SCHEDULE OF BRIDGE QUANTITIES

ITEM NUMBER	103	103	S.P. & 802	S.P. & 802	S.P. & 802	S.P. & 803	S.P. & 804	805	S.P. & 805-6	S.P. & 807	929	S.P. 1052-11				
ITEM OF CONSTRUCTION / UNIT OF BRIDGE (IN UNITS AS SHOWN)	EXCAVATION FOR STRUCTURES CY	WET EXCAVATION FOR STRUCTURES CY	CLASS A CONCRETE FOR BRIDGES CY	CLASS S CONCRETE FOR BRIDGES CY	SEAL CONCRETE FOR BRIDGES CY	REIN-FORCING STEEL LB.	16" CONCRETE PILING LF	CONCRETE RAILING LF	STEEL PLATE GUARD LF	STRUCTURAL STEEL IN BEAM SPANS LB.	BRIDGE NAME PLATES TYPE "C" EACH	REMOVAL OF EXISTING BRIDGE STRUCTURES COMPLETE ITEM				
BRIDGE NO. 2900 CODE NO. X031																
ABUTMENT NO. 1	42		36.7			3,960	460	6			1					
PIERS NO. 2, 3 & 4	90		67.5			8,790	912									
PIER NO. 5	50		42.3			3,085	380									
PIER NO. 6	89		62.4			3,550	646									
PIER NO. 7	115	30	94.6			5,015	802									
PIERS NO. 8, 9 & 10	600	1,220	452.4		174.9	24,945	1,888									
PIER NO. 11	115	35	94.6			5,015	798									
PIER NO. 12	103		62.4			3,550	646									
PIER NO. 13	64		42.3			3,085	380									
PIERS NO. 14, 15 & 16	126		67.5			8,790	912									
ABUTMENT NO. 2	55		36.7			3,960	460	6			1					
38' STD. BEAM SPANS NO. 1, 2, 3 & 4				103.2		19,570			304.0	94,800						
60' COMPOSITE BEAM SPAN NO. 5				40.5		7,800			120.0	40,300						
90' COMP. BEAM SPANS NO. 6, 7, 8, 9, 10 & 11				363.3		70,430			1,080.0	657,360						
60' COMPOSITE BEAM SPAN NO. 12				40.5		7,800			120.0	40,300						
38' STD. BEAM SPANS NO. 13, 14, 15 & 16				103.2		19,570			304.0	94,800						
TOTALS	1,449	1,285	1,059.4	650.7	174.9	198,915	8,284	12	1,928.0	927,560	2	100%				

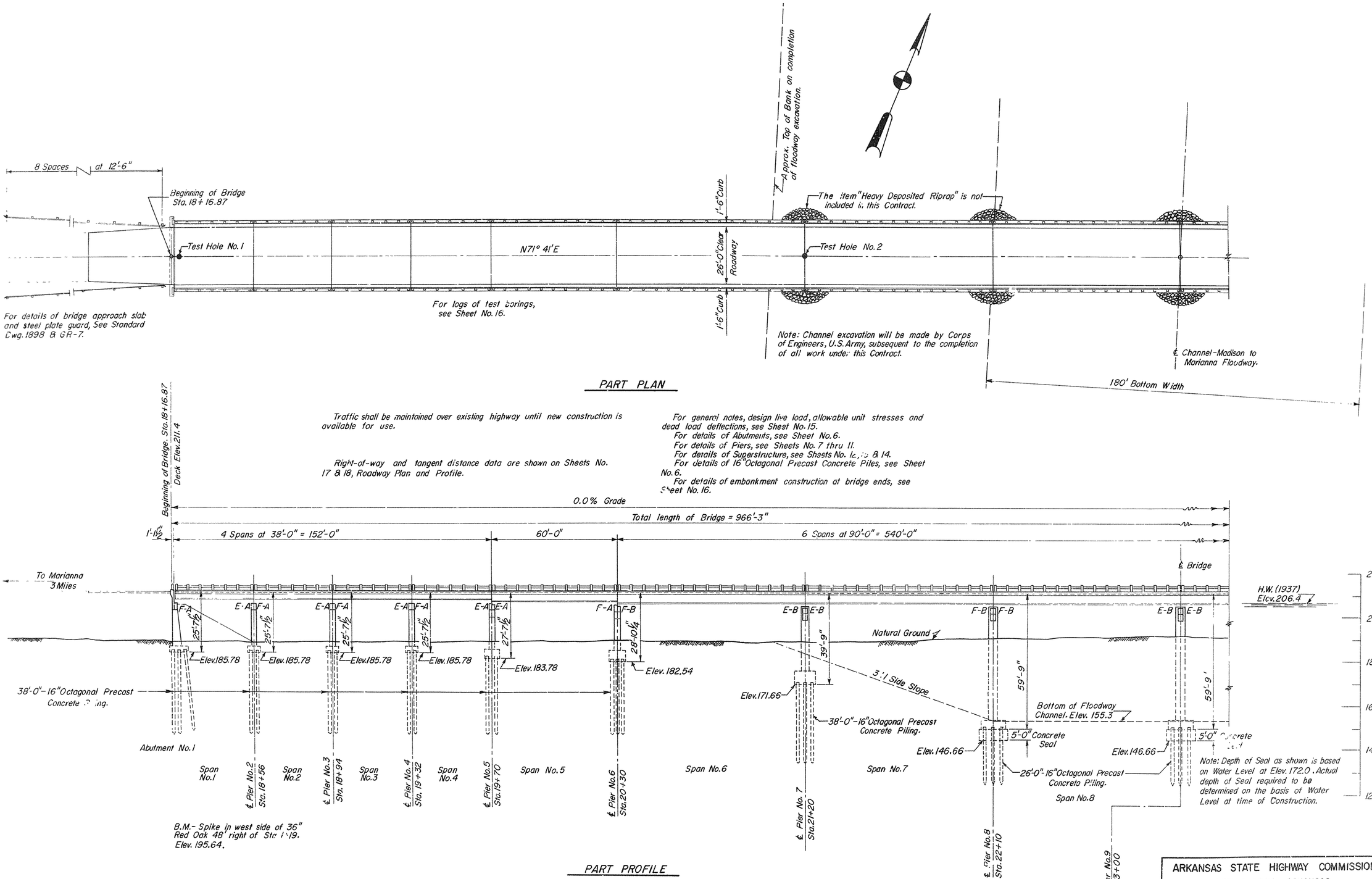
BRIDGE NO. 2900 - DRAWING NO. 9180

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

HIGHWAY 79 RELOCATION
MARIANNA - EAST

SCHEDULE OF QUANTITIES
BRIDGE

DRAWN BY S.M.W.	NEAL B. GARVER · MARK G. GARVER PROFESSIONAL ENGINEERS	SCALE NONE
CHECKED BY M.G.G.	GARVER & GARVER	SHEET NO 3 of 35
DATE OCT. 1956	EXCHANGE BUILDING LITTLE ROCK, ARKANSAS	



DESIGN SPECIFICATIONS – A.A.S.H.O. 1953

LIVE LOADING	H-20
UNIT STRESSES	
Class "A" Concrete	840 psi
Class "S" Concrete	1,200 psi
Structural Steel	18,000 psi
Reinforcing Steel	20,000 psi

One test pile 42' long, so located as to form a part of the permanent structure, shall be driven in each of the two abutments and in Pier No. 7 and Pier No. 9.

Lengths of piling shown are assumed for estimating quantities only. Actual lengths will be determined in the field. Minimum pile capacity, 32 Tons.

Boring data indicate that jetting may be necessary to obtain the minimum penetration of 20' below bottom of foundation at Piers No. 8, 9 & 10.

Notations E-A, F-A, E-B & F-B shown on Part Profile indicate types of shoes; E=expansion shoe, F=fixed shoe; second letter designates Shoe Type A or Type B.

For Shoe Details, see Sheet No. 15.

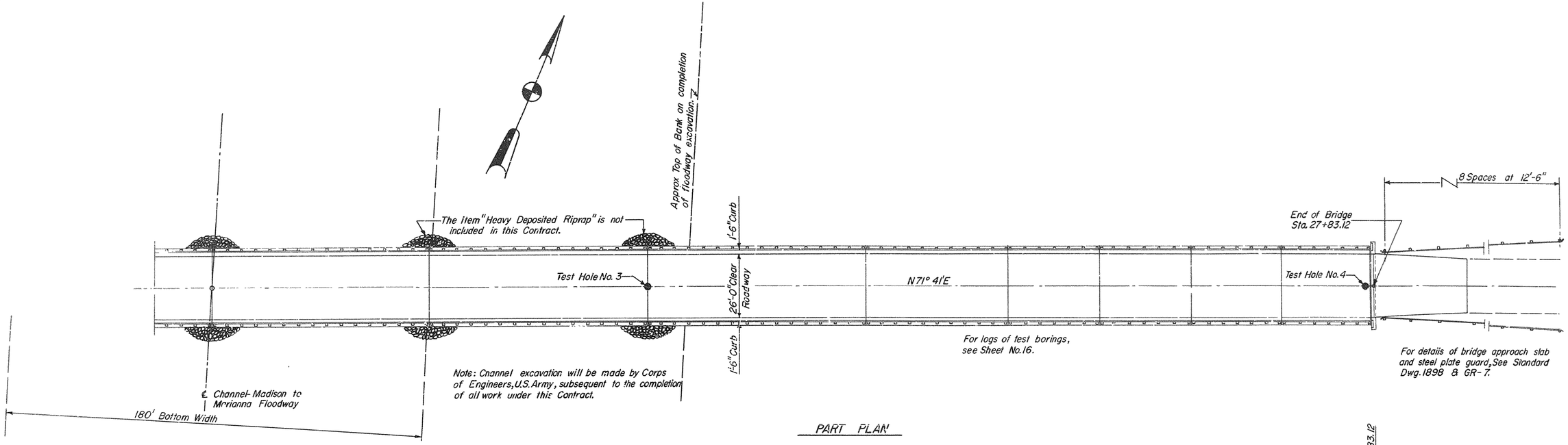
BRIDGE NO. 2900 – DRAWING NO. 9181

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

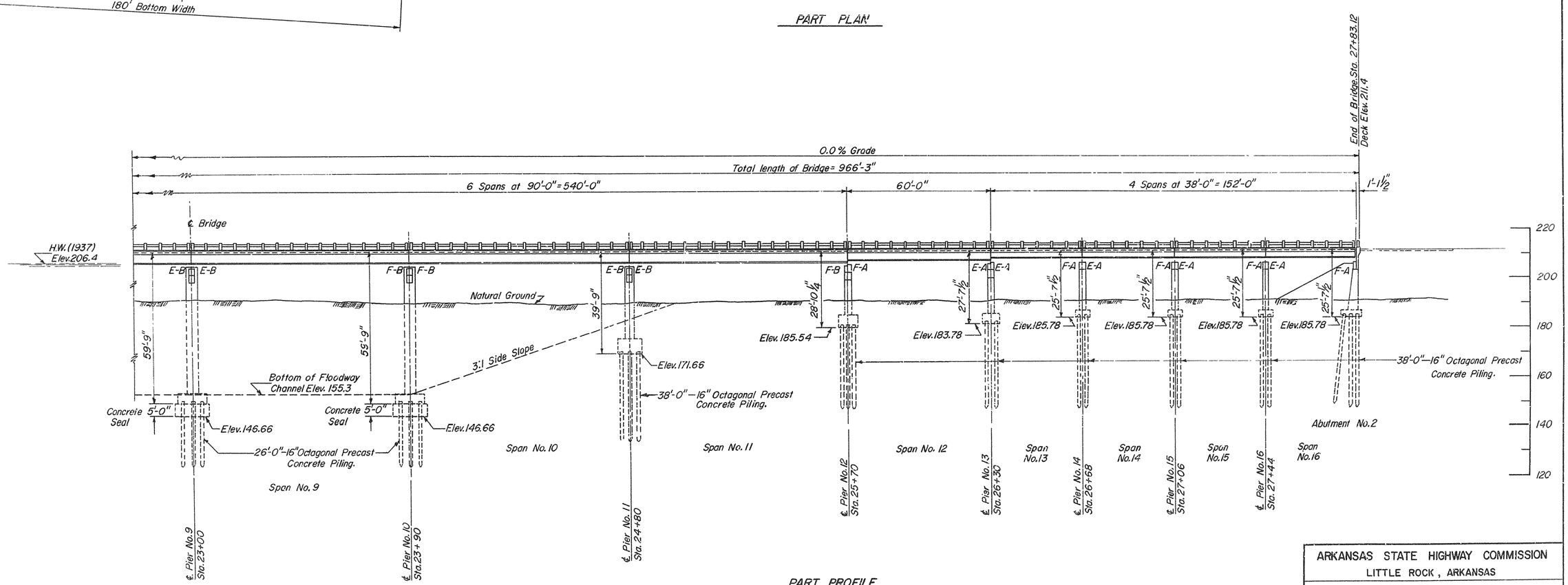
HIGHWAY 79 RELOCATION
MARIANNA – EAST

PART PLAN & PROFILE
BRIDGE NO. 2900
MADISON-MARIANNA FLOODWAY

DRAWN BY S.M.W.	NEAL B. GARVER · MARK G. GARVER PROFESSIONAL ENGINEERS	SCALE 1"=20'	
CHECKED BY T.V.A.	GARVER & GARVER	SHEET No. 4 of 35	
DATE OCT. 1956	EXCHANGE BUILDING LITTLE ROCK, ARKANSAS		



PART PLAN



PART PROFILE

For Design Specifications and Notes, see Sheet No. 4.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 83 NEAL B. GARVER

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

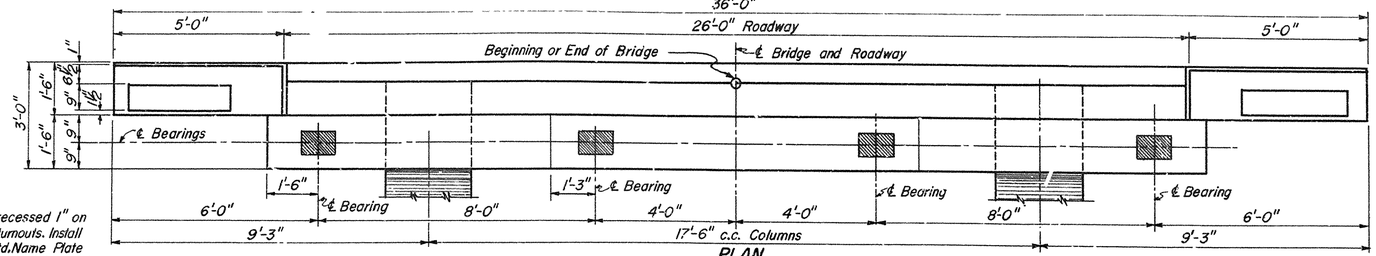
HIGHWAY 79 RELOCATION
MARIANNA - EAST

PART PLAN & PROFILE
BRIDGE NO. 2900
MADISON-MARIANNA FLOODWAY

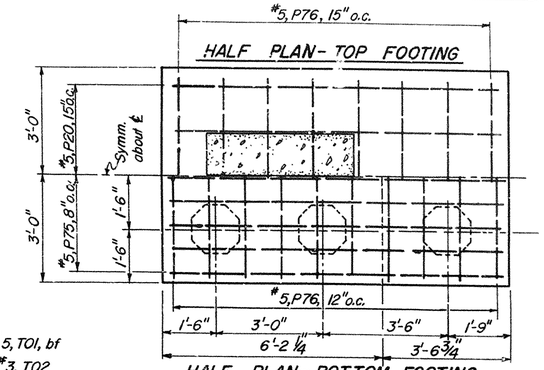
DRAWN BY S.M.W.	NEAL B. GARVER - MARK G. GARVER PROFESSIONAL ENGINEERS	SCALE 1"=20'
CHECKED BY T.V.A.	GARVER & GARVER EXCHANGE BUILDING LITTLE ROCK, ARKANSAS	SHEET No 5 of 35
DATE OCT. 1956		

BRIDGE NO. 2900-DRAWING NO. 9182

For details of Shoes and Anchor Bolts, see Sheet 15.
Rail turnout posts to be measured and paid for as "Concrete Railing".



