

NOTE

All prestress strands to be 1/2" stress relieved cables
 Each cable to be prestressed at 10000 psi
 Cables to be cut off within 1" of end of beam
 See Special Provisions for method of construction
 Testing and handling of the beams as well as so
 much as is included in the 1/2" x 1/2" 8/24
 No surface finish will be required for prestressed
 concrete beams. However, the exterior face of beams
 shall be carefully cleaned of dirt and oil and
 other obstructions.
 Where finish is called for on bearing plates, the finished
 surface shall be coated with a hot mixture of zinc
 lead and tallow. See Specifications.
 All steel work shall be finished for steel
 used in bearing.
 The iron not to be shop painted.

HALF PLAN
BEAMS FOR SPAN A-B

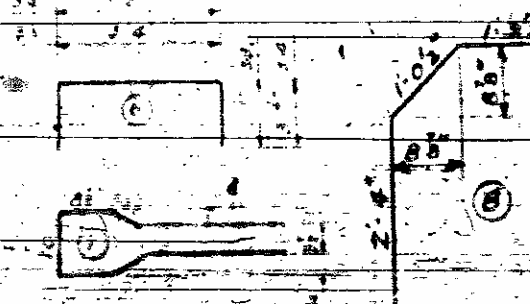
HALF PLAN
BEAMS FOR SPAN

HALF ELEVATION

HALF ELEVATION

REINFORCING STEEL FOR ONE (1) BEAM

Bar	No.	Size	Vol.	Weight
48" Beam	37	#4	6.0	210
58" Beam	43	#4	7.6	260
Beam	14	#4	4.6	160
Beam	14	#4	4.6	160
	22	#6	8.0	280
	23	#6	8.0	280
	24	#6	8.0	280
	25	#6	8.0	280
	26	#6	8.0	280



Dimensions in feet

END BLOCK DETAIL

BEAM SECTION

PRESTRESS CABLE LAYOUT

QUANTITIES ONE (1) BEAM

Reinforcing Steel	
48" Beam	478 lbs
58" Beam	507 lbs
Beam	161
Beam	161
3000 psi Concrete	
58" Beam	7.3 CY
48" Beam	8.7 CY
Beam	CY
Beam	CY
1/2" x 1/2" 8/24	
48" Beam	2.2 LF
58" Beam	3.0 LF
Beam	1.0 LF
Beam	1.0 LF

GLAZES REQUIRED

1/2" x 1/2" 8/24	1.0 LF
1/2" x 1/2" 8/24	1.0 LF
1/2" x 1/2" 8/24	1.0 LF
1/2" x 1/2" 8/24	1.0 LF

PROJECT NO. 81396E

ROBESON, CUMBERLAND COUNTY

STATION: 141+25.81 L+1.00

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

STANDARD
 45' PRESTRESSED
 CONCRETE BEAM

MAY 1958

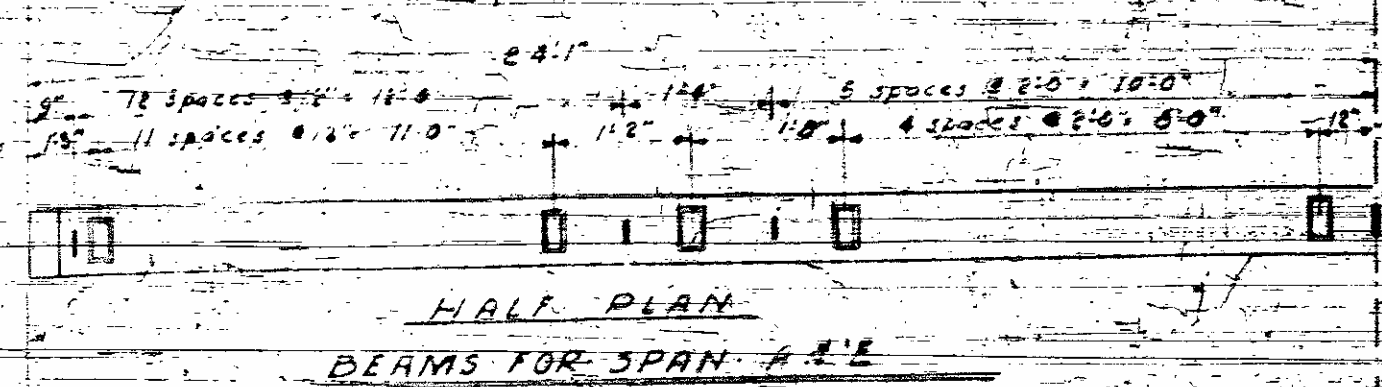
Beam ends to be fitted to give close fit but not tight fit to other existing beam

EMBEDDED R/I

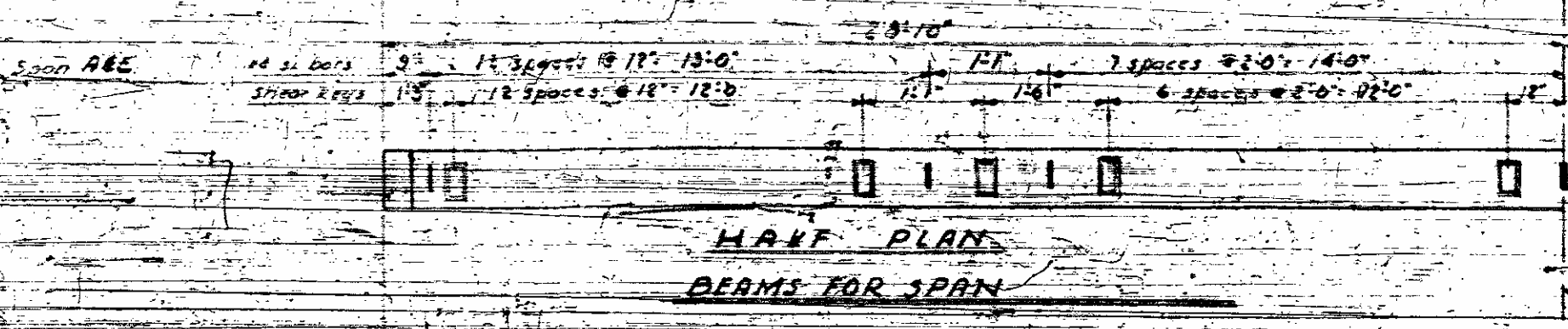
DERRING PLATE DETAIL

DETAIL
SHEAR KEY

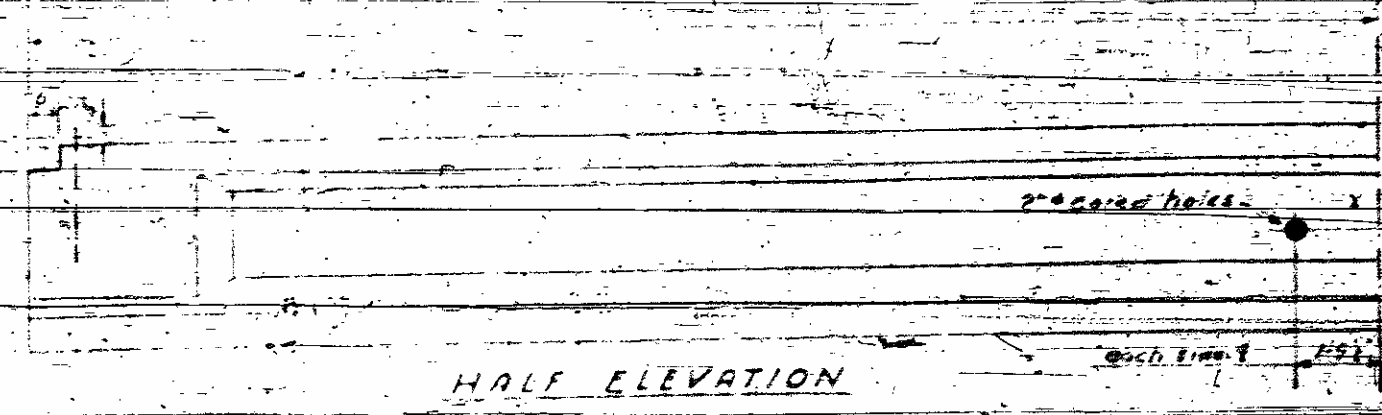
Each beam requires
 1. Top Bar #4
 2. Top Bar #4
 3. Top Bar #4
 4. Top Bar #4
 5. Top Bar #4
 6. Top Bar #4
 7. Top Bar #4
 8. Top Bar #4
 9. Top Bar #4
 10. Top Bar #4
 11. Top Bar #4
 12. Top Bar #4
 13. Top Bar #4
 14. Top Bar #4
 15. Top Bar #4
 16. Top Bar #4
 17. Top Bar #4
 18. Top Bar #4
 19.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



