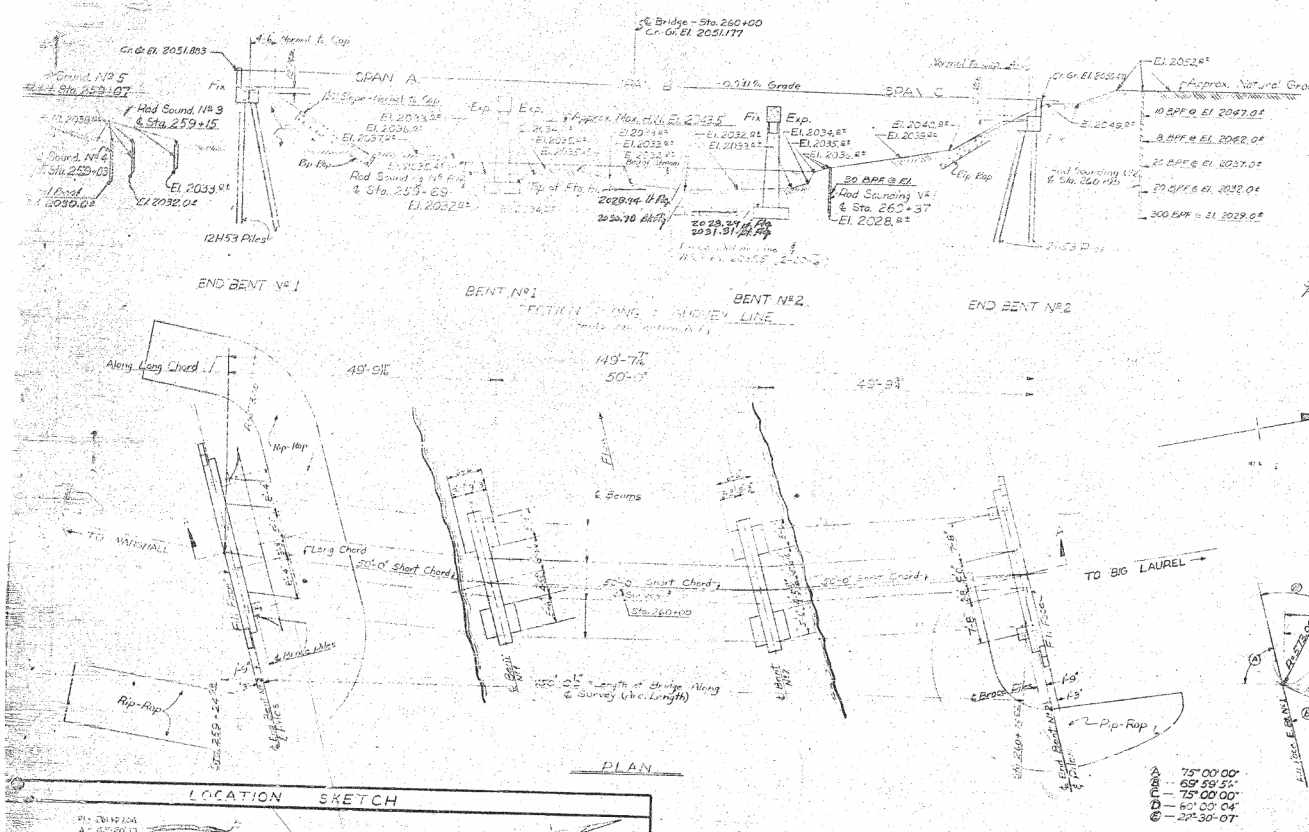
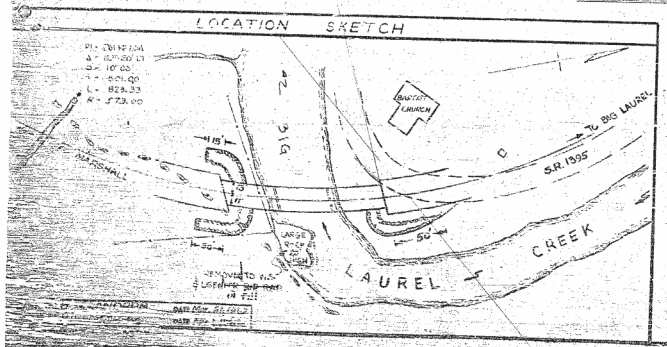




NOTES

ASSUMED LIVE LOAD:
Assumed live load H15 (44).

OTHER DATA:
For other design data and general notes see Sheet S-N.

FOUNDATION LOAD:
Computed foundation load for Bents No 1 & No 2 equals 3 tons per sq. ft.

PILES:
Piles for End Bents No 1 & No 2 to be driven to a minimum bearing capacity of 30 tons each.

FOOTINGS:
Footings to be carried at least 12" into rock with minimum thickness shown on plans.

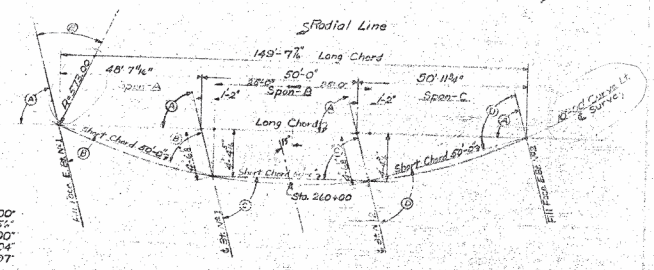
* PILE LENGTHS
The contractor shall be responsible for determining lengths of piles required. See Special Provisions.

PILES THRU FILL
Piles for End Bent No. 1 to be driven through the roadway fill.

MAINTENANCE AND REMOVAL

[illegible] and Removal of Existing [illegible] temporarily [illegible] span with [illegible] on steel stringers and [illegible] and Bents No. 1 & No. 2 [illegible] Contractor [illegible] with the Specifications. See Specifications and Special Provision.

I hereby certify that this structure was built according to plans except as indicated.
Bill Brown
Resident Engineer



A — 75° 00' 00"
B — 69° 59' 55"
C — 75° 00' 00"
D — 60° 00' 04"
E — 22° 30' 01"

DETAIL OF LONG CHORD OF BRIDGE
On 10° Curve Lt.

Note: Bents are placed parallel to a line which is skewed 15° Rt. Ah. from a radial line at the ℄ of the bridge.

B.M. #25 - NAIL IN BASE 12" LOCUST 92' LT. STA. 260+79 - ELEV. 2058.80

TOTAL BILL OF MATERIAL

	Class "A" Concrete	Reinforcing Steel	Structural Steel	12 H 53 Steel Piles	Excavation (Wet)	Excavation (Dry) 2-6	Concrete Rip Rap	Maint. & Removal of Exist. Str.		
	Cu. Yds.	Lbs.	Approx. Lbs.	No. Lin. Ft.	Cu. Yds.		Sq. Yds.			
SPAN A	43.9	5027	26,900							
SPAN B	40.8	5726	27,800				20.76			
SPAN C	43.6	5[illegible]	26,900				20.76			
END BT. No 1	10.0	2,201		6	[illegible]		233.84		See Sheet No. 26,27	
BENT No 1	12.0	2,060			[illegible]	1,951	233.84		See Sheet No. 23	
BENT No 2	[illegible]	3,659			[illegible]		233.84		See Sheet No. 25	
END BT. No 2	10.3	2,273		6	[illegible]		233.84		See Sheet No. 26,28	
TOTALS	[illegible]	30,026	81,600	12	256	[illegible]	[illegible]	1,951		

NO.	BY	DATE	REVISIONS

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
BRIDGE
GENERAL DRAWING
FOR
BRIDGE OVER
BIG LAUREL CREEK
ON SR. No 1995
BETWEEN MARSHALL AND BIG LAUREL
March 1962