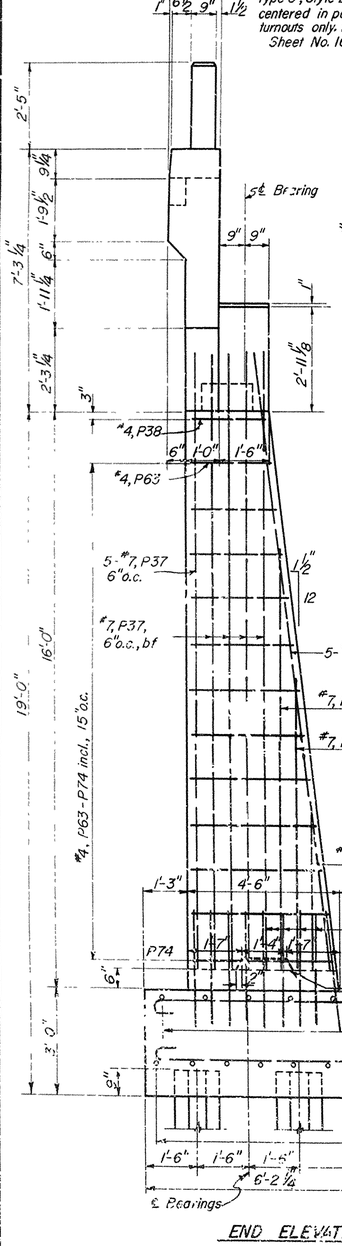
PLAN



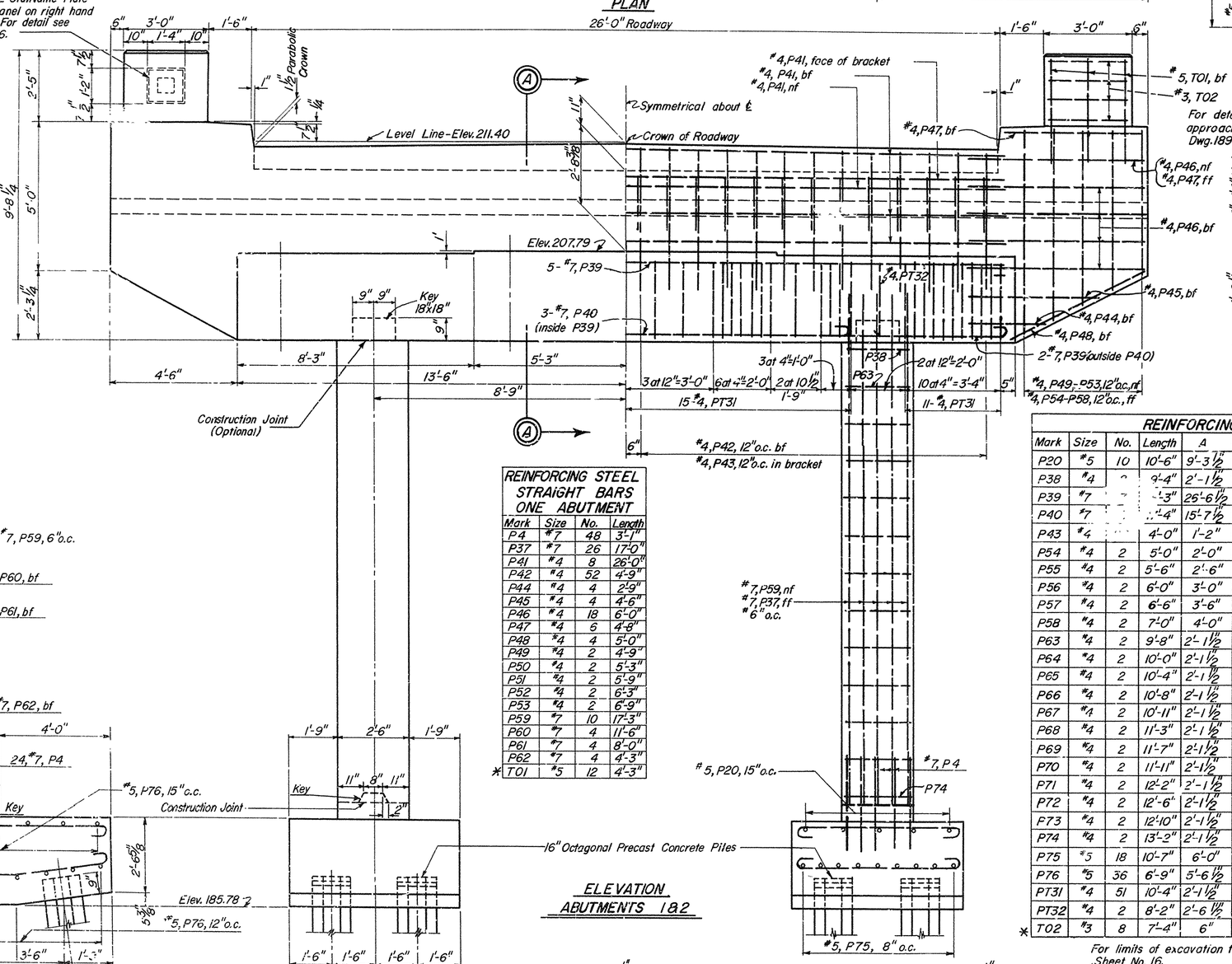
HALF PLAN- TOP FOOTING

HALF PLAN- BOTTOM FOOTING

Panel 1'-4" x 1'-2" recessed 1" on roadway side of turnouts. Install Type "C", Style 2 Std. Name Plate centered in panel on right hand turnouts only. For detail see Sheet No. 16.

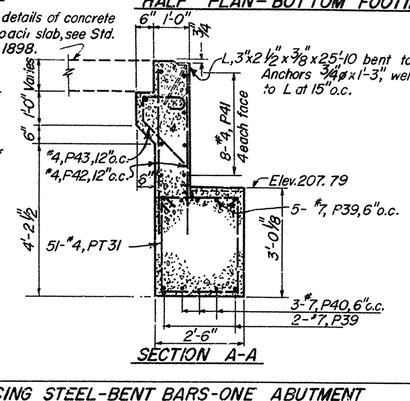


END ELEVATION



ELEVATION
ABUTMENTS 1 & 2

For details of concrete approach slab, see Std. Dwg. 1898.



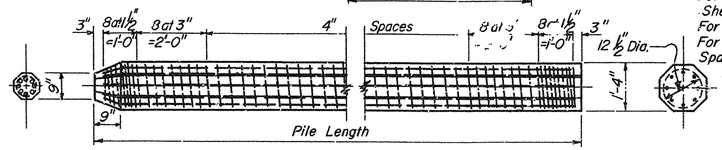
SECTION A-A

PILE REINFORCING

Lengths to 35' incl. = 8-#6.
Lengths 35' to 45' = 8-#7.

Lengths over 45': 8-#7 plus 4-#6 thru middle third of pile.

All spirals: #4 Gage wire.



Note: Piles shall be of Class "S" concrete.

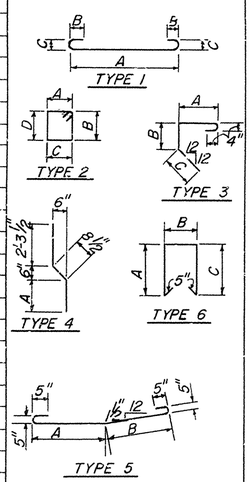
DETAILS 16" PRECAST CONCRETE PILE

Give 16" octagonal precast concrete test pile 45' long located to form a part of the permanent structure. shall be driven in each abutment. Test piles shall be driven to a bearing value of not less than 32 Tons.

REINFORCING STEEL STRAIGHT BARS ONE ABUTMENT			
Mark	Size	No.	Length
P4	#7	48	3'-1"
P37	#7	26	17'-0"
P41	#4	8	26'-0"
P42	#4	52	4'-9"
P44	#4	4	2'-9"
P45	#4	4	4'-6"
P46	#4	18	6'-0"
P47	#4	6	4'-8"
P48	#4	4	5'-0"
P49	#4	2	4'-9"
P50	#4	2	5'-3"
P51	#4	2	5'-9"
P52	#4	2	6'-3"
P53	#4	2	6'-9"
P59	#7	10	17'-3"
P60	#7	4	11'-6"
P61	#7	4	8'-0"
P62	#7	4	4'-3"
* T01	#5	12	4'-3"

REINFORCING STEEL-BENT BARS-ONE ABUTMENT

Mark	Size	No.	Length	A	B	C	D	Type	Bending Diagram
P20	#5	10	10'-6"	9'-3 1/2"	4 1/2"	4 1/2"	–	1	
P38	#4	[illegible]	9'-4"	2'-1 1/2"	2'-1 1/2"	2'-1 1/2"	2'-1 1/2"	2	
P39	#7	[illegible]	[illegible]'-3"	26'-6 1/2"	7"	7"	–	1	
P40	#7	[illegible]	[illegible]'-4"	15'-7 1/2"	7"	7"	–	1	
P43	#4	[illegible]	4'-0"	1'-2"	9"	1'-7"	–	3	
P54	#4	2	5'-0"	2'-0"	–	–	–	4	
P55	#4	2	5'-6"	2'-6"	–	–	–	4	
P56	#4	2	6'-0"	3'-0"	–	–	–	4	
P57	#4	2	6'-6"	3'-6"	–	–	–	4	
P58	#4	2	7'-0"	4'-0"	–	–	–	4	
P63	#4	2	9'-8"	2'-1 1/2"	2'-3 1/2"	2'-1 1/2"	2'-3 1/2"	2	
P64	#4	2	10'-0"	2'-1 1/2"	2'-5 1/2"	2'-1 1/2"	2'-5 1/2"	2	
P65	#4	2	10'-4"	2'-1 1/2"	2'-7 1/2"	2'-1 1/2"	2'-7 1/2"	2	
P66	#4	2	10'-8"	2'-1 1/2"	2'-9 1/2"	2'-1 1/2"	2'-9 1/2"	2	
P67	#4	2	10'-11"	2'-1 1/2"	2'-11"	2'-1 1/2"	2'-11"	2	
P68	#4	2	11'-3"	2'-1 1/2"	3'-1"	2'-1 1/2"	3'-1"	2	
P69	#4	2	11'-7"	2'-1 1/2"	3'-3"	2'-1 1/2"	3'-3	2	
P70	#4	2	11'-11"	2'-1 1/2"	3'-5"	2'-1 1/2"	3'-5"	2	
P71	#4	2	12'-2"	2'-1 1/2"	3'-6 1/2"	2'-1 1/2"	3'-6 1/2"	2	
P72	#4	2	12'-6"	2'-1 1/2"	3'-8 1/2"	2'-1 1/2"	3'-8 1/2"	2	
P73	#4	2	12'-10"	2'-1 1/2"	3'-10 1/2"	2'-1 1/2"	3'-10 1/2"	2	
P74	#4	2	13'-2"	2'-1 1/2"	4'-0 1/2"	2'-1 1/2"	4'-0 1/2"	2	
P75	#5	18	10'-7"	6'-0"	3'-4 1/2"	–	–	5	
P76	#5	36	6'-9"	5'-6 1/2"	5	5	–	1	
PT31	#4	51	10'-4"	2'-1 1/2"	2'-6 1/2"	2'-1 1/2"	2'-6 1/2"	2	
PT32	#4	2	8'-2"	2'-6 1/2"	2'-1 1/2"	2'-6 1/2"	–	6	
* T02	#3	8	7'-4"	6"	2'-9"	6"	2'-9"	2	



For limits of excavation for pay, see Sheet No. 16.
For General Notes, see Sheet No. 15.
For details of 38'-0" Standard I-Beam Span, see Sheet No. 14.
* Non pay Item.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. NEAL B. GARVER

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

HIGHWAY 79 RELOCATION
MARIANNA - EAST

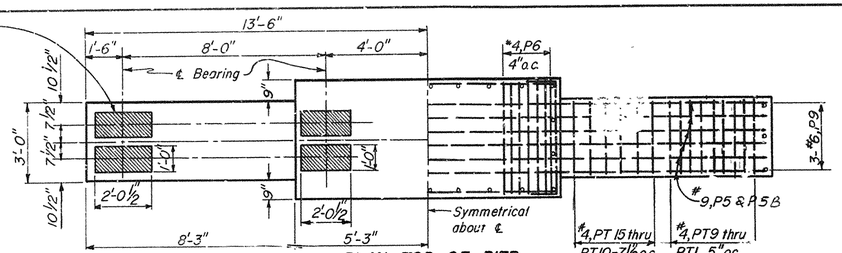
DETAILS OF

ABUTMENTS NO. 1 & NO. 2

DRAWN BY T.V.A.	NEAL B. GARVER MARK G. GARVER PROFESSIONAL ENGINEERS		SCALE 1/2"=1'-0"
CHECKED BY S.M.W.	GARVER & GARVER EXCHANGE BUILDING LITTLE ROCK, ARKANSAS		SHEET No. 6 of 35
DATE OCT. 1956			

BRIDGE NO. 2900-DRAWING NO. 9183

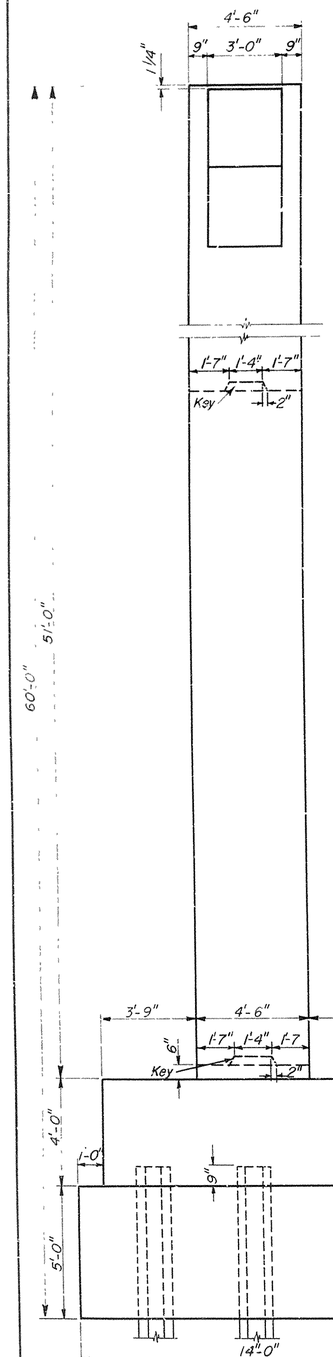
For details of shoes and anchor bolts, see Sheet No. 15.



