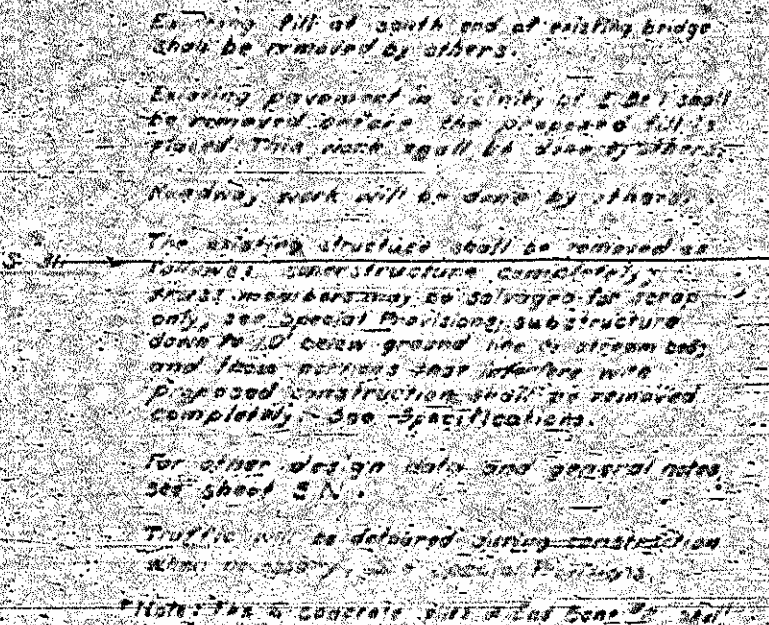
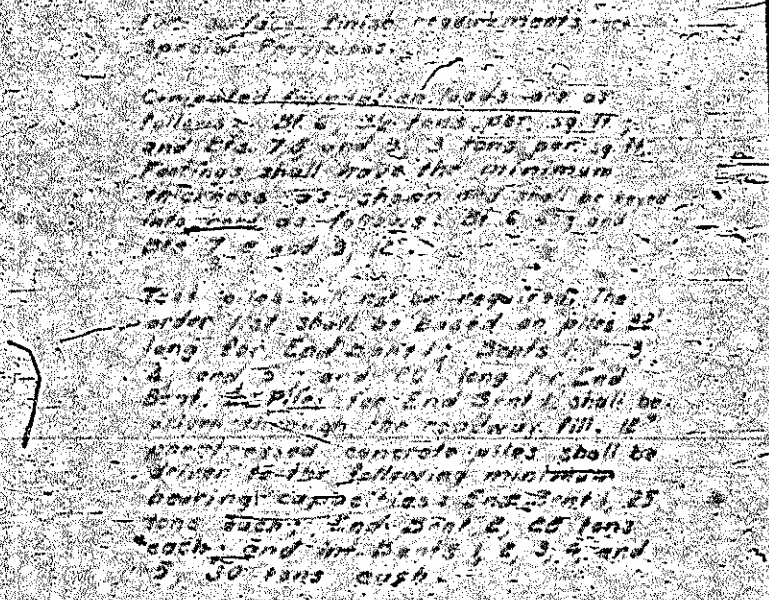
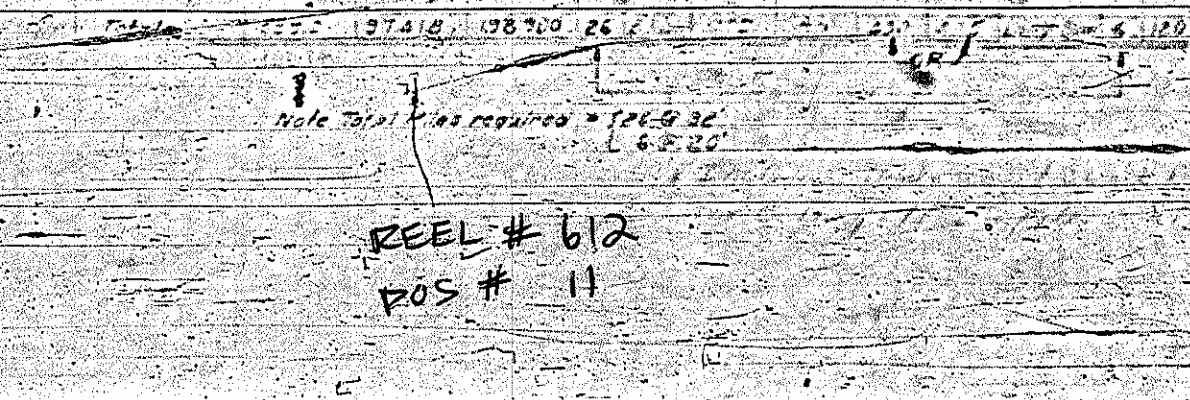




be furnished by the contractor but will be agreed by the Illinois & North Western Railway Co. without cost to the contractor. The contractor shall notify the Chief Engineer, N.W.R. Co. Chicago, Ill. not less than 20 days before the piers are to be delivered. The Railway Company will waive penalties as to piers as is practical after being notified that they are ready, but the contractor shall have no claim whatsoever because of any delay which may result as a result of the pile driving operations.