PROJECT No. 8.20553
MADISON COUNTY
STATION: 260+00
Replacing Bridge #71

S-7
21

Station	Column 2 Top of curb Dist.	Elev.		Column 3 ℄ of Beam Dist.	Elev.		Column 4 ℄ of Roadway Dist.	Elev.		Column 5 ℄ of Beam Dist.	Elev.		Column 6 Top of curb Dist.	Elev.		Column 7 Bottom of Overhang Dist.	Elev.	
	Fill Face		Begin Curb			Fill Face			Begin Curb			Fill Face			Begin Curb			Fill Face
		2051.015	259+20.00					2051.003									2051.027	
		.531					5'0½"	.035	259+30.00							2½"	.526	259+30.00
		.537					10'0"	.742								10'2½"	.432	
		.543					10'0"	.648								10'2½"	.338	
		.550					10'0"	.553								10'2½"	.243	
		.556	259+70.00				10'0"	.459	259+70.00							10'2½"	.149	259+70.00
		.570	℄ Bl. 1				4'11½"	.412	℄ Bl. 1							8'10½"	.047	℄ Bl. 1
		.620	259+80.00				5'0½"	.363	259+80.00							1'-3½"	.055	259+80.00
		.626					10'0"	.271								10'2½"	2050.961	
		.632					10'0"	.177								10'2½"	2050.867	
		.638					10'0"	2051.083								10'2½"	.773	
		.644	260+20.00				10'0"	2050.989	260+20.00							10'2½"	.679	260+20.00
		.650	℄ Bl. 2				5'0½"	.940	℄ Bl. 2							7'-9"	.607	℄ Bl. 2
		.700	260+30.00				4'-11½"	.895	260+30.00							2'-5½"	.585	260+30.00
		.656					10'0"	.801								10'2½"	.491	
		.662					10'0"	.707								10'2½"	.397	
		.667					10'0"	.612								10'2½"	.302	
		.673	260+70.00				10'0"	.518	260+70.00							10'2½"	.208	260+70.00
		2050.679	Fill Face				5'0½"	2050.471	Fill Face							6'-8½"	2050.146	Fill Face

GRADE DATA

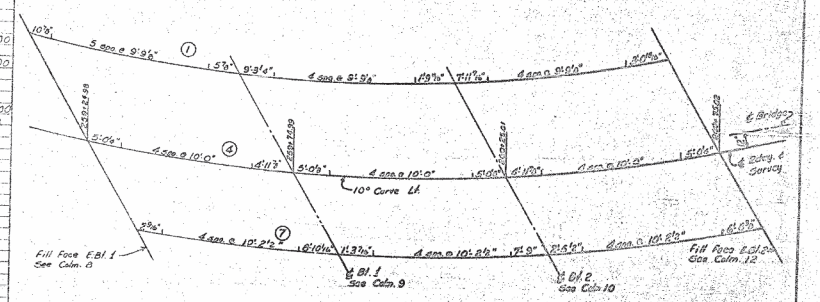
-0.941%

P.I. Sta. 257+00
P.I. Elev. 2053.00
Length of Curve 400'
G1 — % G2 = -0.941 %

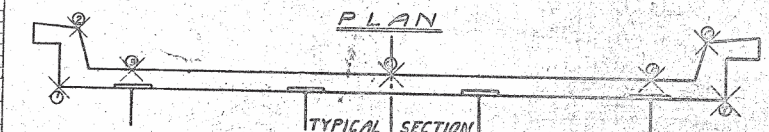
FED. ROAD DIV. NO.	STATE	STE-DIST. NO.
3	N.C.	B-2053

R.A. PROJECT S-1430(1)

Sheet No. 9 Total Sheets 20



PLAN



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 at 2'-0" intervals normal to ℄ of roadway, from left gutter line to right gutter line.

HEADERS

Column 8 Fill Face of E.B. 1 Point	Elev	Column 9 ℄ of Bent 1 Point	Elev	Column 10 ℄ of Bent 2 Point	Elev	Column 11 ℄ of Bent 3 Point	Elev	Column 12 Fill Face E.B. 2 Point	Elev
Lt. Gutter	2051.015	Lt. Gutter	2050.888	Lt. Gutter	2050.808			Lt. Gutter	2050.000
1'-1½"	.051	1'-0½"	2050.969	1'-0½"	.807			1'-0½"	2050.000
2'-2½"	.088	2'-1½"	2051.003	2'-0½"	.800			2'-0½"	.004
2'-2½"	.105	2'-1½"	.116	2'-0½"	.800			2'-0½"	.191
2'-2½"	.107	2'-1½"	.100	2'-0½"	.716			2'-0½"	.299
℄	.139	2'-1½"	.265	2'-0½"	.700			2'-0½"	.815
2'-2"	.811	2'-1½"	.889	2'-0½"	.000			2'-0½"	.864
℄	.889	℄	.812	℄	2050.902			℄	.871
2'-1½"	2051.009	2'-1½"	.809	2'-0½"	2051.018			2'-0½"	.869
2'-1½"	2052.020	2'-1½"	.801	2'-0½"	.003			2'-0½"	.626
2'-1½"	.100	2'-1½"	.695	2'-0½"	.109			2'-0½"	.704
2'-1½"	.172	2'-1½"	.708	2'-0½"	.208			2'-0½"	.701
2'-1½"	.203	2'-1½"	.760	2'-0½"	.291			2'-0½"	.630
Rt. Gutter	2052.201	Rt. Gutter	2051.880	Rt. Gutter	2051.800			Rt. Gutter	2050.000

SUPERIMPOSED DEAD LOAD DEFLECTIONS (Continued)

	Span 8	Span 9	Span 10	Span 11	Span 12
Int.	½"	0"	0"		
End	1½"	½"	½"		
Fac. of Fdn.	1'-1½"	1'-1½"	1'-1½"	1'-1½"	1'-1½"
Sheet	2051.00	2051.00	2051.00		

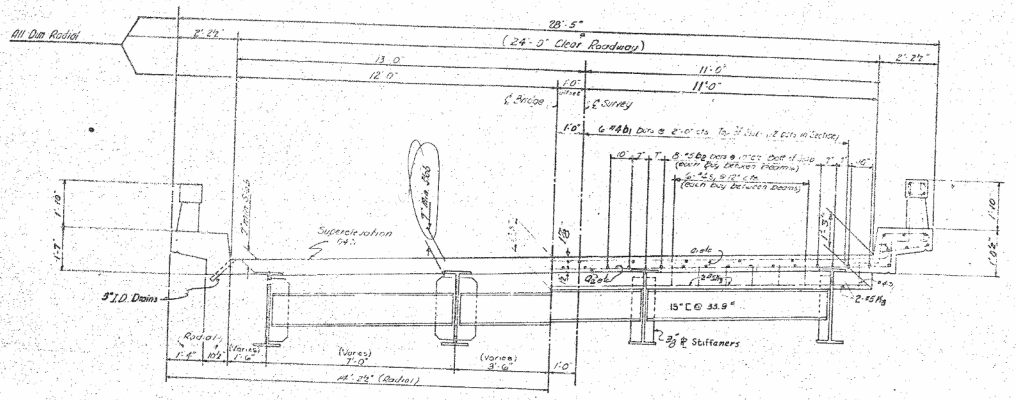
PROJECT No. B-2053
MADISON COUNTY
STATION: 260+00-L-

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

ELEVATIONS FOR SETTING UP FORMS AND SCREEDS

APRIL 1961

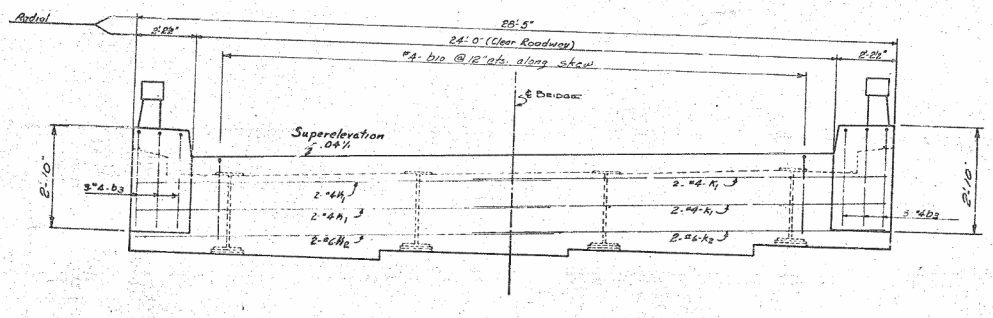
REVISIONS							
NO.	BY	DATE	NO.	BY	DATE		
1			3				
2			4				