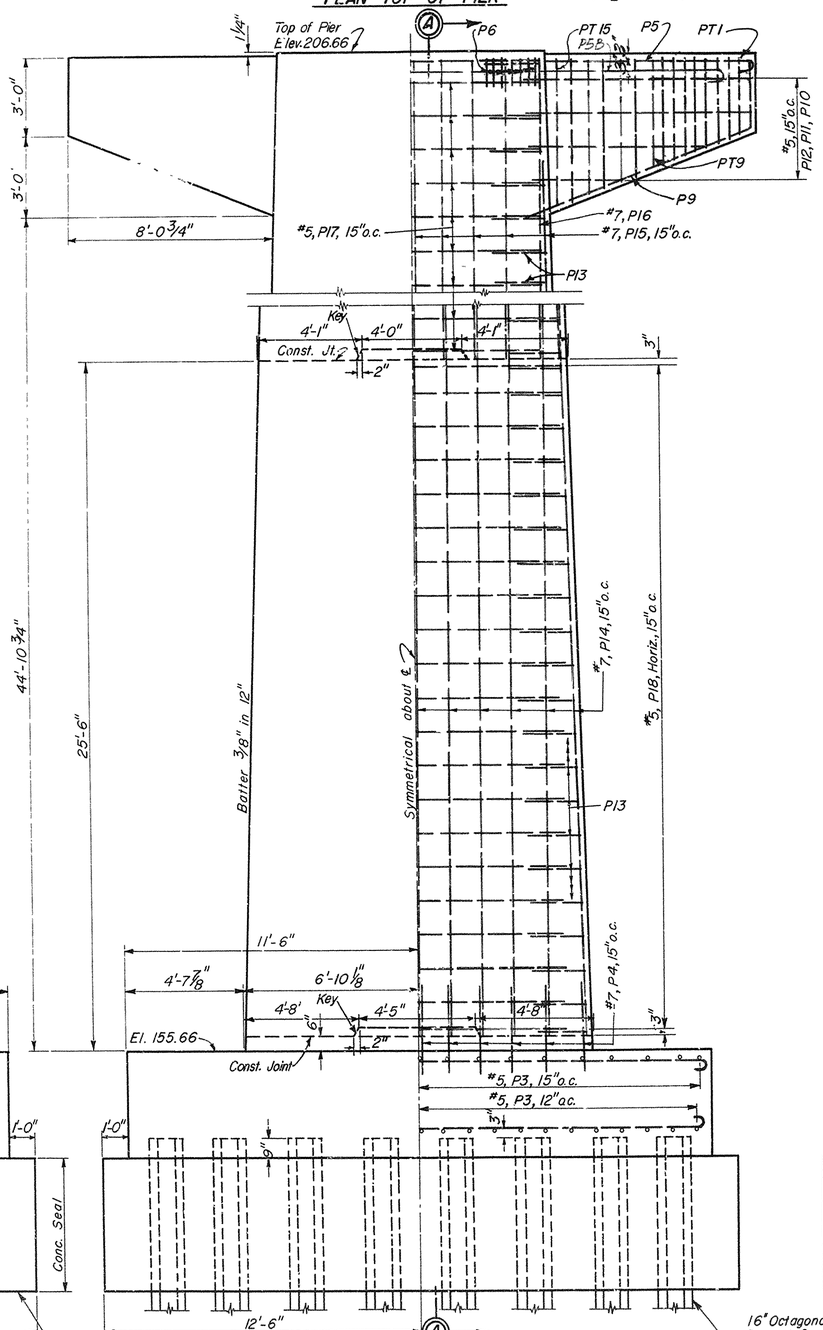
PLAN-TOP OF PIER

Straight Bars			
Mk.	Size	No.	Length
P4	#7	26	3'-1"
P10	#5	8	9'-2"
P11	#5	4	6'-6"
P12	#5	4	3'-2"
P14	#7	26	26'-[illegible] 1/2"
P15	#7	22	25'-3"
P16	#7	4	10'-0"
P17	#5	42	10'-1"
P18	#5	42	11'-9"

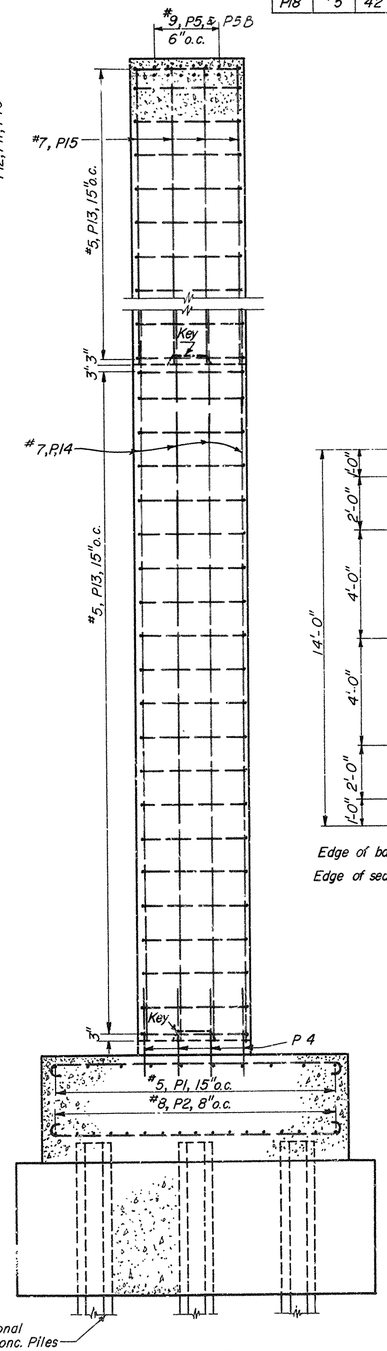
Mk.	Size	No.	Bending Diagram - One Pier	Length
P1	#3	10	4 1/2", 24'-3 1/2", 4 1/2", 4 1/2", 4 1/2"	25'-6"
P2	#8	17	8 1/2", 24'-3", 8 1/2", 8", 8"	26'-6"
P3	#5	42	4 1/2", 13'-3 1/2", 4 1/2", 8"	14'-6"
P5	#9	6	9 1/2", 9 1/2", 12"	29'-1"
P5B	#9	6	24'-6 1/2" P5, 24'-6 1/2" P5B	27'-1"
P6	#4	14	4'-1 1/2", 1'-4"	6'-0 1/2"
PT1 to PT15	#4	2 each	VARIES: PT1 thru PT9, 2'-8 1/2" to 4'-0 1/2" by 2" increments; PT10 thru PT15, 4'-3 1/2" to 5'-6 1/2" by 3" increments. 5", 2'-7 1/2"	11'-8" to 17'-4"
P13	#5	34	2'-0", 4'-1 1/2"	8'-1 1/2"
P9	#5	6	3'-5", 9'-2", 9'-9", 2'-7"	12'-4"



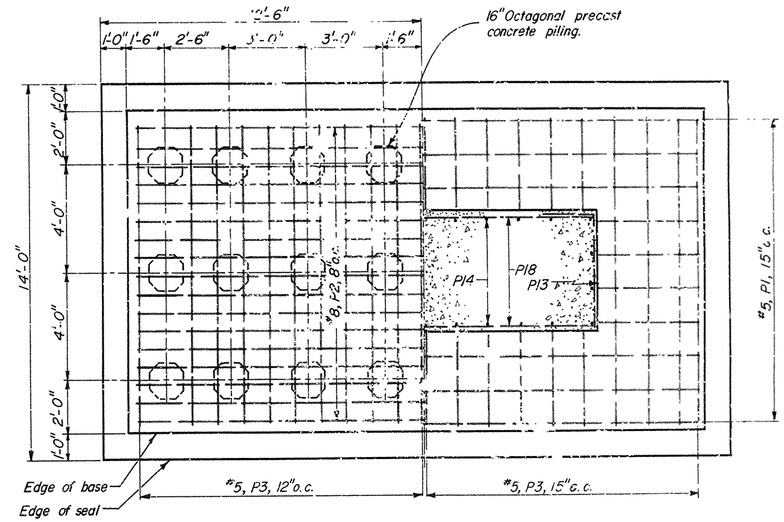
TYPICAL END ELEVATION



TYPICAL ELEVATION



SECTION A-A



HALF PLAN-BOTTOM HALF PLAN-TOP

FOOTING PLAN

One 16" octagonal precast concrete test pile 42' long, located to form a part of the permanent structure, shall be driven in Pier No. 9. Test piles shall be driven to a bearing value of not less than 32 Tons.

Any cofferdam construction and debris at Piers No. 8, 9 & 10, shall be removed as directed by the Engineer, and the excavation shall be backfilled. Limits of excavation for pay are as shown on Sheet No. 16.

Revision Bars P5 - 1-22-48

REFERENCES

For details of 90'-0" beam spans, see Sheet No. 12.

For details of precast concrete piles, see Sheet No. 6.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 63 NEAL B. GARVER

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

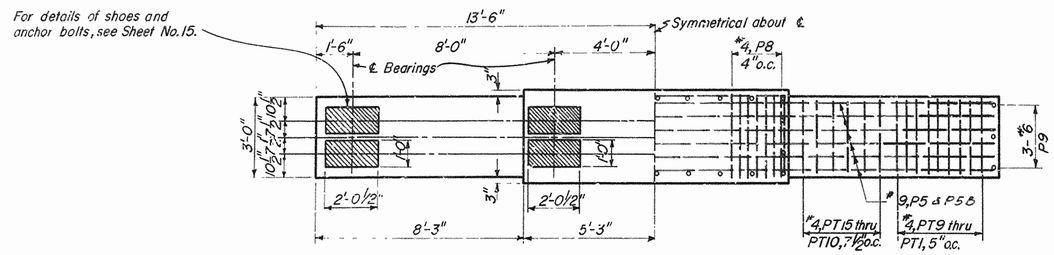
HIGHWAY 79 RELOCATION
MARIANNA - EAST

DETAILS OF

PIERS NO. 8, 9 & 10

DRAWN BY S.M.W.	NEAL B. GARVER · MARK G. GARVER PROFESSIONAL ENGINEERS	SCALE 3/8" = 1'-0"
CHECKED BY T.V.A.	GARVER & GARVER EXCHANGE BUILDING LITTLE ROCK, ARKANSAS	SHEET No. 7 of 35
DATE OCT. 1956		

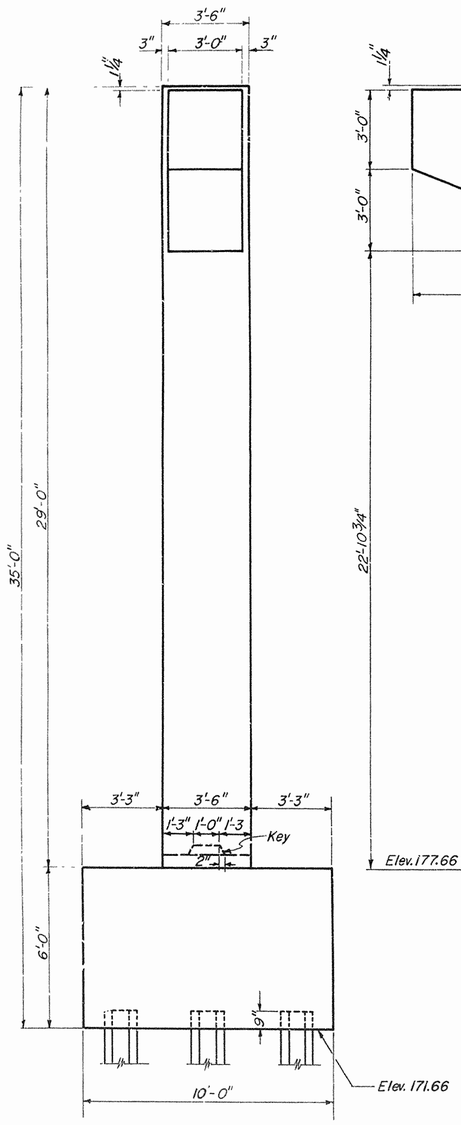
BRIDGE NO. 2900 - DRAWING NO. 9184



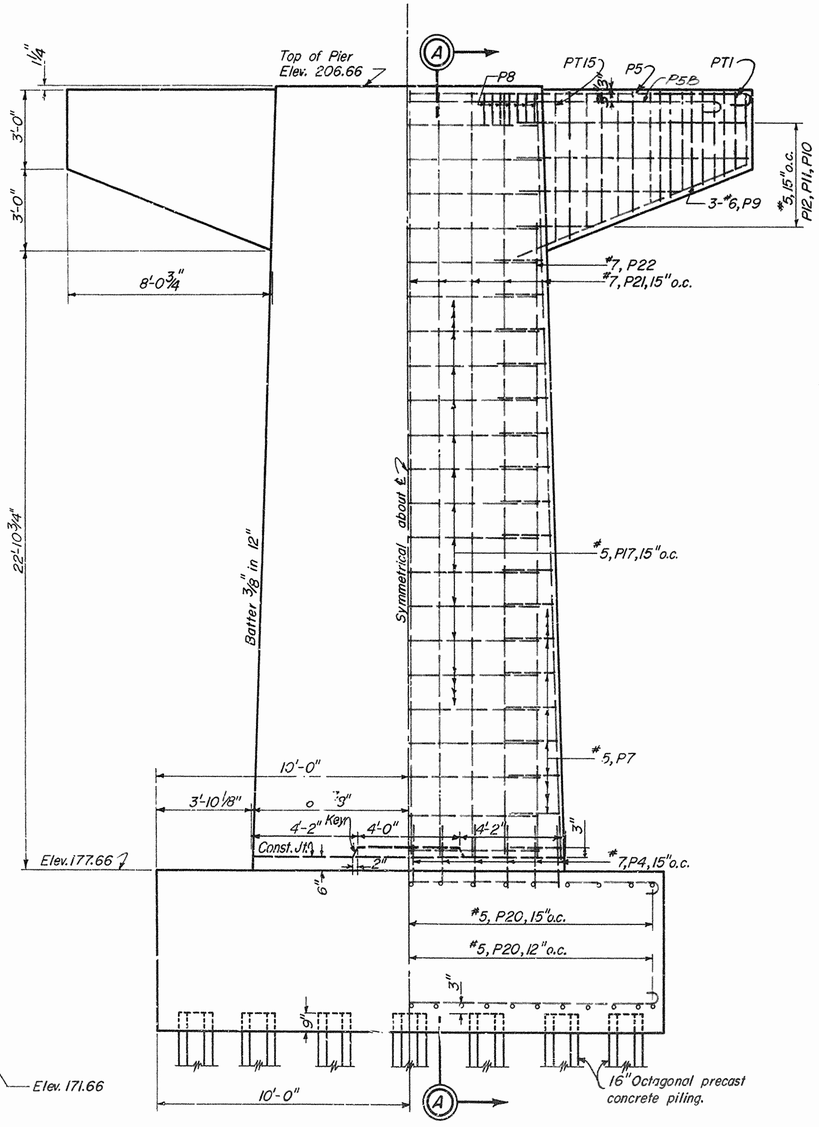
PLAN-TOP OF PIER

Straight Bars			
Mk.	Size	No.	Length
P4	#7	26	3'-1"
P10	#5	8	9'-2"
P11	#5	4	6'-6"
P12	#5	4	3'-2"
P17	#5	44	10'-1"
P21	#7	22	28'-3½"
P22	#7	4	23'-6"

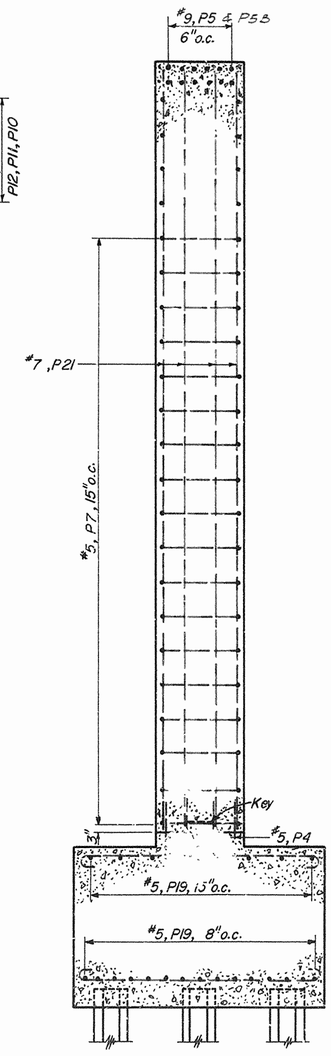
Mk.	Size	No.	Bending Diagram - One Pier	Length
P19	#5	23	4½" 4½" 4½" 4½" 19'-3½"	20'-6"
P20	#5	38	4½" 4½" 4½" 4½" 9'-3½"	10'-6"
P5	#9	6	10" 9½" 9½" 10" 26'-6½" P5, 24'-6½" P5B	29'-1"
P5B	#9	6		27'-1'
P8	#4	14	3'-1½" 1¼"	5'-0½"
PT1 to PT15	#4	2 each	5" 2'-7½" VARIES: PT1 thru PT9, 2'-8½ to 4'-0½ by 2" increments; PT10 thru PT15, 4'-3½ to 5'-6½ by 3" increments.	11'-8" to 17'-4
P7	#5	36	3'-1½" 2'-0"	7'-1½"
P9	#6	6	9'-2" 3'-5" 2'-1" 9'-9"	12'-4"



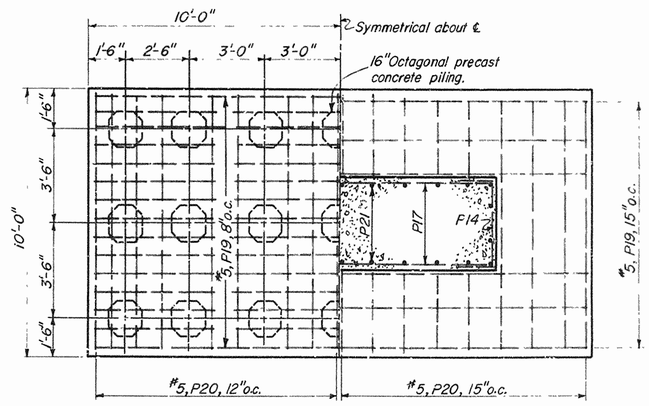
TYPICAL END ELEVATION



TYPICAL ELEVATION



SECTION A-A



HALF PLAN-BOTTOM HALF PLAN-TOP

FOOTING PLAN

One 16" octagonal precast concrete test pile 42' long, located to form a part of the permanent structure, shall be driven in Pier No. 7.
Test piles shall be driven to a bearing value of not less than 32 Tons.
Any cofferdam construction and debris at Piers No. 7 & 11 shall be removed as directed by the Engineer, and the excavation shall be backfilled.
Limits of excavation for pay are as shown on Sheet No. 16.

