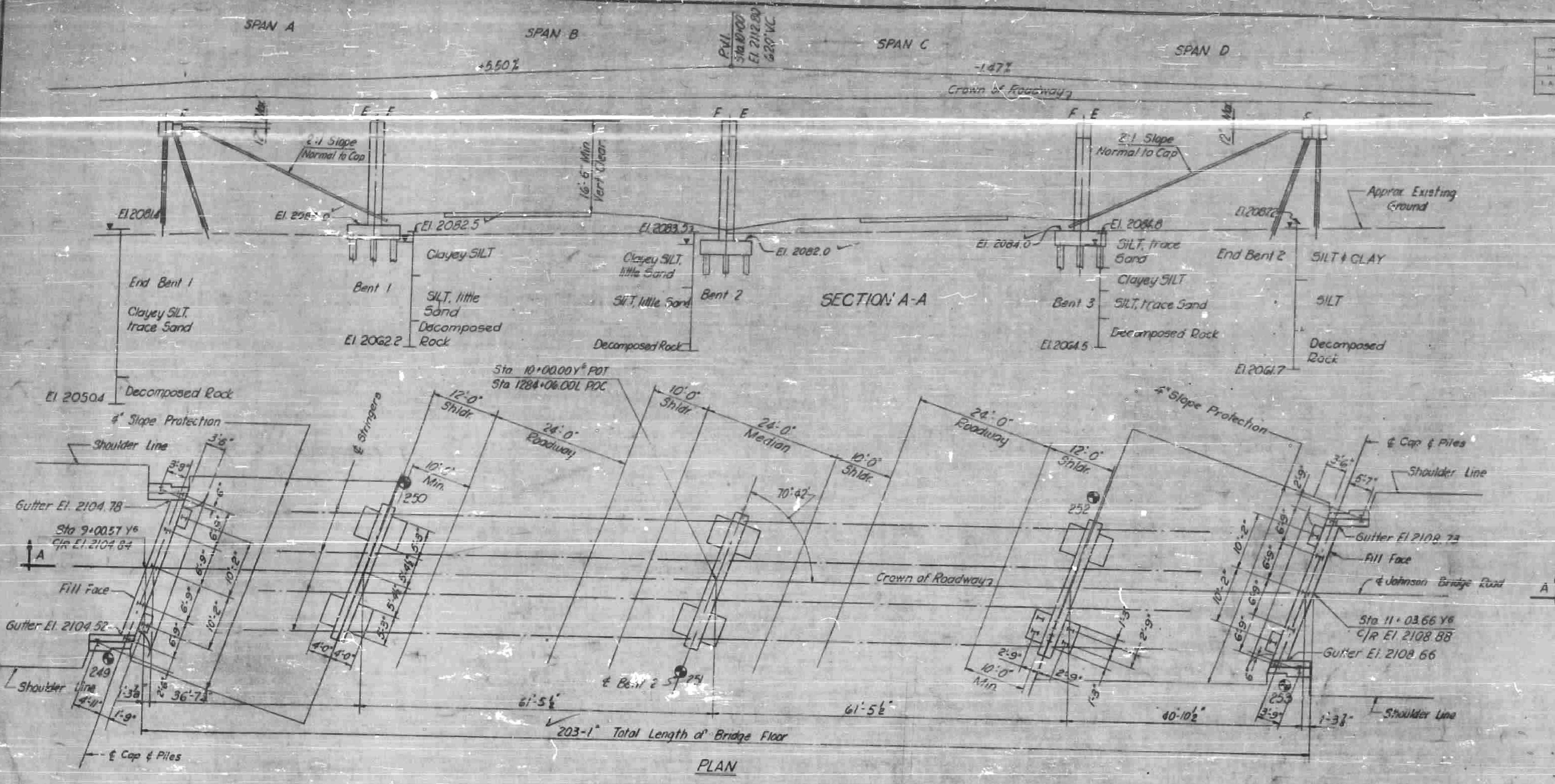
N.C.		474	569

5	N.C.	8.18293
FED. AID PROJ.	I-26-1(5)12	



NOTES

Loading: A.A.S.H.O. H15-44.

Future surfacing: 20 lb. per sq. ft.

Roadway width: 24'-0" curb to curb.

For other design data and general notes, see General Notes Sheet.

Concrete surfaces shall be given a surface finish in accordance with the specifications.

The Contractor will be required to drive one 12 BP 53 steel test pile in place at Bents 1 and 3. The test piles shall be paid for as linear feet of 12 BP 53 Steel Piles. The order lengths for all piles shall be given after the test piles have been driven. Test Piles for Bents 1 & 3 are 25' long. All piles shall be driven through the roadway fill.

Piles for all Bents and End Bents shall be driven to a minimum bearing capacity of 30 tons.

Traffic on Johnson Bridge Road will be detoured over adjacent county roads during construction of the proposed structure.

● Indicates 2½" cased hole boring
▼ Indicates ground water

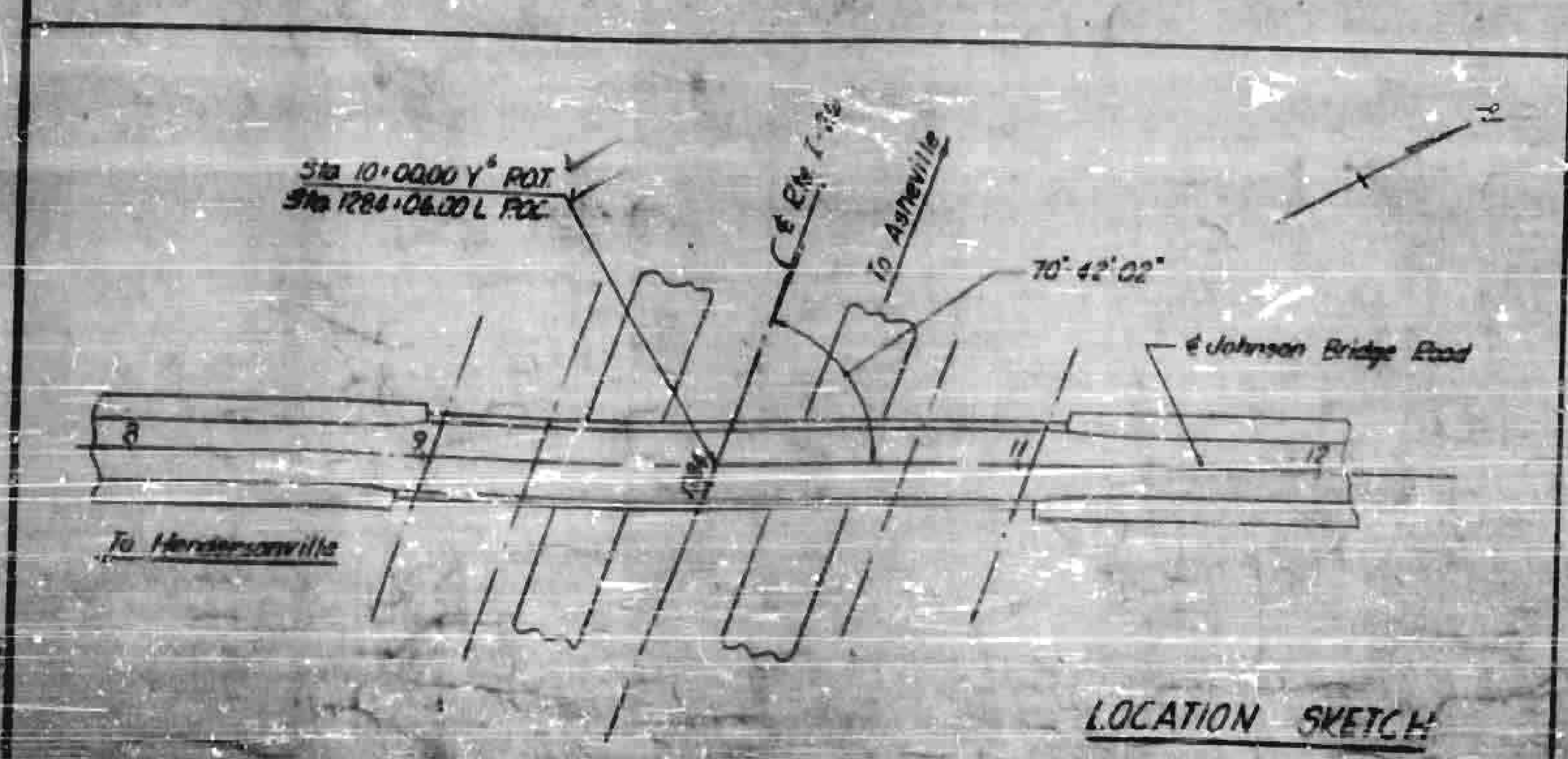
~~Benchmark: R.R. Spike in pole 16 ft. Rt. East of Johnson Bridge Road near Sta. 1280+00, 125 Rt.~~ of € Rte. I-26. Elevation 2096.79

Benchmark: Big nail in 18" maple 150' Rt. Sta. 1283+00; Elev. 2094.17

I certify that this structure was built according to Plans except as noted.

______ RESIDENT ENGINEER

Note: See Extra Work Order #14-66



LOCATION SKETCH

Crown of Roadway Elevations

Station	Elevation	Station	Elevation	Station	Elevation
8 + 95	2104.65	9 + 95	2107.30	10 + 95	2108.81
	2104.82		2107.40	11 + 00	2108.85
	2104.98		2107.50	11 + 05	2108.89
	2105.13		2107.60	11 + 10	2108.93
	2105.28		2107.69		
5.00' Increments	2105.43	5.00' Increments	2107.78		
	2105.57		2107.87		
	2105.71		2107.95		
	2105.85		2108.03		
	2105.99		2108.11		
	2106.12		2108.19		
	2106.25		2108.27		
	2106.38		2108.34		
	2106.50		2108.41		
	2106.62		2108.47		
	2106.74		2108.53		
	2106.86		2108.59		
	2106.97		2108.66		
	2107.08		2108.71		
9 + 90	2107.19	10 + 90	2108.76		

Total Bill of Material

	Class 'A' Concrete Cu. Yds.	Reinforcing Steel Lbs.	Structural Steel Approx. Lbs.	12 BP 53 Steel Piles No.	12 BP 53 Steel Piles Lin. Ft.	Unclass. Str. Excav. Cu. Yds.	4" Conc. Slope Protection Sq. Yds.	Metal Rails Lin. Ft.	4" Conc. Block Slope Protection Sq. Yds.	12 BP 53 St. Piles Cutoff Lin. Ft.
Superstructure	169.7	35,997	119,900					410.99		
End Bent #1	15.6	2,676		9	466		184		184	4'-0"
Bent #1	23.5	3,473		12	252	30 33.41				
Bent #2	24.3	3,772		12	300	32 31.72				
Bent #3	24.1	3,577		12	240	31 34.08				
End Bent #2	15.6	2,701		9	432		208		208	
Approach Curbs	3.5	16			309.0		226.309			
Totals	276.2	52,272	119,900	54	1690	93 98.81	392 434.277	410.99	392	30'-0"

Rev. No. 1 to correct quantities of reinforcing steel, class 'A' concrete & metal rails for superstructure and change Bents 1 & 3.
Revision No. 2 to change Reinf. Steel Quantities.

