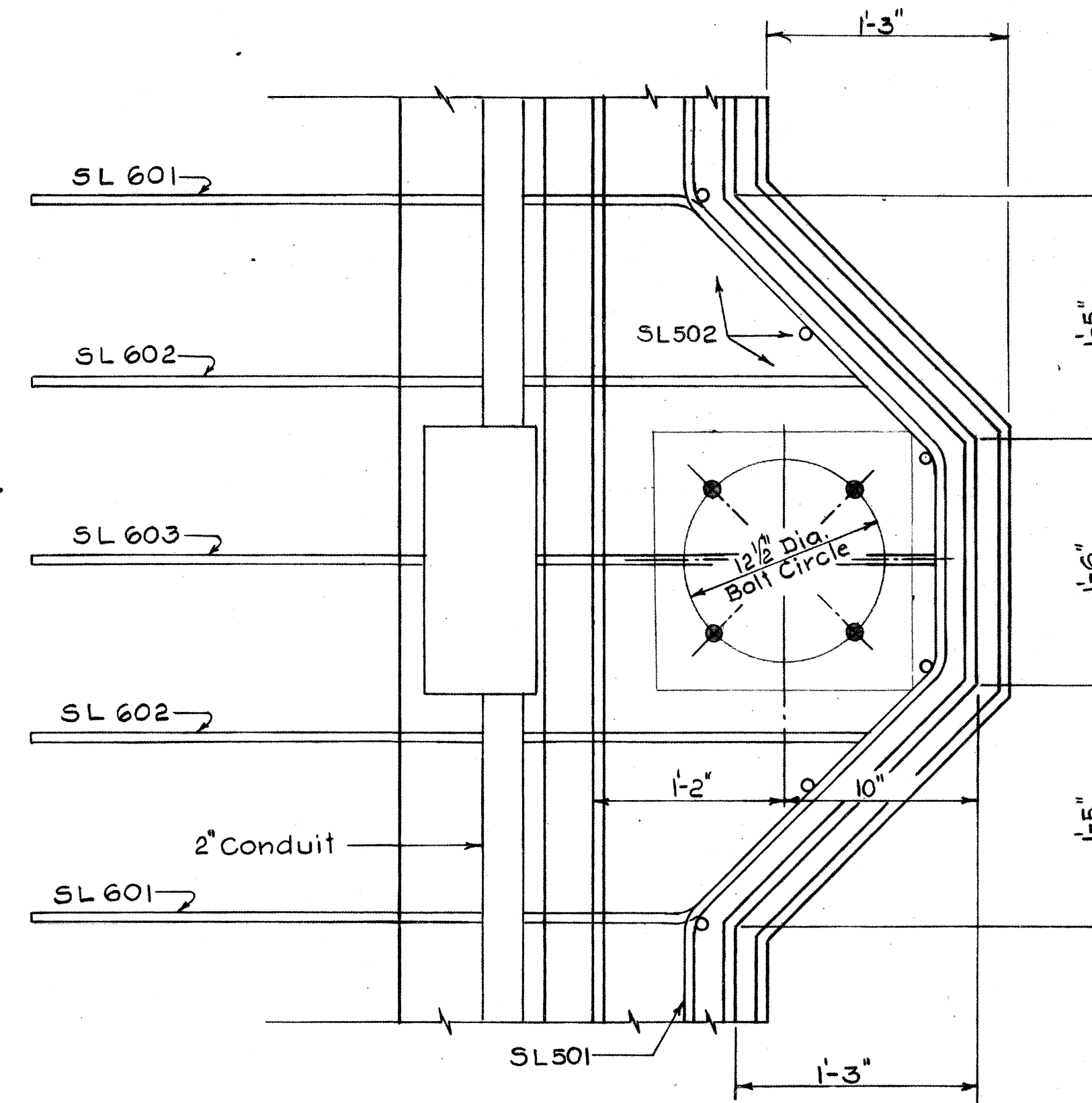
	DEFLECTION AND CAMBER				DEFLECTION AND CAMBER				DEFLECTION AND CAMBER			
	END SPAN NO. 1		INTERIOR SPAN NO. 2 & 3		END SPAN NO. 4		DEFLECTION AND CAMBER		DEFLECTION AND CAMBER		DEFLECTION AND CAMBER	
	1/4 Point A	Center Point B	3/4 Point C	1/4 Point D	1/4 Point E	Center Point F	3/4 Point G	1/4 Point H	1/4 Point I	Center Point J	3/4 Point K	1/4 Point L
Deflection due to weight of steel	0.06"	0.06"	0.02"	0.02"	0.10"	0.17"	0.09"	0.07"	0.07"	0.06"	0.13"	0.11"
Deflection due to remaining dead load	0.25"	0.26"	0.09"	0.07"	0.36"	0.63"	0.35"	0.26"	0.27"	0.22"	0.49"	0.42"
Adjustment required for vertical curve	0.21"	0.28"	0.23"	0.21"	0.43"	0.57"	0.43"	0.37"	0.37"	0.21"	0.58"	0.20"
Required shop camber	1/2"	5/8"	5/16"	5/16"	7/8"	1 1/8"	7/8"	1 1/16"	1 1/16"	7/8"	1 1/16"	1 1/16"