Revision - Bars 15-10-0-53 - 2

REFERENCES
For details of 90'-0" beam spans, see Sheet No. 12.
For details of precast concrete Piles, see Sheet No. 6.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

HIGHWAY 79 RELOCATION
MARIANNA - EAST

DETAILS OF

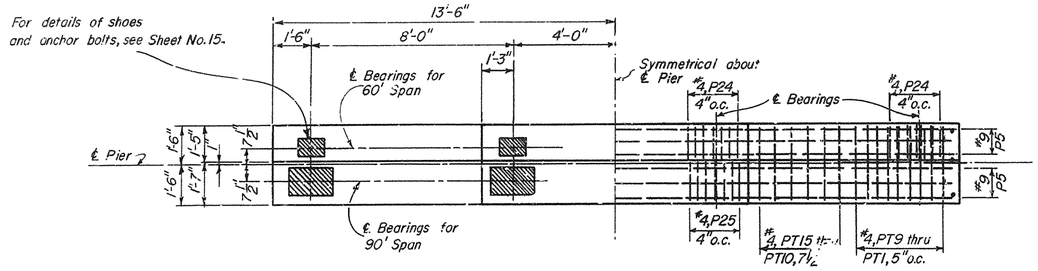
PIERS NO. 7 AND 11

DRAWN BY S.M.W.	NEAL B. GARVER - MARK G. GARVER PROFESSIONAL ENGINEERS	SCALE 3/8"=1'-0"
CHECKED BY T.V.A.	GARVER & GARVER EXCHANGE BUILDING LITTLE ROCK, ARKANSAS	SHEET NO. 8 of 35
DATE OCT. 1956		

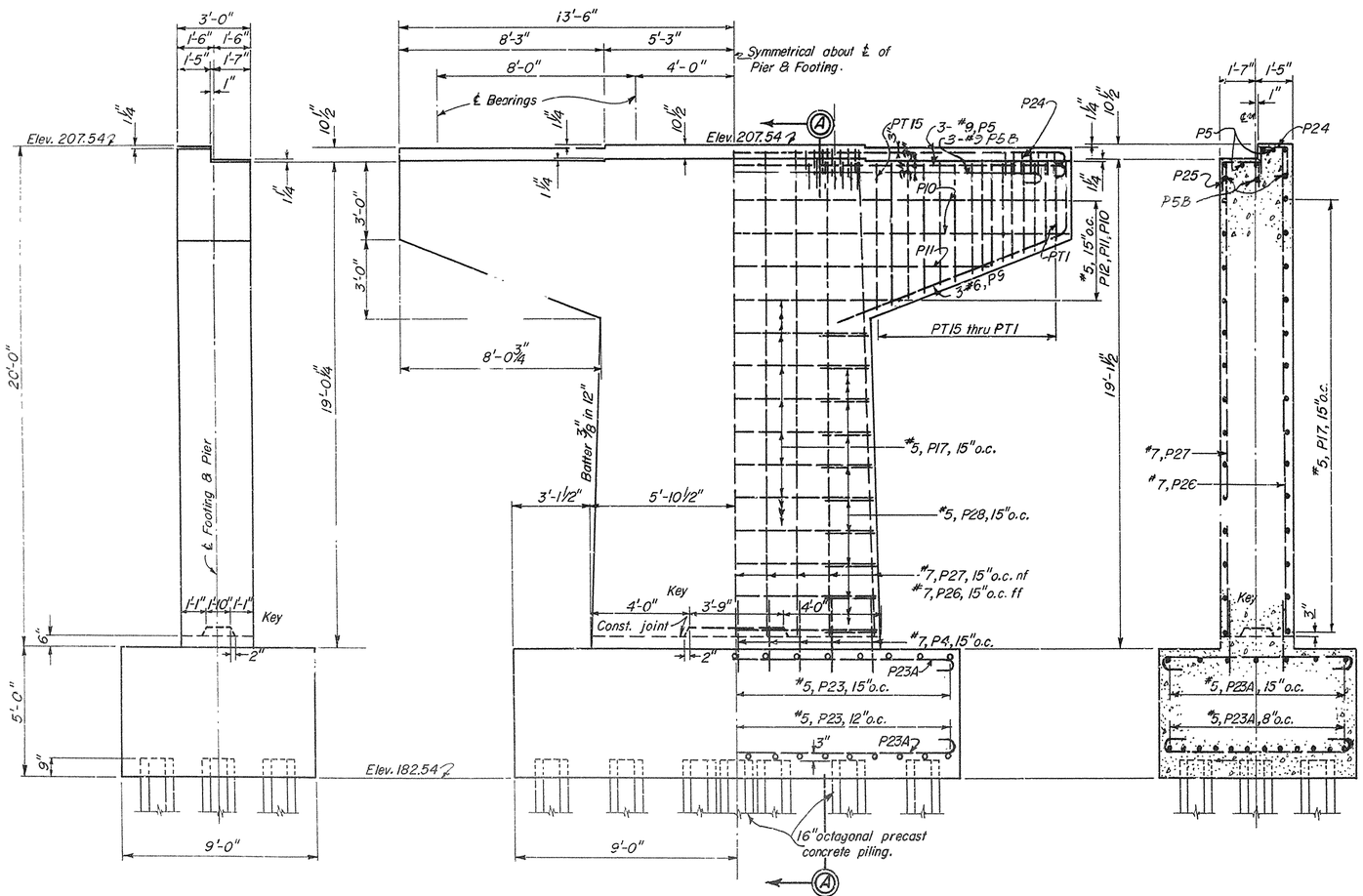
BRIDGE NO. 2900 - DRAWING NO. 9185

Straight Bars			
Mk.	Size	No.	Length
P4	#7	18	3'-1"
P10	#5	8	9'-2"
P11	#5	4	6'-6"
P12	#5	4	3'-2"
P17	#5	28	10'-1"
P26	#7	9	19'-3½"
P27	#7	11	18'-5"

Mk.	Size	No.	Bending Diagram-One Pier	Lenght
P23A	#5	21	4½" 4½" 4½" 4½" 17'-3½"	18'-6"
P23	#5	33	4½" 4½" 4½" 4½" 8'-3½"	9'-6"
P5	#9	6	10" 9½" 9½" 10" 26'-6½" P5, 24'-4½" P5B	29'-1"
P5B	#9	3		27'-1"
P24	#4	28	1'-0½" 1'-4½"	2'-11"
P25	#4	14	1'-4½" 11½"	3'-3"
PT1 to PT15	#4	2 each	5" 2'-7½" VARIES: PT1 thru PT9, 2'-8½ to 4'-0½ by 2" increments; PT10 thru PT15, 4'-3½ to 5'-6½ by 3" increments.	11'-8" to 17'-4"
P28	#5	20	2'-7½" 2'-4¼"	7'-4"
P9	#6	6	9'-2" 1'-7" 3'-5" 9'-9"	12'-4"



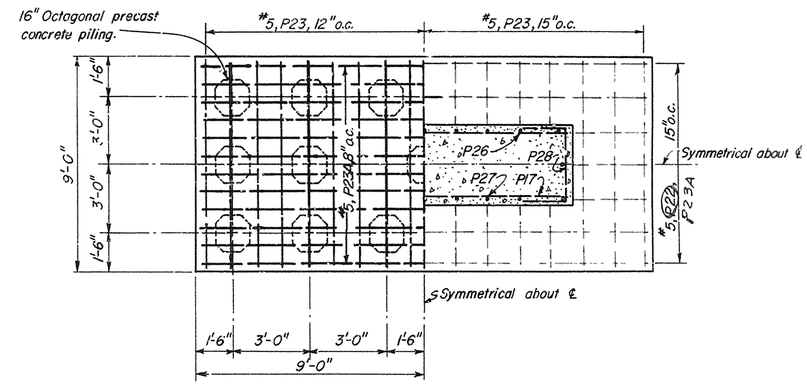
PLAN-TOP OF PIER



TYPICAL END ELEVATION

TYPICAL ELEVATION

SECTION A-A



HALF PLAN-BOTTOM HALF PLAN-TOP

FOOTING PLAN

REFERENCES

For details of 90'-0" beam spans, see Sheet No. 12.
For details of 60'-0" beam spans, see Sheet No. 13.
For limits of excavation for pay, see Sheet No. 16.
For details of precast concrete pile, see Sheet No. 6.

Revision: Bars P5-11-10-F2-H.B

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER NO. 5 NEAL B. GARVER

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

HIGHWAY 79 RELOCATION
MARIANNA - EAST
DETAILS OF

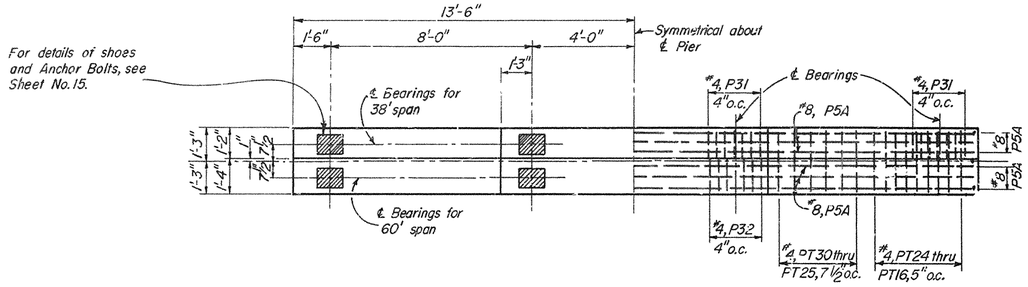
PIERS NO. 6 AND 12

DRAWN BY T.V.A.	NEAL B. GARVER - MARK G. GARVER PROFESSIONAL ENGINEERS	SCALE 3/8"=1'-0"	
CHECKED BY S.M.W.	GARVER & GARVER EXCHANGE BUILDING LITTLE ROCK, ARKANSAS	SHEET No. 9 of 35	
DATE OCT. 1956			

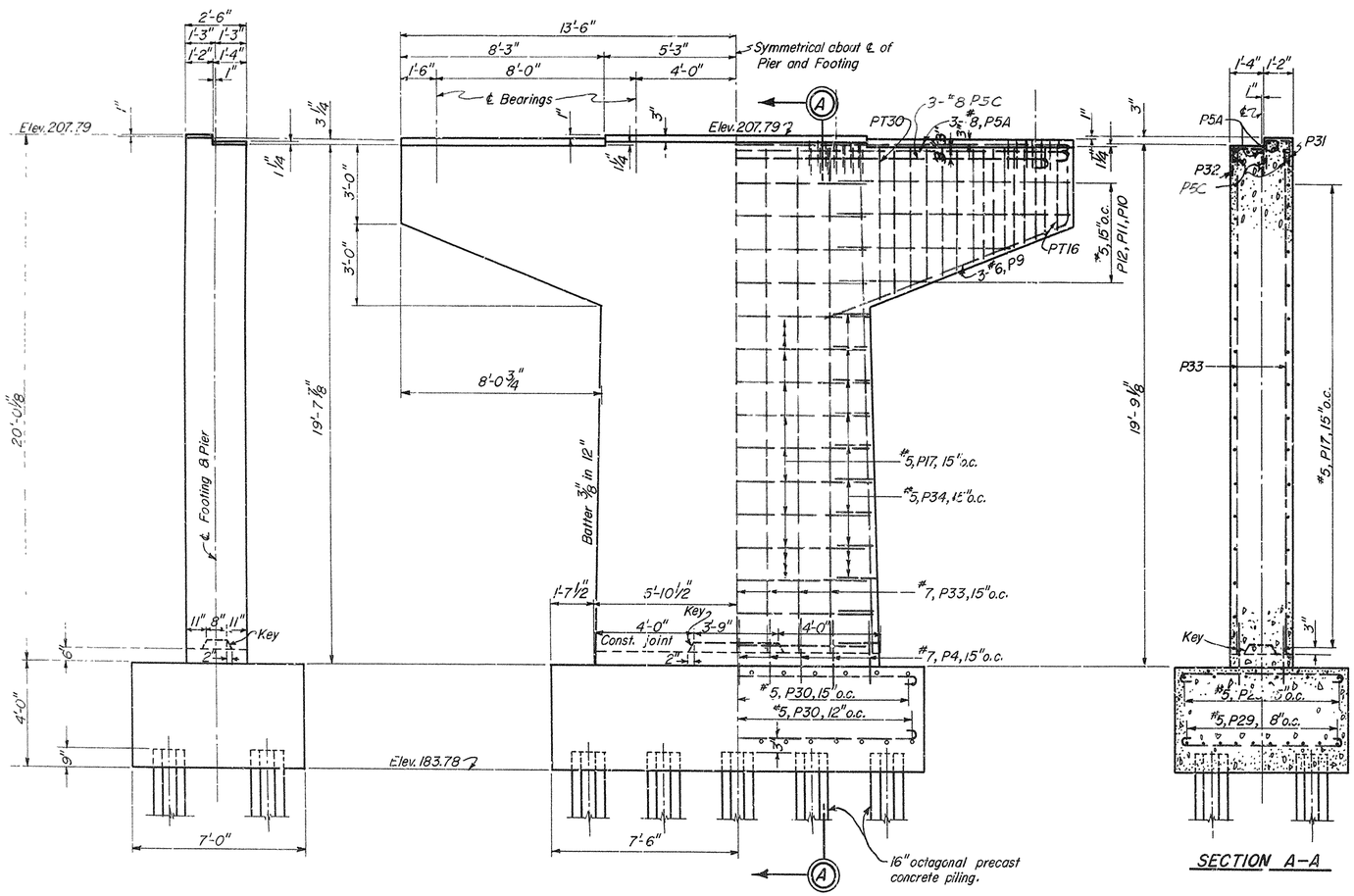
BRIDGE NO. 2900 - DRAWING NO. 9186

Straight Bars			
Mk.	Size	No.	Length
P4	#7	20	3'-1"
P10	#5	8	9'-2"
P11	#5	4	6'-6"
P12	#5	4	3'-2"
P17	#5	30	10'-1"
P33	#7	20	19'-0"

Mk.	Size	No.	Bending Diagram—One Pier	Length
P29	#5	16	4½" 4½" 4½" 4½" 14'-3½"	15'-6"
P30	#5	27	4½" 4½" 4½" 4½" 5'-3½"	7'-6"
P5A	#8	6	9" 8½" 8½" 9" 26'-6½" P5A, 24'-6½" P5C	28'-9"
P5C	#8	3		26'-6"
P31	#4	28	9½" 11¼"	2'-8"
P32	#4	14	1'-1½" 11¼"	3'-0"
PT16 to PT30	#4	2 each	5" 2'-1½" VARIES: PT16 thru PT24, 2'-8½" to 4'-0½" by 2" increments; PT25 thru PT30, 4'-3½" to 5'-6½" by 3" increments.	10'-8" to 16'-4"
P34	#5	22	2'-1½" 2'-4¼"	6'-10"
P9	#6	6	9'-2" 2'-7" 3'-5" 9'-9"	12'-4"



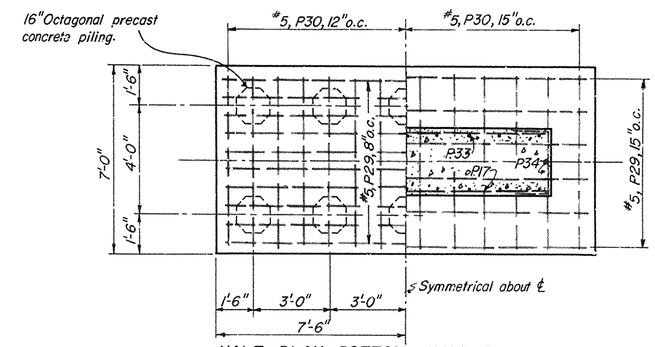
PLAN-TOP OF PIER



TYPICAL END ELEVATION

TYPICAL ELEVATION

SECTION A-A



HALF PLAN-BOTTOM HALF PLAN-TOP

FOOTING PLAN

REFERENCES

For details of 60'-0" beam spans, see Sheet No. 13.
For details of 38'-0" beam spans, see Sheet No. 14.
For details of precast concrete piles, see Sheet No. 6.

