FED ROAD DIST. No.	STATE	COUNTY	F. A. PROJ. No.	ROUTE No.	SHEET No	TOTAL SHEETS
14	S. C.	HORRY	320 B	501 BUS.	1	22

INDEX OF SHEETS

SHEET No. 1 TITLE PAGE
" " 2 PLAN AND PROFILE
" " 3 PROFILE AND BORINGS ON ORIGINAL LINE
" " 4 BLANK
" " 5 BLANK
" " 6 RETAINING WALL WEST APPROACH
" " 7 HANDRAIL AND RETAINING WALL WEST APPROACH
" " 8 ABUTMENT AND WING WALL
" " 9 END BENT AND END OF BRIDGE
" " 10 3-42 FT. SPANS
" " 11 DETAILS FOR 53'-0" SPAN ON CURVE
" " 12 53'-0" SPAN ON CURVE
" " 13 STEEL GIRDER SPAN
" " 14 STEEL GIRDER SPAN
" " 15 53'-0" STEEL BEAM SPAN
" " 16 STEEL GIRDER SPAN FLOOR SLAB
" " 17 BENTS
" " 18 PIERS
" " 19 HANDRAIL POSTS
" " 20 FENDER
" " 21 BLANK
" " 22 BEARING PLATES
~~" " 23 & 23A PAVEMENT JOINTS.~~
~~" " 24 SEWERS WEST ABUTMENT~~
~~" " 25 PAVING ON WEST APPROACH~~
~~" " 26 PROFILE OF WEST APPROACH~~
~~" " 27 CROSS SECTION WEST APPROACH~~
~~" " 28 CROSS SECTION WEST APPROACH~~
~~" " 29 STANDARD DROP INLET AND CASTING~~
~~" " 30 STANDARD MANHOLE, CASTING AND COVER~~
~~" " 31 PAVING ON WEST APPROACH~~
~~" " 32 TYPICAL CROSS SECTIONS OF IMPROVEMENT.~~
~~" " 33 SUPERELEVATION STANDARD.~~
~~" " 34 BLANK.~~
~~" " 35 PLAN AND PROFILE STA. 12+75.4 TO STA. 23+00.~~
~~" " 36-37 PLAN AND PROFILE STA. 3+00 TO STA. 31+33.1.~~
~~" " 38-40 CROSS SECTIONS STA. 10+00 TO STA. 23+00.~~
~~" " 41-52 CROSS SECTIONS STA. 3+00 TO STA. 31+33.1.~~

STATE OF SOUTH CAROLINA
STATE HIGHWAY DEPARTMENT

PLAN AND PROFILE OF PROPOSED
STATE HIGHWAY

FED. AID PROJ. NO. 320 B SEC. 1

ROUTE NO. 501 (BUS.)

HORRY COUNTY

BRIDGE OVER WACCAMAW RIVER.

SCALES: PLAN AND PROFILE 1 INCH=(50) 100 FEET HORIZONTAL: 1 INCH=10 FEET VERTICAL.

SUMMARY OF ESTIMATED QUANTITIES F.A.P. NO. 320B-SEC. 1.

STATION	SHEET NO.		STRUCTURAL STEEL	HARDWARE	TREATED LUMBER	CONCRETE (CU. YD'S.)		REINFORCING STEEL (LBS.)	EXCAVATION (CU. YD'S.)			PILES (LINEAR FEET)		RIP RAP	
						CLASS "A"	CLASS "B"		STRUCTURES	WET	DRY	TREATED	UNTREATED		
			LB.	LB.	M.B.M.									TONS	
Original Quantities		SUPER-STRUCTURE	1,045,671		2.810	1220.75		182,625							
		SUB-STRUCTURE		1610	5.380	2247.45 2254.26 2249.33		173320	424	1634	1486	2,000	10,880		
		TOTALS	1,045,671	1610	8.190	3468.20 3470.08		355945	424	1634	1486	2,000	10,880		
		212 Ft. Extension	180,692			512.74 513.66		65,114		247	130		1840		
		TOTALS													

See final plans G. H[illegible] 1/4/38

W H 7/13/37

TOTAL PIPE FOR STORM SEWER		
DIAM.	CORRUGATED IRON	REINF. CONCRETE
15"	LINEAR FEET	474 LINEAR FEET
18"	" "	" "
24"	" "	" "
30"	" "	" "
36"	" "	" "

TOTAL VIT. CLAY PIPE SAN. SEWER		
DIAM.		
12"	0' to 6' DEEP 200	LINEAR FEET
12"	6' to 8' " 158	" "

SUMMARY OF ESTIMATED QUANTITIES.
FED. AID PROJ. NO. 320B-SEC. 2 & 320B SEC. 2 (SPUR)

	320-B-SEC. 2	SEC. 2 SPUR	
TOTAL CLEARING AND GRUBBING WITHIN RIGHT OF WAY	9	9	ACRES
TOTAL COMMON EXCAVATION	69,622	34013	C.Y.
TOTAL FINISHING EARTH GRADED ROADS	1.0246	2.9908	M.L.F.
TOTAL RIP RAP	280	—	TONS

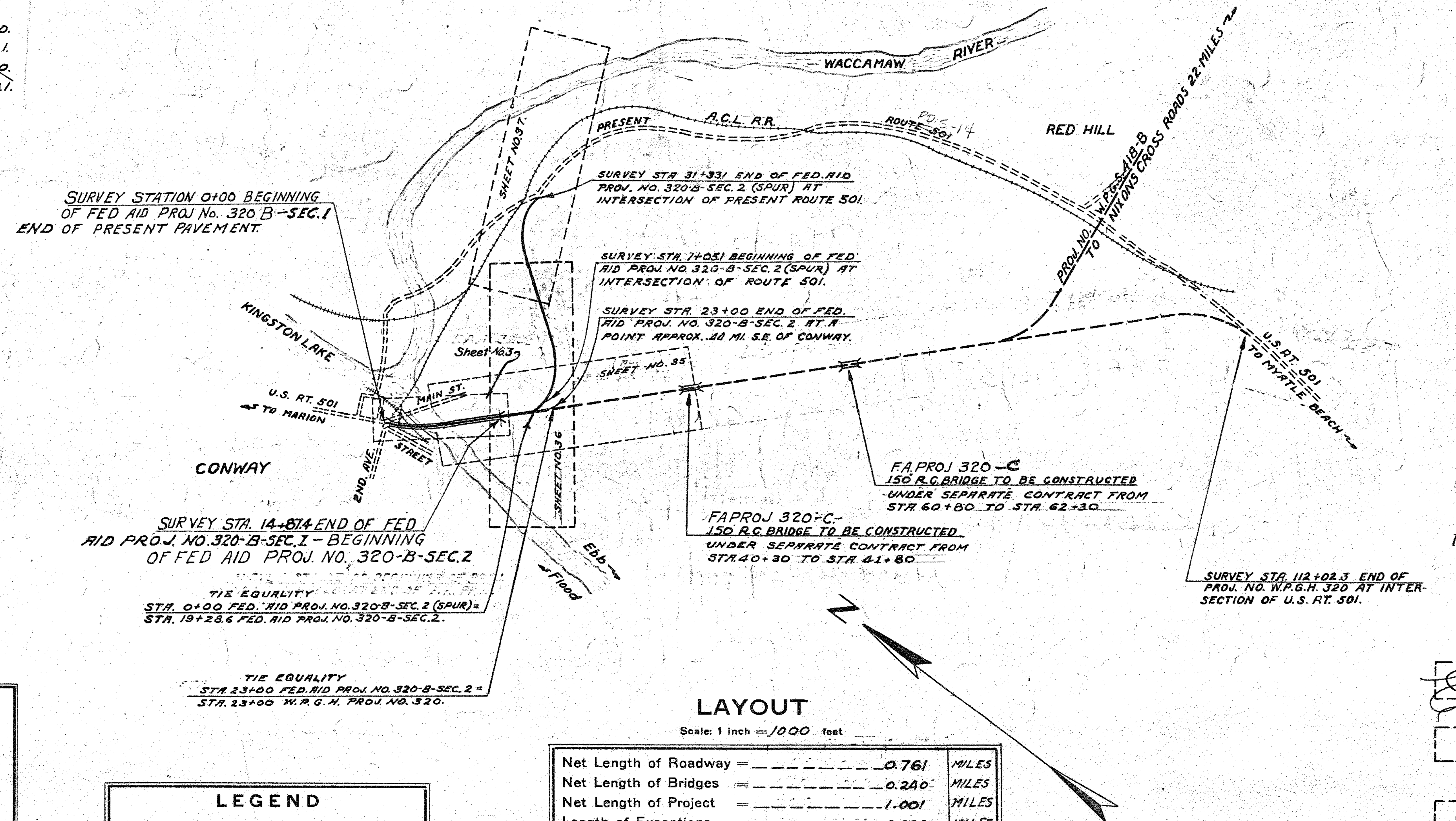
NOTE:
"EXCAVATION FOR STRUCTURES" INCLUDES EXCAVATION FOR WEST ABUTMENT AND WING WALLS. "DRY EXCAVATION" INCLUDES EXCAVATION FOR BENTS AND PIERS ABOVE ELEVATION 74.9. "WET EXCAVATION" INCLUDES EXCAVATION FOR BENTS AND PIERS BELOW ELEVATION 74.9.

QUANTITIES
FED. AID PROJ. NO. 320-B-SEC. 1.

5 CATCH BASINS COMPLETE 24"x36" GRATING ✓
1 CATCH BASIN WITH SALVAGED MANHOLE COVER ✓
2 MANHOLES COMPLETE
1 MANHOLE WITH SALVAGED COVER ✓

3420 C.Y. EMBANKMENT IN PLACE.
284 C.Y. SHOULDER MATERIAL & EARTH TYPE SURFACING
13,000 C.Y. H.M. OVERHAUL

1148.6 SQ. YD. CONCRETE PAVEMENT 7" THICK
96.2 " " " SIDEWALK 5" "
129.2 " " " " 4 "
1374 " " REINFORCEMENT FOR PAVEMENT.
434 LIN. FT. STEEL LONGITUDINAL JOINT SEPARATOR
264 " " 6"x13" CONCRETE CURB INTEGRAL WITH PAVEMENT
296 " " 8"x17" " " " "
109 " " 13"x14" " " " "



SURVEY STATION 0+00 BEGINNING OF FED AID PROJ No. 320 B-SEC. I END OF PRESENT PAVEMENT.

SURVEY STA. 31+33.1 END OF FED. AID PROJ. NO. 320-B-SEC. 2 (SPUR) AT INTERSECTION OF PRESENT ROUTE 501.

SURVEY STA. 1+05.1 BEGINNING OF FED. AID PROJ. NO. 320-B-SEC. 2 (SPUR) AT INTERSECTION OF ROUTE 501.

SURVEY STA. 23+00 END OF FED. AID PROJ. NO. 320-B-SEC. 2 AT A POINT APPROX. .44 MI. S.E. OF CONWAY.

F.A. PROJ 320-C 150' R.C. BRIDGE TO BE CONSTRUCTED UNDER SEPARATE CONTRACT FROM STA. 60+80 TO STA. 62+30

FA PROJ 320-C- 150 R.C. BRIDGE TO BE CONSTRUCTED UNDER SEPARATE CONTRACT FROM STA. 40+30 TO STA. 41+80

SURVEY STA. 112+02.3 END OF PROJ. NO. W.P.G.H. 320 AT INTERSECTION OF U.S. RT. 501.

SURVEY STA. 14+87.4 END OF FED AID PROJ. NO. 320-B-SEC. I - BEGINNING OF FED AID PROJ. NO. 320-B-SEC. 2

TIE EQUALITY
STA. 0+00 FED. AID PROJ. NO. 320-B-SEC. 2 (SPUR) =
STA. 19+28.6 FED. AID PROJ. NO. 320-B-SEC. 2.

TIE EQUALITY
STA. 23+00 FED. AID PROJ. NO. 320-B-SEC. 2 =
STA. 23+00 W.P.G.H. PROJ. NO. 320.

O.K.
HJB

CONVENTIONAL SIGNS

State Line	— — — —	Trolley Poles	• • •
County Line	— — — —	Power Poles	▪ ▪ ▪
City or Town Limits	- - - - -	Telephone or Telegraph Poles	• • •
Property Line	— · —	Marsh	▲ ▲ ▲
Fence	—×—×—	Trees	✿ ✿ ✿
Retaining Wall	═══	Brush	○ ○ ○ ○ ○
Existing Road	═══	Stumps	∧ ∧ ∧
℄ and R.O.W. Lines of	———	Buildings	☒ ▭
Proposed Road	———	Bridge	═══
Railroad	▬▭▬	Concrete Box Culvert	>═══<
Levee or Embankment	═══	Pipe Culvert	├═══┤
Guard Rail	┴┴┴┴	Drop Inlet and Culvert	□═══<
Point of Intersection (P. I.)	△	Hub on Center Line	—⊖—

LEGEND

PROPOSED PROJECT	▬
OTHER ROADS	═══

LAYOUT

Scale: 1 inch = 1000 feet

Net Length of Roadway =	0.761	MILES
Net Length of Bridges =	0.240	MILES
Net Length of Project =	1.001	MILES
Length of Exceptions =	0.000	MILES
Gross Length of Project =	1.001	MILES

Equalities in Stationing
FED. AID PROJ. NO. 320-B-SEC. 2 (SPUR)
STA. 9+59.9 = STA. 9+97.1.

Note: All workmanship and material on this project to conform with South Carolina State Highway Department Specifications, Contract and Bond; for Roads and Structures revised July 1st, 1933, as amended and approved by the U. S. Secretary of Agriculture.

MAYOR — DATE 3/10/37
M W Coo[illegible] — DATE 3/10/37
Jas H Long — DATE 3/10/37
W D Godwin — DATE 3/10/37

APPROVED - ROAD J. Williamson DATE 10-28-36
STATE HIGHWAY ENGINEER

APPROVED - BRIDGE J. Williamson DATE 9-16-36
STATE HIGHWAY ENGINEER

RECOMMENDED FOR APPROVAL [redacted] DATE [redacted]
DISTRICT ENGINEER - BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL [redacted] DATE [redacted]
CHIEF ENGINEER - BUREAU OF PUBLIC ROADS

APPROVED [redacted] DATE [redacted]
DIRECTOR - BUREAU OF PUBLIC ROADS

Made & Traced Gambill 1935
F.K.F. 1936
Revised F.K.P. Notes about track [illegible]16 1936
" F.K.P. Oct10,1936 RR Clearances—Letter
from Chief Eng. ACLRR Oct.6 1936.

FED. ROAD DIST. NO	STATE	COUNTY	F.A. PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	HORRY	320B	38	2	52

501

Conway
Main Street
J.M. Marlowe Sr. Residence
J.L. Griffen Residence
Griffen Office Bldg.
Second Avenue.
Superelevation Begins
Sta. 2+17.4 End of Bridge Slab
Clearance Line at Top of Rail
No 1
No 2
No 3
No 4
Loading Plat.
Warehouse
Length on ℄ 53'-0"
Waccamaw River
60' Clearance
1058'-0"
Superelevation Ends
P.T. 6+61.4
N
S
To Myrtle Beach
RipRap
Sta. 12+75.4
End of Bridge Slab & ℄ of Bent Cap.
240' Superelevation Run-off Between Stations (See Sketch this Sheet)
Develope 1½" Crown between Stations
No Crown Between Stations
Run-off Superelevation Between Stations (See Sketch above right)
Develope 1½" Crown
900' V.C.
100' V.C.
Retaining Wall
Abutment
Elev. 75.0
Elev. 50.0
EL. 126.8 Clearance
High Water 88.5?
High Tide 76.9
Low Tide 74.9
EL. 91
Bent 2
Bent 3
Bent 4
Bent 5
Bent 6
Bent 7
Bent 8
Bent 9
Pier A
Pier B
Pier C
Pier D
Bent 10
Bent 11
Bent 12
Bent 13
Bent 14
Bent 15
53'-6"
90'-6"
12+75.4 End Span

These tracks to be lowered to give 19'-0" vertical clearance. The Railroad Company will do the work of lowering the tracks. The earth excavated shall be used in the fill back of the abutment.

This footing is modified to clear end of ties. Track alignment to remain unchanged. Detail plans of sheeting foundation excavations to be submitted to the Chief Engineer A.C.L.RR before work is started.

Track No.4 to be shifted to clear Bents, and privately owned extension of same to be located to suit owners.

A horizontal clearance of at least 7'-6" from ℄ of railroad track must be maintained wherever practicable.

The absolute minimum clearance, where in the opinion of the engineer it is not practicable to maintain 7'-6" from ℄ of track, shall be 4'-0" from the outside edge of rail.

The above clearances are those to be maintained during construction.

The clearances for permanant work are shown on plan view, this sheet.

Clearances shown are minimum from neat work of Bents to near side of near rail measured at right angle to track.

Alignment of all tracks to remain unchanged except for track No.4 as shown in note below.

HORIZONTAL CURVE DATA

Δ = 20°-32' Lt.
D = 6°-27'-34"
T = 160.75'
P.I. = Sta. 5+04.15
R = 887.47'

100' V.C. DATA
P.I. Sta. 0+50 Fin. Gr. Elev. = 96.4
Tangent Grades -.72% & +6.5%
12.00 Left of ℄.

900' V.C. DATA
P.I. Sta. 8+09.4 Fin. Gr. Elev. (Low Gutter) = 145.761 (P1)
Tangent Grades +6.5% & -6.5%
M.O. = 14.625'. Constant = $\frac{M.O.}{(\frac{L}{2})^2 \text{ In Sta's.}} = \frac{14.625}{20.25} = .7222$

240' Run-off
Sta. 1+03.4 to Sta. 3+43.4

SKETCH SHOWING
240' Superelevation Run-off at
Beginning of Superelevation

293.48' Run-off
Sta. 6+62.44 to Sta. 9+56.14

From Data shown, determine difference between Low and High Gutter and add to Elev. of Low Gutter as determined on 900' V.C.

SKETCH SHOWING
293.48' Superelevation Run-off at
End of Superelevation

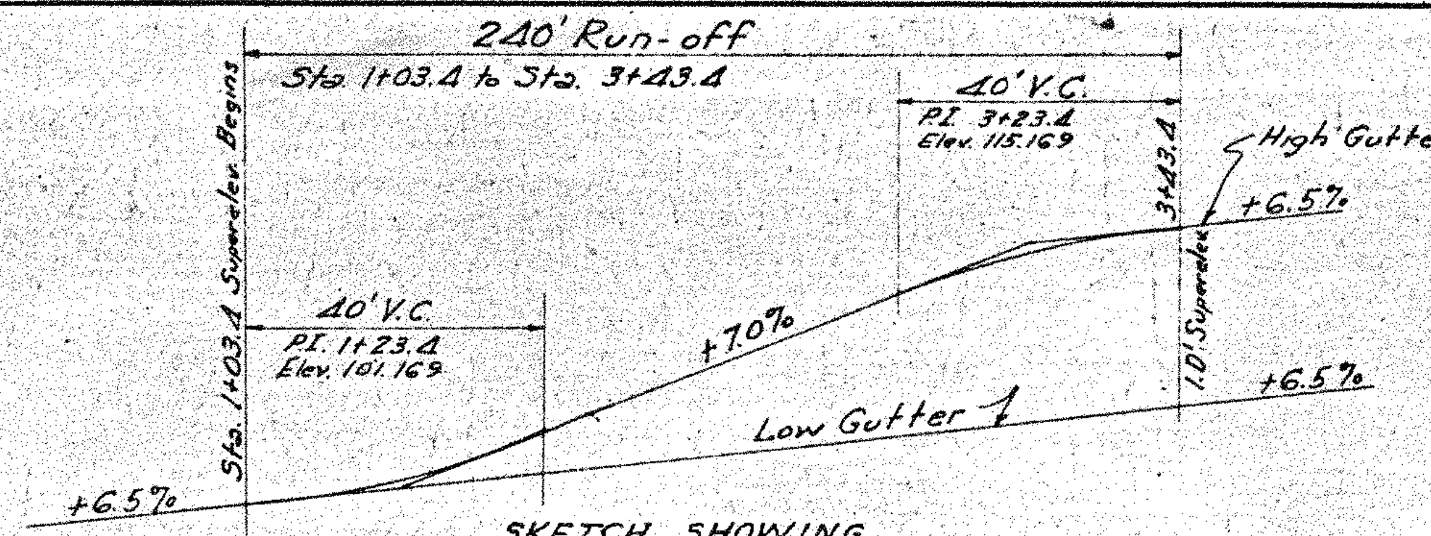
S.C. STATE HIGHWAY DEPARTMENT
COLUMBIA S.C.

PLAN and PROFILE

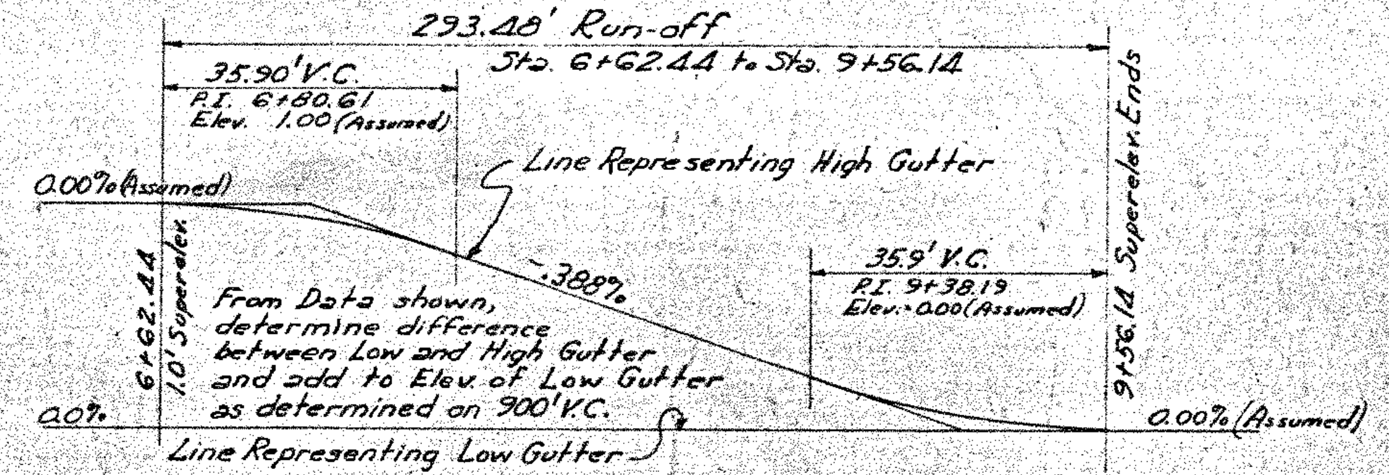
WACCAMAW RIVER BRIDGE
NEAR CONWAY S.C.

Scale 1" = 25'

FED. ROAD DIST. NO.	STATE	COUNTY	F.A. PROJ. NO	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	HORRY	320-B	501	2-A.	


240' Run-off
Sta. 1+03.4 to Sta. 3+43.4
40' V.C.
P.I. 3+23.4
Elev. 115.169
High Gutter
3+43.4
+6.57%
Sta. 1+03.4 Superelev. Begins
40' V.C.
P.I. 1+23.4
Elev. 101.169
+7.0%
1.0' Superelev.
+6.5%
Low Gutter
+6.5%

SKETCH SHOWING
240' Superelevation Run-off at
Beginning of Superelevation


293.48' Run-off
Sta. 6+62.44 to Sta. 9+56.14
35.90' V.C.
P.I. 6+80.61
Elev. 1.00 (Assumed)
Line Representing High Gutter
0.00% (Assumed)
-.388%
35.9' V.C.
P.I. 9+38.19
Elev. -0.00 (Assumed)
9+56.14 Superelev. Ends
6+62.44
1.0' Superelev.
0.0%
0.00% (Assumed)
Line Representing Low Gutter

From Data shown, determine difference between Low and High Gutter and add to Elev. of Low Gutter as determined on 900' V.C.

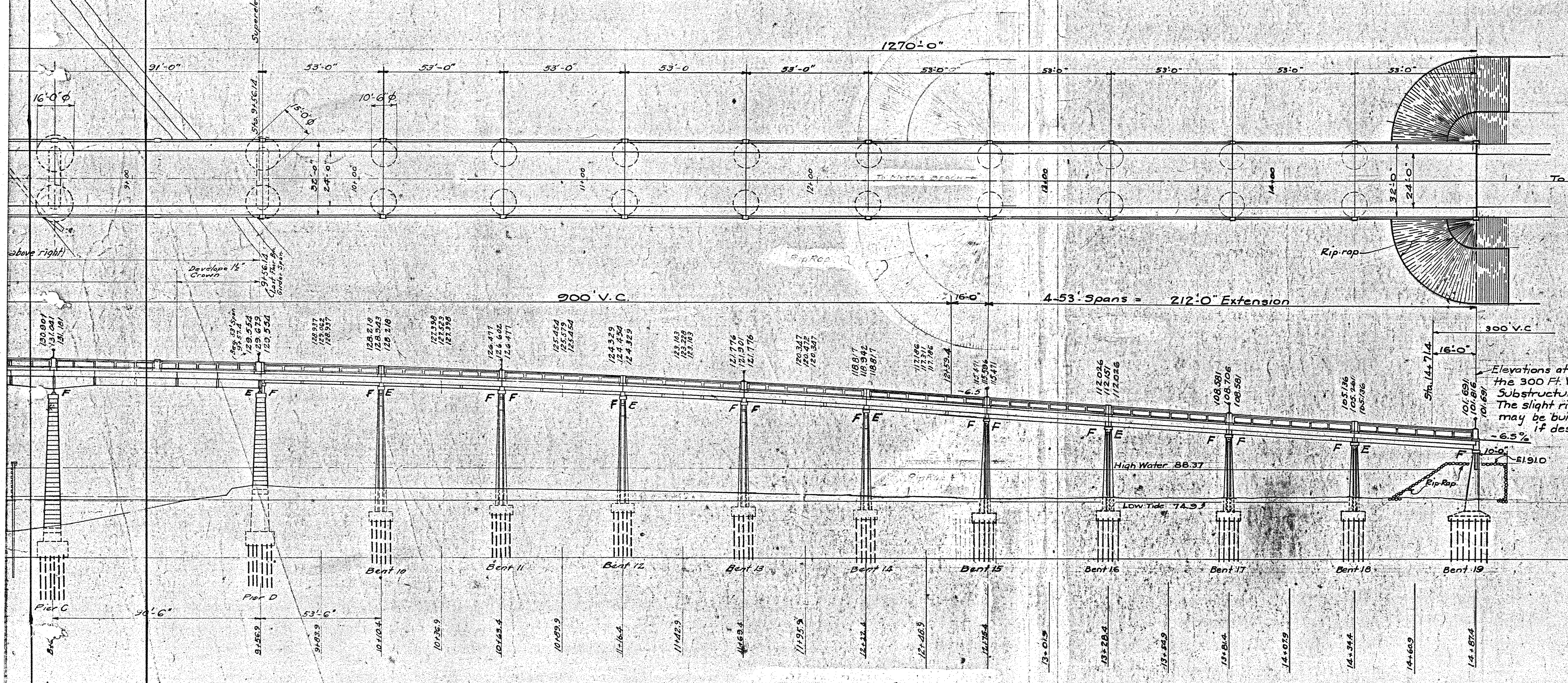
SKETCH SHOWING
293.48' Superelevation Run-off at
End of Superelevation

QUANTITIES FOR 212 FT. EXTENSION.

	Conc.	R. Steel.	Str. Steel	Wet X.	Dry X.	Untreated Piles	Clearing-Grubbing
Bent 15	75.55	7665					
" 16	70.72	7162					
" 17	66.64	6636					
" 18	64.65	6144					
" 19	48.85	7329					
Super-St. 4-53' Sp.	230.56	34,264	180,692				
* Handrail	29.18	4353					
Minus Old Bent 15	-73.41	-8439					
Total	512.74	65,114	180,692	247.0	130.	1840	1
	C. Yds.	Lbs.	Lbs	C. Yds.	C. Yds.	Lin. Ft	Acre

* For 4-53 Ft Spans, plus 4 "B" Posts

Note - Hand-rail Quantities as given on Sheet 15 for 10 Spans were computed on basis of each span consisting of rail between edges of posts plus one half of Post A. Quantities for other Posts were then added.


.7222
N
S
Superelevation Ends
1270'-0"
91'-0"
53'-0"
53'-0"
53'-0"
53'-0
53'-0"
53'-0"
53'-0
53'-0
53'-0
53'-0
16'-0" ⌀
15'-0" ⌀
10'-6" ⌀
Sta. 9+56.14
32'-0"
24'-0"
To Myrtle Beach
To Myrtle Beach
32'-0
24'-0"
Rip-rap
Rip Rap
(above right)
Develope 1½" Crown
9+56.14 (Last Thor Bm. Girder Span)
900' V.C.
16'-0"
4-53' Spans = 212'-0" Extension
300' V.C.
16'-0"
Sta. 14+71.4
130.901
131.041
131.181
Beg. 53' Span 9+57.4
129.554
129.679
129.554
128.937
129.062
128.937
128.218
128.343
128.218
127.398
127.523
127.398
126.477
126.602
126.477
125.454
125.579
125.454
124.329
124.454
124.329
123.103
123.228
123.103
121.776
121.901
121.776
120.347
120.472
120.347
118.817
118.942
118.817
117.186
117.311
117.186
12+59.4
115.471
115.596
115.471
-6.5
112.026
112.151
112.026
108.581
108.706
108.581
105.136
105.261
105.136
101.691
101.816
101.691
-6.5%
10'-0"
El. 91.0
Rip-Rap
F
E
High Water 88.37
Low Tide 74.93
Pier C
Pier D
Bent 10
Bent 11
Bent 12
Bent 13
Bent 14
Bent 15
Bent 16
Bent 17
Bent 18
Bent 19
90'-6"
53'-6"
9+56.9
9+83.9
10+10.4
10+36.9
10+63.4
10+89.9
11+16.4
11+42.9
11+69.4
11+95.9
12+22.4
12+48.9
12+75.4
13+01.9
13+28.4
13+54.9
13+81.4
14+07.9
14+34.4
14+60.9
14+87.4

Elevations at Bent 19 are straight grade Elevations, and do not take the 300 Ft. V.C. into account.
Substructure and I-Beams may be placed on 6.5% straight grade.
The slight rise caused by the 300 Ft. V.C. beginning near end of Bridge may be built in concrete superstructure by thickening slab, etc., if desired.

S.C. STATE HIGHWAY DEPARTMENT
COLUMBIA, S.C.

PLAN and PROFILE

WACCAMAW RIVER BRIDGE
NEAR CONWAY, S.C.

SCALE 1" = 25'

FED. ROAD DIST NO	STATE	COUNTY	F.A. PROJ No	ROUTE	SHEET	TOT. SHEETS
14	S.C.	HORRY.	320 B	US501	3	52

PL..
NOTE BOOK
NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

Scale 1"= 50'
CONWAY
MAIN ST.
PI= 5+04.15
Δ= 20° 32' Lt.
D= 6° 27' 34"
T= 160.75
R= 887.47
L= 317.88 With 100' Chords.
= 318.00 " 53' "
Brick Lumber Kiln.
Tobacco Warehouse
R.J. Reynolds Tobacco Co.
J. M. Mann
0+00 Beginning of Fed Aid Proj No. 320-B-Sec.1.
4' Concrete Walk 23.0 ℄
Concrete Curb.
4' Concrete Walk 26.1 ℄
Concrete Curb.
P.L. 33' ℄
S 25° 18' E
Ht. Manhole 17' ℄
POT= 0+69.4
POT= 2+16.8
POT= 2+31.3
Storm Sewer.
Sanitary Sewer.
MAIN STREET.
PC= 3+43.0
POT 3+74.7
R/W 50'
PT= 6+61.4
(Mrs.) Cecil M. Griffin D-3-27-37
Office. Building.
Sanitary Sewer
A.C.L. R.R.
STREET 50' Wide.
STREET.
Warehouse.
Tobacco Warehouse
Original Line
PI= 5+90.6
Δ= 20° 42' L.
D= 12° Lt.
T= 87.2
L= 172.5
S 46° 00' E
BURROUGHS & COLLINS.
N
150' R/W.
Bridge Contractor to clear R/W 75' each side of ℄ to sta 15+00
Sta 14+87.4 End of Fed Aid Proj No 320-B Sec.1.
ORIGINAL LINE
Flood (2' Tide Approx) Ebb
WACCAMAW RIVER.
4" Maple
P.O.T. 9+90.7
8" Oak.
3" Oak
150' R/W.

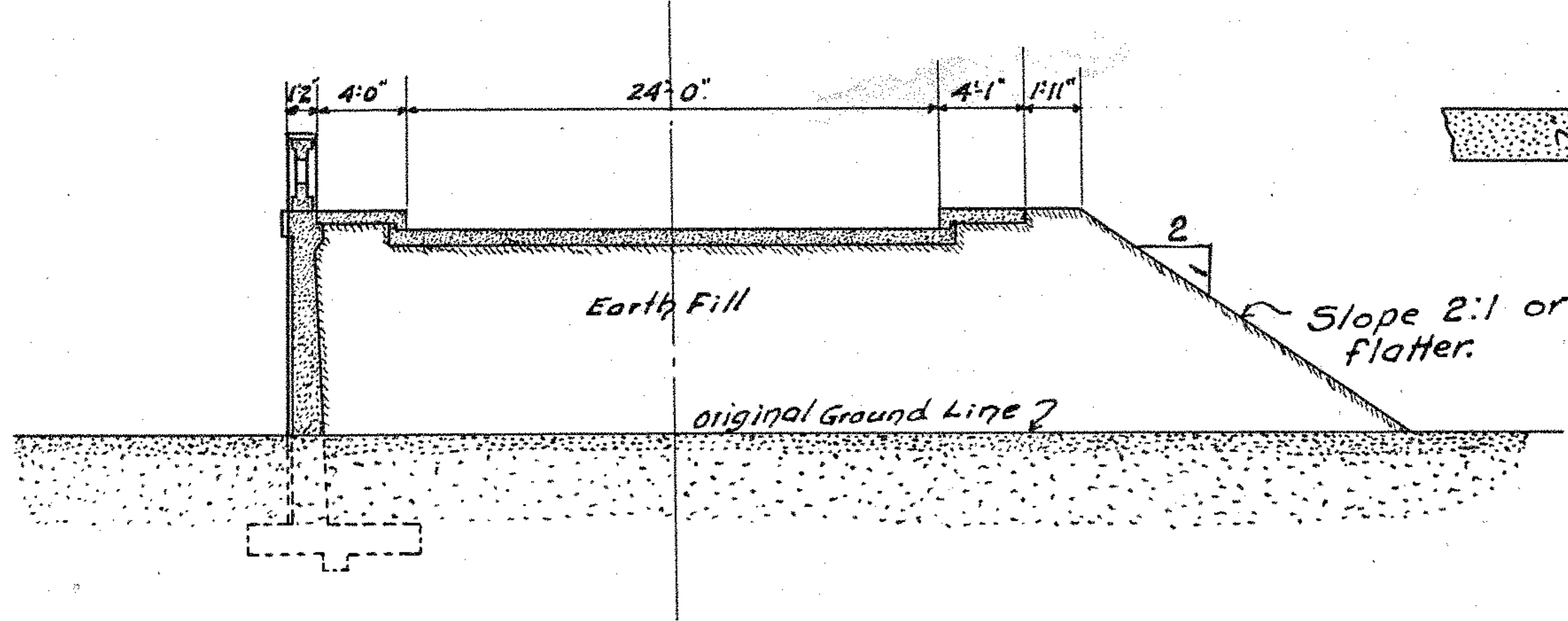
B.M. #1 Cross Mark on first step of old Court House El = 100.00
B.M. #2 30 in. Sycamore 125 ft Lt. Sta 3+00 El. = 92.02.
B.M. #3 Nail in Building 100 ft left Sta. 6+00 El. = 83.57.
B.M. #4 14" Oak 40' Right. Sta. 10+55 El. = 80.65
100' V.C.
P.I. Sta. 0+50
El. Fin. Gr. 96.4
12.0' left of ℄
0.17% + +6.5% gr
900' V.C.
Sta 8+09.4
El Fin Gr. 145.76 (12.0' left of ℄)
+6.5%
-6.5%
L.F.G. HIGH GUTTER
F.G. LOW GUTTER
4-53' Span Extension 212'-0"
Abutment
HIGH WATER EL. 88.37
LOW TIDE EL. 74.9
Sta 0+00 beginning of Fed Aid Proj No. 320-B-Sec.1. at end of present pavement.
Sta 14+87.4 End of Fed Aid Proj No.-320-B Sec.1 and beginning of Fed Aid Proj. No. 320-B-SEC-2-
Original Line PI= 10+79.3
New Line PI = 10+72.6
NEW LINE
ORIGINAL LINE.
New PI= 5+04.15
Original P.I.= 5+90.6
86.45
20° 32'
20° 42'
30.32
10371.9
10290.6
SKETCH SHOWING CHANGE FROM ORIGINAL LINE TO NEW LINE NOT TO SCALE.
PROFILE & BORINGS ON ORIGINAL LINE.
All excavation above El 74.9 is classed as dry excavation and all below this elevation is classed as wet, regardless of elevation of water.
Clay
Sand
Rock
Med. Marl
Hard Marl
Soft Marl
Sand Clay
130
120
110
100
90
80
70
60
50
40
-5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 20

PROFILE
NOTE BOOK
NO.
SURVEYED
PLOTTED E.K.P.
GRADES CHECKED W.E.L.
B. M. S. NOTED
STRUCTURE NOTAT'NS CH'KD
BY
DATE Aug 1936
"
Revised for 212 Ft. Ext. Bridg 3/26/37 Checked by W.F.L. 3/29/37

EUGENE DIETZGEN CO. CHGO., N.Y.

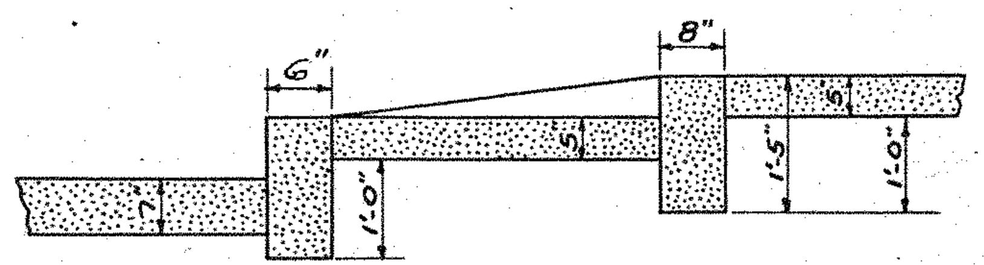
PLATE 1-PLAN-PROFILE B.P.R. STANDARD

FED. ROAD DIST. Nº	STATE	F.A. PROJ. Nº	COUNTY	ROUTE	FISCAL YEAR	SHEET Nº	TOTAL SHEETS
14	S.C.	320 B	HORRY	U.S.501	1936	6	52

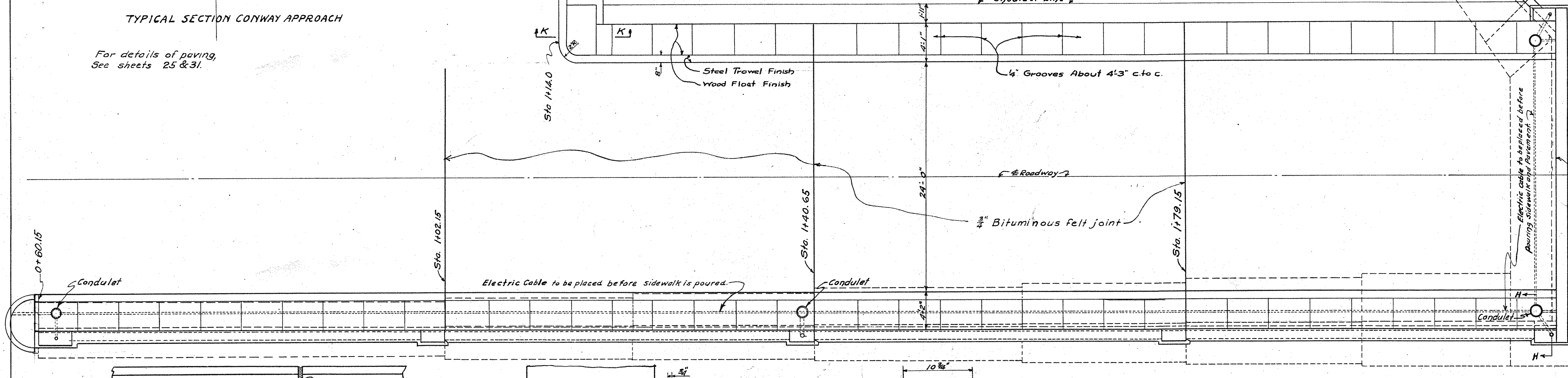

1/2
4'-0"
24'-0"
4'-1"
1'11"
2
Earth Fill
Slope 2:1 or flatter.
original Ground Line

TYPICAL SECTION CONWAY APPROACH

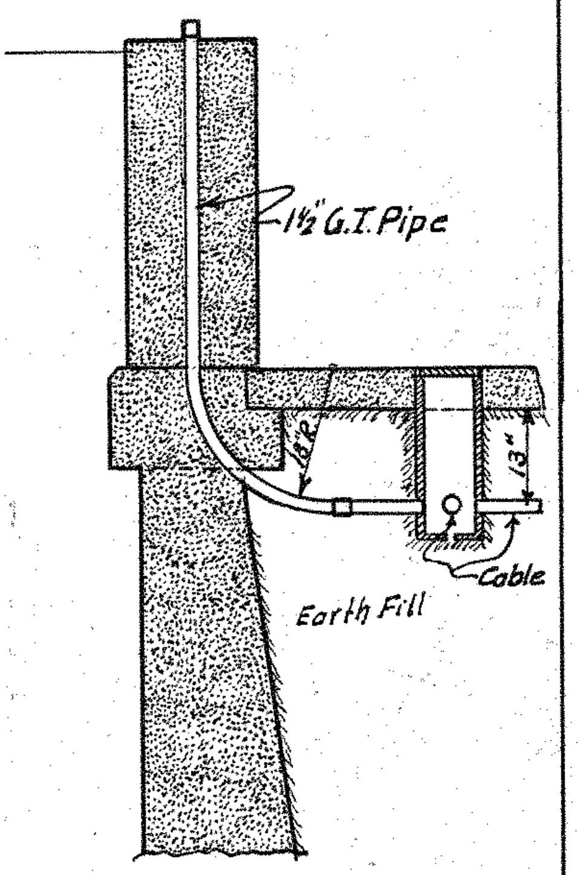
For details of paving, See sheets 25 & 31.



SECTION K-K
Scale 1/2"=1'-0"

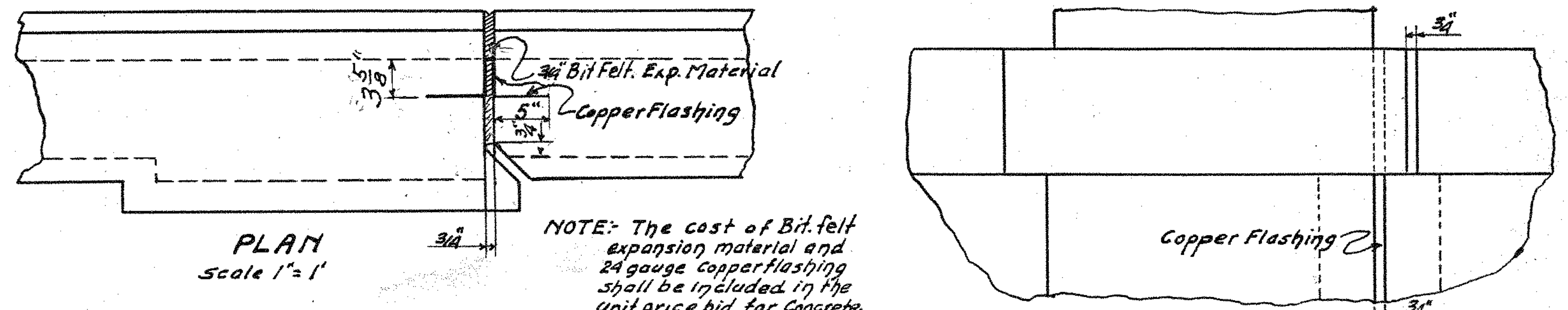

Toe of Slope
Shoulder Line
10 R
K
K
Sta 1+14.0
Steel Trowel Finish
Wood Float Finish
8"
1/4" Grooves About 4'-3" c. to c.
4'-1"
1'11"
24'-0"
4'-1"
℄ Roadway
3/4" Bituminous felt joint
Sta 2+17.4
Electric cable to be placed before pouring Sidewalk and Pavement
0+60.15
Condulet
Sta. 1+02.15
Electric Cable to be placed before Sidewalk is poured.
Sta. 1+40.65
Condulet
Sta. 1+79.15
H
H
Condulet

PLAN CONWAY APPROACH
Scale: 3/16"=1'


1 1/2" G.T. Pipe
Cable
Earth Fill
1'3"

PART SECTION "H-H"
Showing Pipe Conduit & Condulet

NOTE: The Electric cable, condulets and all necessary fittings shall be furnished by the City of Conway, and installed by Contractor.
The 1 1/2" G.I. pipe in post to be furnished by contractor. The cost of same to be included in unit price bid for Concrete.

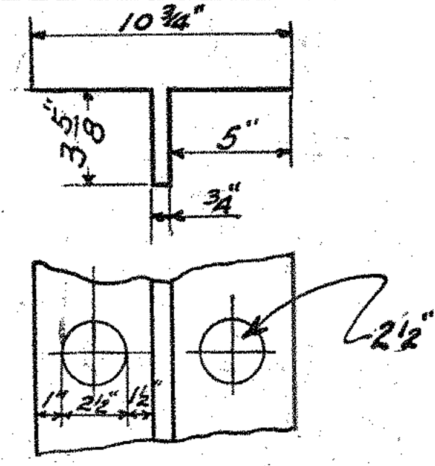

3/4" Bit. Felt. Exp. Material
Copper Flashing
5"
3/4"
3 1/2"
Copper Flashing
3/4"

PLAN
Scale 1"=1'

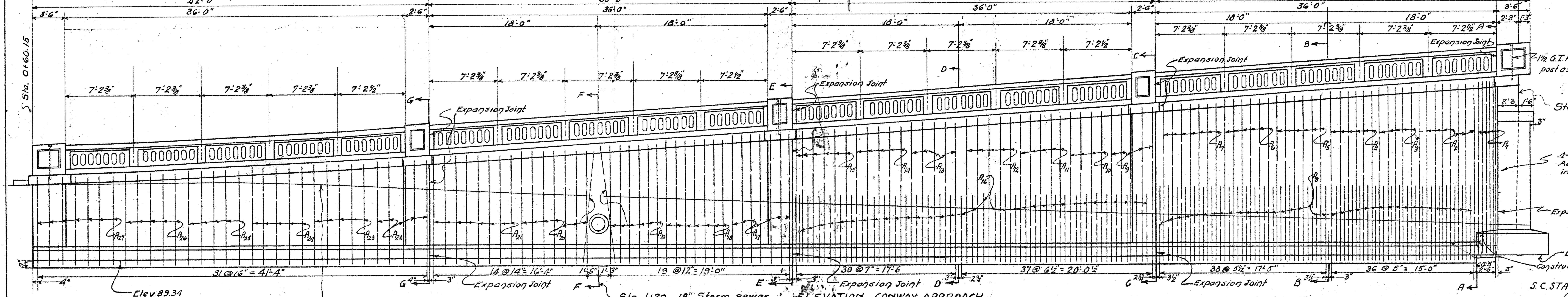
NOTE: The cost of Bit. felt expansion material and 24 gauge Copper flashing shall be included in the unit price bid for Concrete.

ELEVATION
Scale: 1"=1'

DETAIL OF EXPANSION JOINT


10 3/16"
3 3/8"
5"
3/4"
2 1/2" holes @ 4" ctrs.

DETAIL OF COPPER FLASHING
24 Gauge - 18" Wide
Scale: 1 1/2"=1'

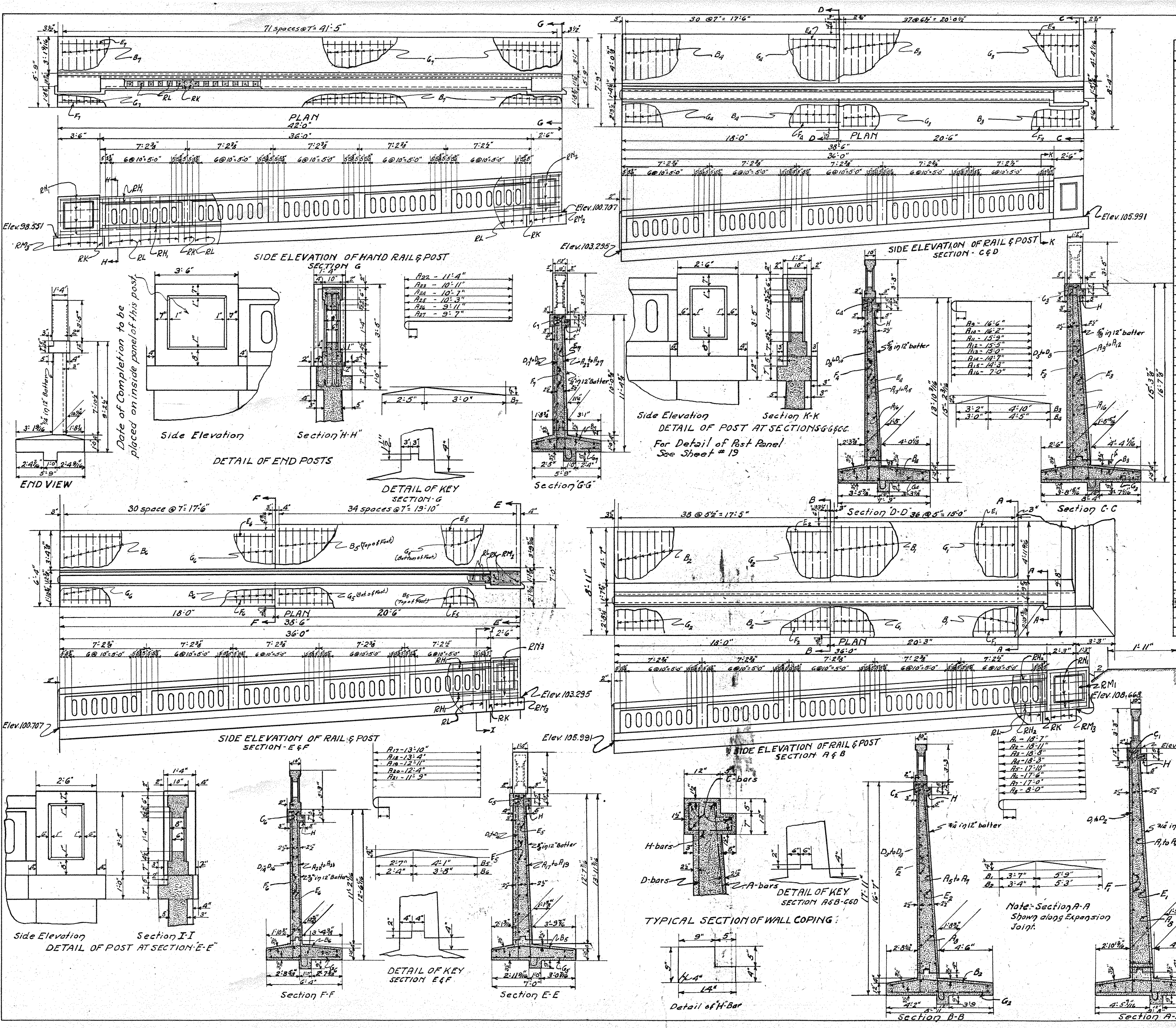

42'-0"
38'-6"
39'-6"
3'-6"
36'-0"
2'-6"
36'-0"
2'-6"
36'-0"
2'-6"
36'-0"
3'-6"
18'-0"
18'-0"
18'-0"
18'-0"
18'-0"
18'-0"
2'-3"
1'-3"
7'-2 3/8"
7'-2 1/2"
Sta. 0+60.15
G
F
E
D
C
B
A
Expansion Joint
1 1/2" G.I. Pipe to be placed in post as shown
Sta. 2+17.4
3"
4-A1 Bars @ 5" C'trs in Abutment here included in Retaining Wall Quantities.
Expansion Joint
Elev. 89.34
Construction Joint
A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17 A18 A19 A20 A21 A22 A23 A24 A25 A26 A27
31 @ 16" = 41'-4"
14 @ 14" = 16'-4"
19 @ 12" = 19'-0"
30 @ 7" = 17'-6"
37 @ 6 1/2" = 20'-0 1/2"
38 @ 5 1/2" = 17'-5"
36 @ 5" = 15'-0"
6 @ 5" 2'-6"
Elev. 89.34
Finished Grade of Ramp.
Expansion Joint
Sta 1+20 18" Storm sewer through wall. El. Flow line 92.20 Hole through wall 2'-3" Ø.