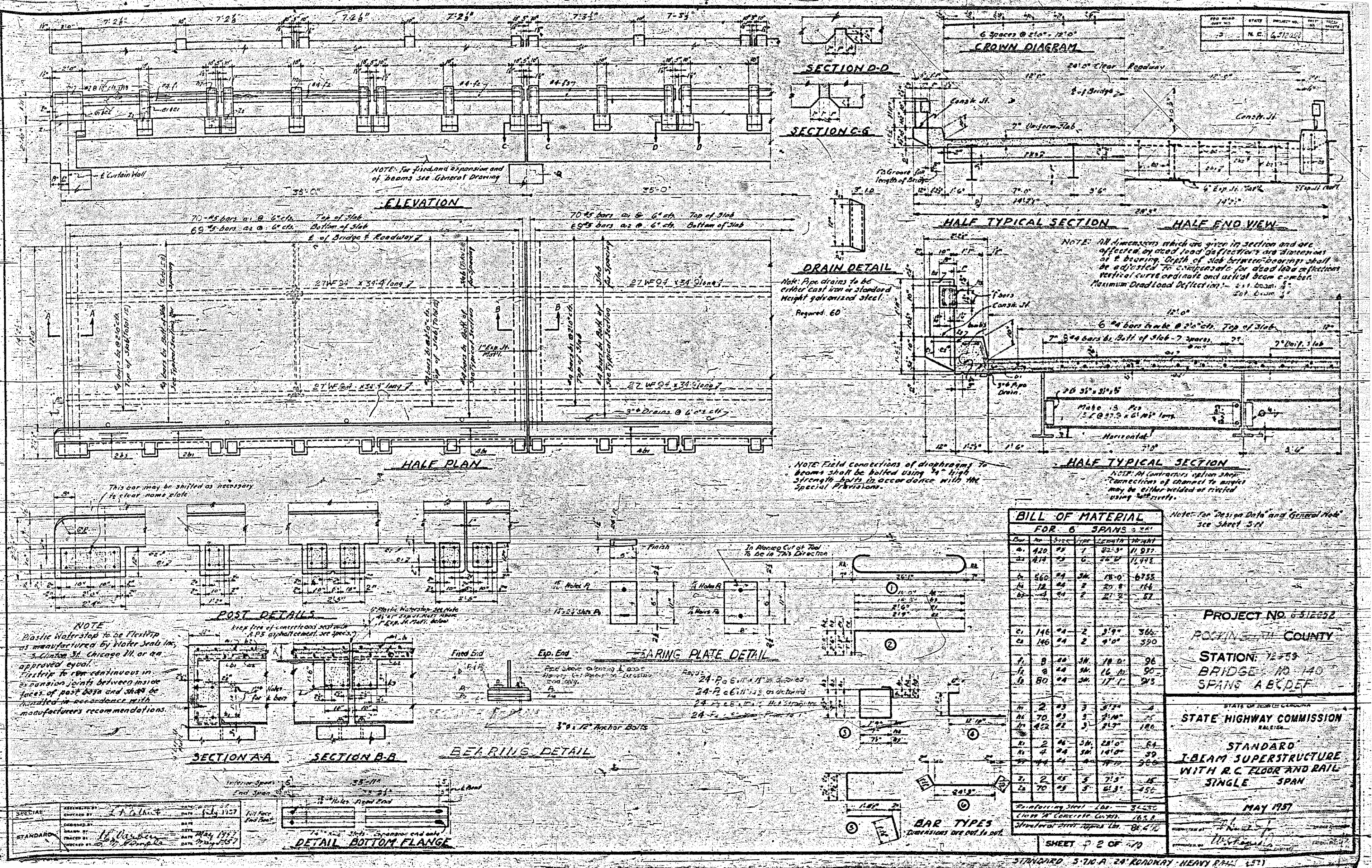
ROCKINGHAM
BRIDGE # 140

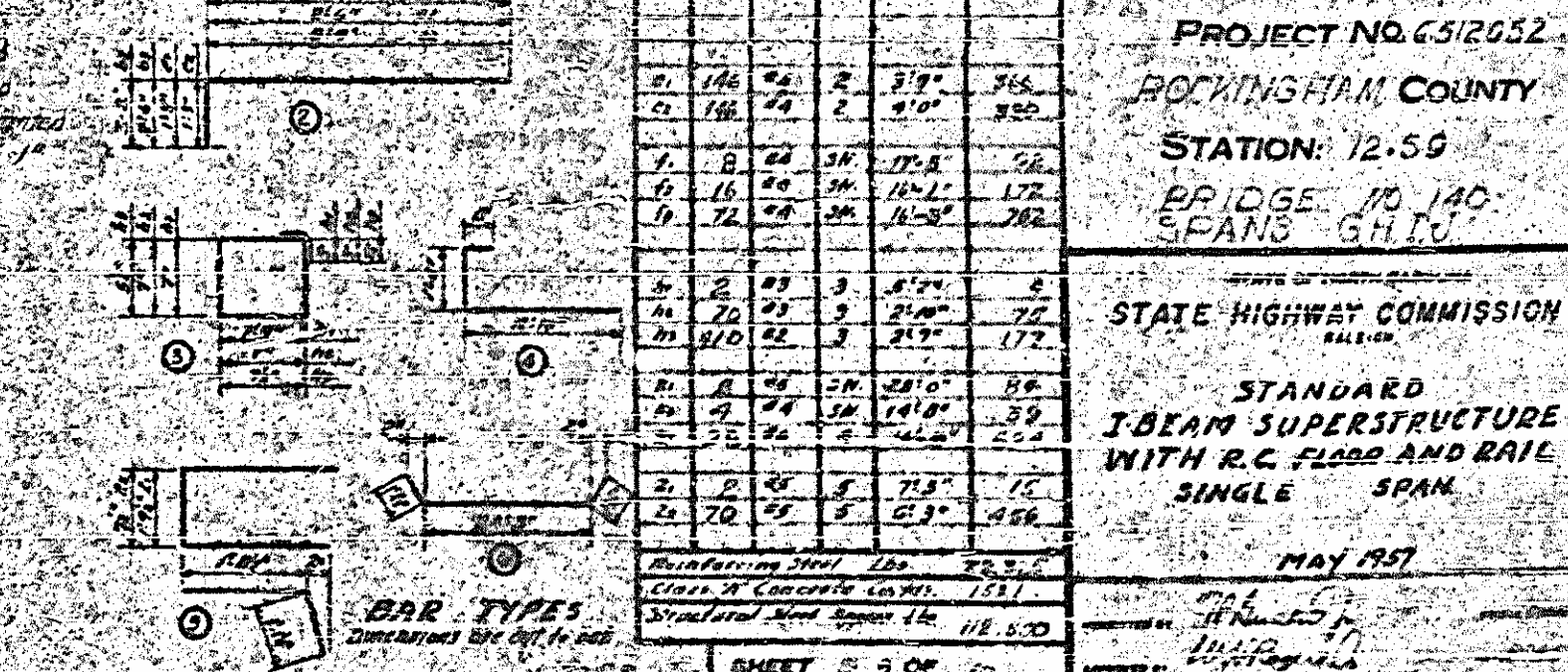
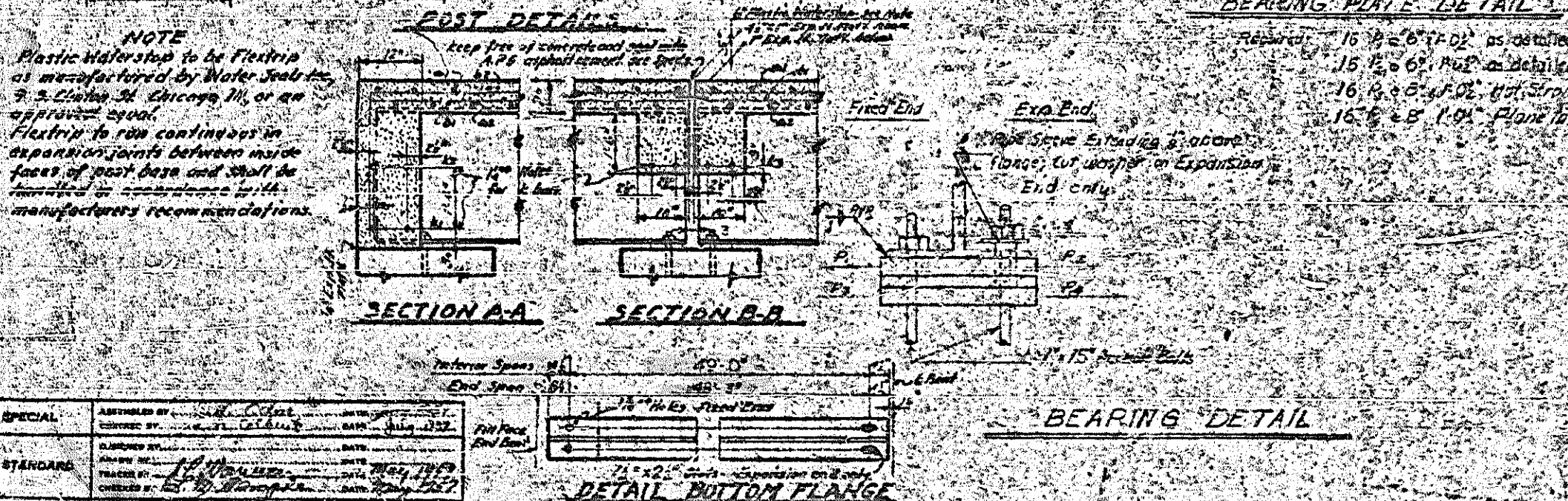
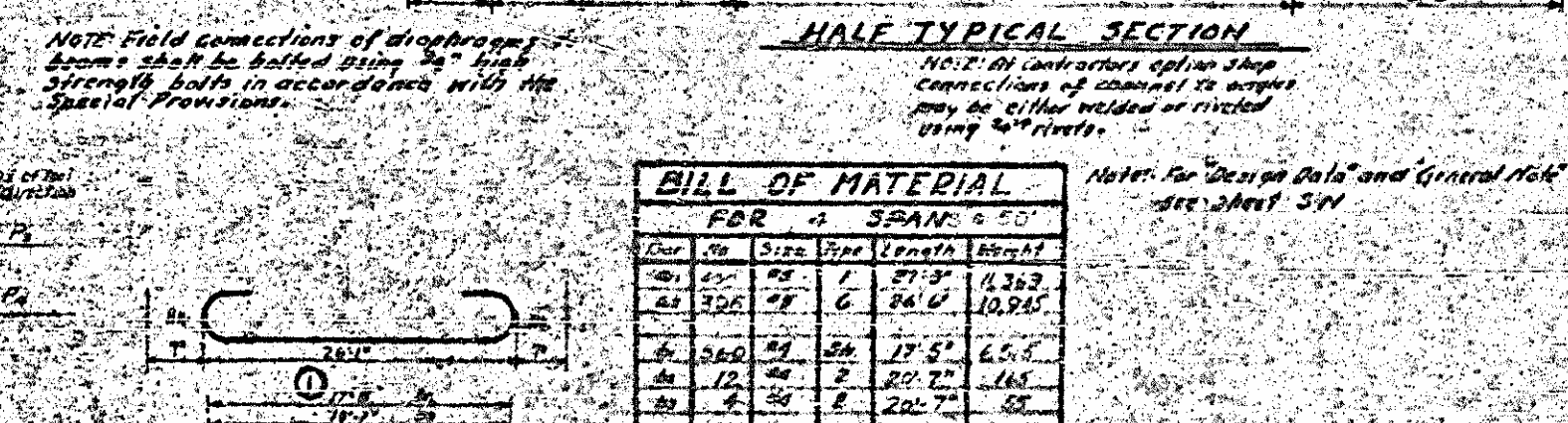
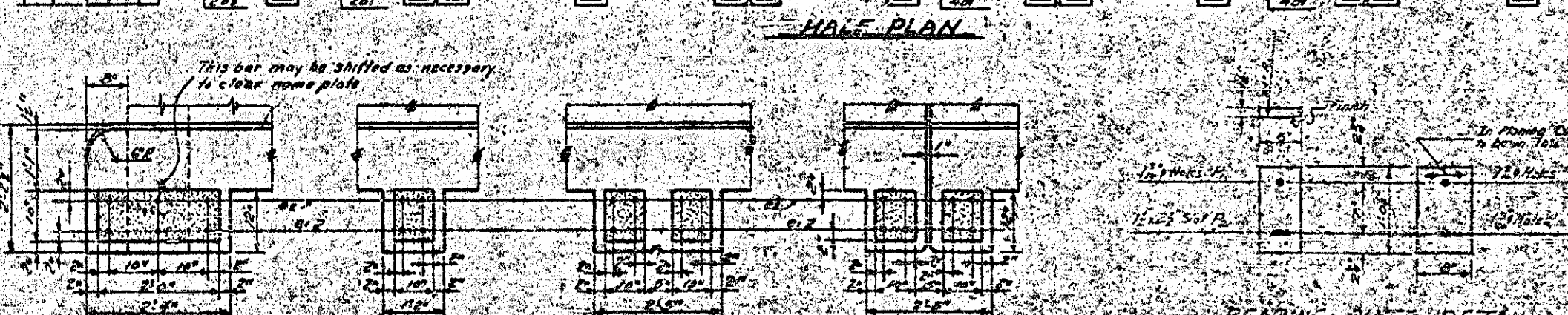