HALF PLAN
 BEAMS FOR SPAN A-B



HALF PLAN
 BEAMS FOR SPAN B-C-D



HALF ELEVATION



HALF ELEVATION

NOTE

All prestress strands to be 1/2" stress relieved cables. Each cable to be prestressed at 18500 psi.

Cables to be cutoff within 12" of end of beam.

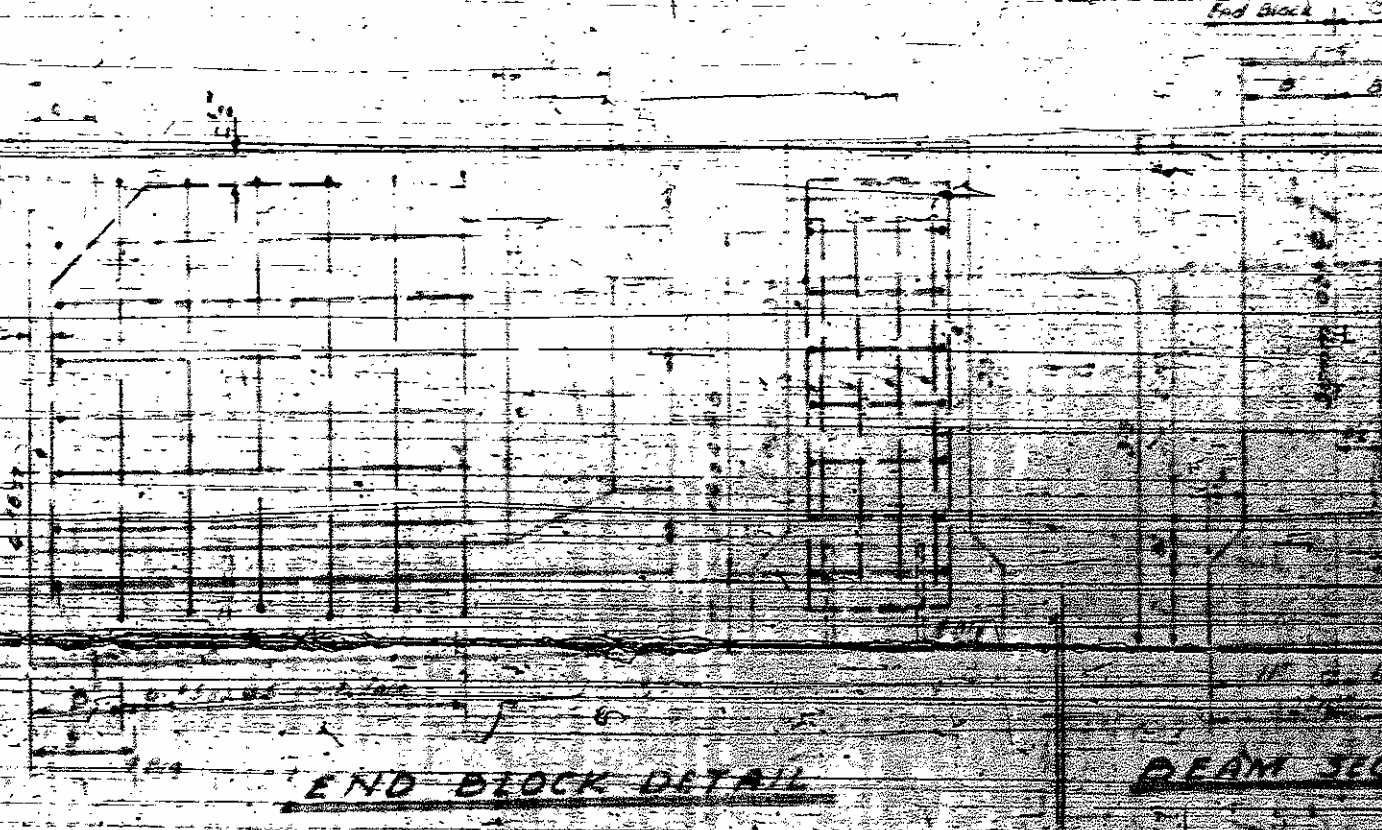
See Special Provisions for method of manufacturer testing and bonding of the beams as well as for materials included there in.

No surface finish will be required for prestressed concrete beams. However, the ends of face of beams shall be carefully dressed at supports and other discontinuities.

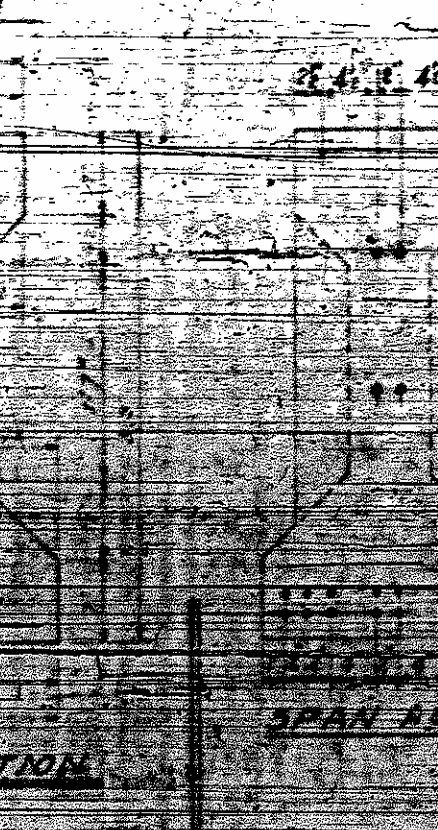
Where finish is called for on bearing plates, the finished surface shall be coated with a hot mixture of bit lead and follow. See Specifications.

Cast in place mill reports shall be furnished for steel used in bearing.

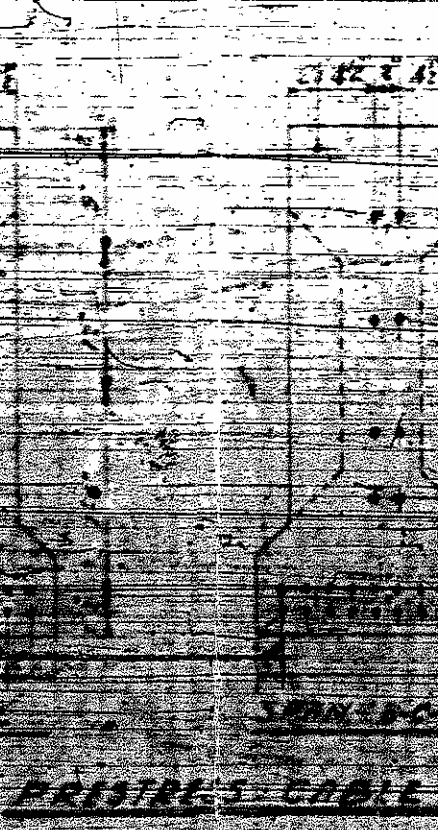
The steel is not to be shop painted.