ELEVATION CONWAY APPROACH
SHOWING STEEL IN BACK OF WALL
Scale: 3/16"=1'

DRAWN & TRACED By:- A.W. Shoolbred June 1936
CHECKED By:- J.C. Myers July 1936
QUANTITIES By:- A.W. Shoolbred June 1936
CHECKED By:- J.C.M. & J.R.W.P. July 1936

S.C. STATE HIGHWAY DEPT.
COLUMBIA, S.C.
RETAINING WALL FOR CONWAY APPROACH
WACCAMAW RIVER BRIDGE
NEAR CONWAY, S.C.
F.A. Project:- 320 Horry County.
Scales:- As Shown.

FED. ROAD DIST. Nº	STATE	F.A. PROJ. Nº	COUNTY	ROUTE	Fiscal Year	SHEET Nº	TOTAL SHEETS
14	S.C.	320 B	HORRY	U.S.501	1936	7	52


PLAN
42'-0"
71 spaces @ 7" = 41'-5"
SIDE ELEVATION OF HAND RAIL & POST SECTION G
Elev. 98.551
Elev. 100.707
DETAIL OF END POSTS
END VIEW
Side Elevation
Section "H-H"
Date of Completion to be placed on inside panel of this post.
DETAIL OF KEY SECTION-G
Section "G-G"
30 @ 7" = 17'-6"
37 @ 6½" = 20'-0½"
PLAN
SIDE ELEVATION OF RAIL & POST SECTION - C & D
Elev. 103.295
Elev. 105.991
Side Elevation
Section K-K
DETAIL OF POST AT SECTIONS G-G & C-C.
For Detail of Post Panel See Sheet # 19
Section D-D
Section C-C
30 space @ 7" = 17'-6"
34 spaces @ 7" = 19'-10"
PLAN
SIDE ELEVATION OF RAIL & POST SECTION - E & F
Elev. 100.707
Elev. 103.295
38 @ 5½" = 17'-5"
36 @ 5" = 15'-0"
PLAN
SIDE ELEVATION OF RAIL & POST SECTION A & B
Elev. 105.991
Elev. 108.668
Side Elevation
Section I-I
DETAIL OF POST AT SECTION "E-E"
Section F-F
DETAIL OF KEY SECTION E & F
Section E-E
TYPICAL SECTION OF WALL COPING
C-bars
H-bars
D-bars
A-bars
DETAIL OF KEY SECTION A & B - C & D
Detail of "H" Bar
Section B-B
Note:- Section A-A Shown along Expansion Joint.
Section A-A
Elev. 108.511
3/4 in 12" batter

STEEL TABLE FOR RETAINING WALL CONWAY APPROACH

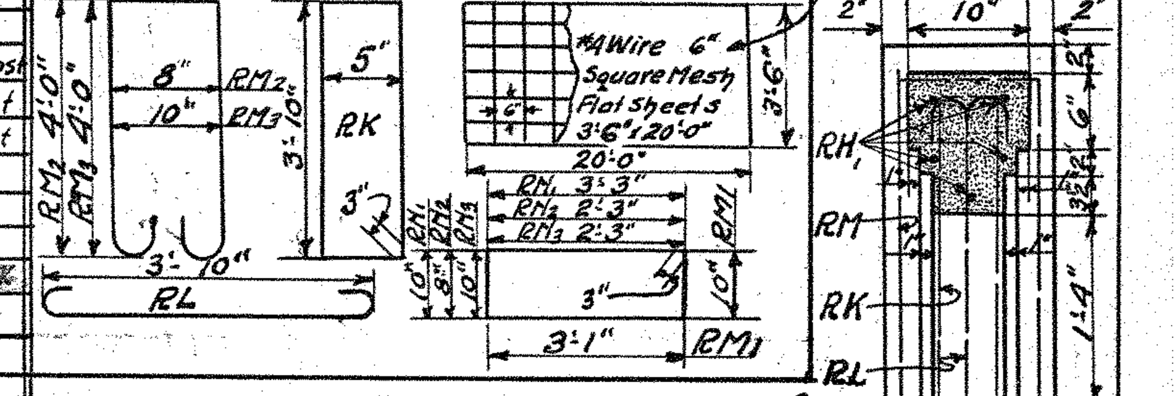
Mark	Nº	Size	Length	Detail	Spacing	Section	Mark	Nº	Size	Length	Detail	Spacing	Section
RA1	10	1"φ	19'-7"	Bent	5" ctrs.	Sec. A	RA16	15	7/8"φ	8'-0"	Bent	14" ctrs	Sec. D
RA2	7	"	19'-11"	"	10" "	"	RH	12	3/8"φ	4'-6"	"	18" "	"
RA3	6	"	19'-8"	"	" "	"	RA17	7	7/8"φ	14'-10"	"	12" "	Sec. E
RA4	6	"	19'-3"	"	" "	"	RA18	7	"	14'-4"	"	" "	"
RB1	37	7/8"φ	9'-4"	"	5" "	"	RA19	7	"	13'-11"	"	" "	"
RC1	4	3/4"φ	20'-4"	Str.	as shown	"	RB5	35	1/2"φ	6'-8"	"	7" "	"
RD1	6	1/2"φ	18'-2"	"	18" Ctrs	"	RC5	4	3/4"φ	21'-7"	"	as shown	"
RD2	6	"	17'-6"	"	" "	"	RD11	5	1/2"φ	13'-0"		18" ctrs.	"
RE1	9	"	17'-10"	"	36" "	"	RD12	4	"	12'-8"	"	" "	"
RF1	14	"	17'-10"	"	18" "	"	RD13	4	"	12'-2"	"	" "	"
RG1	37	7/8"φ	9'-4"	"	5" "	"	RE5	7	"	20'-4"	Bent	36" "	"
RH	12	3/8"φ	4'-6"	Bent	18" "	"	RF5	10	"	20'-4"	Str.	18" "	"
RA8	18	1"φ	9'-0"	"	10" "	"	RG5	35	"	6'-8"	"	7" "	"
RA5	6	"	18'-10"	"	11" "	Sec. B	RH	14	3/16"φ	4'-6"	Bent	18" "	"
RA6	6	"	18'-6"	"	" "	"	RA20	8	7/8"φ	13'-4"	Bent	14" "	Sec. F
RA7	7	"	18'-0"	"	" "	"	RA21	8	"	12'-9"	"	" "	"
RB2	39	3/4"φ	8'-7"	"	5½"	"	RB6	31	1/2"φ	6'-0"	"	7" "	"
RC2	4	"	17'-10"	Str.	as shown	"	RC6	4	3/4"φ	19'-1"	Str	as shown	"
RD3	6	1/2"φ	17'-0"	"	18" Ctrs.	"	RD14	4	1/2"φ	11'-10"	Str	18" ctrs.	"
RD4	6	"	16'-4"	"	" "	"	RD15	4	"	11'-5"	"	" "	"
RE2	8	"	19'-6"	"	36" "	"	RD16	5	"	10'-11"	"	" "	"
RF2	12	"	19'-6"	"	18" "	"	RE6	6	"	19'-6"	Bent	36" "	"
RG2	39	3/4"φ	8'-7"	"	5½" "	"	RF6	9	"	19'-6"	Str.	18" "	"
RA8	20	1"φ	9'-0"	Bent	11" "	"	RG6	31	"	6'-0"	"	7" "	"
RH	12	3/8"φ	4'-6"	"	18" "	"	RH	12	3/16"φ	4'-6"	Bent	18" "	"
RA9	5	1"φ	17'-6"	"	13" "	Sec. C	RA22	5	5/8"φ	12'-0"	Bent	16" "	Sec. G
RA10	4	"	17'-2"	"	" "	"	RA23	5	"	11'-7"	"	"	"
RA11	5	"	16'-9"	"	" "	"	RA24	5	"	11'-3"	"	" "	"
RA12	5	"	16'-5"	"	" "	"	RA25	5	"	10'-11"	"	" "	"
RB3	38	3/4"φ	8'-0"	"	6½"	"	RA26	5	"	10'-7"	"	" "	"
RC3	4	3/4"φ	21'-7"	Str.	as shown	"	RA27	7	"	10'-3"	"	" "	"
RD5	5	1/2"φ	15'-7"	"	18" Ctrs.	"	RB7	72	1/2"φ	5'-5"	"	7" "	"
RD6	4	"	15'-2"	"	" "	"	RC7	8	3/4"φ	22'-1"	Str.	as shown	"
RD7	4	"	14'-9"	"	" "	"	RD17	6	1/2"φ	10'-5"	"	18" Ctrs.	"
RE3	7	"	20'-4"	"	36" "	"	RD18	7	"	9'-9"	"	" "	"
RF3	11	"	20'-4"	"	18" "	"	RD19	7	"	9'-3"	"	" "	"
RG3	38	3/4"φ	8'-0"		6½" "	"	RD20	8	"	8'-9"	"	" "	"
RA16	19	7/8"φ	8'-0"	Bent	13" "	"	RE7	12	"	21'-8"	"	36" "	"
RH	14	3/8"φ	4'-6"	"	18" "	"	RF7	16	"	21'-8"	"	18" "	"
RA13	5	1"φ	16'-0"	"	14" "	Sec. D	RG7	72	"	5'-5"	"	7" "	"
RA14	5	"	15'-7"	"	" "	"	RH	28	3/8"φ	4'-6"	Bent	18" "	"
RA15	6	"	15'-3"	"	" "	"							
RB4	31	1/2"φ	7'-5"	"	7" "	"							
RC4	4	3/4"φ	19'-1"	Str.	as shown	"							
RD8	4	1/2"φ	14'-4"	"	18" Ctrs.	"							
RD9	4	"	13'-11"	"	" "	"							
RD10	5	"	13'-6"	"	" "	"							
RE4	7	"	19'-6"	"	36" "	"							
RF4	11	"	19'-6"	"	18" "	"	Class "A" Concrete 131.37 Cu. Yds.						
RG4	31	"	7'-5"	"	7" "	"	Reinforcing Steel 15,498 Lbs.						

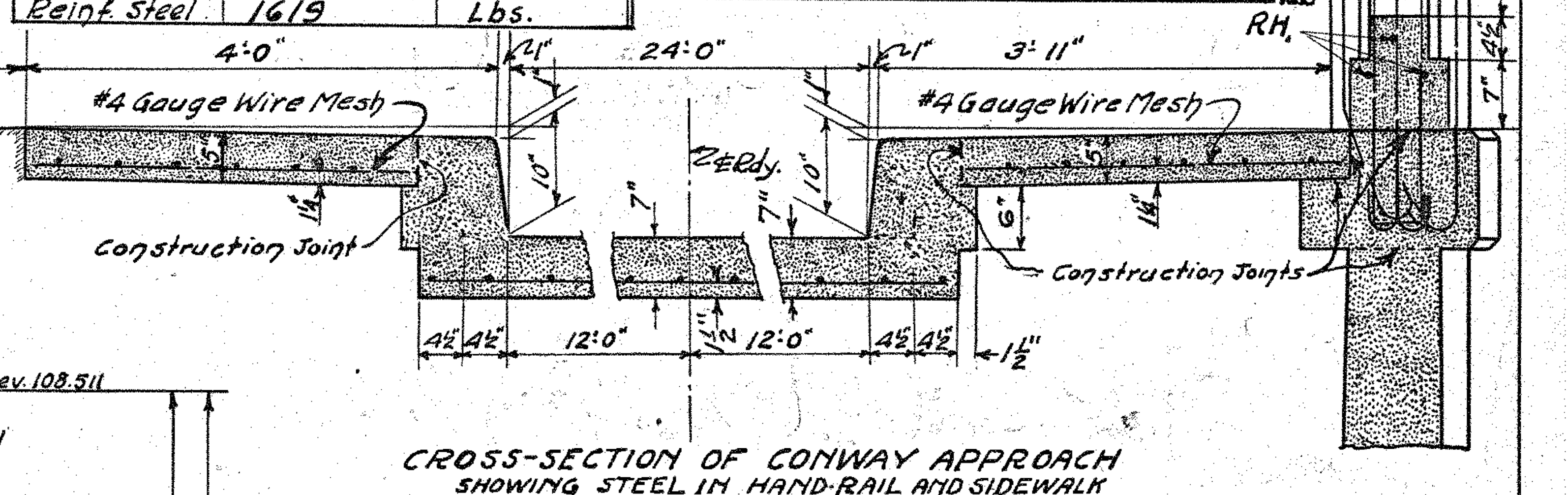
Wire mesh ordered on Sheet #31.

STEEL TABLE FOR HAND RAIL AND SIDEWALK CONWAY APPROACH

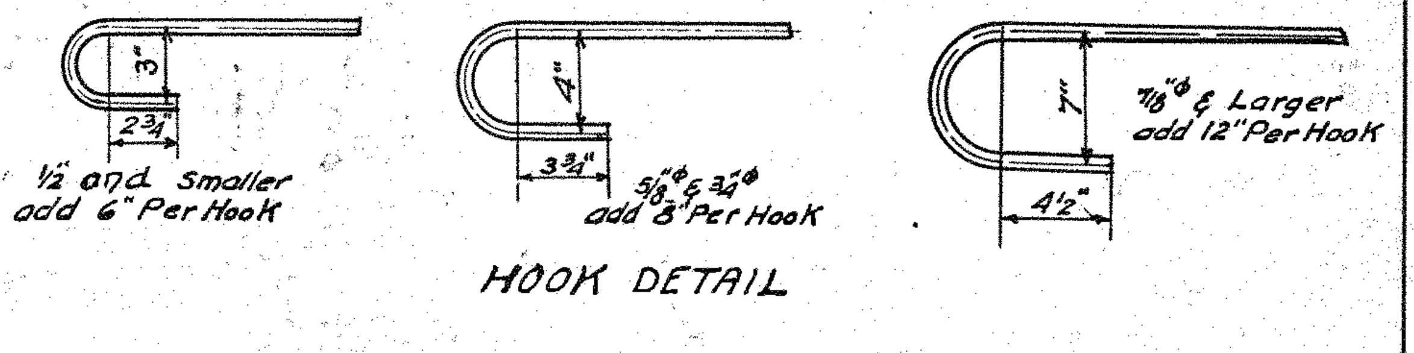
RH1	24	3/8"φ	38'-3"	Str.	as shown	Location
RK	40	1/2"φ	9'-0"	Bent	" "	Rail
RL	160	"	4'-10"	"	" "	"
RM1	2	"	8'-4"	"	" "	End Post
RM2	8	"	9'-8"	"	" "	Int. Post
RM3	12	"	9'-10"	"	" "	End Post
RN1	9	#4 Wire	8'-8"	"	" "	" "
RN2	8	"	6'-4"	"	" "	Int. "
RN3	4	"	6'-8"	"	" "	" "
Wire Mesh	8	[illegible]	3'6"x20'0"	6" Sq.	[illegible]	Sidewalk
RH2	8	3/8"φ	35'-8"	Str.	" "	Rail
Class "A" Conc.	11.79		Cu. Yds.			
Reinf. Steel	1619		Lbs.			

Bending Detail


RM2 4'-0"
RM3 4'-0"
8" RM2
10" RM3
3'-10"
RL
5"
RK
3'-1"
RM1
#4 Wire 6" Square Mesh Flat Sheets 3'6" x 20'-0"
20'-0"
RN1 3'-3"
RN2 2'-3"
RN3 2'-3"
3'-6"
1'-2"
10"
2"


4'-0"
24'-0"
3'-11"
1'-11"
#4 Gauge Wire Mesh
#4 Gauge Wire Mesh
Construction Joint
Construction Joints
12'-0"
12'-0"
RH1
RM
RK
RL
RH1

CROSS-SECTION OF CONWAY APPROACH SHOWING STEEL IN HAND-RAIL AND SIDEWALK


3"
2¾"
½" and smaller add 6" Per Hook
4"
3¾"
5/8"φ & 3/4"φ add 8" Per Hook
7"
4½"
7/8"φ & Larger add 12" Per Hook

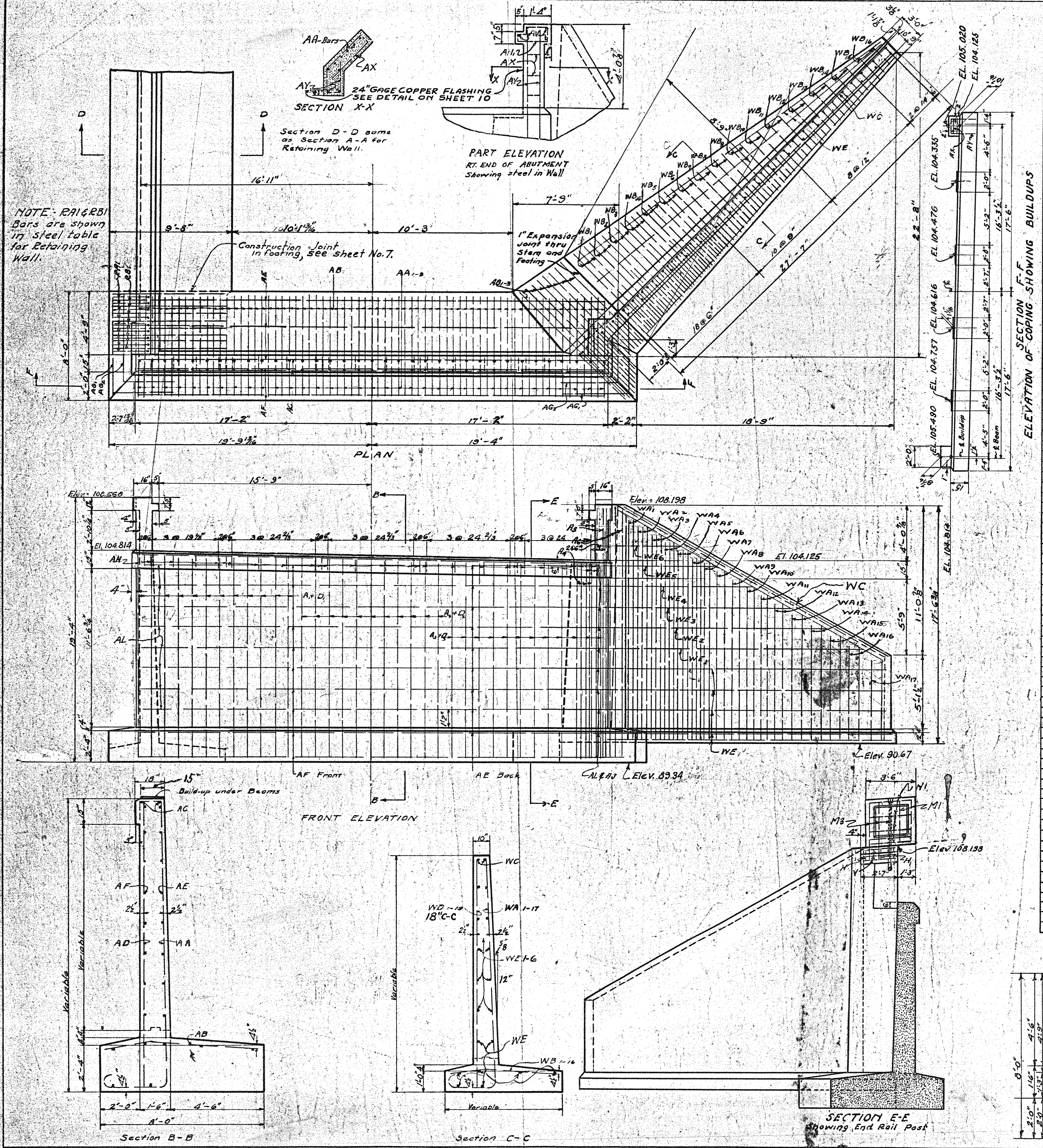
HOOK DETAIL

S.C. STATE HIGHWAY DEPARTMENT
COLUMBIA, S.C.
DETAIL OF HAND RAIL AND RETAINING WALL
CONWAY APPROACH WACCAMAW RIVER BRIDGE
NEAR
CONWAY, S.C.

F.A. PROJECT; 320 HORRY COUNTY
Route; Nº 501 June, 1936
Scales:- ¼" - ½" & ¾" = 1'-0"

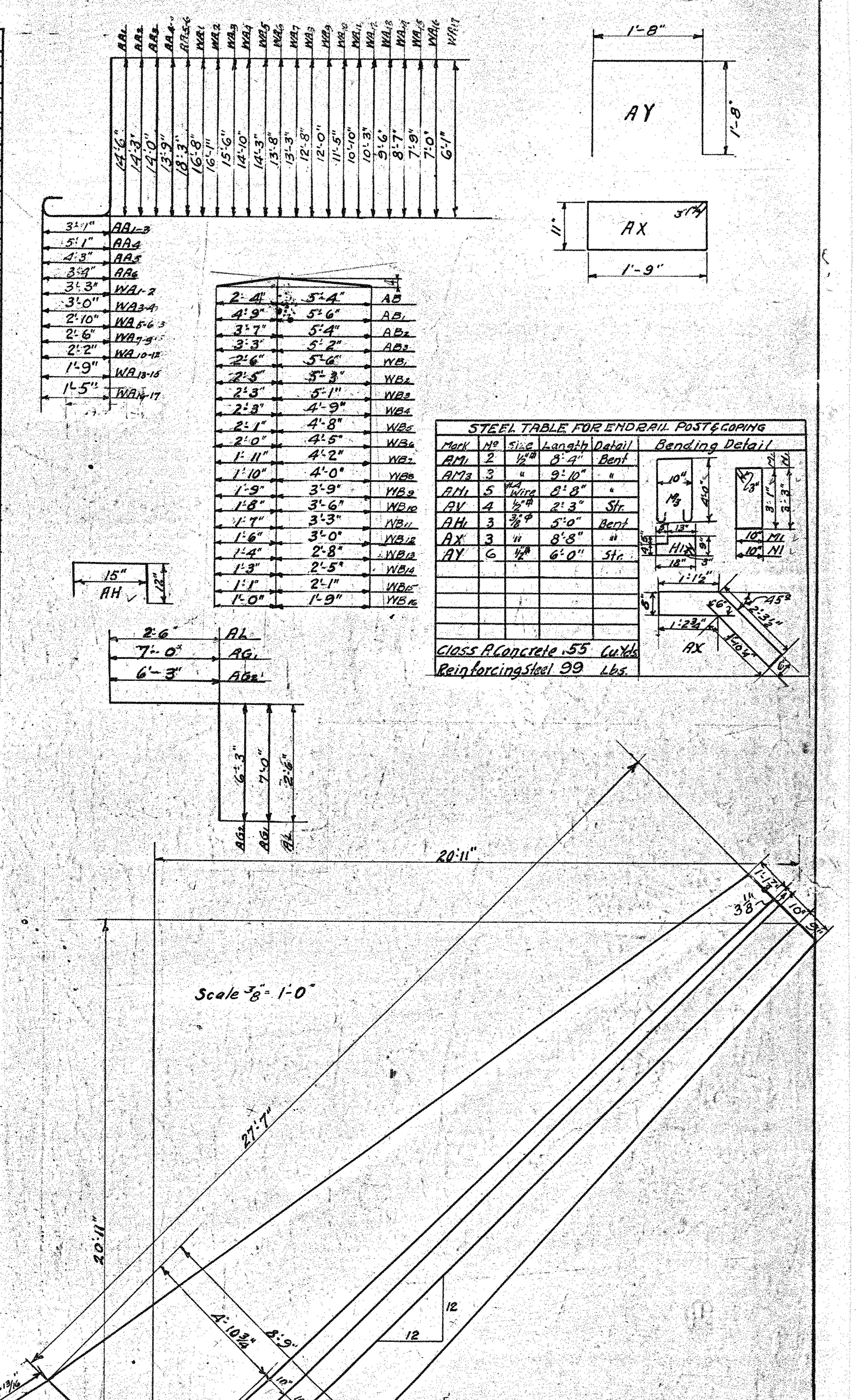
Drawn & ~~Tr~~aced By:- A.W. Shoolbred June, 1936
Checked By:- J.C. Myers July 1936
Quantities By:- A.W. Shoolbred
Checked By:- J.C.M. & J.R.W.P. July 1936

FED. ROAD DIST. NO.	STATE	COUNTY	F.A. PROJ.	ROUTE	FISCAL YR.	SHEET	TOT. SHEETS
14	S.C.	HORRY	320 B	US 501	1936	8.	52


AA-Bars
AX
AY
24" GAGE COPPER FLASHING SEE DETAIL ON SHEET 10
SECTION X-X
Section D-D same as Section A-A for Retaining Wall.
PART ELEVATION
RT. END OF ABUTMENT
Showing steel in Wall
NOTE: RA1 & RB1 Bars are shown in steel table for Retaining Wall.
Construction Joint in footing, see sheet No. 7.
1" Expansion Joint thru Stem and Footing
PLAN
16'-11"
9'-8"
10'-3"
7'-9"
17'-2"
17'-2"
2'-2"
18'-9"
19'-9 13/16"
19'-4"
27'-7"
8 @ 12"
10 @ 9"
18 @ 6"
EL. 105.020
EL. 104.125
EL. 104.335
EL. 104.476
EL. 104.616
EL. 104.757
EL. 105.490
SECTION F-F
ELEVATION OF COPING SHOWING BUILDUPS
Elev. 106.050
El. 104.814
Elev. 108.198
El. 104.125
15'-9"
3 @ 19 1/2"
3 @ 24 2/3"
WC
AN
AL
AF Front
AE Back
Elev. 90.67
Elev. 89.34
FRONT ELEVATION
Build-up under Beams
Section B-B
8'-0"
WD 1-19 18" C-C
WA 1-17
WE 1-6
WE
WB 1-16
Variable
Section C-C
Elev. 108.198
SECTION E-E
Showing End Rail Post

STEEL TABLE FOR ABUTMENT AND WING

Mark	No.	Size	Length	Det.	Spacing	Place
AA1	12	1" φ	18'-7"	B	12" c to c	Back
AA2	11	"	18'-4"	B	" "	"
AA3	12	"	18'-1"	B	" "	"
AA4	3	5/8" φ	19'-10"	B	6" "	"
AA5	2	"	23'-6"	B	" "	"
AA6	4	"	22'-7"	B	" "	"
AB	69	7/8" φ	7'-8"	B	" "	Footing
AB1	3	5/8" φ	10'-3"	B	" "	"
AB2	3	"	8'-11"	B	" "	"
AB3	2	"	8'-5"	B	" "	"
AC	2	3/4" φ	33'-10"	S	" "	Coping
AD1	12	5/8" φ	14'-8"	S	12" "	Front
AD2	11	"	14'-5"	S	" "	"
AD3	12	"	14'-0"	S	" "	"
AE	11	1/2" □	34'-0"	S	18" "	Back
AF	12	"	34'-0"	S	" "	Front
AG1	2	5/8" φ	14'-0"	B	as shown	Footing
AG2	2	"	12'-6"	B	" "	"
AH	28	1/2" □	3'-3"	B	" "	Coping
AJ	9	"	4'-6"	S	18" c to c	Back
WA1	2	3/4" φ	20'-7"	B	6" "	"
WA2	3	"	20'-0"	B	" "	"
WA3	3	"	19'-2"	B	" "	"
WA4	3	"	18'-6"	B	" "	"
WA5	3	"	17'-9"	B	" "	"
WA6	3	"	17'-2"	B	" "	"
WA7	2	5/8" φ	16'-5"	B	9" "	"
WA8	2	"	15'-10"	B	" "	"
WA9	2	"	15'-2"	B	" "	"
WA10	2	"	14'-3"	B	" "	"
WA11	2	"	13'-8"	B	" "	"
WA12	2	"	13'-1"	B	12" "	"
WA13	2	"	11'-11"	B	" "	"
WA14	2	"	11'-0"	B	" "	"
WA15	2	"	10'-2"	B	" "	"
WA16	2	"	9'-1"	B	" "	"
WA17	2	"	8'-2"	B	14" "	"
WB1	3	"	8'-0"	B	6" "	Footing
WB2	3	"	7'-8"	B	" "	"
WB3	3	"	7'-4"	B	" "	"
WB4	3	"	7'-0"	B	" "	"
WB5	3	"	6'-9"	B	" "	"
WB6	3	"	6'-5"	B	" "	"
WB7	2	"	6'-1"	B	9" "	"
WB8	2	"	5'-10"	B	" "	"
WB9	2	"	5'-6"	B	" "	"
WB10	2	"	5'-2"	B	" "	"
WB11	2	"	4'-10	B	" "	"
WB12	2	"	4'-6"	B	12" "	"
WB13	2	"	4'-0"	B	" "	"
WB14	2	"	3'-8"	B	" "	"
WB15	2	"	3'-2"	B	" "	"
WB16	2	"	2'-9"	B	14" "	"
WC	2	"	29'-5"	S	as shown	Top
WD1	1	1/2" □	16'-11"	S	18" c to c	Front
WD2	1	"	16'-4"	S	" "	"
WD3	1	"	15'-9"	S	" "	"
WD4	1	"	15'-7"	S	" "	"
WD5	1	"	14'-6"	S	" "	"
WD6	1	"	13'-11"	S	" "	"
WD7	1	"	13'-4"	S	" "	"
WD8	1	"	12'-8"	S	" "	"
WD9	1	"	12'-1"	S	" "	"
WD10	1	"	11'-6"	S	" "	"
WD11	1	"	10'-11"	S	" "	"
WD12	1	"	10'-3"	S	" "	"
WD13	1	"	9'-8"	S	" "	"
WD14	1	"	9'-1"	S	" "	"
WD15	1	"	8'-6"	S	" "	"
WD16	1	"	7'-10"	S	" "	"
WD17	1	"	7'-3"	S	" "	"
WD18	1	"	6'-8"	S	" "	"
WD19	1	"	6'-1"	S	" "	"
WE	12	"	27'-3"	S	" "	Front & Back
WE1	2	"	25'-9"	S	" "	"
WE2	2	"	22'-0"	S	" "	"
WE3	2	"	18'-3"	S	" "	"
WE4	2	"	14'-5"	S	" "	"
WE5	2	"	10'-8"	S	" "	"
WE6	2	"	6'-11"	S	" "	"
AY	4	"	5'-0"	B	" "	Build up
AX	4	3/8" φ	5'-10"	B	" "	" "
AL	18	3/4" φ	5'-0"	B	" "	Corner
Class A Concrete			76.74		Cu. Yds.	
Reinforcing Steel			6386.		Lbs.	

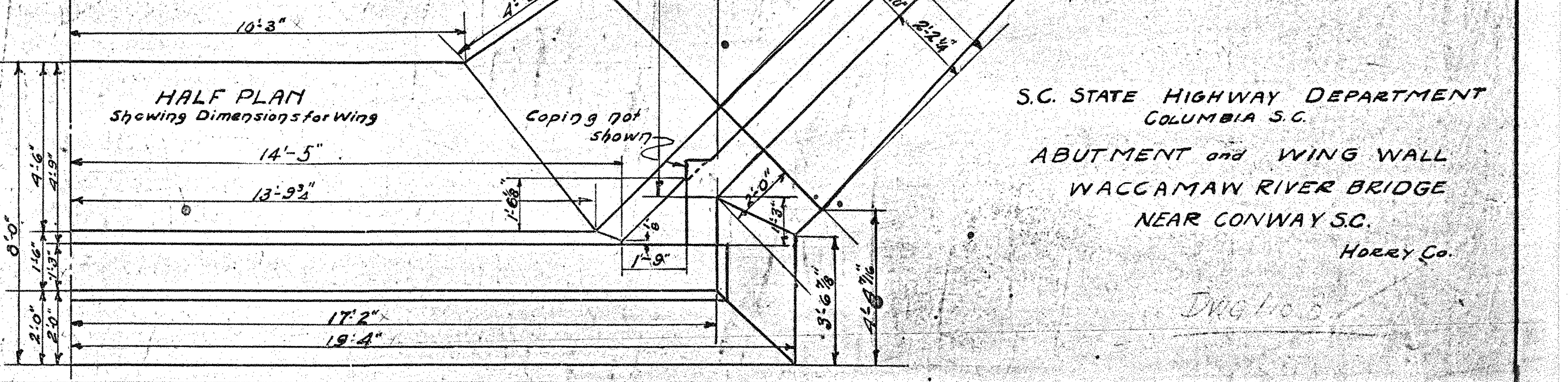

3'-1" AA1-3
5'-1" AA4
4'-3" AA5
3'-4" AA6
3'-3" WA1-2
3'-0" WA3-4
2'-10" WA5-6
2'-6" WA7-9
2'-2" WA10-12
1'-9" WA13-15
1'-5" WA16-17
AY
1'-8"
AX
1'-9"
15"
AH
12"
2'-6" AL
7'-0" AG1
6'-3" AG2
Scale 3/8" = 1'-0"
20'-11"
27'-7"

2'-4"	5'-4"	AB
4'-9"	5'-6"	AB1
3'-7"	5'-4"	AB2
3'-3"	5'-2"	AB3
2'-6"	5'-6"	WB1
2'-5"	5'-3"	WB2
2'-3"	5'-1"	WB3
2'-3"	4'-9"	WB4
2'-1"	4'-8"	WB5
2'-0"	4'-5"	WB6
1'-11"	4'-2"	WB7
1'-10"	4'-0"	WB8
1'-9"	3'-9"	WB9
1'-8"	3'-6"	WB10
1'-7"	3'-3"	WB11
1'-6"	3'-0"	WB12
1'-4"	2'-8"	WB13
1'-3"	2'-5"	WB14
1'-1"	2'-1"	WB15
1'-0"	1'-9"	WB16

STEEL TABLE FOR END RAIL POST & COPING

Mark	No.	Size	Length	Detail
AM1	2	1/2" φ	8'-4"	Bent
AM3	3	"	9'-10"	"
AH1	5	#4 Wire	8'-8"	"
AV	4	1/2" φ	2'-3"	Str.
AH1	3	3/8" φ	5'-0"	Bent
AX	3	"	8'-8"	"
AY	6	1/2" φ	6'-0"	Str.
Class A Concrete .55 Cu. Yds.				
Reinforcing Steel 99 Lbs.				

Bending Detail


10'-3"
HALF PLAN
Showing Dimensions for Wing
14'-5"
13'-9 3/4"
17'-2"
19'-4"
Coping not shown
1'-9"
3'-6 7/8"
4'-8 7/16"

S.C. STATE HIGHWAY DEPARTMENT
COLUMBIA S.C.

ABUTMENT and WING WALL
WACCAMAW RIVER BRIDGE
NEAR CONWAY S.C.
Horry Co.

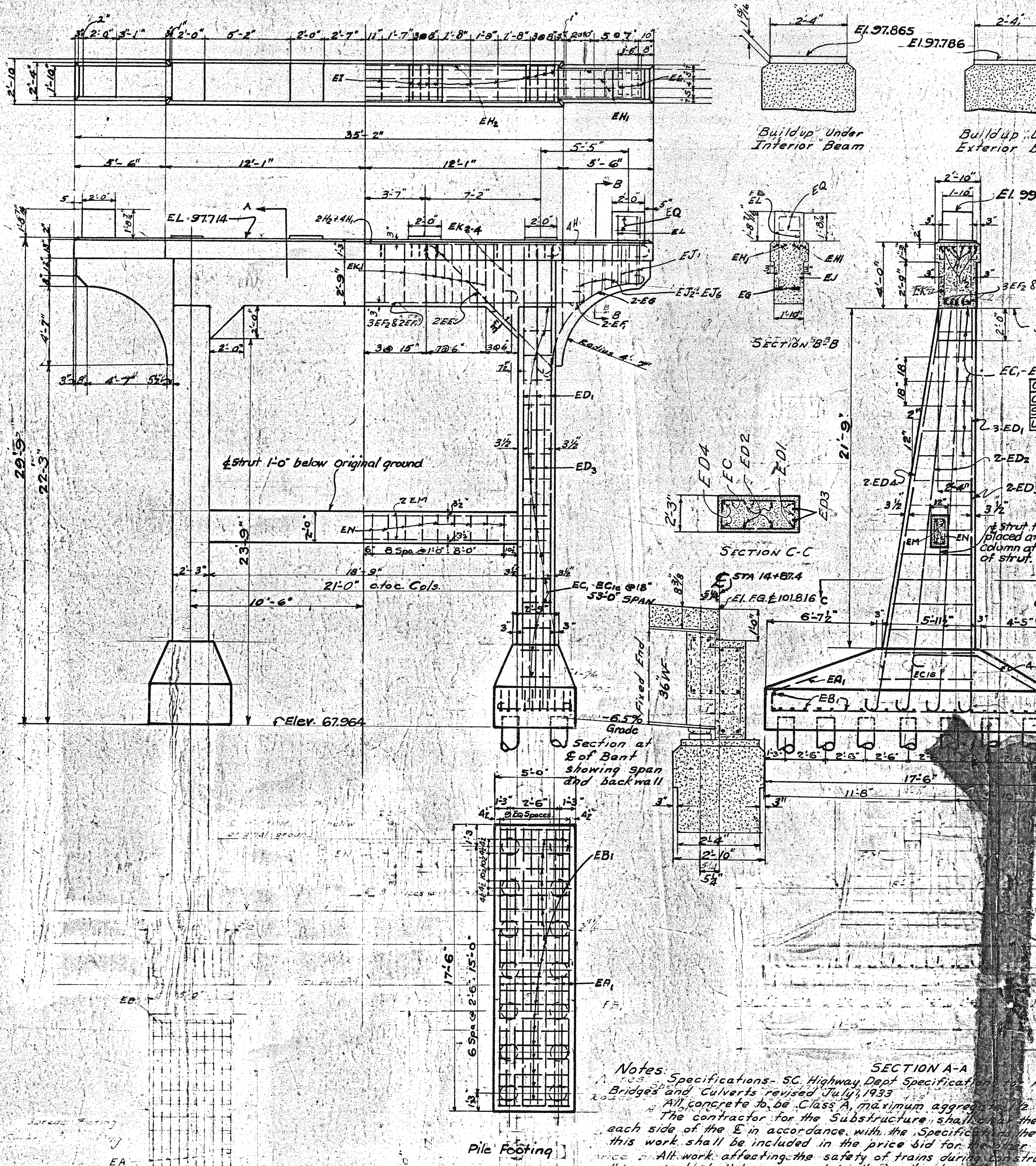
Dwg No. 5

Drawn By Gamb 1935
Traced By "
Checked By F.K.P. Sep 9, 1936.
Revised By A.W. Shoolbred July 1936 F.K.P. Aug 1936.
Quantities F.K.P. Sep 3 1936 Checked W.F.L. 9/9/36 & L.H.

FED ROAD DIST NO	STATE	F.A. PRO	COUNTY	ROUTE	FISCAL YR	SHEET	TOT. SHEETS
14	S.C.	320 B	HORRY	US501	1936	9	52

Traced "
Checked " F.K.P. & W.F. Sep. 9, 1936
Revised. Revised Oct 14, 1936 Change & forcing Mr Melick's Lette (F.K.P.)
Quantities - Steel & Conc. Checked by D.G.F.
" Worked up T.E.C.

Revised for New Dimensions ewg 3/26/37
Checked W.F.L. 3/29/37


EL. 97.865
EL. 97.786
Build up Under Interior Beam
Build up Under Exterior Beam
EL 99.417
EL. 97.714
SECTION B-B
SECTION C-C
℄ Strut 1'-0" below original ground
21'-0" c.to c. Cols.
Elev. 67.964
Section at ℄ of Bent showing span and backwall
Fixed End
36 WF
Grade
℄ STA 14+67.4
EL. F.G. ℄ 101.816
EC1-EC16 @ 18" 53'-0" SPAN
Space C bars from here
EC1-EC16 For 45' Bent.
℄ Strut to be placed at ℄ of column at elev of strut.
SECTION A-A
Pile Footing
6 Spa @ 2'-6" = 15'-0"
17'-6"
5'-0"
29'-9"
22'-3"
23'-9"
35'-2"
21'-9"

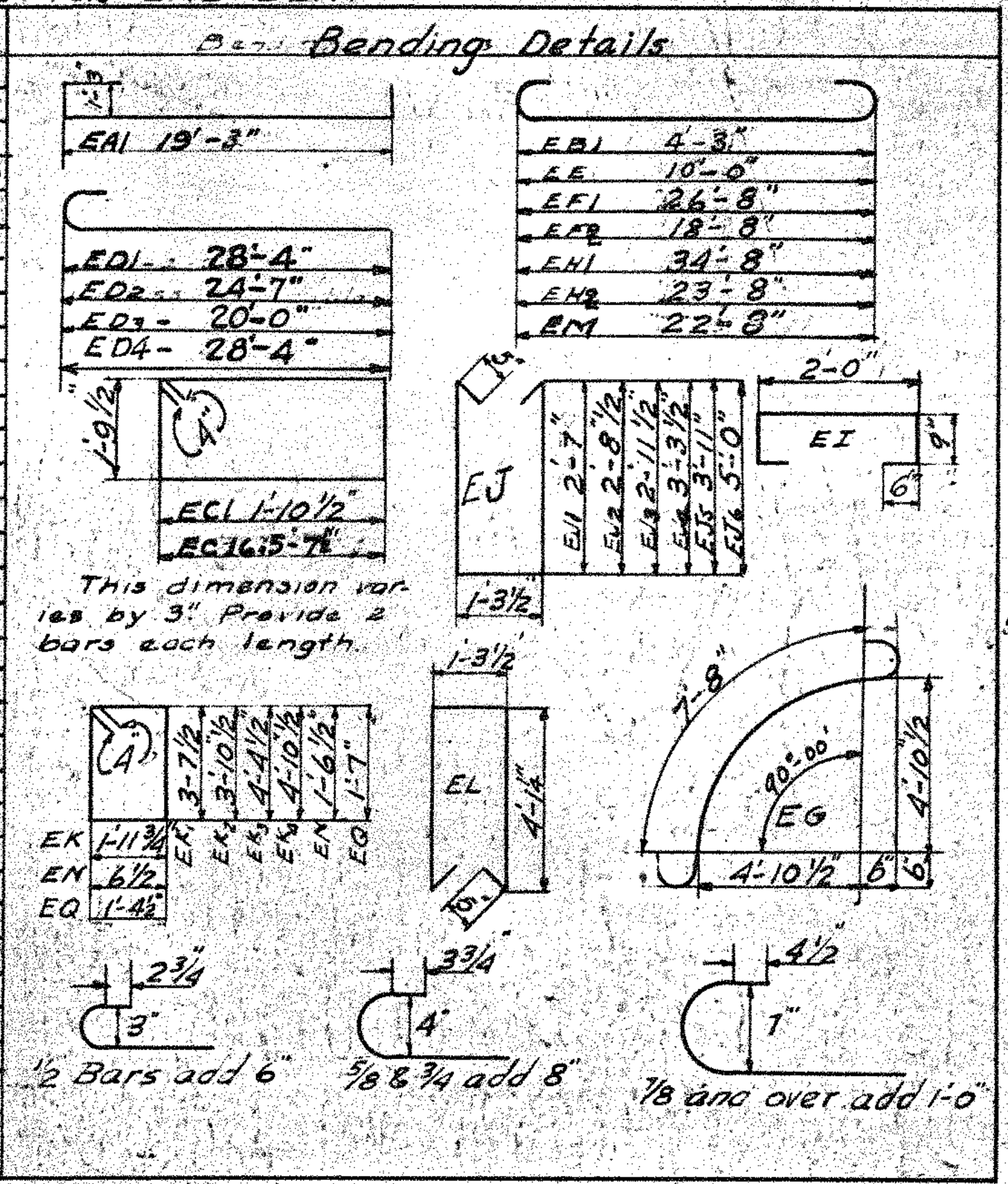
Original Quantities	
Concrete	73.41 C.Y.
Steel	8439 Lbs
Untr. Piles	640 Lin. Ft.

STEEL TABLE For END BENT

Mark	No	Size	Length	Det.
EA1	20	1⅛" □	21'-9"	B
EB1	46	½" □	5'-3"	B
EC1,16	32	⅜" φ	8'-0" to 15'-6"	B
EC16	(2 of	each)	Vary by 6"	
ED1	6	1¼" □	29'-4"	B
ED2	8	1" φ	25'-7"	B
ED3	4	1¼" □	21'-0"	B
EE	4	1" φ	12'-0"	B
EF1	2	1¼" □	28'-8"	B
EF2	3	1¼" □	20'-8"	B
EG	4	¾" φ	10'-0"	B
EH1	4	1" □	36'-8"	B
EH2	2	⅝" φ	25'-0"	B
EI	22	½" □	4'-6	B
EJ1	6	"	7'-3½"	B
EJ2	2	"	7'-6½"	B
EJ3	2	"	8'-0½"	B
EJ4	2	"	8'-8½"	B
EK1	21	"	11'-10½"	B
EK2	2	"	12'-4½"	B
EK3	2	"	13'-4½"	B
EK4	2	"	14'-4½"	B
EL	4	"	10'-4"	B
EM	4	1" □	24'-8"	B
EN	18	½" □	4'-10"	B
EO	8	1¼" □	12'-9"	B
EJ5	2	½" □	9'-11½"	B
EJ6	2	"	12'-1½	B
EQ	4	½" □	6'-7"	B
ED4	4	1" φ	29'-4"	B
Concrete			48.85 C.Y.	
Steel			7329 Lbs.	
Untreated Piles			560 Lin. Ft.	

Quantities for Pile Footings

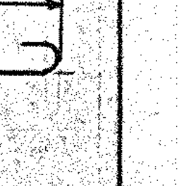
Bending Details

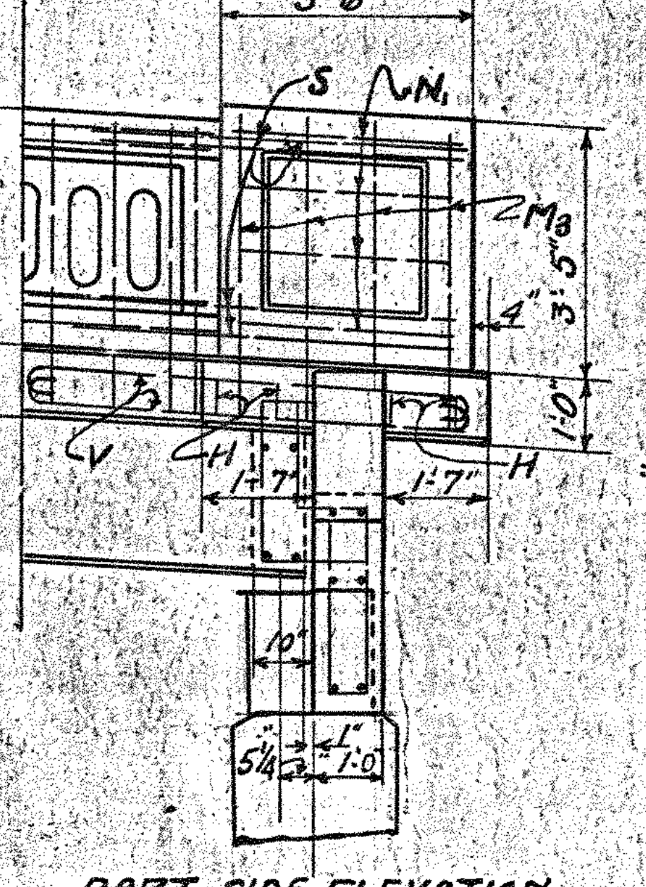

EA1 19'-3"
ED1 - 28'-4"
ED2 - 24'-7"
ED3 - 20'-0"
ED4 - 28'-4"
EC1 1'-10½"
EC16 3'-7½"
This dimension varies by 3". Provide 2 bars each length.
EB1 4'-3"
EE 10'-0"
EF1 26'-8"
EF2 18'-8"
EH1 34'-8"
EH2 23'-8"
EM 22'-8"
EJ
EJ1 2'-7"
EJ2 2'-8½"
EJ3 2'-11½"
EJ4 3'-3½"
EJ5 3'-11"
EJ6 5'-0"
EI
EK 1'-11¾
EN 6½
EQ 1'-4½
EL
EG
4'-10½
½ Bars add 6"
⅝ & ¾ add 8"
⅞ and over add 1'-0"

STEEL TABLE FOR END OF BRIDGE

Mark	No	Size	Length	Det.	Location
CR1	4	¾" φ	16-6	S	Backwall
CR2	8	"	22-9	"	" "
CR3	4	"	13'-5"	"	" "
CR4	17	⅜" φ	11'-4"	"	" "
CR5	8	"	10'-3"	"	" "
CR6	2	"	5'-8"	"	" "
CR7	2	"	8'-2"	"	" "
CR8	4	"	10'-0"	"	" "
CR9	4	"	6'-0"	"	" "
CR10	2	"	13'-0"	"	" "
CR11	2	"	13'-0"	"	" "
*CR12	2	"	13'-0"	"	" "
*CD1	4	¾" φ	21'-10"	S	Diaph.
CD2	8	"	5'-5"	"*	"
*CH	4	#4 Wire	4'-8"	B	Coping
CV	8	⅝" φ	7'-4"	"	"
Class "A" Concrete			7.81		Cu. Yds.
Reinf. Steel			880		Lbs.