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

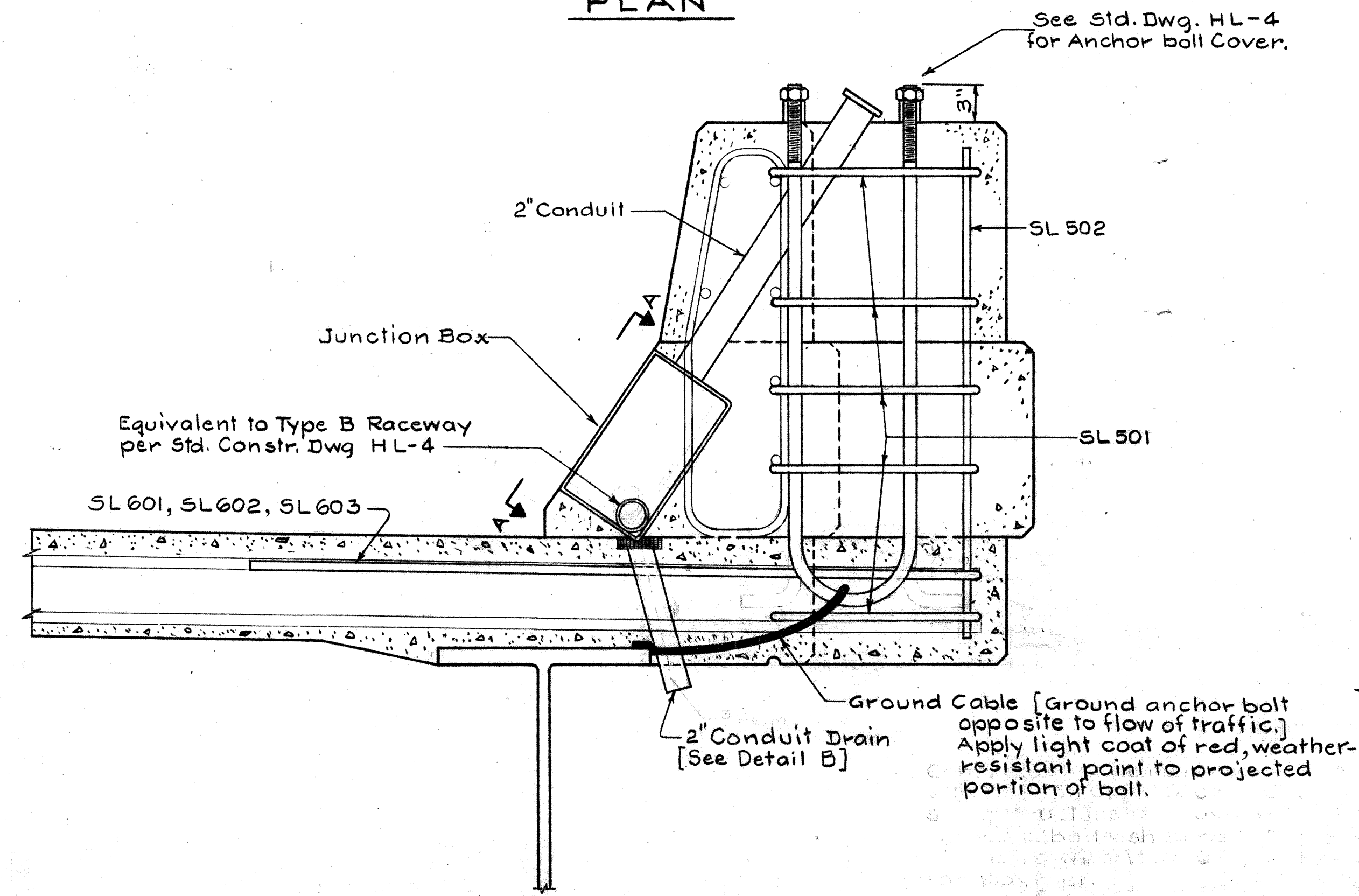
ELEVATION DIAGRAM
DEFLECTION AND CAMBER TABLE
BRIDGE NO. ROS-23-1585
U.S.R. 23 UNDER S.R. 159
ROSS COUNTY STA. 837+00 USR 23