Revision: Bars P5A - 11-10-56 - A.B.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 83 NEAL B. GARVER

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

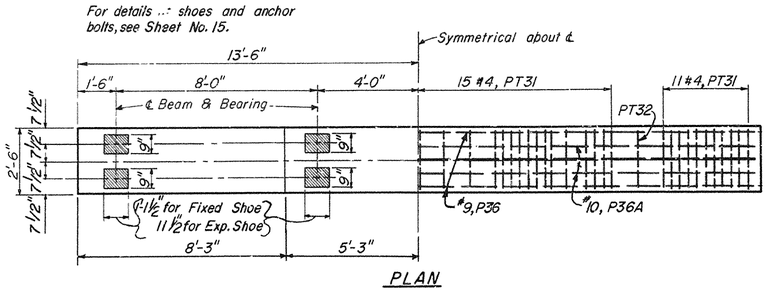
HIGHWAY 79 RELOCATION
MARIANNA - EAST

DETAILS OF

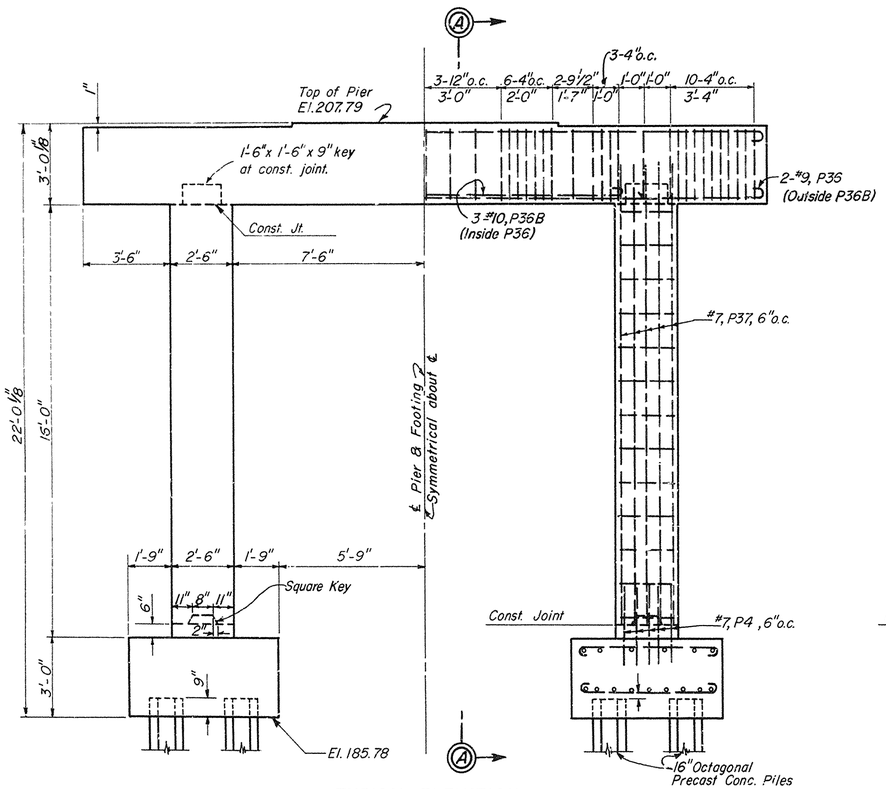
PIERS NO. 5 AND 13

DRAWN BY T.V.A.	NEAL B. GARVER · MARK G. GARVER PROFESSIONAL ENGINEERS	SCALE 3/8"=1'-0"
CHECKED BY S.M.W.	GARVER & GARVER EXCHANGE BUILDING LITTLE ROCK, ARKANSAS	SHEET No. 10 of 35
DATE OCT. 1956		

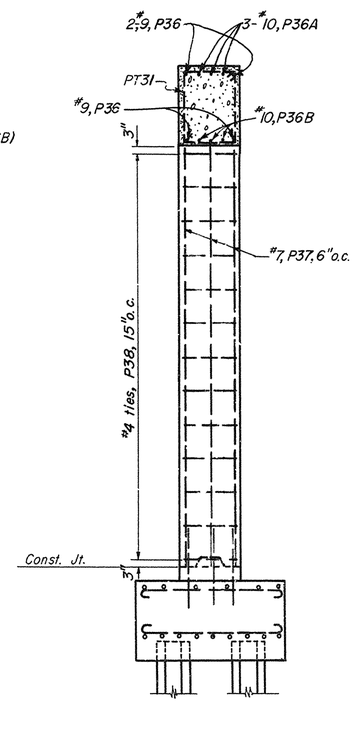
BRIDGE NO. 2900 - DRAWING NO. 9187



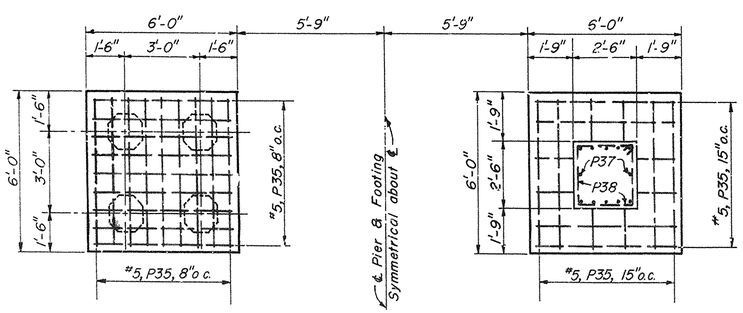
PLAN



TYPICAL ELEVATION



SECTION A-A



HALF PLAN - BOTTOM

HALF PLAN - TOP

FOOTING PLAN

Mk.	Size	No.	Bending Diagram - One Pier	Length
P35	#5	60	4 1/2" 4 1/2" 4 1/2" 4 1/2" 5'-3 1/2"	6'-6"
P36	#9	4	10" 9 1/2" 9 1/2" 10" 26'-6"	29'-1"
P36B	#10	3	11 1/2" 10 1/2" 10 1/2" 11 1/2" 15'-7"	18'-5"
PT31	#4	51	2'-1 1/2" 5" 2'-6 1/2"	10'-4"
P38	#4	26	2'-1 1/2" 5" 2'-1 1/2"	9'-4"
PT32	#4	2	2'-1 1/2" 5" 5" 2'-6 1/2"	8'-2"
P4	#7	24	Straight	3'-1"
P37	#7	24	Straight	17'-0"
P36A	#10	3	11 1/2" 10 1/2" 10 1/2" 11 1/2" 26'-6"	29'-4"

REFERENCES

For details of 38'-0" beam spans, see Sheet No. 14.
For details of precast concrete piles, see Sheet No. 6.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 38 NEAL B. GARVER

BRIDGE NO. 2900 - DRAWING NO. 9188

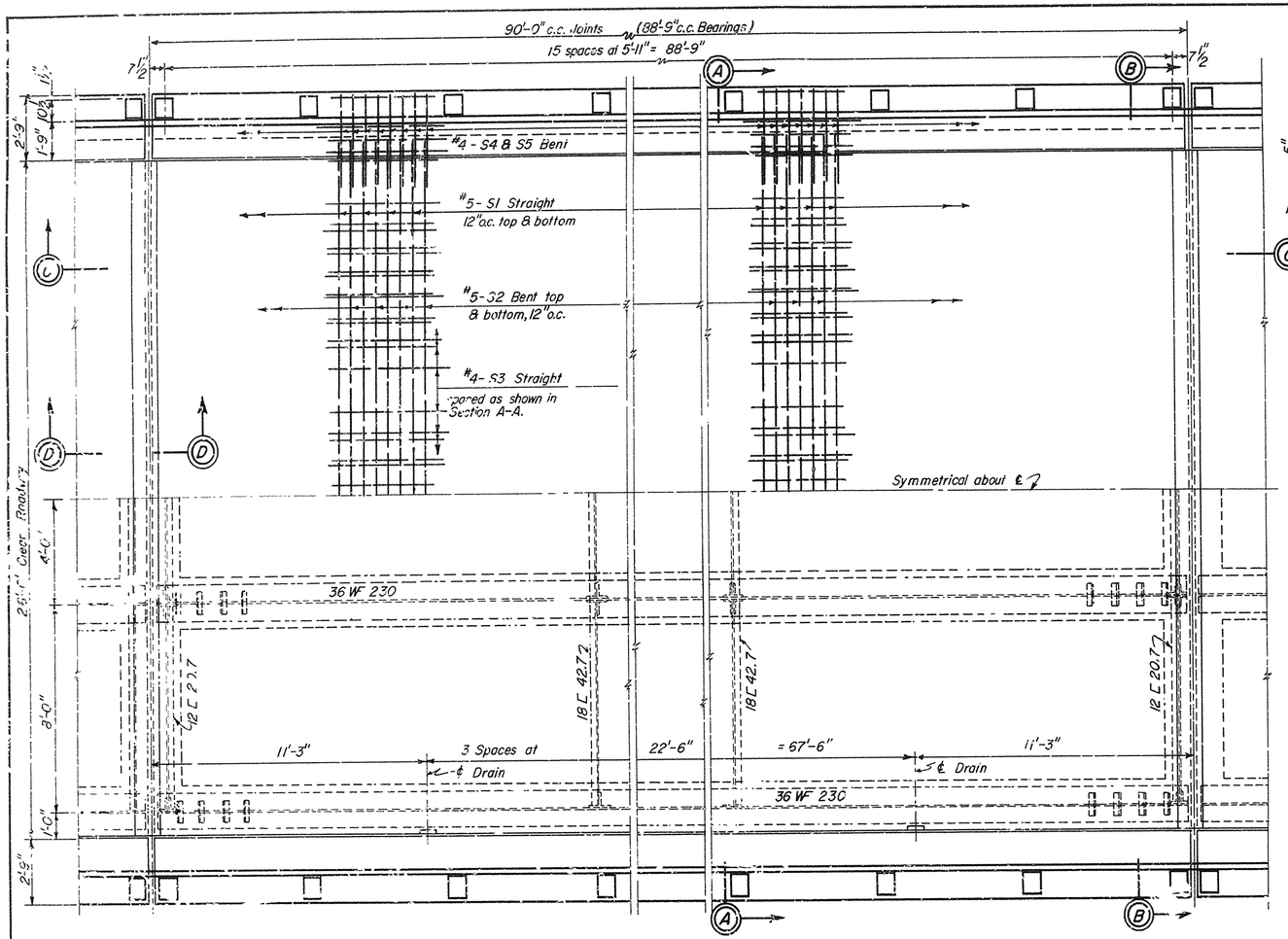
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

HIGHWAY 79 RELOCATION
MARIANNA - EAST

DETAILS OF

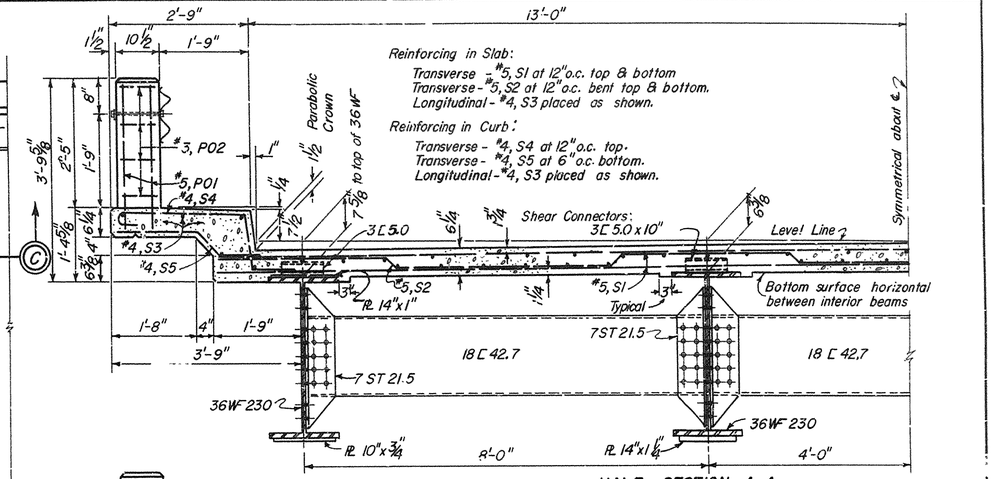
PIERS NO. 2, 3, 4, 14, 15 & 16

DRAWN BY S.M.W.	NEAL B. GARVER - MARK G. GARVER PROFESSIONAL ENGINEERS	SCALE 3/8"=1'-0"
CHECKED BY T.V.A.	GARVER & GARVER EXCHANGE BUILDING LITTLE ROCK, ARKANSAS	SHEET NO. 11 of 35
DATE OCT. 1956		

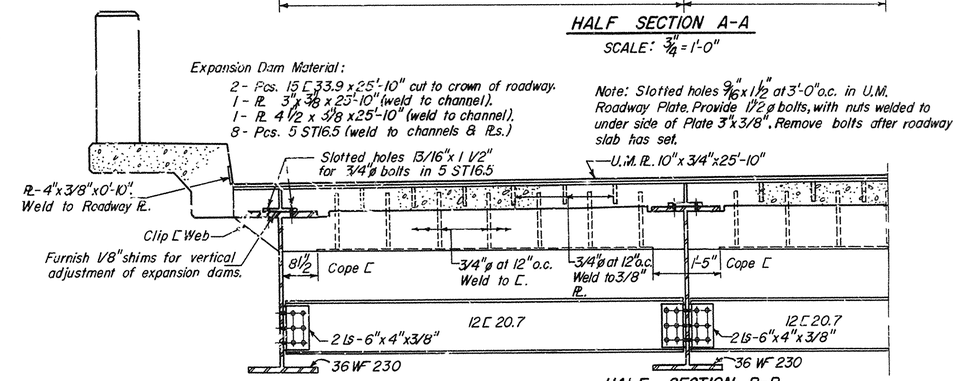


PLAN-SPANS NO. 6, 8 & 10
SPANS NO. 7, 9 & 11 SIMILAR

Note: See Sheets No. 9 & No. 13 for details of transition from 90' span to 60' span at Piers No. 6 & 12. SCALE: 3/8" = 1'-0"

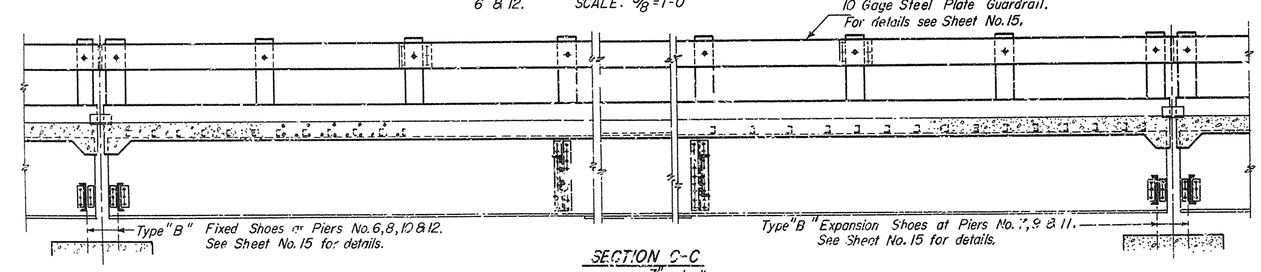


HALF SECTION A-A
SCALE: 3/4" = 1'-0"



HALF SECTION B-B
SCALE: 3/4" = 1'-0"

Expansion Dam Welding:
Full open corner welds shall be continuous. Fillet welds shall be 5/16" x 2" intermittent 6" o.c.
Plug welds, 3/4" ø at root, shall be filled complete.