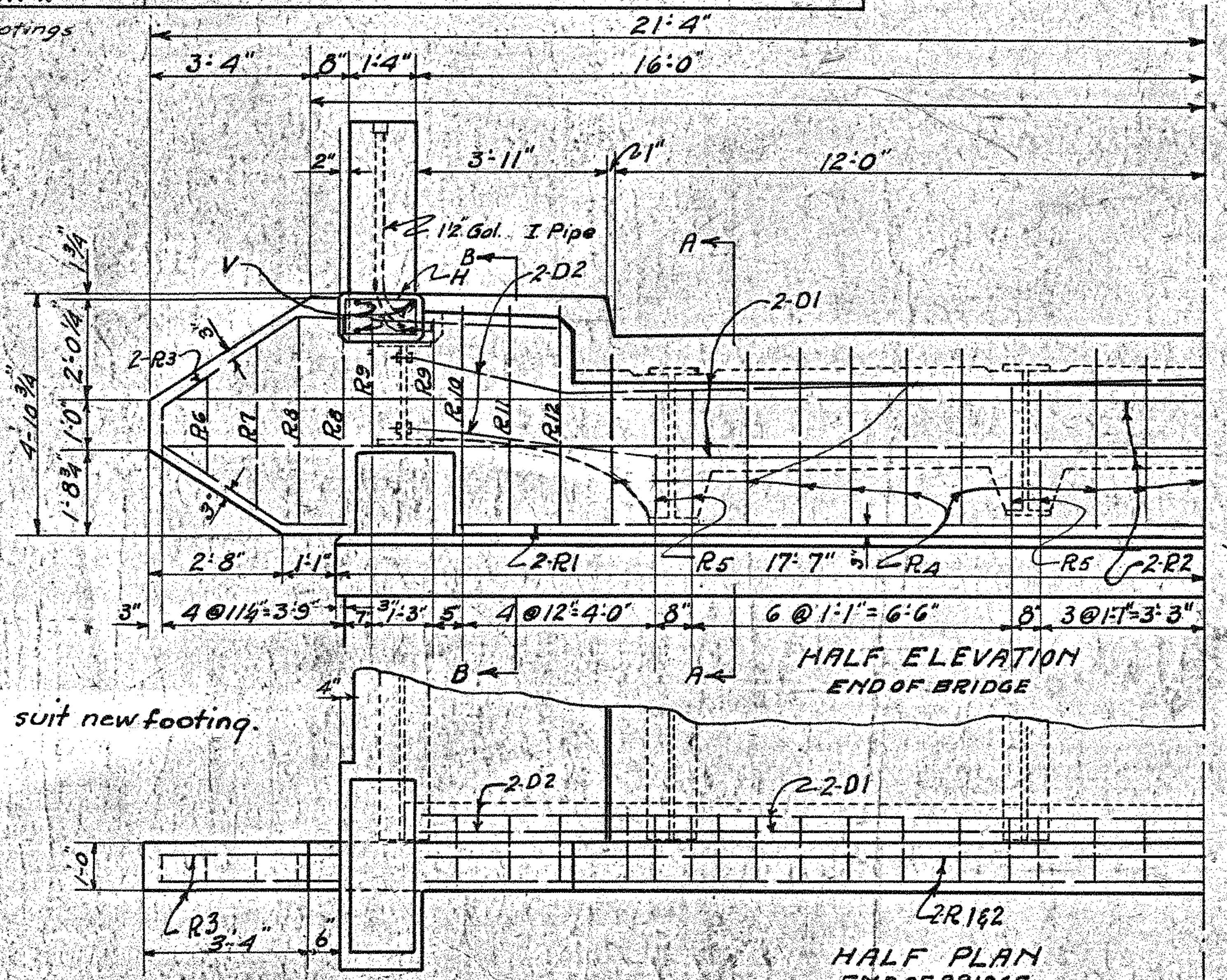
• See Sheet #15 for Detail D1 & D2 & H





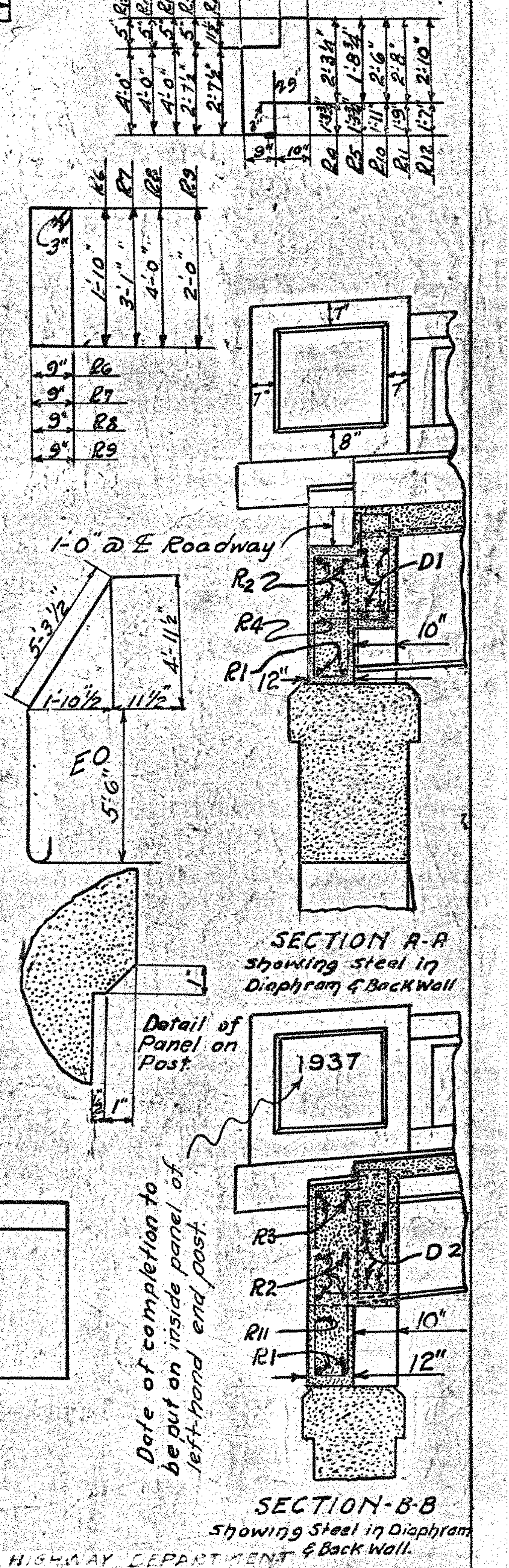
PART SIDE ELEVATION
END OF BRIDGE

Note:
EA1 & EO to be field bent as shown to suit new footing.


21'-4"
3'-4"
16'-0"
12'-0"
1½" Gal. I Pipe
2-D1
2-D2
2-R1
2-R2
R5 17'-7"
4 @ 11½" = 3'-9"
4 @ 12½" = 4'-0"
6 @ 1'-1" = 6'-6"
3 @ 1'-1" = 3'-3"
2R1 & 2
R3 3'-4"

HALF ELEVATION
END OF BRIDGE

HALF PLAN
END OF BRIDGE

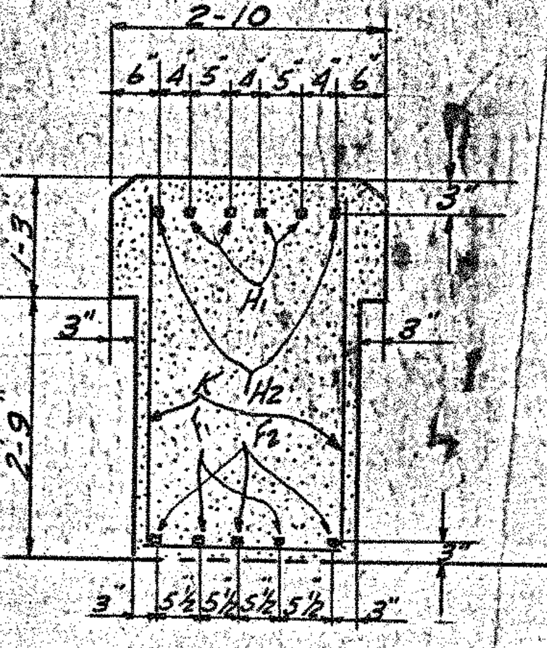

R3
R2 1'-3¾" 2'-3¼"
R5 1'-3¾" 1'-8¾"
R10 1'-11" 2'-6"
R11 1'-9" 2'-8"
R12 1'-7" 2'-10"
R6 R7 R8 R9
1'-0" @ ℄ Roadway
EO 5'-6"
D1
D2
R1 R2 R4 R11
1937

SECTION A-A
Showing Steel in Diaphram & Back Wall

Detail of Panel on Post

Date of completion to be put on inside panel of left-hand end post.

SECTION-B-B
Showing Steel in Diaphram & Back Wall.

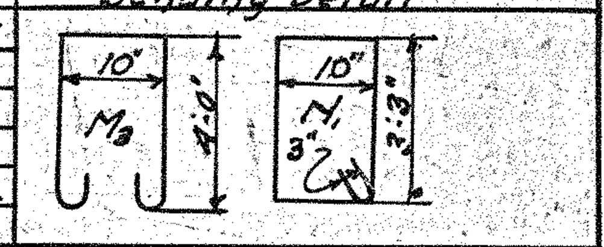

2'-10"
2'-9"
1'-3"
H1
H2

SECTION SHOWING SPACING OF BARS IN CAP

STEEL FOR TWO RAIL POST

Mark	No	Size	Length	Detail
CM1	8	⅜" φ	8'-8"	B
CM3	8	½" φ	9'-10"	"
*CS	16	⅜" φ	4'-7"	S
Class "A" Concrete			1.10	Cu. Yds.
Reinf. Steel			121	Lbs.

Bending Detail


10"
M3
4'-0"
10"
N1
3"
2'-3"

* Splice with G Bars 53'-0" Span.

Notes: Specifications - S.C. Highway Dept Specifications for Roads, Bridges and Culverts revised July 1, 1933.

All concrete to be Class A, maximum aggregate 1½".

The contractor for the Substructure shall [illegible] the R/W 75' each side of the ℄ in accordance with the Specifications the cost of this work shall be included in the price bid for the other items.

All work affecting the safety of trains during construction of this project shall be approved by the authorities of the A.C.L. railroad company. The contractor must get their approval of plans for falsework or walkways over the track and for foundation excavation adjacent to tracks before this part of the work is started.

All piles shall be driven to a capacity of [illegible] tons according to the formula in the specifications. Minimum penetration of piles - 10 ft in hard material 15 ft in soft material or sand.

All exposed corners shall be chamfered ¾" unless otherwise specified. Interior corners shall be square unless otherwise specified.

S.C. STATE HIGHWAY DEPARTMENT
COLUMBIA, S.C.

DETAIL OF END BENT & END OF BRIDGE
WACCAMAW RIVER BRIDGE NEAR CONWAY

F.A. PROJ. 320 HORRY COUNTY
ROUTE 501 OCTOBER 1935
SCALES:- ¼", ⅜", ½", ¾" + 3" = 1'-0"

Fed Road Dist No	State	County	F.A. Proj. No	Route	Sheet	Tot. Sheets
14	S.C.	Horry	320 B	US 501	10	52

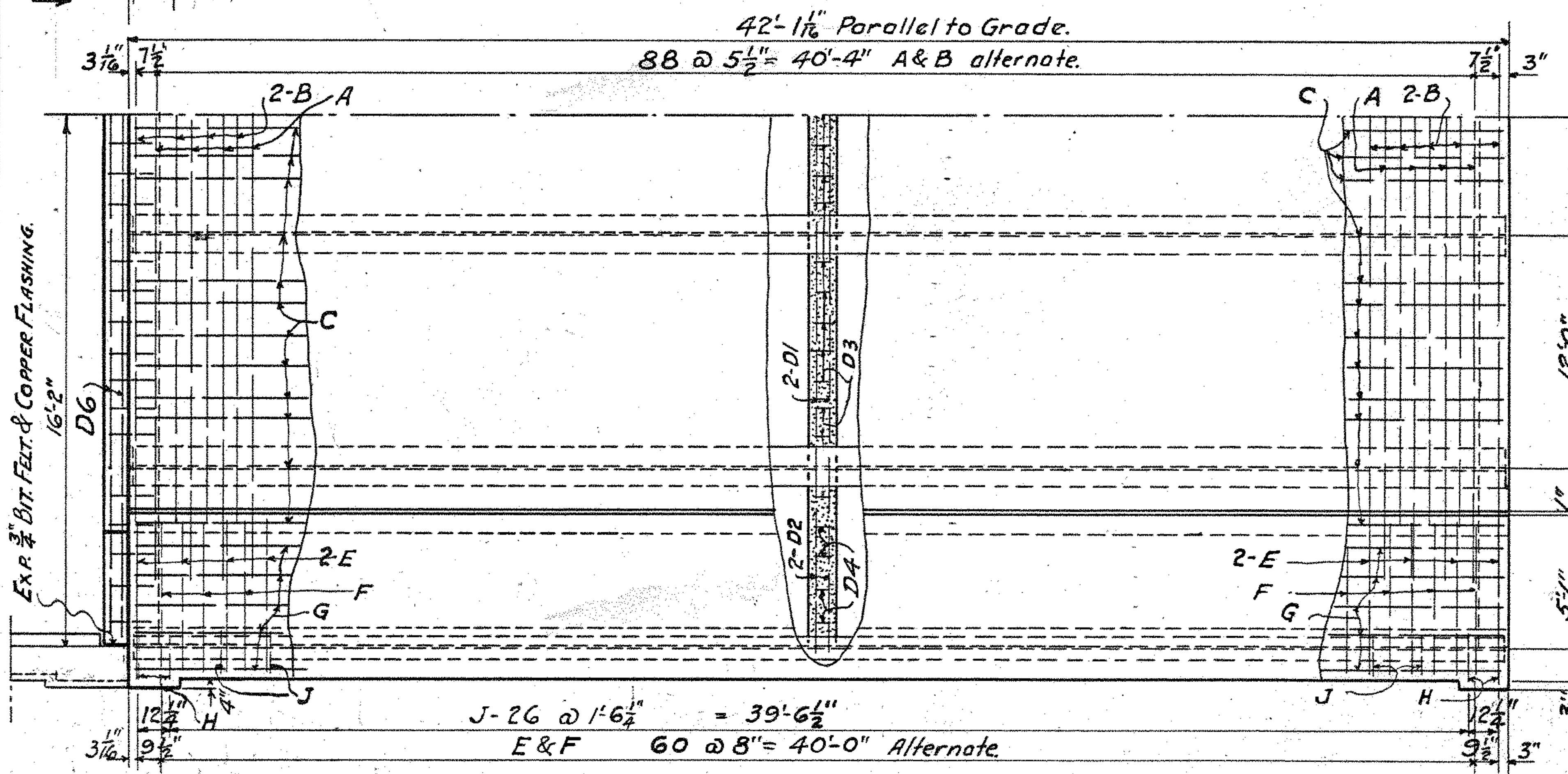
A
B
42'-0"
42'-1 1/16" Parallel to 6.5% Grade.
3 @ 7'-10 3/4" = 23'-8 1/4"
7'-10 3/4"
7'-0 3/4"
7 @ 9 3/4" = 5'-8 1/4"
℄ Bent 2
Post A, Sheet 19.
℄ Bent 3
Post E Sheet 19.
Post B Sheet 19.
℄ Bent 4
Grade + 6.5%
End of Wing Wall Sta. 2+17.4
For detail of post see Sheets 6 & 7
Fix.
Exp.
2" Bet. Beams.
℄ Bent 2 Sta. 2+59.4.
℄ Bent 3 Sta. 3+01.4
℄ Bent 4 Sta. 3+43.4
2" Bet. Bms.
21'-0"
10'-6"
10"
G
G1
H
J
K
L
M
N

1- 42' Simple Span.
Roadway Beams. 4- 24" WF 140 -
Sidewalk. " 2- 24" WF 74 -
Cut Ends Vertical Camber Sidewalk Beam Only - 1".

Omit drains in end span.

4" ϕ Cast Iron drains 2 in each span. Low gutter only.

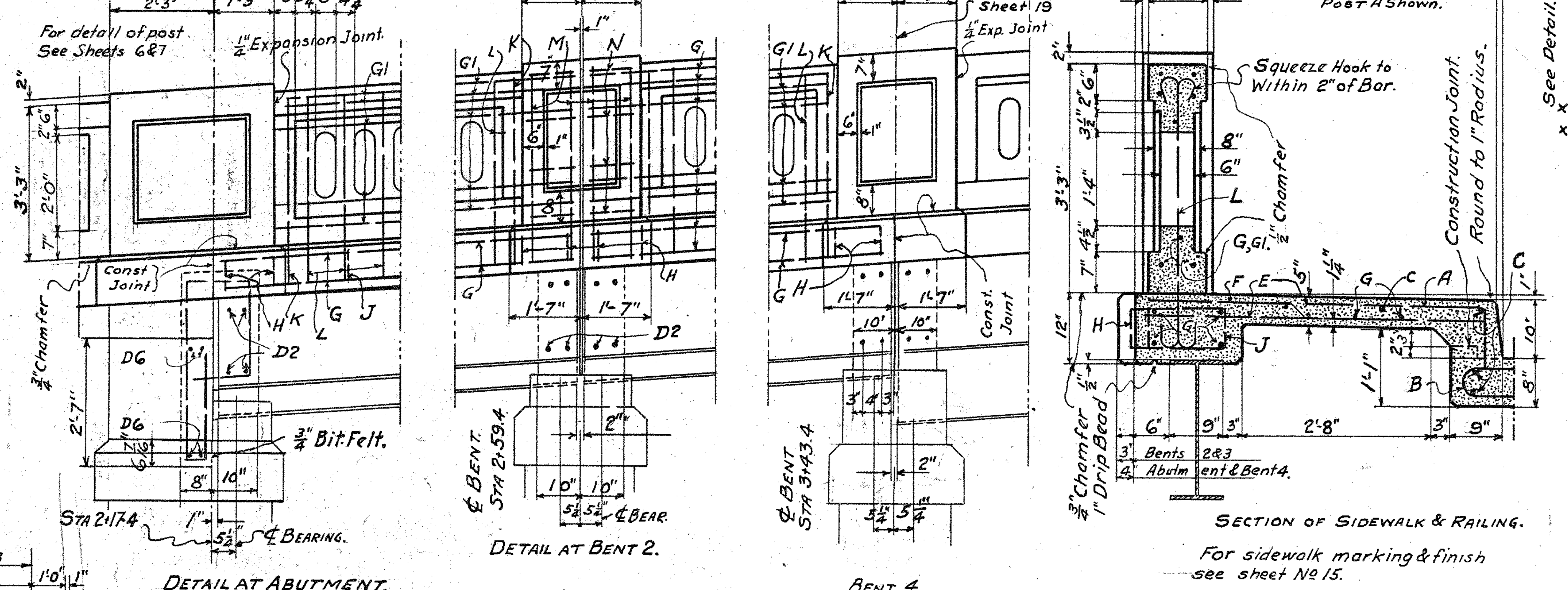
1- Continuous Span - 2 at 42'-0"
Roadway Beams 4- 24" WF 120
Sidewalk " 2- 24" WF 74
Cut Ends Vertical.


42'-1 1/16" Parallel to Grade.
88 @ 5 1/2" = 40'-4" A & B alternate.
2-B
A
C
2-E
F
G
J
H
2-D1
D3
2-D2
D4
D6
16'-2"
12'-0"
17'-2"
3'-7"
7'-2"
5'-6 1/2"
5'-4"
Exp. ¾" Bit. Felt & Copper Flashing.
J - 26 @ 1'-6 1/2" = 39'-6 1/2"
E & F 60 @ 8" = 40'-0" Alternate

Half Plan Showing Slab Reinforcing.

For detail of post See Sheets 6 & 7

For detail of Post B See Sheet 19


½" Expansion Joint.
½" Exp. Joint
Const. Joint
¾" Chamfer
¾" Bit. Felt.
D2
D6
Sta 2+17.4
℄ Bearing.
℄ Bent. Sta 2+59.4
℄ Bear.
℄ Bent Sta 3+43.4
Const. Joint
4'-0" Post A & E
3'-11" Post B.
Post A Shown.
Squeeze Hook to Within 2" of Bar.
Construction Joint.
Round to 1" Radius.
¼" Chamfer
¾" Chamfer
1" Drip Bead
Bents 2 & 3
Abutment & Bent 4.
G, G1
L
H
J
B
C
A

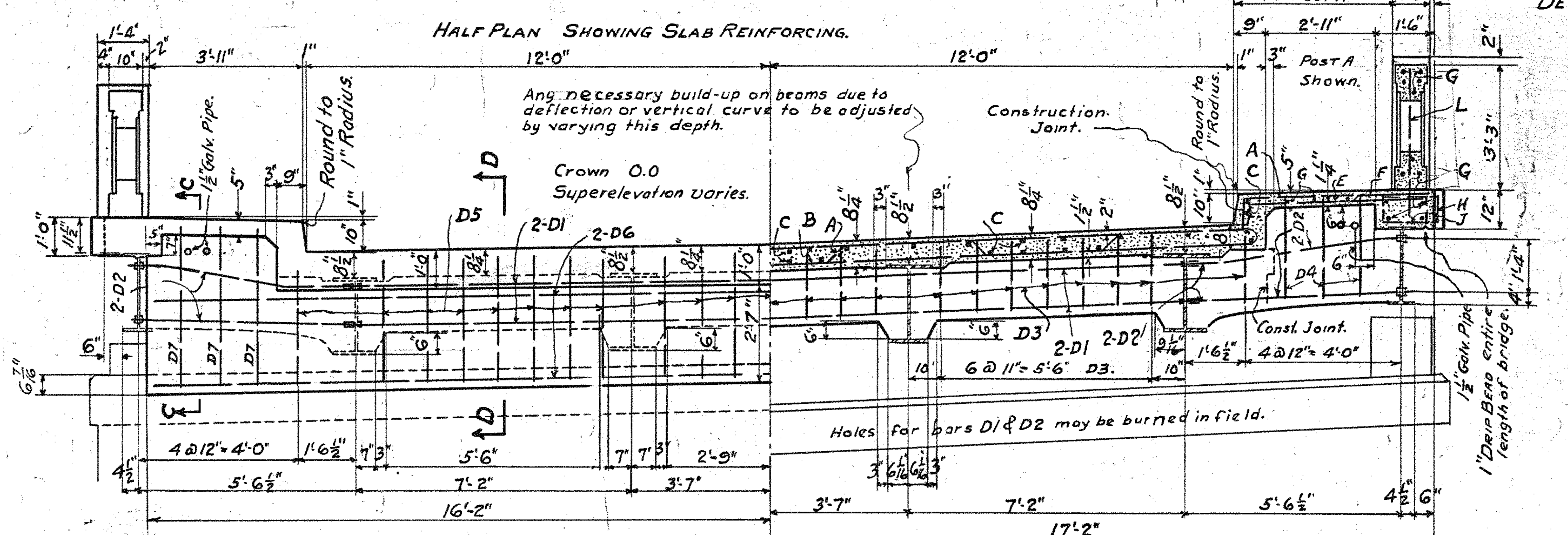
Detail at Abutment.

Detail at Bent 2.

Bent 4.

Section of Sidewalk & Railing.

For sidewalk marking & finish see sheet No 15.


4'-0" Post B
4'-1" Post A
Post A Shown.
¾" Galv. Pipe.
Round to 1" Radius
Round to 1" Radius
Construction Joint.
Const. Joint.
1" Drip Bead entire length of bridge.
1½" Galv. Pipe
D
C
D5
2-D1
2-D6
D7
D3
2-D2
D4
4 @ 12" = 4'-0"
6 @ 11" = 5'-6" D3.
16'-2"
17'-2"
5'-6 1/2"
3'-7"
7'-2"

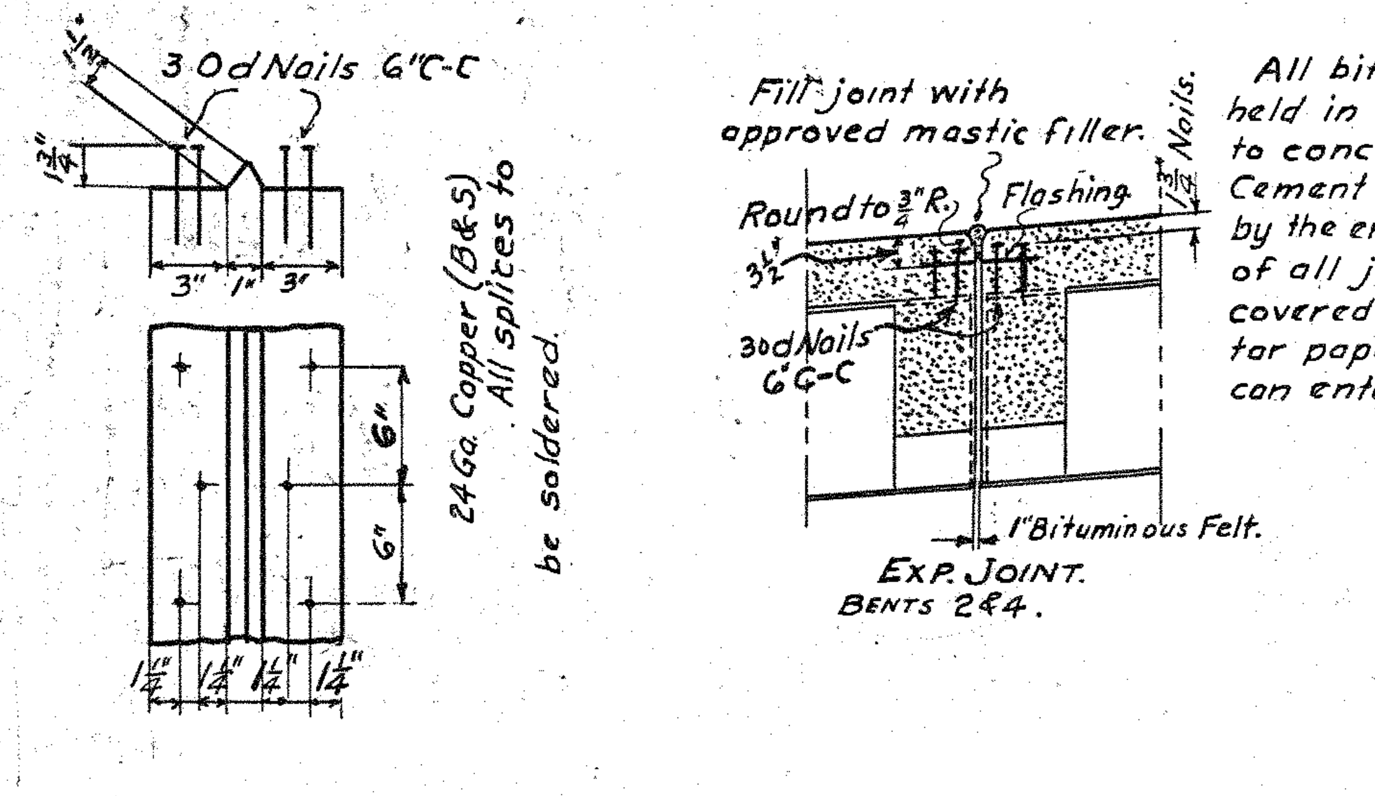
Any necessary build-up on beams due to deflection or vertical curve to be adjusted by varying this depth.

Crown 0.0
Superelevation varies.

Holes for bars D1 & D2 may be burned in field.

Half Sect. A-A.

Half Sect. B-B.


30d Nails 6" C-C
24 Ga. Copper (B&S) All splices to be soldered.
Round to ¾" R.
Flashing.
30d Nails 6" C-C
30d Nails.
1" Bituminous Felt.

Fill joint with approved mastic filler.

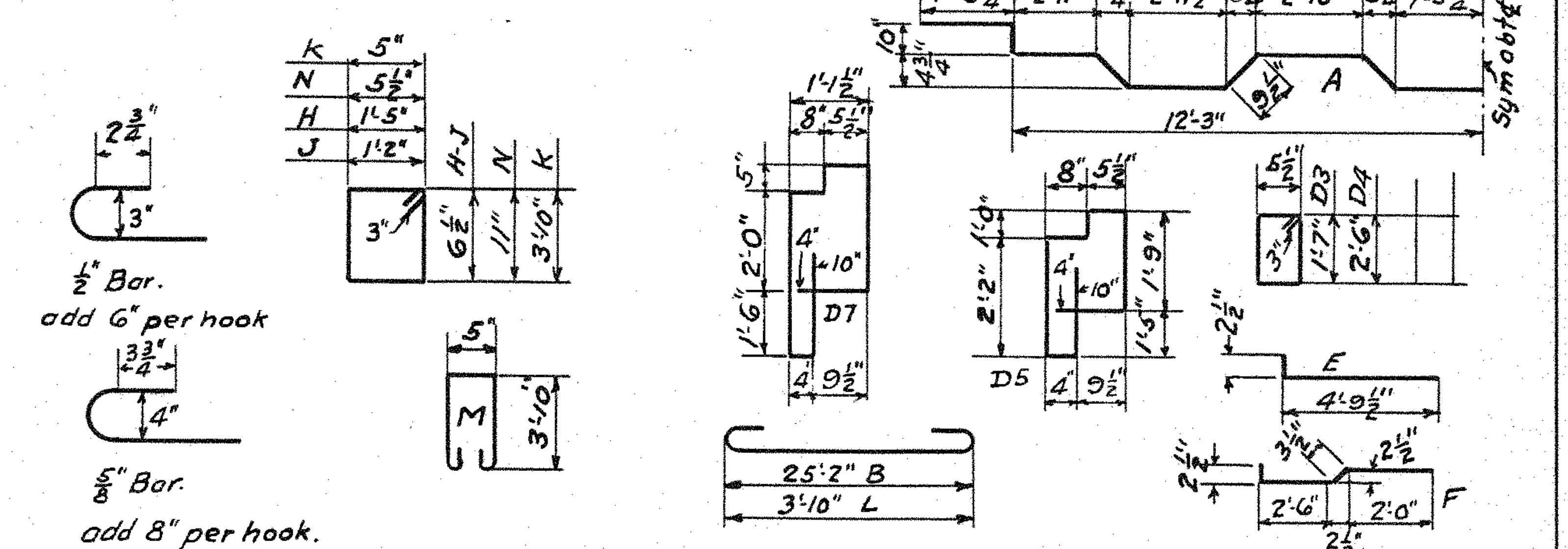
Exp. Joint.
Bents 2 & 4.

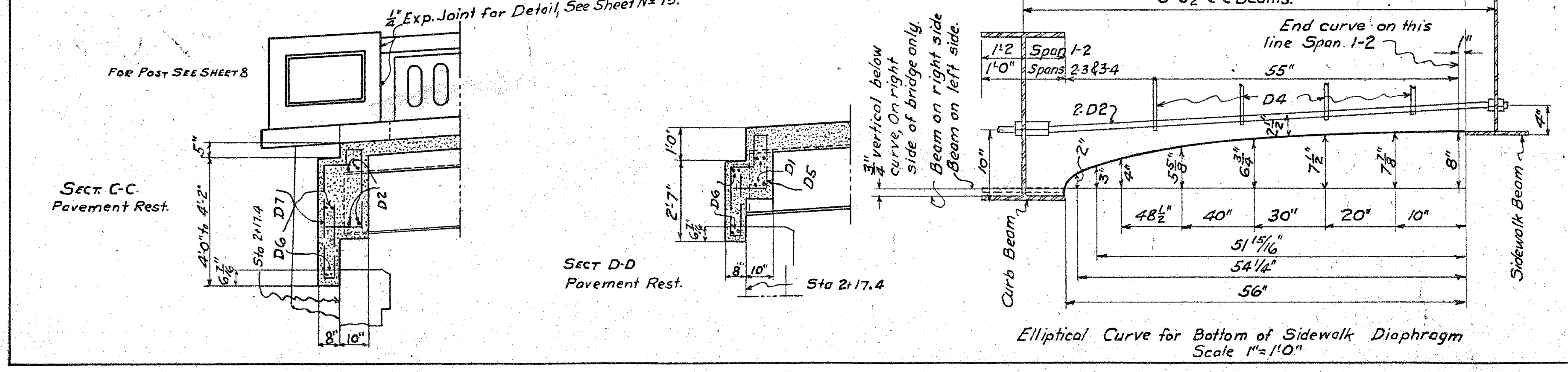
All bituminous felt to be held in place by cementing to concrete already placed. Cement used to be approved by the engineer. Open side of all joints in felt to be covered with one layer of tar paper, so that no mortar can enter joint.

Steel Table 3-42 ft. Spans.					
Mark	Number	Size	Length.		Location.
FA	135	⅝" ϕ	30'-3"	B	Slab.
FB	276	"	26'-6"	H	"
FC	108	½" □	41'-9"	S	"
x FD1	32	¾" ϕ	21'-10"	X	Diaphragm
x FD2	64	"	5'-6"	X	"
FD3	161	⅜" ϕ	4'-7"	B	"
FD4	42	"	6'-5"	B	"
FD5	23	"	9'-9"	B	"
FD6	4	¾" ϕ	31'-10"	S	"
FD7	6	⅜" ϕ	11'-3"	B	"
FE	384	"	5'-0"	B	Sidewalk.
FF	186	"	5'-0"	B	"
FG	64	"	41'-9"	S	" & Rail
FG1	32	"	40'-6"	S	Rail.
FH	24	#4 Wire	4'-5"	B	Sidewalk.
FJ	150	"	3'-11"	B	"
FK	60	½" □	9'-0"	B	Rail.
FL	270	"	4'-10"	H	"
FM	16	"	9'-1"	B	"
FN	32	#4 Wire	3'-3"	B	"

x See Detail.

Concrete End Span (Ex. Rail)	46.11 CY.
" Continuous " (")	85.99 CY.
" Handrail (3 Spans)	17.59 CY
Reinf Steel - 3 Spans (Ex. Rail)	20021 Lb.
Reinf Steel Rail - 3 Spans	2558 Lb
Beams 3 Spans	82446 Lb

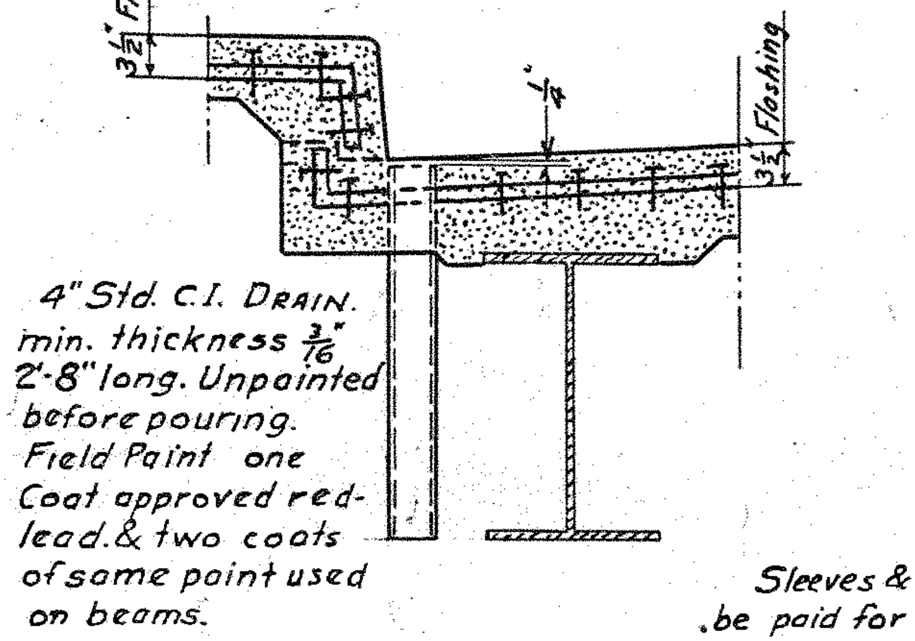

1'-8 3/4"
2'-11"
8 1/4"
2'-11 1/2"
8 1/4"
2'-10"
8 1/4"
1'-5 3/4"
12'-3"
A
Sym about ℄
K 5"
N 5½"
H 1'-5"
J 1'-3"
H-J
N
K
½" Bar. add 6" per hook
⅝" Bar. add 8" per hook.
M
3'-10"
D7
D5
D3
D4
E
4'-9 1/2"
F
2'-6"
2'-0"
25'-2" B
3'-10" L


½" Exp. Joint for Detail, See Sheet No 19.
For Post See Sheet 8
Sta 2+17.4
D6
D7
D2
D1
D5
Sta 2+17.4
5'-6 1/2" C.C Beams.
End curve on this line Span 1-2
1'-2 Span 1-2
1'-0" Spans 2-3 & 3-4
55"
D4
2-D2
¾" vertical below curve. On right side of bridge only.
℄ Beam on right side Beam on left side.
Curb Beam
Sidewalk Beam
48 1/2"
40"
30"
20"
10"
51 15/16"
54 1/4"
56"

Sect. C-C.
Pavement Rest.

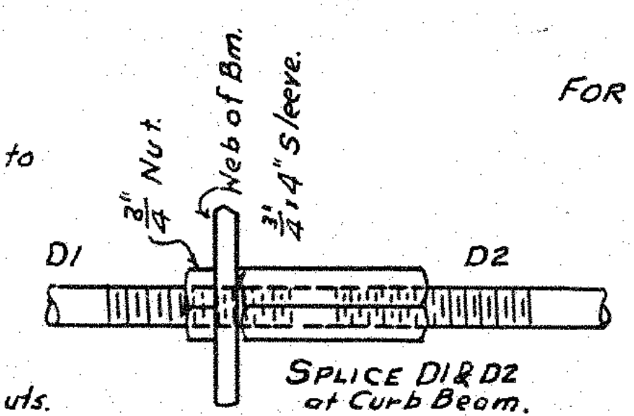
Sect. D-D
Pavement Rest.

Elliptical Curve for Bottom of Sidewalk Diaphragm
Scale 1" = 1'-0"


Flashing.
Flashing.

4" Std. C.I. Drain. min. thickness 3/16" 2'-8" long. Unpainted before pouring. Field Paint one Coat approved red-lead & two coats of same paint used on beams.

Sleeves & Nuts to be paid for as reinforcing steel.
D1 - 4" Thread each end. 2-¾" Hex. nuts & 2 Malleable Iron sleeves. ¾" thread
D2 - 4" Thread each end & 2-¾" Hex nuts. To be bent in field.


D1
D2
¾" Nut.
Web of Bm.
2½" Sleeve.

Splice D1 & D2 at Curb Beam.

For Notes See Sheet 15.

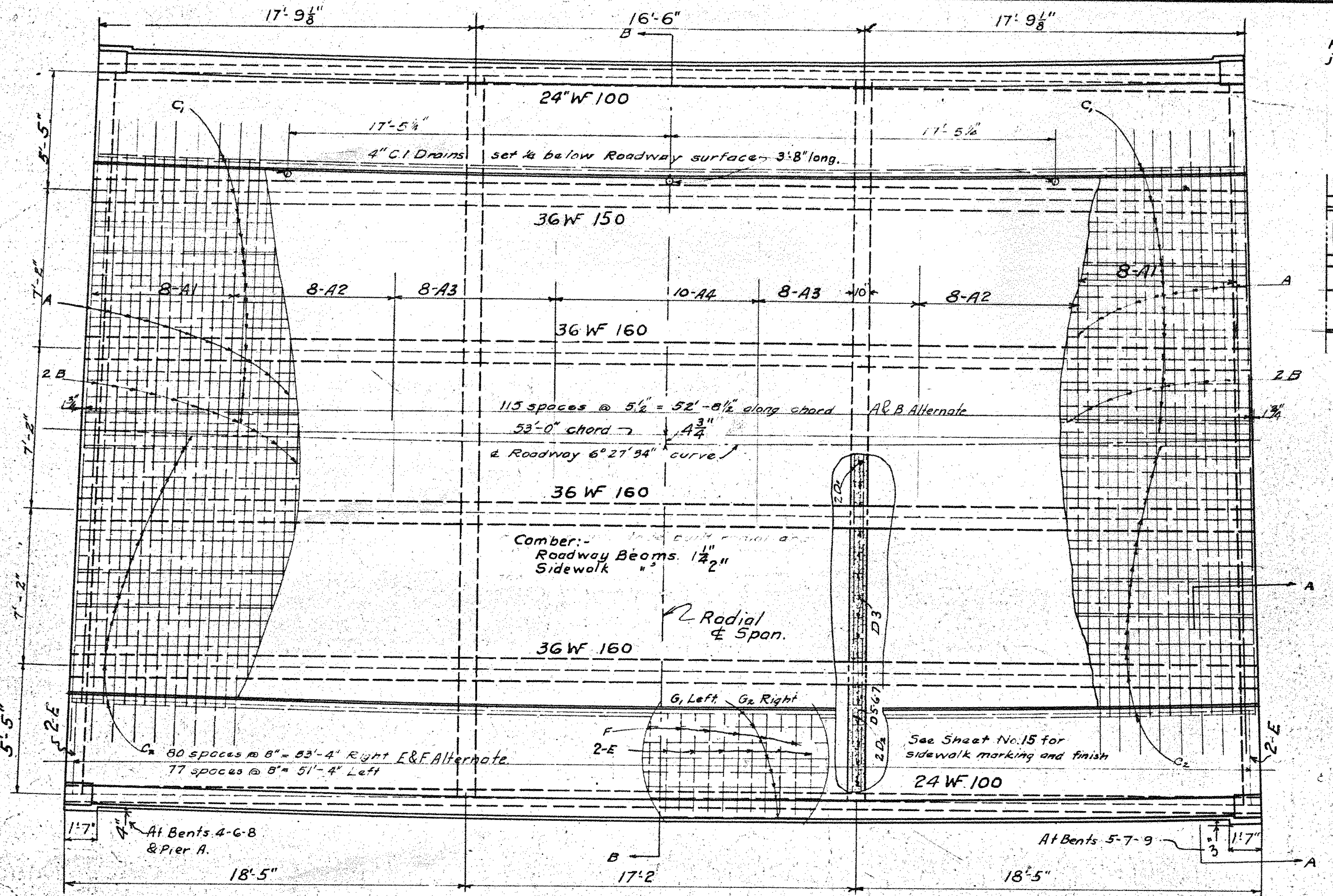
S.C. State Highway Department
Columbia S.C.

3-42 Ft Spans
Bridge over
Waccamaw River
near
Conway Horry Co
FAP 320 US Route 501
Scale - ¼" - ⅜" - ½" - ¾" = 1'-0"

Revised Oct. 15, 1936. Curved bottom of [illegible]
sidewalk diaphragms. Mr. Melick's letter. F.K.P.

Drawn By F.K.P. [illegible]b. 193[illegible]
Traced " F.K.P. "
Checked: Design by:
Details & Quant. by: W.F.L.Jr.

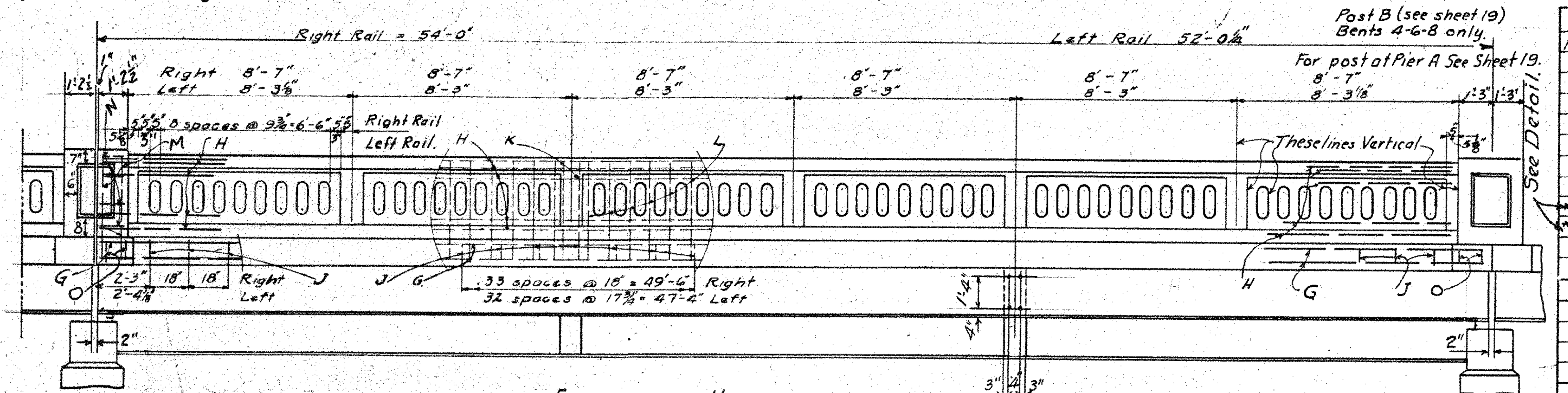
FED ROAD DIST. NO	STATE	COUNTY	F.A. PROJ. NO	ROUTE	FISCAL YR	SHEET NO	TOTAL SHEETS
14	S.C.	HORRY	320 B	501	1936	11	52



17'-9 1/8"
16'-6"
17'-9 1/8"
24"WF 100
17'-5 1/4"
4" C.I. Drains set 1/4 below Roadway surface 3'-8" long.
36WF 150
8-A1
8-A2
8-A3
10-A4
8-A3
8-A2
8-A1
36 WF 160
115 spaces @ 5 1/2 = 52'-8 1/2 along chord A & B Alternate
53'-0" chord
℄ Roadway 6°27'94" curve
36 WF 160
Camber:- Roadway Beams 1 1/2" Sidewalk " "
Radial ℄ Span.
36 WF 160
G1 Left G2 Right
See Sheet No. 15 for sidewalk marking and finish
80 spaces @ 8" = 53'-4" Right E & F Alternate
77 spaces @ 8" = 51'-4" Left
24 WF 100
At Bents 4-6-8 & Pier A.
At Bents 5-7-9
18'-5"
17'-2"
18'-5"

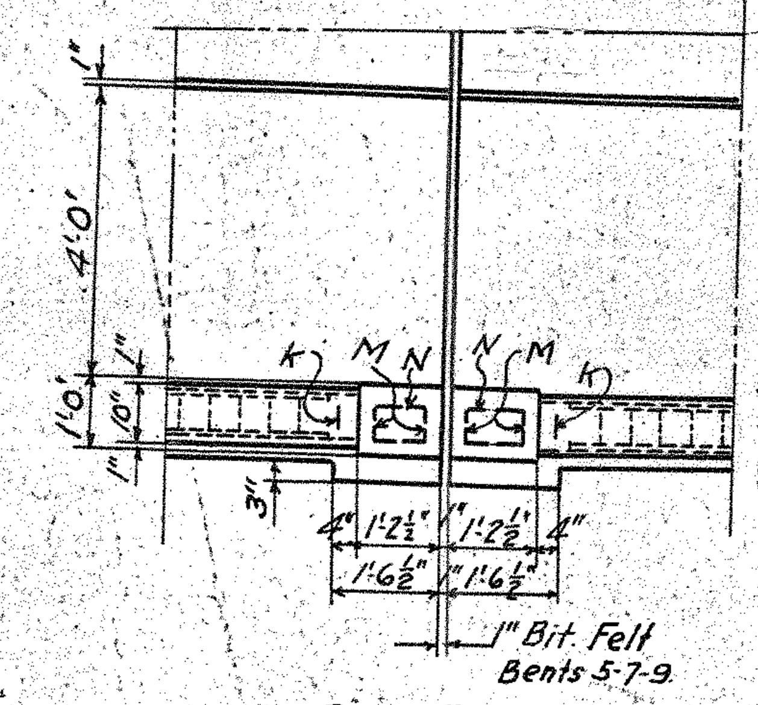
FULL PLAN

Post A (See sheet 19) over expansion joints Bents 5-7-9, only.

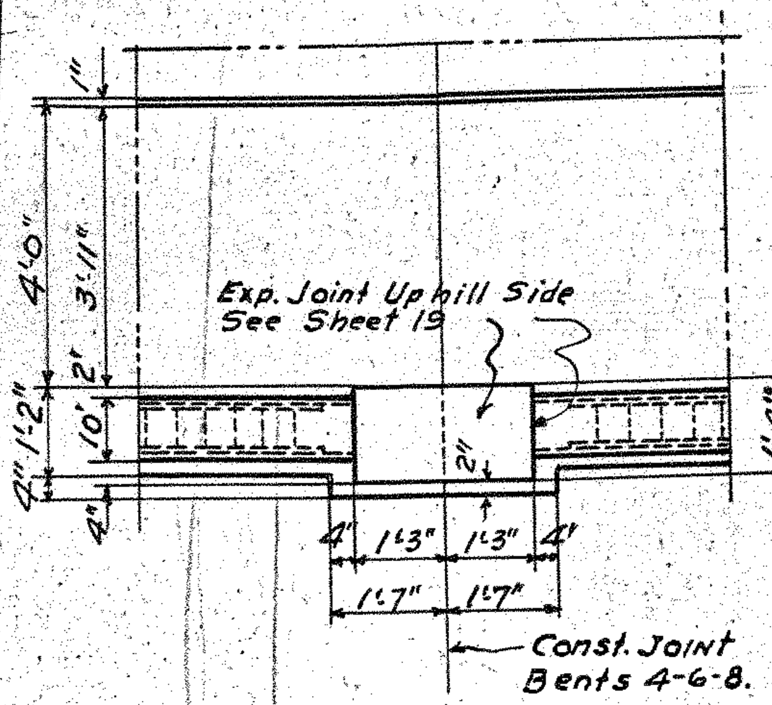


Right Rail = 54'-0"
Left Rail 52'-0 1/4"
Post B (see sheet 19) Bents 4-6-8 only.
For post at Pier A See Sheet 19.
Right 8'-7" Left 8'-3 1/8"
8 spaces @ 9 3/4 = 6'-6 5/8 Right Rail Left Rail
These lines Vertical
See Detail.
33 spaces @ 18" = 49'-6" Right
32 spaces @ 17 5/8" = 47'-2" Left

ELEVATION OF HANDRAIL.