SCALE: DATE: 3/11/69

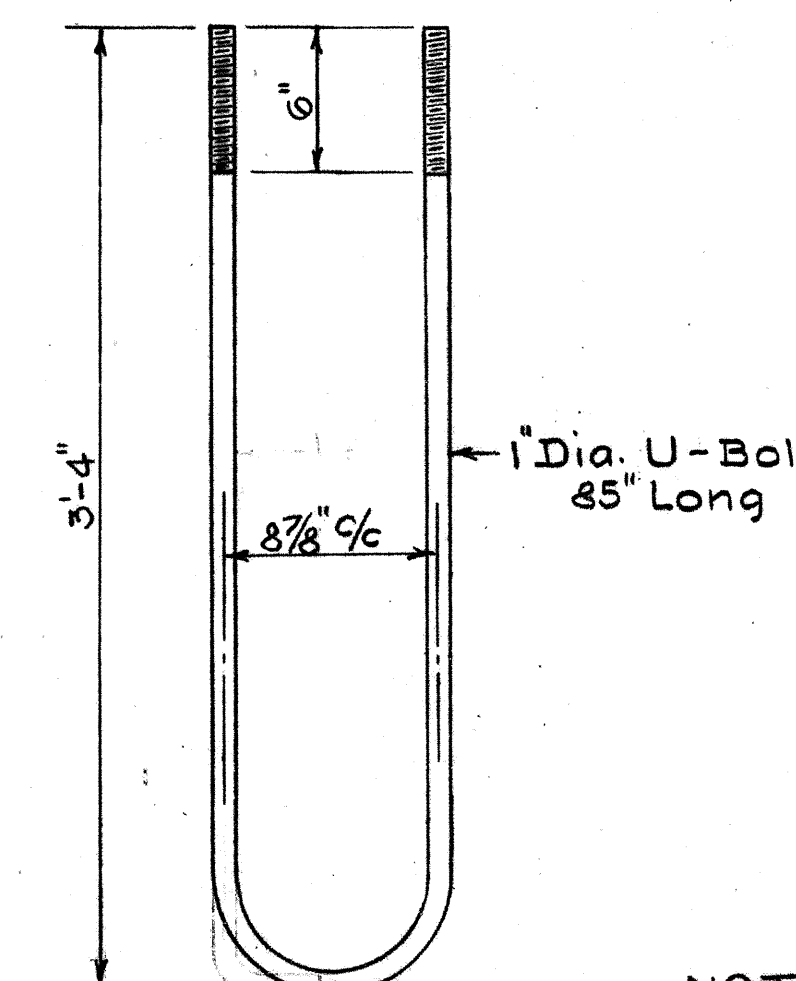
ROS-23-13.12



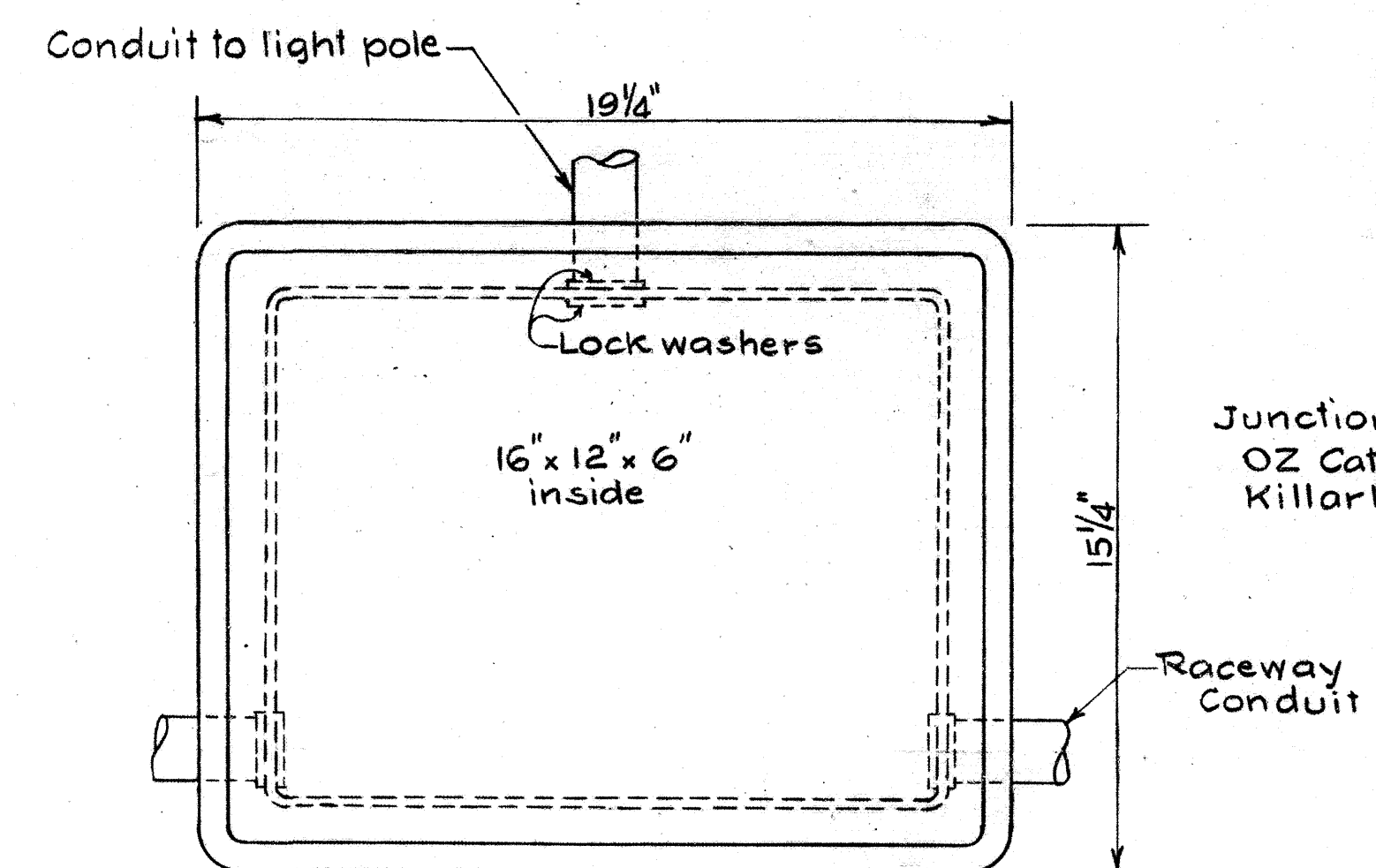
PLAN



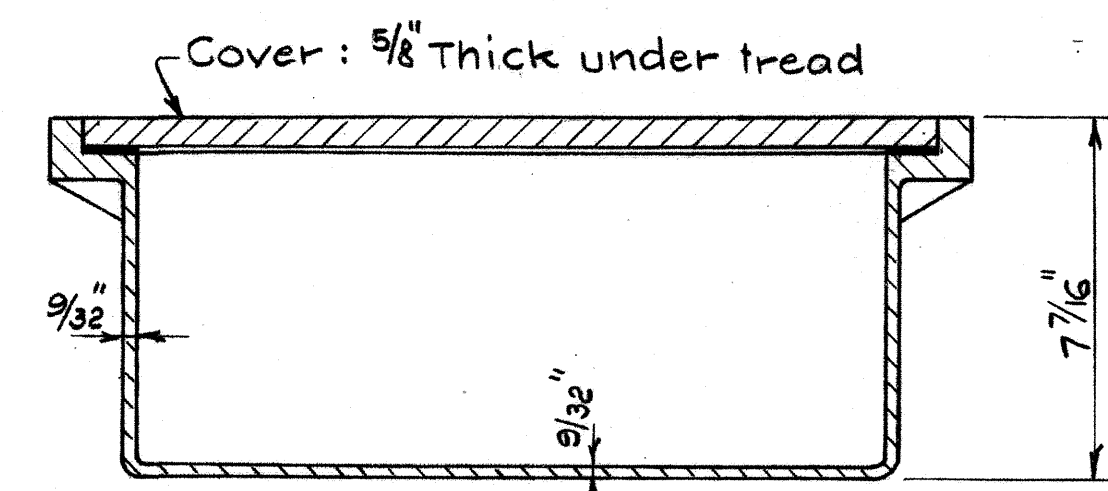
SECTION



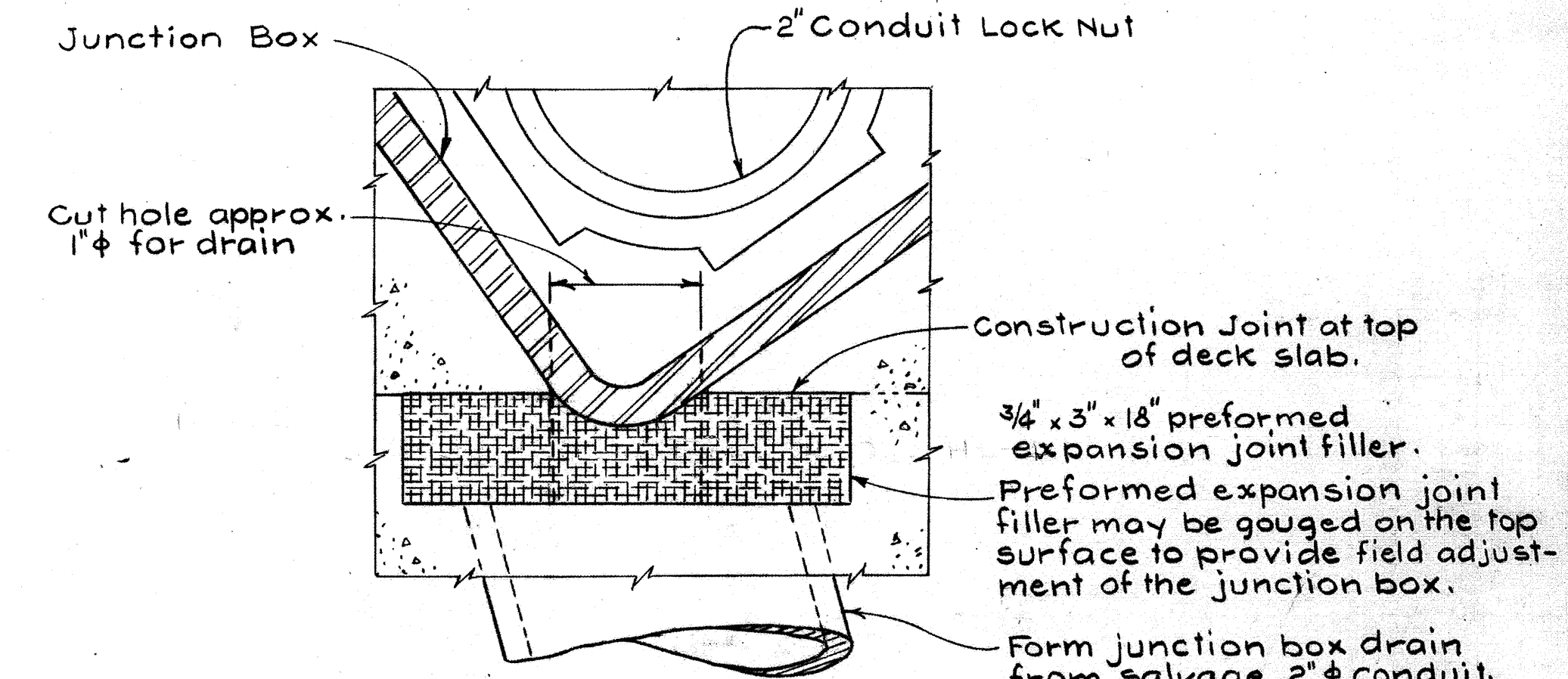
ANCHOR BOLT



PLAN A-A of JUNCTION BOX



SECTION
JUNCTION BOX DETAILS



JUNCTION BOX DETAIL B

NOTES:
For additional details see Std. Dwg. HL-4.