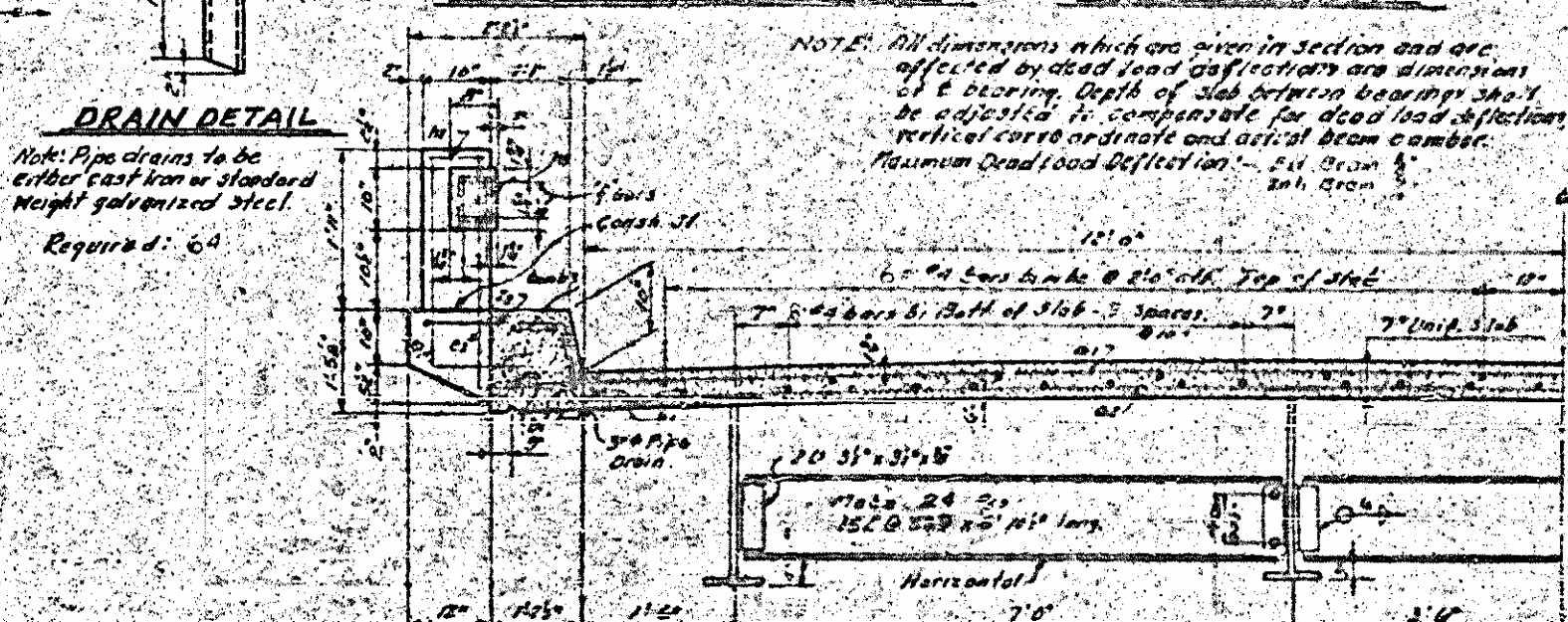
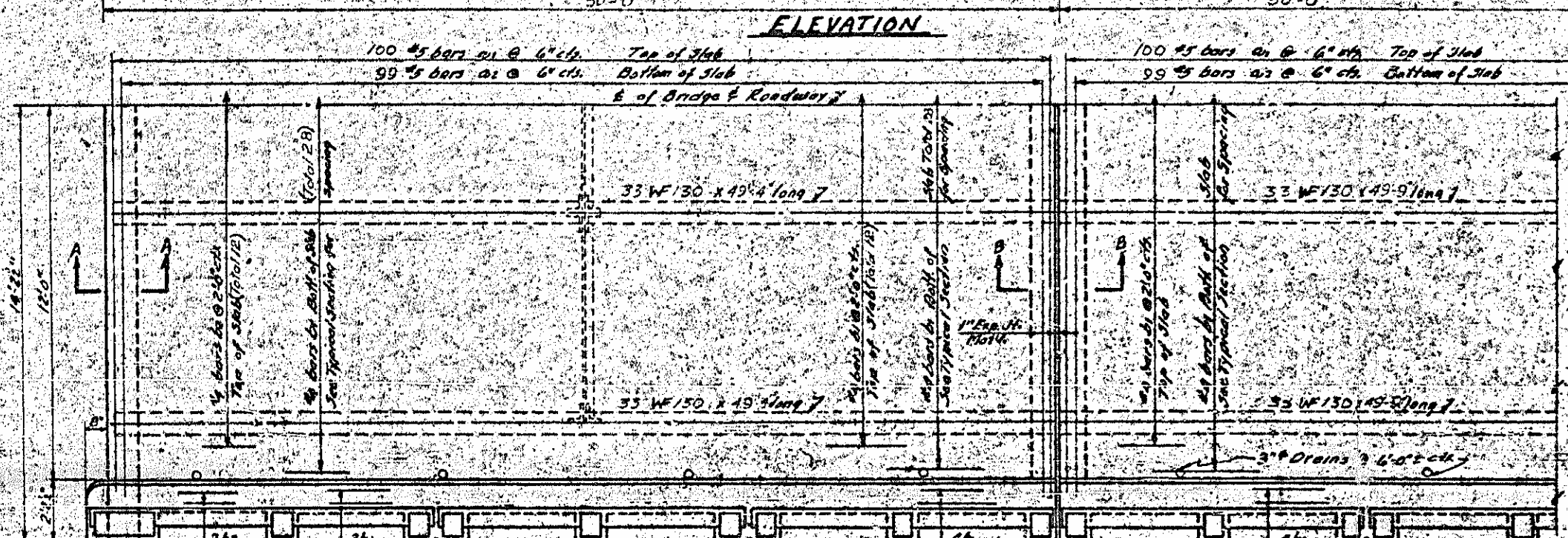
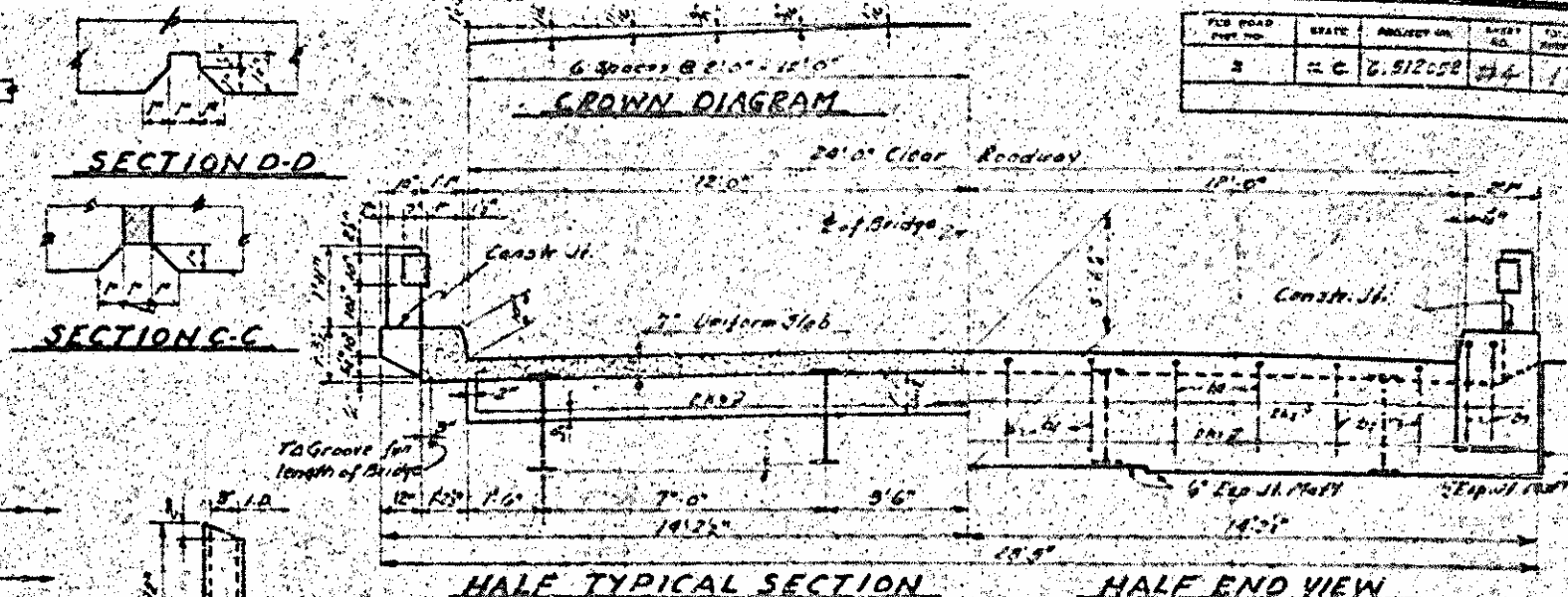
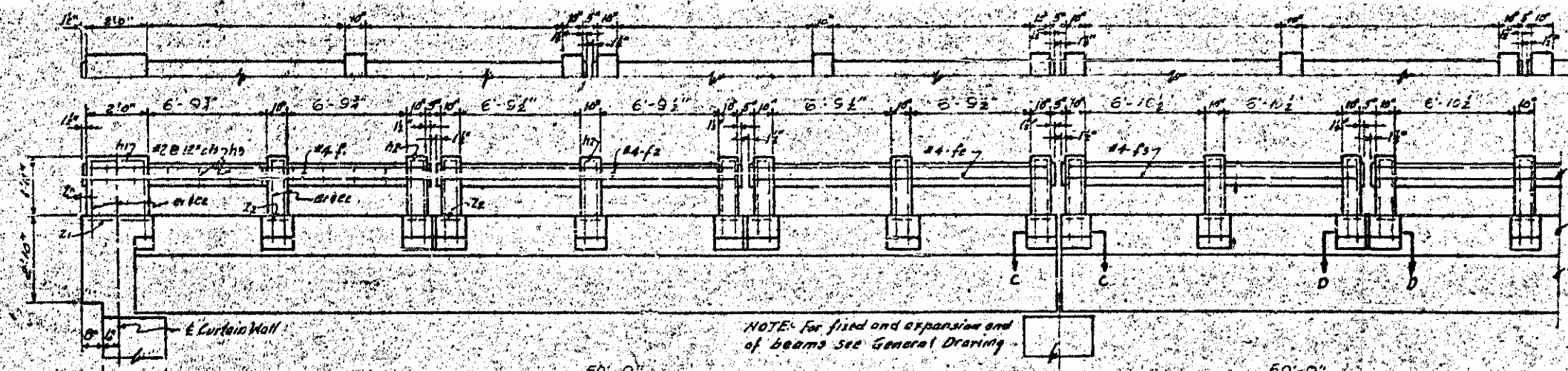
ROCKINGHAM COUNTY
STATION:



REEL # 612
POS # 11

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





PROJECT NO. 6512052

ROCKINGHAM COUNTY

STATION: 12.59

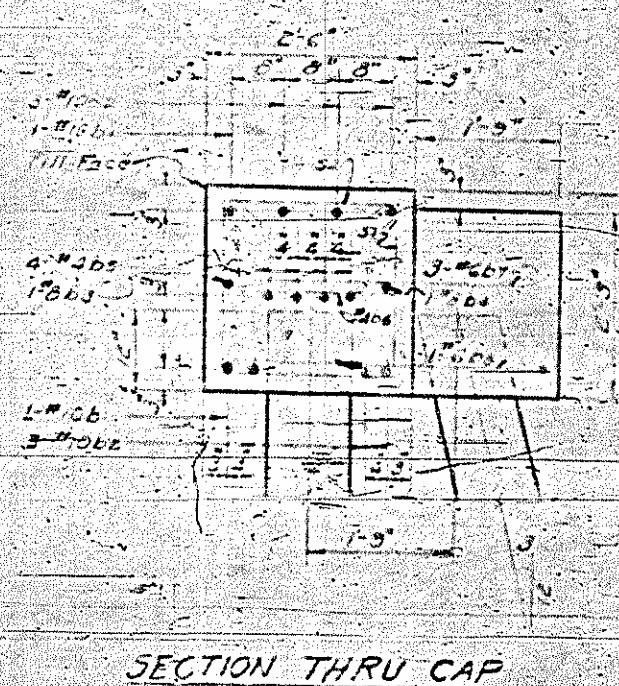
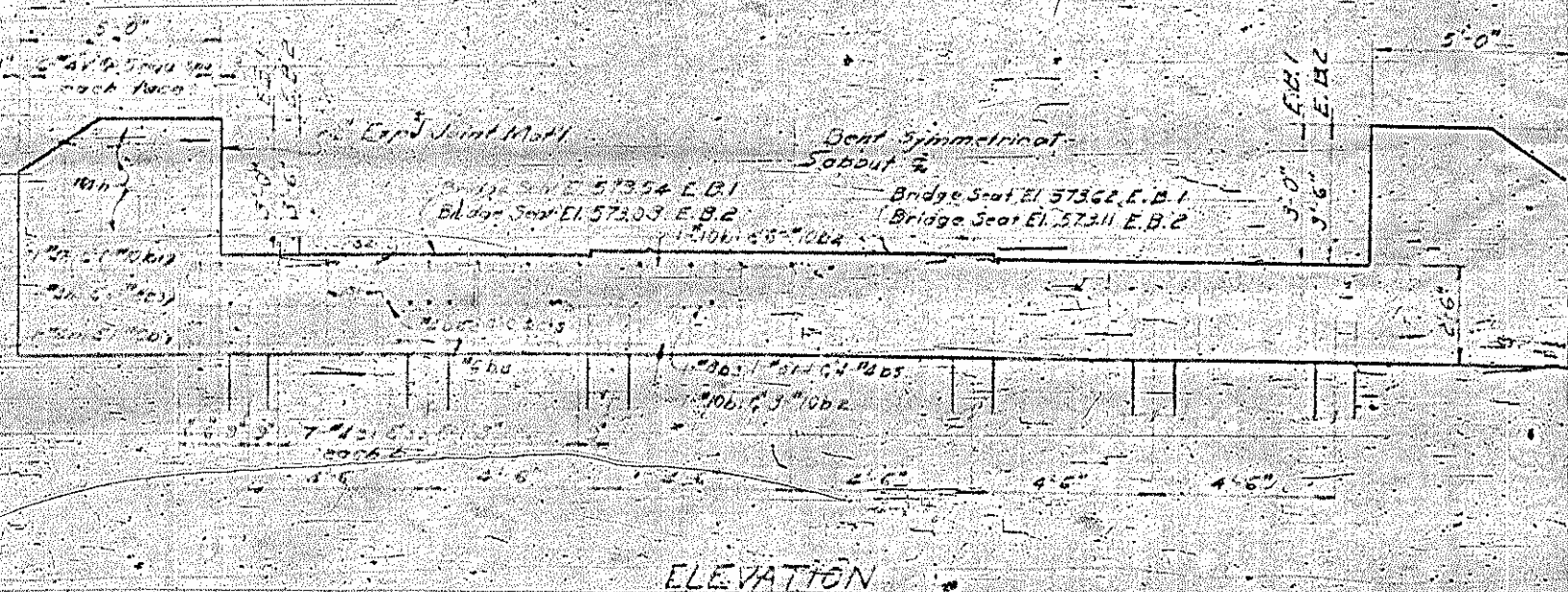
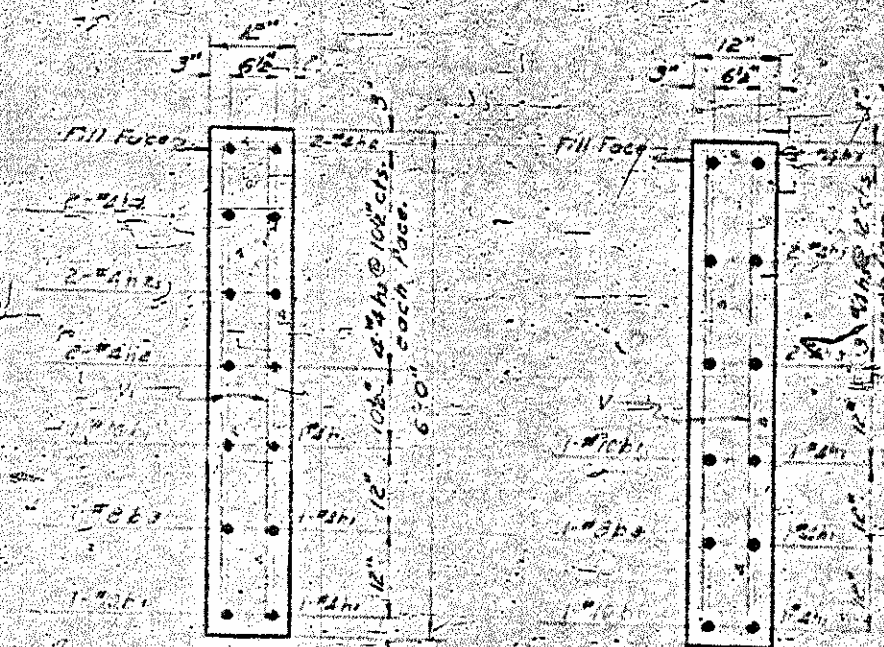
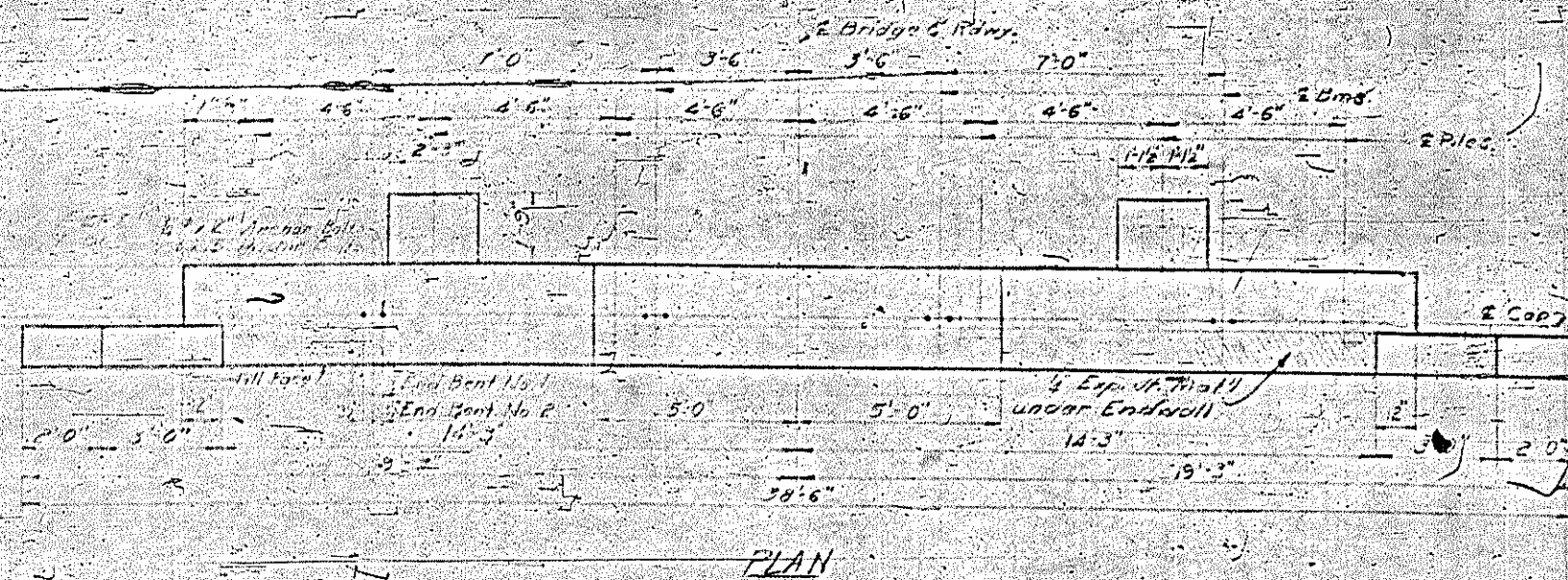
BRIDGE NO. 140

SPANS 651.0'

STATE HIGHWAY COMMISSION

STANDARD I-BEAM SUPERSTRUCTURE WITH R.C. FLOOR AND RAIL SINGLE SPAN

MAY 1957



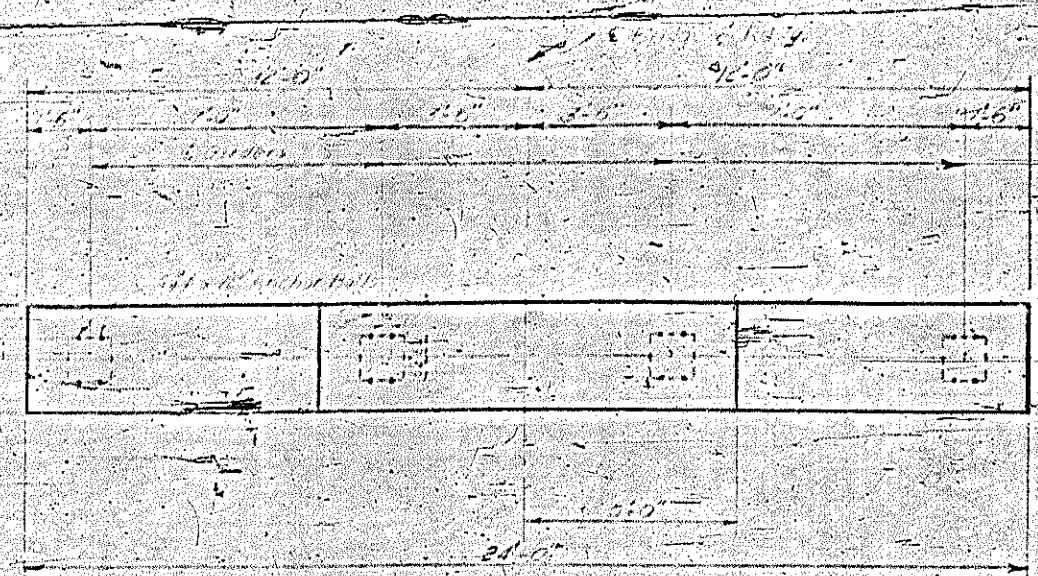
BILL OF MATERIAL						
FOR ONE END BENT - TWO REQD						
57r	10	57r	10	10.5r	10.5r	10.5r
b1	6	6	6	3	3	3
b2	6	6	6	3	3	3
b3	6	6	6	3	3	3
b4	6	6	6	3	3	3
b5	6	6	6	3	3	3
b6	6	6	6	3	3	3
b7	6	6	6	3	3	3
b8	6	6	6	3	3	3
b9	6	6	6	3	3	3
b10	6	6	6	3	3	3
b11	6	6	6	3	3	3
b12	6	6	6	3	3	3
b13	6	6	6	3	3	3
b14	6	6	6	3	3	3
b15	6	6	6	3	3	3
b16	6	6	6	3	3	3
b17	6	6	6	3	3	3
b18	6	6	6	3	3	3
b19	6	6	6	3	3	3
b20	6	6	6	3	3	3
b21	6	6	6	3	3	3
b22	6	6	6	3	3	3
b23	6	6	6	3	3	3
b24	6	6	6	3	3	3
b25	6	6	6	3	3	3
b26	6	6	6	3	3	3
b27	6	6	6	3	3	3
b28	6	6	6	3	3	3
b29	6	6	6	3	3	3
b30	6	6	6	3	3	3
b31	6	6	6	3	3	3
b32	6	6	6	3	3	3
b33	6	6	6	3	3	3
b34	6	6	6	3	3	3
b35	6	6	6	3	3	3
b36	6	6	6	3	3	3
b37	6	6	6	3	3	3
b38	6	6	6	3	3	3
b39	6	6	6	3	3	3
b40	6	6	6	3	3	3
b41	6	6	6	3	3	3
b42	6	6	6	3	3	3
b43	6	6	6	3	3	3
b44	6	6	6	3	3	3
b45	6	6	6	3	3	3
b46	6	6	6	3	3	3
b47	6	6	6	3	3	3
b48	6	6	6	3	3	3
b49	6	6	6	3	3	3
b50	6	6	6	3	3	3
b51	6	6	6	3	3	3
b52	6	6	6	3	3	3
b53	6	6	6	3	3	3
b54	6	6	6	3	3	3
b55	6	6	6	3	3	3
b56	6	6	6	3	3	3
b57	6	6	6	3	3	3
b58	6	6	6	3	3	3
b59	6	6	6	3	3	3
b60	6	6	6	3	3	3
b61	6	6	6	3	3	3
b62	6	6	6	3	3	3
b63	6	6	6	3	3	3
b64	6	6	6	3	3	3
b65	6	6	6	3	3	3
b66	6	6	6	3	3	3
b67	6	6	6	3	3	3
b68	6	6	6	3	3	3
b69	6	6	6	3	3	3
b70	6	6	6	3	3	3

BAR TYPES - 3
DIMENSIONS ARE OUT TO OUT

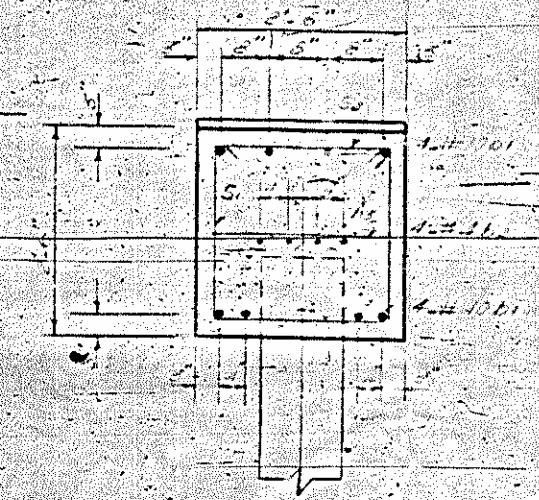
PROJECT NO. 6512052
BIRMINGHAM COUNTY
STATION: 12 + 59