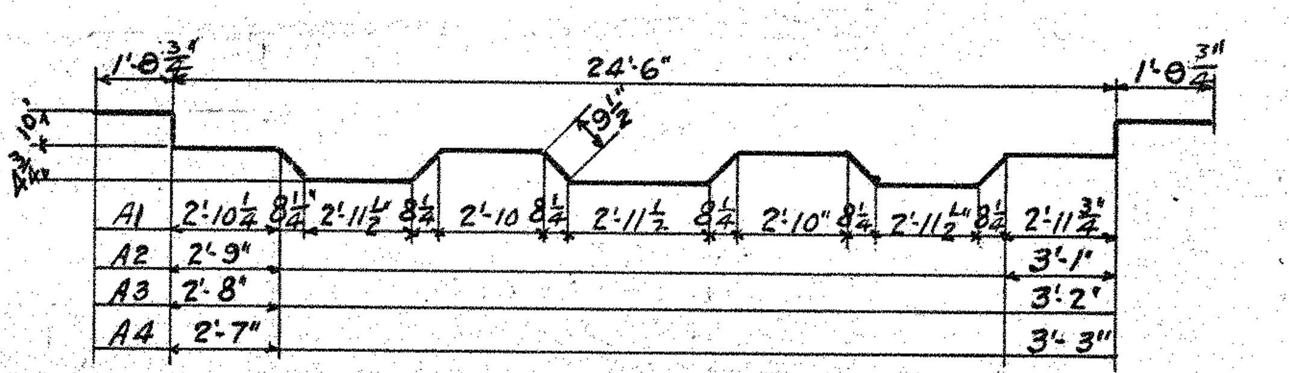


PLAN POST A. Bents 5-7-9.

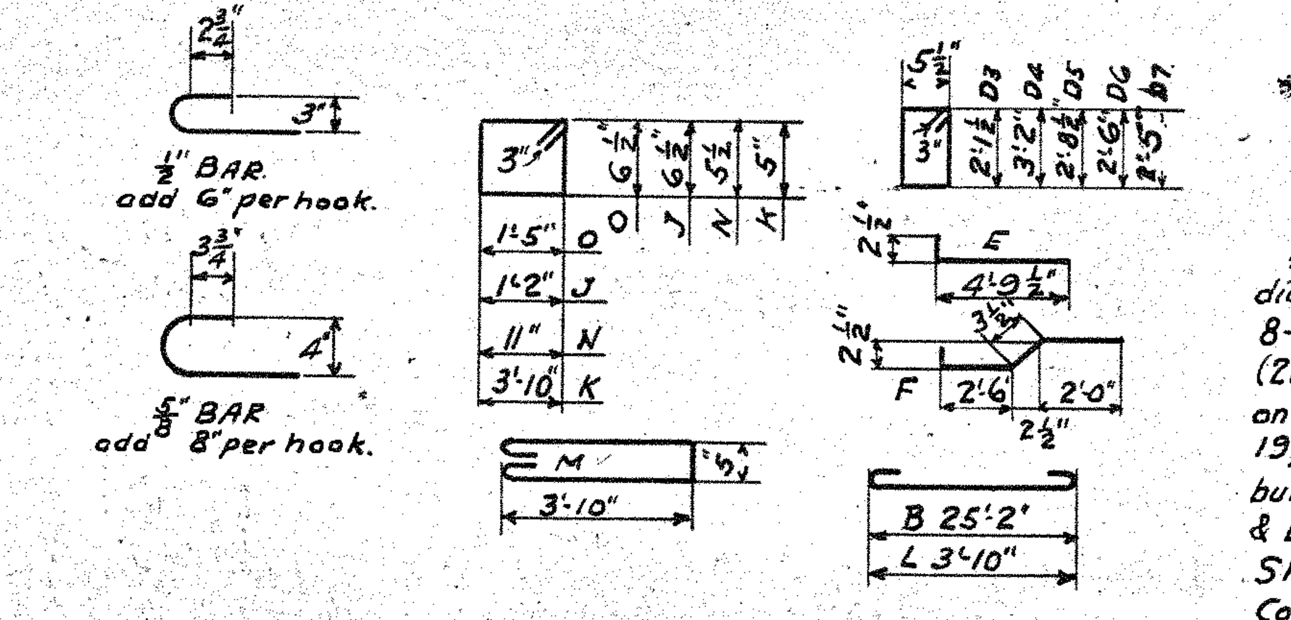


Exp. Joint Uphill Side See Sheet 19
Const. Joint Bents 4-6-8.
1" Bit. Felt Bents 5-7-9.

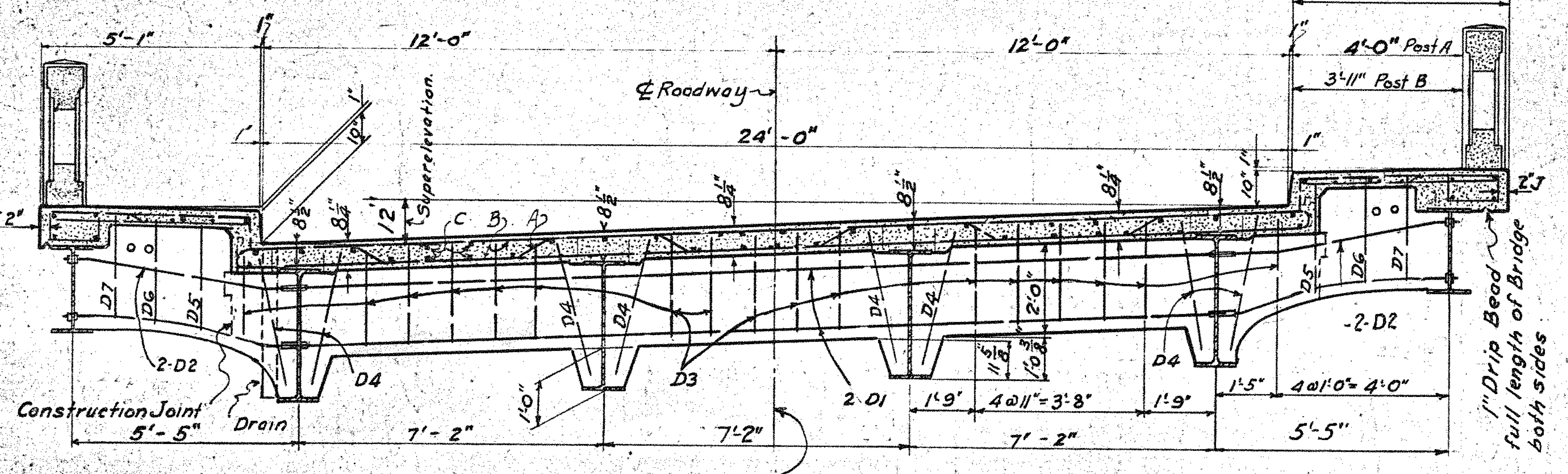
PLAN POST B Bents 4-6-8



24'-6"
A1
A2 2'-9"
A3 2'-8"
A4 2'-7"
3'-1"
3'-2"
3'-3"

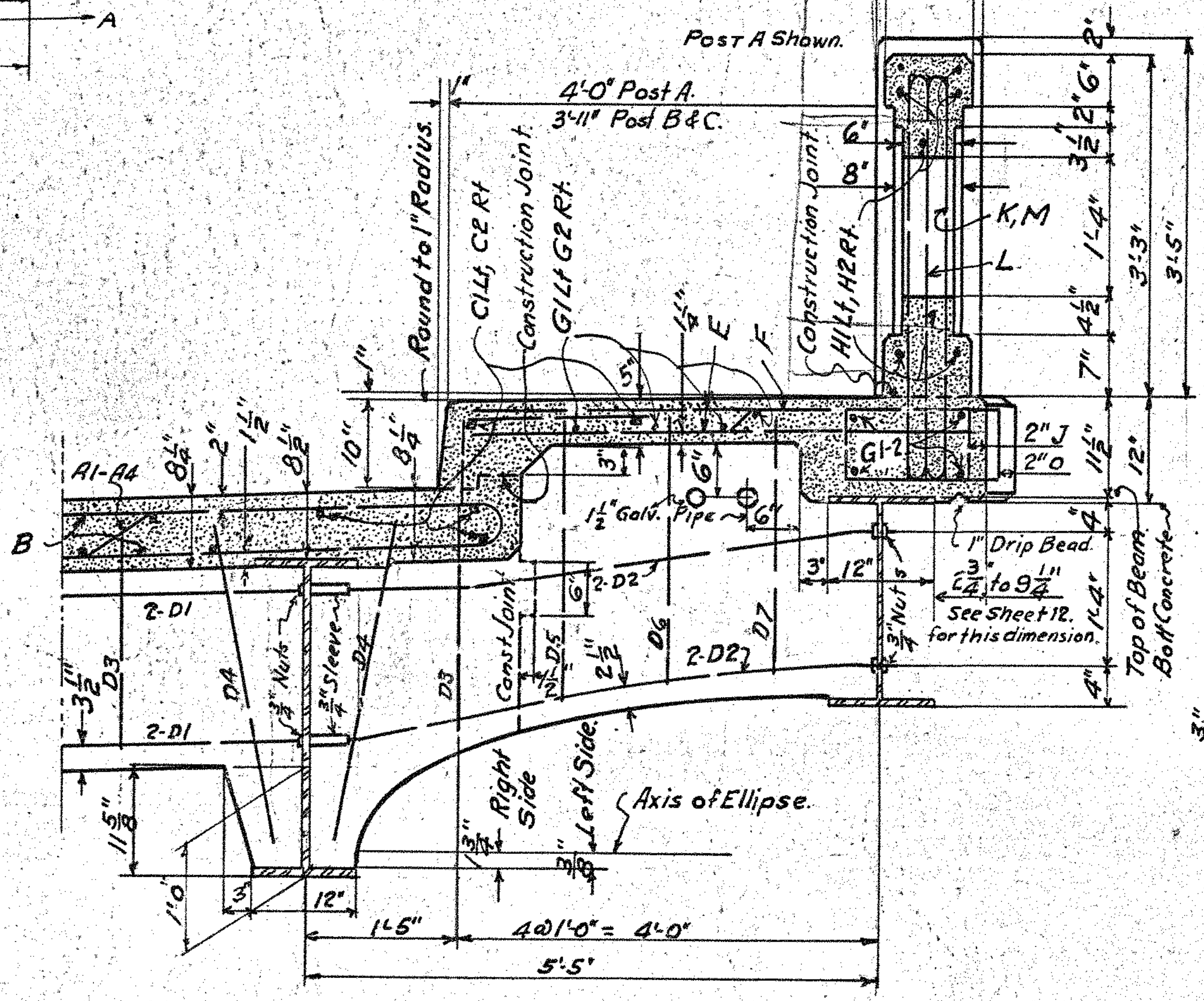


1/2" BAR add 6" per hook.
5/8" BAR add 8" per hook.
B 25'-2"
L 3'-10"



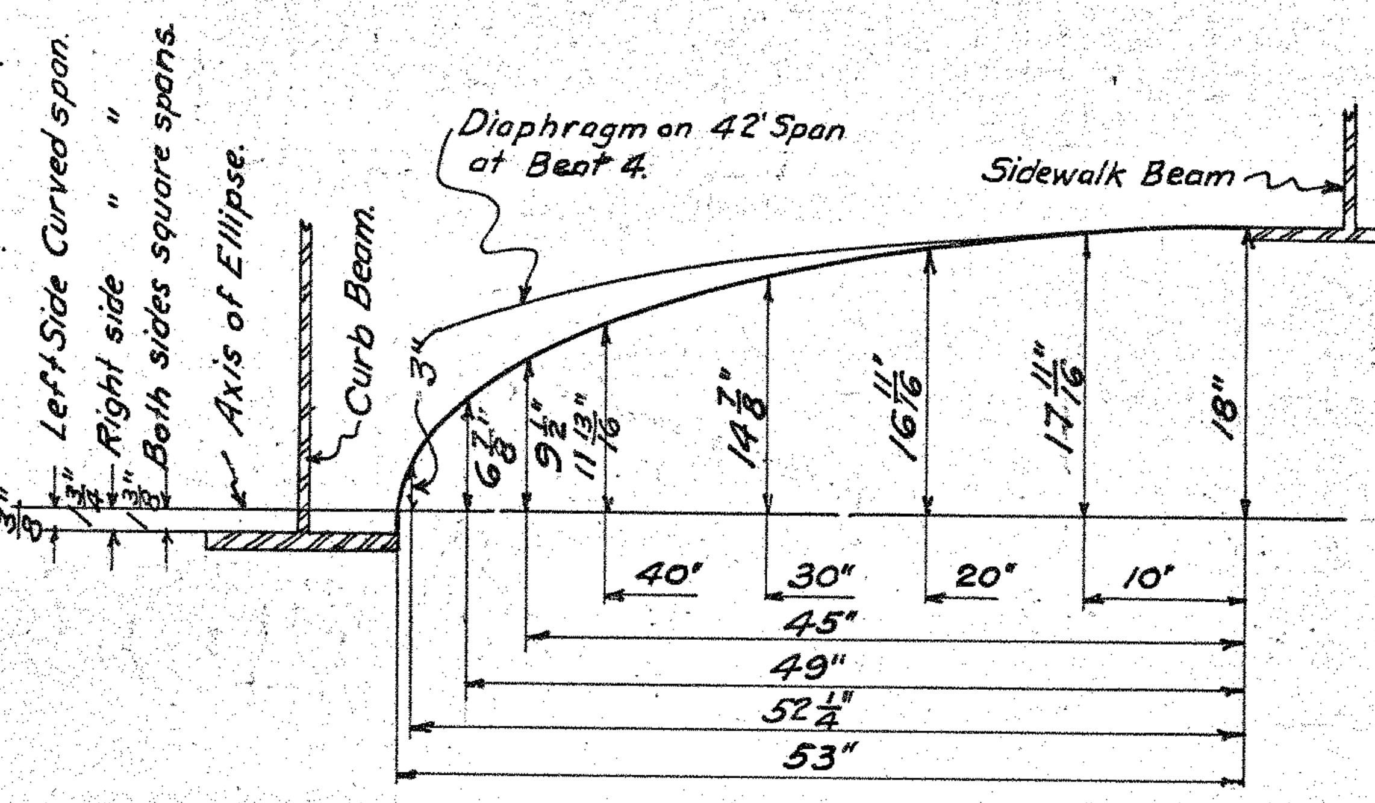
℄ Roadway
24'-0"
12'-0"
12'-0"
4'-0" Post A
3'-11" Post B
Construction Joint
Drain
1" Drip Bead full length of Bridge both sides
5'-5"
7'-2"
7'-2"
7'-2"
5'-5"

SECTION "B-B" (SHOWING INTERIOR DIAPHRAM END DIAPHRAGMS SAME, EXCEPT AT PIER A. SEE SHEET 12.
For Steel Diaphragm at Pier A See Sheets 13 & 19.



Post A Shown.
4'-0" Post A.
3'-11" Post B & C.
Round to 1" Radius.
Construction Joint.
Construction Joint.
1 1/2" Galv. Pipe
1" Drip Bead
See Sheet 12 for this dimension.
Top of Beam Bolt Concrete
Axis of Ellipse.
Right Side
Left Side
4@1'-0" = 4'-0"
5'-5"

SECTION A-A. Scale 3/4" = 1'-0"



Left Side Curved span.
Right side "
Both sides square spans.
Axis of Ellipse.
Curb Beam.
Diaphragm on 42' Span at Bent 4.
Sidewalk Beam
40"
30"
20"
10"
45"
49"
52 1/2"
53"

Elliptical Curve for Bottom of Sidewalk Diaphragm.

STEEL TABLE				
MARK	No.	SIZE	LENGTH	
SA1	16	5/8"φ	30'-3"	B
SA2	16	"	"	B
SA3	16	"	"	B
SA4	10	"	"	B
SB	116	"	26'-6"	B
SC1	36	1/2"φ	26'-10	S
SC2	36	"	27'-2"	S
*SD1	16	3/4"φ	21'-10"	S
*SD2	32	"	5'-5"	S
SD3	68	3/8"φ.	5'-8"	B
SD4	32	"	7'-9"	B
SD5	8	"	6'-10"	B
SD6	8	"	6'-5"	B
SD7	8	"	6'-3"	B
SE	160	"	5'-0"	B
SF	79	3/8"φ	5'-0"	B
SG1	16	"	26'-10"	S
SG2	16	"	27'-8"	S
SH1	16	"	26'-6"	S
SH2	16	"	27'-6"	S
SJ	67	#4 WIRE	3'-11"	B
SK	24	1/2"φ	9'-0"	B
SL	120	"	4'-10	B
SM	4	"	9'-1"	B
SN	18	#4 WIRE	3'-3"	B
SO	8	"	4'-5"	B

QUANTITIES ONE SPAN.

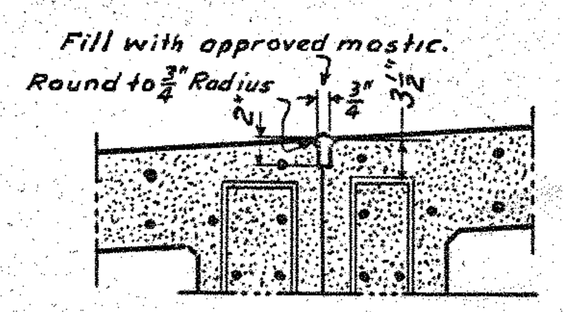
Concrete (Except Rail)	57.71	CY.
* Reinf Steel " "	8650	Lb
Steel Beams.	43910	Lb.
1-Steel Diaph (Pier D)	2188	Lb.

For Span 9-A, Deduct 1-Concrete diaphragm (2.25 CY) and bars 4-D1, 8-D2, 17-D3, 8-D4, 2-D5, 2-D6, 2-D7. (285.1 Lb). Add steel diaphragm on Sheet 13, and bars on sheet 19, 6-T, 8-S. (54.6 Lb), also concrete build up on steel diaphragm & beams under sidewalk (.36 C.Y.) Sheet 19.

Concrete (Ex. Rail)	55.81	C.Y.
* Reinf. Steel "	8420	L.B.
Concrete Rail	6 Spans.	
Concrete	43.45	C.Y.
Reinf. Steel.	6497.	L.B.

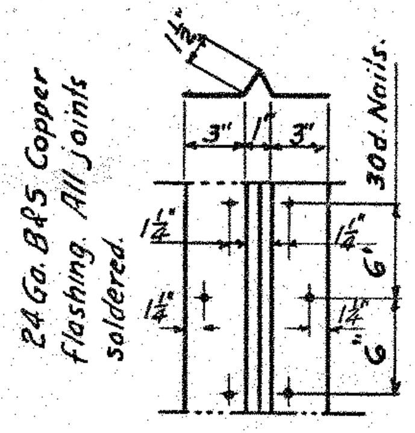
Structural Steel, Except Bearing Plates. 265648 Lb.

* Weight of reinforcing includes weight of 3/4" nuts & sleeves

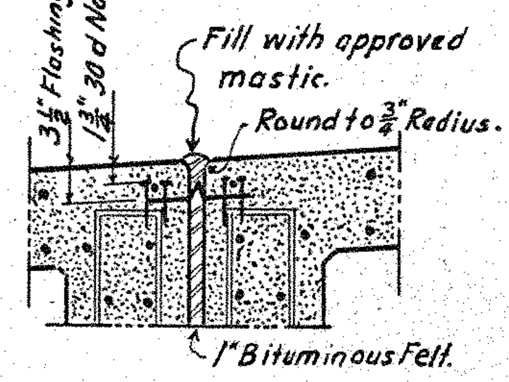


Fill with approved mastic.
Round to 3/8" Radius

DUMMY JOINT Bents 4-6-8 Both Spans Fixed.

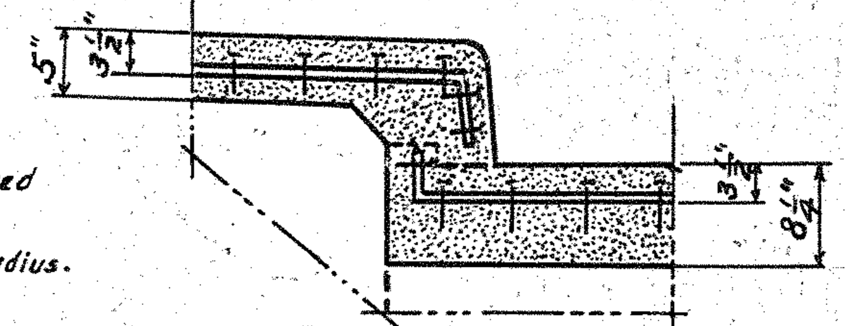


24 Ga. BRS Copper flashing. All joints soldered.
3/4" Flashing.
3/4" 3d Nails.
30d Nails.



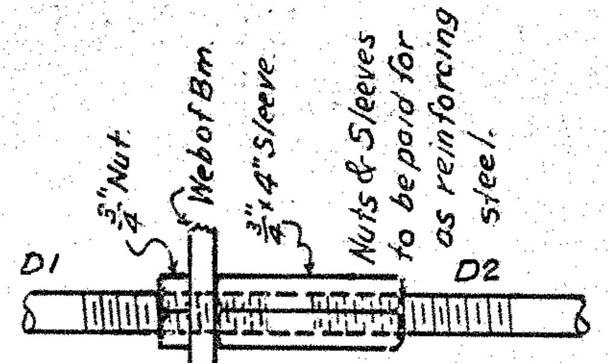
Fill with approved mastic.
Round to 3/8" Radius.
1" Bituminous Felt.

EXPANSION JOINT Bents 5-7-9.



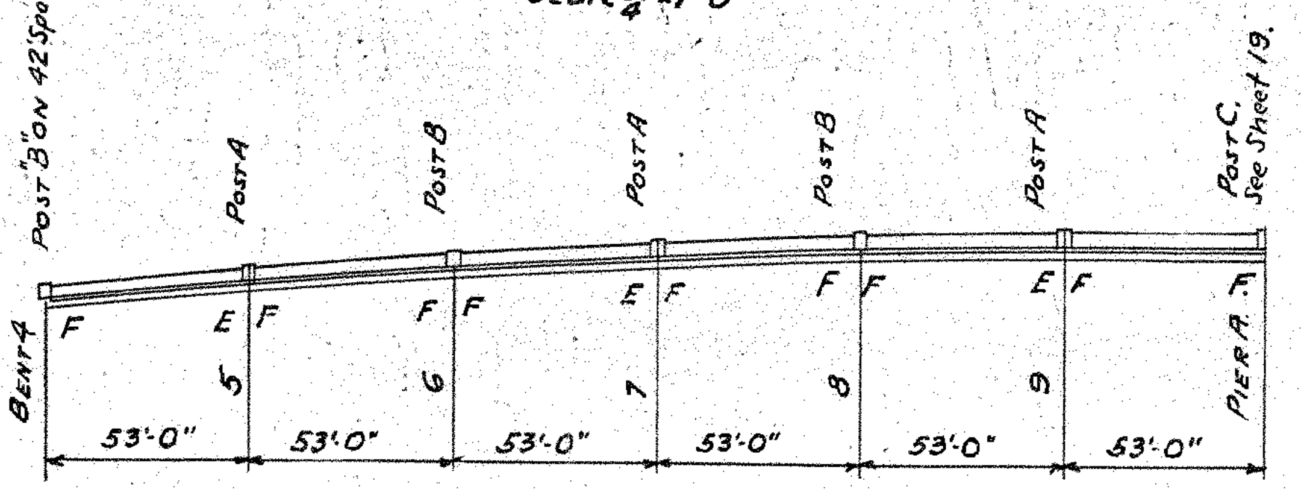
FLASHING IN CURB Bents 5-7-9.

D1 - 4" Thread each end. 2-3/4" Hex nuts. & 2-Malleable Iron sleeves 3/4" thread.
D2 - 4" Thread each end & 2-3/4" Hex. Nuts. To be bent in field.



3/4" Nut
Web of Bm.
3/4" 4" Sleeve
Nuts & Sleeves to be paid for as reinforcing steel.
D1
D2

SPLICE D1 & D2 at Curb Beam



Post "B" on 42' Span.
Bent 4
Post A
Post B
Post A
Post B
Post A
Post C, See Sheet 19.
Pier A.
5
6
7
8
9
53'-0"
53'-0"
53'-0"
53'-0"
53'-0"
53'-0"

For Notes, see sheet 15

S.C. STATE HIGHWAY DEPARTMENT
COLUMBIA, S.C.
SUPERSTRUCTURE DETAILS FOR 53' SPAN ON CURVE

WACCAMAW RIVER BRIDGE
NEAR CONWAY, S.C.

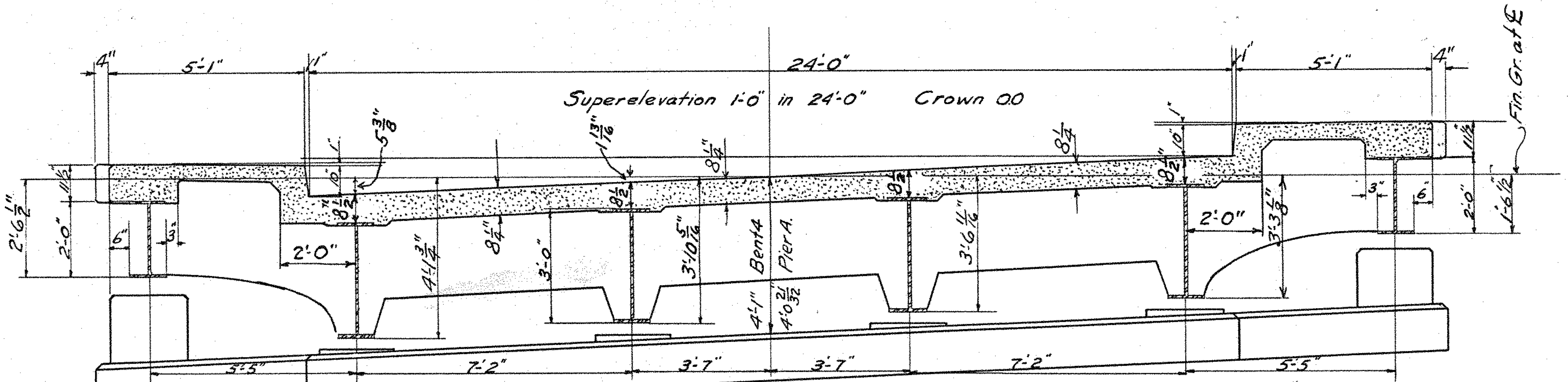
F.A. PROJ. 320 HORRY CO.
ROUTE 501 Nov. 1935

Scales: 1/4", 3/8", 1/2" & 3/4" = 1'

Drawn GCM Nov 1935
Traced " "
Checked W. L. L. Jr. Aug. 1, 1936.
F.K.P. Jun. 10, 1936.
Revised. Oct 15 - FKP Curve sidewalk diaphragms. Mr Melicks letter.

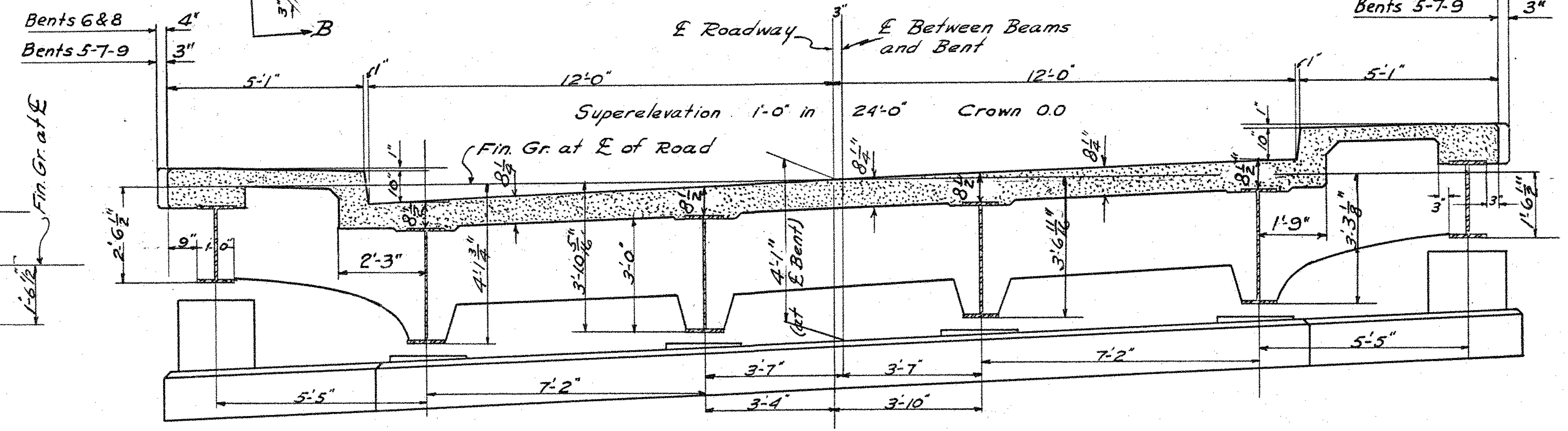
FED. ROAD DIST. NO	STATE	COUNTY	F.A. PROJ. NO	ROUTE	FISCAL YR	SHEET NO	TOTAL SHEETS
14	S.C.	HORRY	320 B	US 501	1936	12	52

℄ Bent 4
A
C
2¾"
℄ Bent 5
3°25'20"
B
9"
D
4¼"
6°50'40"
9"
6"
5'-6½"
7'-2"
3'-7"
3'-7"
7'-2"
5'-6½"
5'-5"
7'-2"
7'-2" C-C Beams
5'-1"
12'-0"
24" WF 100#
36" WF 150
36" WF 160#
36" WF 160#
36" WF 160#
24" WF 100#
℄ Between Beams & ℄ of Bent
3"
℄ Between Beams & ℄ Bent
℄ Roadway 6°27'34" Curve R=887.47'
Curb
Edge of Concrete
Outer edge beam flanges to line up
7¾"
3"
6"



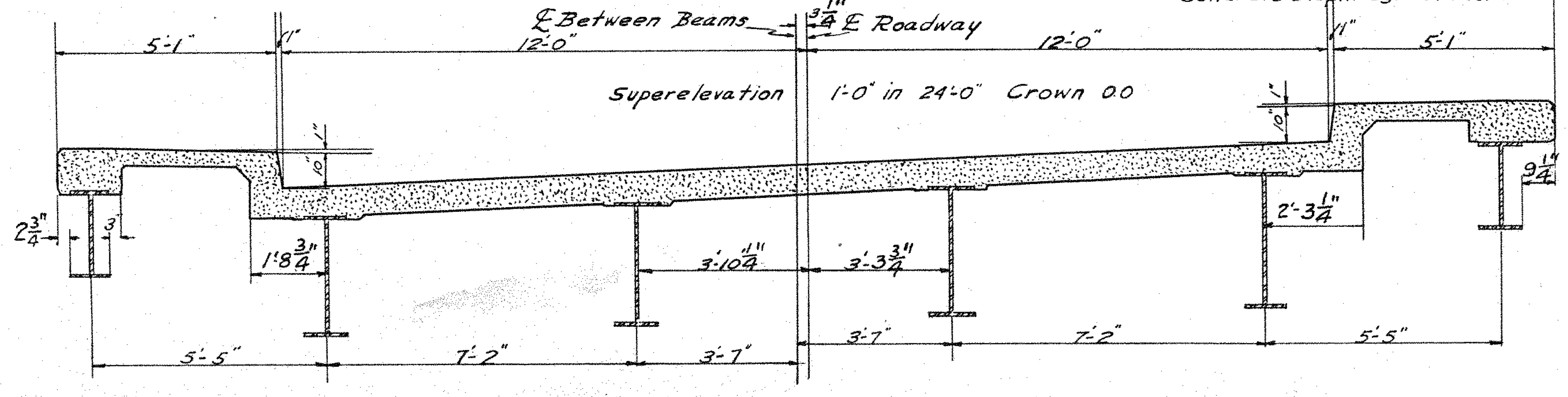
4"
5'-1"
1"
24'-0"
1"
5'-1"
4"
Superelevation 1'-0" in 24'-0" Crown 0.0
Fin. Gr. at ℄
5⅜"
8¼"
2'-6¼"
2'-0"
2'-0"
4¼"
3'-0"
3'-10¼"
Bent 4 Pier A
4'-1"
4'-0½"
3'-6¼"
3'-3⅜"
2'-0"
1'-6½"
5'-5"
7'-2"
3'-7"
3'-7"
7'-2"
5'-5"

SECTION A-A AT BENT 4 PIER A See Sheet #13 for Steel Diaphragm, instead of Concrete Diaphragm at Pier A.



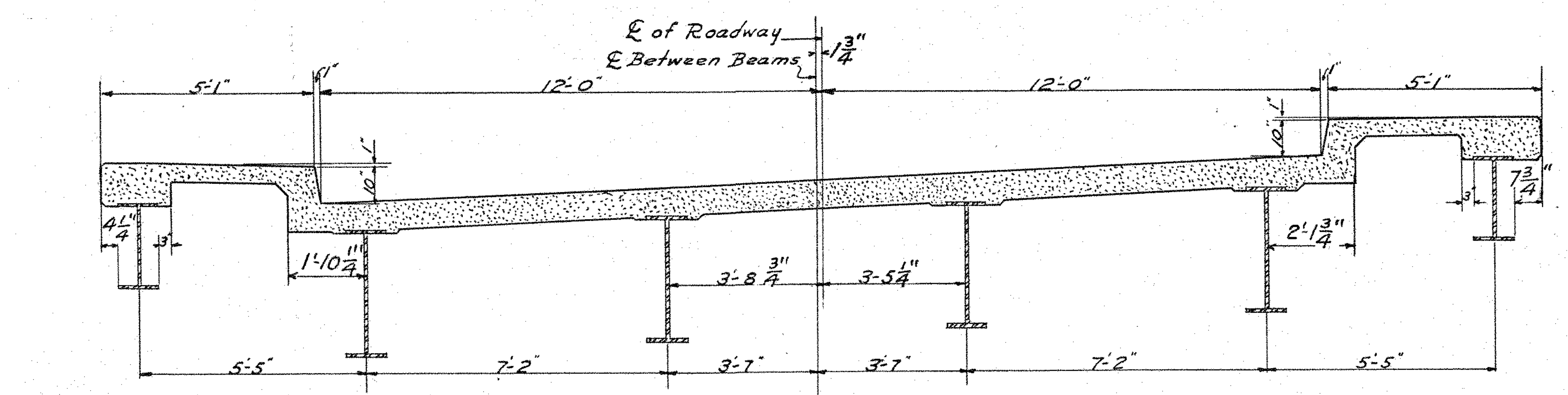
Bents 6&8
Bents 5-7-9
4"
3"
℄ Roadway
3"
℄ Between Beams and Bent
5'-1"
1"
12'-0"
12'-0"
1"
5'-1"
Superelevation 1'-0" in 24'-0" Crown 0.0
Fin. Gr. at ℄ of Road
8½"
2'-6½"
2'-3"
4'-1¾"
3'-10⅝"
3'-0"
4'-1"
3'-6¼"
1'-9"
3'-3⅝"
1'-6½"
5'-5"
7'-2"
3'-7"
3'-7"
7'-2"
5'-5"
3'-4"
3'-10"

SECTION B-B BENTS 5-6-7-8 & 9



5'-1"
1"
℄ Between Beams
1¼"
℄ Roadway
12'-0"
12'-0"
1"
5'-1"
Superelevation 1'-0" in 24'-0" Crown 0.0
2¾"
1'-8¾"
3'-10¼"
3'-3¾"
2'-3¼"
9¼"
5'-5"
7'-2"
3'-7"
3'-7"
7'-2"
5'-5"

SECTION C-C ℄ Span at end of curve



℄ of Roadway
℄ Between Beams
1¾"
5'-1"
1"
12'-0"
12'-0"
1"
5'-1"
4¼"
1'-10¼"
3'-8¾"
3'-5¼"
2'-1¾"
7¾"
5'-5"
7'-2"
3'-7"
3'-7"
7'-2"
5'-5"

SECTION D-D ℄ All spans on curve except those at end

Note:

Centers of roadway beams to be in line at bents.

Outer edge of flange of sidewalk beams to be in line at bents.

Center line of bents on tangent and at beginning and end of curve to be on center line of roadway.

Center line of bents on curve to be 3" off center line of roadway, and beams to be set off also, as shown.

This will space beams so that concrete facia beam will overhang outer edge of flange of sidewalk beam at least 2¾ inches at the closest point.

For details of slab and reinforcing see sheet No. 11.

SOUTH CAROLINA
STATE HIGHWAY DEPARTMENT
COLUMBIA

53'-0" SPAN ON CURVE
SPACING OF BEAMS
BRIDGE OVER
WACCAMAW RIVER
CONWAY HORRY CO.
F.A.P. 320
Scale ¼" & ⅜" = 1'-0"

Revised Oct. 15, 1936 F.K.P. Curve bottom of sidewalk diaphragms. Mr. Melick's letter.

Drawn By F.K.P. March 1936
Traced " T.E. " 1936
Checked " W.E.K. August 1936
Revised.

Fed. Road Dist No	STATE	COUNTY	F. A. Proj. No	Route No.	Sheet No.	Total Sheets
14	S.C.	HORRY.	320B	US 501	13.	52

Reaction
DL 92.8
LL 51.2
I 8.4
SW 15.4
Tot. 167.8
Pl. 16 x 9/16
Pl. 18 x 9/16 x 62'-0"
Pl. 18 x 1/2 x 45'-0"
V
DL 64.8
LL 38.3
I 6.8
SW 11.6
Tot. 121.5
M
DL 1158.0
LL 586.0
I 95.0
SW 207.0
Tot. 2046.0
V
DL 17.6
LL 24.3
I 4.6
SW 6.7
Tot. 53.2
M
DL 1465.0
LL 832.0
I 137.0
SW 298.0
Tot. 2732.0
8'-11 11/16"
8'-11 11/16"
15" ⊔ 33.9 To Support expansion joint in floor slab.
M
DL 920.0
LL 753.0
I 124.0
SW 274.0
Tot. 2071.0
V
DL 76.5
LL 37.3
I 7.3
SW 9.0
Tot. 130.1
-M +M
DL -460.0 +460.0
LL -478.0 +408.0
I -100.0 +85.5
SW -196.0 +141.0
Tot -1234.0 +174.5
Pl. 18 x 3/4 x 3'-0"
90'-6" C-C Piers
5 @ 17'-11 5/8" = 89'-8 1/8"
℄ Shoe & Fl. Bm.
℄ Pier
Web 60 x 3/8"
4-∠ 8x6x 5/8"
1-∠ 6x4x 3/8"
Fill
15" ⊔ 33.9
3/8" Spl. Pls
3/8" Sp. Pls.
Splice Flange Pl. 2-∠ 7x4x 5/8"
Pl. 18 x 1/2 x 1'-6"
End inspection gallery at edge of pier coping.
Pl. 18 x 9/16 x 62'-0"
Pl. 18 x 1/2 x 45'-0"
℄ Hangers for Inspection Gallery.
Pl. 18 x 3/4 x 3'-0"
Splice Cover Plate
A
B
C
D
E
D
D
2'-4"
1'-6"
Crimp
Fills
Mill end of F. BM. & of Bracket to Bearing
All Laterals 1-∠ 3 1/2 x 3 x 5/16"
Lateral Pls 5/16"
Hangers- inspection gallery.
Hanger- inspection gallery.
5'-6"
5'-0"
Top of Slab
15" ⊔ 33.9#
15" ⊔ 33.9#
∠ 6x4x 3/8"
2-∠s 4x3 1/2 x 3/8"
℄ Roadway
SECTION D-D
Posts B & D
Post A
For Details of Posts See Sheet 19.
" " Slab " " 14.
53'-0 Span
Girder Span.
SECT. A-A
Detail of Build Ups on Girder & Stringer
Varies as necessary to take care of Vertical Curve.
Varies as necessary to take care of Vertical Curve & Cover Plates.
Girder
Stringer
To back of angles.
Round to 1" Rad.
24' Roadway
4'-0" Post A
3'-11" Posts B & D.
A-13" C-C
B-13" C-C Top & Bott
7 1/2" Slab
Floor Beam 24" WF 87#
Stgrs. 18" WF 50
10 1/2" x 3/8" Pl.
1-∠ 7x4x 3/8"
2-∠ 6x4x 7/16
5/16" Web
2-∠ 4x3 1/2 x 3/8"
24" WF 74
Fill
Mill end of Floor Beam and Bracket
F-16" C.C.
E-16" C.C.
Chamfer
Drip Bead
24" WF 74
3/4" U Bolt
4" C.I. Drain Min. Thickness 3/16 Place 4" below surface of slab. One at each bracket on low side except those over piers. Drain unpainted when placed. After concreting 1 Coat of red lead & oil & 2 Coats of same paint as girders
Inspection gallery hanger like this at middle of each panel.
3"x10" Plank Creosoted
HALF END VIEW AT PIER A.
Inspection gallery full length of each girder. Hanger like this at each Floor Beam except those at piers.
HALF SECTION AT INTERMEDIATE FLOOR BEAM.
3"x10" Creo. Plank.
2-∠s 3 1/2 x 2 1/2 x 5/16
2-∠s 3 1/2 x 3 x 5/16
3/4" φ Rivets
℄ Roadway
5'-0"
5'-6"
5'-9 1/2"
5'-9 1/2"
21'-0" C-C Girders
17'-2"
17'-2"
3" x 10" Plank
1/2 x 3 1/2 Bolts Countersunk
Break joints in plank.
Section C-C
Flange of Girder.
Section B-B.
Note: Hangers may be Connected to Stiffs if desired.
Stgr.
2-∠ 6x4x 7/16 x 0'-6"
7/8" Bolt Thread both ends 4 Nuts
Hanger For Lats. at Center of Panels.
1-Checkered Plate 1/2" x 2"
1- " " 1/2" x 9"
2-⊔ 9", 20#
1-Plate 1/2" x 9"
3/4" φ Rivets
5/16" Pl.
2-∠s 3 1/2 x 3 1/2 x 5/16
Diaphragm 21" WF 59# at Piers A & D only
℄ Pier
End Girder
53'-0 To ℄ Bent
Expansion Plate Piers A & D
1 φ Bolts
1/2" Fillets All Corners
4" Pin 4 1/16" Hole
Washer
Hole for 1 1/2" Bolt
10" Radius Plane
1 1/4" Tap in Sole Pl.
Rolled Steel
1 1/2" Anchors
2'-0"
1'-6"
2 Bolts Req'd For Each Shoe
Expansion Shoe Cast Steel Piers A & D
53'-0" Beam Span
53'-6" To ℄ Bent
90'-6" To ℄ Pier
4'-0"
Section at Piers A & D.
1-Checker Plate 1/2" x 2"
1- " " 1/2" x 9"
1-Plate 1/2" x 9"
Cut off top Flange of ⊔
2-9" ⊔ 20"
2-9 ⊔ 20"
Pl. 4 x 5/16 x 1'-0"
5/16" Plate
2-∠s 4x3 1/2 x 5/16
21" WF 59" Diaphragm.
2-∠ 4x3 1/2 x 5/16
1'-6"
3'-11"
12'-0"
2'-0"
Half Section at Pier A
Showing Diaphram in 53'-0" Span & Expansion Detail
Similar expansion plate to be used at Pier D.

7/8" φ Rivets.
15/16" φ Open Holes,
Except as noted.

STATE HIGHWAY DEPT.
COLUMBIA S. C.
STEEL GIRDER SPAN
BRIDGE OVER WACCAMAW RIVER
F.A. Proj. 320 Horry Co.
Scale: 3/8", 1/2", 1", 1 1/2", 3/4" Date 5/5/36

d Dr. By: F.K.P. April 1936
aced By: J.W.R.P. " "
ecked By: W.F.L. &

Revised Oct. 13, 1936 F.K.P. Remove Copper Gutters.

FED. ROAD DIST. NO.	STATE	COUNTY	F.A. PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	HORRY	320B	38	14	52

V	
DL	124.1
LL	51.3
I	7.6
SW	17.4
Tot	200.4

	M	Reaction
DL	2700.0	295.7
LL	882.0	99.7
I	135.0	15.1
SW	412.0	32.4
Total	4129.0	442.9

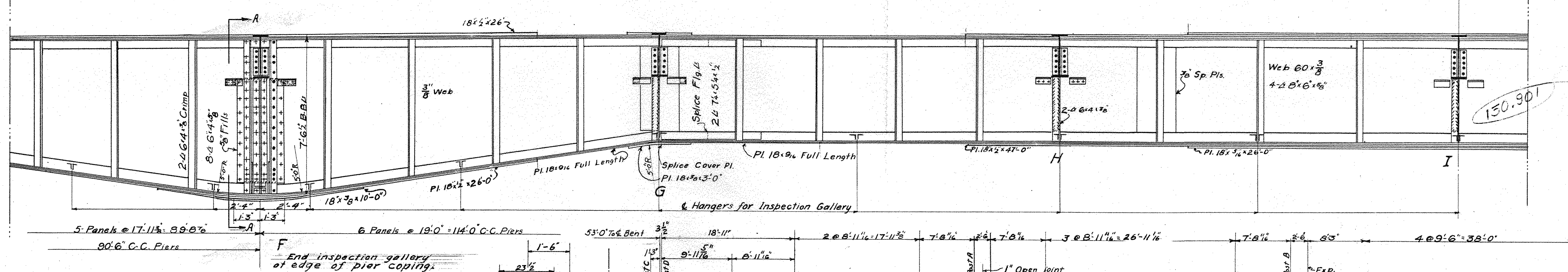
V	
DL	123.8
LL	50.6
I	11.6
SW	16.8
Total	202.8

	-M	+M
DL	-340.0	-320.0
LL	-357.9	+323.8
I	-70.5	+59.5
SW	-143.4	+97.9
Total	-911.8	+161.2

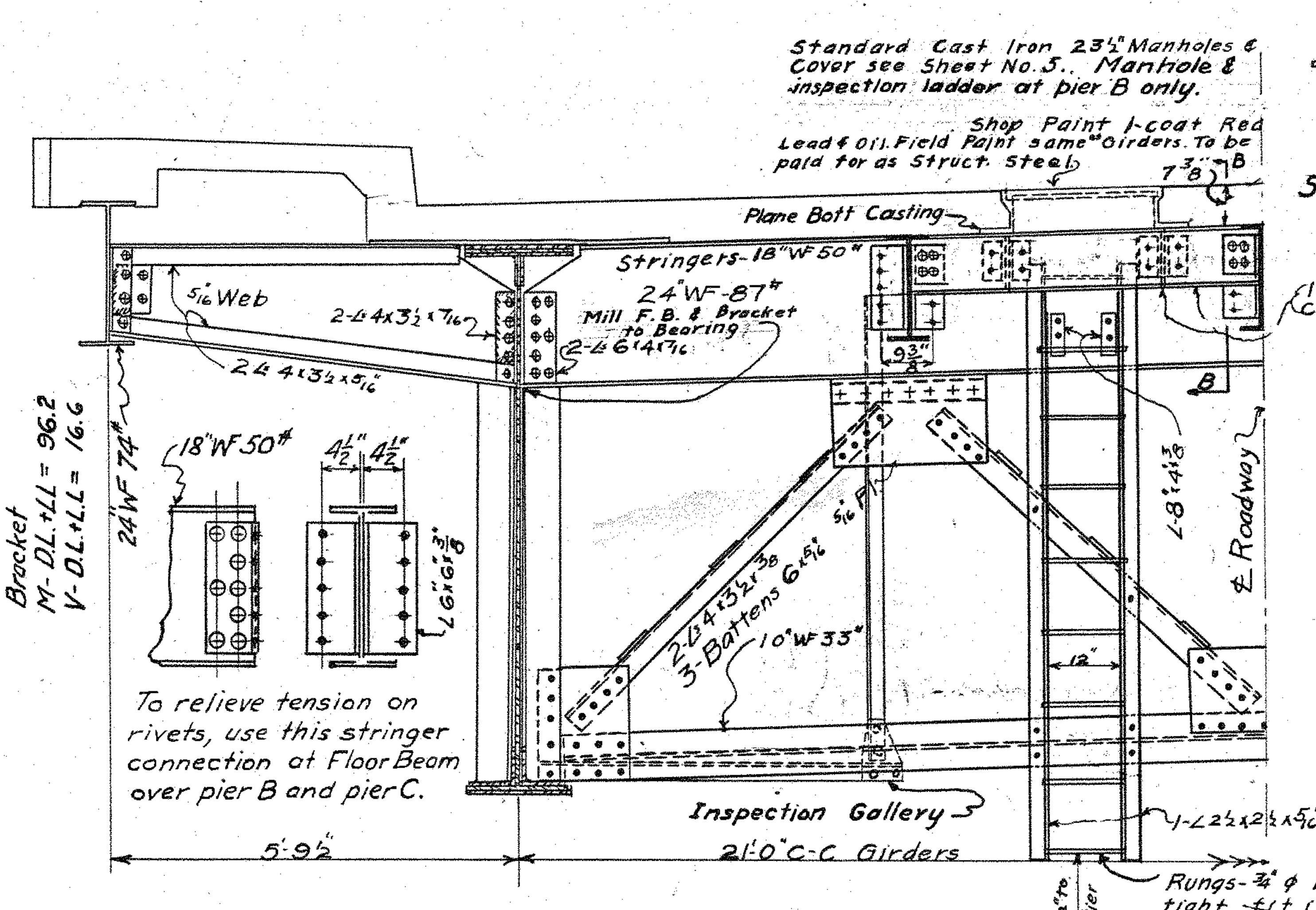
V	
DL	+73.5
LL	39.0
I	6.4
SW	10.9
Total	130.6

M	
DL	1068.0
LL	744.0
I	155.0
SW	264.0
Total	2231.0

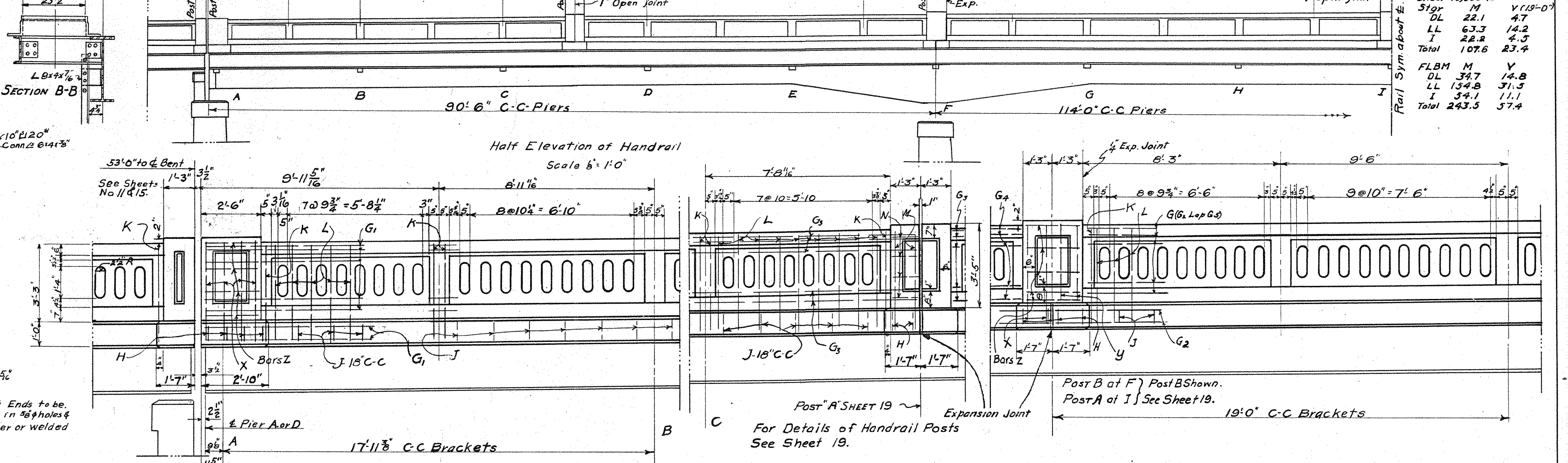
M	
DL	1603.0
LL	912.0
I	191.0
SW	333.0
Total	3039.0

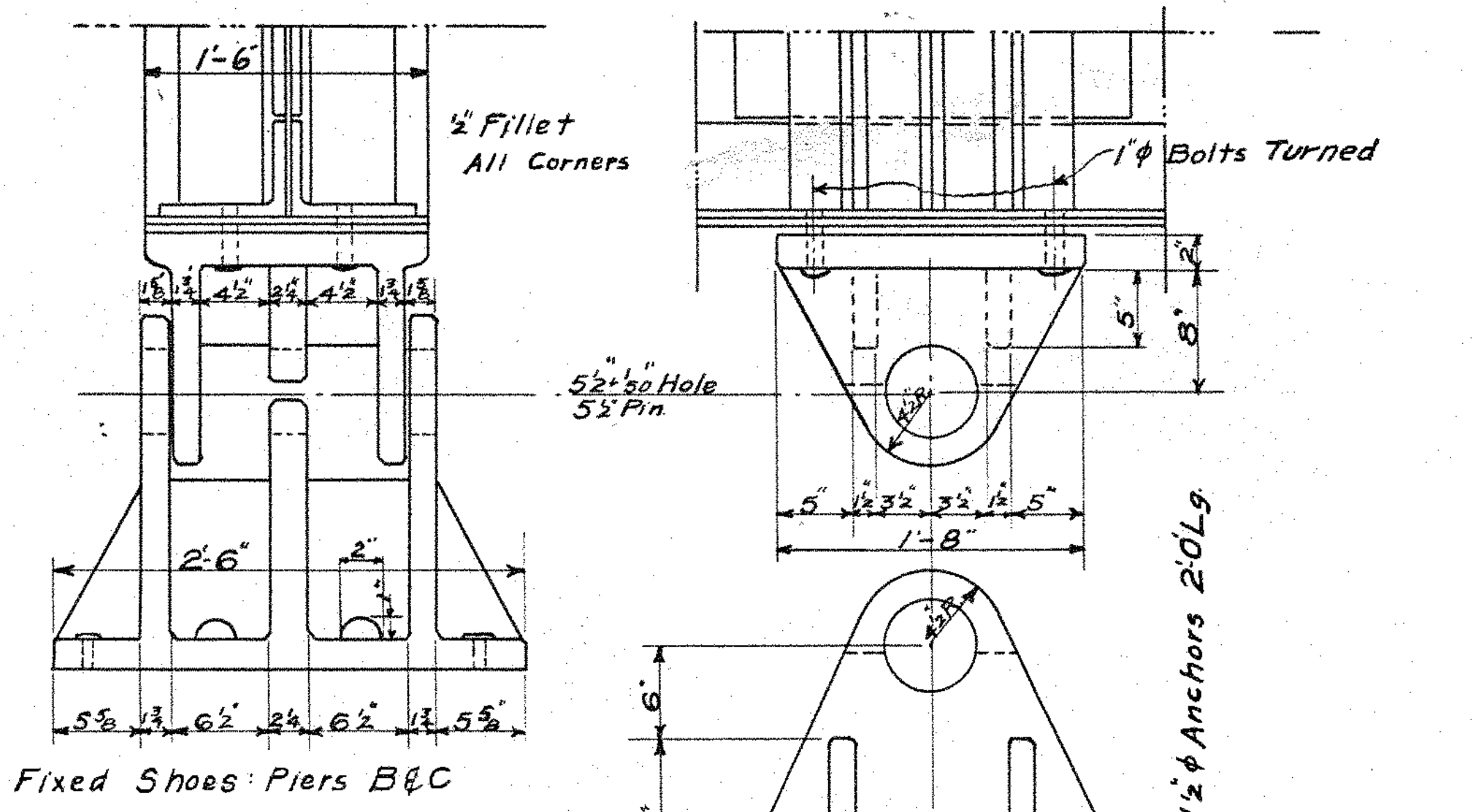

A
18"x½"x26'
2-∠6"x4"x⅜" Crimp
8-∠6"x4"x⅝"
⅝" Fills
7'-6½" B.B.B.
5'-0"R
2'-4"
1'-3"
18"x⅜"x10'-0"
Pl. 18"x½"x26'-0"
Pl. 18x9/16 Full Length
⅜" Web
Splice Flg. ∠
2∠ 7x5¼x½
Splice Cover Pl.
Pl. 18x⅜x3'-0"
G
℄ Hangers for Inspection Gallery
Pl. 18x9/16 Full Length
Pl. 18x½x47'-0"
H
2-∠6x4x⅜
⅜" Sp. Pls.
Web 60x⅜
4-∠8"x6"x⅝"
Pl. 18x5/16x26'-0"
I
℄ Span
150.901
5-Panels @ 17'-11⅜" = 89'-8⅞"
90'-6" C.C. Piers
6 Panels @ 19'-0" = 114'-0" C-C. Piers
F
End inspection gallery at edge of pier coping.