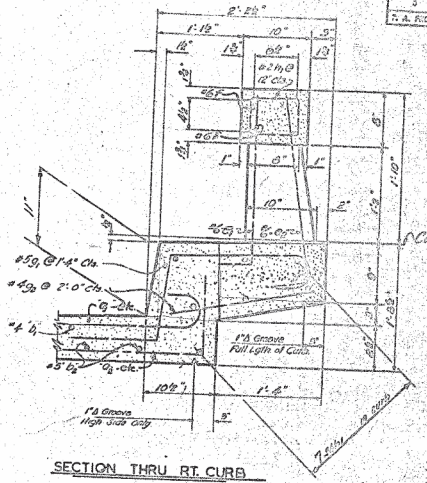
At Midspan

TYPICAL SECTION

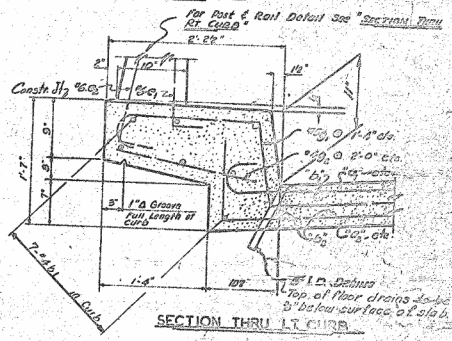
At Interior Bents



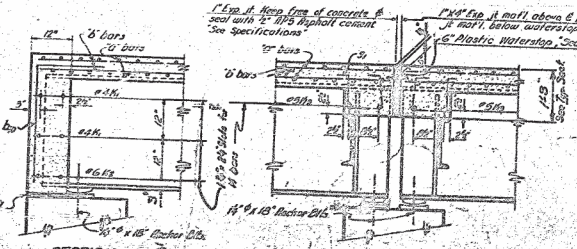
END ELEVATION



SECTION THRU RT. CURB



SECTION THRU LT. CURB



SECTION A-A

SECTION B-B

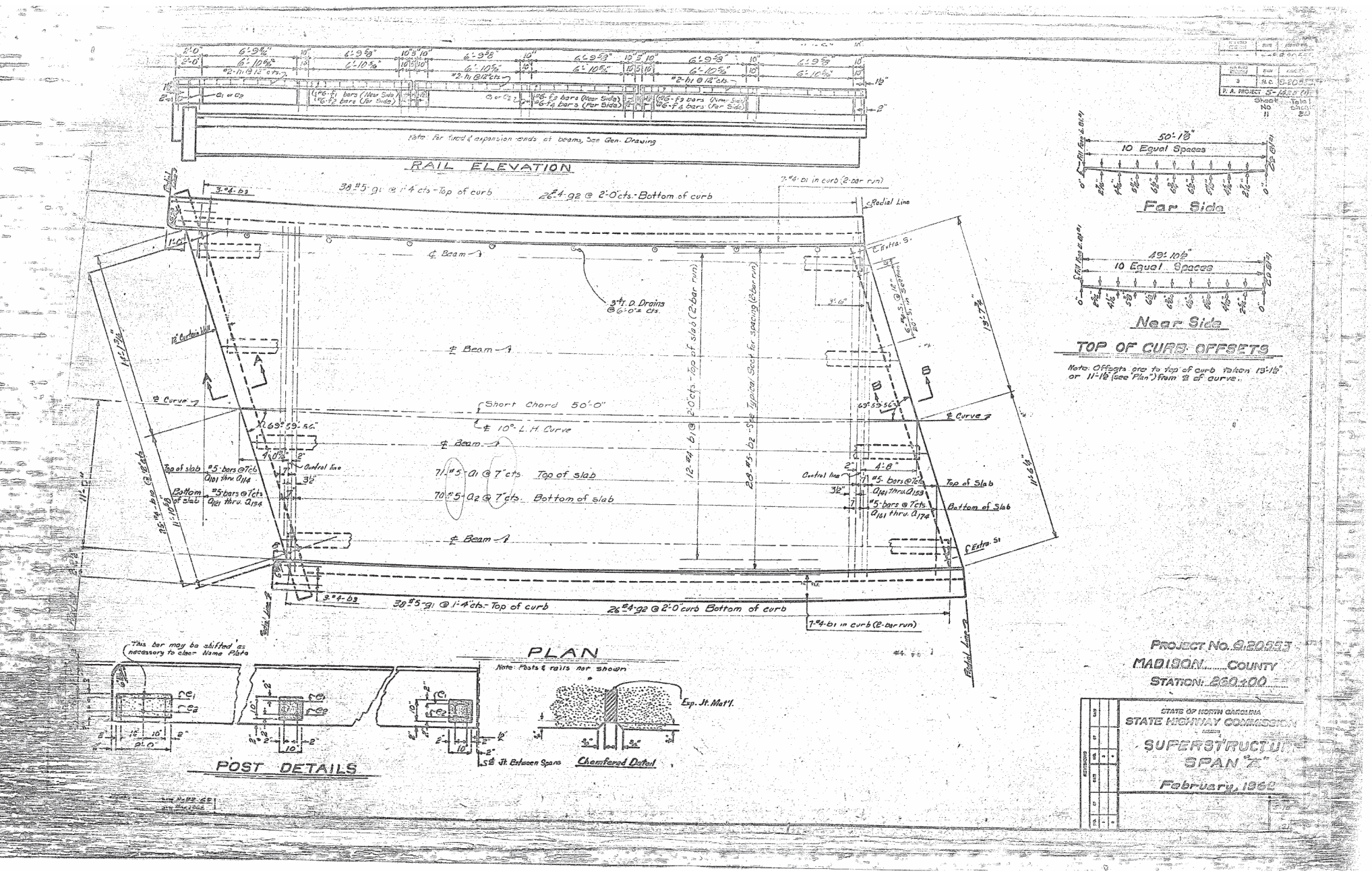
PROJECT No. 6.20559.1

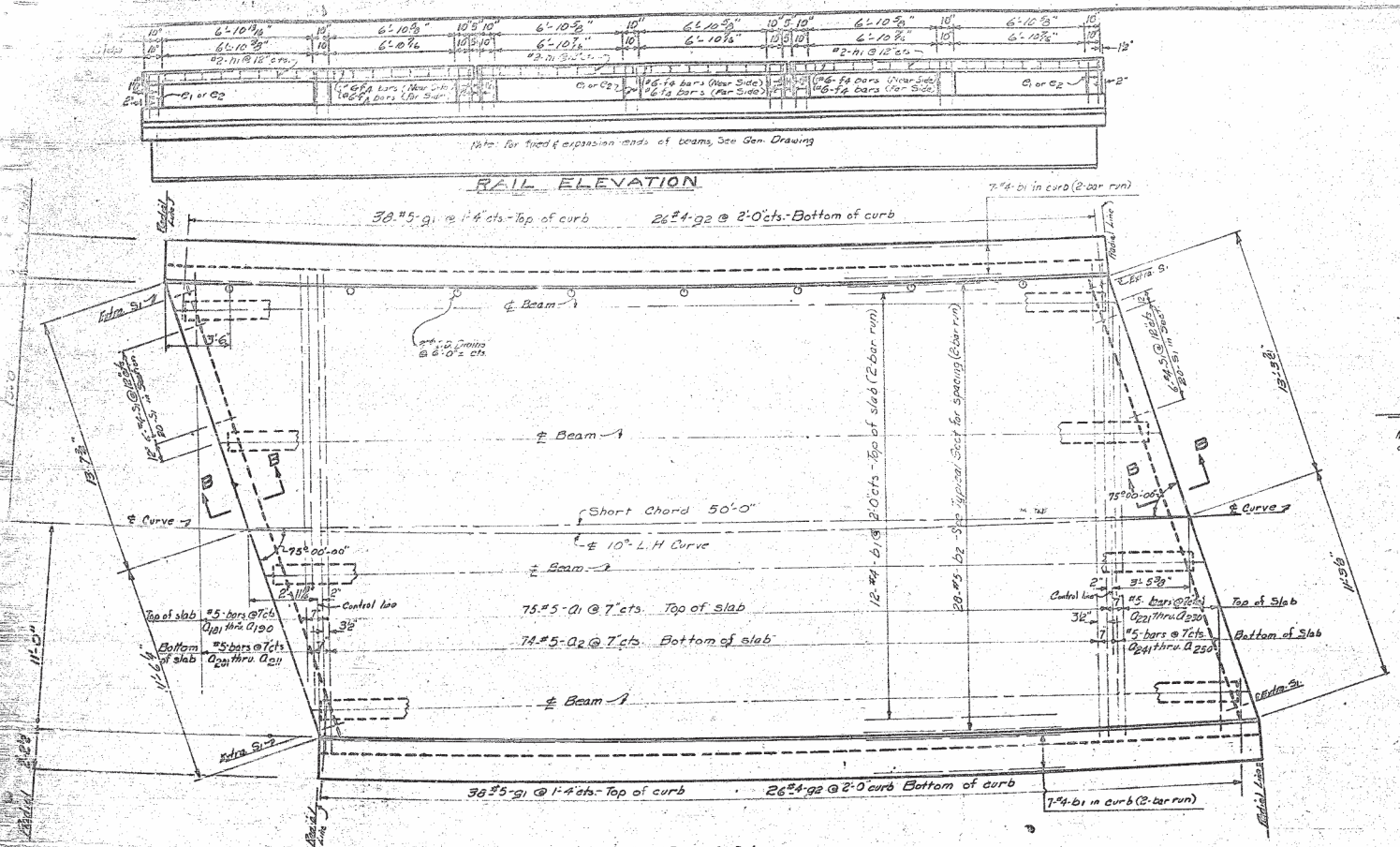
MADISON COUNTY

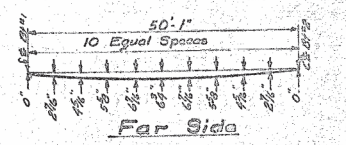
STATION: 260+00

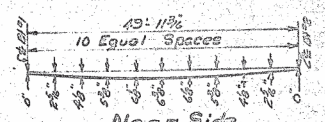
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