STATE OF NORTH CAROLINA
STATE HIGHWAY

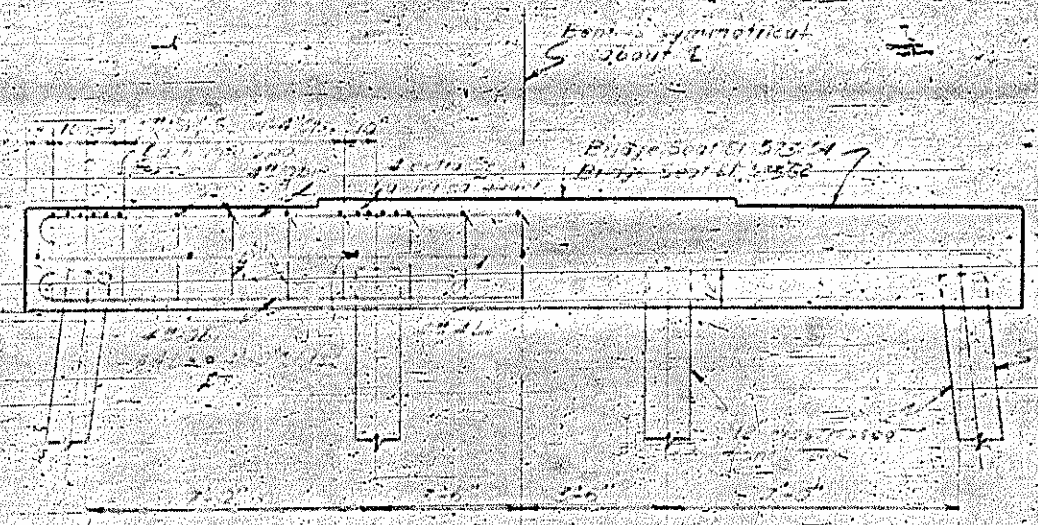
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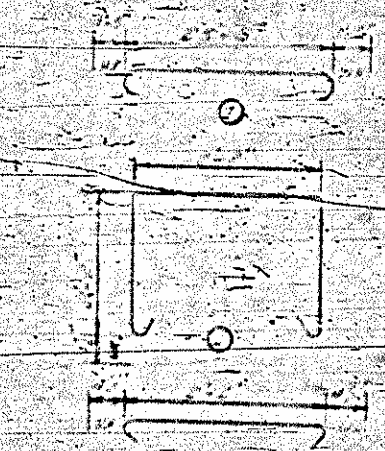
PLAN
CENT. LINE



SECTION THE DECK



PLAN
CENT. LINE



CROSS SECTION
FOR DIMENSIONS SEE PLAN

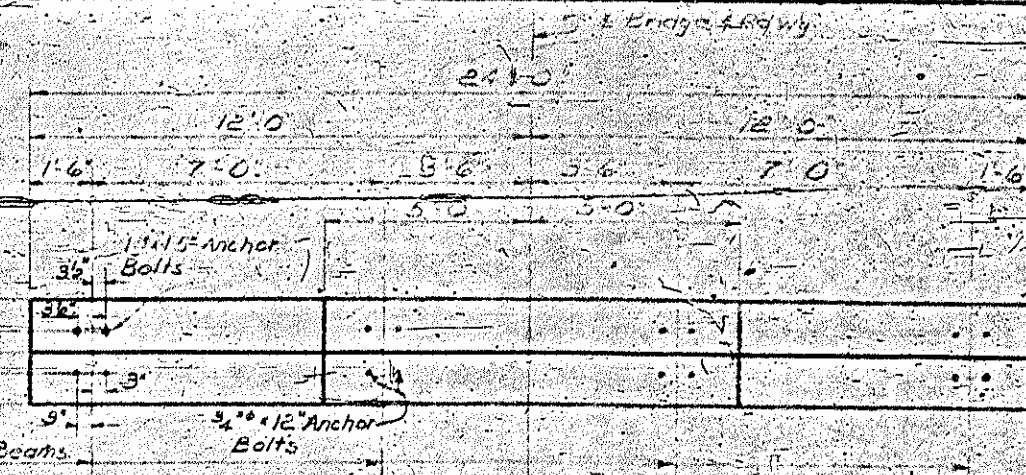
ESTIMATE MATERIAL					
ITEM	UNIT	QUANTITY	UNIT PRICE	AMOUNT	REMARKS
Concrete	cu yd	10.00	1.50	15.00	
Reinforcement	lb	1000.00	0.10	100.00	
Formwork	sq ft	1000.00	0.05	50.00	
Paint	gal	10.00	0.50	5.00	
Other					
Total				250.00	

Note: Quantities shown are for the bridge deck only. Quantities for the abutments and piers are shown on separate sheets.

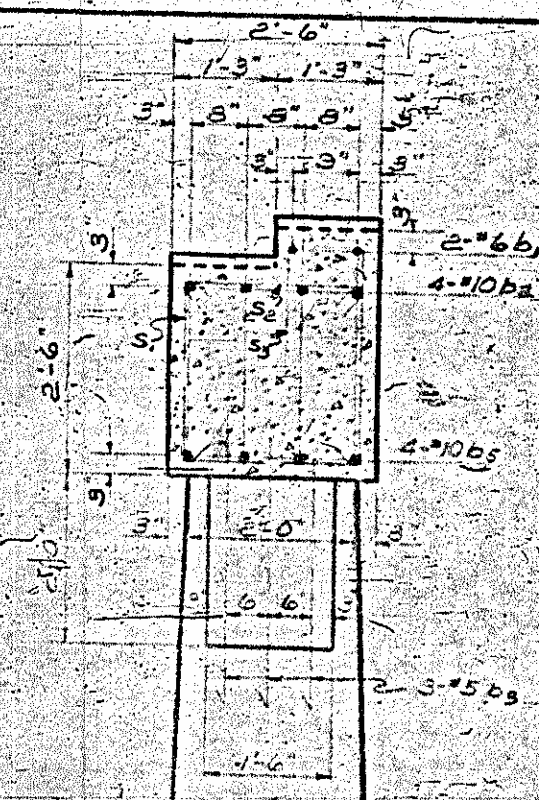
PROJECT NO. 6.512052
COUNTY

STATION: 7+1.5

STATE OF NORTH CAROLINA
STATE HIGHWAY
COMMISSION
SUBSTRUCTURE
BRIDGE
SECTION
DATE
BY
CHECKED BY
APPROVED BY



PLAN



SECTION A-A

BAR TYPES
All dimensions are cut to out.

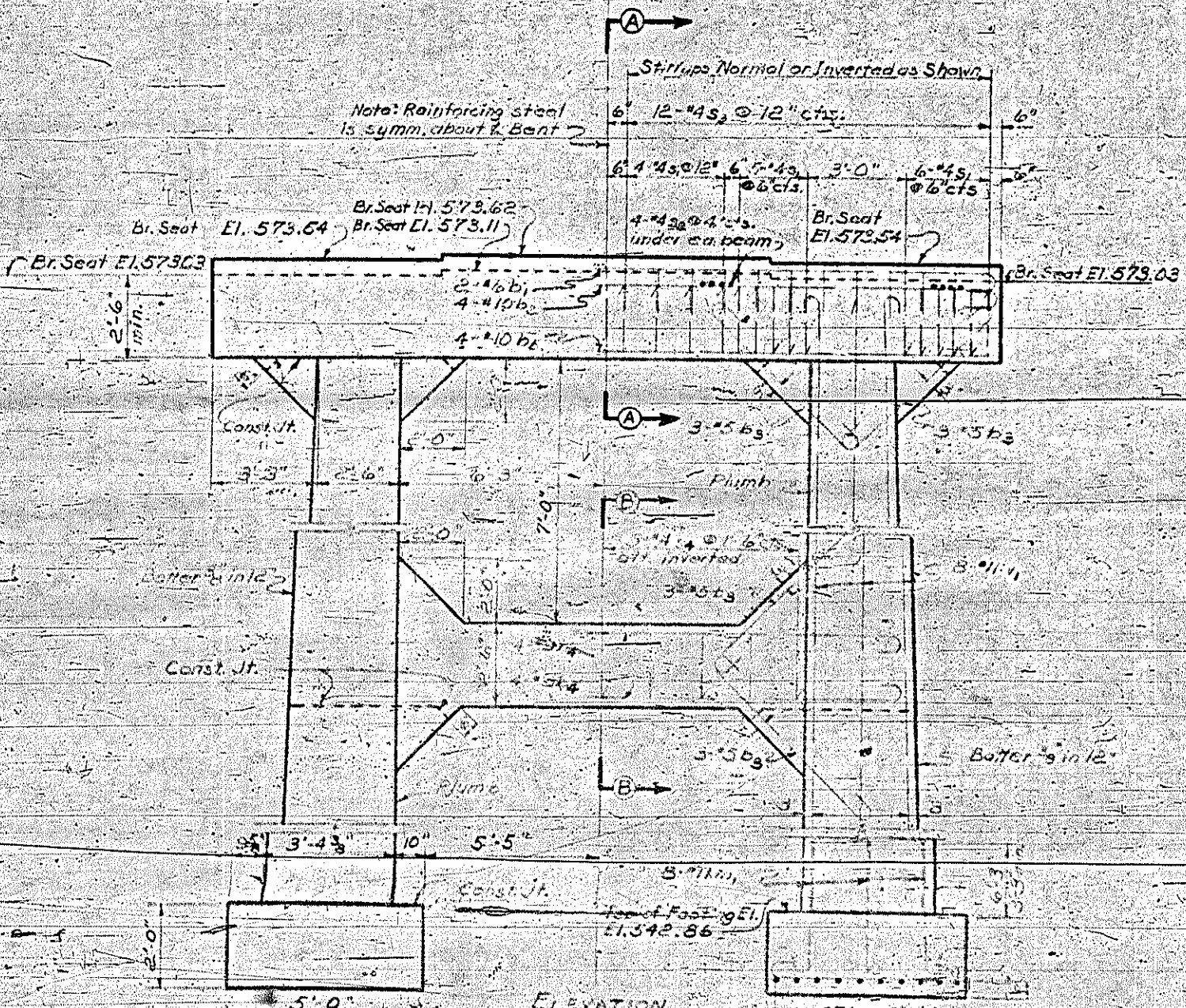
Bar	No.	Size	Type	Length	Weight
b1	2	#6	1	25'0"	75
b2	2	#10	1	26'6"	135
b3	24	#5	1	7'0"	175
b4	8	#9	1	20'4"	250
b5	4	#10	Str	23'8"	407
m1	16	#11	3	3'3"	786
s1	30	#4	2	7'3"	145
s2	16	#4	4	2'11"	31
s3	24	#4	5	3'11"	63
s4	6	#4	2	6'9"	41
r1	16	#4	1	5'6"	59
ra	20	#5	1	8'2"	177
v1	16	#11	3	31'0"	2455