ELEVATIONS – TOP OF ROADWAY SLAB					
POINT	STATION	LOW GUTTER	HIGH GUTTER	SUPER-ELEV. in 24 Ft.	CROWN
End of 53 Ft. Span	6+61.4	129.554	130.554	1.00 Ft.	0
℄ Shoe	6+62.66	129.581	130.581	1.00 "	0
Floor Bm.	6+80.608	129.938	130.921	.983	0
" "	6+98.556	130.249	131.179	.930	0
" "	7+16.504	130.513	131.374	.861	0
" "	7+34.452	130.728	131.519	.791	0
℄ Pier B	7+52.40	130.901	131.622	.721	0
Floor Bm.	7+71.40	131.032	131.680	.648	0
" "	7+90.40	131.110	131.684	.574	0
℄ SPAN	8+09.40	131.136	131.636	.500	0
Floor Bm.	8+28.40	131.110	131.537	.427	0
" "	8+47.40	131.032	131.386	.353	0
℄ Pier C	8+66.40	131.901	131.180	.279	0
℄ Floor Bm.	8+84.348	130.728	130.937	.209	0
" "	9+02.296	130.513	130.653	.140	0
" "	9+20.244	130.249	130.319	.070	0
" "	9+38.192	129.938	129.955	.017	¾"
℄ Shoe	9+56.140	129.581	129.581	.000	1½"
End of 53 Ft. Span	9+57.40	129.554	129.554	.000	1½"
CROWN TO BE PARABOLIC					


Standard Cast Iron 23½" Manholes & Cover see Sheet No. 5. Manhole & inspection ladder at pier B only.
Shop Paint 1-coat Red Lead & Oil. Field Paint same as Girders. To be paid for as Struct. Steel.
7⅜"
B
Plane Bott Casting
Stringers-18" WF 50#
24" WF-87#
Mill F.B. & Bracket to Bearing
5/16" Web
2-∠4x3½x7/16
2-∠6x4x7/16
2∠ 4x3½x5/16
9¾"
10"[20#
Conn.∠ 6x4x⅜"
B
L-8x4x⅜
℄ Roadway
Bracket
M-D.L.+LL = 96.2
V-D.L.+LL = 16.6
24" WF 74#
18" WF 50#
4½" 4½"
∠6x6x⅜"
5/16" Pl.
2-∠4x3½x⅜
3-Battens 6x5/16
10" WF 33#
12"
To relieve tension on rivets, use this stringer connection at Floor Beam over pier B and pier C.
Inspection Gallery
1-∠2½x2½x5/16
5'-9½"
21'-0" C-C Girders
12" to Pier
Rungs-¾" ϕ Ends to be tight fit in ⅝" ϕ holes & peened over or welded 12" C-C

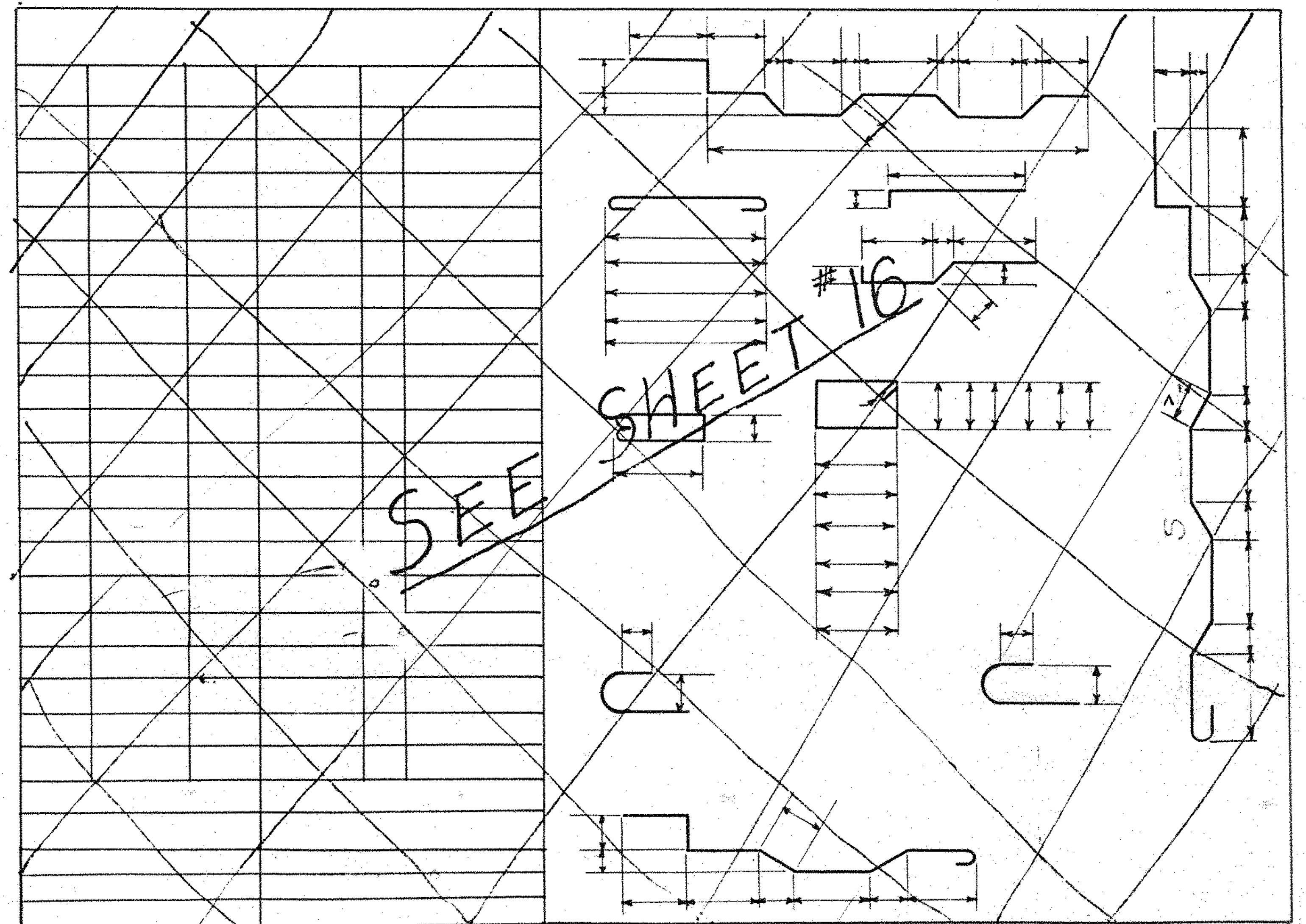
Half Section At Pier B
SECTION A-A


1'-6"
23½"
L 8x4x7/16
SECTION B-B
4¾"
53'-0" To ℄ Bent
3½"
18'-11"
1'-3"
9'-11 5/16"
8'-11 11/16"
Post C
Post D
2 @ 8'-11 11/16" = 17'-11⅜"
7'-8 11/16"
2'-6"
Post A
1" Open joint
3 @ 8'-11 11/16" = 26'-11 1/16"
Post B
Exp.
8'-3"
4 @ 9'-6" = 38'-0"
Post A
1" Open joint
A B C D E F G H I
90'-6" C-C Piers
114'-0" C-C Piers
Rail Sym. about ℄
H-15 Loading
DL 5200# Per. Lin. Ft.
Tension 16,000#/□"
Shear 10,000#/□"
Stgr M V (19'-0")
DL 22.1 4.7
LL 63.3 14.2
I 22.2 4.5
Total 107.6 23.4
FLBM M V
DL 34.7 14.8
LL 154.8 31.5
I 54.1 11.1
Total 243.5 57.4
Half Elevation of Handrail
Scale ⅛" = 1'-0"
53'-0" to ℄ Bent
See Sheets No 11 & 15.
9'-11 5/16"
8'-11 11/16"
2'-6"
7 @ 9¾" = 5'-8¼"
8 @ 10¼" = 6'-10"
K L G1 J H X
Bars Z
J-18" C-C
2'-10"
1'-7"
℄ Pier A or D
17'-11⅜" C-C Brackets
B
C
7'-8 11/16"
7 @ 10 = 5'-10
G3 G4 N M
J-18" C-C
Post "A" Sheet 19
Expansion Joint
For Details of Handrail Posts See Sheet 19.
¼" Exp. Joint
8 @ 9¾" = 6'-6"
9 @ 10" = 7'-6"
G (G2 Lap G5)
G2
y
Post B at F } Post B Shown.
Post A at I } See Sheet 19.
19'-0" C-C Brackets


1'-6"
½" Fillet All Corners
2'-6"
2"
5½" + 1/50" Hole
5½" Pin
1" ϕ Bolts Turned
1'-8"
4-1½" ϕ Anchors 2'-0" Lg.
2'-2"

Fixed Shoes: Piers B & C

Cast Steel


SEE SHEET #16

Notes: Specifications:- S.C. State Highway Dept Specifications for Roads, Bridge and Culverts revised July 1, 1933

Rivets ⅞" ϕ open holes 15/16" ϕ except as noted.

Shop paint - 1 coat of red lead and oil paragraph 80.5 of specifications.

Field paint 2 coats aluminum paint paragraph 80.4 & 80.6 of specifications. Tops of beams and girders in contact with concrete to be painted with two field coats before concreting. All other structural steel shall be painted after concreting.

Bearing plates on masonry shall be set on 3 layers of 12 to 14 oz. duck swabbed with red lead paint according to paragraph 79.152 of specifications.

All concrete class A maximum aggregate 1½".

Exposed edges to be chamfered ¾" unless otherwise shown. Interior corners to be square unless otherwise shown

Chamfer on hand railing to be ½".

Drains and expansion material to be included in price bid for concrete.

Conduit pipe for future lights to be placed in handrail posts over piers, as shown on sheet #19. For details of concrete slab see sheet #16.

The roadway slab shall be finished to the parabolic crown or straight as shown and in accordance with sec. 59 of the specification. All lines and grades shall be checked immediately and any irregularities corrected at once. The slab shall be covered, immediately after finishing, with burlap or other approved sacking and kept wet. This covering may be removed after 24 hours and the slab covered with sand or shavings and kept wet for 6 days. The burlap may be allowed to remain and be kept wet for the full 6 days

Sidewalks to be finished in accordance with paragraph 71.37 of the specifications, they shall be marked in blocks approximately 4 ft square.

The lump sum price bid for structural steel shall include the cost of furnishing and installing electric navigation and fender lights together with satisfactory wiring, conduits, cables, etc. back to the Conway abutment. The number and position of lights shall conform to the requirements of the U.S. Lighthouse Service. Cast iron or cast aluminum with pressed Fresnel lenses shall be used. The fixtures and lamp receptacles shall be weather tight and bug proof. Each light shall be fitted with a 50 Watt Mazda lamp. The necessary electrical circuits from the lights to the Conway abutment, Sta. 2+17, shall comply in all respects to recommendations and requirments of the Amer. Inst. of Elect. Engineers and of the National Electrical Code. Power for the lights will be 60 cycles and 110 volts.

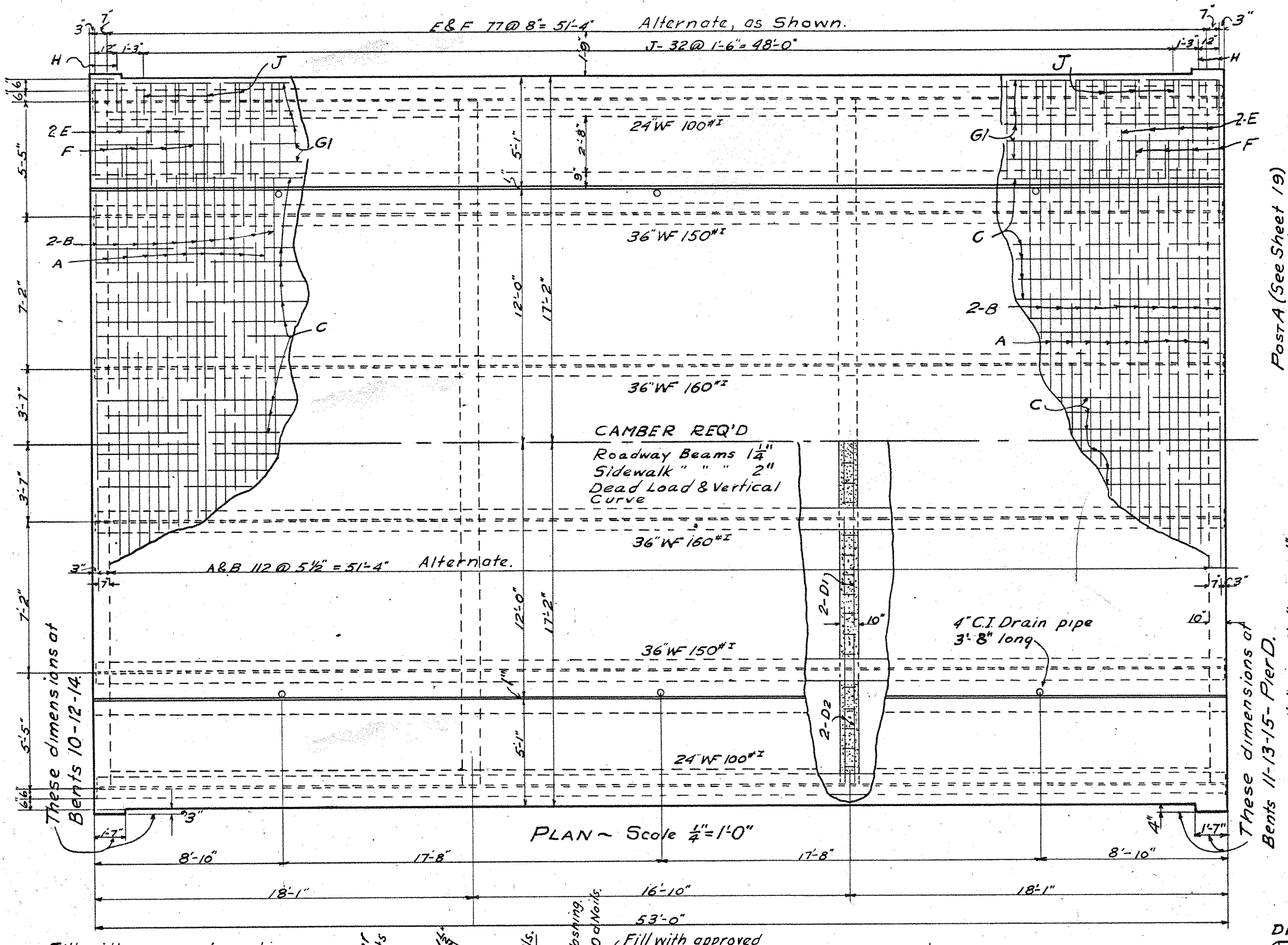
Navigation lights on girder are to be accesible from the inspection galleries.

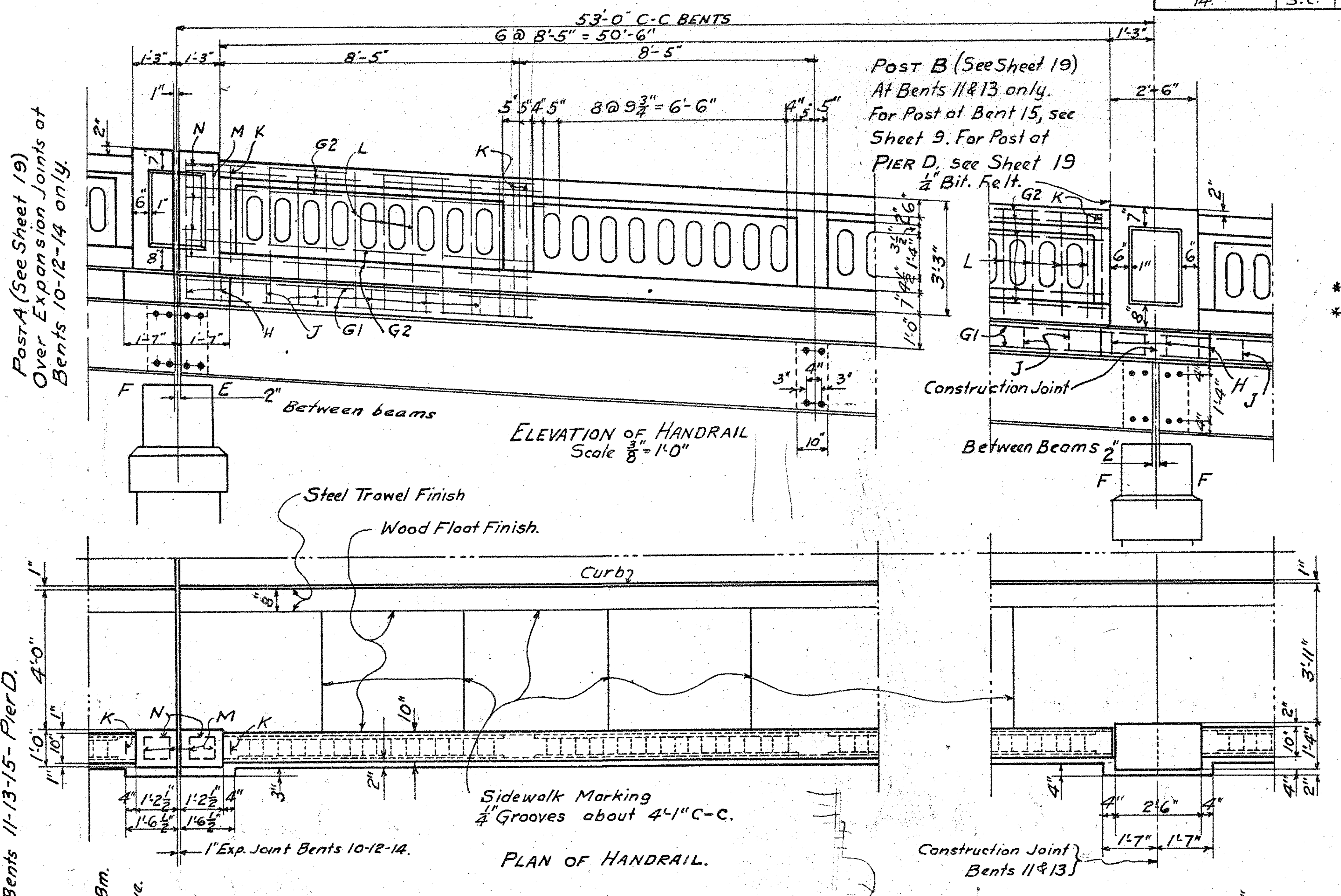
Structural Steel = 410,000 Lbs.
Includes Weight
of Cast Iron
Manhole Castings.

STATE HIGHWAY DEPT.
COLUMBIA S.C.
STEEL GIRDER SPAN
BRIDGE OVER WACCAMAW RIVER
F.A. Proj.: 320 Horry Co.
Scale: ⅛, ⅜, ½, 1" = 1'-0" Date: 5/19/36

D. & Dr. By: F.K.P. APRIL 1936
Checked By:
Traced By: J.W.R.P. APRIL 1936 Checked by: W.F.L. Sept '36
Revised Oct. 13, 1936 Remove Copper Gutters.
Mr. Melick's Letter.

FED. ROAD DIST. NO.	STATE	COUNTY	F.A. PROJ NO.	ROUTE	SHEET	TOT. SHEETS
14.	S.C.	HORRY.	320 B	U.S. 501	15	52


E & F 77 @ 8" = 51'-4" Alternate, as Shown.
J - 32 @ 1'-6" = 48'-0"
24" WF 100#I
36" WF 150#I
36" WF 160#I
CAMBER REQ'D
Roadway Beams 1¼"
Sidewalk " " " 2"
Dead Load & Vertical Curve
A & B 112 @ 5½" = 51'-4" Alternate.
4" C.I. Drain pipe 3'-8" long
2-D1
2-D2
These dimensions at Bents 10-12-14.
These dimensions at Bents 11-13-15 - Pier D.
PLAN ~ Scale ¼" = 1'-0"
8'-10"
17'-8"
18'-1"
16'-10"
53'-0"


53'-0" C-C BENTS
6 @ 8'-5" = 50'-6"
8'-5"
8 @ 9¾" = 6'-6"
Post A (See Sheet 19) Over Expansion Joints at Bents 10-12-14 only.
Post B (See Sheet 19) At Bents 11 & 13 only. For Post at Bent 15, see Sheet 9. For Post at PIER D, see Sheet 19
¼" Bit. Felt.
N
M
K
G2
L
H
J
G1
2" Between beams
ELEVATION OF HANDRAIL Scale ⅜" = 1'-0"
Construction Joint
Between Beams 2"
Steel Trowel Finish
Wood Float Finish.
Curb
Sidewalk Marking ¼" Grooves about 4'-1" C-C.
1" Exp. Joint Bents 10-12-14.
PLAN OF HANDRAIL.
Construction Joint Bents 11 & 13

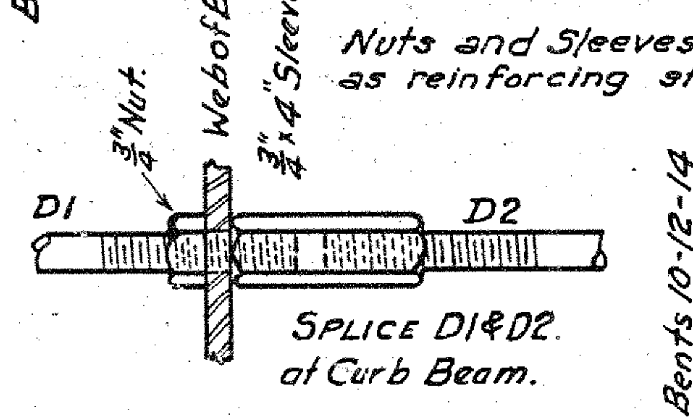
* D1 - 4" Thd. Each End. 2 ¾" Hex. Nuts & 2-Malleable Iron Sleeves. ¾" Thread.
* D2 - 4" Thread Each End. 2 - ¾" Hex. Nuts. To be bent in field.

STEEL - ONE INTERIOR SPAN

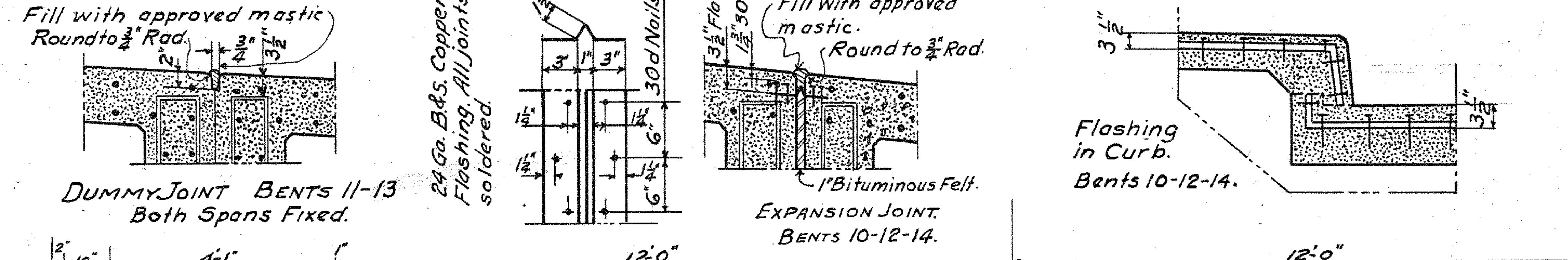
MARK	NUMBER	SIZE	LENGTH		LOCATION
GA	56	⅝" ø	30'-3"	B	Slab
GB	114	"	26'-6"	H	"
GC	72	½" □	27'-6"	S	"
* GD1	16	¾ ø	21'-10"	S	Diaphs
* GD2	32	"	5'-5"	*	"
GD3	68	⅜" ø	5'-8"	B	"
GD4	32	"	7'-9"	B	"
GD5	8	"	6'-10"	B	"
GD6	8	"	6'-5"	B	"
GD7	8	"	6'-3"	S	"
GE	160	⅜" ø	5'-0"	B	Side Walk
GF	80	"	5'-0"	B	"
GG1	32	"	27'-3"	S	"
GH	8	#4 Wire	4'-8"	B	"
GJ	66	"	4'-2"	B	
GK	24	½" □	9'-0"	B	Railing
GL	120	"	4'-10"	H	"
GM	4	"	9'-1"	B	"
GN	8	#4 Wire	3'-3"	B	"
GG2	32	⅜" ø	26'-8"	S	"

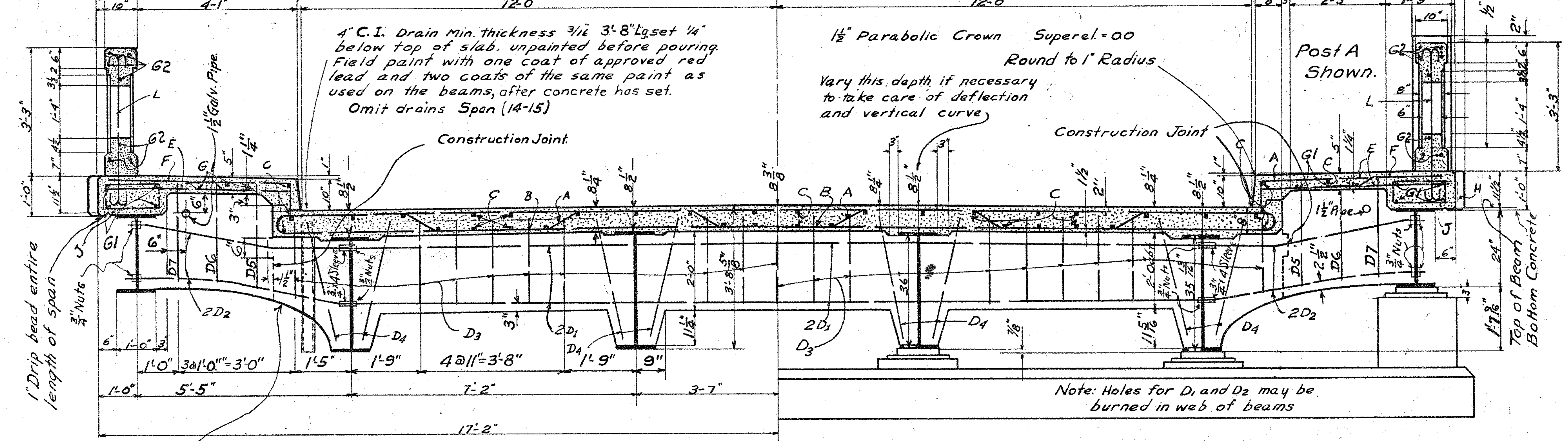
QUANTITIES 1-SPAN.

Concrete (Except Rail)	57.64	CY
Reinf. Steel " "	8566	Lb.
Steel Beams	43,392	Lb.
1-Steel Diaphragm (Pier D)	2,188	Lb.


D1
D2
¾" Nut.
Web of Bm.
¾" x 4" Sleeve.
SPLICE D1 & D2. at Curb Beam.

Nuts and Sleeves to be paid for as reinforcing steel


Fill with approved mastic Round to ¾" Rad.
DUMMY JOINT BENTS 11-13 Both Spans Fixed.
24 Ga. B.&S. Copper Flashing. All Joints soldered.
30d Nails.
Fill with approved mastic.
Round to ¾" Rad.
1" Bituminous Felt.
EXPANSION JOINT. BENTS 10-12-14.
Flashing in Curb. Bents 10-12-14.


12'-0"
4" C.I. Drain Min. thickness 3/16 3'-8" Lg. set ¼" below top of slab, unpainted before pouring. Field paint with one coat of approved red lead and two coats of the same paint as used on the beams, after concrete has set.
Omit drains Span (14-15)
Construction Joint.
1½" Parabolic Crown Superel. = 0.0
Round to 1" Radius
Vary this depth if necessary to take care of deflection and vertical curve
Construction Joint
Post A Shown.
1½" Galv. Pipe.
1½" Pipe
G2
L
G1
D2
D3
D4
D5
D6
D7
2D1
2D2
½" Chamfer
3" Bents 10-12-14
4" Bents 11-13-15 & Pier D
1" Drip bead entire length of span
¾" Nuts
Top of Beam Bottom Concrete
1'-0"
5'-5"
3 @ 1'-0" = 3'-0"
4 @ 11" = 3'-8"
7'-2"
3'-7"
17'-2"
Note: Holes for D1 and D2 may be burned in web of beams

HALF SECTION AT INTERMEDIATE DIAPHRAGM.

For detail of curve under sidewalk diaphragm see Sheet No. 11.

HALF SECTION - ALL BENTS EXCEPT END BENT 15
Scale ½" = 1'-0"

NOTE:- At PIER D, this span has a steel diaphragm. See Sheet 13, 19.
For details of BENT 15, See Sheet 9.

Notes: Specifications:- S.C. State Highway Dept. specifications for Roads, Bridges & Culverts revised July 1, 1933.

All concrete to be class A. Maximum size of aggregate 1½"

Diaphragms between roadway stringers shall be poured monolithic with the roadway slab. Diaphragms under sidewalks to be poured monolithic with the sidewalk. Sidewalk slab shall be so poured that the two interior diaphragms, and part of sidewalk slab over them are the last poured. In other words these diaphragms under sidewalk are to be poured afte sidewalk stringers have their dead load deflection.

Top of roadway slab shall be finished to the parabolic crown, or straight where shown and in accordance with Sec. 59 of the specifications. All lines and grades shall be checked immediately, and any irregularities corrected at once. The slab shall be covered immediately with burlap or other approved sacking and kept wet. This covering may be removed after 24 hours, and the slab covered with sand or shavings and kept wet for 6 days; or the burlap may be allowed to remain and be kept wet for the full 6 days.

Sidewalks shall be screeded and floated and marked off in blocks about 4 ft. square in accordance with paragraph 71:37 of specifications

Exposed edges shall be chamfered ¾ inch unless otherwise specified, interior corners shall be square unless otherwise specified. Chamfer on hand railing shall be ½ inch.

Drains and expansion joint filler to be included in price bid for concrete

All bituminous felt shall be held in place by cementing to concrete already in place. Cement used to be approved by the engineer. Open side of all joints in bituminous felt to be covered with one layer of tar paper cemented in place, so that no mortar can enter joint.

All work affecting the safety of trains during construction of this project shall be approved by the authorites of the A.C.L. railroad company before the work is started.

Painting:-

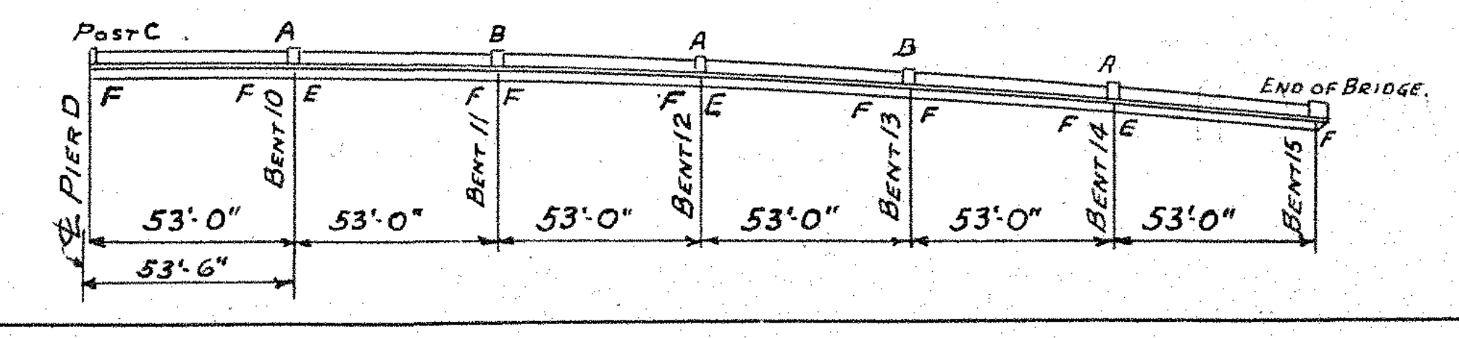
Shop paint - 1 coat red lead, see paragraph 80.5 of specifications. Field paint - 2 coats aluminum paint see paragraph 80.4 & 80.6 of specifications. The top of beams where covered with concrete shall be painted with 2 coats of field paint before concreting. All other structual steel shall be painted after concreting.

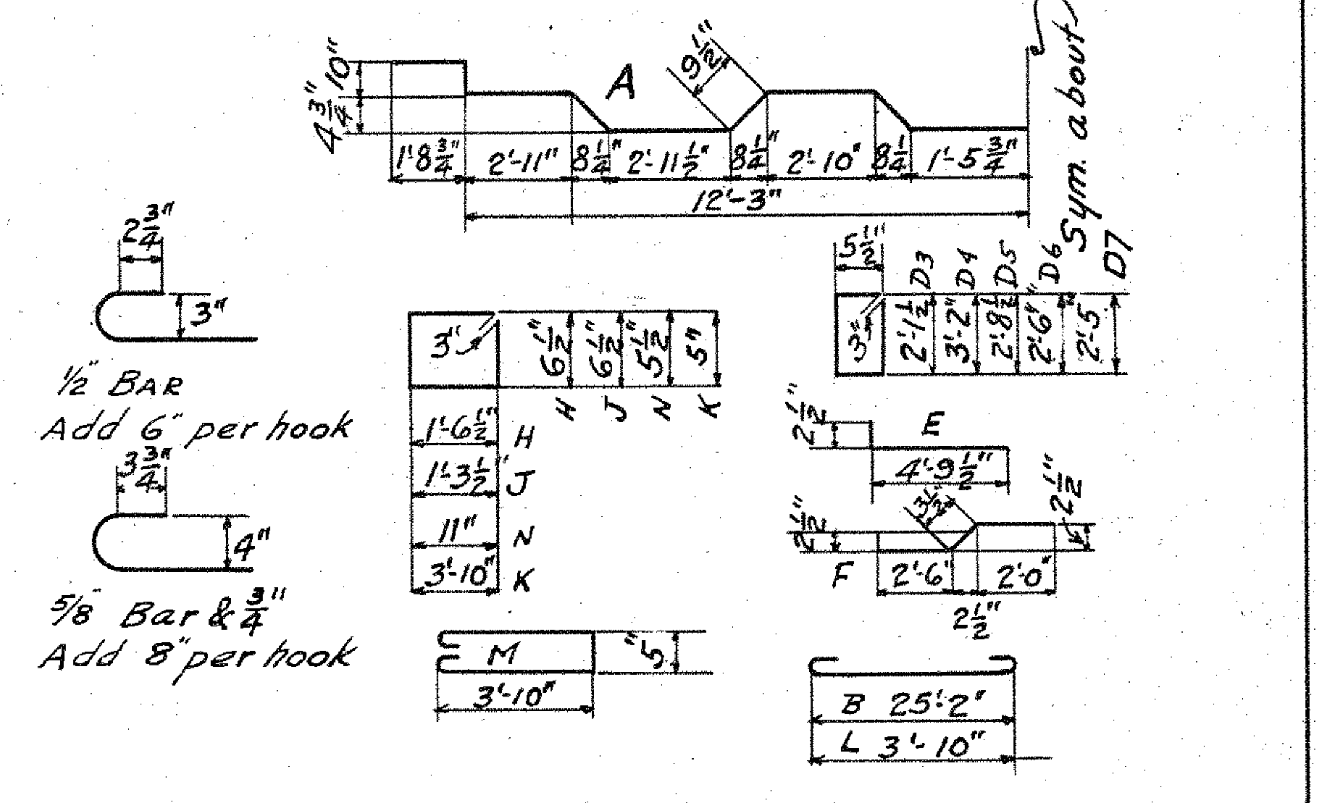
Design Data:-

A.A.S.H.O. H 15 fc = 800 fs = 16,000 n = 10

$\text{Impact} = \frac{50}{125+L}$

All bearing plates on masonry shall be set on 3 layers of 12 to 14 oz. duck, swabbed with red lead paint, according to paragraph 79-152 of specifications.


Post C
A
B
END OF BRIDGE.
PIER D
BENT 10
BENT 11
BENT 12
BENT 13
BENT 14
BENT 15
F
E
53'-0"
53'-6"


A
12'-3"
Sym. about
½" Bar Add 6" per hook
⅝" Bar & ¾" Add 8" per hook
H
J
N
K
E
D1
D2
D3
D4
D5
D6
D7
F
M 3'-10"
B 25'-2"
L 3'-10"

For Span D-10 Deduct one concrete diaphragm and bars:- 4-D1, 8-D2, 17-D3, 8-D4, 2-D5, 2-D6, 2-D7.
Add steel diaphragm, bars on Sheet 19, 6-T, 8-S.
also build up on steel diaphragm & 2-Beams under end of sidewalk. (Sheet 19)
Concrete 55.70 C.Y. Reinf. Steel 8336 Lb.

For Span 14-15. Deduct same as for Span D-10.
Add concrete and steel for End Wall & Diaphragm on Sheet 9
Concrete 63.25 C.Y. Reinf. Steel 9162 Lb.

Handrail on 6 Spans.
Concrete 44.49 C.Y. Reinf Steel. 6596 Lb.

For deflection & camber see sheet 15.

SOUTH CAROLINA
STATE HIGHWAY DEPARTMENT
COLUMBIA

53'-0" STEEL BEAM SPAN

BRIDGE OVER
WACCAMAW RIVER
NEAR
CONWAY HORRY Co.
F.A.P. 320

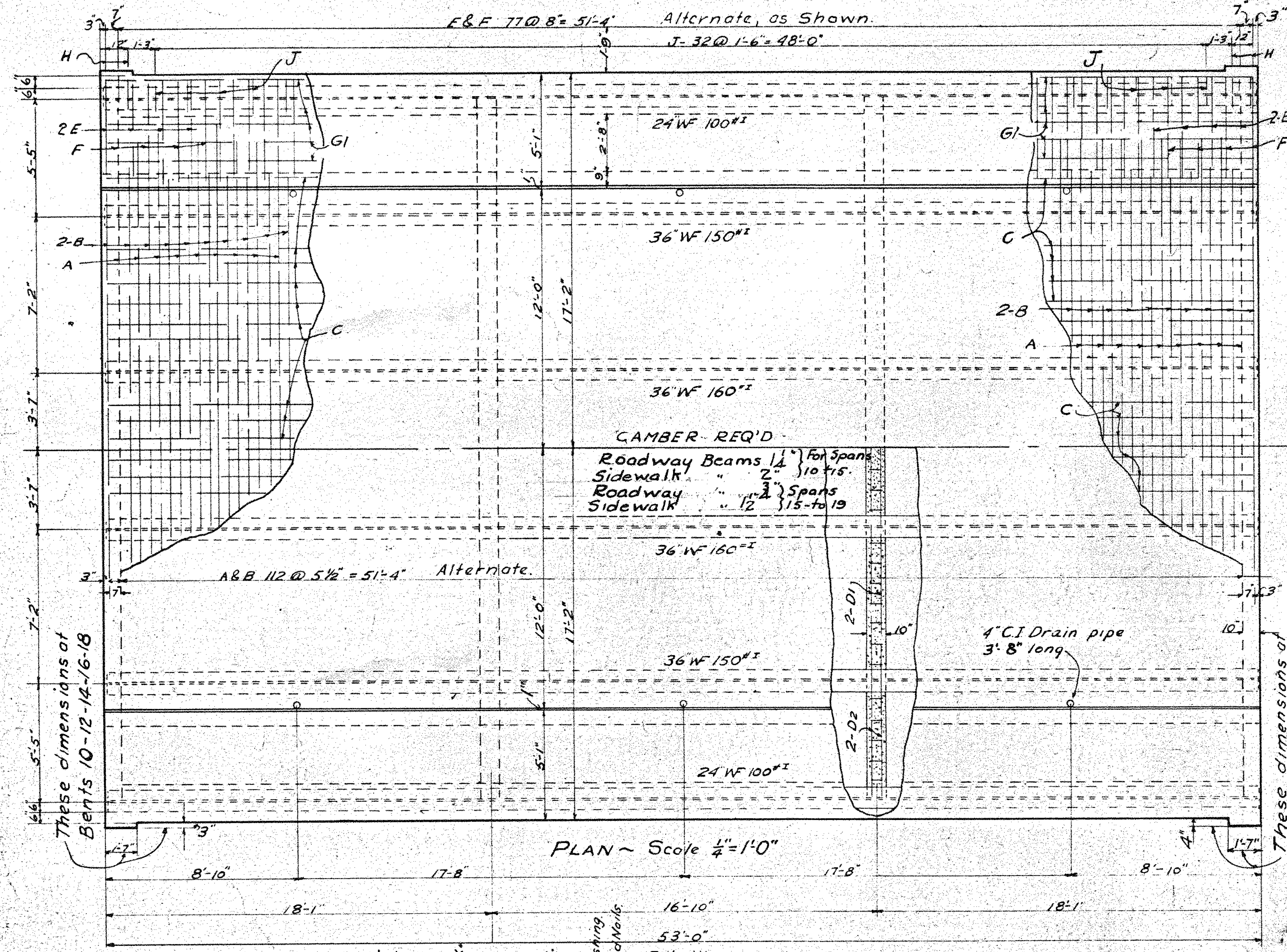
Scale ¼", ⅜", ½" = 1'-0" F.K.P. MAR. 13, 1936

Made F.K.P. Mar 13 1936
Traced T.E.C. Mar 1936
Checked
Quantities Checked By D. G. F 8/20/36
Revised F.K.P. Oct 16, 1936 Curved bottom of sidewalk diaphragms Mr Melick's letter.

FED. ROAD DIST. NO.	STATE	COUNTY	F.A. PROJ NO	ROUTE	SHEET	TOT. SHEETS
14.	S.C.	HORRY.	320 B	U.S. 501	15	52

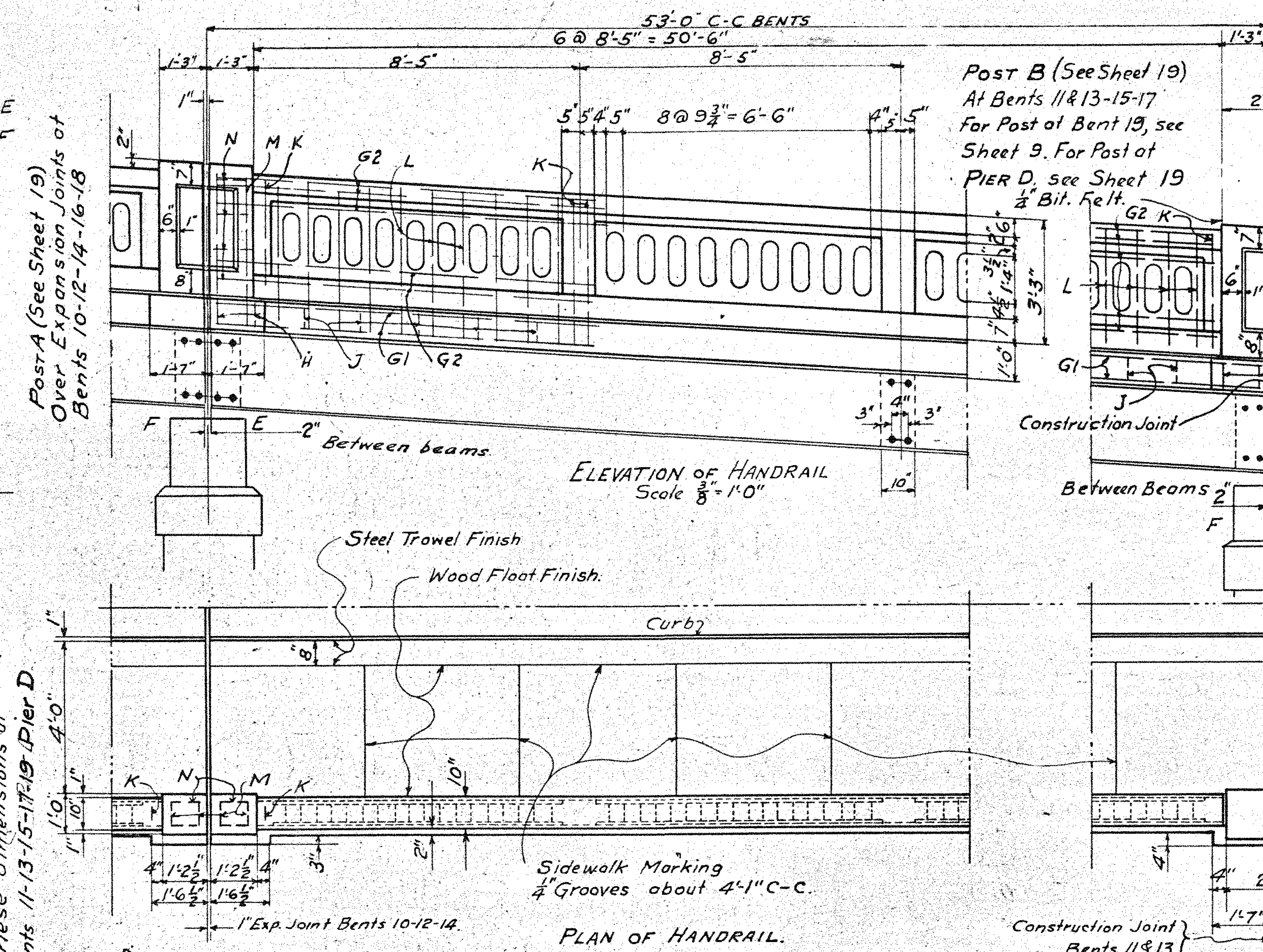
Ext.