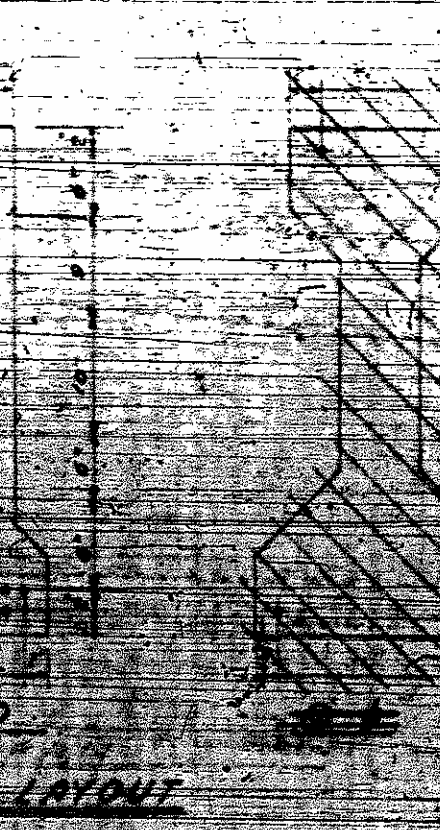
END BLOCK DETAIL



BEAM SECTION



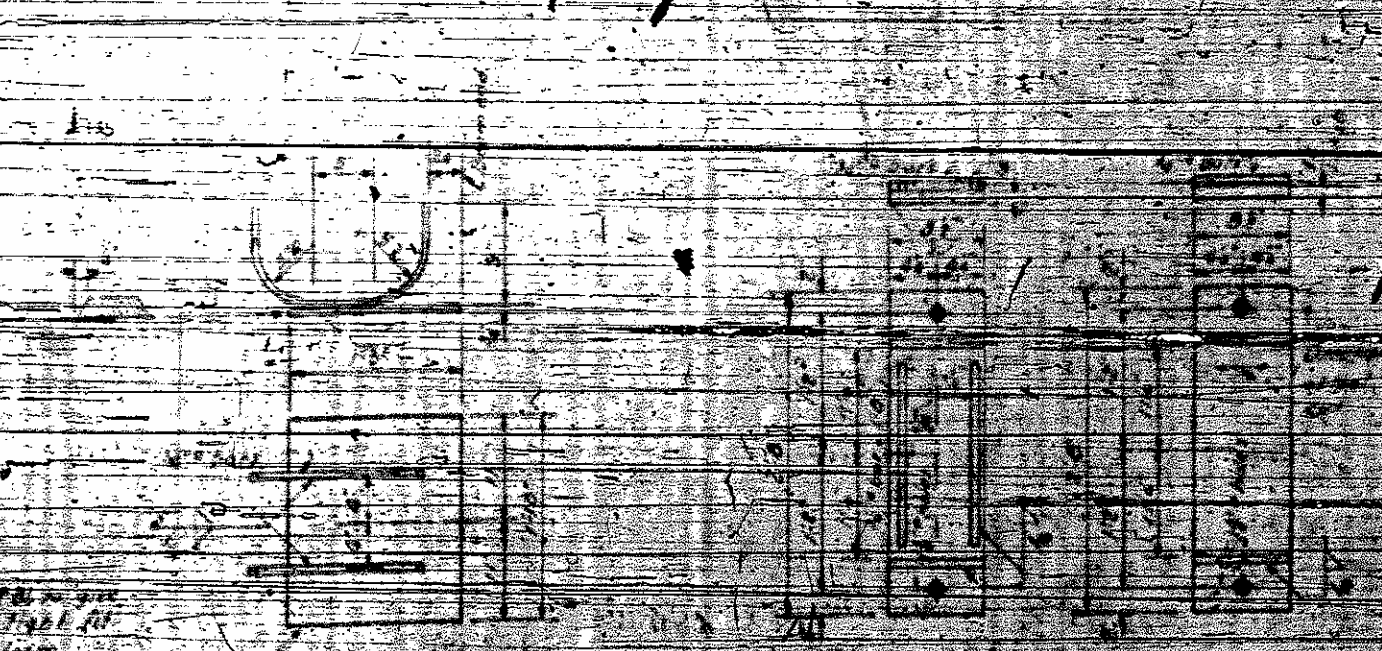
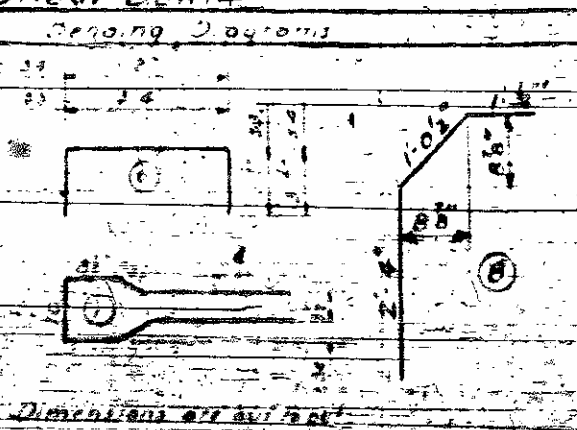
PRESTRESS CABLE LAYOUT



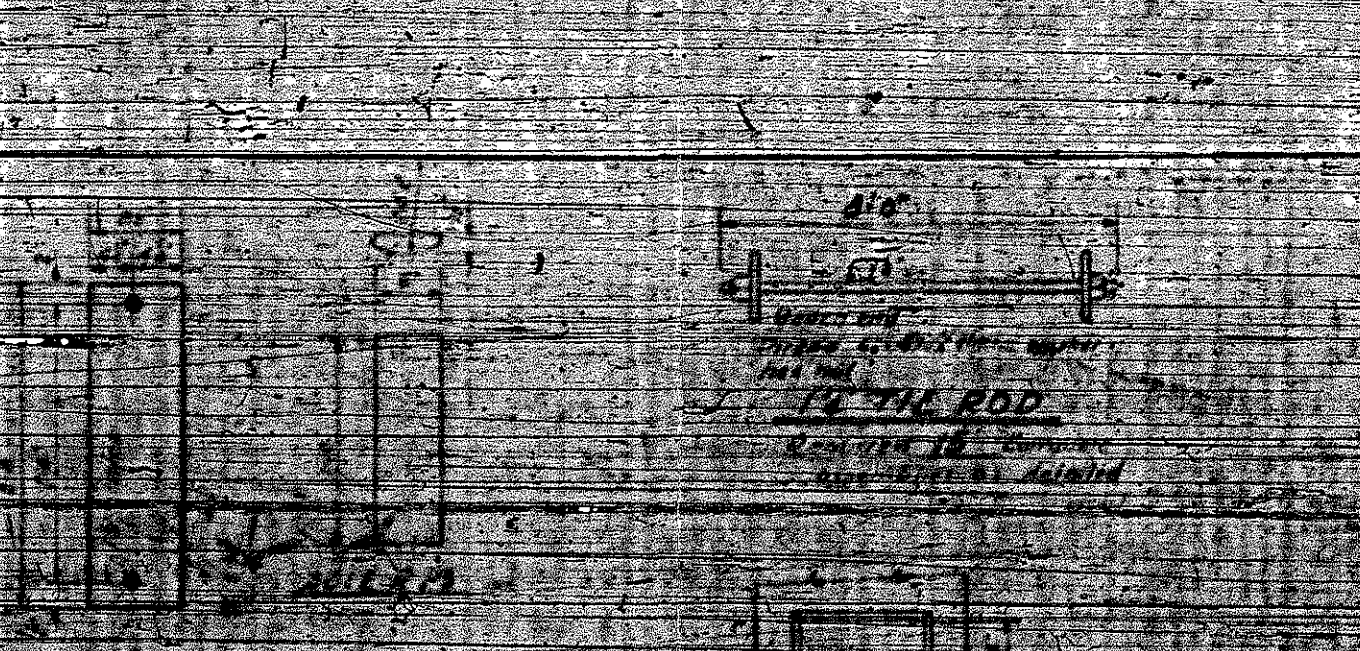
DETAIL
 SHEAR KEY

REINFORCING STEEL FOR ON&U BEAM

Bar	No	Size	Type	Length	Weight
48" x 24" Beam	37	#4	7	6.0	270
36" x 24" Beam	48	#4	7	8.6	414
36" x 24" Beam	14	#4	7	8.6	120
36" x 24" Beam	14	#4	7	8.6	120
36" x 24" Beam	14	#4	7	8.6	120
36" x 24" Beam	14	#4	7	8.6	120
36" x 24" Beam	14	#4	7	8.6	120
36" x 24" Beam	14	#4	7	8.6	120
36" x 24" Beam	14	#4	7	8.6	120
36" x 24" Beam	14	#4	7	8.6	120