Reinforcing Steel, Class A Concrete, Load 25.2, Curves 12.4

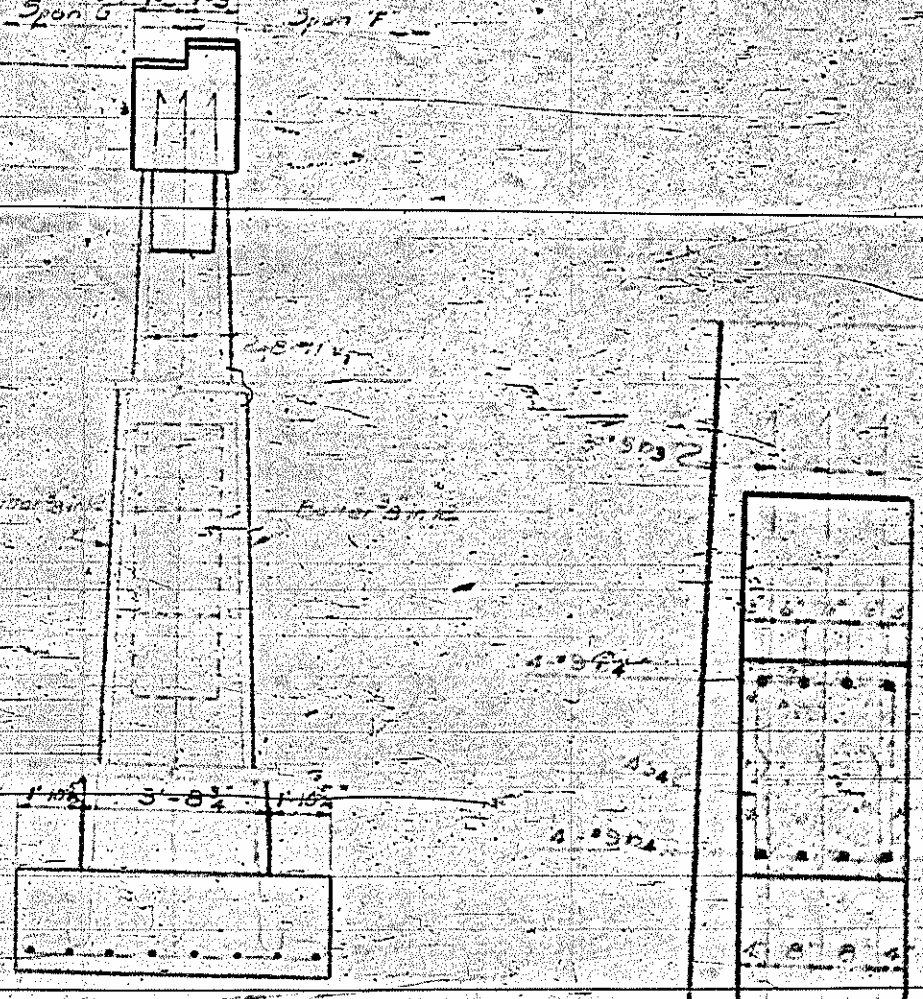
BILL OF MATERIAL
FOR ONE BENT - 1 FEED

Bar	No.	Size	Type	Length	Weight
b1	2	#6	1	25'0"	75
b2	2	#10	1	26'6"	135
b3	24	#5	1	7'0"	175
b4	8	#9	1	20'4"	250
b5	4	#10	Str	23'8"	407
m1	16	#11	3	3'3"	786
s1	30	#4	2	7'3"	145
s2	16	#4	4	2'11"	31
s3	24	#4	5	3'11"	63
s4	6	#4	2	6'9"	41
r1	16	#4	1	5'6"	59
ra	20	#5	1	8'2"	177
v1	16	#11	3	31'0"	2455

Reinforcing Steel, Class A Concrete, Load 25.2, Curves 12.4



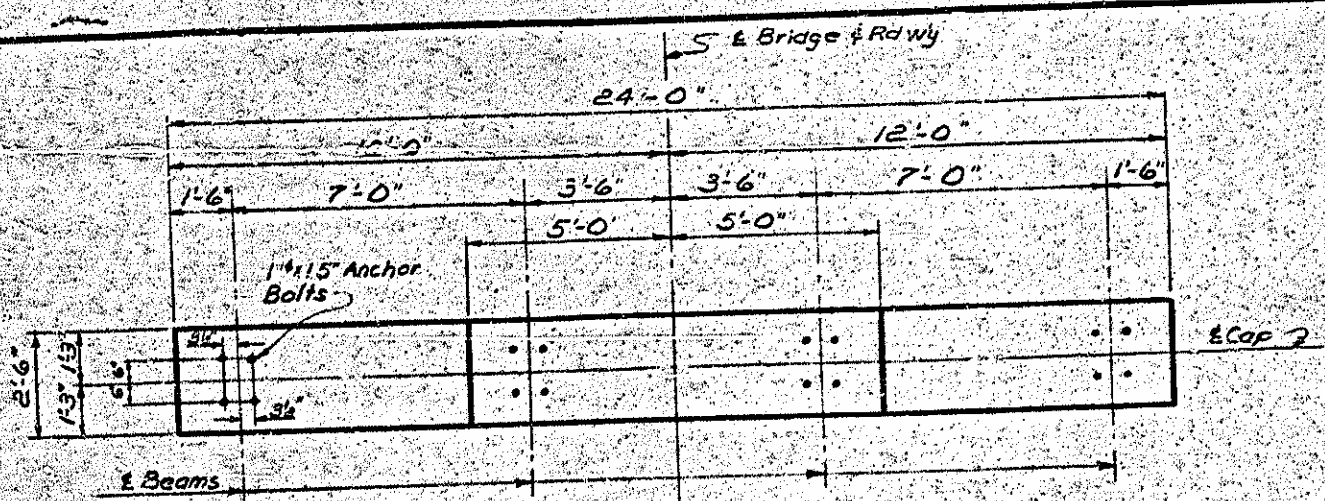
ELEVATION



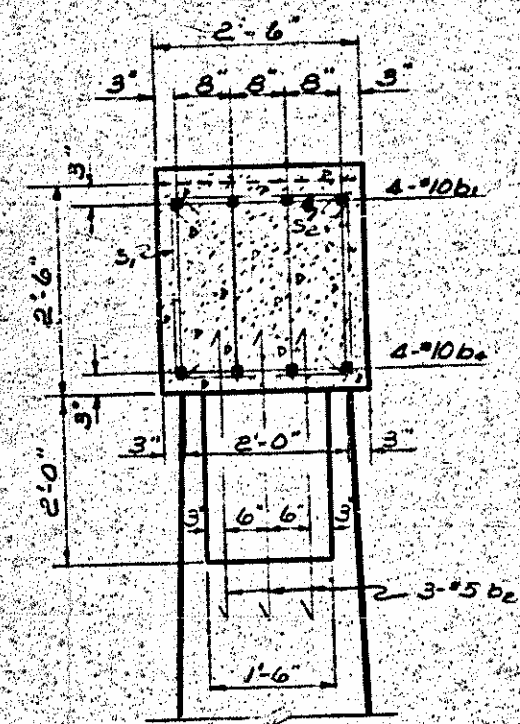
SECTION B-B

PROJECT NO. 6.512052
ROCKINGHAM COUNTY
STATION: 12+5.9
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
SUBSTRUCTURE
BENT NO. 6
JULY 1957

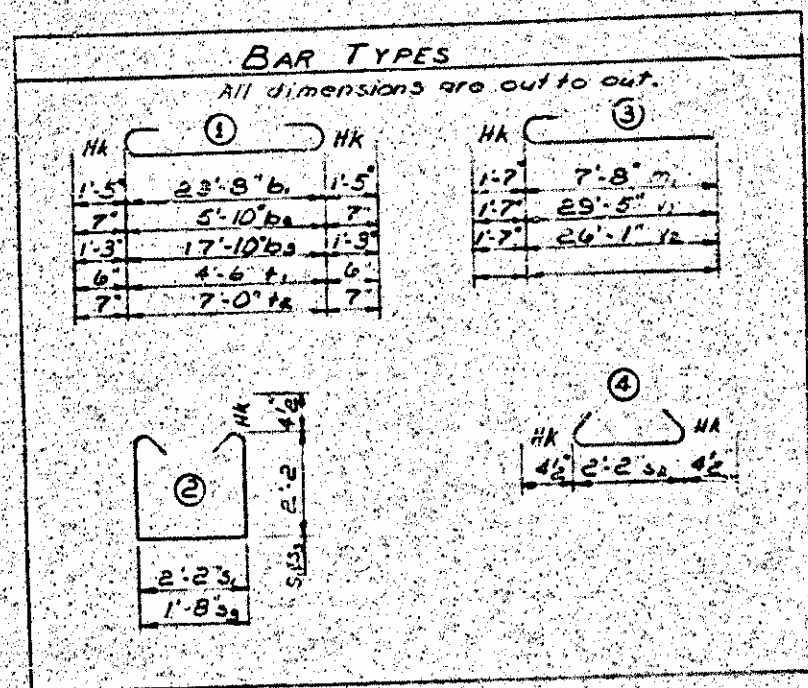
SPECIAL
DESIGNED BY
DRAWN BY
CHECKED BY
DATE