* D1- 4" Thd. Each End. 2 3/4" Hex. Nuts & 2-Malleable Iron Sleeves. 3/4" Thread.
* D2- 4" Thread Each End. 2- 3/4" Hex. Nuts. To be bent in field.



E&F 77 @ 8" = 51'-4" Alternate, as Shown.
J- 32 @ 1'-6" = 48'-0"
24" WF 100#
36" WF 150#
36" WF 160#
CAMBER REQ'D
Roadway Beams 1 1/4" For Spans 10 to 15
Sidewalk " 2"
Roadway " 3/4" Spans 15 to 19
Sidewalk " 1/2"
A&B 112 @ 5 1/2" = 51'-4" Alternate.
4" C.I. Drain pipe 3'-8" long
These dimensions at Bents 10-12-14-16-18
These dimensions at Bents 11-13-15-17-19-Pier D
8'-10"
17'-8"
18'-1"
16'-10"
53'-0"

PLAN ~ Scale 1/4"=1'-0"



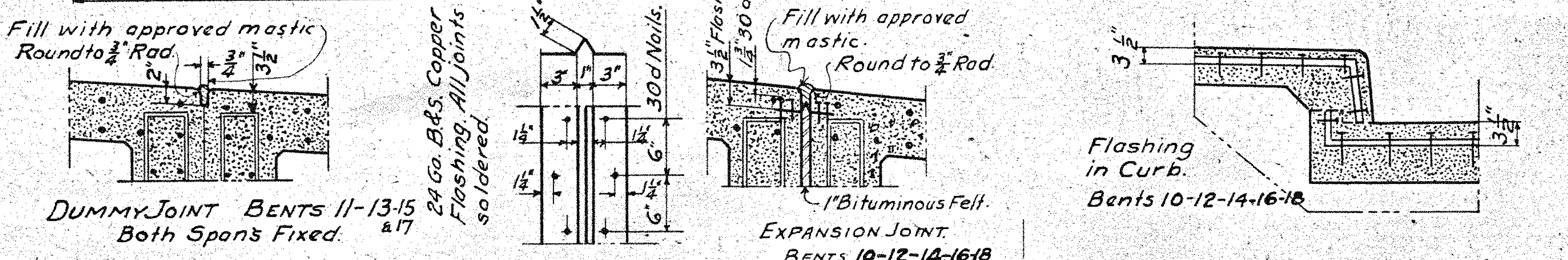
53'-0" C-C BENTS
6 @ 8'-5" = 50'-6"
8 @ 9 3/4" = 6'-6"
Post A (See Sheet 19) Over Expansion Joints at Bents 10-12-14-16-18
Post B (See Sheet 19) At Bents 11 & 13-15-17 For Post at Bent 19, see Sheet 9. For Post at PIER D, see Sheet 19
1/2" Bit. Felt.
Between beams
Construction Joint
Between Beams
Steel Trowel Finish
Wood Float Finish
Curb
Sidewalk Marking 1/4" Grooves about 4'-1" C-C.
1" Exp. Joint Bents 10-12-14.
Construction Joint Bents 11 & 13 15-17

ELEVATION OF HANDRAIL Scale 3/8"=1'-0"

PLAN OF HANDRAIL.

STEEL - ONE INTERIOR SPAN					
MARK	NUMBER	SIZE	LENGTH		LOCATION
GA	56	5/8" ϕ	30'-3"	B	Slab
GB	114	"	26'-6"	H	"
GC	72	1/2" □	27'-6"	S	"
* GD1	16	3/4 ϕ	21'-10"	S	Diaphs
* GD2	32	"	5'-5"	*	"
GD3	68	3/8" ϕ	5'-8"	B	"
GD4	32	"	7'-9"	B	"
GD5	8	"	6'-10"	B	"
GD6	8	"	6'-5"	B	"
GD7	8	"	6'-3"	S	"
GE	160	3/8" ϕ	5'-0"	B	Side Walk
GF	80	"	5'-0"	B	"
GG1	32	"	27'-3"	S	"
GH	8	#4 Wire	4'-8"	B	"
GJ	66	"	4'-2"	B	
GK	24	1/2" □	9'-0"	B	Railing
GL	120	"	4'-10"	H	"
GM	4	"	9'-1"	B	"
GN	8	#4 Wire	3'-3"	B	"
GG2	32	3/8" ϕ	26'-8"	S	"

QUANTITIES 1-SPAN.	
Concrete (Except Rail)	57.64 CY
Reinf. Steel "	" 8566 Lb.
Steel Beams	43,392 Lb.
1-Steel Diaphragm (Pier D)	2,188 Lb.

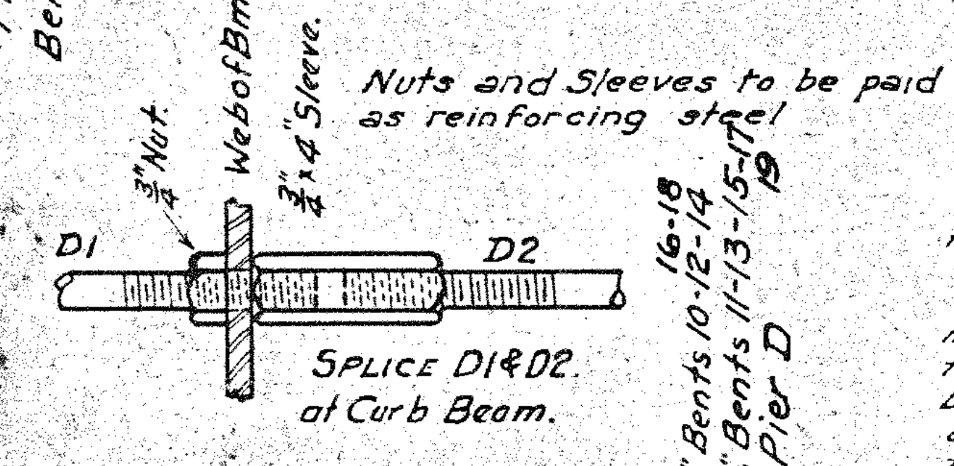


Fill with approved mastic Round to 3/4" Rad.
24 Ga. B.&S. Copper Flashing. All joints soldered.
30d Nails.
Fill with approved mastic.
Round to 3/4" Rad.
1" Bituminous Felt.

DUMMY JOINT BENTS 11-13-15 & 17 Both Spans Fixed.

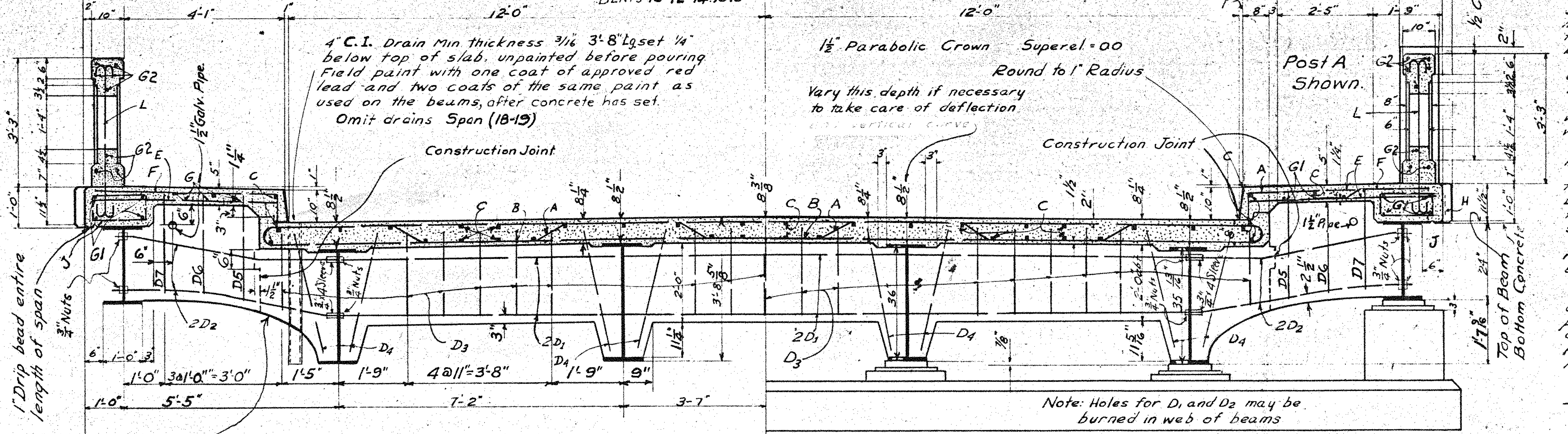
EXPANSION JOINT. BENTS 10-12-14-16-18

Flashing in Curb. Bents 10-12-14-16-18



Nuts and Sleeves to be paid for as reinforcing steel
3/4" Nut.
Web of Bm.
3/4" x 4" Sleeve.
D1
D2

SPLICE D1 & D2. at Curb Beam.



4" C.I. Drain Min thickness 3/16" 3'-8" Lg set 1/4" below top of slab, unpainted before pouring. Field paint with one coat of approved red lead and two coats of the same paint as used on the beams, after concrete has set. Omit drains Span (18-19)
1 1/2" Parabolic Crown Superel = 00
Round to 1" Radius
Vary this depth if necessary to take care of deflection.
Construction Joint
Post A Shown.
1" Galv. Pipe
1/2" Chamfer
Top of Beam Bottom Concrete
1" Drip bead entire length of span
3/4" Nuts
4'-1"
12'-0"
12'-0"
5'-1"
4'-0"
5'-5"
7'-2"
3'-7"
17'-2"
Note: Holes for D1 and D2 may be burned in web of beams

HALF SECTION AT INTERMEDIATE DIAPHRAGM.

For detail of curve under sidewalk diaphragm see Sheet No. 11.

HALF SECTION - ALL BENTS EXCEPT END BENT 19 Scale 1/2"=1'-0"

Note:- At PIER D, this span has a steel diaphragm. See Sheet 13, 19.

For details of BENT 19, See Sheet 9.

Checked
Quantities Checked By D. G. F 8/20/36
Revised F.K.P. Oct 16/1936 Curved bottom of Sidewalk diaphragms Mr. Melick's letter.
Revised To Increase Length 4 Spans. ELLG 3/30/37 checked by W.F.L. 3/29/37

Notes: Specifications:- S.C. State Highway Dept specifications for Roads, Bridges & Culverts revised July 1, 1933.

All concrete to be class A. Maximum size of aggregate 1 1/2"

Diaphragms between roadway stringers shall be poured monolithic with the roadway slab. Diaphragms under sidewalks to be poured monolithic with the sidewalk. Sidewalk slab shall be so poured that the two interior diaphragms and part of sidewalk slab over them are the last poured. In other words these diaphragms under sidewalk are to be poured afte sidewalk stringers have their dead load deflection.

Top of roadway slab shall be finished to the parabolic crown or straight where shown and in accordance with Sec. 59 of the specifications. All lines and grades shall be checked immediately, and any irregularities corrected at once. The slab shall be covered immediately with burlap or other approved sacking and kept wet. This covering may be removed after 24 hours and the slab covered with sand or shavings and kept wet for 6 days, or the burlap may be allowed to remain and be kept wet for the full 6 days.

Sidewalks shall be screeded and floated and marked off in blocks about 4 ft. square in accordance with paragraph 71.37 of specifications

Exposed edges shall be chamfered 3/4 inch unless otherwise specified, interior corners shall be square unless otherwise specified. Chamfer on hand railing shall be 1/2 inch.

Drains and expansion joint filler to be included in price bid for concrete

All bituminous felt shall be held in place by cementing to concrete already in place. Cement used to be approved by the engineer. Open side of all joints in bituminous felt to be covered with one layer of tar paper cemented in place, so that no mortar can enter joint.

All work affecting the safety of trains during construction of this project shall be approved by the authorites of the A.C.L. railroad company before the work is started.

Painting:-

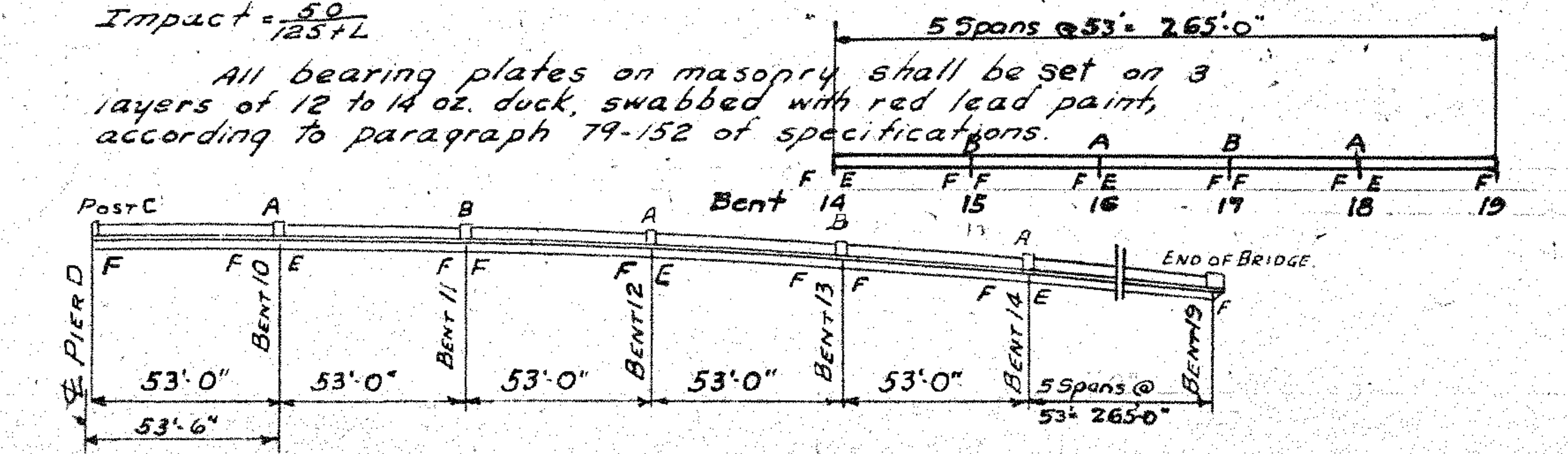
Shop paint - 1 coat red lead, see paragraph 80.5 or specifications. Field paint - 2 coats aluminum paint see paragraph 80.4 & 80.6 of specifications. The top of beams where covered with concrete shall be painted with 2 coats of field paint before concreting. All other structual steel shall be painted after concreting.

Design Data:-

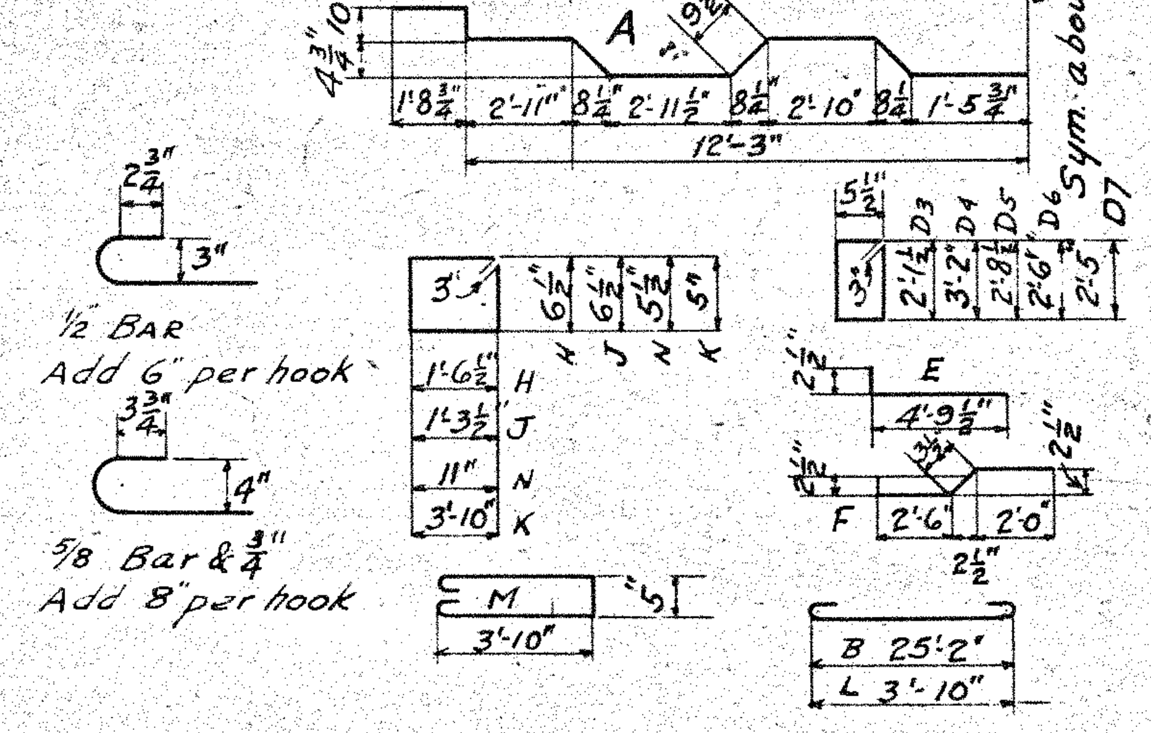
A.A.S.H.O. H 15 fc = 800 fs = 16,000 n = 10

Impact = $\frac{50}{125+L}$

All bearing plates on masonry shall be set on 3 layers of 12 to 14 oz. duck, swabbed with red lead paint, according to paragraph 79-152 of specifications.



5 Spans @ 53' = 265'-0"
Post C
Bent
Pier D
Bent 10
Bent 11
Bent 12
Bent 13
Bent 14
Bent 19
14
15
16
17
18
19
End of Bridge.
53'-0"
53'-6"
5 Spans @ 53' = 265'-0"



A
1/2 Bar Add 6" per hook
5/8 Bar & 3/4" Add 8" per hook
Sym. about
H
J
N
K
M 3'-10"
D1
D2
D3
D4
D5
D6
D7
E 4'-9 1/4"
F 2'-6 2'-0
B 25'-2"
L 3'-10"
12'-3"

For Span D-10 Deduct one concrete diaphragm and bars:- 4-D1, 8-D2, 17-D3, 8-D4, 2-D5, 2-D6, 2-D7. Add steel diaphragm, bars on Sheet 19, 6-T, 8-S. also build up on steel diaphragm & 2-Beams under end of sidewalk. (Sheet 19)

Concrete 55.70 C.Y. Reinf. Steel 8336 Lb.

For Span 18-19. Deduct same as for Span D-10. Add concrete and steel for End Wall & Diaphragm on Sheet 9

Concrete 63.25 C.Y. Reinf. Steel 9162 Lb.

Handrail on 10 Spans.

Concrete 73.67 C.Y. Reinf Steel 10,949. Lb.

For deflection & camber see sheet 15.

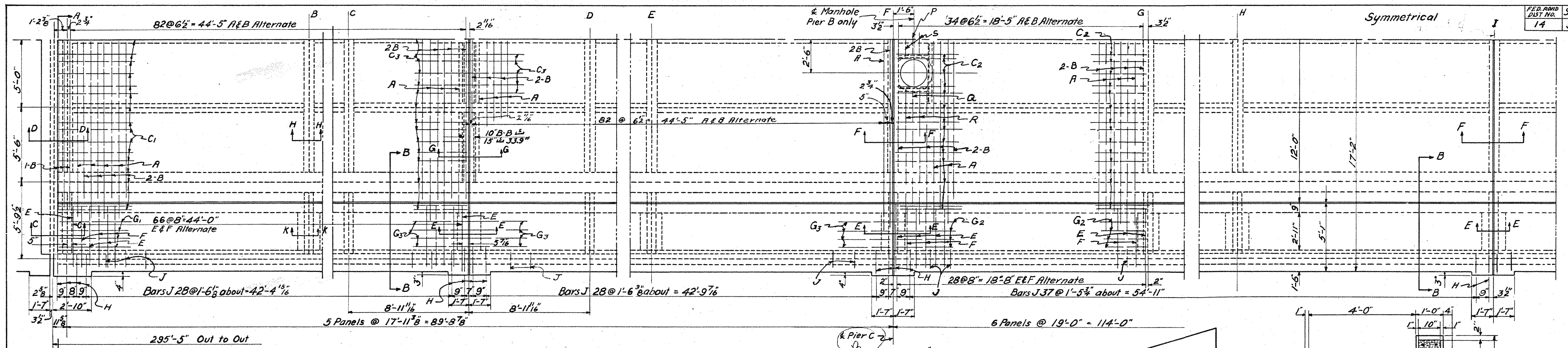
SOUTH CAROLINA
STATE HIGHWAY DEPARTMENT
COLUMBIA

53'-0" STEEL BEAM SPAN

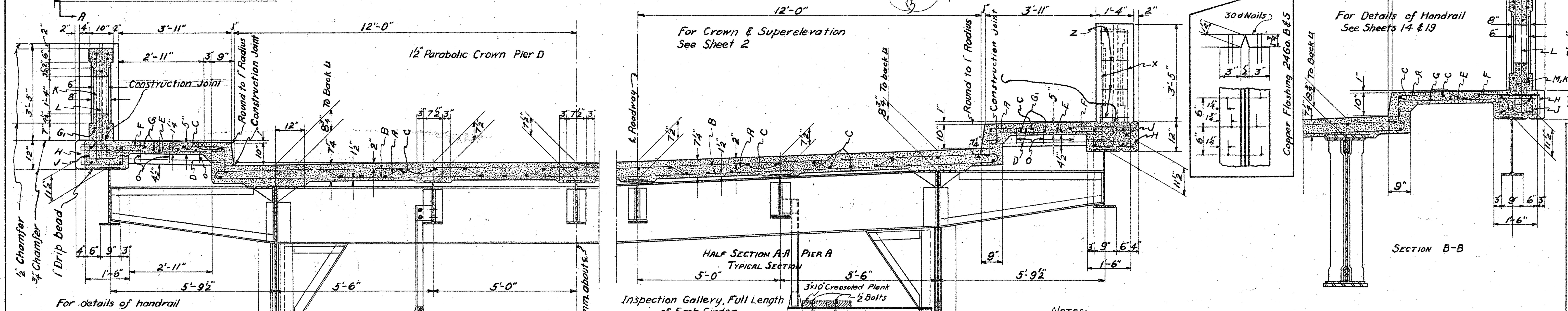
BRIDGE OVER
WACCAMAW RIVER
NEAR
CONWAY HORRY CO.
F.A.P. 320

Scale 1/4", 3/8", 1/2" = 1'-0" F.K.P. MAR. 13, 1936

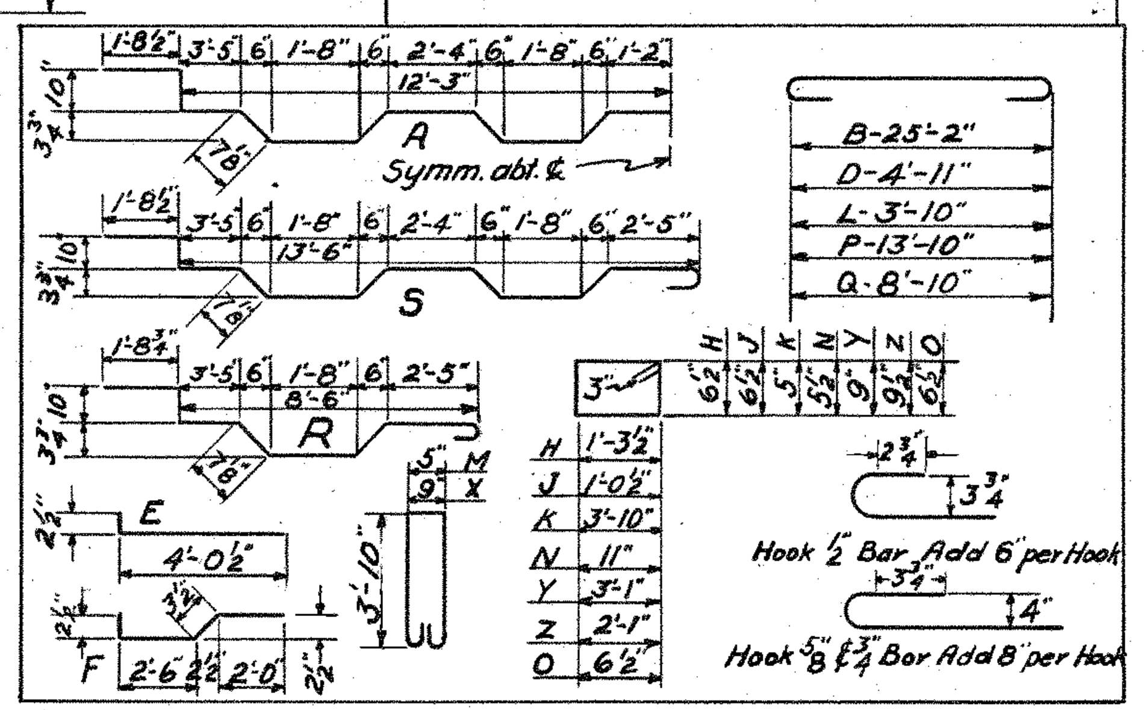
FED. ROAD DIST NO.	STATE	COUNTY	F.A. PROJ NO.	ROUTE NO	SHEET NO	TOTAL SHEETS
14	S.C.	HORRY	320 B	U.S.501	16	52



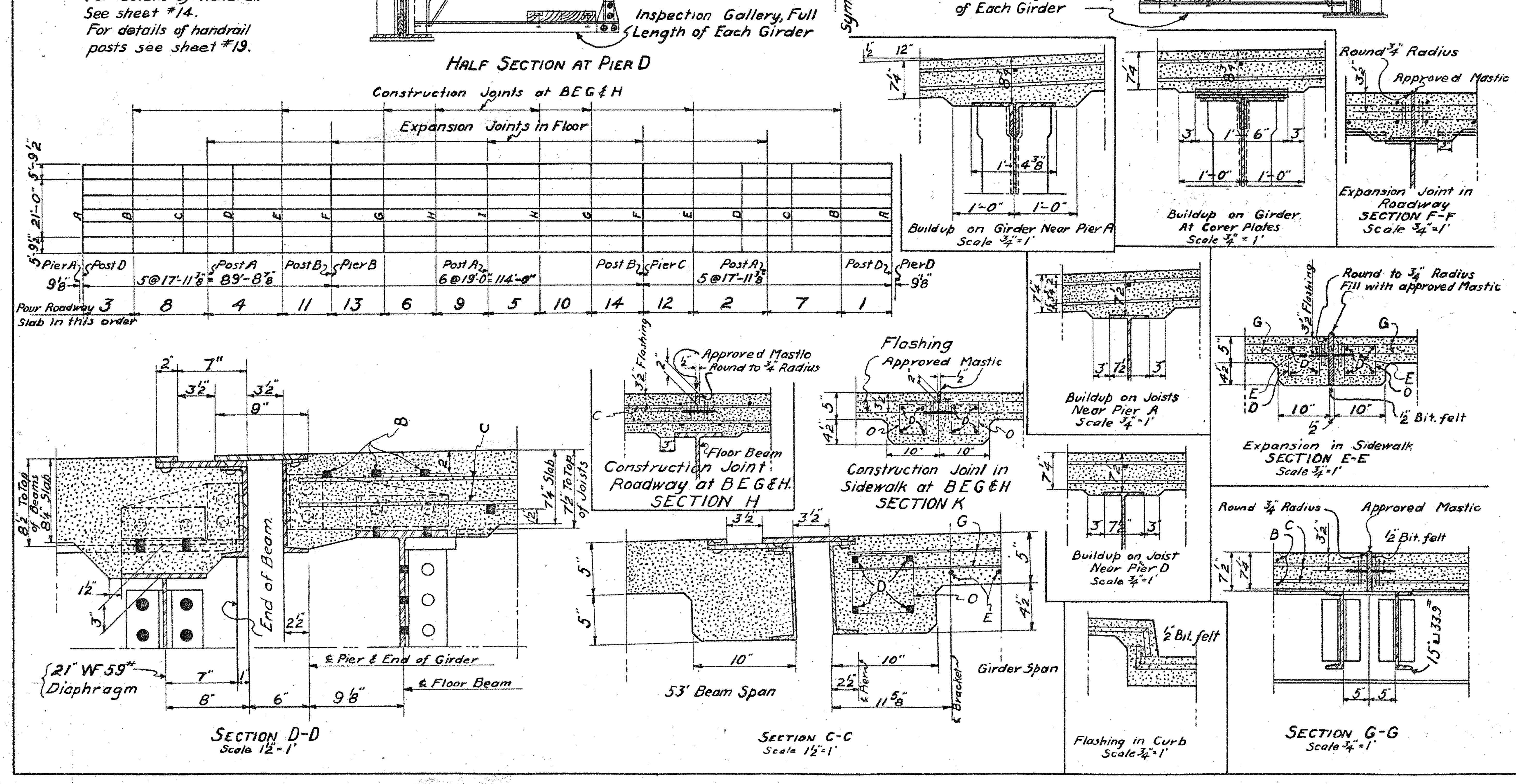
82@6½" = 44'-5" A&B Alternate
34@6½" = 18'-5" A&B Alternate
82 @ 6½" = 44'-5" A&B Alternate
℄ Manhole Pier B only
Symmetrical
66@8"=44'-0" E&F Alternate
28@8" = 18'-8" E&F Alternate
Bars J 28@1'-6⅛ about = 42'-4 15/16
Bars J 28@1'-6 3/16 about = 42'-9 7/16
Bars J 37@1'-5¾" about = 54'-11"
10" B-B ⊥ 15" ⊥ 33.9#
5 Panels @ 17'-11⅞ = 89'-8⅞
6 Panels @ 19'-0" = 114'-0"
295'-5" Out to Out
℄ Pier C



1½" Parabolic Crown Pier D
For Crown & Superelevation See Sheet 2
Construction Joint
Round to 1" Radius
To back ℄
℄ Roadway
Half Section A-A Pier A
Typical Section
½" Chamfer
¾" Chamfer
1" Drip bead
30d Nails
Copper Flashing 24 Ga. B&S
For Details of Handrail See Sheets 14 & 19
Section B-B



Symm. abt. ℄
B-25'-2"
D-4'-11"
L-3'-10"
P-13'-10"
Q-8'-10"
Hook ½" Bar Add 6" per Hook
Hook ⅝" & ¾" Bar Add 8" per Hook



For details of handrail See sheet #14.
For details of handrail posts see sheet #19.
Half Section at Pier D
Inspection Gallery, Full Length of Each Girder
3"x10" Creosoted Plank
Construction Joints at BEG&H
Expansion Joints in Floor
Pour Roadway Slab in this order
3 8 4 11 13 6 9 5 10 14 12 2 7 1
Buildup on Girder Near Pier A Scale ¾"=1'
Buildup on Girder At Cover Plates Scale ¾"=1'
Expansion Joint in Roadway SECTION F-F Scale ¾"=1'
Approved Mastic
Construction Joint Roadway at BEG&H. SECTION H
Construction Joint in Sidewalk at BEG&H SECTION K
Buildup on Joists Near Pier A Scale ¾"=1'
Buildup on Joist Near Pier D Scale ¾"=1'
Expansion in Sidewalk SECTION E-E Scale ¾"=1'
½" Bit. felt
Flashing in Curb Scale ¾"=1'
SECTION G-G Scale ¾"=1'
21" WF 59# Diaphragm
End of Beam
℄ Pier & End of Girder
℄ Floor Beam
SECTION D-D Scale 1½"=1'
53' Beam Span
Girder Span
SECTION C-C Scale 1½"=1'

NOTES:

All concrete shall be class A, maximum aggregate 1½", all dimensions are to centers of bars.

The floor slab shall be poured in sections, and in the order shown, to keep the load distributed on the girders.

The expansion joints shall have copper flashing and ½" bituminous felt as shown. The longitudinal reinforcing does not pass through expansion joint.

The construction joints as shown, shall have copper flashing, but no bituminous felt. The longitudinal reinforcing shall be continuous through construction joints.

Structural steel in contact with concrete shall have two coats of field paint in addition to shop paint. For one foot each side of each construction or expansion joint, steel in contact with concrete shall have four coats of field paint.

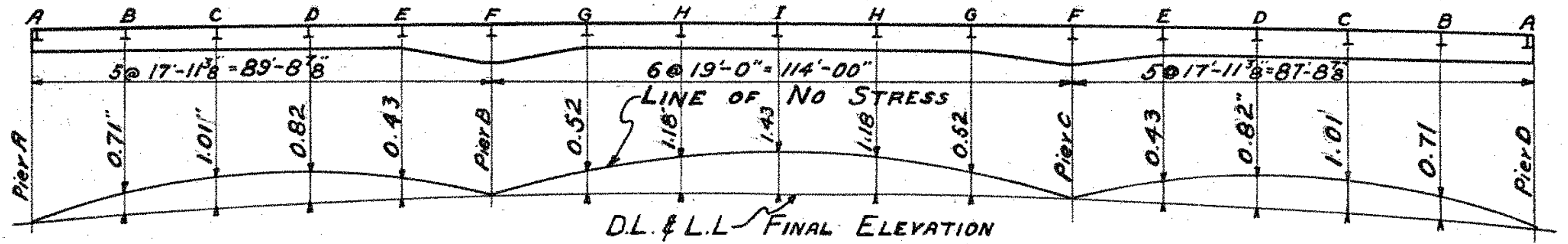
Hand rail posts over piers shall have 1½" galvanized pipe conduits installed for future light wiring

The cost of expansion joint material, and conduits shall be included in the price per. cubic. yard bid for concrete.

LIST OF REINFORCING STEEL

Mark	Number	Size	Length		Place
HA	264	⅝" φ	30'-4"	B	Road Slab
HB	552	"	26'-6"	H	" "
HC1	66	½" □	24'-2"	S	Panel AB
HC2	132	"	29'-4"	S	114' Span
HC3	198	"	23'-3"	S	Panels BC, DE, EF
HD	224	⅜" φ	6'-3"	H	Sidewalk Exp.
HO	168	#4 Wire	2'-8"	B	" "
HE	452	⅜" φ	5'-0"	B	Sidewalk
HF	432	"	5'-0"	B	"
HG1	32	"	24'-1"	S	" Panel AB
HG2	64	"	29'-2"	S	" 114 Span
HG3	96	"	23'-2"	S	" Pan. BC, DE, EF
HG1	32	"	24'-1"	S	Rail Pan. AB.
HG2	32	"	29'-4"	S	" " HI
HG3	64	"	23'-2"	S	" " BC, DE
HG4	32	"	24'-5"	S	" " EF
HG5	32	"	27'-11"	S	" " FG
HH	56	#4 Wire	4'-2"	B	Sidewalk
HJ	360	"	3'-8"	B	"
HK	128	½" □	9'-0"	B	Rail
HL	640	"	4'-10"	H	"
HM	24	"	9'-1"	B	Posts A
HN	48	#4 Wire	3'-3"	B	" A
HP	2	⅝" φ	15'-2"	H	(Road Slab)
HQ	2	"	10'-2"	H	(at Manhole)
HR	2	"	11'-11"	B	"
HS	2	"	17'-1"	B	"
HX	24	½" □	9'-9"	B	Posts B&D
HY	8	"	8'-2"	B	"
HZ	36	⅜" φ	6'-3"	B	"

Slab & Sidewalk	37,535 Lbs.
Handrail & Posts	5,986 Lbs.



5@17'-11⅞"=89'-8⅞
6@19'-0"=114'-00"
5@17'-11⅞=87-8⅞
Pier A
Pier B
Pier C
Pier D
0.71"
1.01"
0.82
0.43
0.52
1.18"
1.43
1.18
0.52
0.43
0.82"
1.01
0.71
LINE OF NO STRESS
D.L. & L.L
FINAL ELEVATION

See Sheet #14 For Finished Grade Elevations.

CAMBER:

Shop camber shall be for full dead load plus 800 pounds live load per lineal foot of girder.

CAMBER IN SLAB:

After structural steel is erected, the Resident Engineer shall get elevations at each floor beam. The forms for each section of floor slab shall be set at the correct height above the points so found, so that after the full dead load is on the girders, the top of concrete will have Camber equal to the deflection shown for live load of 800 pounds per lineal foot of girder.

DEFLECTION OF GIRDER SPAN. UNIFORM LOAD ON ALL SPANS

POINT	D.L. STEEL 700# P.L.F.	D.L. CONCRETE 1900# P.L.F.	LIVE LOAD 800# P.L.F.	TOTAL DEFLECTION INCHES
A				0.00
B	0.14	0.40	0.17	0.71
C	0.20	0.57	0.24	1.01
D	0.16	0.47	0.19	0.82
E	0.09	0.24	0.10	0.43
F				0.00
G	0.10	0.30	0.12	0.52
H	0.23	0.65	0.30	1.18
I	0.28	0.81	0.34	1.43

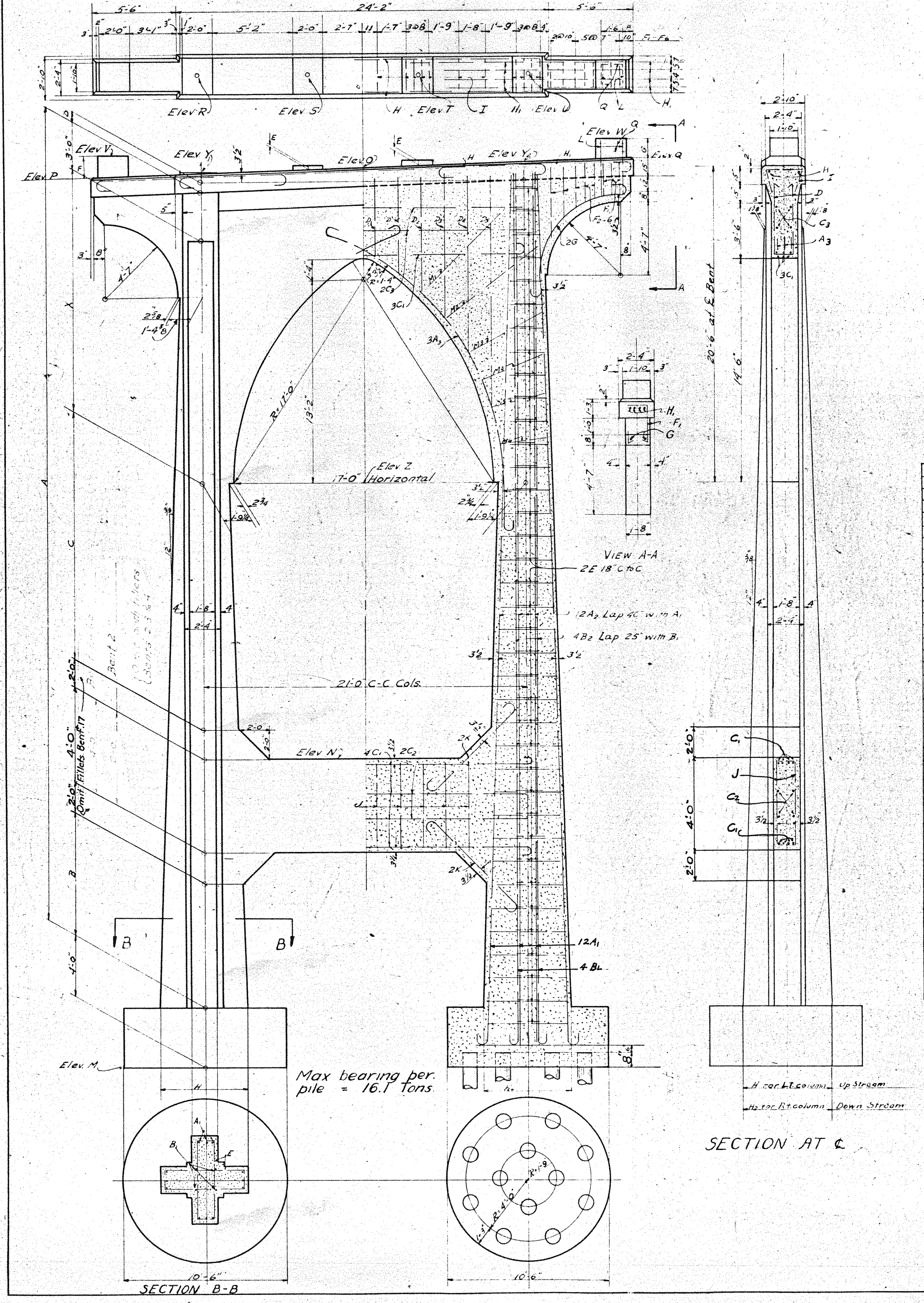
Concrete:
Sidewalk & Slab = 248.85 C.Y.
Handrail & Posts = 41.42 C.Y.

Creosoted Plank = 2810 Ft. BM.

STATE HIGHWAY DEPT.
COLUMBIA, S.C.
STEEL GIRDER SPAN
BRIDGE OVER WACCAMAW RIVER
F.A. Proj. 320, Horry Co.
Scale: ¼", ¾", 1½" = 1'-0" Date: Aug 7, 1936

Dr By: F.K.P.
Traced By: D.G.F. Aug. 7, 1936 Checked by: W.F.L. Sept. '36
Checked By:
Revised Oct. 12, 1936 F.K.P. Remove copper gutters, from Exp. Joint.
Mr. Melick's Letter.

FED. ROAD DIST. NO	STATE	COUNTY	FED. AID PROJ NO	ROUTE NO	SHEET NO	TOTAL SHEETS
14	S.C.	HORRY	320-B	US501	17.	52



5'-6"
24'-2"
5'-6"
Elev R
Elev S
H
Elev T
I
H1
Elev
Q
L
H2
Elev V1
Elev Y1
Elev O
Elev Y2
Elev W
Elev P
Elev Q
E
H
R=17'-0"
13'-2"
17'-0" Elev Z Horizontal
2E 18" C to C
12A2 Lap 40" with A1
4B2 Lap 25" with B1
21'-0" C-C Cols.
Elev N
4C1
2C2
J
2K
12A1
4BL
Omit Fillets Bent 17
Bent 2
Elev M
Max bearing per pile = 16.1 Tons.
H
10'-6"
SECTION B-B
10'-6"
VIEW A-A
20'-6" at ℄ Bent
14'-6"
C1
J
C2
C1
H for Lt. column Up Stream
H2 for Rt. column Down Stream
SECTION AT ℄
B
B
A
A

TABLE OF DIMENSIONS FOR BENTS

BENT	A	B	C	X	H	D	H2	E	K	F	G	*S1
2	25'-0"	4'-0"	0-0 9/10	15-11 1/16	3-10 3/4	0-7 7/8	3'-11 3/16"	0-1 5/8"		0-11 5/8	0-8 11/16	0-8 5/32"
3	28'-0"	4'-0"	1'-1 1/16	15-10 5/16	4'-1	0-9 3/8	4'-1 9/16	0-2 1/8"		1'-0 1/16	0'-8 5/8	0-10 11/16
4	30'-0"	4'-0	1'-2 1/4"	15-9 3/4	4'-2 1/2	0-10 1/2	4'-3 5/32	0-1 3/4		1'-11 1/2	1'-7 1/16	1.000
5	33'-0	3'-0"	3-2 1/4	"	4'-4 3/4"	"	4'-5 13/32	0'-1 3/16		1'-11 3/16	1'-6 15/16	"
6	37-0	1'-6	6-8 1/4"	"	4-7 3/4	"	4-8 13/32	0'-1 3/16		1'-11 1/4	1'-7"	"
7	40-0	0	11-2 1/4"	"	4-10"	"	4-10 21/32	0-1 1/4"		1'-11 1/4	1'-7 1/16	"
8	43'-0"	0	14-2 1/4	"	5-0 1/4	"	5-0 21/32	0-1 5/16		1'-11 1/4"	1'-7 1/8	"
9	53-0	5-0"	19-2 1/4	"	5-7 3/4	"	5-8 13/32	0-1 3/8		1-11 5/16	1-7 1/8	"
15	40'-0"	0"	12'-9"	16'-3"	4'-10"	0	4'-10"	0'-1 1/2"	0'-0 9/16"	1'-8 1/8"	1'-8 1/8"	0
16	35'-0"	0"	7'-9"	16'-3"	4'-6 1/4"	0	4'-6 1/4"	0'-1 1/2"	0'-0 9/16"	1'-8 1/8"	1'-8 1/8"	0
17	31'-0"	1'-0"	6'-9"	16'-3"	3'-3 1/4"	0	3'-3 1/4"	0'-1 1/2"	0'-0 9/16"	1'-8 1/8"	1'-8 1/8"	0
18	28'-0"	0	0'-9"	16'-3"	4'-1"	0	4'-1"	0'-1 1/2"	0'-0 9/16"	1'-8 1/8"	1'-8 1/8"	0
				✓	4'-3 1/4	wfL	7/13/37	✓				✓

*S1 equals superelevation in 24'-0"

TABLE OF ELEVATIONS AT CENTER LINE OF BENT

BENT	M	N	O	P	Q	R	S	T	U	V	W	Y1	Y2	Z
2	76.637	86.637	107.184	106.686	107.682	107.017	107.220	107.422	107.625	107.690	108.370	106.887	107.481	86.684
3	76.379	88.379	110.019	109.367	110.671	109.799	110.066	110.330	110.595	110.450	111.340	109.629	110.409	89.519
4	76.200	88.200	111.888	111.155	112.621	111.595	111.883	112.181	112.479	113.151	114.151	111.450	112.326	91.388
5	76.546	89.546	115.234	114.501	115.967	114.896	114.184	116.482	115.780	116.49	117.490	114.796	115.672	94.734
6	78.005	89.005	118.193	117.460	118.926	117.858	118.146	118.444	118.742	119.452	120.452	117.755	118.631	97.693
7	75.058	87.068	120.746	120.014	121.480	120.415	120.703	121.001	121.299	122.009	123.009	120.309	121.184	100.246
8	74.206	86.206	122.8	122.161	123.627	122.666	122.854	123.153	123.450	124.160	125.160	122.456	123.332	102.394
9	65.947	82.947	124.635	123.902	125.368	124.310	124.598	124.896	125.194	125.904	126.904	124.197	125.073	104.135
15	66.215	76.215	111.465	Same	—	111.510	111.589	— Same	— Same	113.140	—	—	—	90.965
16	67.770	77.770	108.020		as	108.065	108.145	as	as	109.695	Same	Same	as	87.520
17	68.325	77.325	104.575	O	—	104.621	104.700			106.250	as	—	—	84.075
18	67.880	77.880	101.130	—	—	101.177	101.256	S	R	102.805	V	— O	—	80.630
			✓	✓	✓			—	—		—	—	—	

Y1 & Y2 are Elevations of Top of Cap at center of columns.

Notes:

Specifications: – S.C. Highway Dept. Specifications for Roads, Bridges, and Culverts revised July 1, 1933.

All concrete to be class A maximum aggregate 1½"

The contractor for the substructure shall clear the R/W 75 ft each side of the ℄ in accordance with the specifications. The cost of this work shall be included in the price bid for the other items.

All work affecting the safety of trains during construction of this project shall be approved by the authorites of the A.C.L. railroad company, the contractor must get their approval of plans for falsework or walkways over the track and for foundation excavation adjacent to tracks before this part of the work is started.

All piles shall be driven to capacity of 18 tons, according to the formula in the specifications. Minimum penetration of piles 10 ft in hard material 15 ft in soft material or sand.

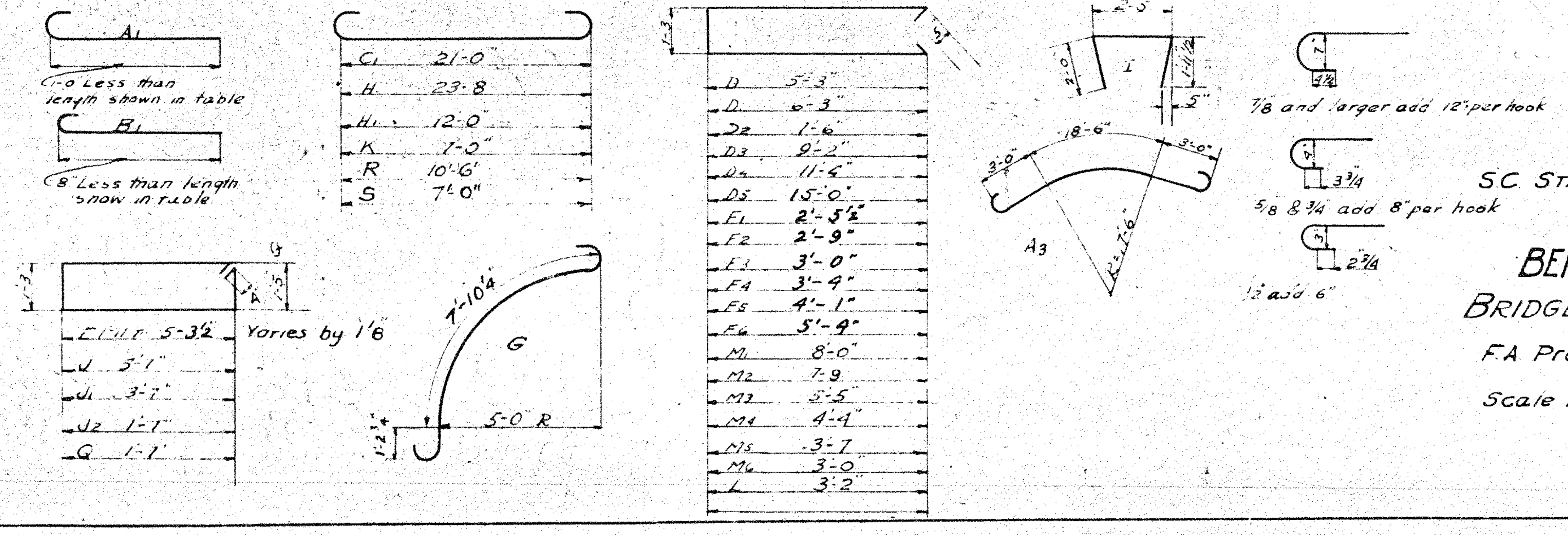
All exposed corners shall be chamfered 3/4" unless otherwise specified. Interior corners shall be square unless otherwise specified.

The right is reserved to omit piles if foundation conditions are favorable to the use of spread footings.

The construction joints in these bents shall be located and made in the manner as directed by the engineer.