EMBEDDED ROD



BEARING PLATE DETAIL

QUANTITIES ONE BEAM

Reinforcing Steel	
48" x 24" Beam	270 (lb)
36" x 24" Beam	414 (lb)
36" x 24" Beam	120 (lb)
36" x 24" Beam	120 (lb)
36" x 24" Beam	120 (lb)
36" x 24" Beam	120 (lb)
36" x 24" Beam	120 (lb)
36" x 24" Beam	120 (lb)
36" x 24" Beam	120 (lb)
36" x 24" Beam	120 (lb)

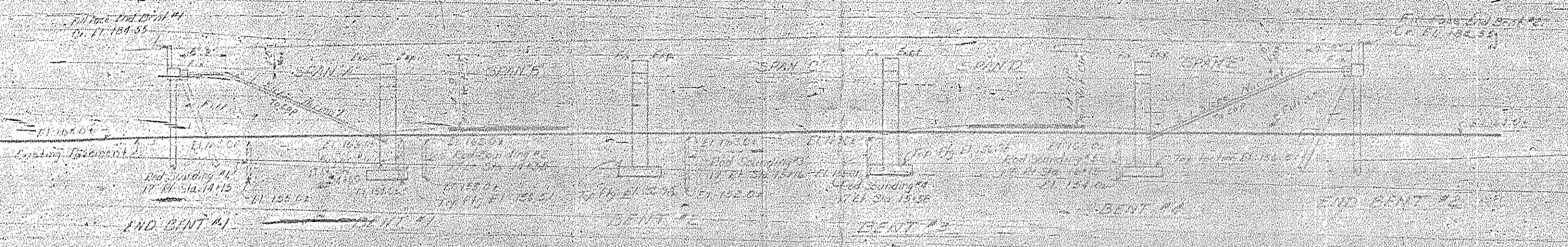
QUANTITIES REQUIRED

48" x 24" Beam	1 (each)
36" x 24" Beam	1 (each)
36" x 24" Beam	1 (each)
36" x 24" Beam	1 (each)
36" x 24" Beam	1 (each)
36" x 24" Beam	1 (each)
36" x 24" Beam	1 (each)
36" x 24" Beam	1 (each)
36" x 24" Beam	1 (each)
36" x 24" Beam	1 (each)

PROJECT NO. 813861
 ROBESON, CUMBERLAND COUNTY
 STATION: 14+20.63 L&M

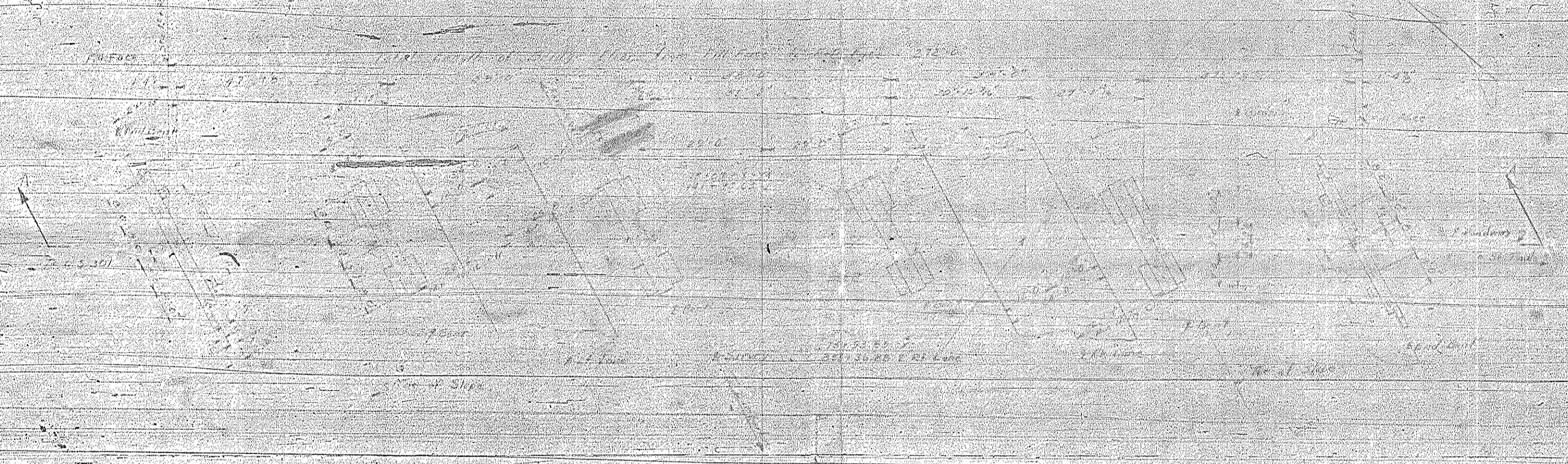
STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 STANDARD
 45" PRESTRESSED
 CONCRETE BEAM

MAY 1958



SECTION ALONG E BRIDGE
BENTS AND END BENTS ON SECTION A-A

- NOTES
- Assumed Live Load 110-44
 - For other design data and general notes see Sheet 1000
 - Exposed concrete surfaces to be given a 135 F surface finish in accordance with the specifications
 - For End Bents (and 4 to be driven to the roadway fill)
 - Test piles will not be required. Order list to be based on piles 30 feet long
 - Piles to be driven to a minimum bearing capacity of 27 tons each
 - When driving End Bent piles, the Contractor shall excavate at least 21 ft 0" into the ground to be assured of full penetration of the piles. The entire cost is to be included in the cost of the prestressed concrete piles per special provisions.
 - Existing pavement to be removed and replaced with a minimum depth of 12 inches within the area of the End Bent piles by the reading Contractor.
 - Computed foundation load for Bents 1-10 and 12 shall be 2.0 tons per square foot
 - Traffic on county road will be detoured during construction.
 - At all times in base cover pile 225' RT 374 11/100 11 164-00



PLAN

TOTAL BILL OF MATERIAL

ITEM	QUANTITY	UNIT	PRICE	TOTAL
Concrete	10,000	cu yd	1.50	15,000
Steel	100	tons	100	10,000
Reinforcing Bars	500	tons	20	10,000
Formwork	100	sq ft	100	10,000
Other	100	sq ft	100	10,000
TOTAL				55,000