SECTION C-C
SCALE: 3/8" = 1'-0"

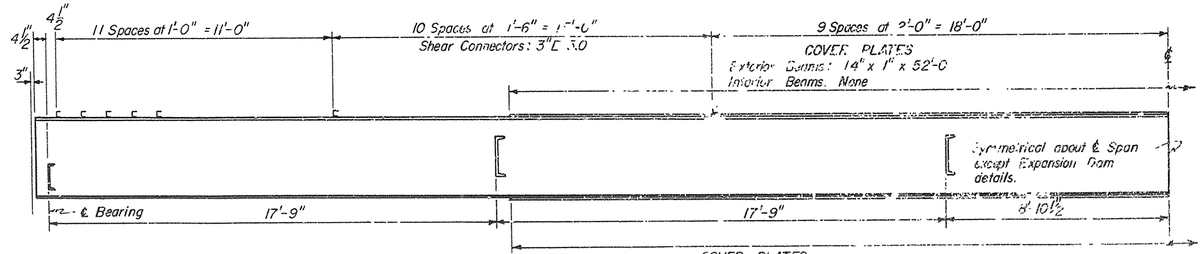
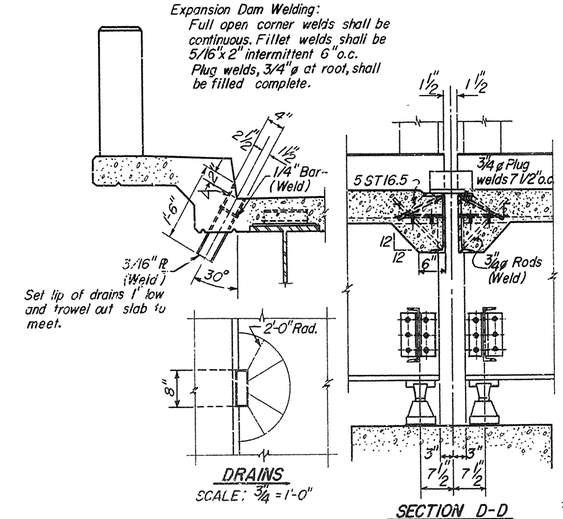


DIAGRAM
BEAM DETAILS
SCALE: 3/8" = 1'-0"

COVER PLATES
Exterior Beams: 10" x 3/4" x 52'-0"
Interior Beams: 14" x 1 1/4" x 44'-0"

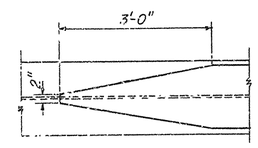


DRAINS
SCALE: 3/4" = 1'-0"

SECTION D-D
SCALE: 3/4" = 1'-0"

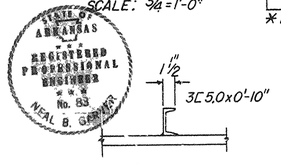
Mk.	Size	No.	Bending Diagram	Length
S2	#5	90	3'-4 1/2" 3 1/4" 4'-0" 3 1/4" 3'-5" 3 1/4" 2'-0" 3 1/4" 4 1/2" Typical Symm. about ℄	27'-10"
S4	#4	89	3" 2'-5" 3" 1'-0" 1 1/2" 1'-1 1/2"	4'-11"
S5	#4	179	1'-6 1/2" 6" 1'-3" 6" 8 1/2"	3'-6"
S1	#5	178	Straight	27'-2"
S3	#4	165	Straight	30'-7"
*P01	#5	64	2'-8 1/4" 6 1/2"	5'-11"
*P02	#3	128	7 1/2" 6" 3"	2'-9"

* Non-Pay Item



Plates under 3/4": 1/4" continuous weld.
Plates 3/4" to 1 1/8": 5/16" continuous weld.
Plates 1 1/4: 3/8 continuous weld.

COVER PLATE DETAIL
SCALE: 3/4" = 1'-0"



3/16" continuous fillet weld.

SHEAR CONNECTOR DETAIL
SCALE: 1 1/2" = 1'-0"

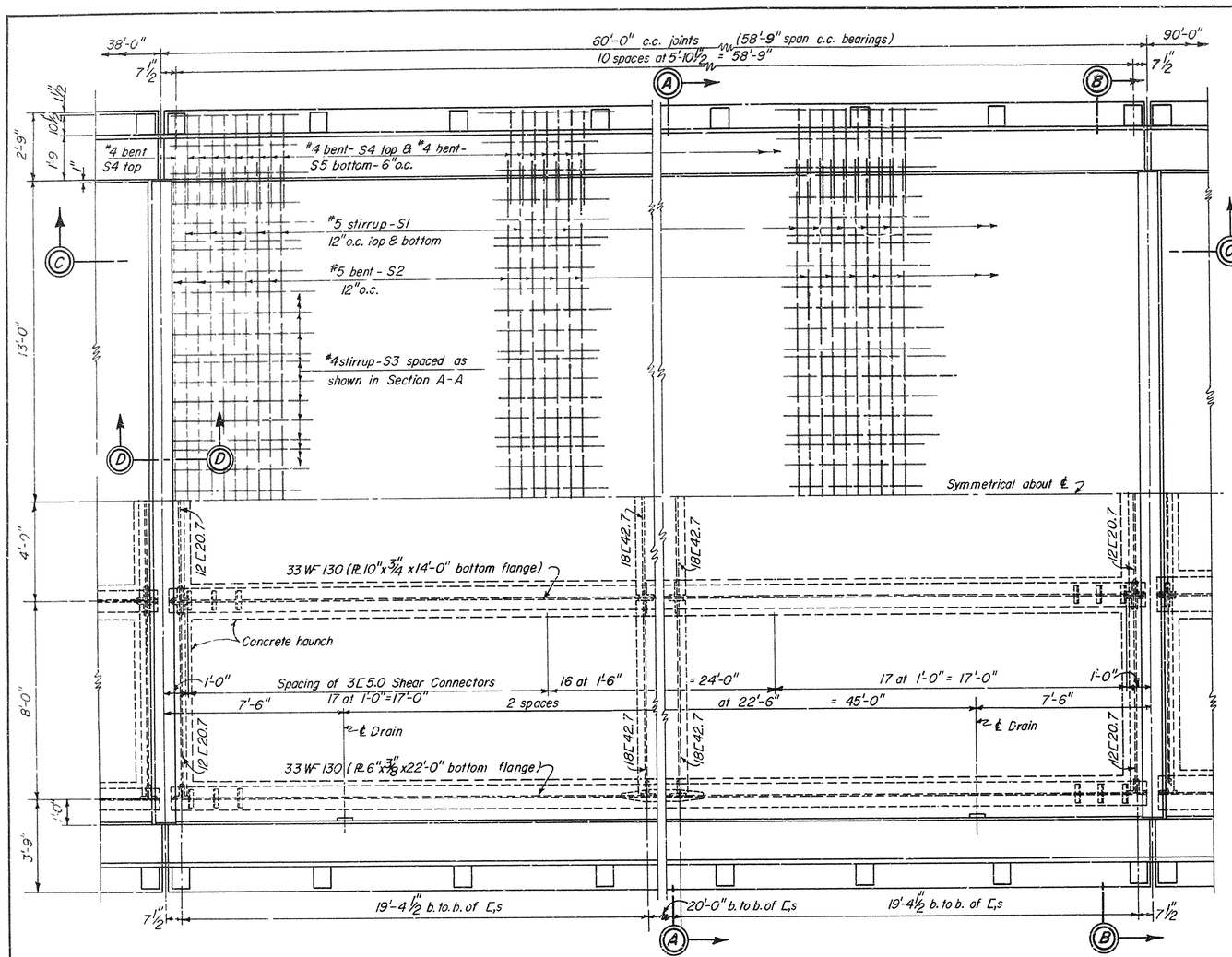
BRIDGE NO. 2900 - DRAWING NO. 9189

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

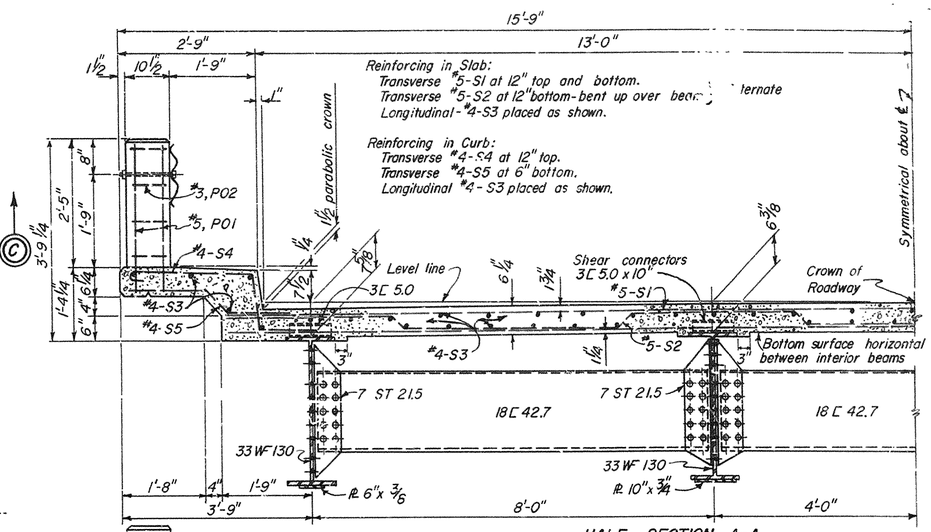
HIGHWAY 79 RELOCATION
MARIANNA - EAST

DETAILS OF
90'-0" COMPOSITE I-BEAM SPANS
NO. 6, 7, 8, 9, 10 & 11

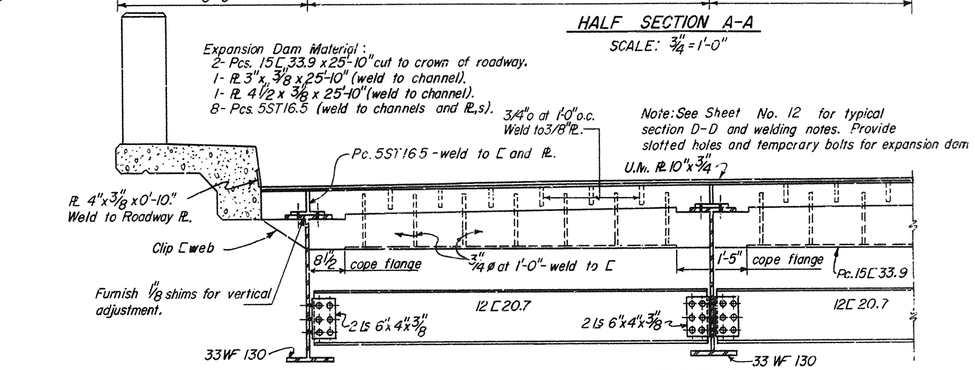
DRAWN BY M.G.G.	NEAL B. GARVER · MARK G. GARVER PROFESSIONAL ENGINEERS		SCALE NOTED
CHECKED BY T.V.A.	GARVER & GARVER EXCHANGE BUILDING LITTLE ROCK, ARKANSAS		SHEET No. 12 of 35
DATE OCT. 1956			



PLAN - SPAN NO. 5
(SPAN NO. 12 SIMILAR)
SCALE: ⅜" = 1'-0"



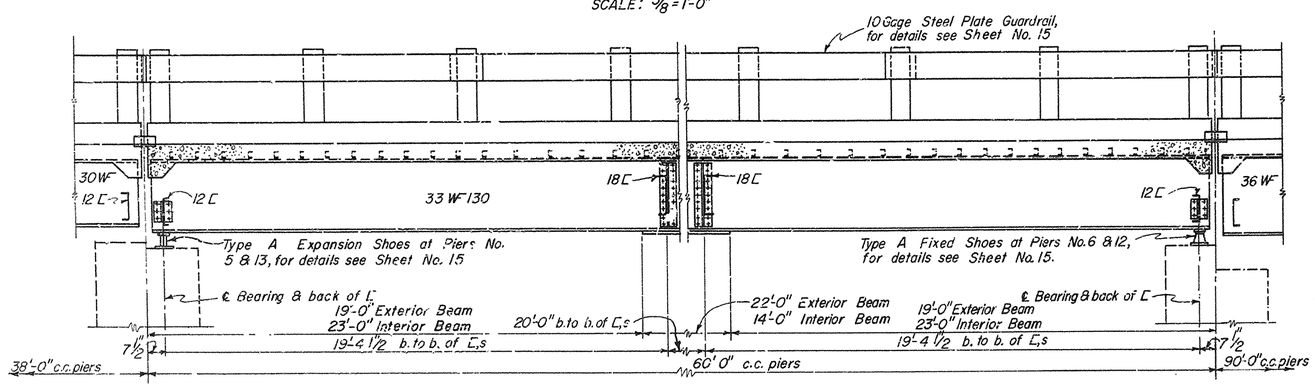
HALF SECTION A-A
SCALE: ¾" = 1'-0"



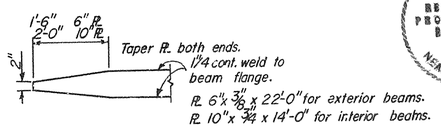
HALF SECTION B-B
SCALE: ¾" = 1'-0"

Mk.	Size	No.	Bending Diagram	Length
S2	#5	60	3'-4½" 4'-0" 4½" Typical Symm. abt. ℄	27'-10"
S4	#4	59	2'-5" 1'-0" 1½" 1'-1½"	4'-11"
			1'-6½" 6" 1'-3" 8½"	3'-6"
S1	#5	118	Straight	27'-2"
S3	#4	110	Straight	30'-7"
*P01	#5	44	2'-8¼" 6½"	5'-11"
*P02	#3	88	7½" 6" 3"	2'-9"

* Non-pay item



SECTION C-C
SCALE: ⅜" = 1'-0"