PROJECT NO. 8.18293

HENDERSON COUNTY

STATION 1284+06L 10+00 Y6

REVISIONS					
No.	BY	DATE	No.	BY	DATE
1.	WCP	2-19-63	3.		
2.	CBP	4-17-63	4.		

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

GENERAL DRAWING
BRIDGE OVER PROPOSED
INTERSTATE ROUTE 26
ON JOHNSON BRIDGE ROAD

Submitted by: [illegible] 12/13/62
Approved by: [illegible] Date 6/18/62

Column ① bottom of overhang			Column ② top of curb			Column ③ ℄ of Beam			Column ④ ℄ of Roadway			Column ⑤ ℄ of Beam			Column ⑥ Toe of curb			Column ⑦ Bottom of Overhang		
Dist	Elev.		Dist	Elev.		Dist	Elev.		Dist	Elev.		Dist	Elev.		Dist	Elev.		Dist	Elev.	
4'-11"	.565	9+10			Begin Curb			Fill Face		2104.839	Fill Face			Fill Face			Begin Curb		2103.316	Fill Face
10'-0"	.645	+20							5'-5⅜"	2105.150	9+10							3'-11½"	2104.040	9+00
10'-0"	2104.981	+30							10'-0"	.827	+20							10'-0"	.548	+10
10'-0"	2105.206	+40							10'-0"	.772	+30							10'-0"	.645	+20
5'-0⅝"	.847	9+50							8'-6½"	.948	℄ Bent #1							10'-0"	2104.931	+30
4'-11½"	.865	+50							[illegible]	[illegible]	[illegible]							4'-0⅝"	2105.055	℄ Bent #1
10'-0"	.721	+60							10'-0"	.505	+60							9-11⅛"	.206	+40
10'-0"	2105.962	+70							10'-0"	.748	+70							10'-0"	.469	+50
10'-0"	2106.192	+80							10'-0"	2105.978	+80							10'-0"	.121	+60
10'-0"	.810	+90							10'-0"	2107.191	+90							10'-0"	2105.562	+70
10'-0"	.617	10+00							10'-0"	.993	℄ Bent #2							10'-0"	2106.192	+80
4'-6⅜"	.707	℄ Bent #2							10'-0"	.995	10+10							10'-0"	.810	+90
5'-5⅜"	.819	+10							10'-0"	.779	+20							5'-5⅜"	.515	℄ Bent #2
10'-0"	2106.998	+20							10'-0"	2107.982	+30							4'-6⅜"	.617	10+00
10'-0"	2107.171	+30							10'-0"	2108.114	+40							10'-0"	.813	+10
10'-0"	.333	+40							10'-0"	.765	+50							10'-0"	2106.998	+20
10'-0"	.484	+50							10'-0"	.405	+60							10'-0"	2107.171	+30
10'-0"	.624	+60							11-5⅜"	.425	℄ Bent #3							10'-0"	.333	+40
5'-11⅝"	.702	℄ Bent #3							8'-6½"	.534	+70							10'-0"	.484	+50
4'-0⅝"	.752	+70							10'-0"	.651	+80							6'-11⅝"	.583	℄ Bent #3
10'-0"	.870	+80							10'-0"	.757	+90							5'-0⅝"	.624	+60
10'-0"	2107.976	+90							10'-0"	.852	11+00							10'-0"	.752	+70
10'-0"	2108.070	11+00							3'-7⅛"	2108.083	Fill Face							10'-0"	.870	+80
8'-2"	2108.153	Fill Face																10'-0"	2107.976	+90
																		9'-1⅝"	2108.063	Fill Face

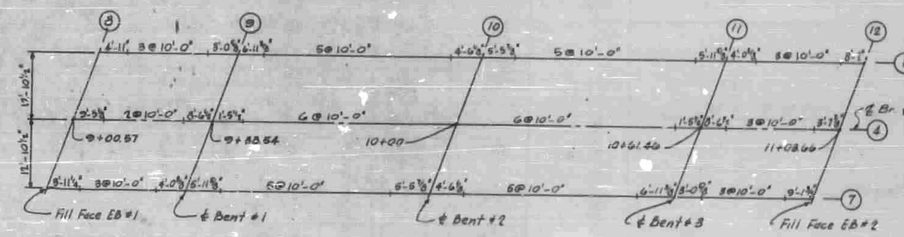
ASSEMBLED BY G. Parrish DATE March 1968
CHECKED BY [illegible] DATE Mar. 21, 1968

STANDARD PRINT CO., CHARLOTTE, N. CAROLINA

GRADE DATA

P.I. Sta 10+00
P.I. Elev 6112.50
Length of Curve 620'
G1 +5.50 % G2 -1.67 %

PROJECT NO.	SHEET NO.	TOTAL SHEETS
	475	569



PLAN

TYPICAL SECTION

Elevations shown in these tables are final required elevations of the completed structure. In setting up form elevations and screed elevations, provisions must be made for deflections where required.

For columns 8 thru 12, points are c/c at 2'-0" intervals normal to ℄ of roadway from left gutter line to right gutter line

HEADERS

Column 8 Fill Face ℄ E.B. 1		Column 9 ℄ of Bent 1		Column 10 ℄ of Bent 2		Column 11 ℄ of Bent 3		Column 12 Fill Face EB 2	
Point	Elev.	Point	Elev.	Point	Elev.	Point	Elev.	Point	Elev.
Lt. Gutter	2104.185	Lt. Gutter	2105.815	Lt. Gutter	2107.295	Lt. Gutter	2108.792	Lt. Gutter	2108.751
2'-1⅜"	.792	2'-1⅜"	.886	2'-1⅜"	.312	2'-1⅜"	.314	2'-1⅜"	.756
	.802		.898		.330		.357		.781
	.811		.911		.347		.379		.807
	.821		.925		.364		.881		.835
	.830		.936		.381		.403		.858
	.839		.946		.399		.415		.885
	.784		.898		.359		.384		.846
	.733		.847		.308		.344		.809
	.680		.797		.262		.305		.771
	.626		.747		.217		.262		.736
2'-1⅜"	.573	2'-1⅜"	.696	2'-1⅜"	.171	2'-1⅜"	.222	2'-1⅜"	.697
Rt. Gutter	2104.520	Rt. Gutter	2105.646	Rt. Gutter	2107.126	Rt. Gutter	2108.161	Rt. Gutter	2108.699

SUPERIMPOSED DEAD LOAD DEFLECTIONS (inches)					
	SPAN	SPAN	SPAN	SPAN	
Int.	For Deflections, See Structural Steel Details.				
Ext.					

PROJECT NO. 8.18293
HENDERSON COUNTY
STATION: 1284+06L 10+00Y&

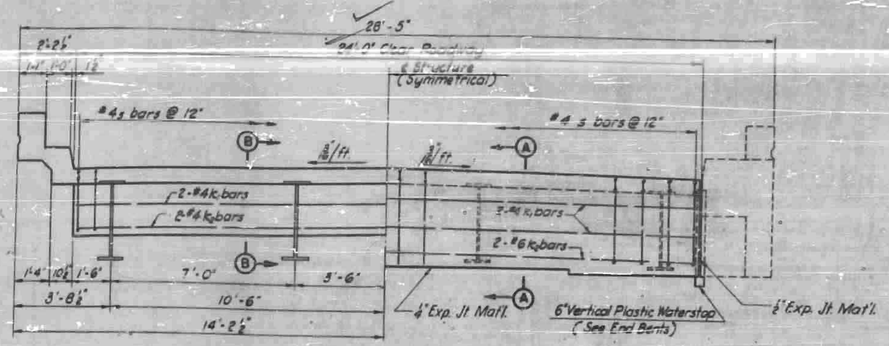
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

ELEVATIONS FOR SETTING UP FORMS AND SCREEDS

APRIL 1968

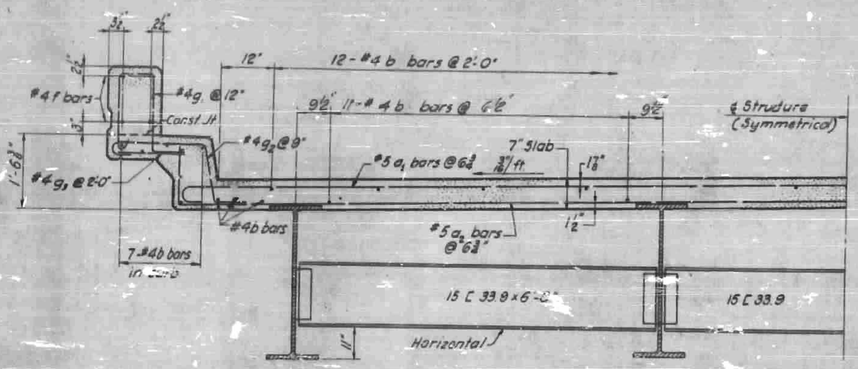
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