STEEL FOR BENTS 15 to 18 inclusive

	BENTS		2		3		4		5		6		7		8 or 14		9		15		16		17		18	
	Mark	Size	No	Length	No	Length	No	Length	No	Length	No	Length	No	Length	No	Length	No	Length	No	Length	No	Length	No	Length	No	Length
B	BA1	1"□	24	29'-6"	24	32'-6	24	34'-6	24	37'-6	24	30'-0"	24	30'-0	24	36'-0"	24	30'-0	24	30'-0"	24	30'-0"	24	20'-0"	24	32'-6"
S	BA2	1"□									24	14'-10	24	17'-10	24	20'-10	24	30'-10	24	17'-10"	24	12'-10"	24	18'-10"	–	—
B	BA3	1"□	6	26'-6		SAME ALL BENTS																				
B	BB1	5/8"φ	8	29'-2	8	32'-2"	8	34'-2	8	37'-2"	8	30'-0"	8	30'-0	8	30'-0"	8	30'-0"	8	30'-0"	8	30'-0"	8	20'-0"	8	32'-2"
S	BB2	5/8"φ									8	13'-3"	8	16'-3"	8	19'-3"	8	29'-3"	8	16'-3	8	11'-3"	8	17'-0"	–	—
B	BC1	1"□	11	23'-0"		SAME ALL BENTS																				
S	BC2	5/8"φ			2	21'-0"	2	21'-0"	2	21'-0"	4	21'-0"	4	21'-0"	4	21'-0"	4	21'-0"	2	21'-0"	2	21'-0"	2	21'-0"	2	21'-0"
S	BC3	1/2"□	4	21'-6"																						
B	BD	5/8"φ	2	12'-7																						
B	BD1	"	2	14'-7		SAME ALL BENTS																				
B	BD2	"	2	17'-1																						
B	BD3	"	2	20'-5"																						
B	BD4	"	2	24'-9"																						
B	BD5	"	2	32'-1"																						
B	BE	3/8"φ	68	7'-0" to 10'-0"	76	7'-0" to 10'-5"	84	7'-0" to 10'-9"	92	7'-0" to 11'-2"	104	7'-0" to 11'-8	112	7'-0" to 12'-1"	128	7'-0" to 12'-5"	148	7'-0" to 13'-9"	112	7'-0" to 12'-1"	100	7'-0" to 11'-6"	84	7'-0" to 10'-11"	76	7'-0" to 10'-5"
B	BF	1/2"□	6	7'-0"																						
B	BF2	"	2	7'-7																						
B	BF3	"	2	8'-1"																						
B	BF4	"	2	8'-9"																						
B	BF5	"	2	10'-3"		SAME ALL BENTS																				
B	BF6	"	2	12'-9"																						
B	BG	5/8"φ	4	10'-5"																						
B	BH	1"□	2	25'-8																						
B	BH1	1"□	8	14'-0"																						
B	BI	1/2"□	22	6'-5																						
B	BJ	1/2"□									10	14'-4"	10	14'-4"	10	14'-4	10	14'-4"	–	—	–	—	–	—	–	—
B	BJ1	"			10	10'-4"	10	10'-4	10	10'-4									10	10'-4"	10	10'-4"	10	10'-4"	10	10'-4"
B	BJ2	"	10	6'-4"																						
B	BK	3/4"φ							8	8'-4"	8	8'-4"	8	8'-4"	8	8'-4"	8	8'-4"	8	8'-4"	8	8'-4"	–	—	8	8'-4"
B	BL	1/2"□	4	8'-5"																						
B	BM1	"	2	8'-1"																						
B	BM2	"	2	11'-1																						
B	BM3	"	2	12'-11"		SAME ALL BENTS																				
B	BM4	"	2	10'-9"																						
B	BM5	"	2	9'-3"																						
B	BM6	"	2	8'-1"																						
B	BQ	"	2	6'-8"	4	6'-8"	4	6'-8	4	6'-8"	4	6'-8"	4	6'-8"	4	6'-8"	4	6'-8"	4	6'-8"	4	6'-8"	4	6'-8"	4	6'-8"
B	BR	7/8"φ							9	12'-6"																
B	BS	1/2"□							10	8'-0"																
	QUANTITIES																									
	Conc Cu Yds		59.53		64.17		66.13		68.62		74.97		77.96		80.71		92.42		75.55		70.72		66.64		64.65	
	Steel Lbs		5655		6045		6257		6958		7438		7743		8050		9087		7665		7162		6636		6144	
	Piles Lin Ft		480		480		480		480		480		480		480		480		480		480		480		480	



A1
1'-0" Less than length shown in table
B1
8" Less than length show in table
1'-3
5"
1'-3
1'-5
3/4
Varies by 1'-6"
7'-10 1/4
G
5'-0" R
1'-2 1/4
2'-5"
2'-0
I
1'-11 1/2
5"
18'-6"
3'-0"
3'-0"
R=7'-6
A3
7"
4 1/2
7/8 and larger add 12" per hook
4"
3 3/4
5/8 & 3/4 add 8" per hook
3"
2 3/4
1/2 add 6"

C1	21'-0"
H	23'-8
H1	12'-0"
K	7'-0"
R	10'-6"
S	7'-0"

E, I, L, P	5'-3 1/2
J	5'-1"
J1	3'-7"
J2	1'-1"
Q	1'-1"

D	5'-3"
D1	6'-3"
D2	7'-6"
D3	9'-2"
D4	11'-6"
D5	15'-0"
F1	2'-5 1/2"
F2	2'-9"
F3	3'-0"
F4	3'-4"
F5	4'-1"
F6	5'-4"
M1	8'-0"
M2	7'-9
M3	5'-5"
M4	4'-4"
M5	3'-7
M6	3'-0"
L	3'-2"

S.C. STATE HIGHWAY DEPARTMENT
Columbia S.C.

BENTS 15-16-17-18

BRIDGE OVER WACCAMAW RIVER

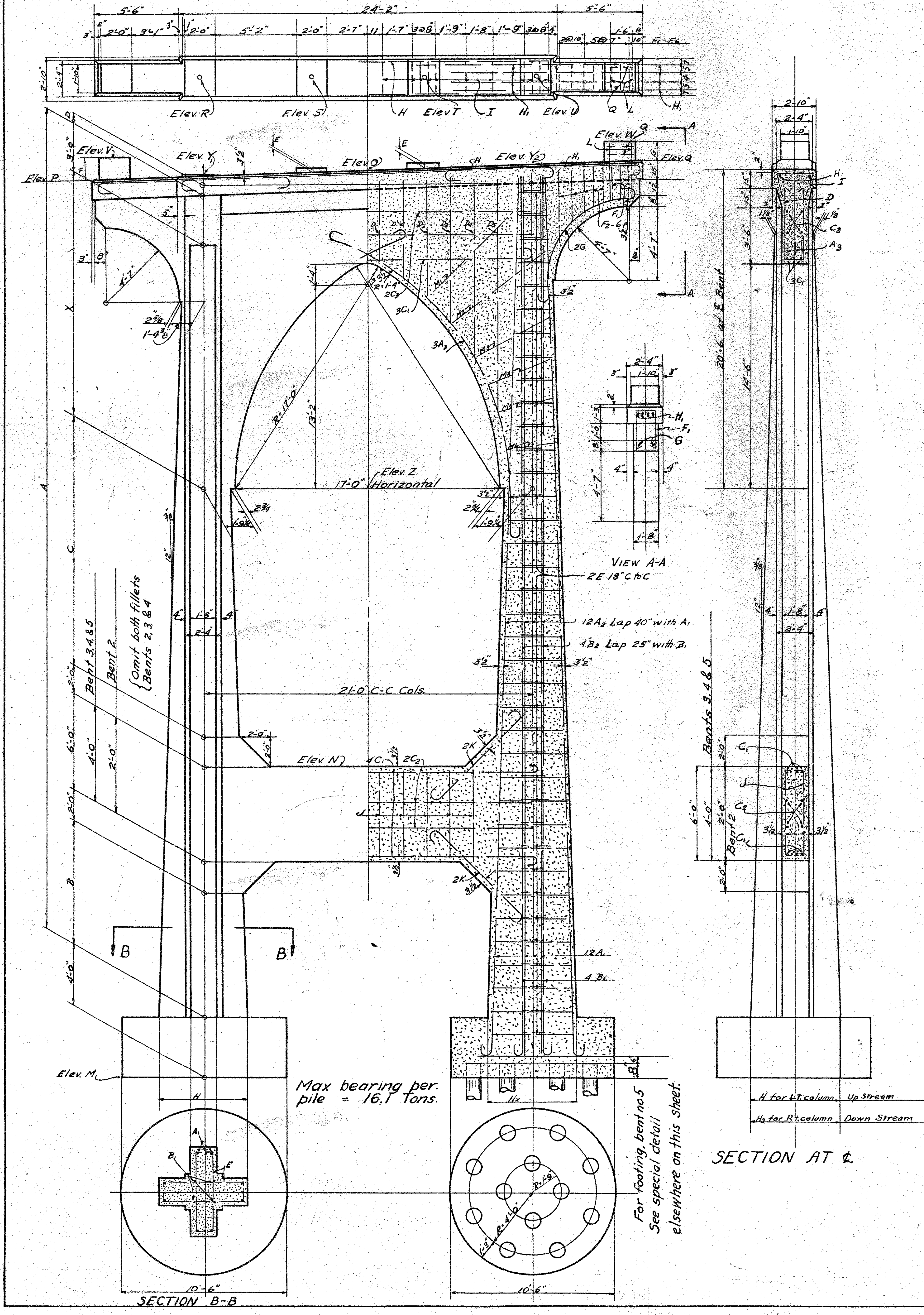
F.A. Proj 320 HORRY Co.
Scale 1/4" = 1'-0" Route U.S. 501

Design and Drawn F.K.P. April '36 Checked by W.F.L.
Traced T.E.C. 1'36

Revised footing, be '5 F.K.P. Oct. 7, 1936.
Mr Willoughby's Letter Oct 6.
Revised for 212' Ext. CWG. 3/26/37 Checked by W.F.L. 3/29/37

FED. ROAD DIST. NO.	STATE	COUNTY	FED. AID PROJ NO	ROUTE NO.	SHEET NO	TOTAL SHEETS
14	S.C.	HORRY	320-B	US 501	17.	52

Design and drawn F.K.P. April '36
Traced T.E.C. 1/36
Checked by: W.F.L.
Revised footing bent 5 F.K.P. Oct 7, 1936.
Mr Willoughby's Letter Oct 6.



24'-2"
5'-6"
Elev. R
Elev S
Elev T
Elev. U
Elev. W
Elev. V
Elev. Y
Elev O
Elev. Y2
Elev. Q
Elev. P
Elev. Z Horizontal
Elev. N
Elev. M
21'-0" C-C Cols.
17'-0"
R=17'-0"
Bent 3,4 & 5
Bent 2
Omit both fillets Bents 2, 3 & 4
2E 18" C to C
12 A3 Lap 40" with A1
4 B2 Lap 25" with B1
12 A1
4 B1
VIEW A-A
20'-6" at ℄ Bent
Bents 3, 4 & 5
Bent 2
Max bearing per pile = 16.1 Tons.
For footing, bent no 5 See special detail elsewhere on this sheet.
H for Lt. column, Up Stream
H2 for Rt. column, Down Stream
10'-6"
SECTION B-B
SECTION AT ℄

BENT	A	B	C	X	H	D	H2	E	K	F	G	*S1
2	25'-0"	4'-0"	0-0 9/16	15-11 7/16	3'-10 3/4"	0-7 1/8	3'-11 3/16"	0'-1 5/8"		0'-11 5/8"	0'-8 11/16"	0'-8 5/32"
3	28'-0"	4'-0"	1'-1 11/16	15-10 5/16	4'-1"	0-9 3/8	4'-1 9/16"	0'-2 1/8"		1'-0 7/16	0'-8 5/8"	0-10 11/16
4	30'-0"	4'-0"	1'-2 1/4"	15-9 3/4	4'-2 1/2"	0-10 1/2	4'-3 5/32	0'-1 3/4	Same ℄	1'-11 1/4"	1'-7 1/16"	1.000
5	33'-0"	3'-0"	3-2 1/4	"	4'-4 3/4"	"	4'-5 13/32	0'-1 3/16"		1'-11 3/16"	1'-6 15/16	"
6	37'-0"	1'-6"	6'-8 1/4"	"	4'-7 3/4"	"	4-8 13/32	0'-1 3/16		1'-11 1/4"	1'-7"	"
7	40'-0"	0	11'-2 1/4"	"	4'-10"	"	4-10 21/32	0'-1 1/4"		1'-11 1/4"	1'-7 1/16"	"
8	43'-0"	0	14-2 1/4	"	5'-0 1/4"	"	5-0 29/32	0'-1 5/16"		1'-11 1/4"	1'-7 1/8"	"
9	53'-0"	5'-0"	19-2 1/4	"	5'-7 3/4"	"	5'-8" 13/32	0'-1 3/8"		1'-11 5/16	1'-7 1/8"	"
10	54'-0"	3'-0"	21-9	16'-3"	5'-8 1/2"	0'-0"	—	0'-1 11/16"	0'-0 3/4"	1'-8 5/16	1'-8 5/16"	0'-0"
11	49'-0"	0	19-9	"	5'-4 3/4"	"	—	0'-1 5/8"	0'-0 11/16	1'-8 1/4"	1'-8 1/4	0'-0"
12	46-0	0	16'-9"	"	5'-2 1/2"	"	Same ℄	0'-1 5/8"	0'-0 5/8"	1'-8 1/4"	1'-8 1/4"	"
13	45'-0"	0	15'-9"	"	5'-1 3/4"	"	—	0'-1 9/16"	0'-0 5/8"	1'-8 3/16"	1'-8 3/16"	"
14	43'-0"	0	13'-9"	"	5'-0 1/4"	"	—	0'-1 1/2"	0'-0 9/16"	1'-8 1/8"	1'-8 1/8"	"

TABLE OF ELEVATIONS AT CENTER LINE OF BENT

BENT	M	N	O	P	Q	R	S	T	U	V	W	Y1	Y2	Z
2	76.637	86.637	107.184	106.686	107.682	107.017	107.220	107.422	107.625	107.690	108.370	106.887	107.481	86.684
3	76.379	88.379	110.019	109.367	110.671	109.799	110.066	110.330	110.595	110.450	111.340	109.629	110.409	89.519
4	76.200	88.200	111.888	111.155	112.621	111.595	111.883	112.181	112.479	113.151	114.151	111.450	112.326	91.388
5	76.546	89.546	115.234	114.501	115.967	114.896	114.184	116.482	115.780	116.490	117.490	114.796	115.672	94.734
6	75.505	89.005	118.193	117.460	118.926	117.858	118.146	118.444	118.742	119.452	120.452	117.755	118.631	97.693
7	75.058	87.058	120.746	120.014	121.480	120.415	120.703	121.001	121.299	122.009	123.009	120.309	121.184	100.246
8	74.206	86.206	122.894	122.161	123.627	122.566	122.854	123.153	123.450	124.160	125.160	122.456	123.332	102.394
9	65.947	82.947	124.635	123.902	126.368	124.310	124.598	124.896	125.194	125.904	126.904	124.197	125.073	104.135
10	64.962	79.962	124.212	—	—	124.272	124.351	—	—	125.903	—	—	—	103.699
11	68.221	80.221	122.471	—	—	122.528	122.607	—	—	124.159	—	—	—	101.971
12	69.073	81.073	120.323	—	—	120.377	120.456	—	—	122.008	—	—	—	99.823
13	67.520	79.520	117.770	—	—	117.820	117.899	—	—	119.451	—	—	—	97.270
14	66.561	78.561	114.811	—	—	114.858	114.937	—	—	116.489	—	—	—	94.311

Y1 & Y2 are Elevations of Top of Cap at center of columns.

STEEL FOR BENTS 2 to 14 inclusive

	BENTS		2		3		4		5		6		7		8 or 14		9		10		11		12		13	
	Mark	Size	No.	Length	No	Length	No	Length	No	Length	No	Length	No	Length	No.	Length	No	Length	No	Length	No	Length	No.	Length	No	Length
B	BA1	1"□	24	29'-6"	24	32'-6"	24	34'-6"	24	37'-6"	24	30'-0"	24	30'-0"	24	30'-0"	24	30'-0"	24	30'-0"	24	30'-0"	24	30'-0"	24	30'-0"
S	BA2	1"□									24	14'-10"	24	17'-10"	24	20'-10"	24	30'-10"	24	31'-10"	24	26'-10"	24	23'-10"	24	22'-10"
B	BA3	1"□	6	26'-6"		SAME ALL BENTS																				
B	BB1	5/8"φ	8	29'-2"	8	32'-2"	8	34'-2"	8	37'-2"	8	30'-0"	8	30'-0"	8	30'-0"	8	30'-0"	8	30'-0"	8	30-0"	8	30'-0"	8	30'-0"
S	BB2	5/8"φ									8	13'-3"	8	16'-3"	8	19'-3"	8	29'-3"	8	30'-3"	8	25'-3"	8	22'-3"	8	21'-3"
B	BC1	1"□	11	23'-0"		SAME ALL BENTS																				
S	BC2	5/8"φ			2	21'-0"	2	21'-0"	2	21'-0"	4	21'-0"	4	21'-0"	4	21'-0"	4	21'-0"	4	21'-0"	4	21'-0"	4	21'-0"	4	21'-0"
S	BC3	1/2"□	4	21'-6"																						
B	BD	5/8"φ	2	12-7																						
B	BD1	"	2	14'-7"		SAME ALL BENTS																				
B	BD2	"	2	17'-1"																						
B	BD3	"	2	20'-5"																						
B	BD4	"	2	24'-9"																						
B	BD5	"	2	32'-1"																						
B	BE	3/8"φ	68	7'-0" to 10'-0"	76	7'-0" To 10'-5"	84	7'-0" To 10'-9"	92	7'-0" To 11'-2"	104	7'-0" to 11'-8"	112	7'-0" To 12'-1"	120	7'-0" To 12'-5"	148	7'-0" To 13'-9"	148	7'-0" To 13'-9"	136	7'-0" To 13'-2	128	7'-0" To 12'-10"	124	7'-0" To 12'-7"
B	BF1	1/2"□	6	7'-0"																						
B	BF2	"	2	7'-7"																						
B	BF3	"	2	8'-1"																						
B	BF4	"	2	8'-9"																						
B	BF5	"	2	10'-3"		SAME ALL BENTS																				
B	BF6	"	2	12'-9"																						
B	BG	5/8"φ	4	10'-5"																						
B	BH	1"□	2	25'-8"																						
B	BH1	1"□	8	14'-0"																						
B	BI	1/2"□	22	6'-5"																						
B	BJ	1/2"□									10	14'-4"	10	14'-4"	10	14'-4"	10	14'-4"	10	14'-4"	10	14-4	10	14'-4"	10	14'-4"
B	BJ1	"			10	10'-4"	10	10'-4"	10	10'-4"																
B	BJ2	"	10	6'-4"																						
B	BK	3/4"φ							8	8'-4"	8	8'-4"	8	8'-4"	8	8'-4"	8	8'-4"	8	8'-4"	8	8'-4"	8	8'-4"	8	8'-4"
B	BL	1/2"□	4	8'-5"																						
B	BM1	"	2	18'-1"																						
B	BM2	"	2	17'-7"																						
B	BM3	"	2	12'-11"		SAME ALL BENTS																				
B	BM4	"	2	10'-9"																						
B	BM5	"	2	9'-3"																						
B	BM6	"	2	8'-1"																						
B	BQ	"	2	6'-8"	4	6'-8"	4	6'-8"	4	6'-8"	4	6'-8"	4	6'-8"	4	6'-8"	4	6'-8"	4	6'-8"	4	6'-8"	4	6'-8"	4	6'-8"
B	BR	7/8"φ							9	12'-6"																
B	BS	1/2"□							10	8'-0"																

QUANTITIES	2	3	4	5	6	7	8 or 14	9	10	11	12	13
Conc. Cu. Yds.	59.53	64.17	66.13	68.62	74.97	77.96	80.71	92.42	92.96	87.02	83.67	82.59 ~~80.71~~
Steel Lbs.	5655	6045	6257	6958	7438	7743	8050	9087	9177	8667	8358	8249
Piles Lin. Ft.	480	480	480	480	480	480	480	480	480	480	480	480

w+L 7/13/37

*S1 equals superelevation in 24'-0"

Notes:

Specifications:– S.C. Highway Dept. Specifications for Roads, Bridges, and Culverts revised July 1, 1933

All concrete to be class A maximum aggregate 1½"

The contractor for the substructure shall clear the R/W 75 ft each side of the ℄ in accordance with the specifications. The cost of this work shall be included in the price bid for the other items.

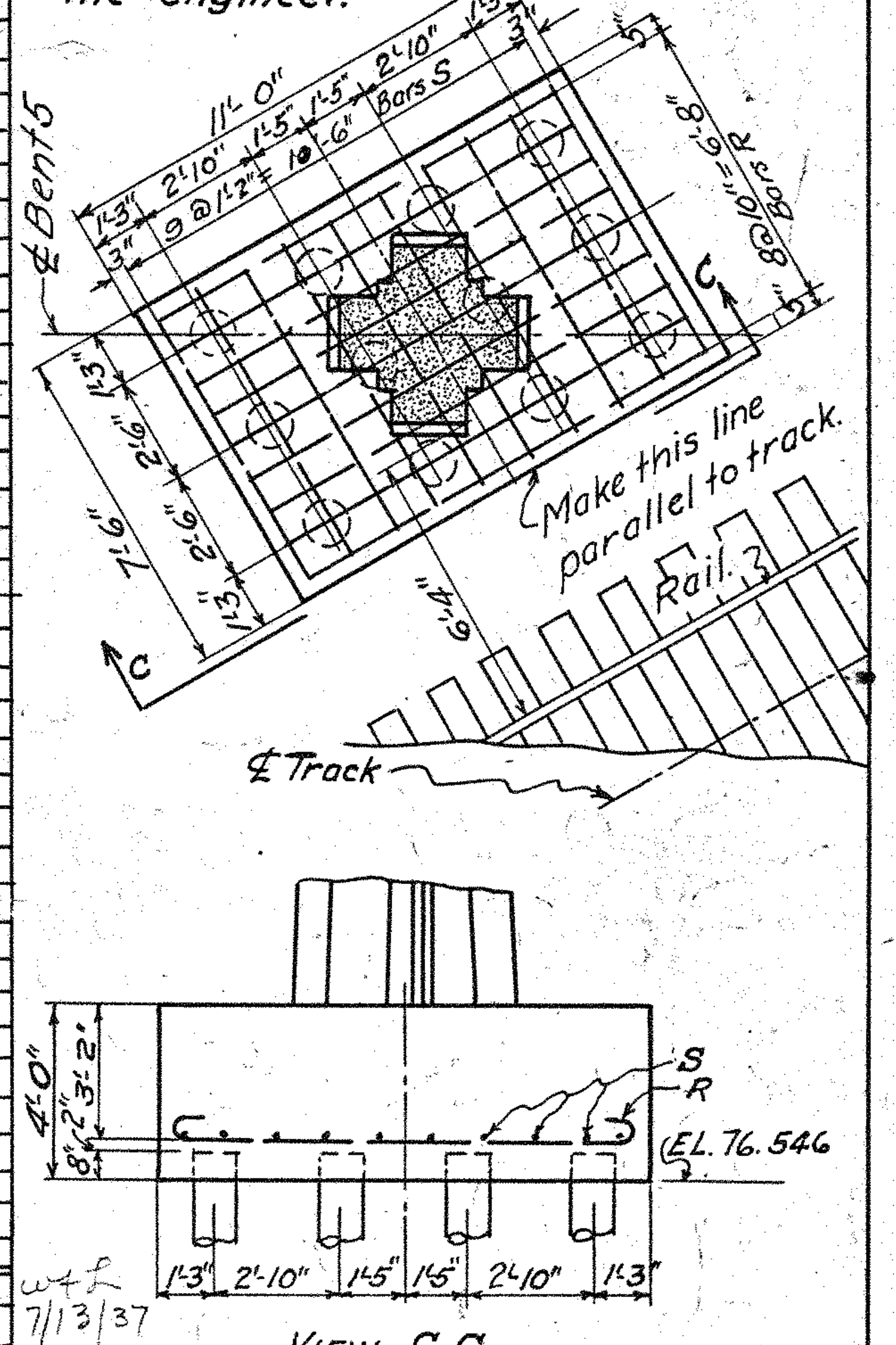
All work affecting the safety of trains during construction of this project shall be approved by the authorites of the A.C.L. railroad company, the contractor must get their approval of plans for falsework or walkways over the track and for foundation excavation adjacent to tracks, before this part of the work is started

All piles shall be driven to capacity of 18 tons, according to the formula in the specifications. Minimum penetration of piles 10 ft. in hard material 15 ft in soft material or sand.

All exposed corners shall be chamfered ¾" unless otherwise specified. Interior corners shall be square unless otherwise specified.

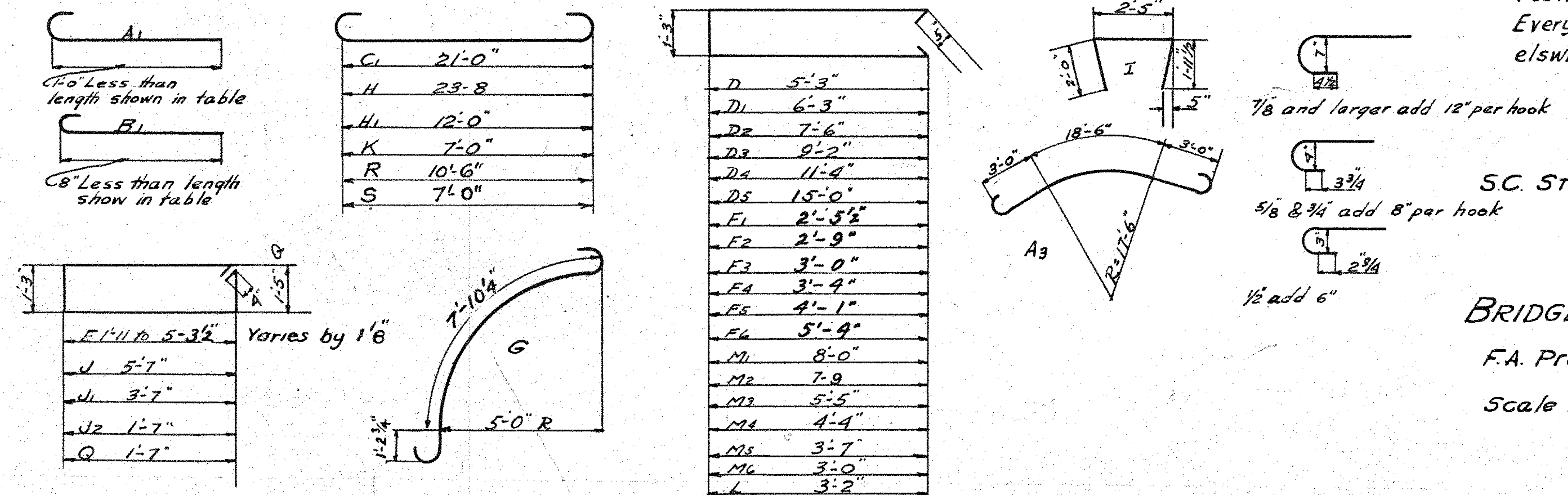
The right is reserved to omit piles if foundation conditions are favorable to the use of spread footings.

The construction joints in these bents shall be located and made in the manner as directed by the engineer.



℄ Bent 5
11'-0"
2'-10"
1'-5"
10'-6"
Bars S
Bars R
8@10"=6'-8"
7'-6"
C
Make this line parallel to track.
Rail
℄ Track
EL. 76.546
1'-3"
2'-10"
1'-5"
1'-5"
2'-10"
1'-3"
4'-0"

VIEW C-C
Footing Right Column Bent No 5
Footing is revised to clear track.
Everything not shown same as shown elswhere on this sheet.



A1
1'-0" Less than length shown in table
B1
8" Less than length show in table
C1 21'-0"
H 23-8
H1 12'-0"
K 7'-0"
R 10'-6"
S 7'-0"
E 1'-11 to 5-3½" Varies by 1/8"
J 5'-7"
J1 3'-7"
J2 1'-7"
Q 1'-7"
G
7'-10¼"
5'-0" R
D 5'-3"
D1 6'-3"
D2 7'-6"
D3 9'-2"
D4 11'-4"
D5 15'-0"
F1 2'-5½"
F2 2'-9"
F3 3'-0"
F4 3'-4"
F5 4'-1"
F6 5'-4"
M1 8'-0"
M2 7-9
M3 5'-5"
M4 4'-4"
M5 3'-7"
M6 3'-0"
L 3'-2"
I
2'-5"
A3
18'-6"
3'-0"
R=17'-6"
7/8" and larger add 12" per hook
5/8" & 3/4" add 8" per hook
1/2" add 6"

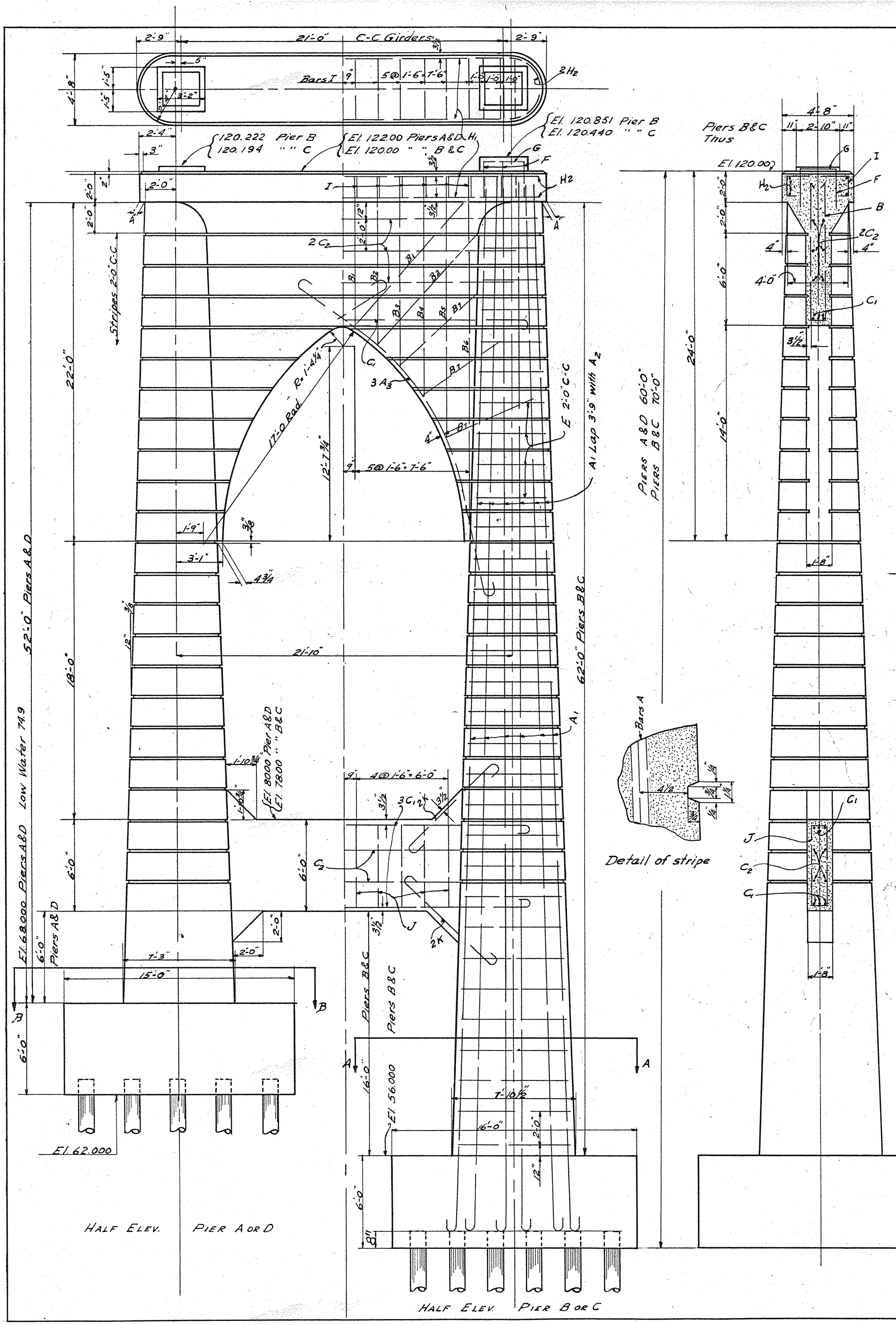
S.C. STATE HIGHWAY DEPARTMENT
Columbia S.C.

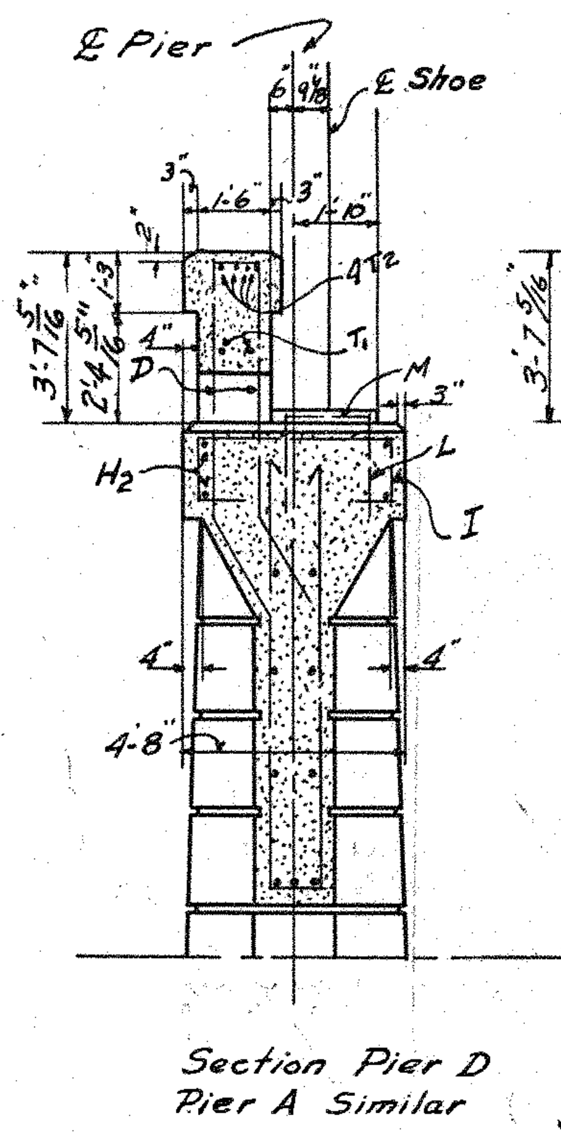
BENTS

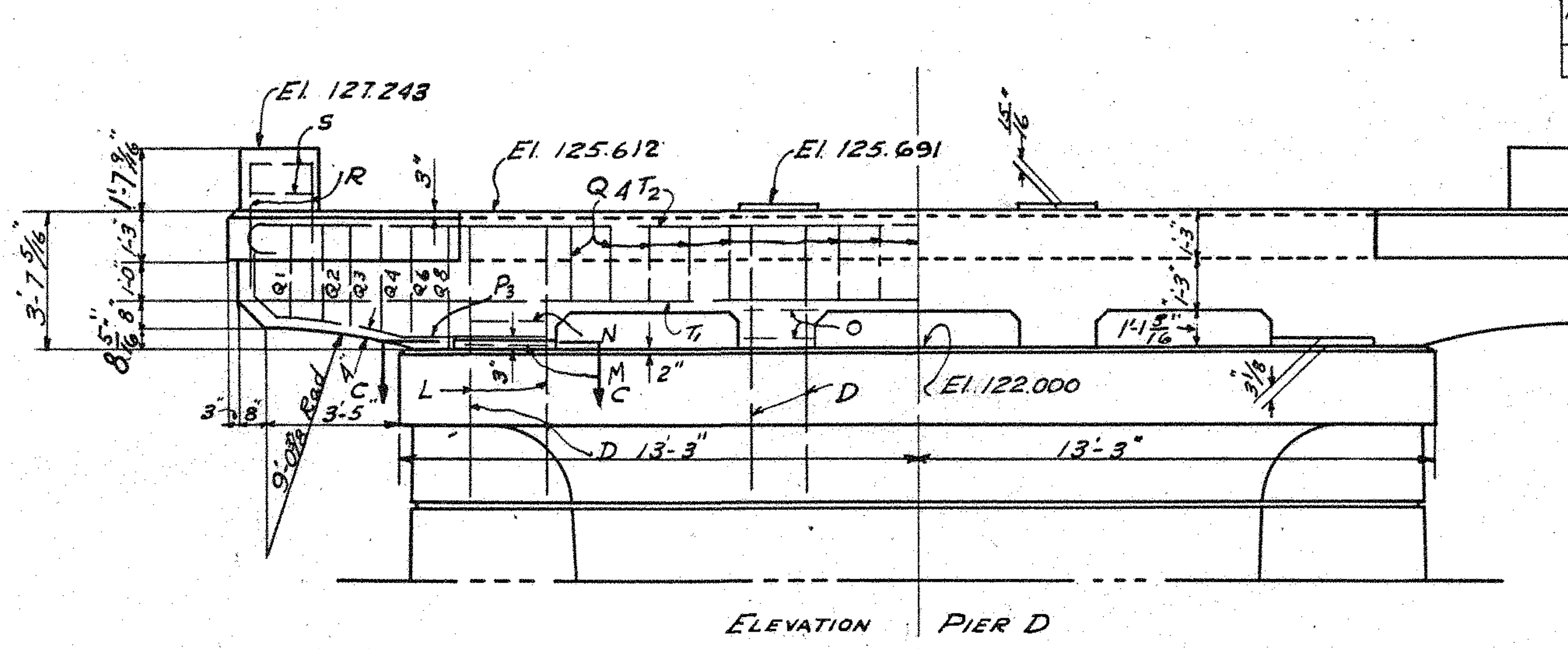
BRIDGE OVER WACCAMAW RIVER

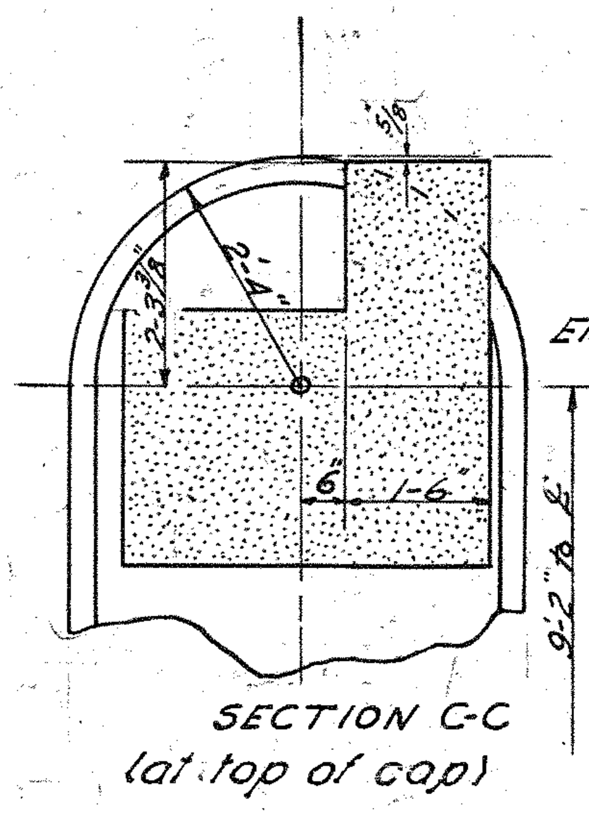
F.A. Proj 320
HORRY Co.
Scale ¼" = 1'-0"
Route U.S. 501

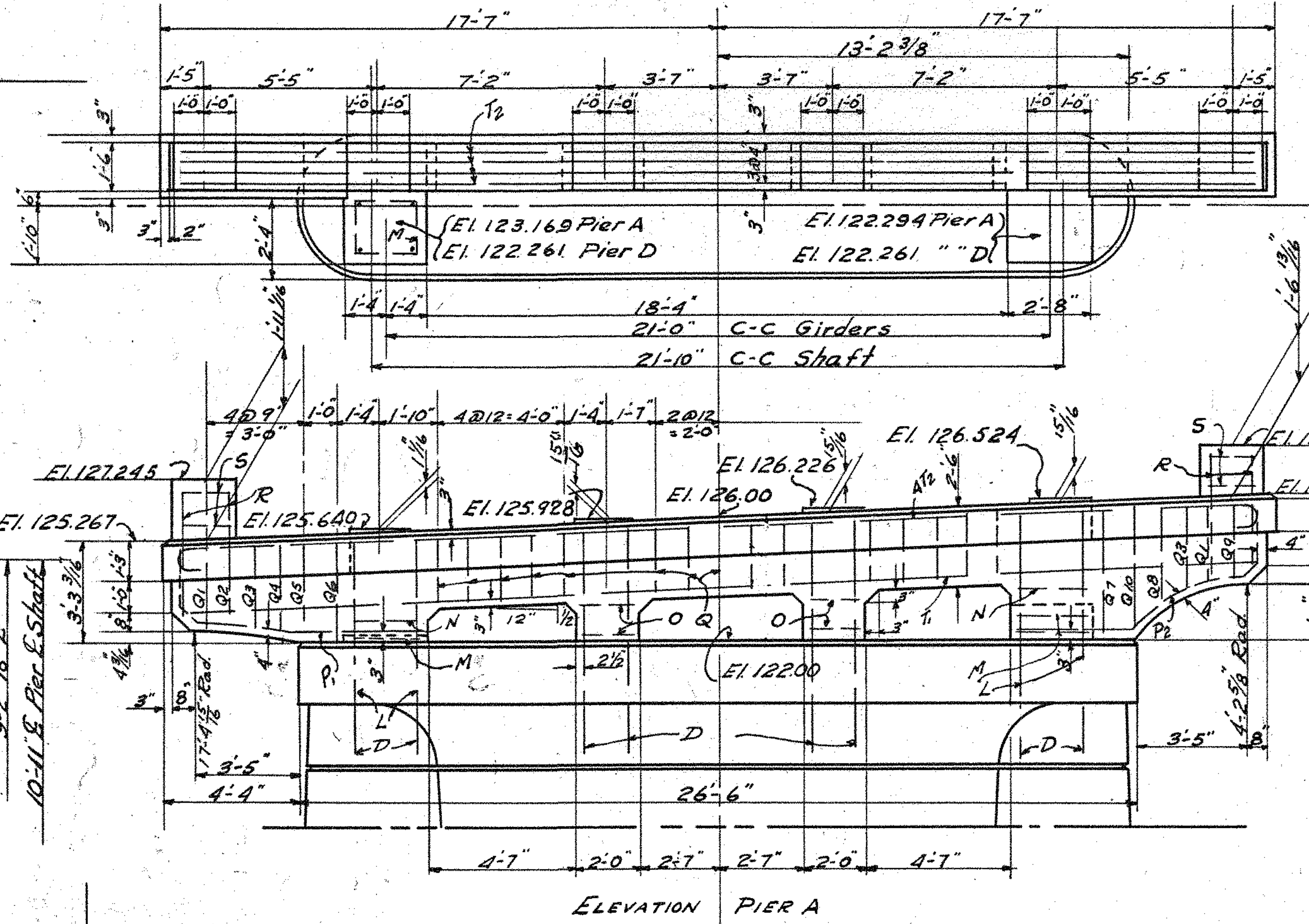
FED. ROAD DIST NO	STATE	COUNTY	F.A. PROJ No	ROUTE	FISCAL YR	SHEET No	TOTAL SHEETS
14	S.C.	HORRY	320 B	US 501	1936	18	52

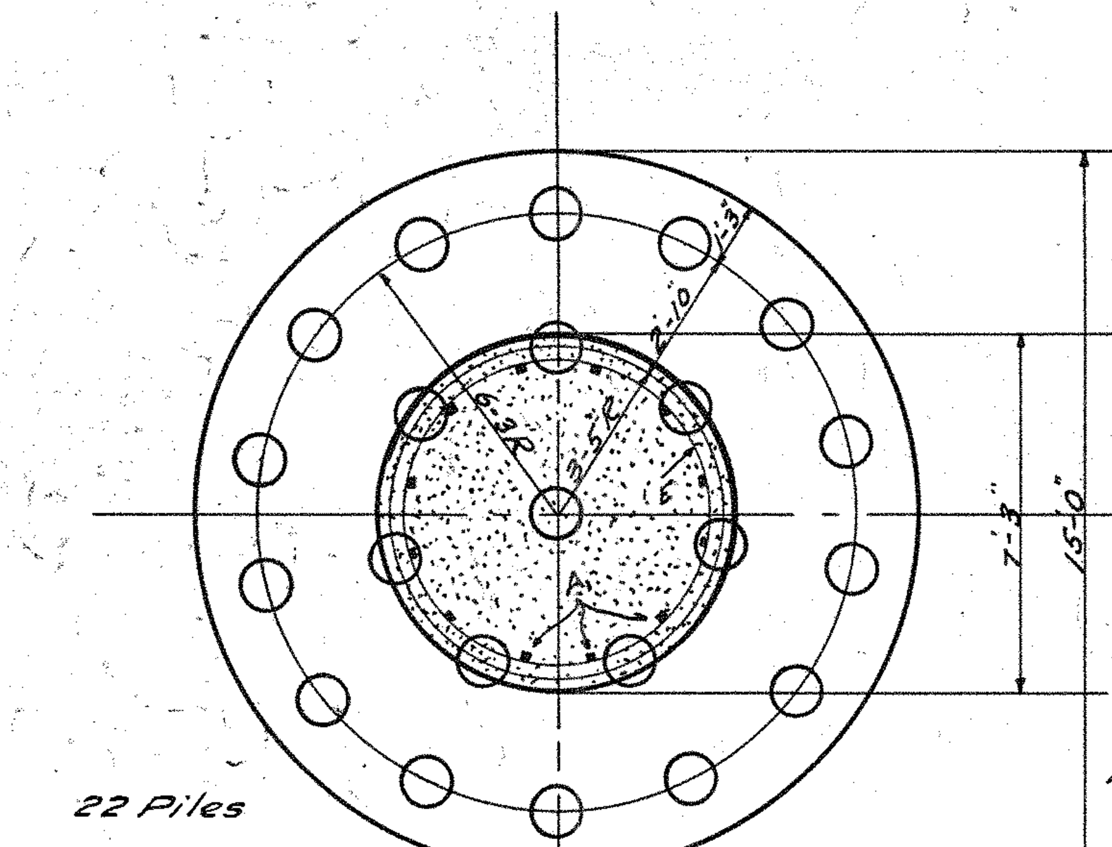

C-C Girders
Bars I
5@1'-6"=7'-6"
El. 120.851 Pier B
El. 120.440 " " C
120.222 Pier B
120.194 " " C
El. 122.00 Piers A&D, H1
El. 120.00 " B&C
Stripes 2'-0" C.C.
17'-0" Rad
R=1'-4¼"
E 2'-0" C-C
A1 Lap 3'-9" with A2
52'-0" Piers A&D
62'-0" Piers B&C
Low Water 7.49
El. 68.000 Piers A&D
El. 80.00 Pier A&D
El. 78.00 " B&C
Piers B&C
El. 62.000
El. 56.000
Piers A&D 60'-0"
Piers B&C 70'-0"
Piers B&C Thus
El. 120.00
Bars A
Detail of stripe
Half Elev. Pier A or D
Half Elev. Pier B or C

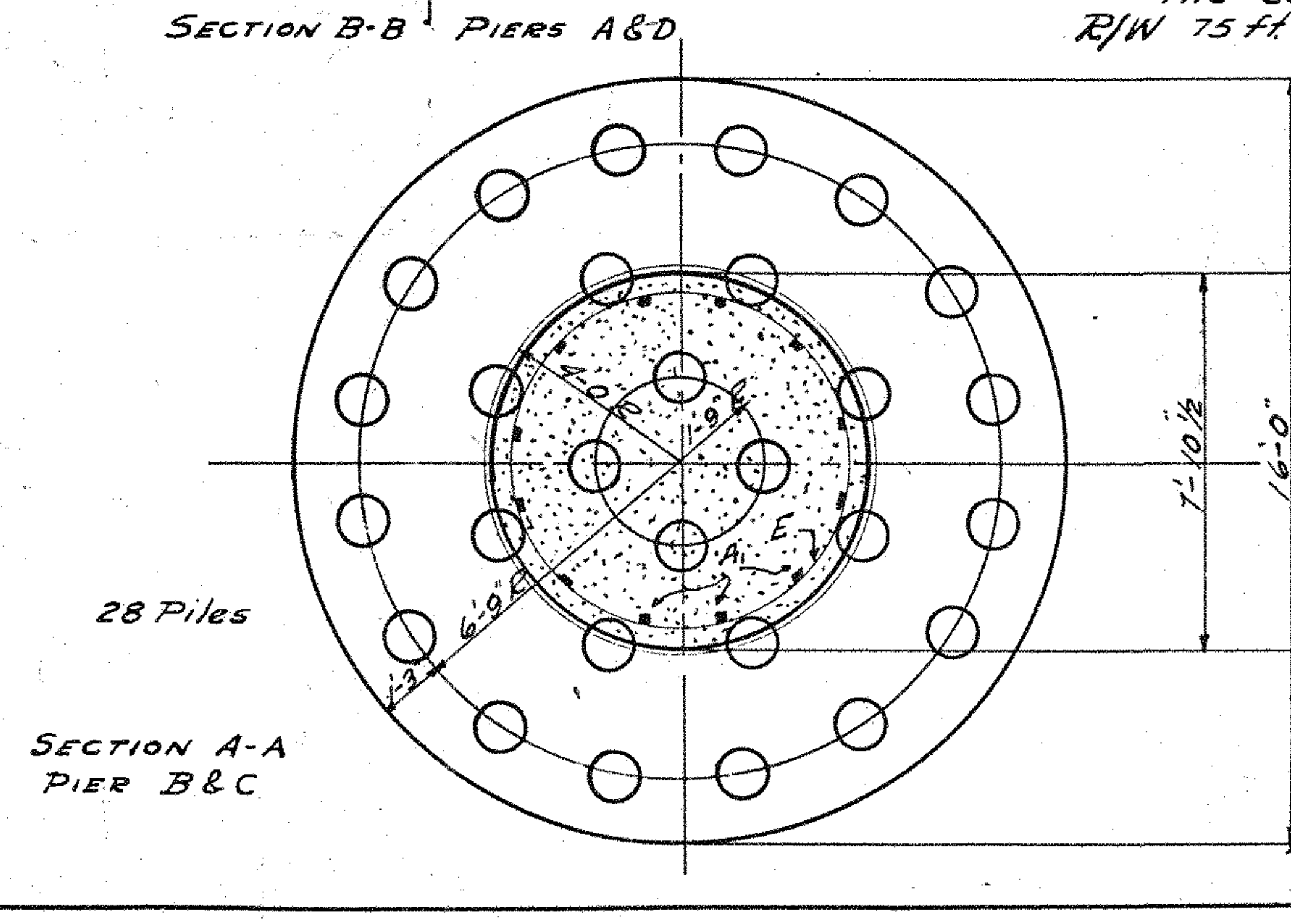

℄ Pier
℄ Shoe
Section Pier D
Pier A Similar


El. 127.243
El. 125.612
El. 125.691
El. 122.000
D 13'-3"
13'-3"
Elevation Pier D


Section C-C
(at top of cap)
10'-11⅛" ℄ Pier ℄ Shaft


17'-7"
13'-2⅜"
17'-7"
El. 123.169 Pier A
El. 122.261 Pier D
El. 122.294 Pier A
El. 122.261 " " D
18'-4"
21'-0" C-C Girders
21'-10" C-C Shaft
El. 127.245
El. 125.267
El. 125.640
El. 125.928
El. 126.226
El. 126.00
El. 126.524
El. 128.245
El. 126.733
El. 122.00
26'-6"
Elevation Pier A


22 Piles
Section B-B Piers A&D


28 Piles
Section A-A
Pier B&C

Notes:

Specifications:- S.C. State Highway Dept. Specifications for Roads, Bridges, and culverts, revised July 1, 1933.