Concrete shall be included with Item 511 Class "C" concrete, superstructure for payment.
Anchor bolts shall be included with Item 625 for payment.
Expansion fittings for conduit on structures shall be OZ Type AX or Spring City Type AF for 4 inch conduit movement or Appleton Type XJ-4.

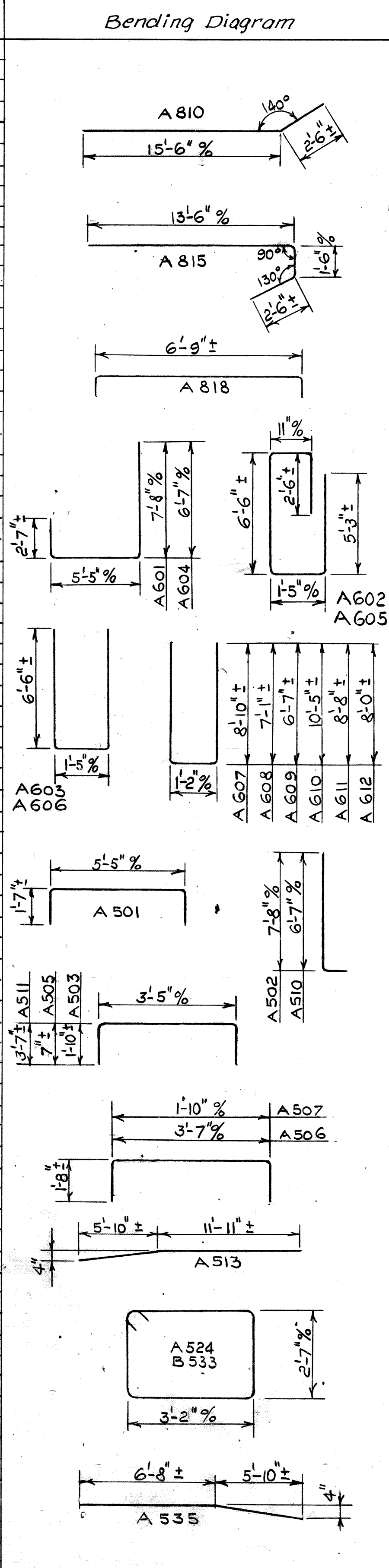
BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD.
Consulting Engineers
249 S. Paint Street Chillicothe, Ohio