PROJECT NO.	SHEET NO.	TOTAL SHEETS
	S-C-R	161



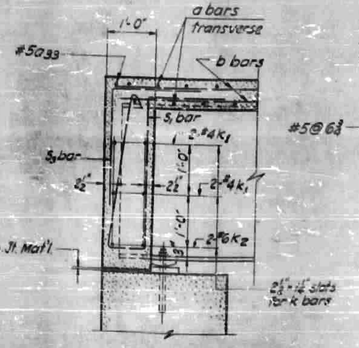
HALF SECTION AT INTERMEDIATE BENTS

HALF SECTION AT END BENTS

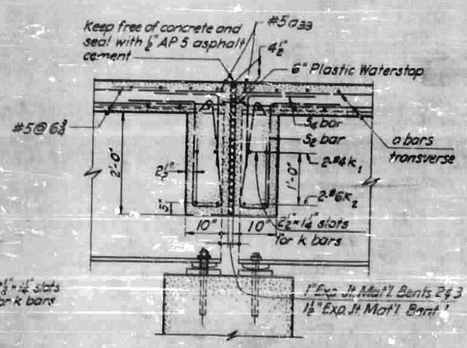


TYPICAL HALF SECTION

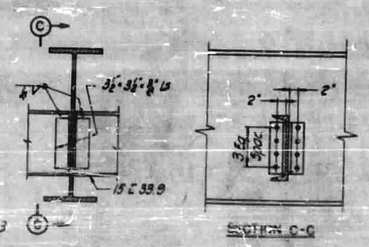
Showing Midspan Diaphragms



SECTION A-A



SECTION B-B



SECTION C-C

DETAIL OF DIAPHRAGM CONNECTIONS

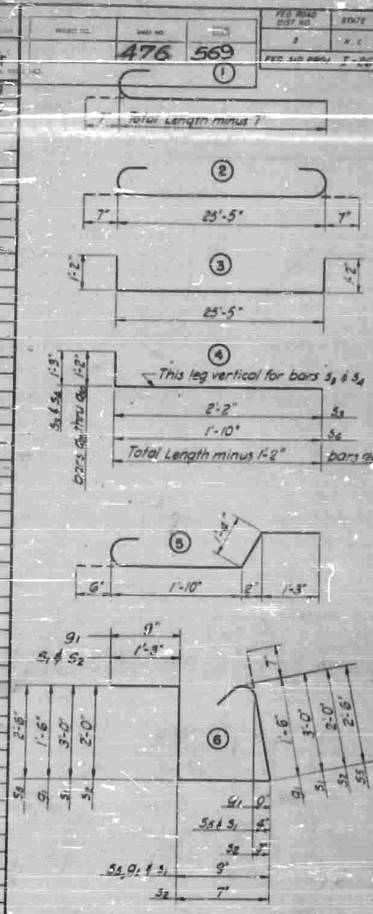
BILL OF MATERIALS – 4 SPANS

BAR	NUMBER OF BARS SPAN A	SPAN B	SPAN C	SPAN D	TOTAL	SIZE	TYPE	LENGTH	WEIGHT
a1	48	94	94	55	291	#5	2	26-7	8068
a2	45	95	95	55	293		3	27-9	8482
a5	2	2	2	2	8		1	6-3	52
a6	2	2	2	2			1	8-0	67
a7	2	2	2	2			1	9-9	81
a8	2	2	2	2			1	11-6	96
a9	2	2	2	2			1	13-3	111
a10	2	2	2	2			1	15-0	125
a11	2	2	2	2			1	16-9	141
a12	2	2	2	2			1	18-6	154
a13	2	2	2	2			1	20-3	169
a14	2	2	2	2			1	22-0	184
a15	2	2	2	2			1	23-9	198
a16	2	2	2	2	8	#5	1	24-8	206
a20	2	2	2	2	8	#5	4	7-11	66
a21	2	2	2	2			4	9-8	81
a22	2	2	2	2			4	11-5	95
a23	2	2	2	2			4	13-2	110
a24	2	2	2	2			4	14-11	125
a25	2	2	2	2			4	16-8	139
a26	2	2	2	2			4	18-5	154
a27	2	2	2	2			4	20-2	169
a28	2	2	2	2			4	21-11	183
a29	2	2	2	2			4	23-9	198
a30	2	2	2	2	8		4	25-5	212
a31	5	–	–	5	10		1	25-1	262
a32	5	–	–	5	10		4	25-5	268
a33	2	2	2	2	8		Str.	24-10	207
a34	2	4	4	2	12	#5	Fieldbend	2-3	28
b1	102	–	–	–	102	#4	Str.	19-5	1323
b2	28	–	–	–	28	#4	Str.	18-7	347
b3	–	130	130	–	260	#4	Str.	31-4	5442
b6	–	–	–	28	28	#4	Str.	20-9	388
b5	–	–	–	102	102	#4	Str.	21-8	1476
f1	16	–	–	–	16	#4	Str.	18-7	198
f2	–	16	16	–	32	#4	Str.	31-4	680
f3	–	–	–	16	16	#4	Str.	20-9	222
g1	73	124	124	79	400	#4	6	5-1	1358
g2	97	164	164	105	530	#4	5	4-11	1710
g3	38	64	64	41	207	#4	Str.	1-8	230
k1	6	4	4	6	20	#4	Str.	26-10	332
k2	4	4	4	4	16	#6	Str.	26-10	597
s1	14	–	–	14	28	#4	6	8-7	161
s2	23	46	46	23	138	#4	6	6-5	591
s3	25	–	–	25	50	#4	4	3-5	114
s4	25	50	50	25	150	#4	4	3-1	309
s5	9	–	–	9	18	#4	6	7-7	91

Reinforcing Steel	35,997	Lbs.
Class "A" Concrete	169.1	Cu. Yds.
Structural Steel	119,900	Lbs.
Single Bar Metal Railing	410.00	Lin. Ft.

Revision No. 1 to correct reinforcing steel for Span D, Class "A" Concrete & Metal Railing in Bill. 6-6-62

Revision No. 2: To change 'b' bars in slab 10-8-62



BENT BAR TYPES

(All dimensions are out - to - out of bar)

PROJECT NO. 8.18293

HENDERSON COUNTY

STATION 1284 + 06 L
10 + 00 ℄

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

SUPERSTRUCTURE
CROSS SECTIONS

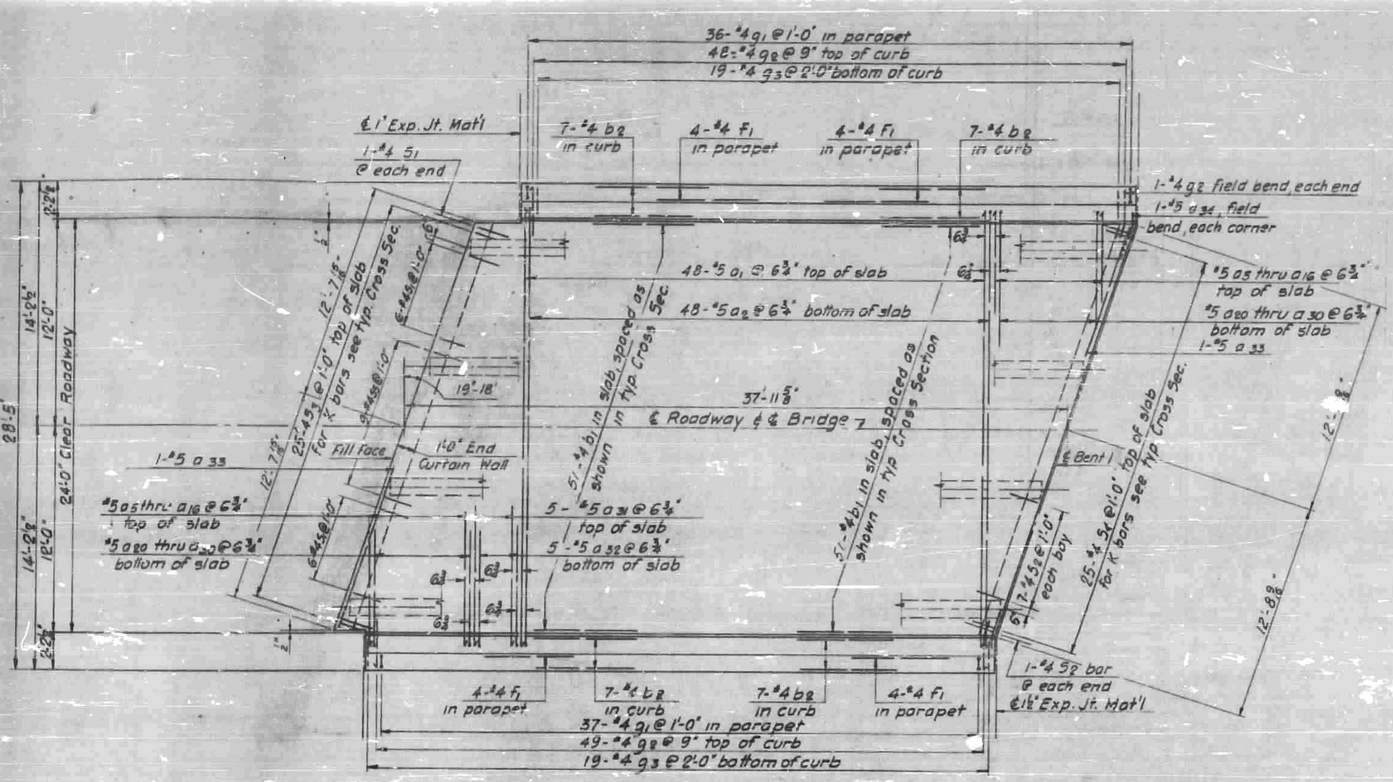
NO.	DATE	BY
1	5-14-63	JCP
2		

FED. ROAD DIST. NO.	STATE	PROJECT NO.
3	N. C.	8.18293

Fed. Aid Proj. No. -None-

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
		477	569

F. A. PROJ. NO.



PLAN

PROJECT NO. 8.18293

HENDERSON COUNTY

STATION 1284+05 L
10+00 Y6

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

SUPERSTRUCTURE
SPAN A

SHEET NO. S-9A TOTAL SHEETS 162

Revised 4-9-63

Revision No 1. To change "S" bars in slab & cap

FED. ROAD DIST. NO.	STATE	PROJECT NO.
3	N. C.	8.18293

FED. AID PROJ. NO. BRSTP-1511(4)

DATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
		478	569

F. A. PROJ. NO.

62-#4 g_1 @ 1'-0" in parapet
82-#4 g_2 @ 9" top of curb
32-#4 g_3 @ 2'-0" bottom of curb

7-#4 b_3 in curb | 4-#4 f_2 in parapet | 4-#4 f_2 in parapet | 7-#4 b_3 in curb

1-#4 g_1 field bend each corner

1-#4 s_2 @ each end

94-#5 a_1 @ 6¾" top of slab

95-#5 a_2 @ 6¾" bottom of slab

1-#5 a33

#5 a_5 thru a_{16} @ 6¾" top of slab
#5 a_{17} thru a_{30} @ 6¾" bottom of slab
1-#5 a33

6¾" | 6¾"

61'-5½" Span B or C
℄ Roadway ℄ ℄ Bridge 7

12'-8⅞"

Reinf. same as opposite side

℄ Bent 1 or 2

℄ Bent 2 or 3

5'-#4 b_3 in slab as shown in typ. spaced cross sec.

5'-#4 b_3 in slab as shown in typ. spaced cross sec.

6'-#5 @ 1'-0" each bay

25-#4 s_1 @ 1'-0" for K bars see typ cross sec.