TYPICAL SECTION
24' Roadway – 12' Curbs
4 Steel Beams ∠ H-15
New Type Post & Rail


RAIL ELEVATION
Note: For fixed & expansion ends of beams, See Gen. Drawing
PLAN
Note: Posts & rails not shown
POST DETAILS
Chamfered Detail
Exp. Jt. Mat'l.
Far Side
Near Side
TOP OF CURB OFFSETS
Note: Offsets are to top of curb taken 13'-1½" or 11'-1½" (see Plan) from ℄ of curve.
PROJECT No. S-2099B
MADISON COUNTY
STATION: 260+00
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
SUPERSTRUCTURE
SPAN "K"
February, 1960







TOP OF CURB OFFSETS

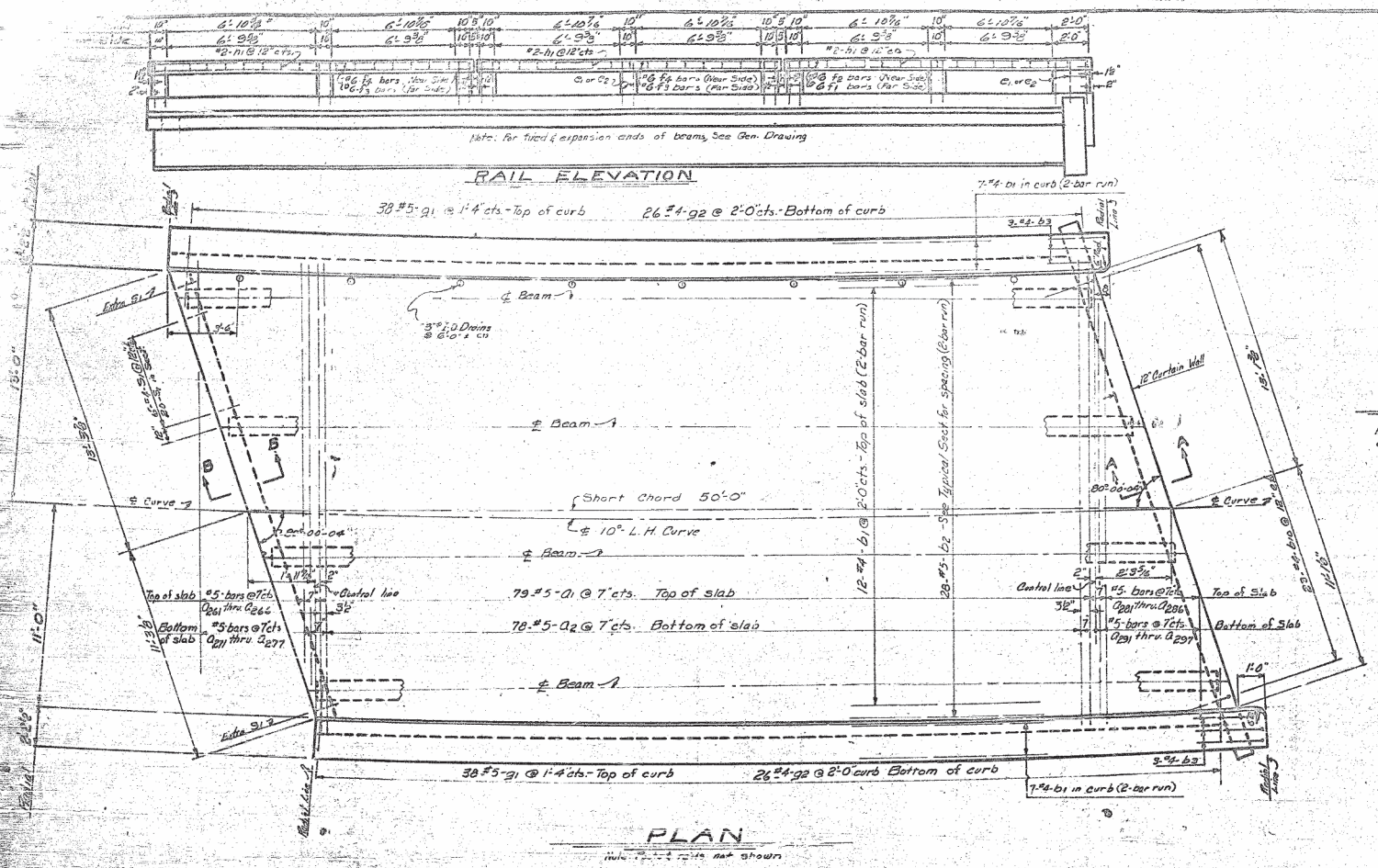
Note: Offsets are to top of curb taken 13'-1 1/2" or 11'-1 1/2" (see Plan") from ℄ of curve.

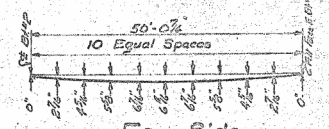
PROJECT No. 9.20233
MADISON COUNTY
STATION: 260+00

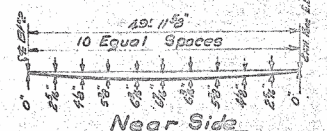
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

SUPERSTRUCTURE
SPAN "E"

February, 1962







TOP OF CURB OFFSETS

Note: Offsets are to top of curb taken 13'-12" or 11'-13 (see Plan) from ℄ of curve.

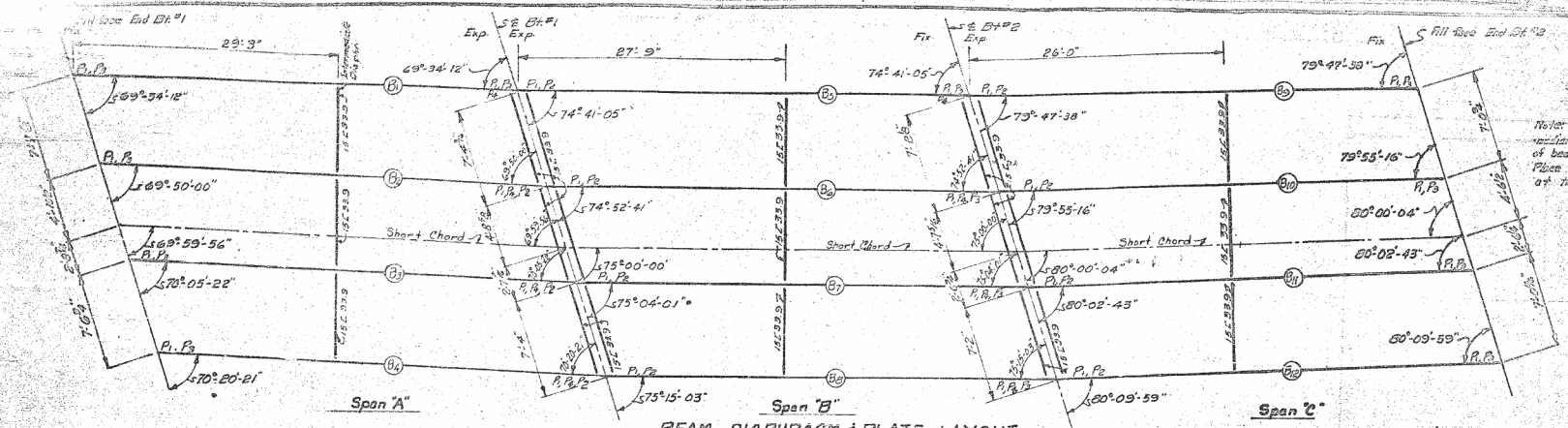
PROJECT No. 9.20553
MADISON COUNTY
STATION: 260+00

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
BRIDGE
SUPERSTRUCTURE
SPAN "G"
February, 19

STATE	STATE	PROJECT NO.
3	N.C.	9.20553

F. A. PROJECT S-1020(1)

Sheet No. 19 Total Sheets 20



BEAM, DIAPHRAGM, & PLATE LAYOUT

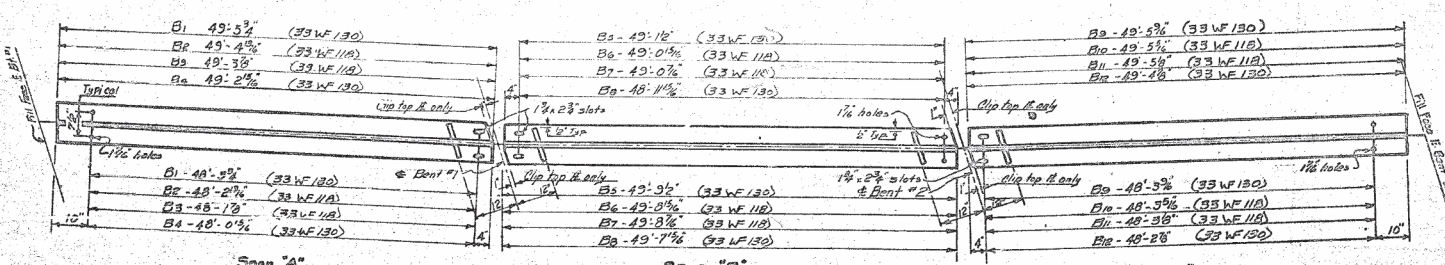
NOTE: For slots in web of beams for "K" bars see Sections A-A & B-B.