LIGHTING DETAILS
BRIDGE No. ROS-23-1585
USR-23 UNDER SR-159
ROSS COUNTY USR 23
STA. 837+00

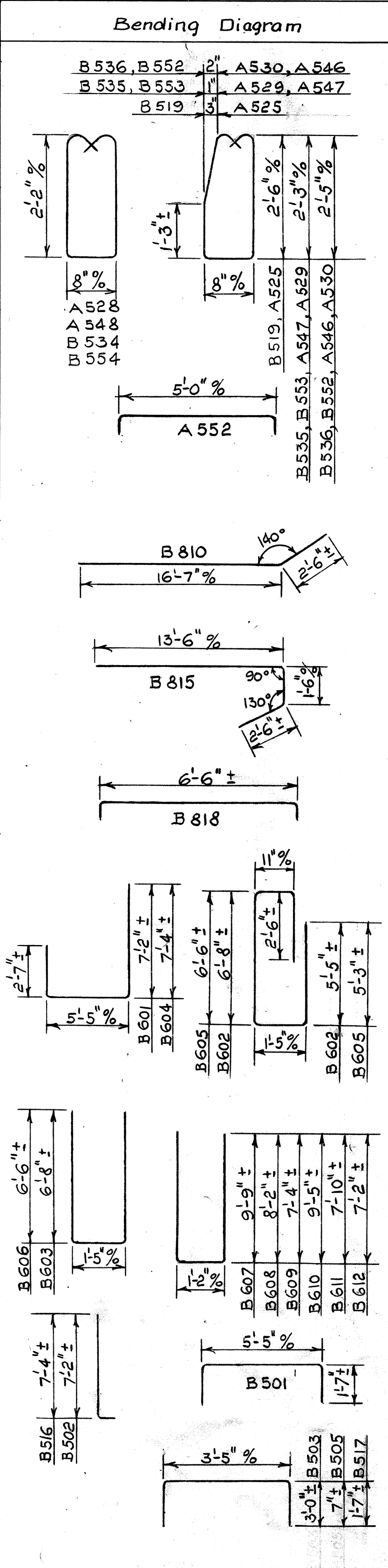
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
F.H.S.	F.H.S.	L.P.	P.R.S.	JK	3/19/69	

REINFORCING STEEL LIST

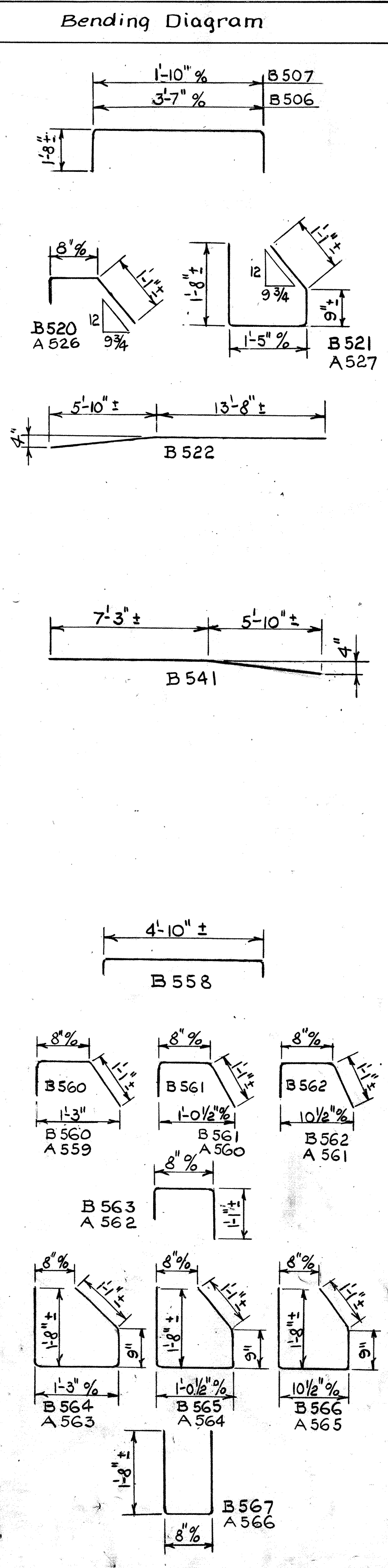
Bar Number	Number Required	Length	Shape	Weight
REAR ABUTMENT				
A 801	4	30'-10"		329
A 802	4	30'-8"		328
A 803	2	29'-10"		159
A 804	4	28'-10"		308
A 805	6	24'-10"		398
A 806	6	25'-7"		410
A 807	3	26'-6"		212
A 808	6	26'-10"		430
A 809	6	10'-0"		160
A 810	2	17'-10"		95
A 811	2	19'-2"		102
A 812	1	16'-4"		44
A 813	1	18'-3"		49
A 814	2	11'-10"		63
A 815	2	17'-1"		91
A 816	1	12'-6"		33
A 817	1	13'-6"		36
A 818	2	8'-7"		46
A 601	43	15'-4"		990
A 602	37	15'-11"		885
A 603	15	14'-1"		317
A 604	46	14'-3"		985
A 605	62	15'-11"		1482
A 606	13	14'-1"		275
A 607	10	18'-6"		278
A 608	1	15'-0"		23
A 609	2	14'-0"		42
A 610	6	21'-8"		195
A 611	1	18'-2"		27
A 612	3	16'-10"		76
A 501	89	8'-4"		774
A 502	43	8'-2"		366
A 503	43	6'-10"		306
A 504	17	30'-0"		532
A 505	66	4'-5"		304
A 506	1	6'-8"		7
A 507	2	4'-11"		10
A 508	8	9'-9"		81
A 509	4	4'-6"		19
A 510	46	7'-1"		340
A 511	46	10'-4"		496
A 512	34	25'-0"		887
A 513	2	17'-9"		37
A 514	2	17'-9"		37
A 515	4	17'-9"		74
A 516	4	17'-9"		74
A 517	2	18'-2"		38
A 518	2	17'-9"		37
A 519	22	4'-4"		99
A 520	1	11'-11"		12
A 521	1	11'-6"		12
A 522	3	14'-0"		44
A 523	3	12'-7"		39
A 524	26	11'-11"		323
A 525	14	6'-3"		91
A 526	14	2'-2"		32
A 527	14	4'-8"		68
A 528	2	5'-7"		6
A 529	2	5'-9"		12
A 530	1	6'-11"		7
A 531	4	2'-8"		11
A 532	2	2'-9"		6
A 533	2	3'-0"		6
A 534	2	3'-7"		7
A 535	2	12'-6"		26
A 536	2	12'-6"		26
A 537	4	12'-6"		52