PLAN
BENTS No. 7, 8, OR 9



SECTION A-A



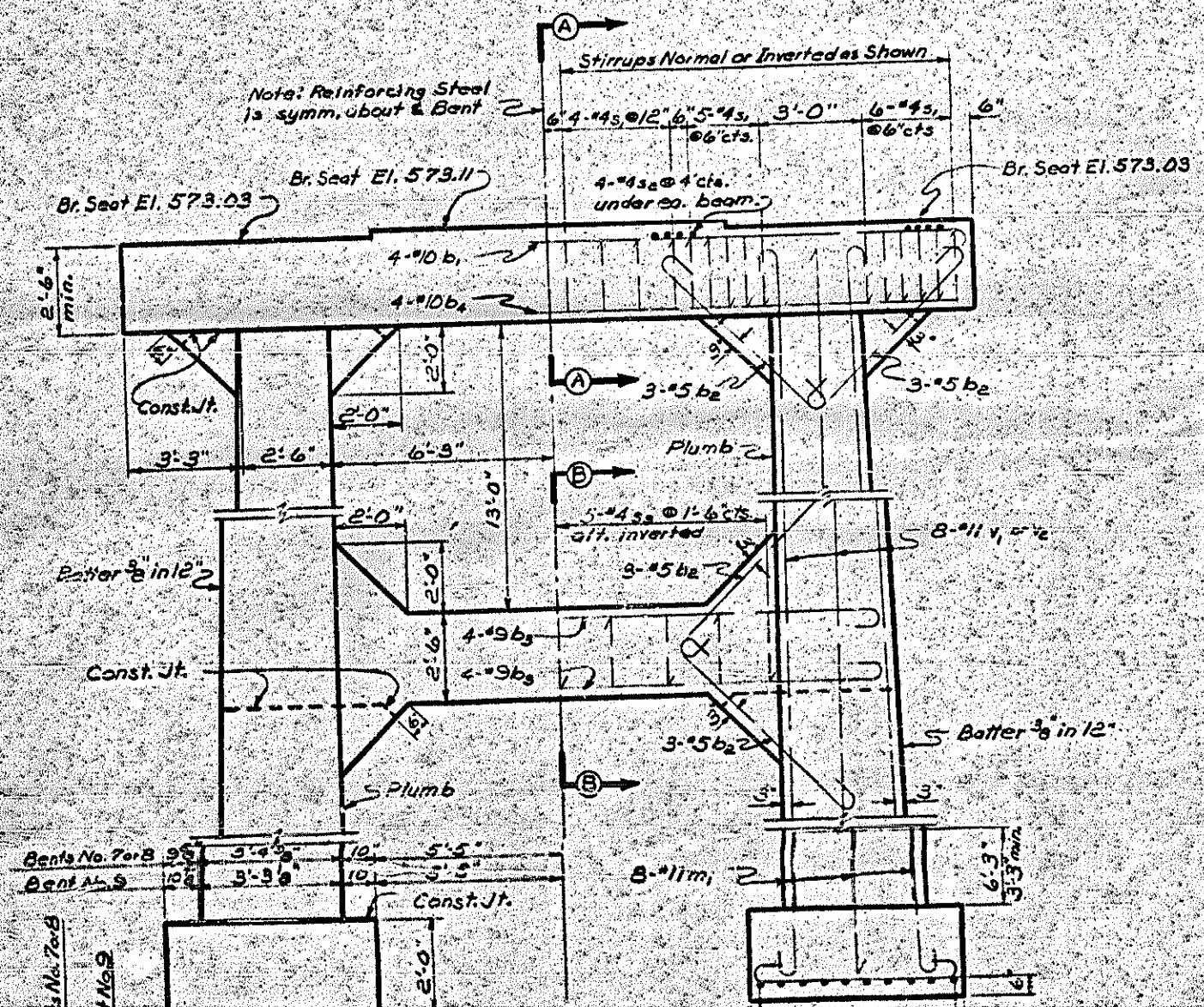
BILL OF MATERIAL
FOR ONE BENT - 3 REQ'D

Bar	No.	Size	Type	Length	Weight
b1	4	#10	1	26'-6"	456
b2	24	#5	1	7'-0"	175
b3	8	#9	1	20'-4"	553
b4	4	#10	Str.	23'-8"	407
m	16	#11	3	9'-3"	784

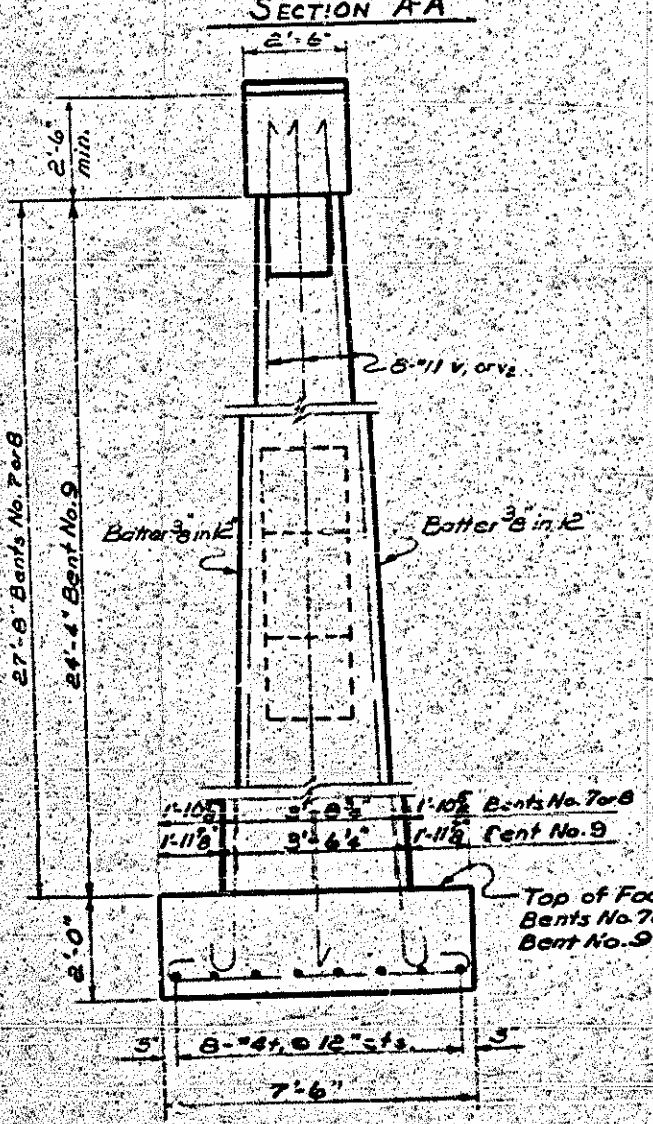
s1	30	#4	2	7'-3"	146
s2	16	#4	4	2'-11"	31
s3	3	#4	5	6'-9"	41

Bents No. 7 or 8	v1	16	#11	3	31'-0"	863
Bent No. 9	v2	16	#11	3	27'-8"	835

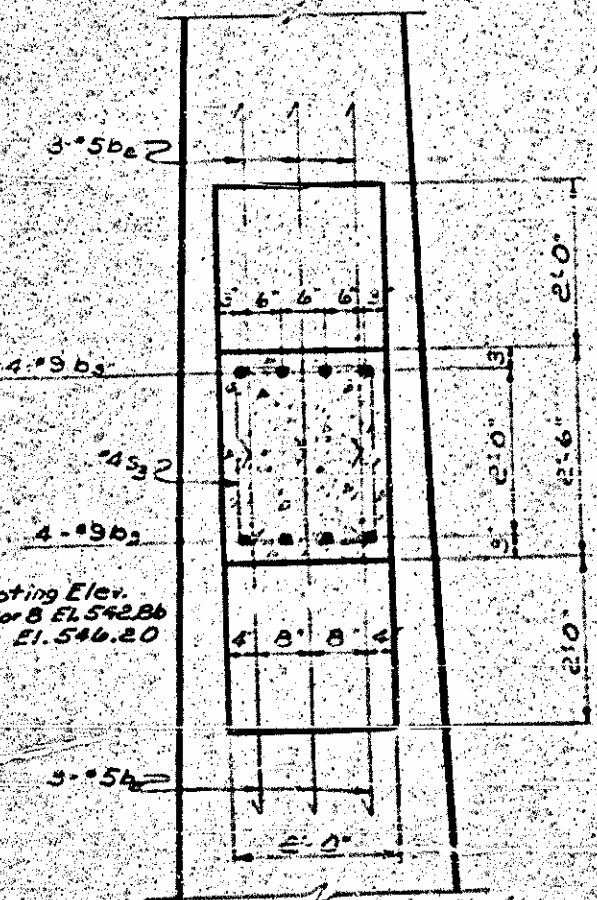
Bents No. 7 or 8	Reinforcing Steel,	Lbs. 541
	Class A Concrete,	Cu. Yds. 51
Bent No. 9	Reinforcing Steel,	Lbs. 511
	Class A Concrete,	Cu. Yds. 2



ELEVATION



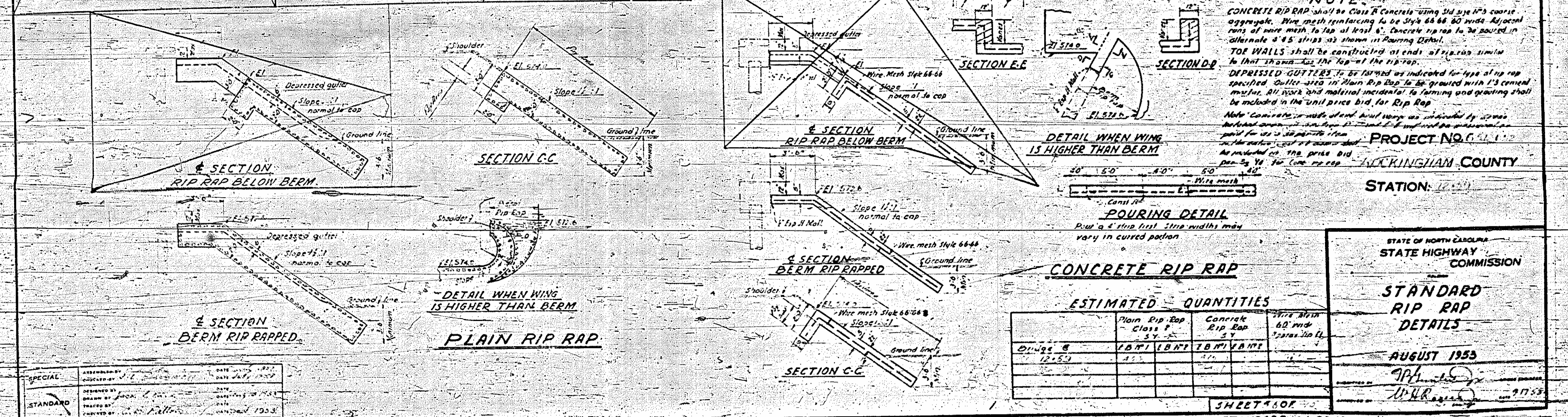
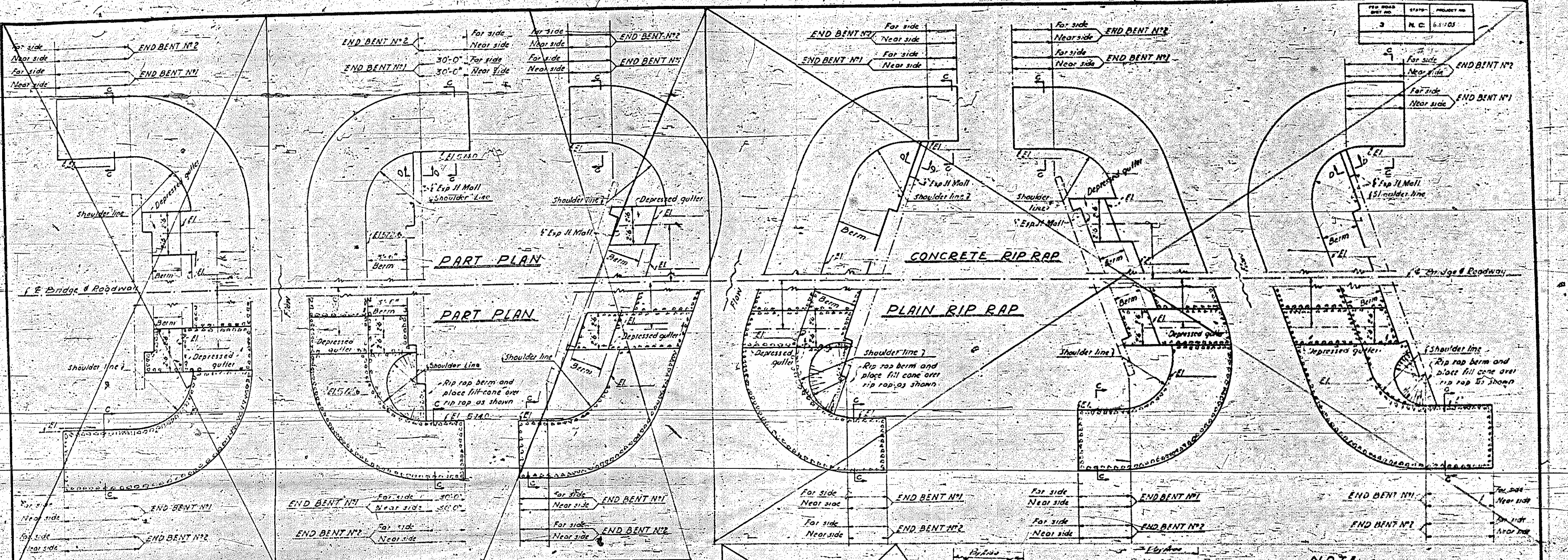
END ELEVATION



SECTION B-B

PROJECT NO. 6,512.0
ROCKINGHAM COUNTY
STATION: 12+59

STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION	
SUBSTRUCTURE BENTS No. 7, 8, OR 9	
JULY 1957	



NOTE.
 CONCRETE RIP RAP shall be Class A Concrete using 3/4 size No. 5 coarse aggregate. Wire mesh reinforcing to be Style 66 60 wide. Adjacent runs of wire mesh to lap at least 6". Concrete rip rap to be poured in alternate 4' & 5' strips as shown in Pouring Detail.
 TOP WALLS shall be constructed at ends of rip rap similar to that shown for the top of the rip rap.
 DEPRESSED GUTTERS to be formed as indicated for type of rip rap specified. Gutter area in Plain Rip Rap to be grouted with 1" cement mortar. All work and material incidental to forming and grouting shall be included in the unit price bid for Rip Rap.
 Note: Concrete rip rap shall be installed as indicated by arrows. Material shown in Section E-E and Section D-D and not be paid for as it is shown in the detail. All work and material incidental to forming and grouting shall be included in the price bid per cu yd for concrete rip rap.