Note: Dim. for locating intermediate diaphr. are from ends of beams to back of 15 LB 33.9. Place diaphr. normal to beams at the point shown.

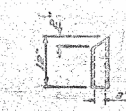
Note: Omit stiffeners on outside of exterior beams ℄ at end bents.

Note: All beams shall be of ASTM A36 grade structural steel. See Sheet S.N.

Note: For chart showing deflections see superstructure "Bill of Mat'ls."



BOTTOM FLANGE DETAIL

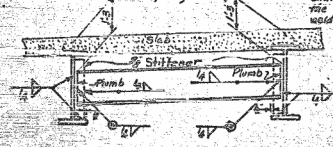


DRAIN DETAIL
Required 84

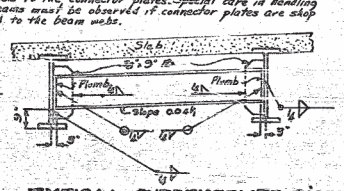
Note: Drain shall be 3" I.D. std weight galv. steel pipe. Drains shall be painted with two field coats of aluminum paint.

NOTE: The contractor may, at his option but without change in the contract price of structural steel, use split WF 50 connectors bolted to the beam web and welded to the channel diaphragm in lieu of the welded plate intermediate diaphragm connections shown.

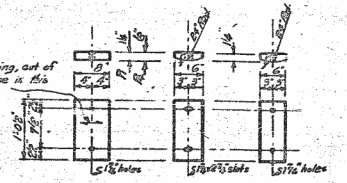
NOTE: In lieu of the welding procedure for shop and field welds indicated for the intermediate diaphragm connections, the contractor may, at his option, shop weld the connector plate to the beam webs and field weld the channels to the connector plates. Special care in handling the beams must be observed if connector plates are shop welded to the beam webs.



TYPICAL DIAPH. AT BENTS



TYPICAL INTERMEDIATE DIAPH.

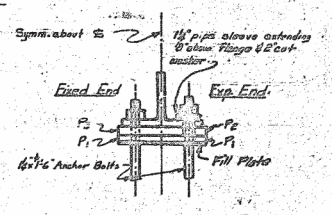


P1 & P3 Plates P2 Plate P4 Plate

BEARING PLATE DETAILS

No. Bearing Plate Required

P1 — 24
P2 — 12
P3 — 12
P4 — 8



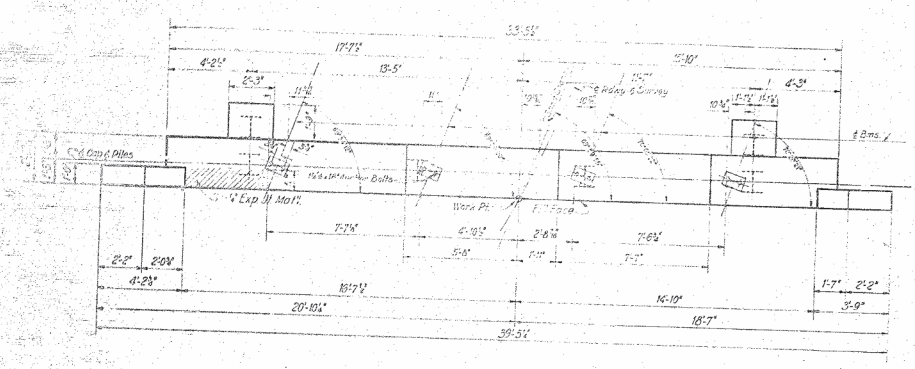
SECT. THRU. BM. SHOWING PLS.

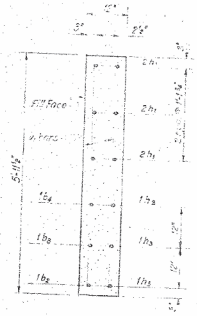
PROJECT No. 8.2055S
MADISON COUNTY
STATION: 260+00

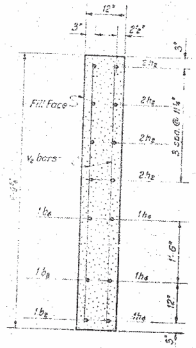
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
BRIDGE

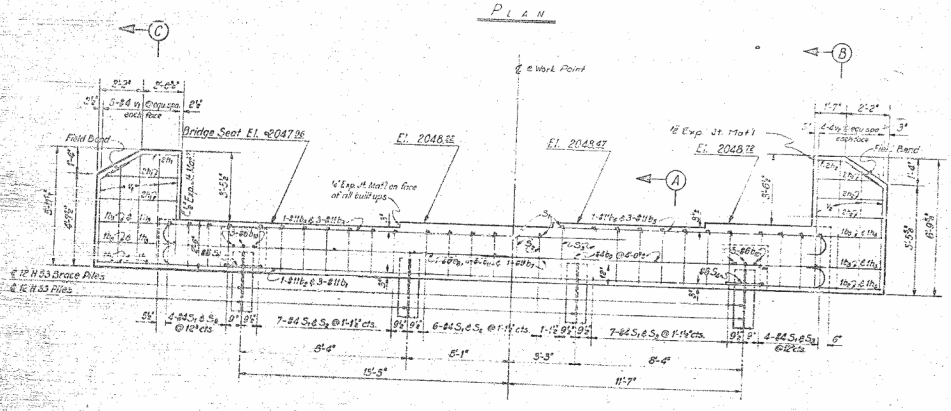
STRUCTURAL STEEL DETAILS

February, 1962

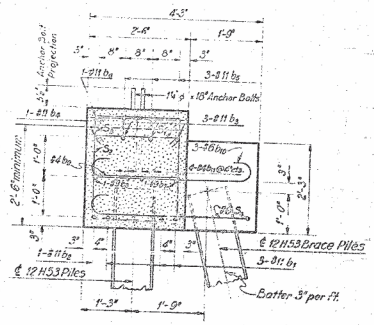


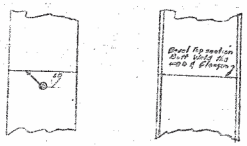




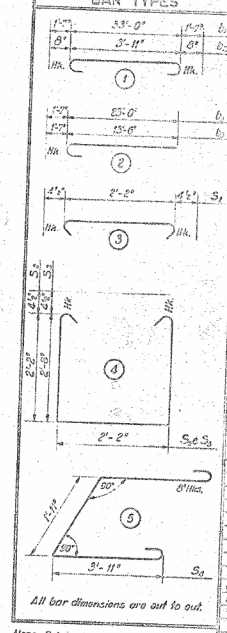


Piles to be driven to a minimum bearing capacity of 50 tons each.





BAR TYPES



All bar dimensions are out to out.

Note: Reinforcing steel in top of cap may be shifted as necessary to clear anchor bolts.