Bar Number	Number Required	Length	Shape	Weight
A 538	4	12'-6"		52
A 539	2	11'-7"		24
A 540	2	12'-6"		26
A 541	14	4'-3"		62
A 542	1	7'-0"		7
A 543	1	6'-7"		7
A 544	3	8'-10"		28
A 545	3	9'-5"		29
A 546	1	6'-1"		6
A 547	2	5'-9"		12
A 548	1	5'-7"		6
A 549	6	2'-8"		17
A 550	2	3'-5"		7
A 551	2	11'-7"		24
A 552	6	7'-0"		44
A 553	7	15'-11"		116
A 554	7	14'-3"		104
A 555	3	11'-9"		37
A 556	17	13'-6"		239
A 557	12	29'-0"		363
A 558	5	30'-6"		159
A 559	2	2'-2"		5
A 560	2	2'-2"		5
A 561	2	2'-2"		5
A 562	2	2'-2"		5
A 563	2	4'-6"		9
A 564	2	4'-4"		9
A 565	2	4'-1"		9
A 566	2	3'-9"		8
TOTAL REAR ABUTMENT				15,590
FORWARD ABUTMENT				
B 801	6	27'-0"		433
B 802	6	27'-1"		434
B 803	3	26'-4"		211
B 804	6	25'-8"		411
B 805	4	27'-6"		294
B 806	4	28'-8"		306
B 807	2	29'-7"		158
B 808	4	30'-8"		328
B 809	6	10'-0"		160
B 810	2	18'-11"		101
B 811	2	20'-4"		109
B 812	1	17'-5"		47
B 813	1	19'-3"		51
B 814	2	11'-5"		61
B 815	2	17'-1"		91
B 816	1	12'-7"		34
B 817	1	13'-5"		36
B 818	2	8'-4"		44
B 601	55	14'-10"		1225
B 602	55	16'-3"		1342
B 603	14	14'-5"		303
B 604	36	15'-0"		811
B 605	40	15'-11"		956
B 606	12	14'-1"		254
B 607	11	20'-4"		336
B 608	1	17'-2"		26
B 609	2	15'-6"		47
B 610	6	19'-8"		177
B 611	1	16'-6"		25
B 612	3	15'-2"		68
B 501	91	8'-4"		791
B 502	55	7'-8"		440
B 503	55	9'-2"		526
B 504	34	25'-0"		887
B 505	66	4'-5"		304
B 506	1	6'-8"		7
B 507	2	4'-11"		10
B 508	8	9'-9"		81



Bar Number	Number Required	Length	Shape	Weight
B 509	4	4'-6"		19
B 510	7	9'-2"		67
B 511	7	12'-7"		92
B 512	3	12'-5"		39
B 513	17	16'-6"		293
B 514	12	31'-3"		391
B 515	5	29'-0"		151
B 516	36	7'-10"		294
B 517	36	6'-4"		238
B 518	17	30'-0"		532
B 519	16	6'-3"		104
B 520	16	2'-2"		36
B 521	16	4'-8"		78
B 522	2	19'-6"		41
B 523	2	19'-6"		41
B 524	4	19'-6"		82
B 525	4	19'-6"		82
B 526	2	19'-6"		41
B 527	2	20'-0"		42
B 528	24	4'-7"		115
B 529	1	13'-3"		14
B 530	1	12'-9"		13
B 531	3	13'-8"		43
B 532	3	15'-0"		47
B 533	27	11'-11"		336
B 534	1	5'-7"		6
B 535	2	5'-9"		12
B 536	1	6'-11"		7
B 537	4	2'-8"		11
B 538	2	3'-0"		6
B 539	2	3'-6"		7
B 540	2	4'-0"		8
B 541	2	13'-1"		27
B 542	2	13'-1"		27
B 543	4	13'-1"		55
B 544	4	13'-1"		55
B 545	2	13'-1"		27
B 546	2	12'-8"		26
B 547	14	4'-7"		67
B 548	1	7'-1"		7
B 549	1	6'-7"		7
B 550	3	8'-10"		28
B 551	3	9'-5"		29
B 552	1	6'-11"		7
B 553	2	5'-9"		12
B 554	1	5'-7"		6
B 555	6	2'-8"		17
B 556	2	3'-3"		7
B 557	2	3'-10"		8
B 558	6	5'-10"		35
B 559	2	11'-0"		23
B 560	2	2'-2"		5
B 561	2	2'-2"		5
B 562	2	2'-2"		5
B 563	2	2'-2"		5
B 564	2	4'-6"		9
B 565	2	4'-4"		9
B 566	2	4'-1"		9
B 567	2	3'-9"		8
TOTAL FORWARD ABUTMENT				15,738
TOTAL REAR ABUTMENT				15,590
TOTAL TWO ABUTMENTS				31,328

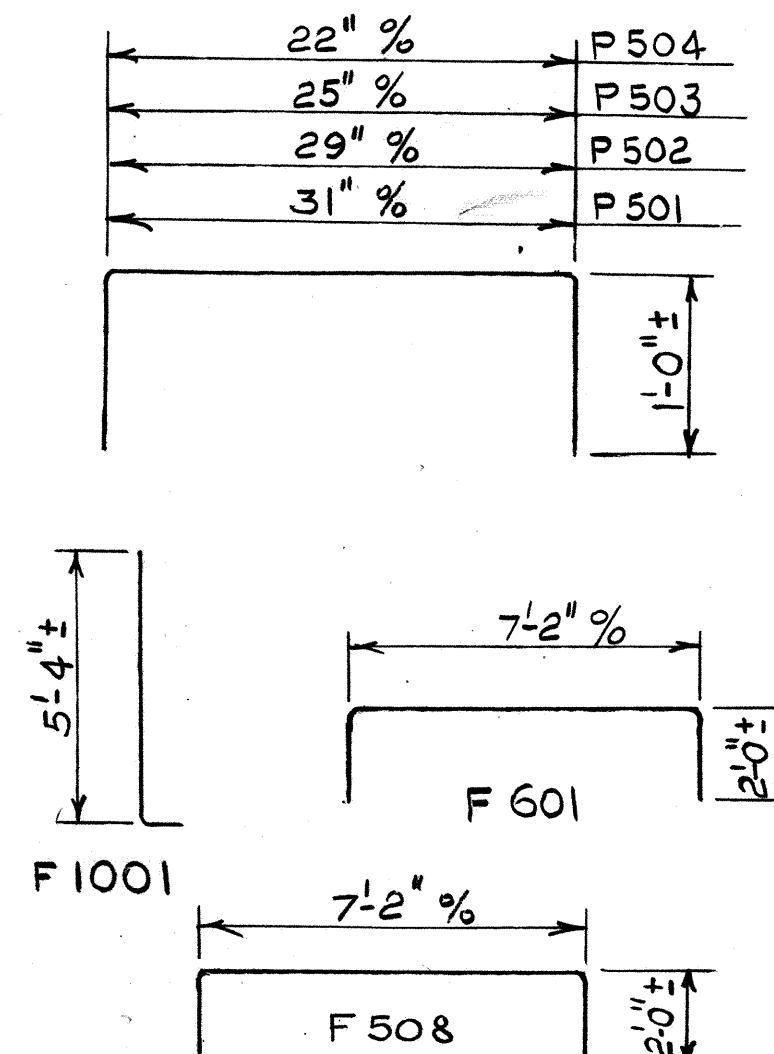


BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, A 601 is a No. 6 size bar and P1001 is a No. 10 size bar.