1-#5 a34, field bend each corner

℄ 1" Exp. Jt. Mat'l Bent 1
℄ 1" Exp. Jt. Mat'l Bent 2

7-#4 b_3 in curb | 4-#4 f_2 in parapet | 4-#4 f_2 in parapet | 7-#4 b_3 in curb

62-#4 g_1 @ 1'-0" in parapet
82-#4 g_2 @ 9" top of curb
32-#4 g_3 @ 2'-0" bottom of curb

℄ 1" Exp. Jt. Mat'l

PLAN

PROJECT NO. 8.18293

HENDERSON COUNTY

STATION 1284 + 06 L.
10 + 00 Y6

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

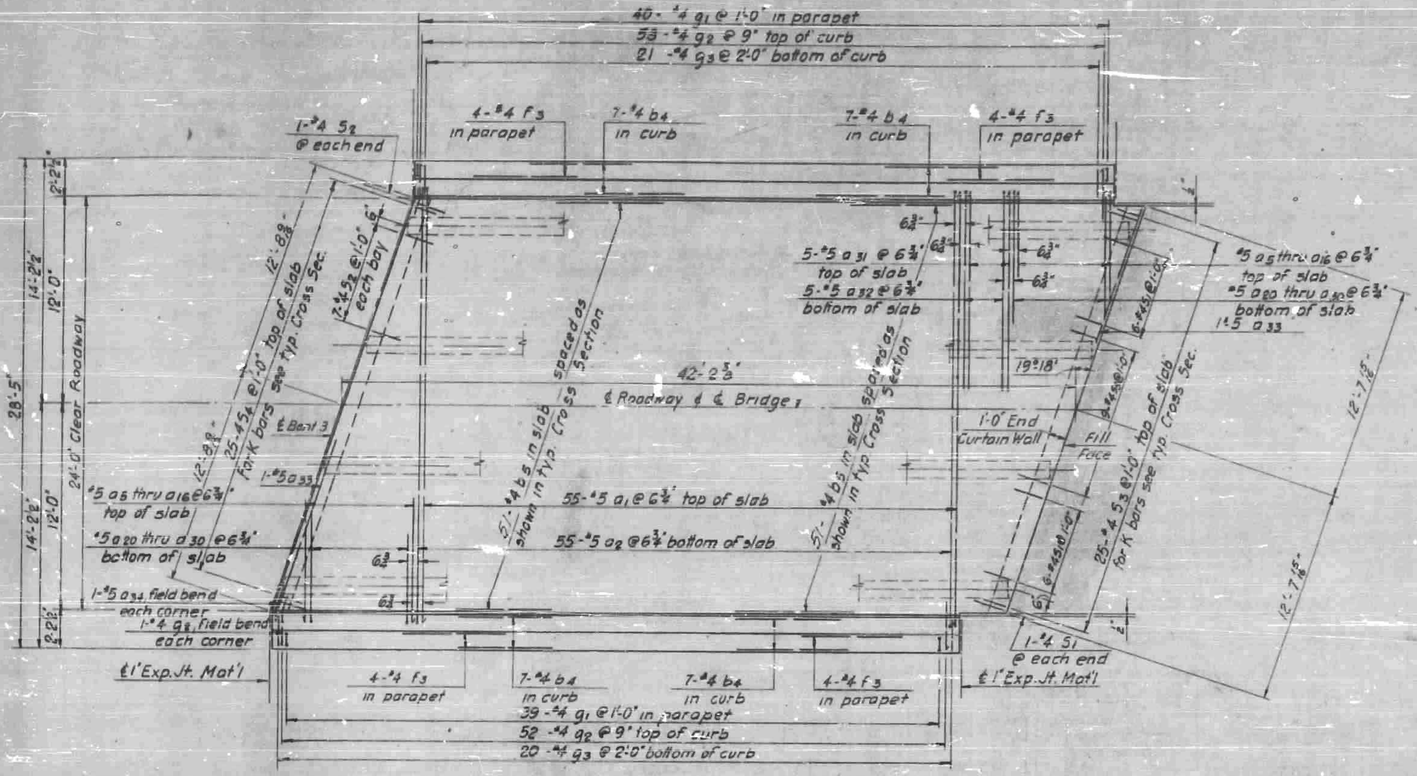
SUPERSTRUCTURE
SPAN B OR C

Revision No.1: To change 'b' bars in slab

FED. ROAD DIST. NO.	STATE	PROJECT NO.
3	N. C.	B.18293
Fed. Aid Proj. F-36-1(3)		

	4792	569

T. A. PROJ. NO.



PLAN

Rev. No. 1 to correct span length ✓ C.B.P.
Revision No. 2: To change 5" bars in slab ✓ B.C.P.

PROJECT NO. B.18293

HENDERSON COUNTY

STATION 1284+06 L
10+00 Y6

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

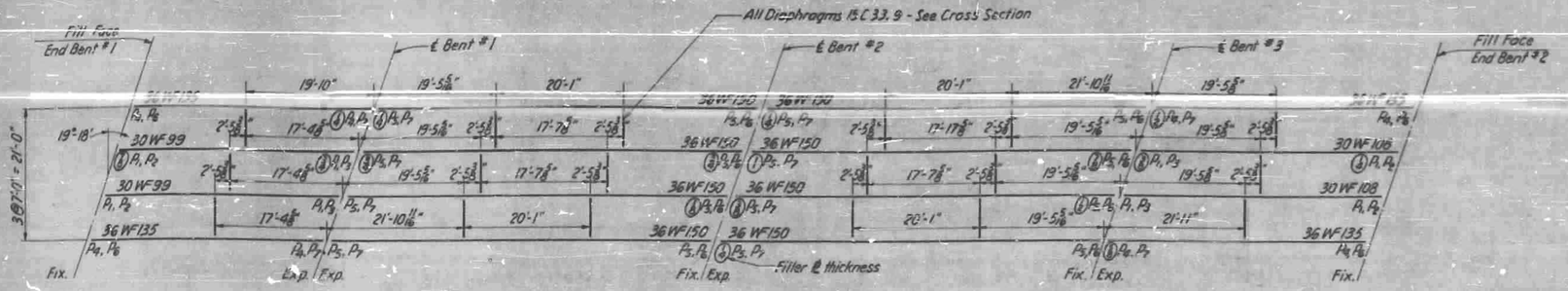
SUPERSTRUCTURE
SPAN D

REVISIONS			
NO.	BY	DATE	
3			
2			
1	B.C.P.	2-19-43	
	C.B.P.		

S-30

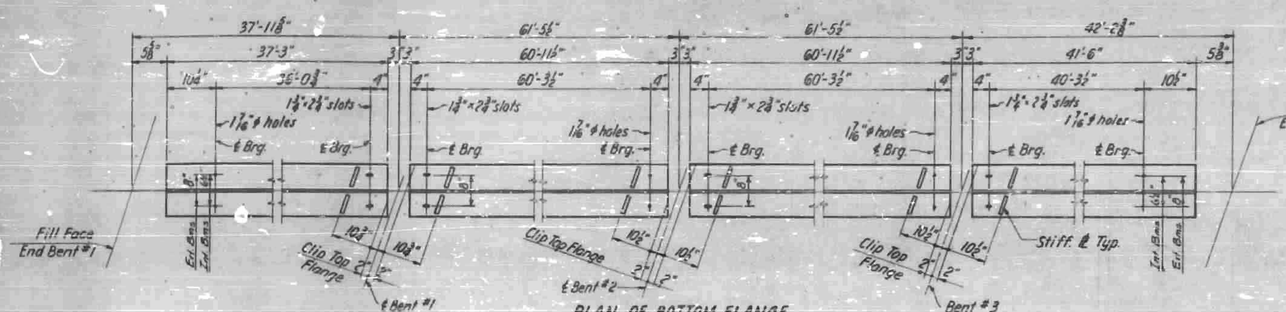
FED. AID PROJ. NO.	STATE	PROJECT NO.
B	N. C.	B-18293
FED. AID PROJ. NO.		

	PROJECT NO.	SHEET NO.	TOTAL SHEETS
		480	509



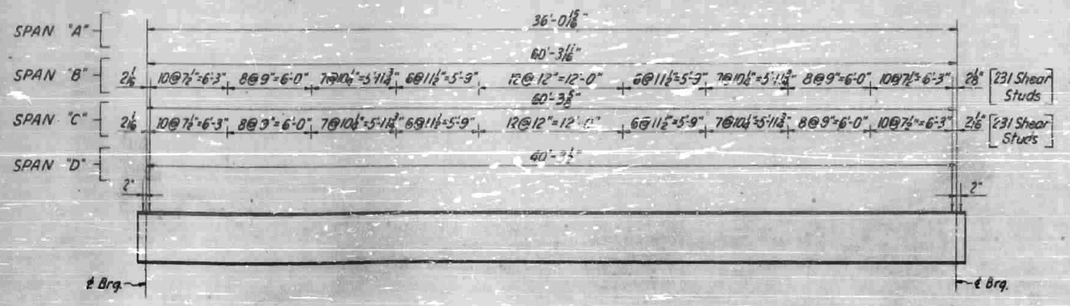
FRAMING PLAN

Note: Diaphragm spacing measured along Beam Grade



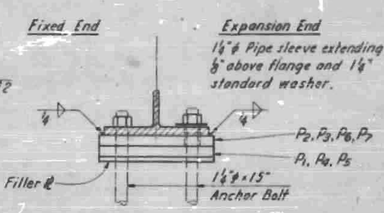
PLAN OF BOTTOM FLANGE

Note: All dimensions are horizontal



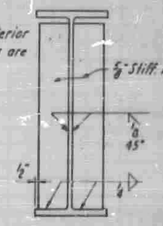
SHEAR STUD SPACING

Note: All dimensions along Beam Grade

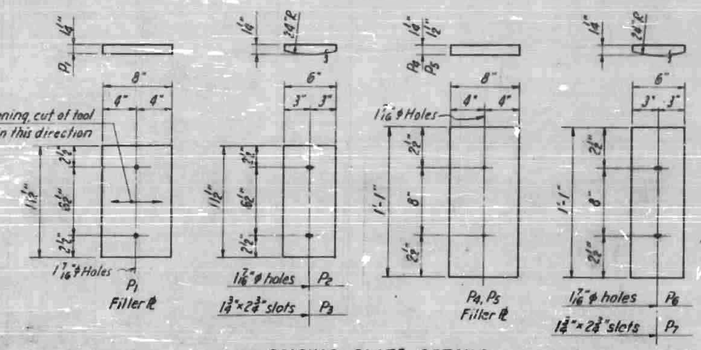


SECTION THRU BEARING

Note: Omit stiffeners on outside of exterior beams ℄ at End Bents. Stiffeners are to be vertical.