DETAIL OF COVER PLATE
NOT TO SCALE

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 83 NEAL B. GARVER

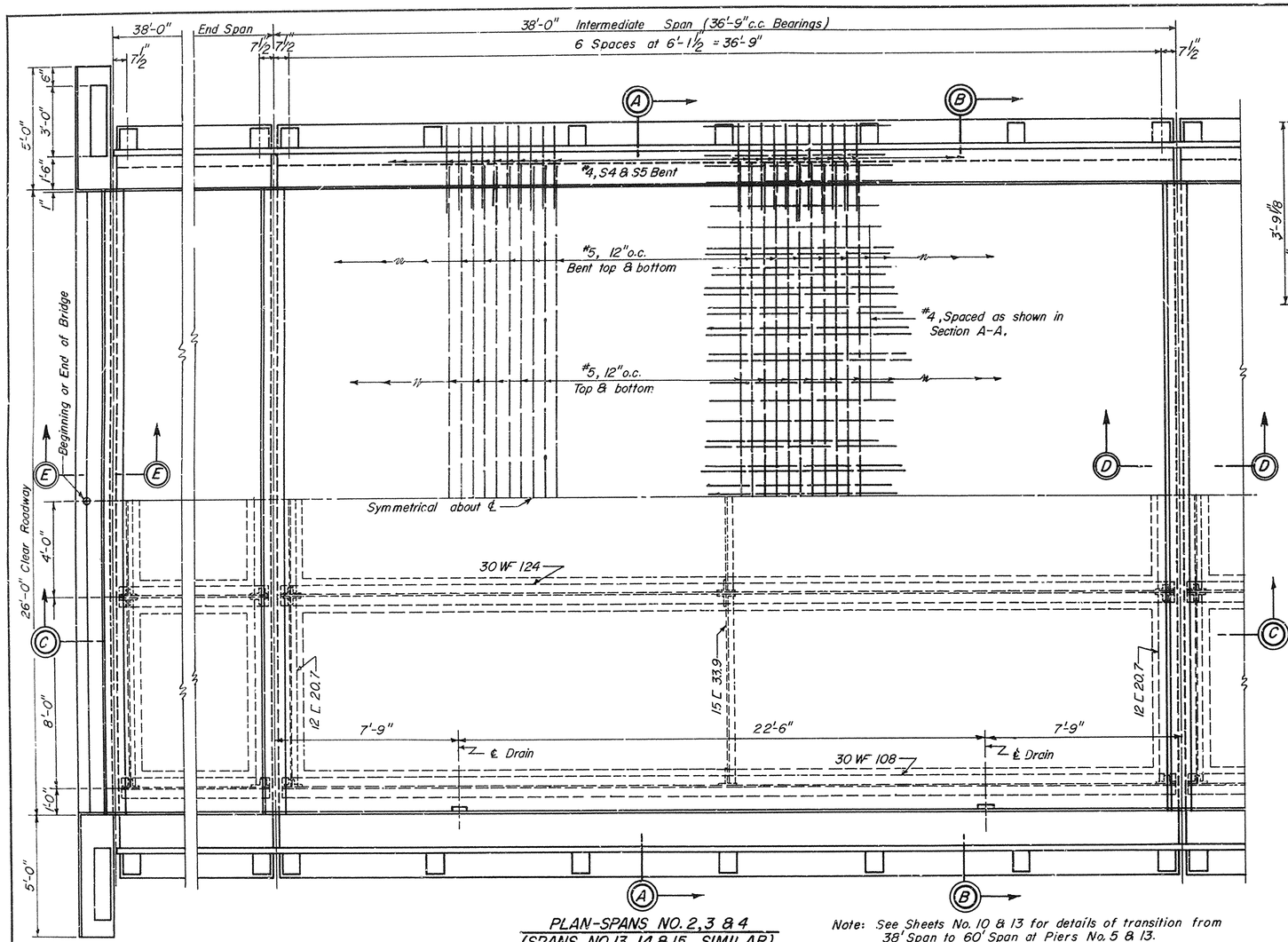
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

HIGHWAY 79 RELOCATION
MARIANNA - EAST

DETAILS OF
60'-0" COMPOSITE I-BEAM SPANS
NO. 5 & 12

DRAWN BY T.V.A.	NEAL B. GARVER MARK G GARVER PROFESSIONAL ENGINEERS		SCALE NOTED
CHECKED BY S.M.W.	GARVER & GARVER		SHEET No. 13 of 35
DATE OCT. 1956	EXCHANGE BUILDING LITTLE ROCK ARKANSAS		

BRIDGE NO. 2900 - DRAWING NO. 9190

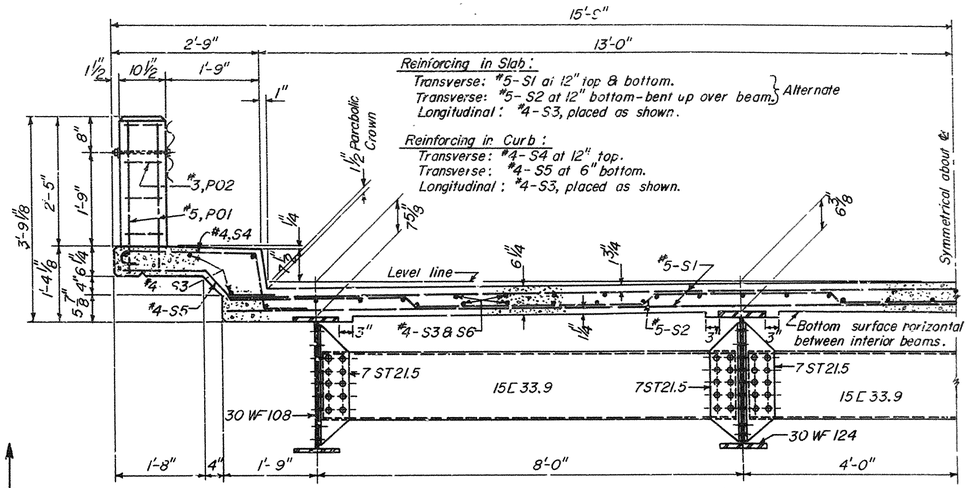


PLAN-SPAN NO. 1
(SPAN NO. 16 SIMILAR)
SCALE: 3/8" = 1'-0"

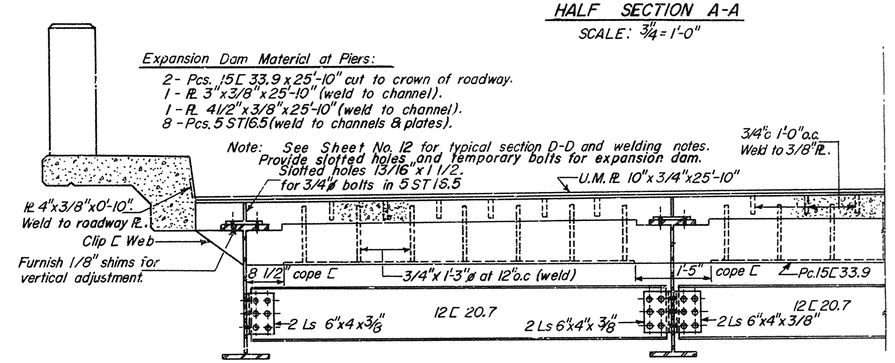
PLAN-SPANS NO. 2, 3 & 4
(SPANS NO. 13, 14 & 15 SIMILAR)
SCALE: 3/8" = 1'-0"

Note: Details of end spans are identical with those of intermediate 38'-0" spans except that drains shall not be provided.

Note: See Sheets No. 10 & 13 for details of transition from 38' Span to 60' Span at Piers No. 5 & 13.



HALF SECTION A-A
SCALE: 3/4" = 1'-0"

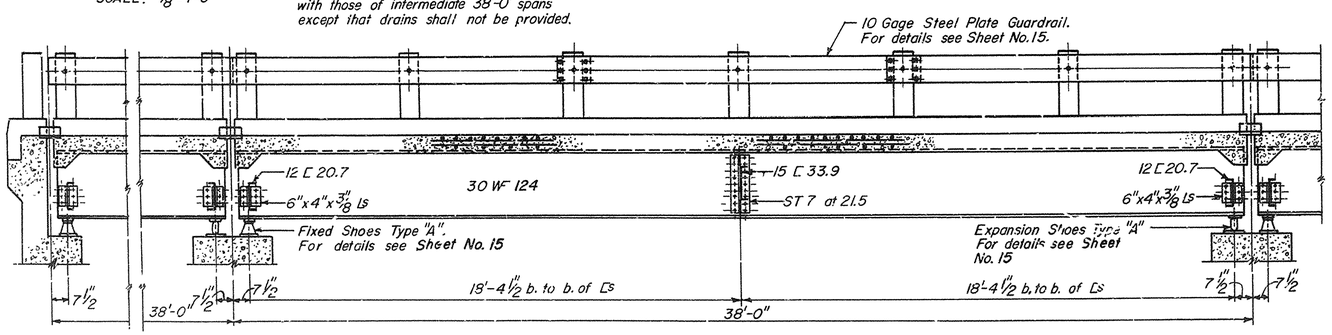


HALF SECTION B-B
SCALE: 3/4" = 1'-0"

Mk.	Size	No.	Bending Diagram --One Span	Length
S2	#5	38	3'-4 1/2" 3 1/4" 4'-0" 3 1/4" 3'-5" 3 1/4" 2'-0"; 3 1/4"; Typical; 4 1/2" Symm. about ℄	27'-10"
S4	#4	37	2'-5"; 3"; 3"; 1'-10"; 1 1/2"; 1'-1 1/2"	4'-11"
S5	#4	75	1'-6 1/2"; 6"; 1'-[illegible]; 6"; 8 1/2"	3'-6"
S1	#5	74	Straight	27'-2"
S6	#4	55	Straight	7'-5"
* P01	#5	26	2'-8 1/4"; 6 1/2"	5'-11"
* P02	#3	56	7 1/2"; 6"; 3"	2'-9"
S3	#4	55	Straight	30'-7"

* Non-pay Items

SECTION E-E
SCALE: 3/4" = 1'-0"



SECTION C-C
SCALE: 3/8" = 1'-0"

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 83 NEAL B. GARVER

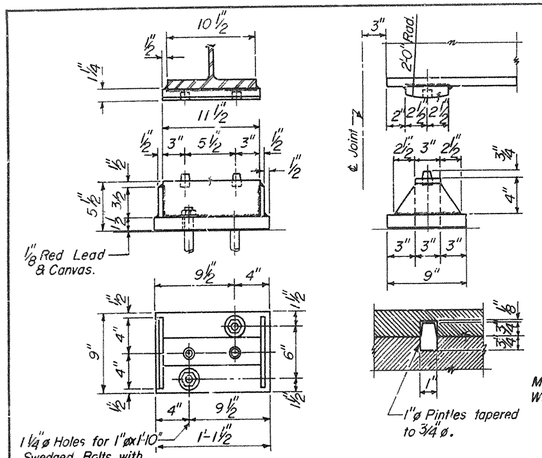
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

HIGHWAY 79 RELOCATION
MARIANNA - EAST

DETAILS OF
38'-0" I-BEAM SPANS
NO. 1, 2, 3, 4, 13, 14, 15 & 16

DRAWN BY M.G.G.	NEAL B. GARVER · MARK G. GARVER PROFESSIONAL ENGINEERS	SCALE NOTED
CHECKED BY S.M.W.	GARVER & GARVER	SHEET No. 14 of 35
DATE OCT. 1956	EXCHANGE BUILDING LITTLE ROCK, ARKANSAS	

BRIDGE NO. 2900 — DRAWING NO. 9191

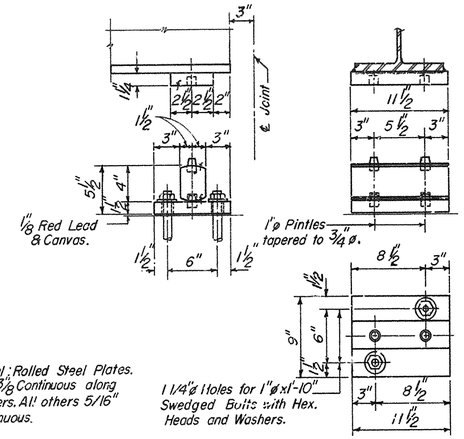


Material: Rolled Steel Plates. Welds: 3/8 Continuous along bolsters. All others 5/16" continuous.

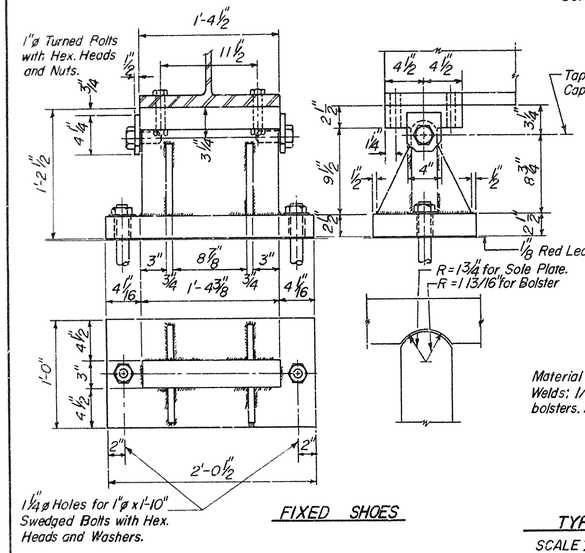
FIXED SHOES

TYPE A

SCALE: 1 1/2" = 1'-0"



EXPANSION SHOES

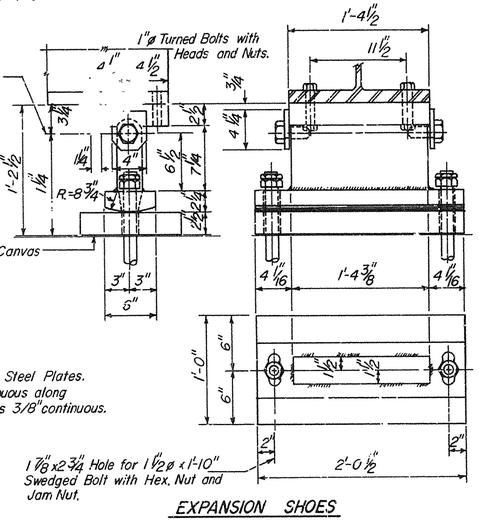


Material: Rolled Steel Plates. Welds; 1/2" continuous along bolsters. All others 3/8" continuous.

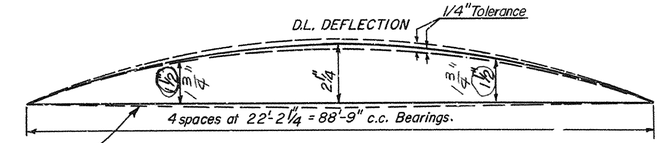
FIXED SHOES

TYPE B

SCALE: 1 1/2" = 1'-0"



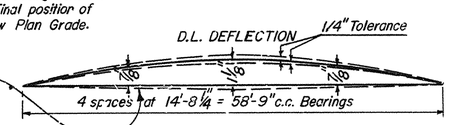
EXPANSION SHOES



Beams shall be fabricated with the convex flange up, and shall be shop cambered. Concrete haunches shall be increased to compensate for dead load deflection if necessary to bring slab to plan grade. Any resulting increase in concrete quantities will not be paid for.

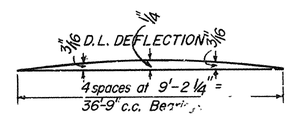
90'-0" COMPOSITE I-BEAM SPAN

No pay for increasing Concrete haunches if Final position of Beam is below Plan Grade.



Beams shall be fabricated with convex flange up, and shall be shop cambered. Concrete haunches shall be increased to compensate for dead load deflection if necessary to bring slab to plan grade. Any resulting increase in concrete quantities will not be paid for.

60'-0" COMPOSITE I-BEAM SPAN



Beams shall be fabricated with convex flange up, and shall not be shop cambered. Concrete haunches shall be increased to compensate for dead load deflection as necessary to bring slab to plan grade. Any resulting increase in concrete quantities will be paid for at the unit price bid for Class "S" Concrete.

38'-0" STANDARD I-BEAM SPAN

CAMBER

NO SCALE

GENERAL NOTES

Specifications: Arkansas State Highway Commission Standard Specifications for Road and Bridge Construction, adopted March 1, 1940.