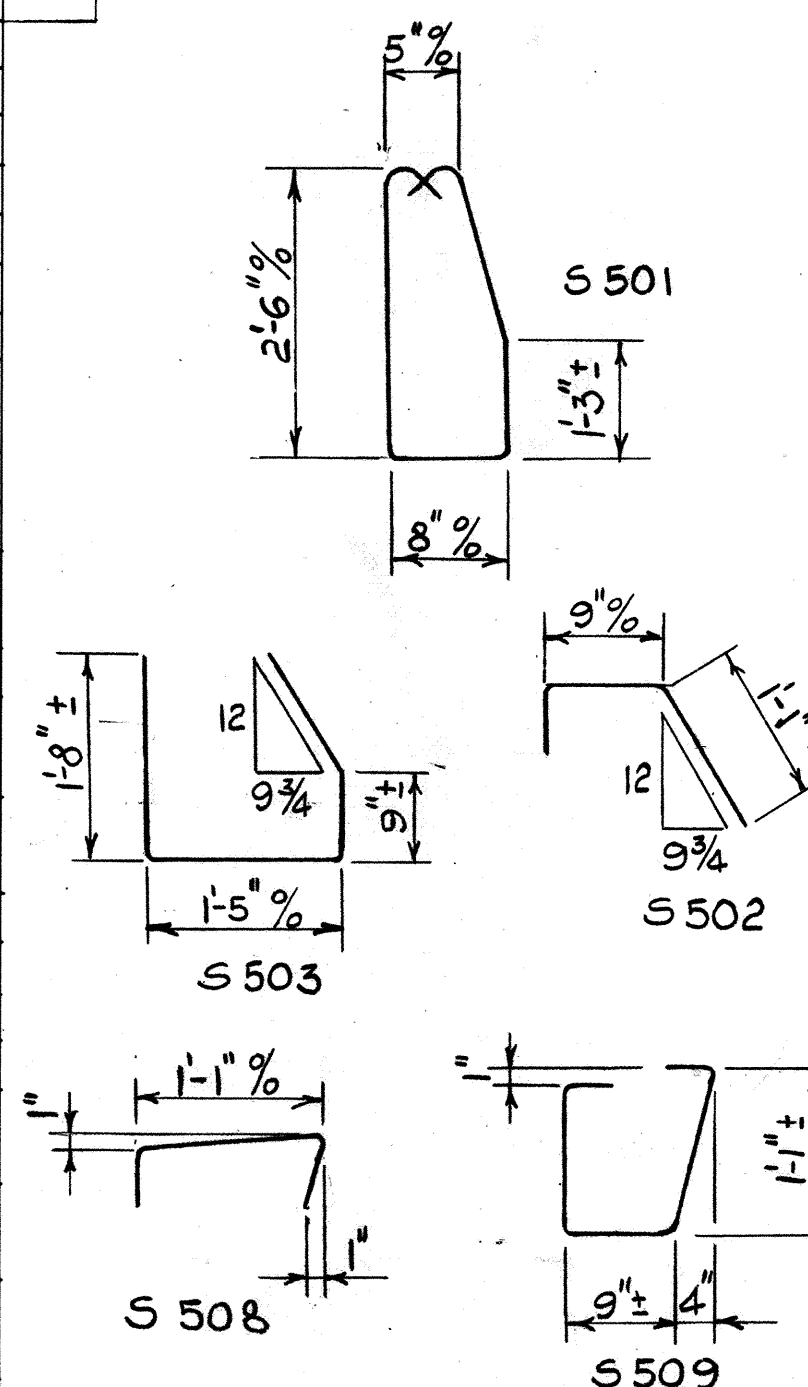
ROS-23-13.12

REINFORCING STEEL LIST

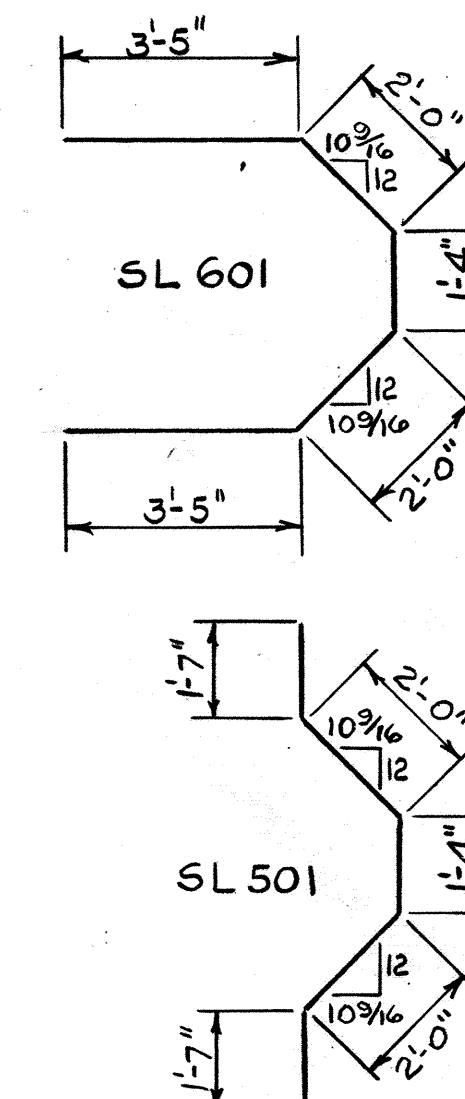
Bar Number	Number Required	Length	Shape	Weight	Bending Diagram
THREE PIERS					
P1001	10	18'-8"		803	
P1002	40	18'-7"		3199	
P1003	10	18'-6"		796	
P1004	10	18'-5"		792	
P1005	10	18'-4"		789	
P1006	20	18'-0"		1549	
P1007	10	17'-7"		757	
P1008	10	17'-3"		742	
P1009	10	16'-10"		724	
P1010	10	16'-6"		710	
P1011	40	19'-1"		3285	
P1012	40	19'-0"		3270	
P1013	10	18'-11"		814	
P1014	20	18'-3"		1571	
P1015	10	17'-11"		771	
P1016	10	17'-8"		760	
P1017	10	17'-4"		746	
P1018	30	19'-2"		2474	
P1019	10	18'-10"		810	
P1020	10	17'-9"		764	
P501	66	4'-4"		298	
P502	132	4'-2"		574	
P503	66	3'-10"		264	
P504	66	3'-7"		247	
F1001	330	6'-5"	L	9112	
F601	330	10'-10"		5370	
F501	21	17'-2"		376	
F502	42	27'-7"		1208	
F503	42	21'-7"		945	
F504	84	29'-3"		2563	
F505	21	18'-0"		394	
F506	21	23'-10"		522	
F507	21	11'-3"		246	
F508	246	10'-11"		2801	
SUBTOTAL THREE PIERS				51,046	
SPIRAL REINFORCING					
Spirals - Core Diameter = 32" %					
- Pitch = 4 1/2" %					
- Other details in accordance with CRSI standard practice					
SP401	1	18'-8"	Spiral	351	
SP402	4	18'-7"		1397	
SP403	1	18'-6"		348	
SP404	1	18'-5"		346	
SP405	1	18'-4"		345	
SP406	2	18'-0"		678	
SP407	1	17'-7"		331	
SP408	1	17'-3"		325	
SP409	1	16'-10"		318	
SP410	1	16'-6"		312	
SP411	4	19'-1"		1433	
SP412	4	19'-0"		1427	
SP413	1	18'-11"		355	
SP414	2	18'-3"		687	
SP415	1	17'-11"		337	
SP416	1	17'-8"		333	
SP417	1	17'-4"		327	
SP418	3	19'-2"		1079	
SP419	1	18'-10"		354	
SP420	1	17'-9"	Spiral	337	
SPIRAL THREEPIERS				11,420	
SUBTOTAL				51,046	
TOTAL THREE PIERS				62,466	



Bar Number	Number Required	Length	Shape	Weight	Bending Diagram
SUPERSTRUCTURE [LEFT BRIDGE DECK]					
S701	341	23'-9"		16,554	
S702	341	15'-5"		10,746	
S703	682	19'-6"		27,183	
S704	1 series of 33 bars	8'-6" to 29'-9"		1290	8"±
S705	1 series of 33 bars	8'-4" to 29'-7"		1279	8"±
S706	12	7'-9"		190	
S707	12	7'-7"		186	