STIFFENER DETAIL



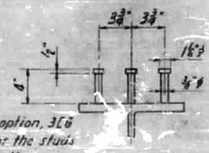
BEARING PLATE DETAILS

For Filler ℄ thickness, see Framing Plan

DEFLECTION TABLE

	SPAN "A"		SPAN "B"		SPAN "C"		SPAN "D"	
	Ext. Bm.	Int. Bm.	Ext. Bm.	Int. Bm.	Ext. Bm.	Int. Bm.	Ext. Bm.	Int. Bm.
Steel	1⅜	1⅜	1⅜	1⅜	1⅜	1⅜	1⅜	1⅜
Concrete	¼	¼	1	1	1	1	¼	¼
Total DL Defl.	1⅝	1⅝	1⅜	1	1⅜	1	1⅝	1⅝
Vertical Curve	¼	¼	⅜	⅜	⅜	⅜	¼	¼
Total Camber	1⅜	1⅜	1⅛	⅝	1⅛	⅝	1⅜	1⅜

NOTE: All beams and channel shear connectors shall be of either ASTM A-36 or A-373 grade structural steel. See Sheet 5-N
Stress in extreme fiber of structural steel = 18,000 lbs. per sq. in.



Note:
At the Contractor's option, 3/8" ϕ may be substituted for the studs shown. See Sheet 5-N

SHEAR STUD DETAIL

PROJECT NO. 8.18293

Henderson COUNTY

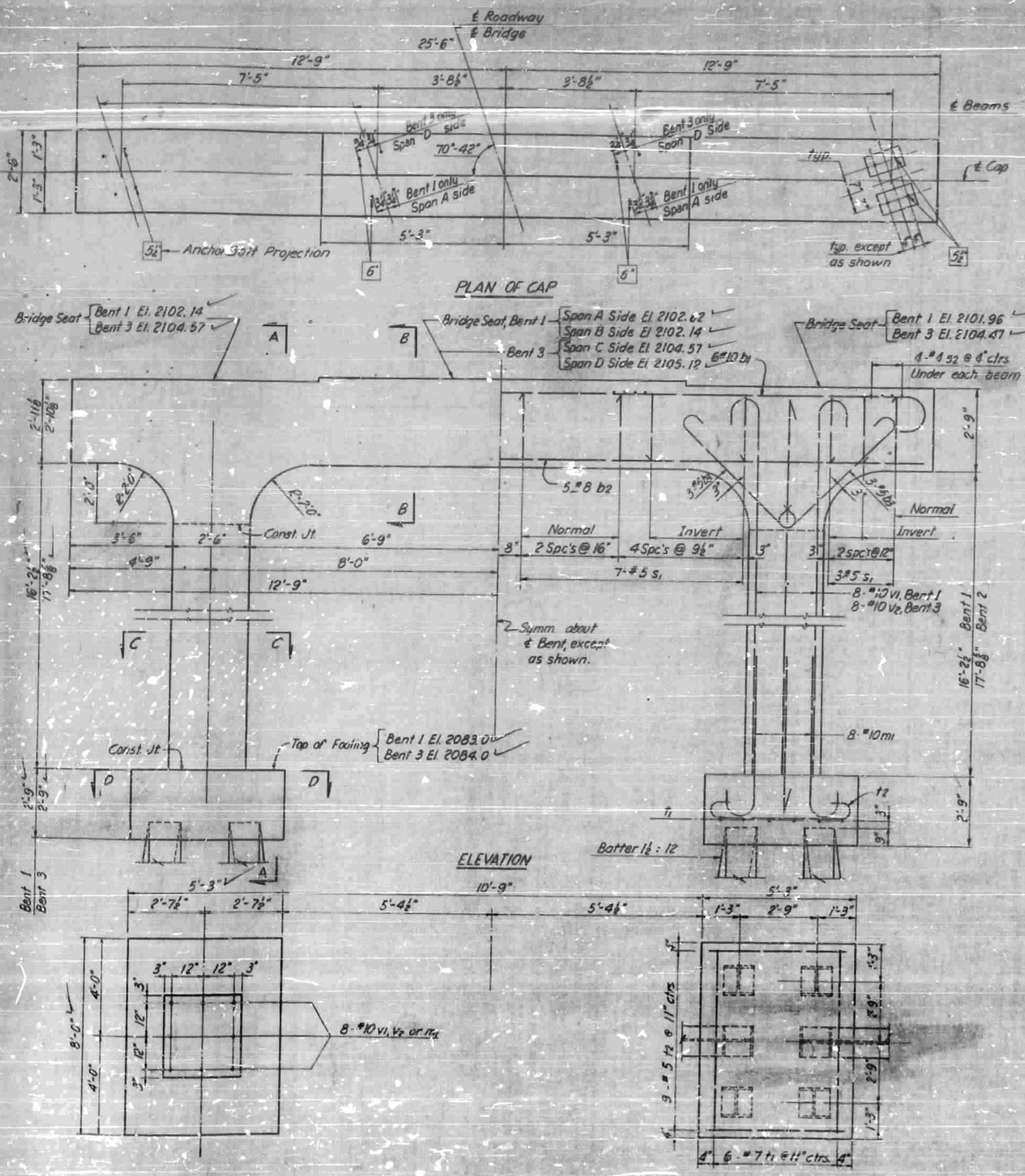
STATION 1284+06 L
10+60 Y6

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

STRUCTURAL STEEL

Revision #1. Revised to add anchor bolt spec. for Int. Brgs. @ E.Bts. 4-64

DESIGNED	DRAWN	TRACED	CHECKED	QUANTITIES	CHECKED



		491	569

		STATE	PROJECT NO.
		B	B.18293
		F.A. PROJ. NO.	

BAR DETAILS

①	Ht.			Ht.
	1'-5"	25'-0"	b1	1'-5"
	7"	5'-3"	b3	7"
	10"	7'-6"	t1	10"
	7"	4'-9"	t2	7"
②				Ht.
	5'-0"		m1	1'-5"
	18'-5"		v1	1'-5"
	19'-11"		v2	1'-5"
③	Ht.			Ht.
	4½"	2'-2"	s2	4½"
④	5"			Ht.
	2'-5"	2'-2"	s1	

NOTE: All bar dimensions are out to out.

Note: Reinforcing in top of Cap may be shifted as necessary to clear Anchor Bolts.

BILL OF MATERIAL

For 1 Bent - 2 Req'd.

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
b1	6	#10	1	27'-10"	729
b2	5	#8	Str.	25'-0"	334
b3	12	#5	1	6'-5"	80
m1	16	#10	2	6'-5"	444
s1	20	#5	4	7'-10"	163
s2	16	#4	3	2'-11"	31
t1	12	#7	1	5'-2"	225
t2	18	#5	1	5'-11"	111
Bent 1 v1	16	#10	2	19'-10"	1365
Bent 3 v2	16	#10	2	21'-4"	1469

BENT 1

Reinf. Steel Lbs.	3473
Class "A" Concrete Cu. Yds.	23.5
12 BP53 Steel Piles No.	12
12 BP53 Steel Piles Lin. Ft.	~~252~~ 240'-0"

BENT 3

Reinforcing Steel Lbs.	3577
Class A Concrete Cu. Yds.	24.1
12 BP53 Steel Piles No.	12
12 BP53 Steel Piles Lin. Ft.	~~252~~ 236'-4"

PROJECT NO. B.18293

HENDERSON COUNTY

STATION 1284+06 L
10+00 Y6

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

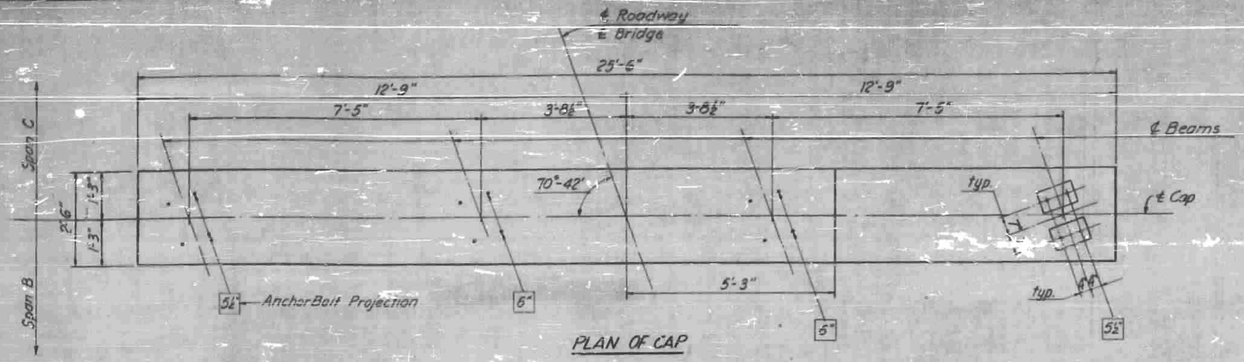
BENTS 1 & 3

REVISIONS	DATE

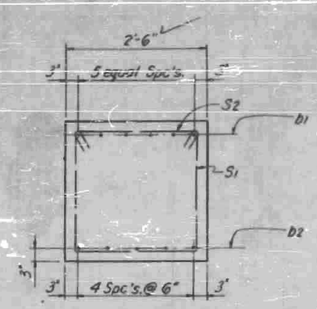
SHEET NO. 5
TOTAL SHEETS 16

N.C.	482	569
F.A. PROJ. NO.		