LOCATION SKETCH

PROJECT NO. B-13962
ROBEYSON - CUMBERLAND COUNTY
STATION 15+07.81 - 147+90.12

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

GENERAL DRAWING
BRIDGE OVER PROJECT ON COUNTY ROAD BETWEEN US-301 AND ST PAULS

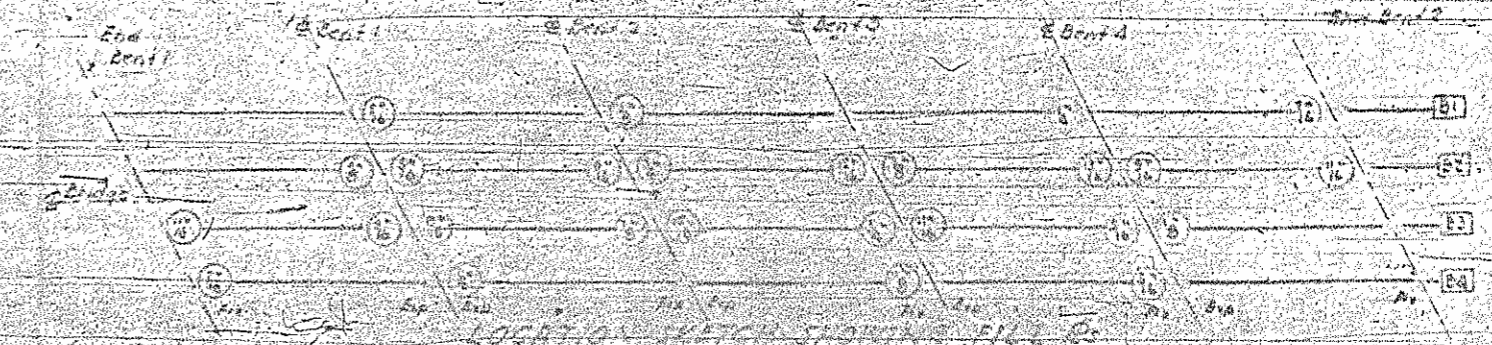
DESIGNED BY: [Signature]
APPROVED BY: [Signature]

Reel 694
Poster 6

95-46-260

ROBERTSON

CROWN DIAGRAM



For Design Data and General Notes see Sheet 5-N
 For Bars indicated and no bar mark shown see plan for the different spans

All bars to be 20#
 The top 10# bars to be parallel to the crown grade.
 Part of bars to be chamfered to the center of bars in roadway face and part may be shifted back to clear Name Plates.

Temporary struts shall be placed between prestressed beams adjacent to the abutments and the nuts on the 1/2" dia. bars shall be fully tightened before diaphragms are cast. Struts shall remain in place at least 3 days after concrete is placed. The struts shall be removed after struts have been removed.

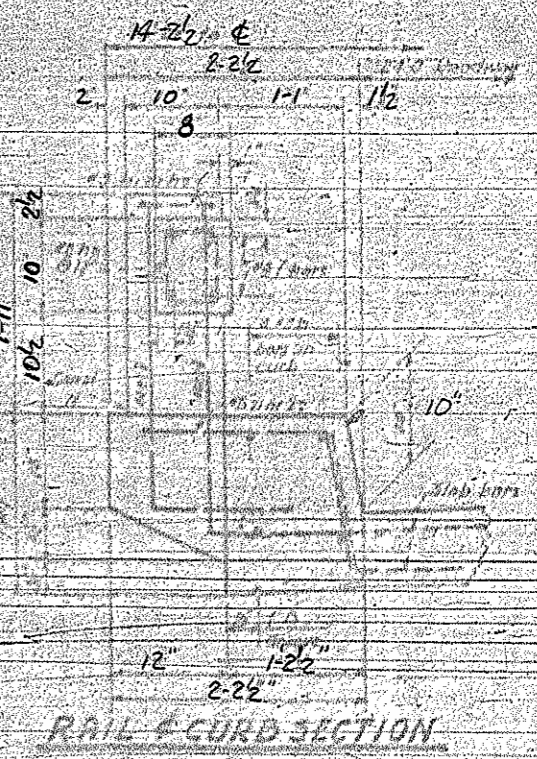
TYPICAL SECTION

12" 2-8#
 7-0" 14-2#
 3-6"

SECTION A-A

SECTION D-D

HALF END ELEVATION



RAIL CURB SECTION

PROJECT NO. 813962
 ROBESON, COMBERLAND COUNTY
 STATION: 141+50 to 141+60
 COUNTY ROAD 98 OAK PROJECT
 STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 PATRICK
 SUPERSTRUCTURE
 TYPICAL SECTIONS
 24' ROADWAY 12' CURBS
 PRESTRESSED CONCRETE BEAMS
 SEPT 1957

DETAIL A **DETAIL B**

DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

END POST SINGLE POSTS INTERMEDIATE DOUBLE POSTS DOUBLE POSTS @ BENTS END POSTS

POST DETAIL 5

15% OF CUTS REINFORCEMENT SHALL BE

NOT
 360' REINFORCEMENT TO BE REINFORCED AT 6" ON CENTER
 48" REINFORCEMENT
 60" REINFORCEMENT
 72" REINFORCEMENT
 84" REINFORCEMENT
 96" REINFORCEMENT
 108" REINFORCEMENT

#5@6"

#5@6"

PROJECT NO. 100-50

COLUMBUS COUNTY

STATION 100+00

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 RALEIGH

CONCRETE PLAN
 SPAN 10.0

REVISIONS		DATE		BY	
NO.	BY	DATE	NO.	BY	DATE
1					
2					

DESIGNED BY	DATE
DRAWN BY	DATE
TRACED BY	DATE
CHECKED BY	DATE

MD. ROAD DIST. NO.	STATE	PROJECT
3	MD.	87356

PR. Project 7-95-710-31

TOP OF CURB ELEVATION 4.00

Width thickness to be increased to meet 2000
spec. for following:

Concrete curb in place	4" x 8"	48
Delivered curbs to be installed	4" x 8"	48
Vertical curb drainage	4"	48

Detail of curb collar
to grade 8.0 top of curb

PROJECT NO. 87356

ROUSELLE-CUMBERLAND COUNTY

STATION 121+00.83, 5+00

COUNTY ROAD - VA - 0100 PROJECT

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

SUPERSTRUCTURE
CONCRETE PLAN
SPAN 5-C-D

NO. 1574

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1			2		
2			3		

DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE

Station	Quantity	Unit
1+00	100	cu yd
1+20	200	cu yd
1+40	300	cu yd
1+60	400	cu yd
1+80	500	cu yd
2+00	600	cu yd
2+20	700	cu yd
2+40	800	cu yd
2+60	900	cu yd
2+80	1000	cu yd
3+00	1100	cu yd
3+20	1200	cu yd
3+40	1300	cu yd
3+60	1400	cu yd
3+80	1500	cu yd
4+00	1600	cu yd
4+20	1700	cu yd
4+40	1800	cu yd
4+60	1900	cu yd
4+80	2000	cu yd
5+00	2100	cu yd
5+20	2200	cu yd
5+40	2300	cu yd
5+60	2400	cu yd
5+80	2500	cu yd
6+00	2600	cu yd
6+20	2700	cu yd
6+40	2800	cu yd
6+60	2900	cu yd
6+80	3000	cu yd
7+00	3100	cu yd
7+20	3200	cu yd
7+40	3300	cu yd
7+60	3400	cu yd
7+80	3500	cu yd
8+00	3600	cu yd
8+20	3700	cu yd
8+40	3800	cu yd
8+60	3900	cu yd
8+80	4000	cu yd
9+00	4100	cu yd
9+20	4200	cu yd
9+40	4300	cu yd
9+60	4400	cu yd
9+80	4500	cu yd
10+00	4600	cu yd
10+20	4700	cu yd
10+40	4800	cu yd
10+60	4900	cu yd
10+80	5000	cu yd
11+00	5100	cu yd
11+20	5200	cu yd
11+40	5300	cu yd
11+60	5400	cu yd
11+80	5500	cu yd
12+00	5600	cu yd
12+20	5700	cu yd
12+40	5800	cu yd
12+60	5900	cu yd
12+80	6000	cu yd
13+00	6100	cu yd
13+20	6200	cu yd
13+40	6300	cu yd
13+60	6400	cu yd
13+80	6500	cu yd
14+00	6600	cu yd
14+20	6700	cu yd
14+40	6800	cu yd
14+60	6900	cu yd
14+80	7000	cu yd
15+00	7100	cu yd
15+20	7200	cu yd
15+40	7300	cu yd
15+60	7400	cu yd
15+80	7500	cu yd
16+00	7600	cu yd
16+20	7700	cu yd
16+40	7800	cu yd
16+60	7900	cu yd
16+80	8000	cu yd
17+00	8100	cu yd
17+20	8200	cu yd
17+40	8300	cu yd
17+60	8400	cu yd
17+80	8500	cu yd
18+00	8600	cu yd
18+20	8700	cu yd
18+40	8800	cu yd
18+60	8900	cu yd
18+80	9000	cu yd
19+00	9100	cu yd
19+20	9200	cu yd
19+40	9300	cu yd
19+60	9400	cu yd
19+80	9500	cu yd
20+00	9600	cu yd
20+20	9700	cu yd
20+40	9800	cu yd
20+60	9900	cu yd
20+80	10000	cu yd