BILL OF MATERIAL

FOR END BT. NO. 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
b_1	3	#11	1	[illegible]	[illegible]
b_2	1	#11	2	20'-7"	206
b_3	3	#11	2	20'-7"	1236
b_4	1	#11	2	20'-7"	206
b_5	3	#11	2	15'-7"	234
b_6	1	#11	2	15'-7"	78
b_7	1	#9	2	35'-0"	119
b_8	1	#9	2	32'-1"	109
b_9	9	#4	3	2'-2"	13
b_{10}	6	#5	4	9'-9"	42
b_{11}	6	#4	5	10'-2"	42
b_{12}	3	#4	5	5'-9"	18
b_{13}	3	#4	5	5'-9"	18
b_{14}	3	#4	5	4'-6"	9
b_{15}	3	#4	5	3'-10"	9
b_{16}	10	#4	5	5'-7"	37
b_{17}	6	#4	5	6'-6"	26
s_1	29	#4	3	8'-11"	87
s_2	17	#4	4	4'-5"	50
s_3	18	#4	4	6'-0"	86
s_4	2	#4	4	11'-7"	23
Reinforcing Steel					0.401 Lbs.
Class "A" Concrete					10.9 C.Y.
12 H 53 Piles No. 0					400' L.F.
					9,900

Project No. B-2059B
MADISON COUNTY
STATION 260+00

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

SUBSTRUCTURE
END BENT No. 1

Nov. 1968

BILL OF MATERIAL FOR SPAN "B"

Bar	No	Size	Type	Length	Weight
B1	75	#5	2	26'-7"	2079
B2	72	#5	4	27'-5"	2116
B101	1	#5	1	23'-1"	24
B102	1	#5	1	22'-11"	22
B103	1	#5	1	19'-8"	20
B104	1	#5	1	16'-5"	17
B105	1	#5	1	15'-6"	16
B106	1	#5	1	12'-4"	13
B107	1	#5	1	10'-3"	11
B108	1	#5	1	8'-1"	8
B109	1	#5	1	5'-11"	6
B110	1	#5	1	3'-9"	4
B201	1	#5	3	26'-7"	26
B202	1	#5	3	22'-5"	23
B203	1	#5	3	20'-4"	21
B204	1	#5	3	18'-2"	19
B205	1	#5	3	16'-0"	17
B206	1	#5	3	13'-10"	14
B207	1	#5	3	11'-8"	12
B208	1	#5	3	9'-7"	10
B209	1	#5	3	7'-5"	8
B210	1	#5	3	5'-3"	5
B211	1	#5	3	3'-1"	3
B221	1	#5	1	23'-1"	24
B222	1	#5	1	20'-11"	22
B223	1	#5	1	18'-8"	19
B224	1	#5	1	16'-6"	17
B225	1	#5	1	14'-3"	15
B226	1	#5	1	12'-1"	13
B227	1	#5	1	9'-11"	10
B228	1	#5	1	7'-8"	8
B229	1	#5	1	5'-6"	6
B230	1	#5	1	3'-3"	3
B301	1	#5	3	26'-7"	26
B302	1	#5	3	22'-5"	23
B303	1	#5	3	20'-2"	21
B304	1	#5	3	17'-10"	19
B305	1	#5	3	15'-10"	17
B306	1	#5	3	13'-7"	14
B307	1	#5	3	11'-5"	12
B308	1	#5	3	9'-2"	10
B309	1	#5	3	7'-0"	7
B310	1	#5	3	4'-10"	5
S1	76	#5	7	4'-10"	383
S2	52	#4	Str.	1'-9"	61
K3	8	#5	Str.	13'-6"	113
C1	36	#6	6	3'-0"	162
C2	36	#6	6	3'-2"	171
D1	52	#4	Str.	25'-7"	888
D2	56	#5	Str.	22'-10"	1509
D3	6	#4	6	6'-9"	27
S1	82	#4	5	3'-2"	42
S2	25	#4	6	5'-0"	84
K1	8	#6	Str.	17'-3"	104
K2	8	#6	Str.	17'-5"	105
K3	8	#6	Str.	16'-7"	100
K4	8	#6	Str.	16'-5"	99
Dr.	104	#2	8	2'-7"	45

Total Steel - lbs. 9087

Cons. 3/4" Aggr. - C.Y. 43.8

Structural Steel - Lbs. 26,000

BILL OF MATERIAL FOR SPAN "C"

Bar	No	Size	Type	Length	Weight
C1	79	#5	2	26'-7"	2190
C2	79	#5	4	27'-5"	2230
C201	1	#5	1	22'-0"	23
C202	1	#5	1	18'-8"	19
C203	1	#5	1	15'-5"	16
C204	1	#5	1	12'-2"	13
C205	1	#5	1	8'-10"	9
C206	1	#5	1	5'-7"	6
C271	1	#5	3	24'-1"	25
C272	1	#5	3	20'-9"	22
C273	1	#5	3	17'-6"	18
C274	1	#5	3	14'-2"	15
C275	1	#5	3	10'-11"	11
C276	1	#5	3	7'-8"	8
C277	1	#5	3	4'-4"	5
C281	1	#5	1	21'-11"	23
C282	1	#5	1	18'-7"	19
C283	1	#5	1	15'-4"	16
C284	1	#5	1	12'-0"	13
C285	1	#5	1	8'-8"	9
C286	1	#5	1	5'-4"	6
C291	1	#5	3	24'-0"	25
C292	1	#5	3	20'-8"	22
C293	1	#5	3	17'-4"	18
C294	1	#5	3	14'-1"	15
C295	1	#5	3	10'-9"	11
C296	1	#5	3	7'-5"	8
C297	1	#5	3	4'-1"	4
K1	8	#4	Str.	16'-7"	99
K2	4	#6	Str.	16'-8"	100
K3	4	#5	Str.	13'-6"	56
S1	76	#5	7	4'-10"	383
S2	52	#4	Str.	1'-9"	61
C1	38	#6	6	3'-0"	171
C2	38	#6	6	3'-2"	181
D1	52	#4	Str.	25'-7"	883
D2	56	#5	Str.	25'-8"	1509
D3	6	#4	6	5'-9"	87
S1	20	#4	5	3'-2"	42
S2	25	#4	6	5'-0"	77
K1	8	#6	Str.	17'-3"	103
K2	4	#6	Str.	17'-0"	102
K3	8	#6	Str.	16'-7"	199
K4	8	#6	Str.	16'-3"	195
Dr.	104	#2	8	2'-7"	45

Total Steel - lbs. 9080

Cons. 3/4" Aggr. - C.Y. 43.8

Structural Steel - Lbs. 26,000

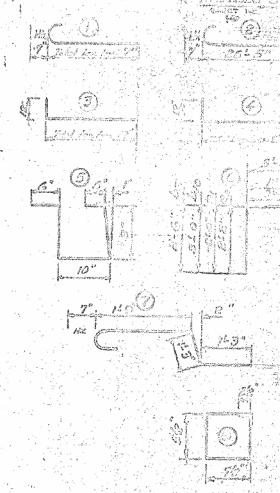
DEAD LOAD DEFLECTION

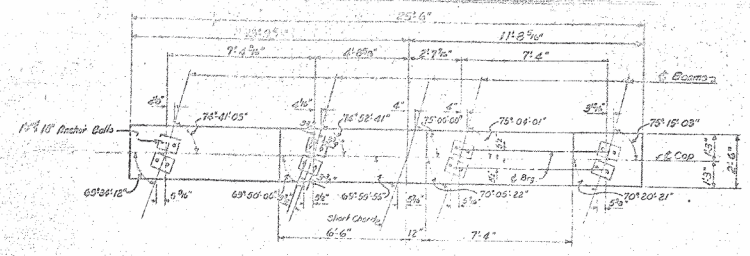
	Span "A" Int. Span	Span "A" End Span	Span "B" Int. Span	Span "B" End Span	Span "C" Int. Span	Span "C" End Span
Deflection due to weight of beam	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Deflection due to superimposed dead load	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Total dead load deflection	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Horizontal curve compensation	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
Final deflection	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"

Note! "No camber other than natural mill camber required."

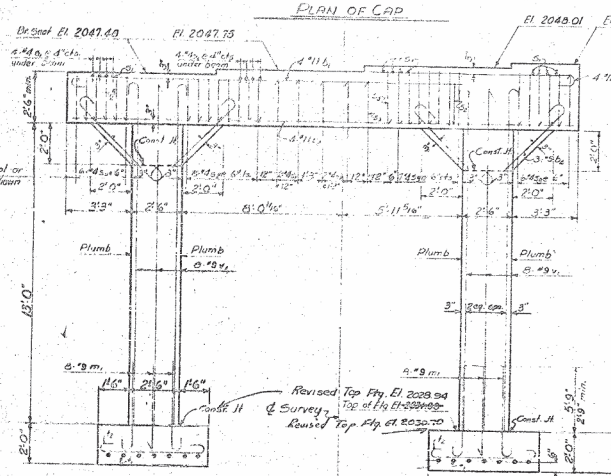
CONCRETE BREAKDOWN

	Above Const. Joint	Below Const. Joint	Total
Span A	2.6	41.3	43.9
Span B	2.5	38.3	40.8
Span C	2.6	41.0	43.6