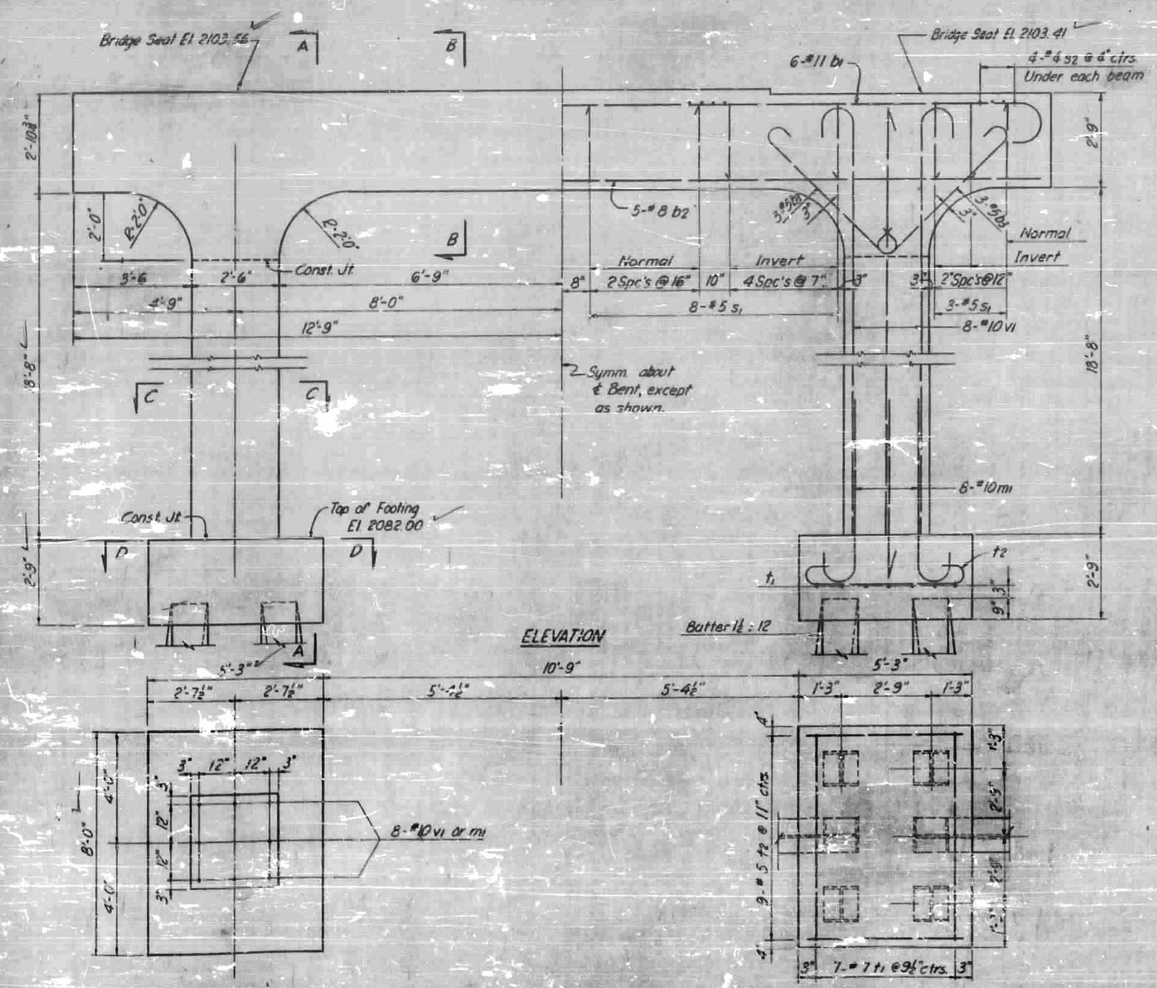
FED. AID PROJ. SHEET NO.	STATE	PROJECT NO.
8	N. C.	B-18293
F.A. Project I-26-1(51)12		



PLAN OF CAP



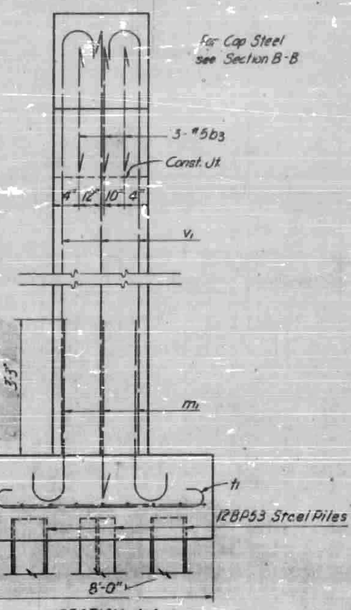
SECTION B-B



SECTION C-C

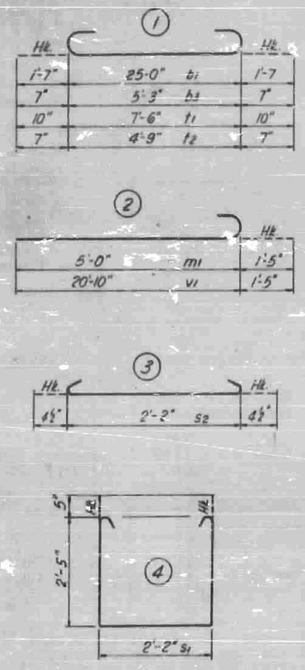
PLAN OF FOOTINGS

SECTION D-D



SECTION A-A

BAR DETAILS



NOTE: All bar dimensions are out to out.

Note: Reinforcing in top of Cap may be shifted as necessary to clear Anchor Bolts.

BILL OF MATERIAL

for Bent 2

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
b1	6	#11	1	26'-2"	838
b2	5	#8	Str.	25'-0"	234
b3	12	#5	1	6'-5"	80
m1	16	#10	2	6'-5	444
s1	22	#5	4	7'-8"	180
s2	16	#4	3	2'-11"	91
t1	14	#7	1	9'-2"	220
t2	18	#5	1	5'-11"	111
v1	16	#10	2	22'-3"	1532
Reinforcing Steel Lbs					3,775
Class A Concrete Cu.Yds.					24.3
12 BP53 Steel Piles No.					12
12 BP53 Steel Piles Lin. Ft.					240

242-4

PROJECT NO. B-18293

HENDERSON COUNTY

STATION 1284+06 L
10+00 Y6

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

BENT 2

FED. ROAD DIST. NO.	STATE	PROJECT NO.
9	N. C.	B-18293

FED. AID PROJ. NO. BRSTP-

F.A. PROJ. NO. 483 569

BILL OF MATERIAL

END BENT #1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
b_1	8	#11	1	32'-8"	1368
b_2	4	#4	str.	29'-6"	79
b_3	8	#4	str.	2'-7"	12
b_4	6	#6	1	5'-3"	47
b_5	4	#6	7	11'-9"	71
b_6	2	#6	str.	29'-6"	158
c_1	4	#4	6	5'-2"	14
h_1	4	#4	str.	3'-5"	9
h_2	16	#6	str.	5'-11"	89
h_3	8	#6	str.	3'-9"	45
h_4	10	#6	str.	7'-8"	111
h_5	5	#4	str.	5'-0"	12
h_6	10	#4	str.	1'-6"	10
h_7	5	#4	str.	4'-8"	16
h_8	5	#4	str.	4'-10"	16
h_9	5	#4	str.	2'-9"	7
s_1	22	#4	3	7'-3"	107
s_2	22	#4	2	2'-11"	43
s_3	6	#4	6	8'-4"	33
s_4	6	#4	6	9'-8"	39
s_5	8	#4	5	8'-2"	44
v_1	14	#6	str.	8'-0"	78
v_2	12	#7	1	8'-3"	202
v_3	12	#4	str.	2'-3"	18
v_4	8	#4	str.	2'-6"	13
v_5	8	#4	str.	3'-4"	18

Reinforcing Steel	lbs.	2676
Class 'A' Concrete	cu.yds.	19.6
12"BP53 Steel Piles	no.	8
12BP53 Steel Piles	lin.ft.	~~320~~ 400 -6"

* Concrete displaced by pile heads has been deducted.

PROJECT NO. B-18293

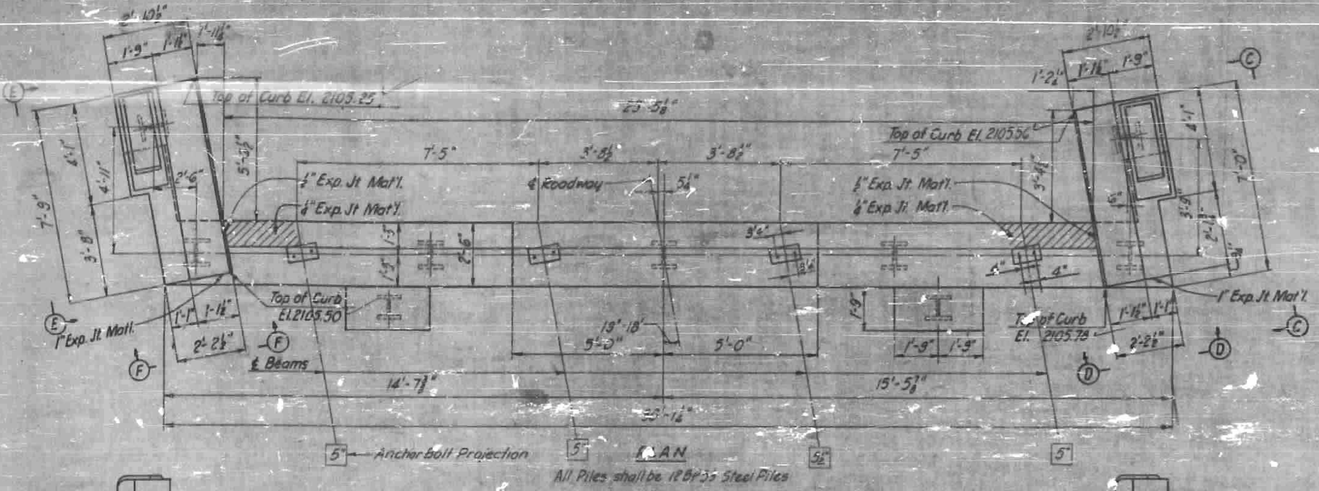
HENDERSON COUNTY

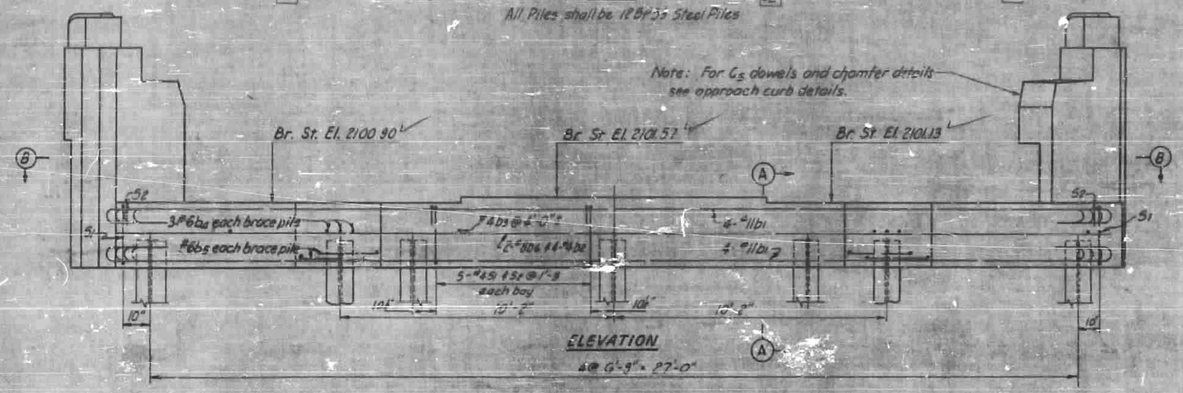
STATION 1284+06L
10+00Y°

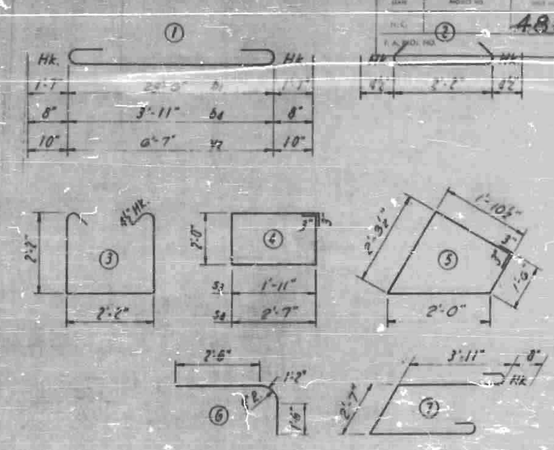
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
DIVISION