Material	Quantity	Unit
Gravel	2245	cu yd
Crushed Stone	6605	cu yd
Subgrade	1854	cu yd
Base	4750	cu yd
Surf	1750	cu yd

PROJECT NO. 31387

ROSELAND CUMBERLAND COUNTY

STATION 141+50.00

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

DATE OF CONTRACT
DATE OF ESTIMATE

NO.	BY	DATE	BY	DATE	TOTAL SHEETS
1					1

DESIGNED BY _____ DATE _____
 DRAWN BY _____ DATE _____
 CHECKED BY _____ DATE _____

REINFORCING STEEL BAR SCHEDULE

Bar No.	Wt.	Size	Type	Length	Wt. (lb)	Span No. E	Span No. D
0100	414	#5	1	27'-8"	11731	2	30
0101	10	#5	2	23'-8"	264	2	2
0102	20	#5		23'-8"	488	4	4
0103	20	#5		24'-5"	447	4	4
0104	20	#5		19'-6"	407	4	4
0105	20	#5		17'-6"	365	4	4
0106	20	#5		15'-7"	325	4	4
0107	20	#5		13'-7"	283	4	4
0108	20	#5		11'-8"	243	4	4
0109	20	#5		9'-8"	202	4	4
0110	20	#5		7'-9"	162	4	4
0111	20	#5		5'-9"	120	4	4
0112	20	#5		3'-10"	80	4	4
0113	20	#5		2'-0"	30	2	2
0200	419	#5	3	26'-6"	11381	73	91
0201	20	#5	4	22'-7"	492	4	4
0202	20	#5	5	21'-3"	430	4	4
0203	20	#5	6	19'-8"	410	4	4
0204	20	#5	7	17'-8"	368	4	4
0205	20	#5	8	15'-9"	328	4	4
0206	20	#5	9	13'-9"	287	4	4
0207	20	#5	10	11'-10"	247	4	4
0208	20	#5	11	9'-10"	205	4	4
0209	20	#5	12	7'-11"	165	4	4
0210	20	#5	13	5'-11"	123	4	4
0211	20	#5	14	4'-0"	83	4	4
0212	20	#5	15	2'-0"	31	2	2
03	184	#4	17	25'-0"	3073	92	
04	74	#4	6	6'-8"	321	37	
05	8	#4	5	5'-8"	29	4	
06	114	#4	37	20'-3"	3600		120
07	4	#6	31	17'-3"	104	2	
08	4	#6	1	5'-8"	81	3	
09	4	#6	1	2'-6"	75	8	
10	4	#6	1	16'-5"	80	4	
11	4	#6	1	6'-3"	50	6	
12	4	#6	1	2'-0"	15	4	
13	32	#6	16	6'-3"	202	6	6
14	32	#6	17	12'-10"	1056	4	8
15	32	#6	17	9'-8"	420	4	8
16	80	#4	23	8'-8"	371	18	18
17	100	#4	23	4'-8"	489	20	40
18	224	#4	6	3'-8"	123	40	40
19	220	#4	6	4'-5"	476	40	40
20	4	#5	11	6'-8"	10	8	
21	108	#5	11	2'-10"	111	16	24
22	500	#5	11	27'-0"	232	100	120
23	4	#5	12	8'-8"	34	8	
24	104	#5	12	6'-8"	673	16	24
25	8	#5	14	11'-4"	33	4	
26	8	#5	14	11'-5"	38	4	
27	16	#5	14	15'-5"	105	8	
28	16	#5	14	15'-8"	168	8	
29	20	#5	14	19'-1"	203	8	32

SUPPLEMENTAL QUANTITIES

Span A Diaphragm	2815	CY
Reinforcing Steel	46085	lbs
45' Diaphragm Core Slab		
5' x 48'-0"	389'-4"	LF
12' x 37'-0"	448'-0"	LF
TOTAL	1071'-4"	LF

PROJECT NO. 913962
 CAROLINA-CUMBERLAND COUNTY
 STATION 141+80.832 ELEV
 COUNTY ROAD 16 OVER FOREST
 STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 RALEIGH
 SUPPLEMENTAL
 BILL OF MATERIALS

NOV 14 '78

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			2			TOTAL SHEETS 20
2			3			

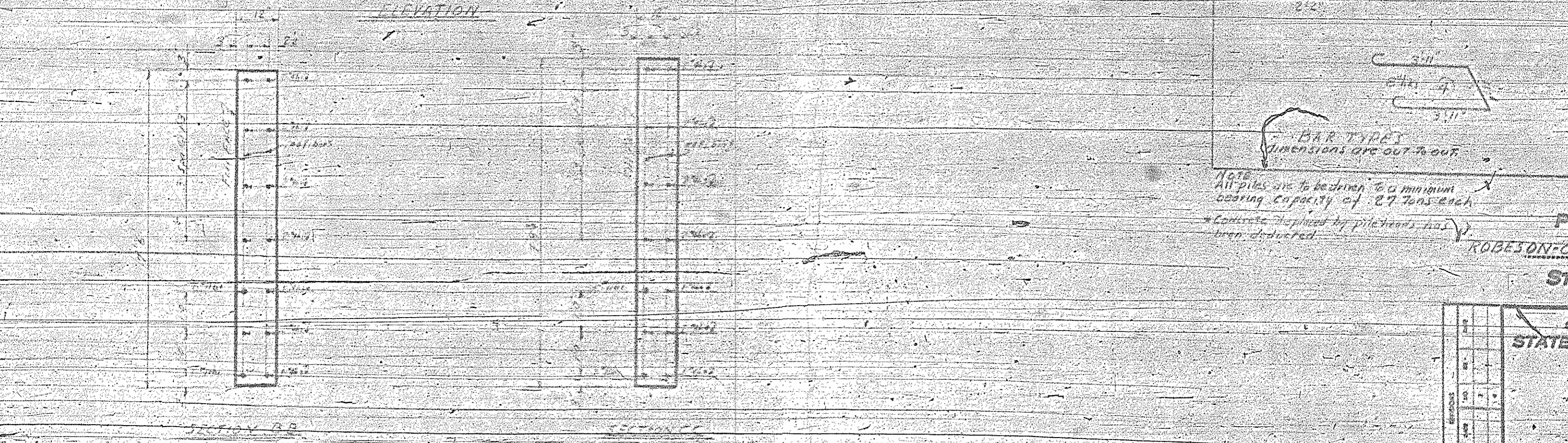
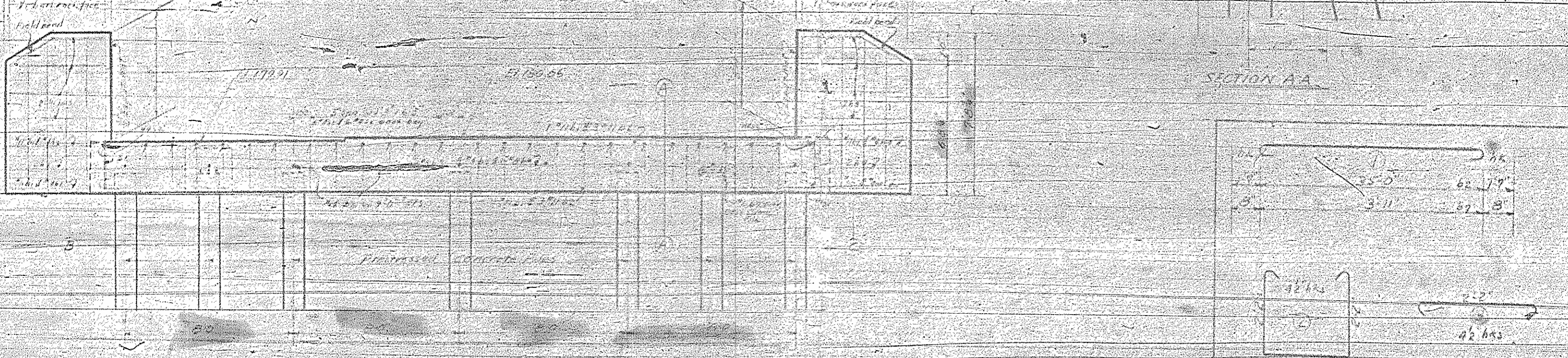
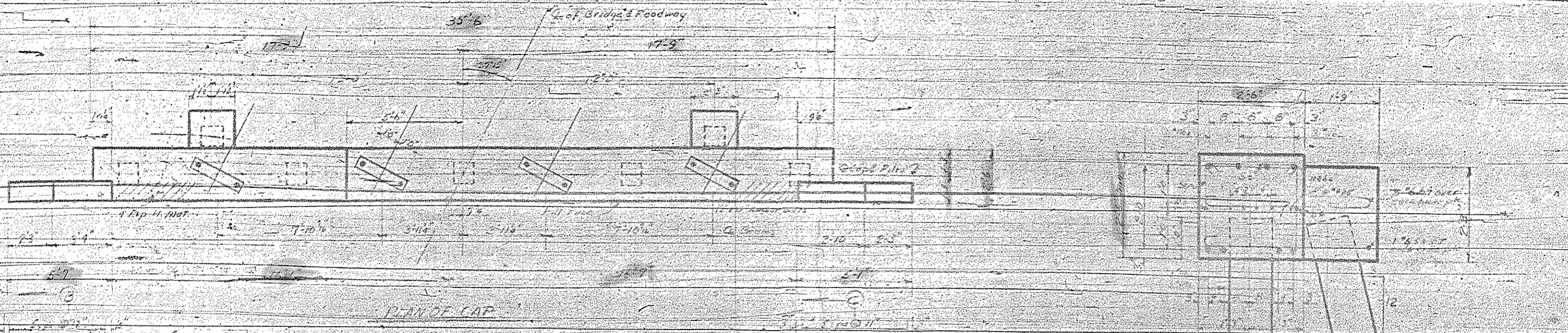
DESIGNED BY _____ DATE _____
 DRAWN BY _____ DATE _____
 CHECKED BY _____ DATE _____