Allowable Unit Stresses:

Structural Steel.	18,000 psi
Reinforcing Steel.	20,000 psi
Class "S" Concrete (n=10).	1,200 psi
Class "A" Concrete (n=15).	840 psi
Maximum Design Load, 16" Concrete Piles.	30T/Pile

Loading (H20 A.A.S.H.O. 1953).

Interior Beams:
Dead Load-822 lbs. per LF plus per foot weight of stringer.
Live Load. 1.6 wheels

Exterior Beams:
Dead Load. 894 lbs. per LF plus per foot weight of stringer.
Live Load 1.0 wheels

SUPERSTRUCTURE

All concrete shall be Class "S".

All exposed corners shall be chamfered 3/4" except handrail posts, which shall be chamfered 1/2".

Reinforcing steel shall be deformed bars of intermediate grade.

Shop lists and bending diagrams shall be submitted and approved prior to any fabrication.

Reinforcing steel shall be accurately located in the forms and firmly held in place by steel wire supports. The cost of such supports shall be included in the unit price bid for "Reinforcing Steel".

All field connections shall be riveted, or bolted with high strength bolts, of 3/4" diameter in 13/16" diameter open holes.

All welded connections shall be sized as noted on the drawings, welding to conform to American Welding Society Standard Specifications for Welded Highway and Railway Bridges, 5th Edition, 1956.

Shop Paint: All structural steel shall be given one coat of red lead and raw linseed oil before shipment, except surfaces to be in contact with concrete or steel.

Field Paint: All structural steel shall be given one first coat of white lead and a second of aluminum paint.

All expansion dams and shoes will be paid for at the unit price bid for "Structural Steel for Beam Spans".

Red lead and canvas packing at masonry plates shall be included in the unit price bid for "Structural Steel for Beam Spans".

Handrail, including posts, flexible plate and fittings, will be paid for at the unit price bid for "Steel Plate Guard".

SUBSTRUCTURE

All concrete shall be Class "A" except piles, which shall be Class "S", and "Seal Concrete for Bridges".

All exposed corners shall be chamfered 1" unless otherwise noted.

All Class "A" Concrete shall be poured in the dry.

In general, construction joints in piers and abutments shall be horizontal and shall be provided with keys not less than 3" deep covering the middle third of both dimensions.

Lengths of piling shown are assumed for estimating purposes only. Actual lengths will be determined in the field.

Volume occupied by embedded piles will not be included in the pay quantities for concrete.

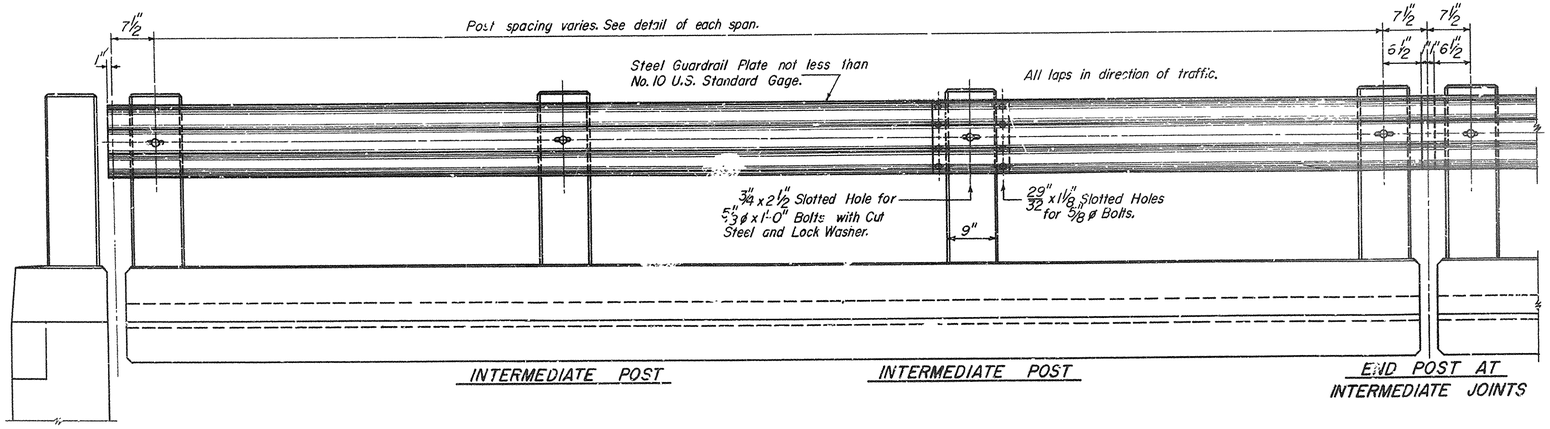
REFERENCES

For details of Abutments and Piers, see Sheets No. 6 thru 11.

For details of Superstructure, see Sheets No. 12, 13 & 14.

For details of Precast Concrete Piles, see Sheet No. 6.
For details of Riprap at channel piers, see Sheet No. 16.

For Boring Data, see Sheet No. 16.
For details of approach slab and approach steel plate guard, see Std. Dwgs. No. 1898 and GR-7.



END POST AT ABUTMENT

INTERMEDIATE POST

INTERMEDIATE POST

END POST AT INTERMEDIATE JOINTS

ELEVATION SHOWING HANDRAIL DETAILS

SCALE: 1" = 1'-0"

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 83 NEAL B. GARVER

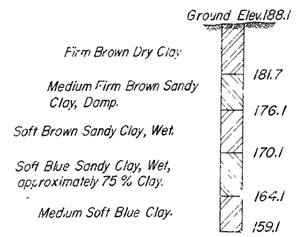
BRIDGE NO. 2900 – DRAWING NO. 9192

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

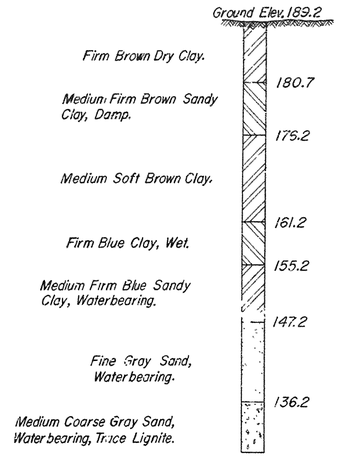
HIGHWAY 79 RELOCATION
MARIANNA – EAST

MISCELLANEOUS DETAILS AND GENERAL NOTES

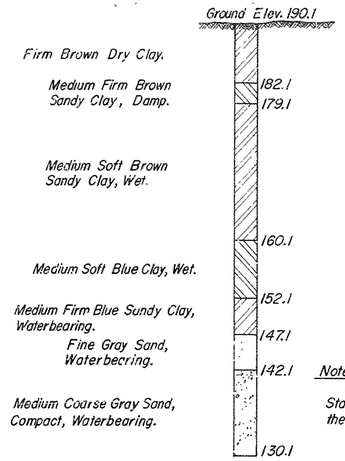
DRAWN BY M.C.	NEAL B. GARVER · MARK G. GARVER PROFESSIONAL ENGINEERS	SCALE NOTED
CHECKED BY T.V.L.	GARVER & GARVER	SHEET NO. 15 of 35
DATE OCT. 1956	EXCHANGE BUILDING LITTLE ROCK, ARKANSAS	



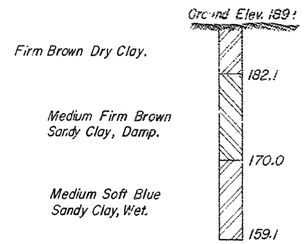
HOLE NO. 1
Sta. 18+18 on ℄



HOLE NO. 2
Sta.21+20 on ℄

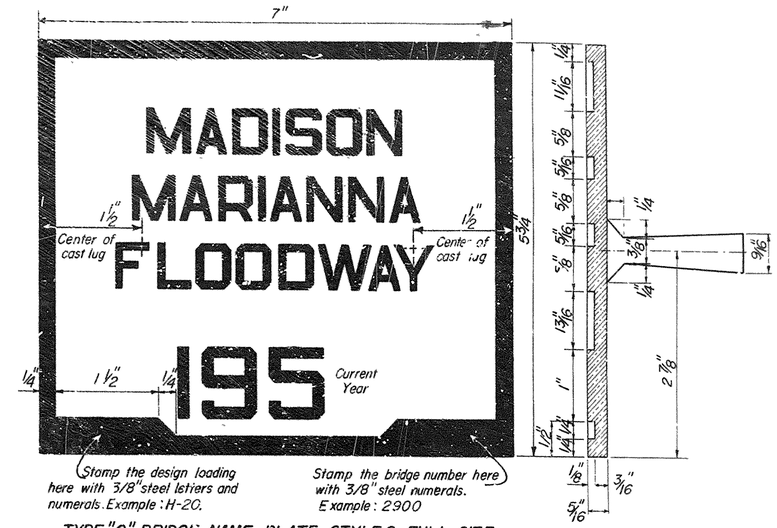


HOLE NO. 3
Sta.24+80 on ℄



HOLE NO. 4
Sta.27+82 on ℄

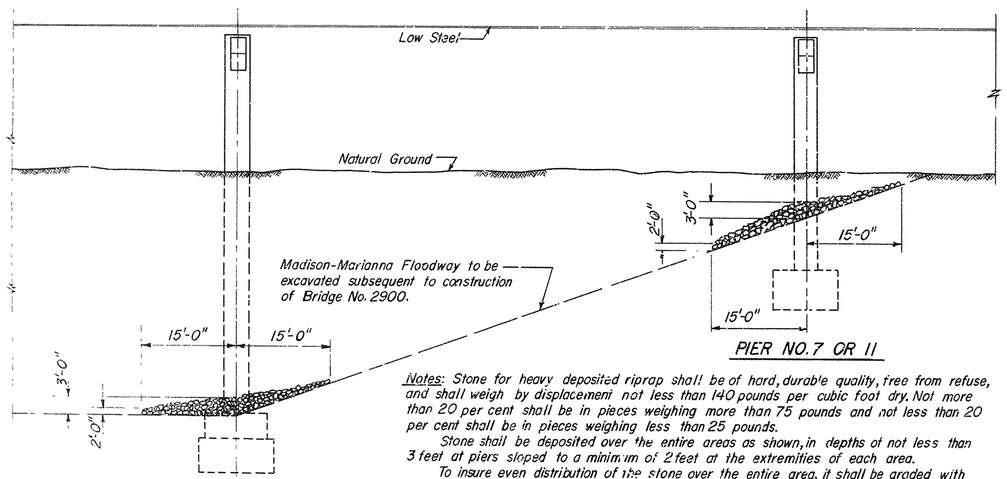
Note:
Holes 1 thru 4 were drilled by the Arkansas State Highway Department. Samples taken from the drill bit are available.



TYPE "C" BRIDGE NAME PLATE-STYLE 2-FULL SIZE

Specifications For Name Plates:

Plates to be either Bronze or Aluminum.
Body 3/16" thick. Two tapering cone lugs 3/8" to 9/16" 2" long.
Bronze: U.S. Government Specifications for Statuary Bronze.
Aluminum: A.S.T.M. Specifications, Serial designation B26-47T.
The border and all lettering to be raised 1/8" above face of plate. Top surface of raised border and lettering to be polished.
All lettering to be plain Gothic, square cut and not tapered.
The number of plates required, type and location are to be as shown on plans.
Name of Stream to be varied to suit each bridge.
Shop drawing of Bridge Name Plates shall be submitted for approval before casting is begun.



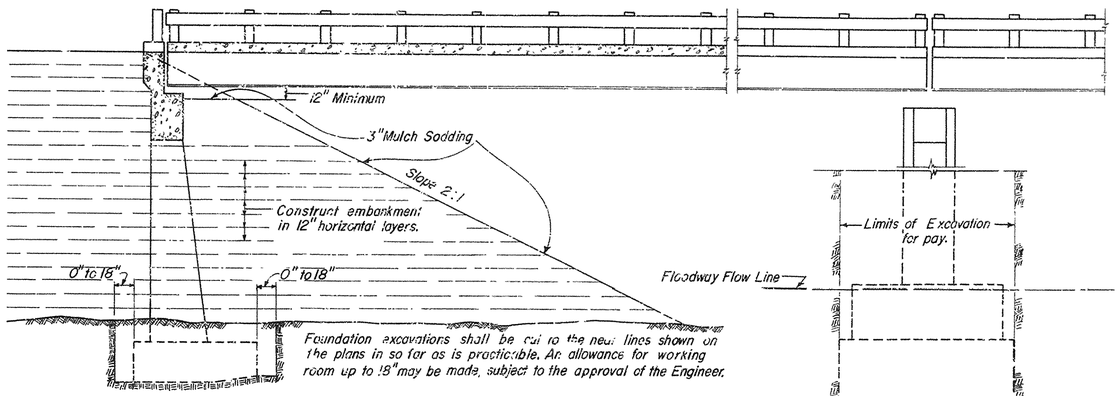
PIER NO. 10
PIERS NO. 8 & 9 SIMILAR

PIER NO. 7 OR 11

Notes: Stone for heavy deposited riprap shall be of hard, durable quality, free from refuse, and shall weigh by displacement not less than 140 pounds per cubic foot dry. Not more than 20 per cent shall be in pieces weighing more than 75 pounds and not less than 20 per cent shall be in pieces weighing less than 25 pounds.

Stone shall be deposited over the entire areas as shown, in depths of not less than 3 feet at piers sloped to a minimum of 2 feet at the extremities of each area.

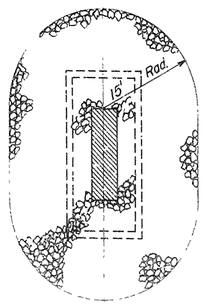
To insure even distribution of the stone over the entire area, it shall be graded with dredge buckets or other satisfactory means subsequent to deposit.



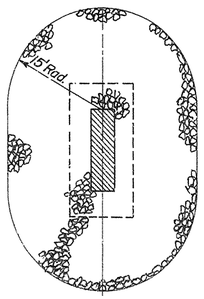
Foundation excavations shall be cut to the neat lines shown on the plans in so far as is practicable. An allowance for working room up to 18" may be made, subject to the approval of the Engineer.

ABUTMENTS NO. 1 & 2 - PIERS NO. 2, 3, 4, 5, 6, 12, 13, 14, 15 & 16
NO SCALE

PIERS NO. 7 THRU 11
NO SCALE



The item of Heavy Deposited Riprap is not included in this Contract.



DETAILS OF HEAVY DEPOSITED RIPRAP
SCALE: 3/32" - 1'-0"

CONSTRUCTION OF THE BRIDGE END EMBANKMENT:

The bridge-end embankment shall include not less than 20 feet adjacent to the abutments, together with side slopes and slopes beneath the bridge end and around wing walls.

The area to be filled shall first be cleared of all debris and vegetable matter, then scarified so as to expose the raw earth.

The fill shall be constructed in horizontal layers not over 1 foot thick and brought to correct slope as placed. Each layer shall be thoroughly compacted in accordance with the Specifications before starting the next lift.

Shrinkage allowance shall be sufficient to insure full slopes as indicated on the drawings.

BACKFILLING EXCAVATION: When abutment excavations are ready for backfill they shall be cleared of all cofferdam material, unless otherwise directed by the Engineer, and of all debris.

The space around the wall or columns shall then be filled to the original ground line in horizontal layers not to exceed 1 foot in thickness. Each layer shall be hand or mechanically tamped before starting the next lift. If directed by the Engineer, fill material may be compacted with water, keeping the surface layer completely submerged.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

HIGHWAY 79 RELOCATION
MARIANNA - EAST

BORING LOGS
RIPRAP DETAILS
NAME PLATES

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CHECKED BY S.M.W.	GARVER & GARVER	SHEET NO. 16 of 35
DATE OCT. 1956	ORANGE BUILDING LITTLE ROCK, ARKANSAS	

BRIDGE NO. 2900 - DRAWING NO. 9193