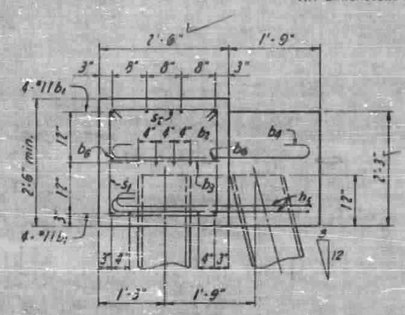
END BENT 1

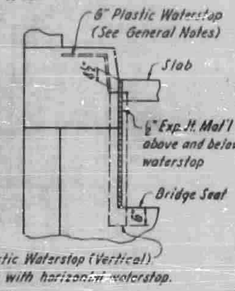
SHEET 1 OF 1 SHEETS

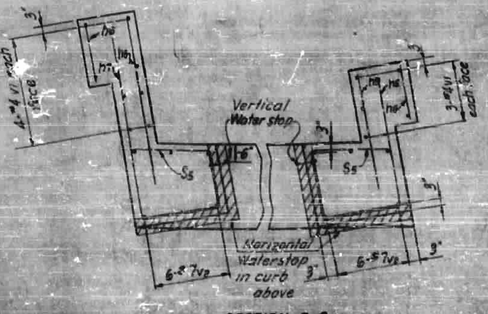


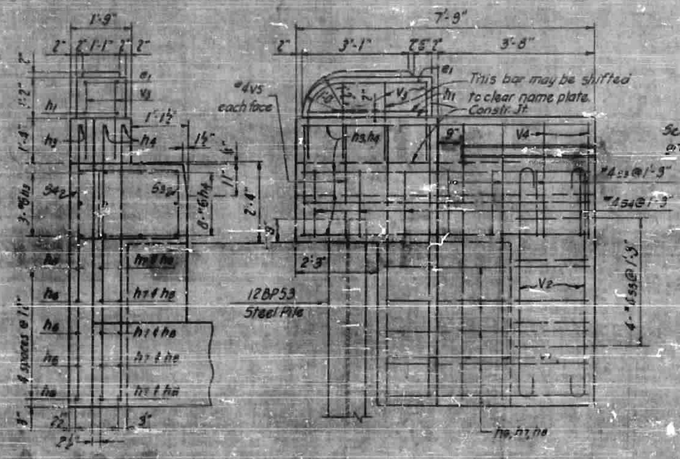


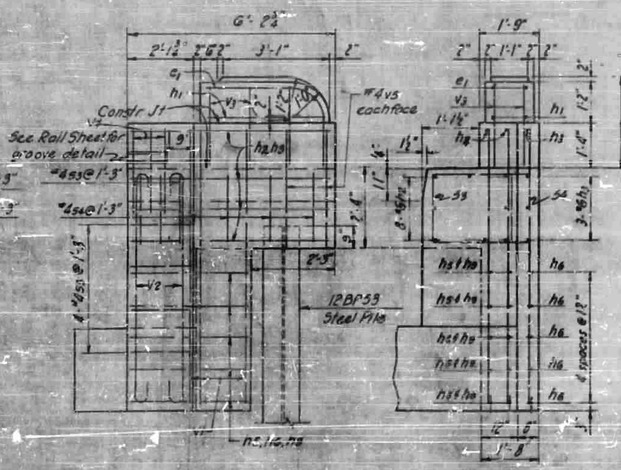












Note: For C_5 dowels and chamfer details see approach curb details.

Sheet 1 - Revised to change anchor bolt spl. to 2 BP

FED. ROAD DIST. NO.	STATE	F. A. PROJECT NO.
9	N. C.	S-1323(3)

Fed. Aid Proj. I-26-1(6)12

		SHEET NO.	TOTAL SHEETS
		484	569

T. I. PROJ. NO.

PLAN

All Piles shall be 12BP53 Steel Piles

ELEVATION

4@0'-9" = 27'-0"

SECTION A-A

VIEW G-G

SECTION B-B

VIEW F-F

VIEW E-E

VIEW C-C

VIEW D-D

BAR TYPES

All dimensions are out to out.

BILL OF MATERIAL

END BENT #2

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
b_1	8	#11	1	32'-8	1388
b_2	4	#4	str.	29'-6	79
b_3	8	#4	str.	2'-7"	12
b_4	6	#6	1	5'-3"	47
b_5	4	#6	7	11'-9"	71
b_6	2	#8	str.	29'-6"	158
c_1	4	#4	6	5'-2"	14
h_1	4	#4	str.	3'-5"	9
h_2	10	#8	str.	6'-6"	90
h_3	8	#8	str.	3'-8"	45
h_4	10	#8	str.	6'-2"	123
h_5	5	#4	str.	3'-6"	12
h_6	10	#8	str.	1'-6"	10
h_7	5	#8	str.	5'-6"	18
h_8	5	#8	str.	5'-8"	19
h_9	5	#8	str.	2'-10"	9
S_1	22	#8	3	7'-3"	107
S_2	22	#8	2	2'-11"	43
S_3	6	#8	4	8'-4	33
S_4	6	#8	6	9'-8"	39
S_5	6	#8	5	8'-2	33
V_1	14	#8	str.	8'-1"	76
V_2	12	#7	1	8'-9	206
V_3	12	#8	str.	2'-3"	18
V_4	8	#8	str.	2'-6"	13
V_5	8	#8	str.	3'-4	16
Reinforcing Steel				lbs.	2701
Class 'A' Concrete				cu.yds.	15.8
12BP53 Steel Piles				no.	9
12BP53 Steel Piles				lin.ft.	702
					367.0

* Concrete displaced by pile heads has been deducted.

PROJECT NO. 8.132393

HENDERSON COUNTY

STATION 1284+06L
10+00Y*

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

END BENT 2

REVISIONS			
BY	DATE	NO.	BY
	4-9-65	2	
		1	

Revision 1. Revised to change anchor bolt spc. 1'-0" ℄

Horizontal Waterstop in curb above

Vertical Waterstop

6" Plastic Waterstop (See General Notes)

6" Plastic Waterstop (Vertical) Splice with horizontal waterstop.

Bridge Seat

Slab

2 #4 p.l. Mat'l above and below waterstop

This portion may be poured with superstr.

Const. Jt

See Rail sheet for groove details

Note: For C_5 dowels and chamfer details see approach curb details.

Top of Curb El. 2109.70

Top of Curb El. 2109.62

Top of Curb El. 2109.63

Top of Curb El. 2108.55

Br. St. El. 2105.04

Br. St. El. 2105.57

Br. St. El. 2104.97

1" Exp. Jt Mat'l.

1/4" Exp. Jt Mat'l.

℄ Roadway

℄ Beams

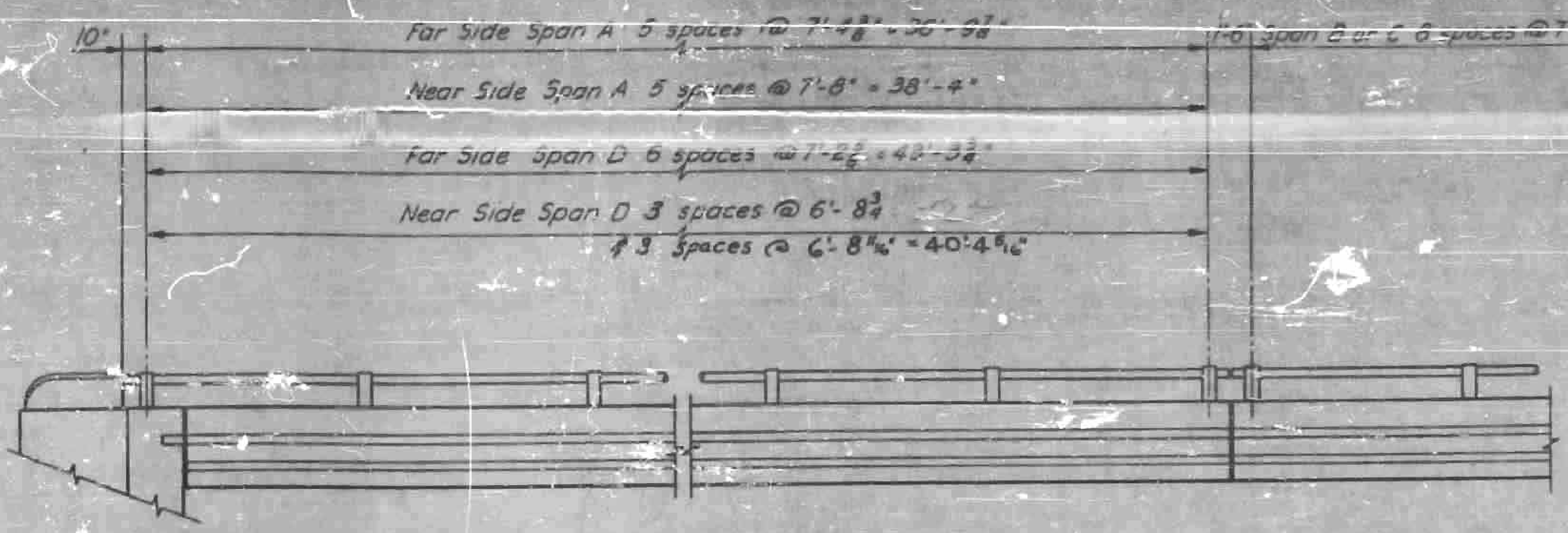
Anchor Bolt Projection

12BP53 Steel Pile

This bar may be shifted to clear name plate.

FED. ROAD DIST. NO.	STATE	PROJECT NO.
5	N.C.	8.18293
FED. AID PROJ.	I-26-1(5)12	

	PROJECT NO.	SHEET NO.	TOTAL
		485	569



PARAPET AND RAILING ELEVATION

NOTES:

Unless noted on the plans, maximum length of rail section to be two panels plus "stick thru."

End of rail to clear face of concrete End Post by 1½"±.

For double panel runs of rail, set screws shall be set tight at center post and snug at ends to allow for expansion.
For single panel runs, set screw to be tight at one end and snug at the other end.