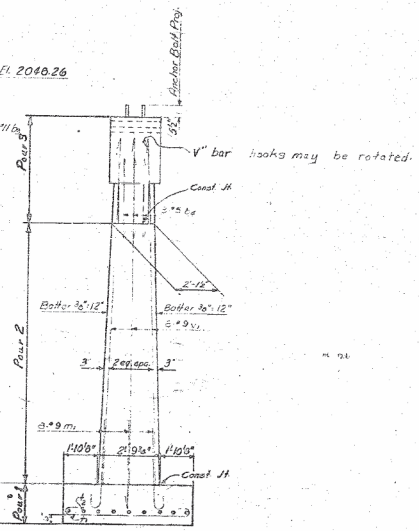




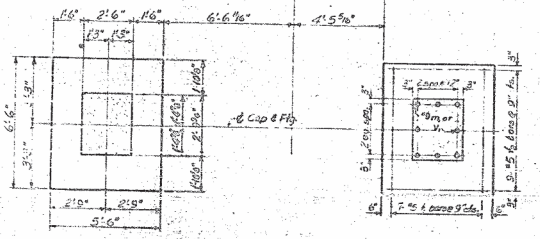
PLAN OF CAP



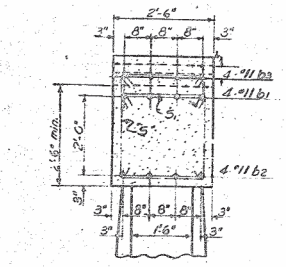
ELEVATION



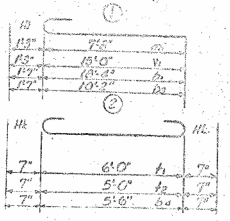
END ELEVATION

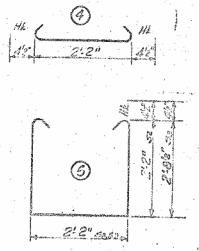


PLAN OF FOOTING



SECTION THRU CAP



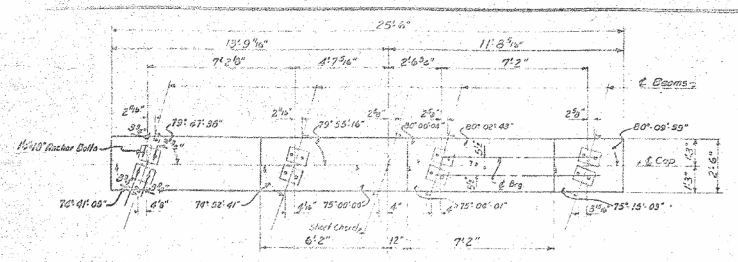


BAR TYPES

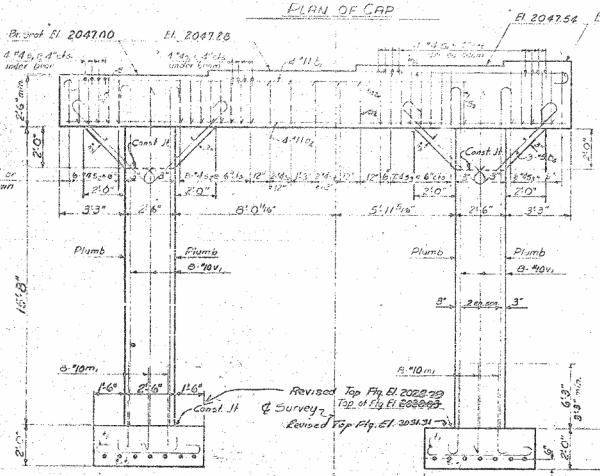
All dimensions are out to out.

Computed foundation load equals 3 Tons per sq. ft.

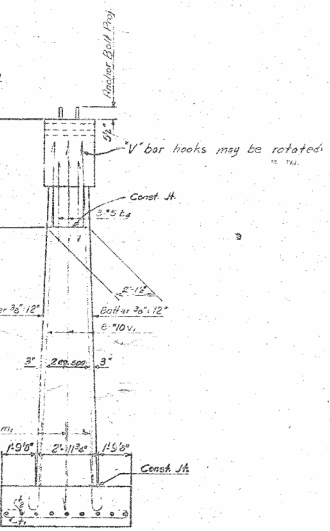
Reinf. steel in top of cap may be shifted as necessary to clear anchor bolts.



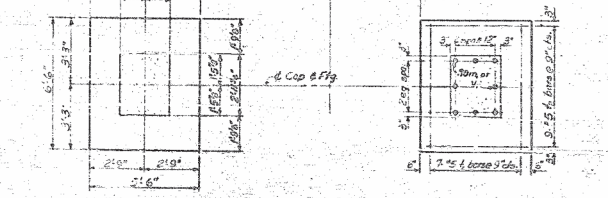
PLAN OF CAP



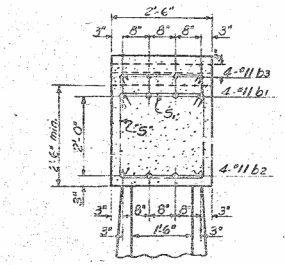
ELEVATION



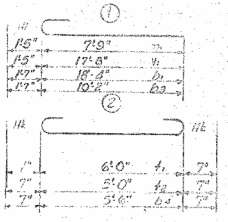
END ELEVATION

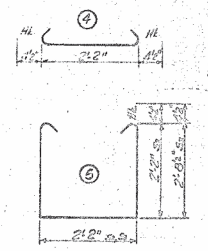


PLAN OF FOOTING



SECTION THRU CAP





BAR TYPES

All dimensions are out to out.

Computed foundation load equals 3 Tons per sq. ft.

Reinf. steel in top of cap can be stiffed as necessary to clear anchor bolts.

BILL OF MATERIAL FOR ONE BENT

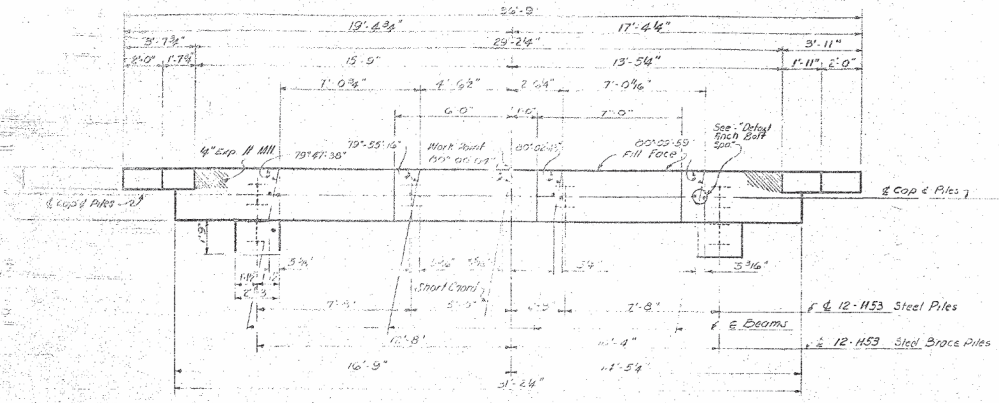
Bar	No.	Size	Type	Length
b1	4	#11	2	18'-11"
b2	4	#11	6a	8'-6"
b3	4	#11	1	11'-0"
b4	12	#5	2	2'-6"
b5	16	#10	1	9'-2"
b6	16	#4	5	2'-11"
b7	20	#4	5	3'-8"
b8	12	#5	5	3'-8"
b9	16	#5	2	2'-10"
b10	16	#5	2	2'-10"
b11	16	#10	1	18'-0"
Concrete				7.5 C.Y.
Reinforcing Steel				1,275 lbs.

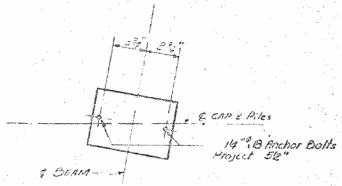
Footing No. 3 [illegible]

Madison Co.