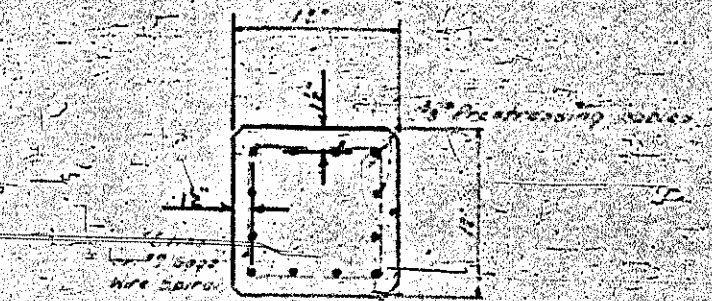
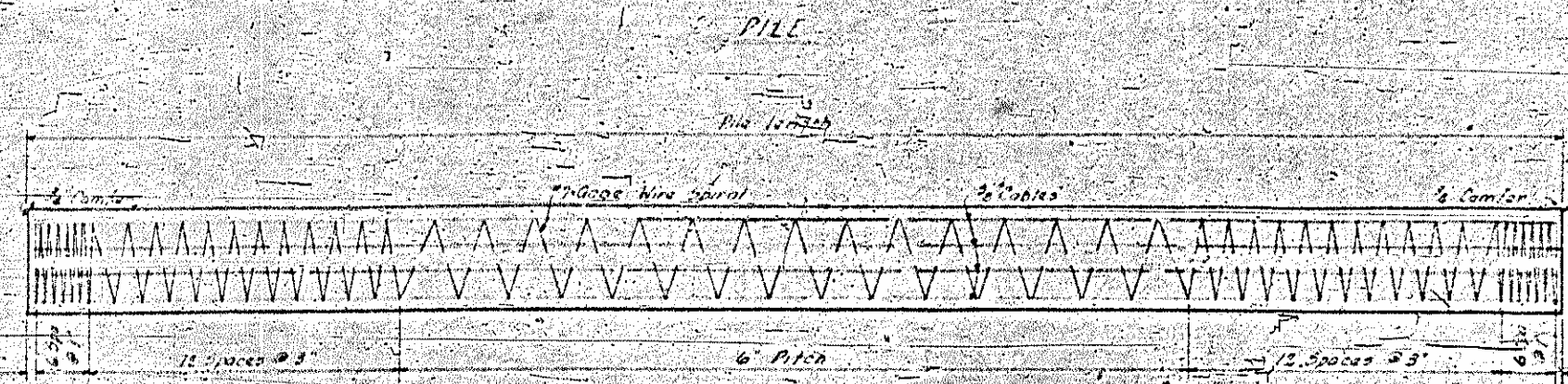
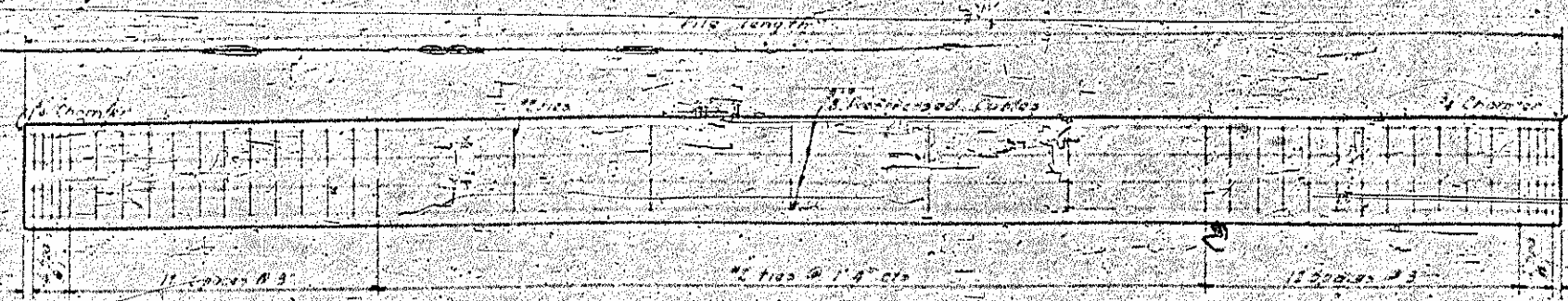
PROJECT NO. 6.1105
 LICKINGHAM COUNTY
 STATION: 12+54

ESTIMATED QUANTITIES

	Plain Rip Rap Class A	Concrete Rip Rap Class A	Wire Mesh 60" wide
Bridge 6 (12+54)	1.01 MI. (181' 7")	1.01 MI. (181' 7")	1.01 MI. (181' 7")
	4.15	4.15	4.15

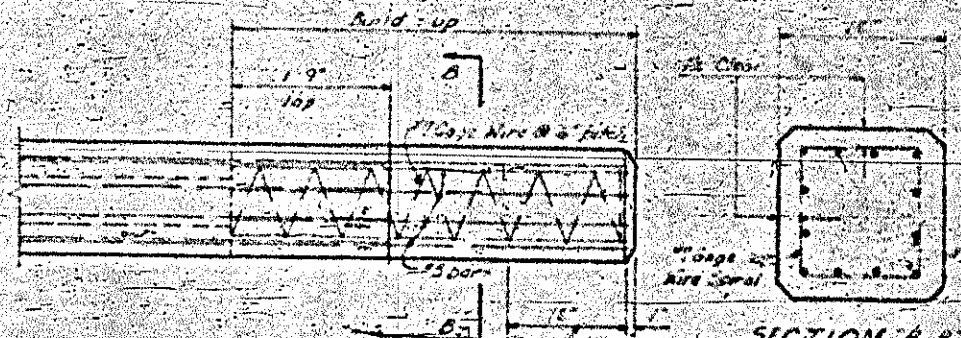
STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
STANDARD RIP RAP DETAILS
 AUGUST 1953
 SHEET 60 OF 70
 STANDARD M. P. 10

SPECIAL
 DESIGNED BY
 CHECKED BY
 DATE
 1953



TYPICAL SECTION

Wt. of pile = 50 lbs. per foot length



PILE BUILD-UP

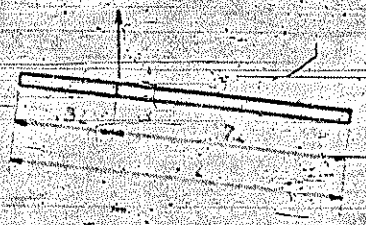
If additional driving is required, 2" pitch shall be used for spiral wire mesh in these limits.

NOTES:
 In driving piles, a method approved by the Engineer shall be used whereby the head of the pile is not damaged.
 All material and workmanship shall conform to the specifications of the North Carolina State Highway Commission and the Federal Highway Administration.
 The contractor shall be responsible for the proper handling and storage of the piles.
 Piles shall be stored in a dry, well-ventilated area and shall be protected from damage.

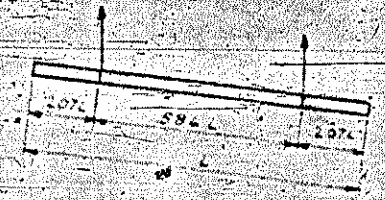
SECTION DATA:
 Concrete: 3,000 psi
 Steel: 60,000 psi
 Design: 100%
 Tensile (Ultimate): 250,000 psi
 (Approximate) 135,000 psi
 (Design) 100,000 psi
 Impact in handling: 100%

Devices for lifting the piles from the casting beds shall be approved by the Engineer. Where piles will be exposed to view in the structure, means set in the piles to receive threaded eye bolts or similar approved devices shall be used. Loops of cable cast in the pile will not be permitted except for piles for end bents and foundations which will not be exposed to view. The use of satisfactory clamps or slings will be permitted where this is practicable without the use of lifting devices cast in the piles. After eye bolts or other attachments have been removed, the openings shall be repaired in a satisfactory manner before delivery to the bridge site in order to obtain a uniform appearance. It will not be necessary to remove loops of cable or other lifting devices in piles for end bents and foundations which will not be exposed to view.

No.	Dia.	Length	Wt.
1	12"	50'	175
2	12"	50'	175
3	12"	50'	175
4	12"	50'	175
5	12"	50'	175
6	12"	50'	175
7	12"	50'	175
8	12"	50'	175
9	12"	50'	175
10	12"	50'	175
11	12"	50'	175
12	12"	50'	175
13	12"	50'	175
14	12"	50'	175
15	12"	50'	175
16	12"	50'	175
17	12"	50'	175
18	12"	50'	175
19	12"	50'	175
20	12"	50'	175
21	12"	50'	175
22	12"	50'	175
23	12"	50'	175
24	12"	50'	175
25	12"	50'	175
26	12"	50'	175
27	12"	50'	175
28	12"	50'	175
29	12"	50'	175
30	12"	50'	175
31	12"	50'	175
32	12"	50'	175
33	12"	50'	175
34	12"	50'	175
35	12"	50'	175
36	12"	50'	175
37	12"	50'	175
38	12"	50'	175
39	12"	50'	175
40	12"	50'	175
41	12"	50'	175
42	12"	50'	175
43	12"	50'	175
44	12"	50'	175
45	12"	50'	175
46	12"	50'	175
47	12"	50'	175
48	12"	50'	175
49	12"	50'	175
50	12"	50'	175



Method of picking up Piles up to 50 feet
1 pick up point



Method of picking up Piles 51 feet to 70 feet
2 pick up points

PROJECT NO. 6510052
 ROCKINGHAM COUNTY
 STATION: 12+55

STATE OF NORTH CAROLINA
 STATE HIGHWAY
 COMMISSION
 STANDARD
 12" PRESTRESSED CONC
 PILES
 MARCH 1957