S708	16	13'-0"		425	
S709	2 series of 8 bars	19'-8" to 24'-6"		722	8"±
S710	18	15'-0"		552	
S711	2 series of 9 bars	18'-3" to 23'-6"		768	8"±
S712	2 series of 33 bars	8'-11" to 30'-2"		2636	8"±
S713	24	8'-3"		405	
S601	690	30'-0"		31,091	
S602	69	31'-8"		3,282	
S603	75	36'-0"		4,055	
SL601	1	11'-10"		18	
SL602	2	4'-4"		13	
SL603	1	4'-9"		7	
S501	239	6'-3"		1558	
S502	239	2'-4"		582	
S503	239	4'-8"		1163	
S504	4	5'-8"		24	
S505	64	12'-11"		862	
S506	24	4'-8"		117	
S507	20	12'-8"		264	
S508	210	2'-0"		438	
S509	210	3'-7"		785	
SL501	5	8'-3"		43	
SL502	6	3'-1"		19	
LEFT BRIDGE DECK				107,257	



Bar Number	Number Required	Length	Shape	Weight	Bending Diagram
SUPERSTRUCTURE [RIGHT BRIDGE DECK]					
S714	648	25'-1"		33,223	
S715	324	20'-1"		13,300	
S716	324	30'-0"		19,868	
S717	24	8'-2"		400	INCR.
S718	2 series of 33 bars	8'-9" to 30'-2"		2625	8"±
S719	52	19'-6"		2073	
S720	2 series of 26 bars	13'-4" to 30'-2"		2312	8"±
S721	50	18'-6"		1891	
S722	2 series of 25 bars	14'-3" to 30'-0"		2261	8"±
S723	1 series of 32 bars	9'-1" to 30'-0"		1278	8"±
S724	1 series of 32 bars	8'-11" to 29'-10"		1267	8"±
S725	12	8'-4"		204	
S726	12	8'-2"		200	
S601	830	30'-0"		37,400	
S602	83	31'-8"		3,948	
S603	93	36'-0"		5,029	
SL601	1	11'-10"		18	
SL602	2	4'-4"		13	
SL603	1	4'-9"		7	
S501	239	6'-3"		1558	
S502	239	2'-4"		582	
S503	239	4'-8"		1163	
S504	4	5'-8"		24	
S505	64	12'-11"		862	
S506	24	4'-8"		117	
S507	20	12'-8"		264	
S508	210	2'-0"		438	
S509	210	3'-7"		785	
SL501	5	8'-3"		43	
SL502	6	3'-1"		19	
RIGHT BRIDGE DECK				133,172	
LEFT BRIDGE DECK				107,257	
TOTAL SUPERSTRUCTURE				240,429	
REPLACEMENT STEEL					
RE1001	2	8'-2"			
RE801	1	7'-6"			
RE701	8	7'-2"			
RE601	6	6'-11"			
RE501	2	6'-7"			
RE401	1	6'-3"	Spiral		



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

REINFORCING STEEL LIST
BRIDGE No. ROS-23-1585
U.S.R. 23 UNDER S.R. 159
ROSS COUNTY U.S.R. 23
STA. 837+00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
F.H.S.	L.P.	L.P.	P.R.S.	7/11	3/19/69	