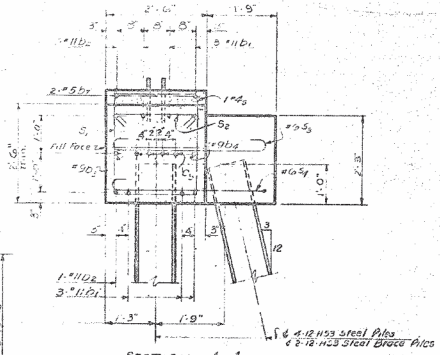
Station 260+[illegible]

STATE HIGHWAY [illegible]



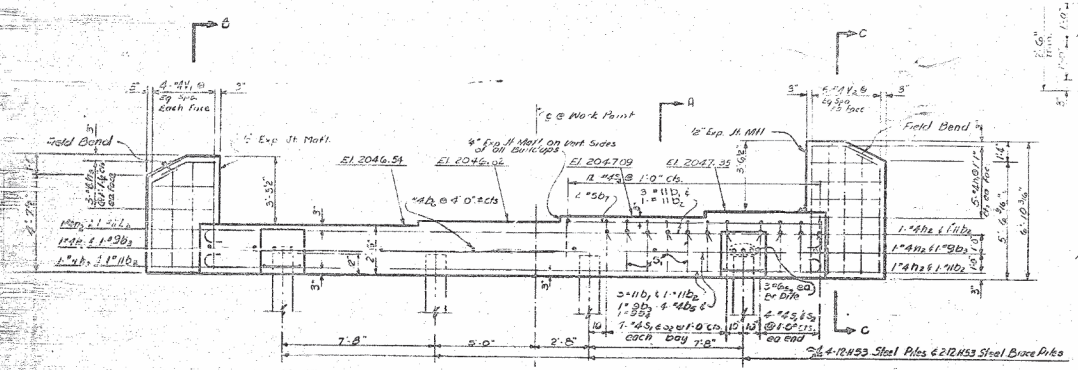


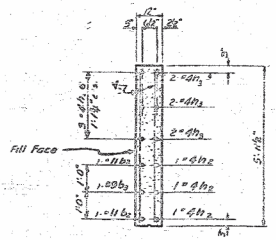
DETAIL - ANCH. BOLT SPACING



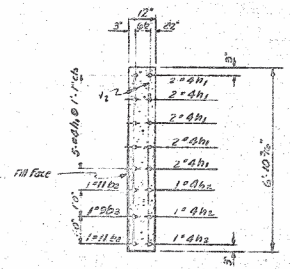
SECTION A-A

NOTE! Reinforcing steel in top of cap may be shifted as necessary to clear anchor bolts.





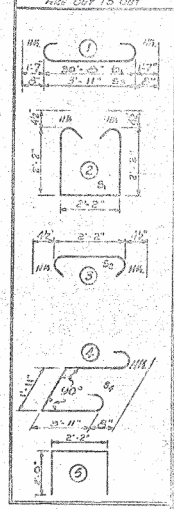
SECTION B-B



SECTION C-C

BAR TYPES

ALL BAR DIMENSIONS FIELD OUT TO OUT



BILL OF MATERIAL

FOR END BENT No. 2

BAR	NO.	SIZE	TYPE	LENGTH
B1	6	#11	2	25'-7"
B2	2	#11	2	[illegible]
B3	1	#9	2	30'-5"
B4	1	#9	2	30'-5"
B5	8	#4	2	16'-[illegible]
B6	8	#4	2	5'-[illegible]
B7	2	#5	2	15'-0"
B8	10	#4	2	5'-7"
B9	6	#4	2	14'-2"
B10	6	#4	2	5'-2"
B11	8	#4	2	5'-6"
B12	10	#4	2	6'-6"
B13	22	#4	2	9'-3"
B14	22	#4	2	24'-11"
B15	8	#6	1	5'-2"
B16	2	#6	1	11'-1"
B17	12	#4	2	6'-2"

Class "A" Conc. Cu.Yds. [illegible]
Bent Steel Lbs. [illegible]
12 H53 Steel Piles No. [illegible] Lin. Ft. [illegible]

NOTES

Drive all piles to a minimum bearing capacity of 30 tons each.

For Pile Spl. [illegible]

PROJECT No. R-2055B

MADISON COUNTY

STATION 260+00

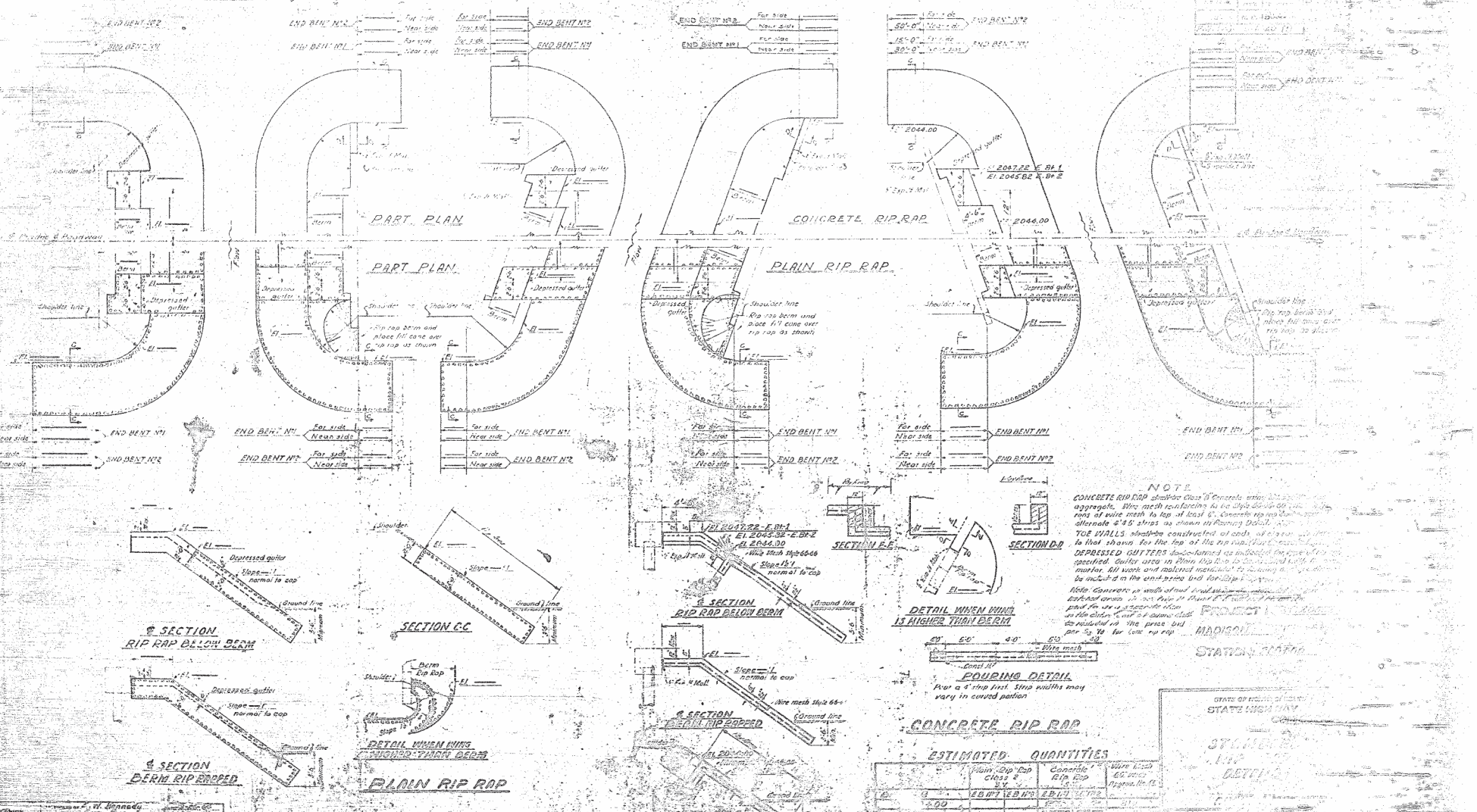
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

SUBSTRUCTURE
END BENT No. 2

March 13, 1962

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1			4		
2			5		
3			6		


PART PLAN
PART PLAN
CONCRETE RIP RAP
PLAIN RIP RAP
END BENT No.2
END BENT No.1
Far side
Near side
Shoulder line
Depressed gutter
Berm
Rip rap berm and place fill cone and rip rap as shown
Rip rap berm and place fill cone over rip rap as shown
Slope 1½:1 normal to cap
Wire Mesh Style 6646
Wire mesh Style 66-6
Ground line
Maximum
SECTION C-C
SECTION D-D
SECTION E-E
DETAIL WHEN WING IS HIGHER THAN BERM
POURING DETAIL
Pour a 6' strip first. Strip widths may vary in curved portion
℄ SECTION RIP RAP BELOW BERM
℄ SECTION BERM RIP RAPPED
DETAIL WHEN WING HIGHER THAN BERM
PLAIN RIP RAP
CONCRETE RIP RAP
ESTIMATED QUANTITIES
Plain Rip Rap Class 2
Concrete Rip Rap
Wire Mesh 66-6 Approx. lb/sq
NOTE
CONCRETE RIP RAP shall be Class "C" Concrete
aggregate. Wire mesh reinforcing
rows of wire mesh to top of least 6". Concrete rip rap
alternate 4'-6" strips as shown in Pouring Detail.
TOE WALLS shall be constructed of cast
to that shown for the top of the rip rap.
DEPRESSED GUTTERS shall be constructed as indicated
specified. Gutter area in Plain Rip Rap
mortar. All work and material necessary
be included in the unit price bid for Rip Rap.
Note: Contractor is warned that
PROJECT
MADISON
STATION
STATE HIGHWAY
Revision No.2 - Revised to show wing dimensions from end of end bent.