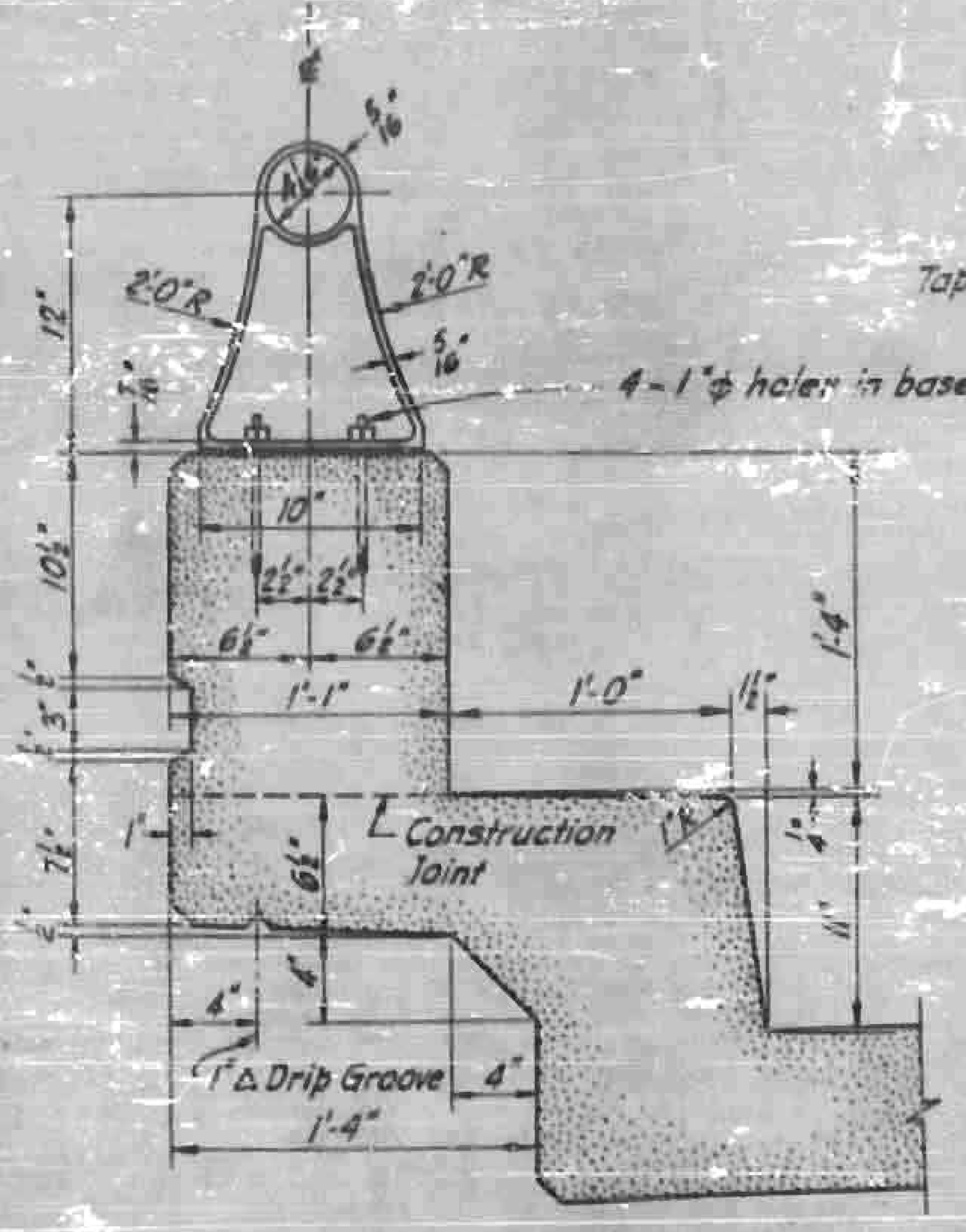
¾" ⌀ Anchor bolts - hex. nuts and washers to be steel galvanized in accordance with ASTM A-153 and painted with 2 coats of aluminum paint after erection.

Cast posts to be as shown or an approved equal.

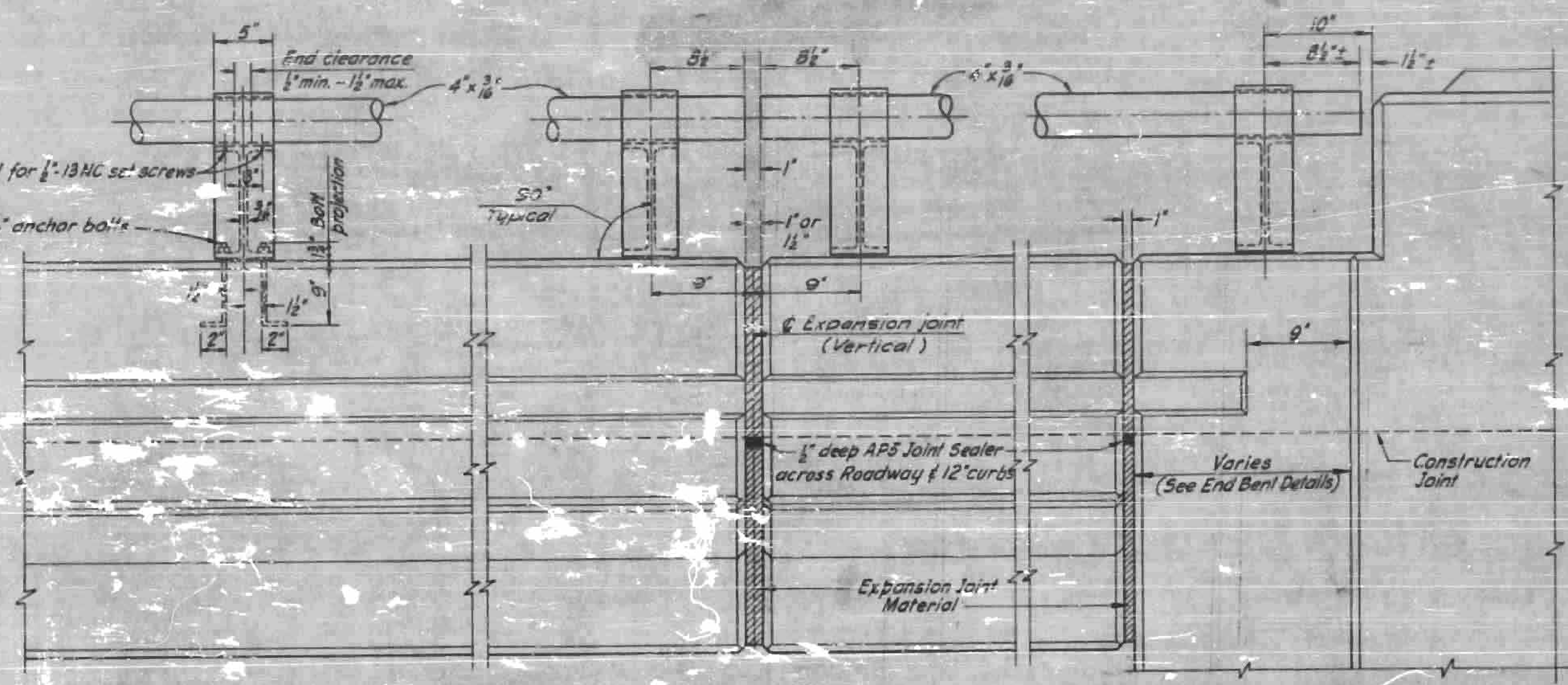
Certified Mill reports are required for rails and posts. Shop inspection is not required.

Metal Rail Posts to be set normal to curb grade

Method of measurement for Metal Rails:
Unless otherwise stated, the length of Metal rails to be paid for shall be the continuous horizontal length measured from end to end of rail, excepting concrete posts, but without deductions for spaces between rail sections



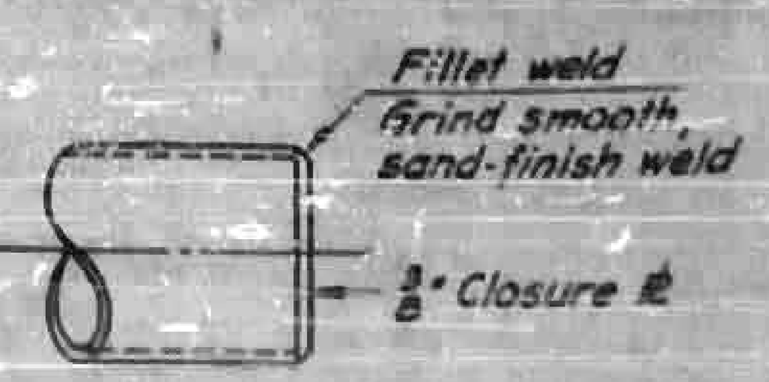
TYPICAL SECTION



ELEVATION

JOINT DETAILS AT BENTS

JOINT DETAILS AT END BENTS



DETAIL END CLOSURE

PARAPET AND RAILING DETAILS

At the Contractor's option metal rail may be either Aluminum or Galvanized Steel in accordance with the requirements of the general notes and the following specifications for the alternate materials; however, the Contractor will be required to use the same rail material on all structures on the project for which metal rail is designated.

ALUMINUM RAILS

Aluminum alloys are to be as follows:

Cast Rail Posts	A356-T6
Round Tubular Rail	6061-T6 or 6062-T6
Set Screws	2024-T4
Closure Plates	6061-T6 or 6062-T6

Round Tubular Rails are to be of 4" O.D. with 3/16" minimum wall thickness.

The base of rail posts, or any other aluminum surface in contact with concrete shall be thoroughly coated with an aluminum impregnated caulking compound of approved quality.

GALVANIZED STEEL RAILS

Material and galvanizing are to conform to the following specifications:

Cast Rail Post	Malleable cast iron ASTM A47 Grade 35018, Galvanized to ASTM A123
or	Cast Steel, AASHO M192-60 Class 70, Galvanized to ASTM A123
4" O.D. Rail	Standard 3½" Steel Pipe, ASTM A-53 Galvanized
Closure Plates	Steel, ASTM A-245 Grade C, Galvanized to ASTM A-123
Set Screws	Standard Steel Cap Screws, Galvanized to ASTM A-153

The cut ends of galvanized pipe railing, the end closure plate weld after grinding smooth and areas adjacent to the weld where spelter coating has been burned by welding shall be thoroughly cleaned by wire brushing to remove all traces of welding flux and loose or cracked spelter after which these cleaned areas shall be given two coats of Zinc paint meeting the requirements of Federal Specification MIL-P26915 (USAF) Type I.

Rev. No. 1 to correct rail spacing for N.S. Span D. ✓ C.B.P.

PROJECT NO. 8.18293

Henderson COUNTY

STATION 1284+06 L
10+00 Y6

NO.	BY	DATE
1	[illegible]	2-17-[illegible]

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

PARAPET AND RAILING DETAILS