BILL OF MATERIAL

FOR ONE END BENT-TWO REG.

BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
61	2	#11	STR.	42'10"	555
62	6	#11	1	38'2"	1217
63	1	#8	STR.	42'10"	114
64	1	#8	STR.	35'-0"	92
65	8	#8	STR.	18'3"	97
66	9	#8	STR.	2'-2"	13
67	6	#8	1	5'-3"	47
68	8	#4	STR.	5'-3"	28
69	4	#4	STR.	5'-8"	15
70	8	#4	STR.	4'-9"	25
71	4	#4	STR.	4'-6"	12
72	12	#4	STR.	6'-2"	51
73	12	#4	STR.	7'-9"	59
74	26	#4	2	7'-3"	166
75	26	#4	3	2'-11"	51
76	2	#6	4	11'-1"	33

Reinf. Steel 263 2463
 Class A core 64 116
 12 Prestressed concrete piles No. 7
 12 Prestressed concrete piles L.A. 210

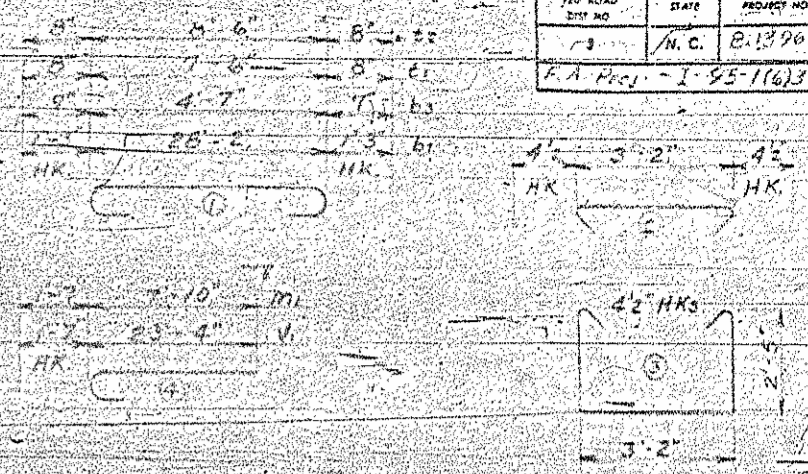


BAR TYPES
 DIMENSIONS ARE OUT TO OUT

All piles are to be driven to a minimum bearing capacity of 27 tons each
 Concrete tapered by pilehead has been deducted

PROJECT NO. 513962
 ROBEYSON-CUMBERLAND COUNTY
 STATION: 1417.90.63.1.1

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 SUBSTRUCTURE
 END BENTS NO. 1 & 2
 NOV. 1950



Bent 3 - El. 181.10
Bent 4 - El. 180.71

Bent 2 - El. 181.04
Bent 4 - El. 180.95

PLAN OF CAP - BENT 3 or 4
(All dimensions not shown are same as Bents 1 or 2)

All bar dimensions are out to cut

CAP TYPES

BILL OF MATERIAL

Bar No.	Size	TYPE	Length	Weight
6	3	#2	30'-8"	56
8	#1	Str.	28'-2"	11.97
9	2	#5	9	72
10	3	#4	8'-5"	210
11	2	#4	3'-11"	52
12	1	#4	9'-5"	200
13	1	#4	24'-11"	RTTB
14	2	#6	8'-10"	318
15	2	#6	9'-10"	325

BENT 1 or 4
 Reinforcing Steel: 210 LBS
 Class A Concrete: 22.3 CY
 Unclassified Str. #5: 20 CY

BENT 2 or 3
 Reinforcing Steel: 113 LBS
 Class A Concrete: 22.3 CY
 Unclassified Str. #5: 20 CY

NOTES

Steel in top of Cap may be
 shifted to clear Anchor Bolts.
 Computed Foundation Pressure
 equals 2.2 tons per square foot.

PROJECT NO. 813962

RAISON CUMBERLAND COUNTY

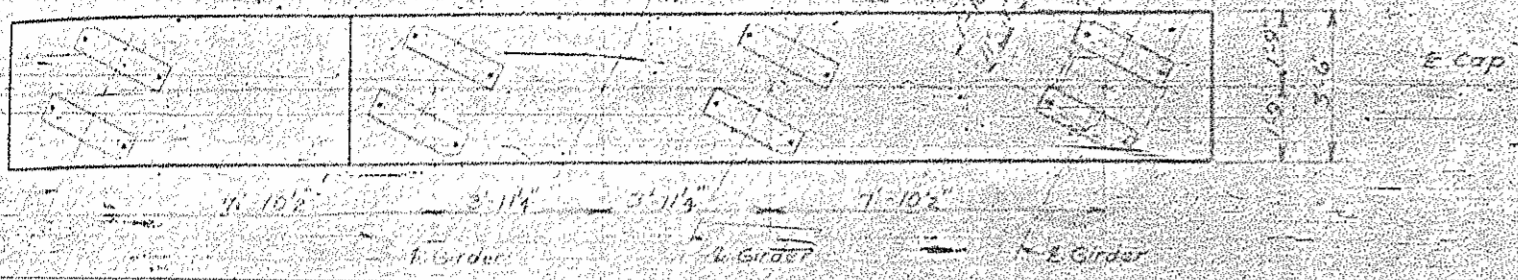
STATION: 41+90.42 - L1

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

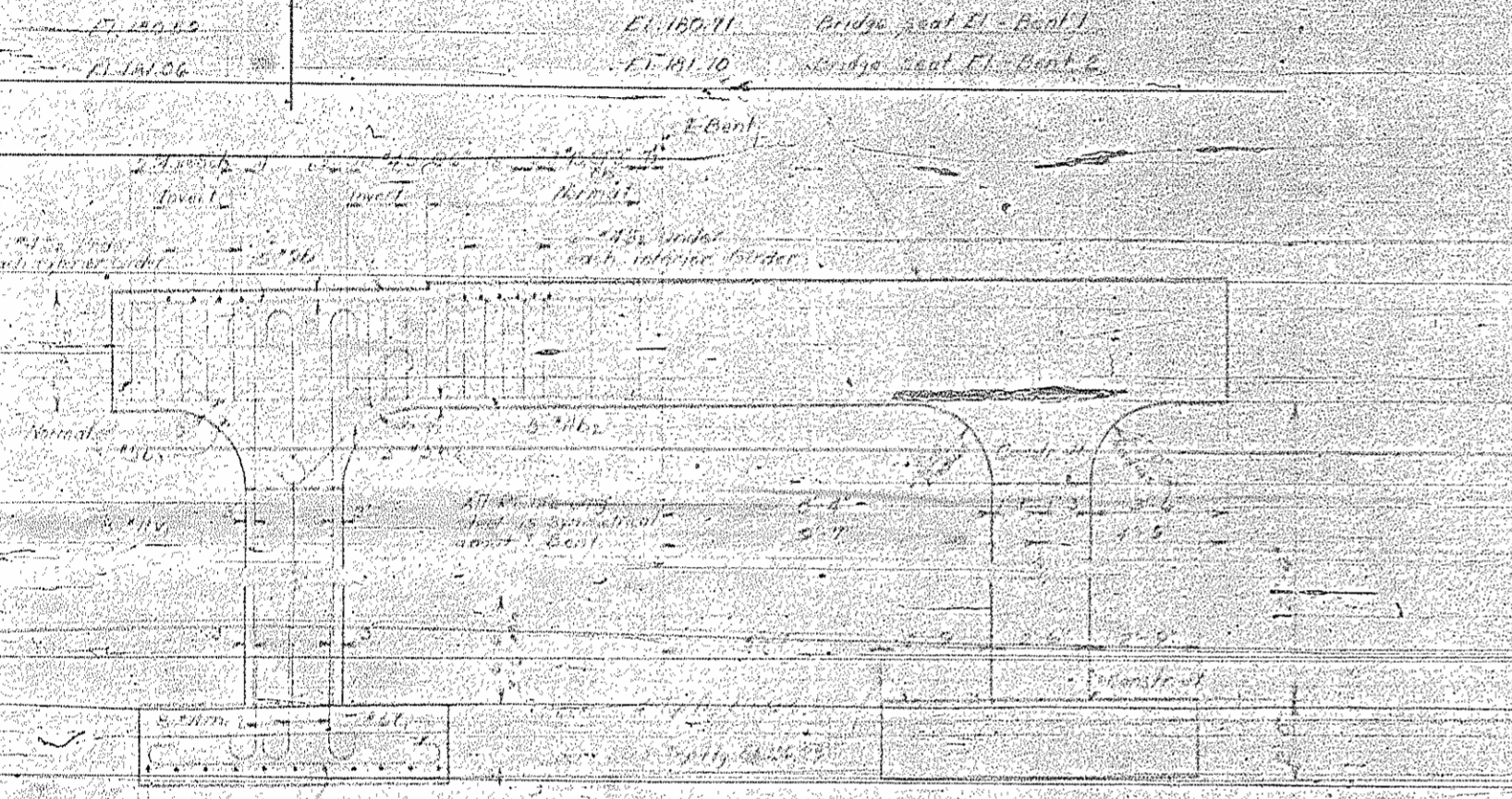
BENTS 1, 2, 3, or 4

MAY 1948

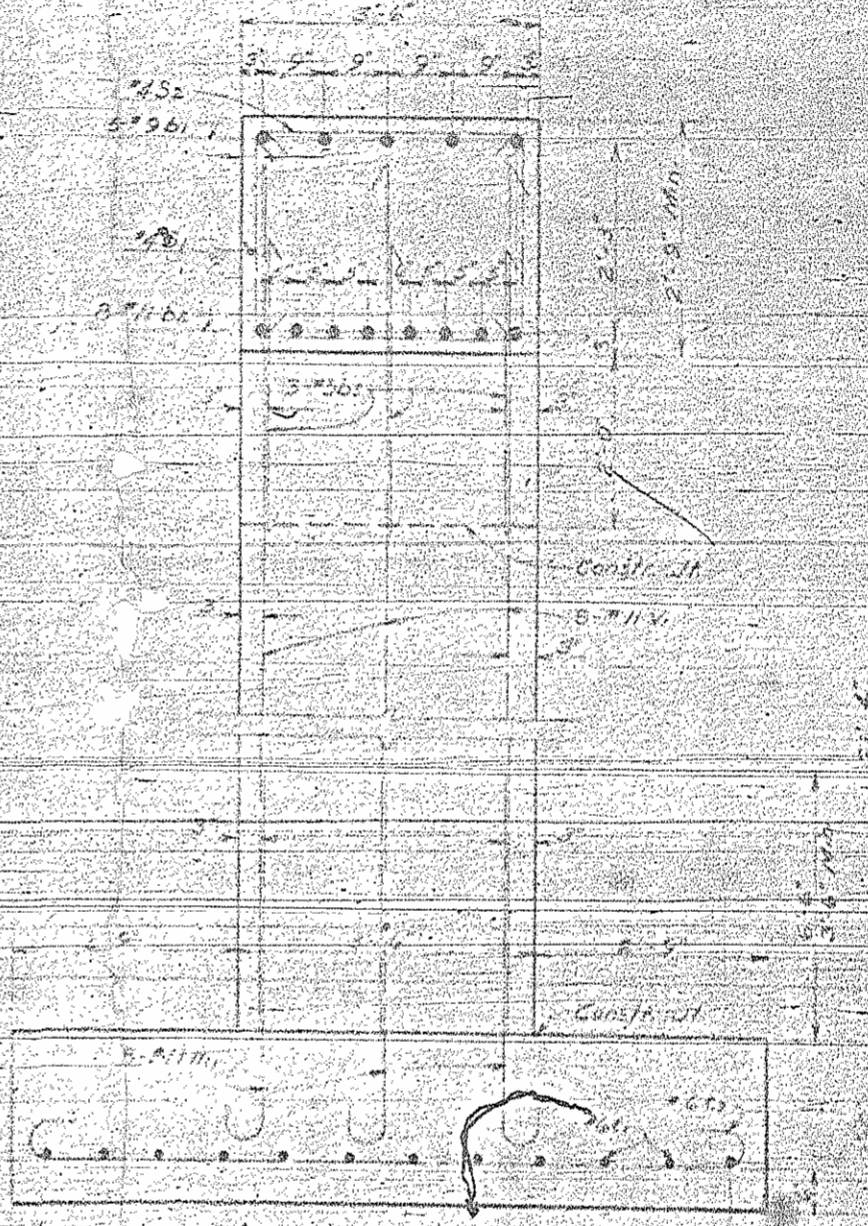
5-25
 93



PLAN OF CAP - BENT 1 or 2



ELEVATION



SECTION AA

PLAN OF FOOTINGS



DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

Handwritten signatures and initials, including 'R. R. C. 2' and other scribbles.