All concrete to be class A. maximum aggregate 1½"

The contractor for the substructure shall clear the R/W 75 ft. each side of the ℄ in accordance with the specifications. The cost of this work shall be included in the price bid for the other items.

All work affecting the safety of trains during construction of this shall be approved by the authorites of the A.C.L. railroad company, the contractor must get their approval of plans for falsework or walkways over the track, before this part of the work is started.

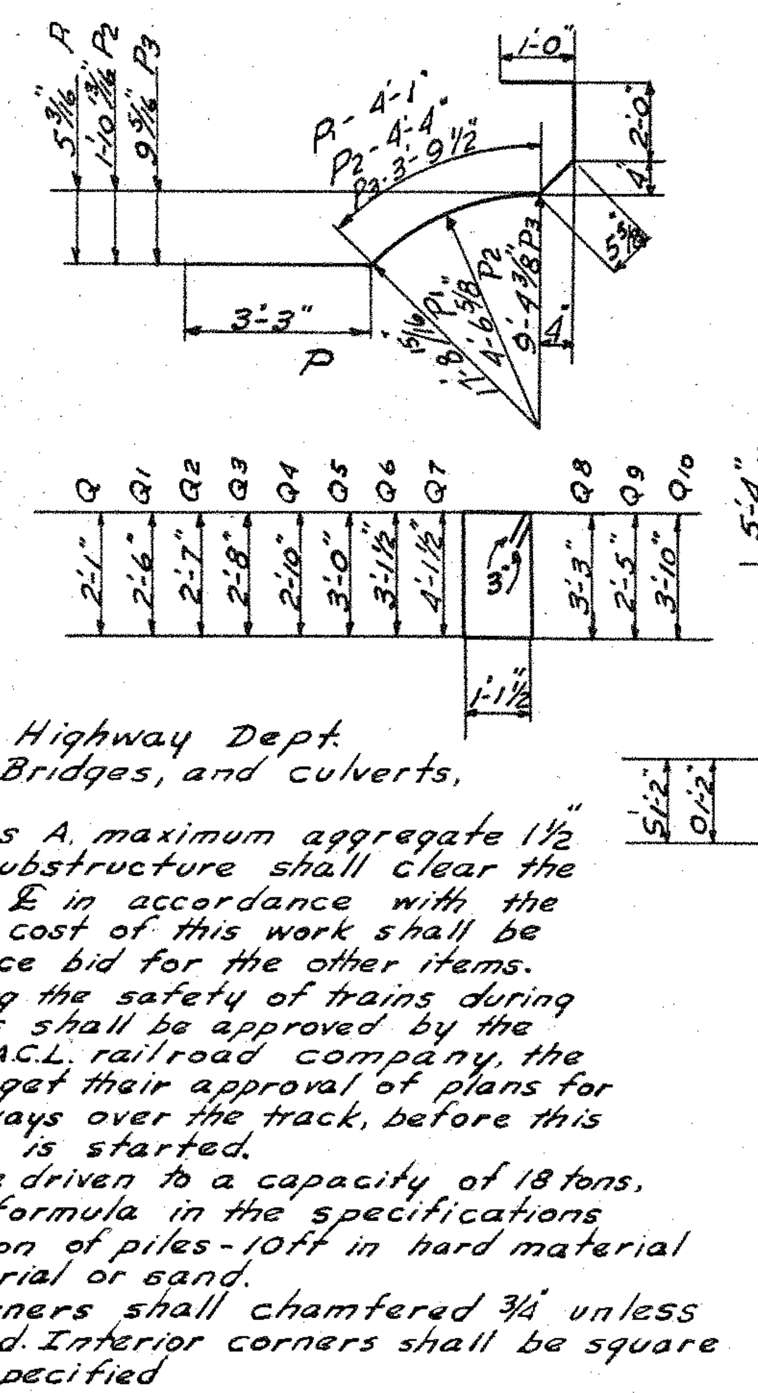
All piles shall be driven to a capacity of 18 tons, according to the formula in the specifications. Minimum penetration of piles - 10 ft in hard material 15 ft in soft material or sand.

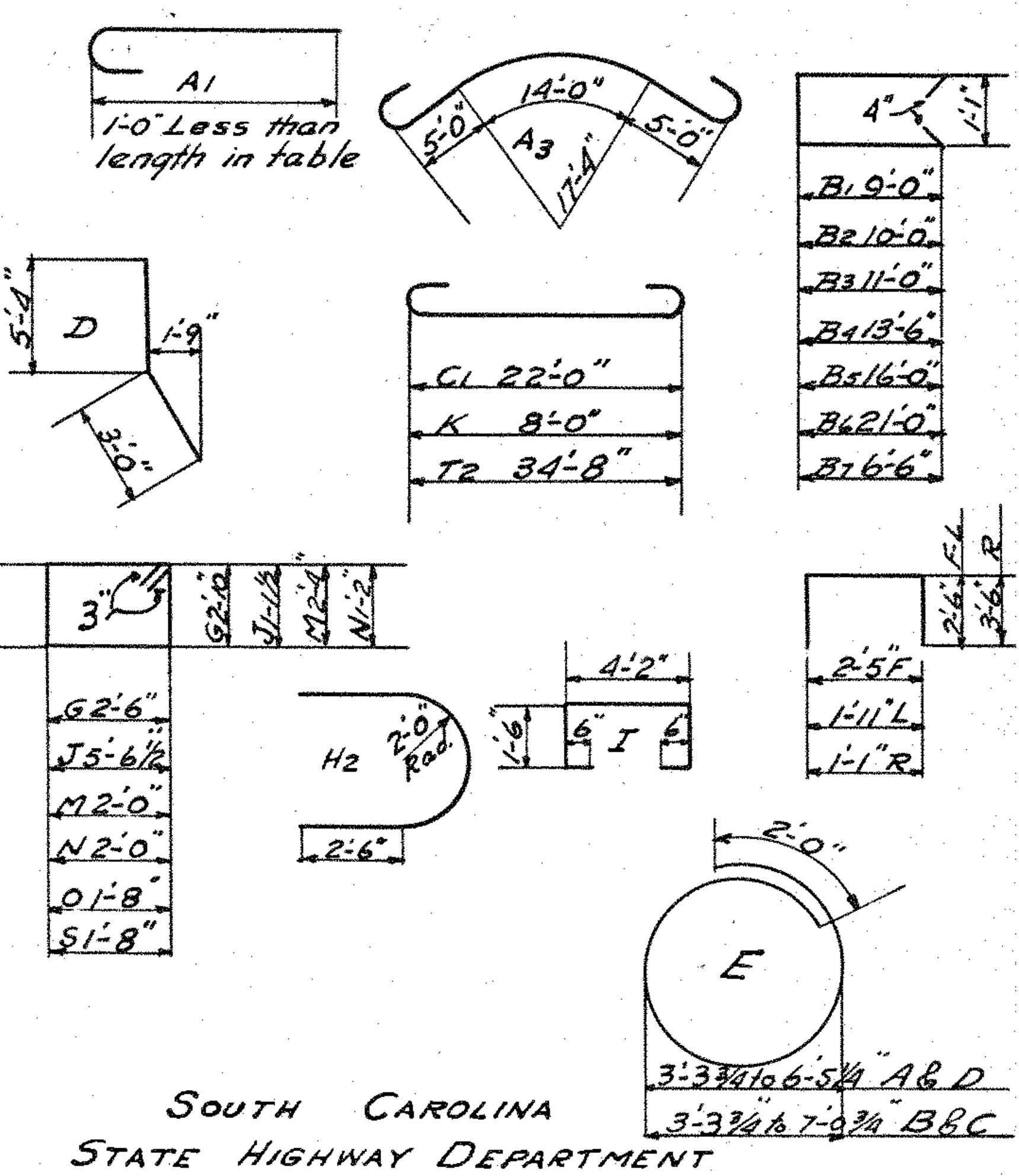
All exposed corners shall chamfered ¾" unless othewise specified. Interior corners shall be square unless otherwise specified

The right is expressly reserved to vary foundations, and to omit piles, if desired by the engineer.

REINFORCING STEEL

			PIER A		PIER D		PIER B or C	
MARK	SIZE		No.	LENGTH	No.	LENGTH	No	LENGTH
A1	1⅛"□	B	24	31'-4"	24	31'-4"	24	36'-4"
A2	"	S	24	30'-4"	24	30'-4"	24	35'-4"
A3	1"□	B	6	26'-0"				
B1	½"□	"	4	19'-9"				
B2	"	"	4	21'-9"				
B3	"	"	2	23'-9"				
B4	"	"	2	28'-9"		SAME ALL PIERS		
B5	"	"	2	33'-9"				
B6	"	"	2	43'-9"				
B7	"	"	6	14'-9"				
C1	1"□	"	9	24'-0"				
C2	½"□	S	10	22'-0"				
D	1"□	B	16	8'-4"	16	8'-4"	—	
E	⅜"Ø	Hoops	52	2 Each 12'-5" to 22'-3"	52	2 Each 12'-5" to 22'-3"	62	2 Each 12'-5" to 24'-2"
F	⅝Ø	B	—		—		6	7'-5"
G	⅜Ø	B	—		—		2	11-2
H1	¾Ø	S	4	22'-0"				
H2	"	B	4	11'-4"				
I	½"□	B	18	8'-2"		SAME ALL PIERS		
J	½"□	B	10	14'-0"				
K	¾Ø	B	8	9'-4"				
L	⅝Ø	B	4	6'-11"	4	6'-11"	—	
M	⅜Ø	B	3	9'-2"	2	9'-2"	—	
N	⅜Ø	B	2	6'-10"	2	6'-10"	—	
O	⅜Ø	B	4	6'-2"	4	6'-2"	—	
P1	¾Ø	B	2	10'-10"	—		—	
P2	"	B	2	11'-1"	—		—	
P3	"	B	—		4	10'-6"	—	
Q	⅜"Ø	B	15	6'-11"	15	6'-11"	—	
Q1	"	"	2	7'-9"	2	7'-9"	—	
Q2	"	"	1	7'-11"	2	7'-11"	—	
Q3	"	"	2	8'-2"	2	8'-2"	—	
Q4	"	"	1	8'-5"	2	8'-5"	—	
Q5	"	"	1	8'-9"	—		—	
Q6	"	"	1	9'-0"	2	9'-0"	—	
Q7	"	"	1	11'-0"	—		—	
R	⅝Ø	B	4	8'-1"	4	8'-1"	—	
S	⅜Ø	B	4	6'-2"	4	6'-2"	—	
Q8	⅜Ø	B	1	9'-3"	2	9'-3"	—	
T1	¾Ø	S	2	34'-2"	2	34-2	—	
T2	1"□	B	4	36'-8"	4	36'-8"	—	
Q9	⅜"Ø	B	1	7'-7"	—		—	
Q10	"	"	1	18'-5"	—		—	
							B	250.59
Concrete C.Y.				213.97		214.65	C	250.45
Steel Lbs.				10.448		10.441		10.328
Untreated Piles L.F				880		880		1120


P
P1 4'-1"
P2 4'-4"
P3 9'-9½"
3'-3"
Q Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10
2'-1" 2'-6" 2'-7" 2'-8" 2'-10" 3'-0" 3'-1½" 4'-1½" 3'-3" 2'-5" 3'-10"
1'-1½"
S1'-2"
O1'-2"
G2'-6"
J5'-6½"
M2'-0"
N2'-0"
O1'-8"
S1'-8"


A1
1'-0" Less than length in table
A3
14'-0"
5'-0"
5'-0"
B1 9'-0"
B2 10'-0"
B3 11'-0"
B4 13'-6"
B5 16'-0"
B6 21'-0"
B7 6'-6"
D
5'-4"
1'-9"
C1 22'-0"
K 8'-0"
T2 34'-8"
H2
4'-2"
I
2'-6"
2'-5" F
1'-11" L
1'-1" R
E
3'-3¾" to 6'-5¼" A&D
3'-3¾" to 7'-0¾" B&C

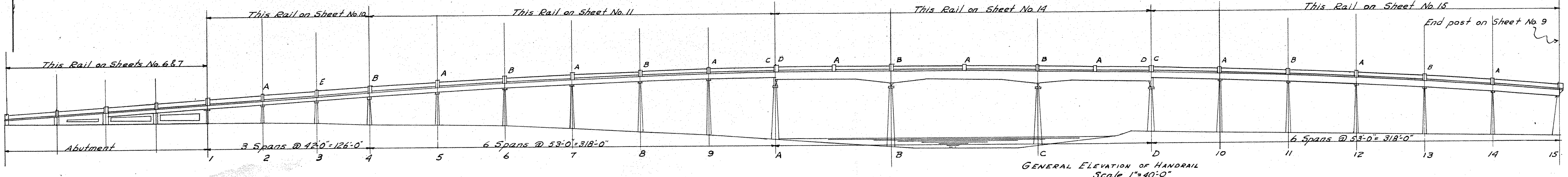
SOUTH CAROLINA
STATE HIGHWAY DEPARTMENT
COLUMBIA

PIERS FOR GIRDER SPAN

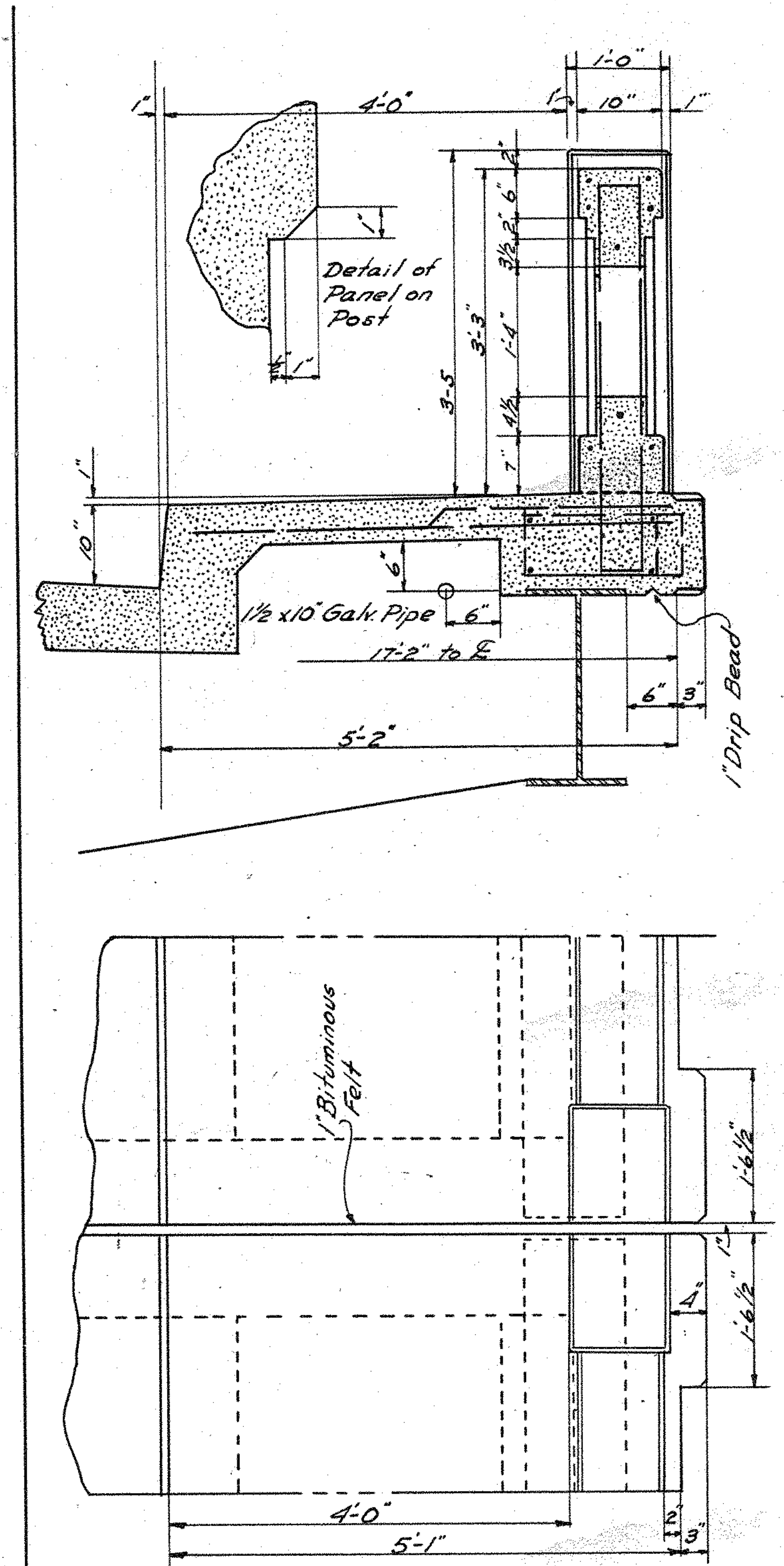
WACCAMAW RIVER
NEAR
CONWAY HORRY Co.
F.A.P. 320 Scale ¼" = 1'-0"

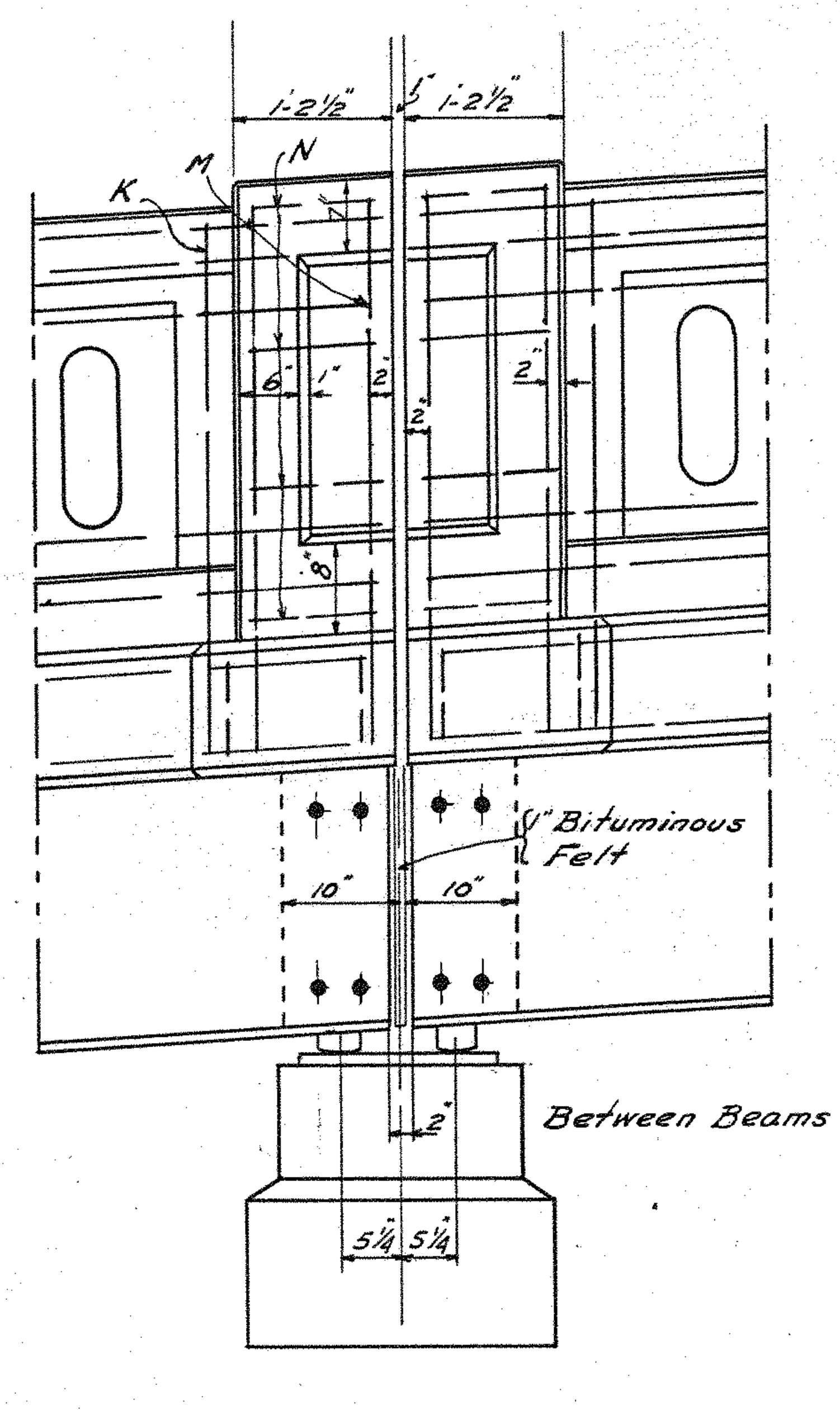
Made F.K.P. April 1936
Traced T.L. " 1936
Checked C.A.R. Quantities Steel D.G.F., Conc. F.K.P.
Revised.

Fed Road Dist. No.	State	County	Fed Aid Proj No.	Route No.	Sheet No	Total Sheets
14	S.C.	Horry	320 B	US501	19	32


This Rail on Sheets No. 6 & 7
This Rail on Sheet No. 10
This Rail on Sheet No. 11
This Rail on Sheet No. 14
This Rail on Sheet No. 15
End post on Sheet No. 9
A
E
B
C
D
Abutment
3 Spans @ 42'-0" = 126'-0"
6 Spans @ 53'-0" = 318'-0"
6 Spans @ 53'-0" = 318'-0"
1 2 3 4 5 6 7 8 9 A B C D 10 11 12 13 14 15

General Elevation of Handrail
Scale 1" = 40'-0"


Detail of Panel on Post
4'-0"
1'-0"
10"
3'-3"
3'-5"
1'-4"
1½ x 10" Galv. Pipe
17'-2" to ℄
5'-2"
1" Drip Bead
1" Bituminous Felt
4'-0"
5'-1"


K
M
N
1'-2½"
1'-2½"
¼" Bituminous Felt
10"
10"
Between Beams

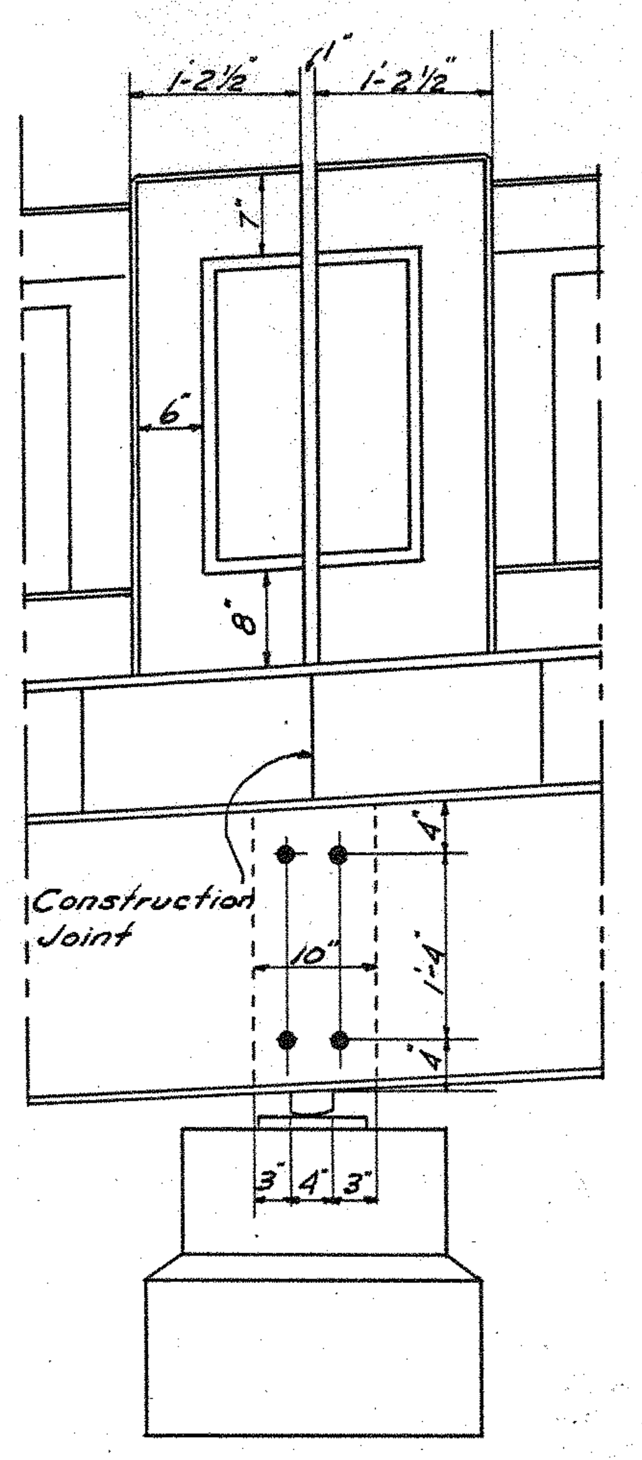
Post A at Bent 2

Steel ordered on sheet 10 for Post at Bents 2 & 3

Post A at Bents 5-7-9
Steel ordered on Sheet 11

Post A at Bents 10-12-14
Steel ordered on Sheet 15

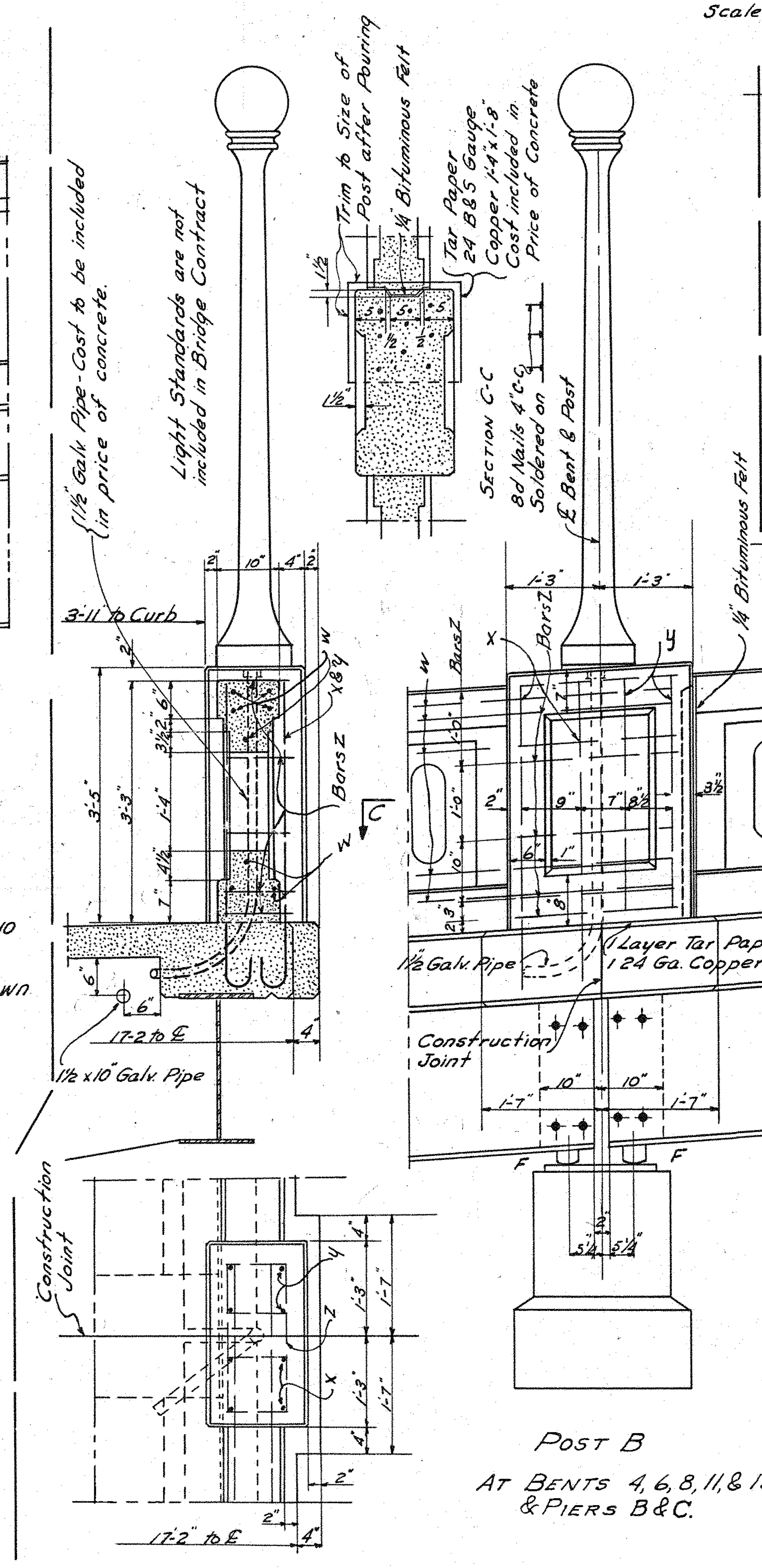
Post A on Girder Span
Steel ordered on Sheet 16.


1'-2½"
1'-2½"
Construction Joint
10"

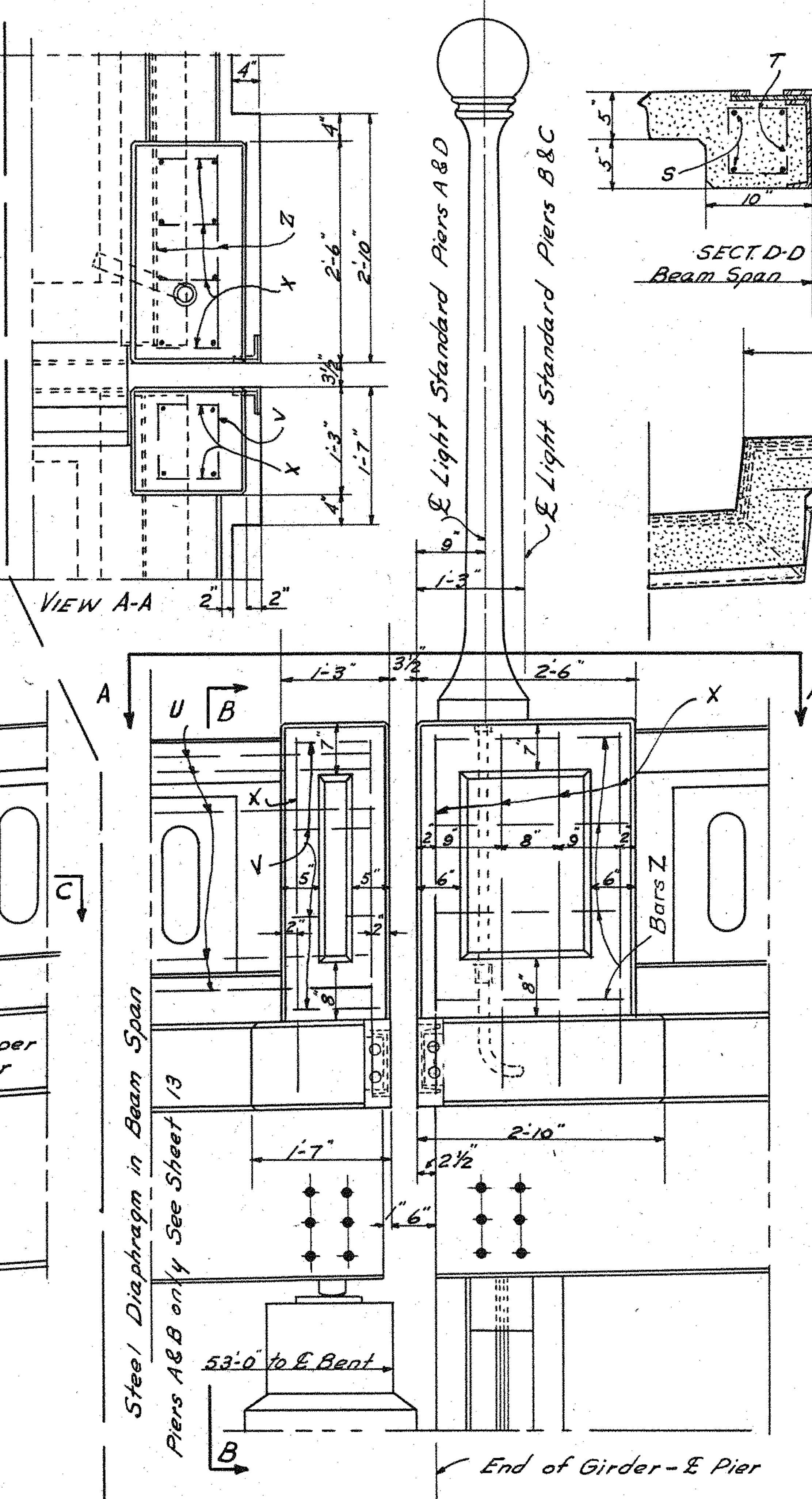
Post E at Bent 3

Everything not shown same as Post A. Steel on Sheet 10

Chamfer where shown on handrail is ½"

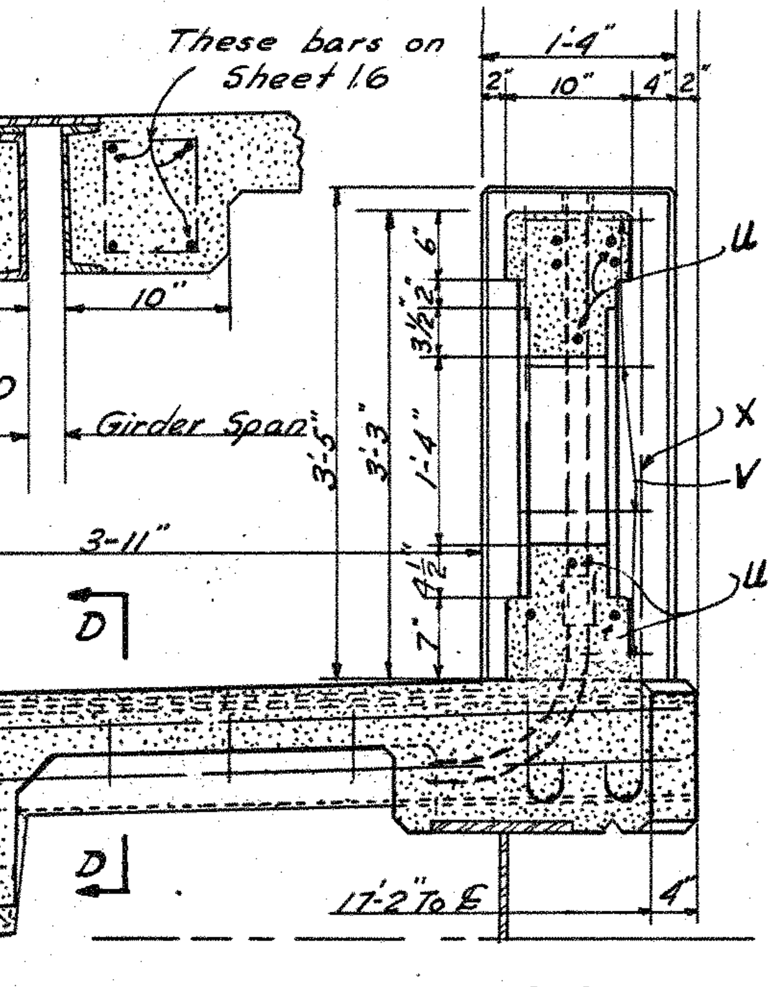

1½" Galv. Pipe - Cost to be included in price of concrete.
Light Standards are not included in Bridge Contract
Trim to Size of Post after Pouring
¼" Bituminous Felt
Tar Paper 24 B & S Gauge Copper 1'-4" x 1'-8" Cost included in Price of Concrete
Section C-C
8d Nails 4" c-c Soldered on
℄ Bent & Post
3'-11" to Curb
Bars Z
W
X & Y
1½ Galv. Pipe
1½ x 10" Galv. Pipe
17'-2" to ℄
1 Layer Tar Paper
1 24 Ga. Copper
Construction Joint
¼" Bituminous Felt
Construction Joint
17'-2" to ℄
F
F

Post B
At Bents 4, 6, 8, 11, & 13
& Piers B & C.


View A-A
Z
X
V
℄ Light Standard Piers A & D
℄ Light Standard Piers B & C
A
A
U
B
B
X
V
Bars Z
Steel Diaphragm in Beam Span Piers A & B only See Sheet 13
53'-0" to ℄ Bent
End of Girder - ℄ Pier

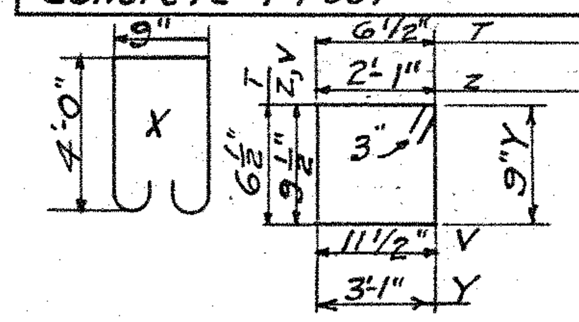
Post C
Piers A & D

Post D
Steel ordered on Sheet 16


These bars on Sheet 16
T
S
10"
10"
Sect. D-D
Beam Span
Girder Span
1'-4"
U
X
V
U
3'-11"
D
D
17'-2" to ℄

Section B-B

Steel 1-Post C-4 Req'd					
Mark	Number	Size	Length		Place
CS	4	5/8" ø	6'-3"	B	Slab
CT	3	#4 Wire	2'-8"	B	Slab
CU	8	3/8" ø	3'-3"	S	Rail
CV	4	#4 Wire	4'-0"	B	Hoops
CX	2	½" □	9'-9"	B	Vertical
4 Bars S & 3		T			27.3 Lb.
Steel 1-Post					28.8 Lb.
Concrete 1-Post					0.205 C.Y.


9"
4'-0"
X
6½"
2'-1"
T
Z
V
3"
9½"
9"
Y
11½"
V
3'-1"
Y
S
4'-11"

Steel 1 Post B-10 Req'd {Beam Spans}					
Mark	Number	Size	Length		Place
CW	8	3/8 ø	4'-6"	S	Rail
CX	2	½" □	9'-9"	B	Vertical
CY	2	½" □	8'-2"	B	Vertical
CZ	5	3/8 ø	6'-3"	B	Hoops
Steel 1-Post					55.9 Lb
Concrete 1 Post					0.395 C.Y.

S.C. STATE HIGHWAY DEPARTMENT
COLUMBIA

HANDRAIL POSTS
BRIDGE OVER
WACCAMAW RIVER

CONWAY HORRY CO.

Scale ¾" = 1'-0"

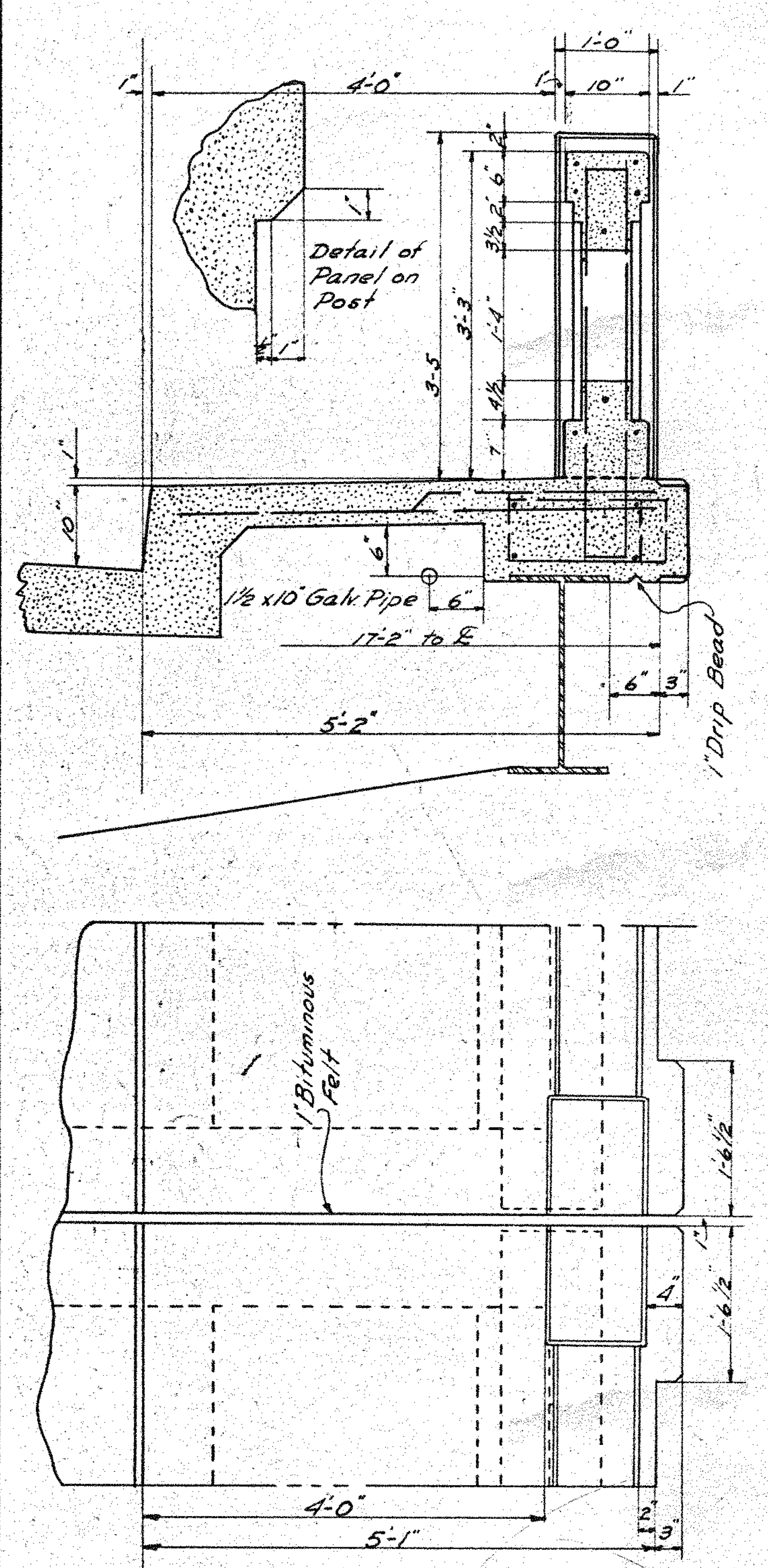
FA PROJ Nº 320 Route US 501.

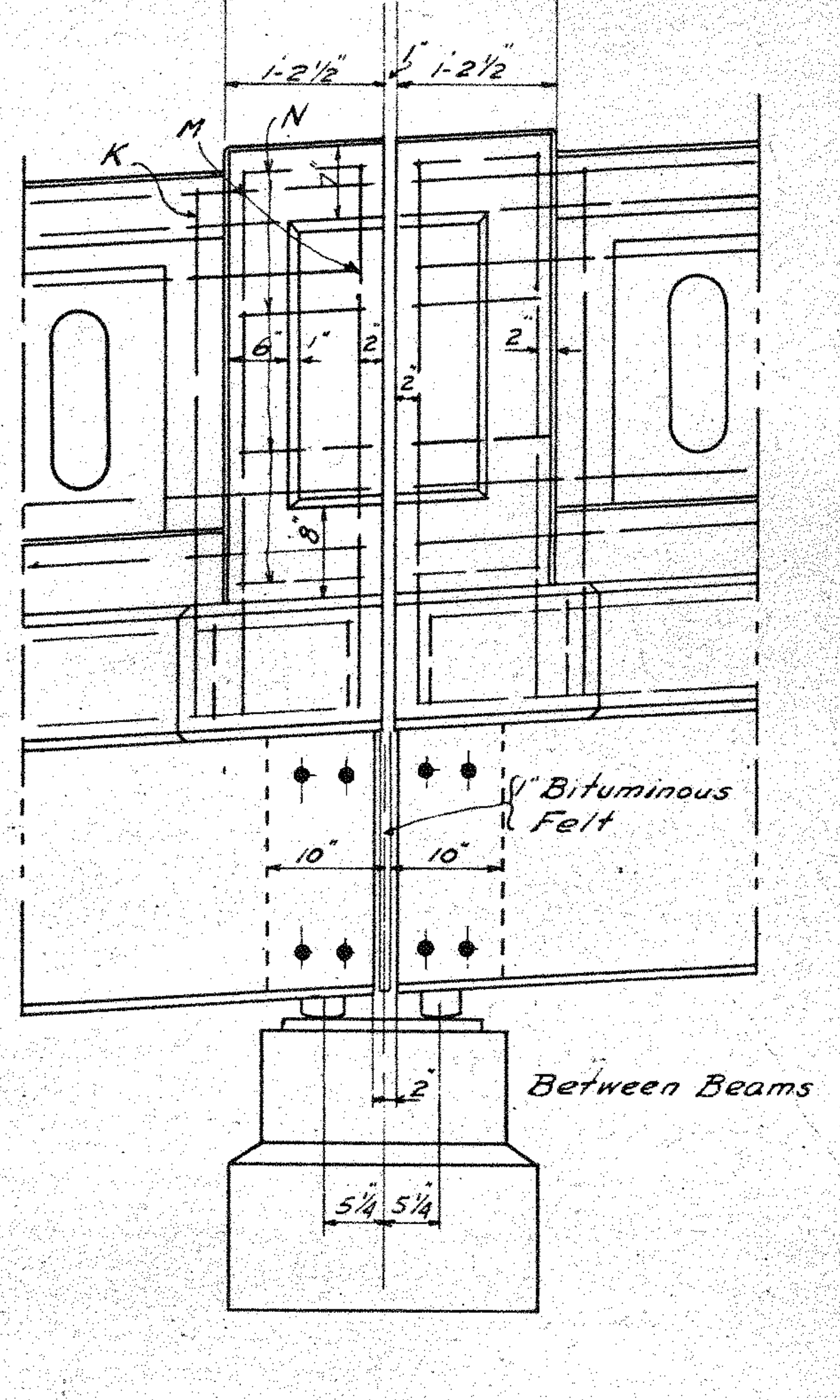
Drawn F.K.P. June 19, 1936
Traced T.E.C. July 10, 1936
Checked [illegible] Aug. 1, 1936.

FED. ROAD DIST. NO.	STATE	COUNTY	FED AID PROJ NO.	ROUTE NO.	SHEET NO	TOTAL SHEETS
14	S.C.	HORRY	320 B	US501	19	52

This Rail on Sheets No. 6 & 7
This Rail on Sheet No. 10
This Rail on Sheet No. 11
This Rail on Sheet No. 14
This Rail on Sheet No. 15
End post on Sheet No. 9
Type A-Posts Bents 1-6-18
Type B-Posts Bents 15-17
A
E
B
C D
D C
Abutment
3 Spans @ 42'-0" = 126'-0"
6 Spans @ 53'-0" = 318'-0"
10 Spans @ 53'-0" = 530'-0"
1
2
3
4
5
6
7
8
9
A
B
C
D
10
11
12
13
14
19

General Elevation of Handrail
Scale 1" = 40'-0"


Detail of Panel on Post
4'-0"
1'-0"
10"
1"
3'-5"
3'-3"
1'-4"
1½ x 10" Galv. Pipe
17'-2" to ℄
5'-2"
1" Drip Bead
1" Bituminous Felt
4'-0"
5'-1"


K
M
N
1'-2½"
1'-2½"
1" Bituminous Felt
10"
10"
Between Beams
5¼
5¼

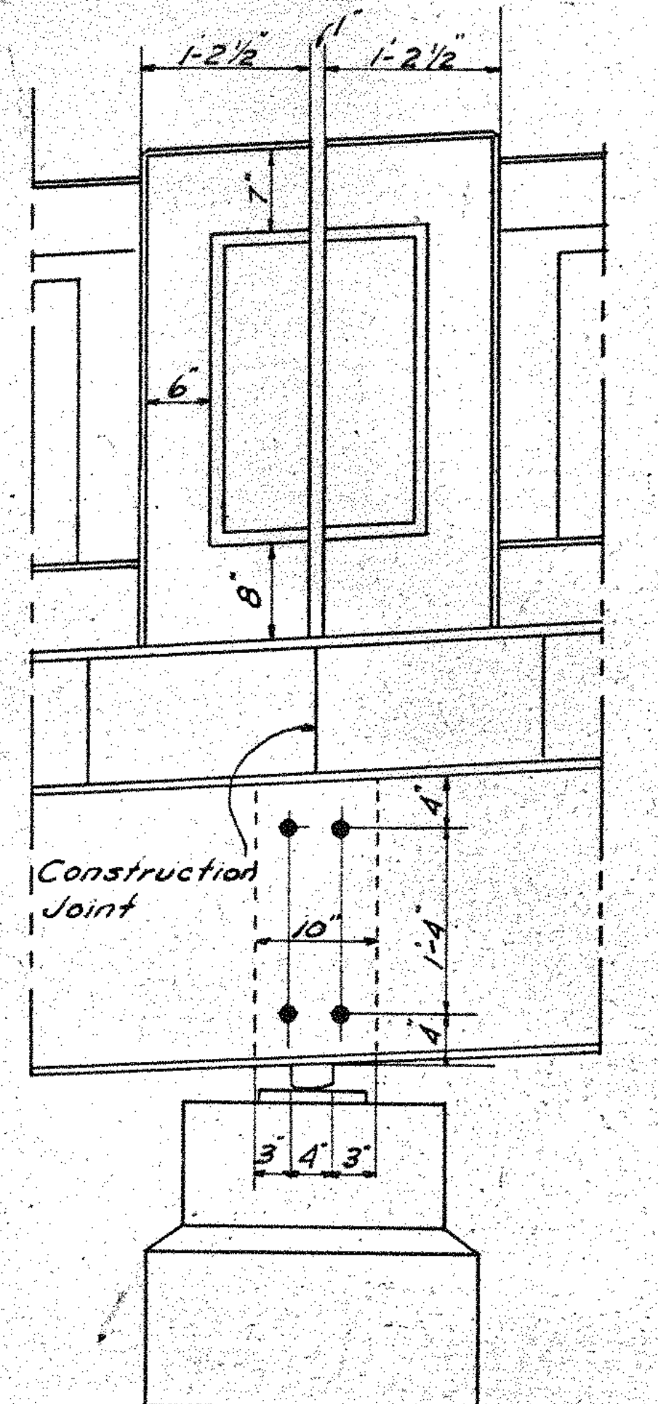
Post A at Bent 2

Steel ordered on sheet 10 for Post at Bents 2 & 3

Post A at Bents 5-7-9
Steel ordered on Sheet 11

Post A at Bents 10-12-14-16-18
Steel ordered on Sheet 15

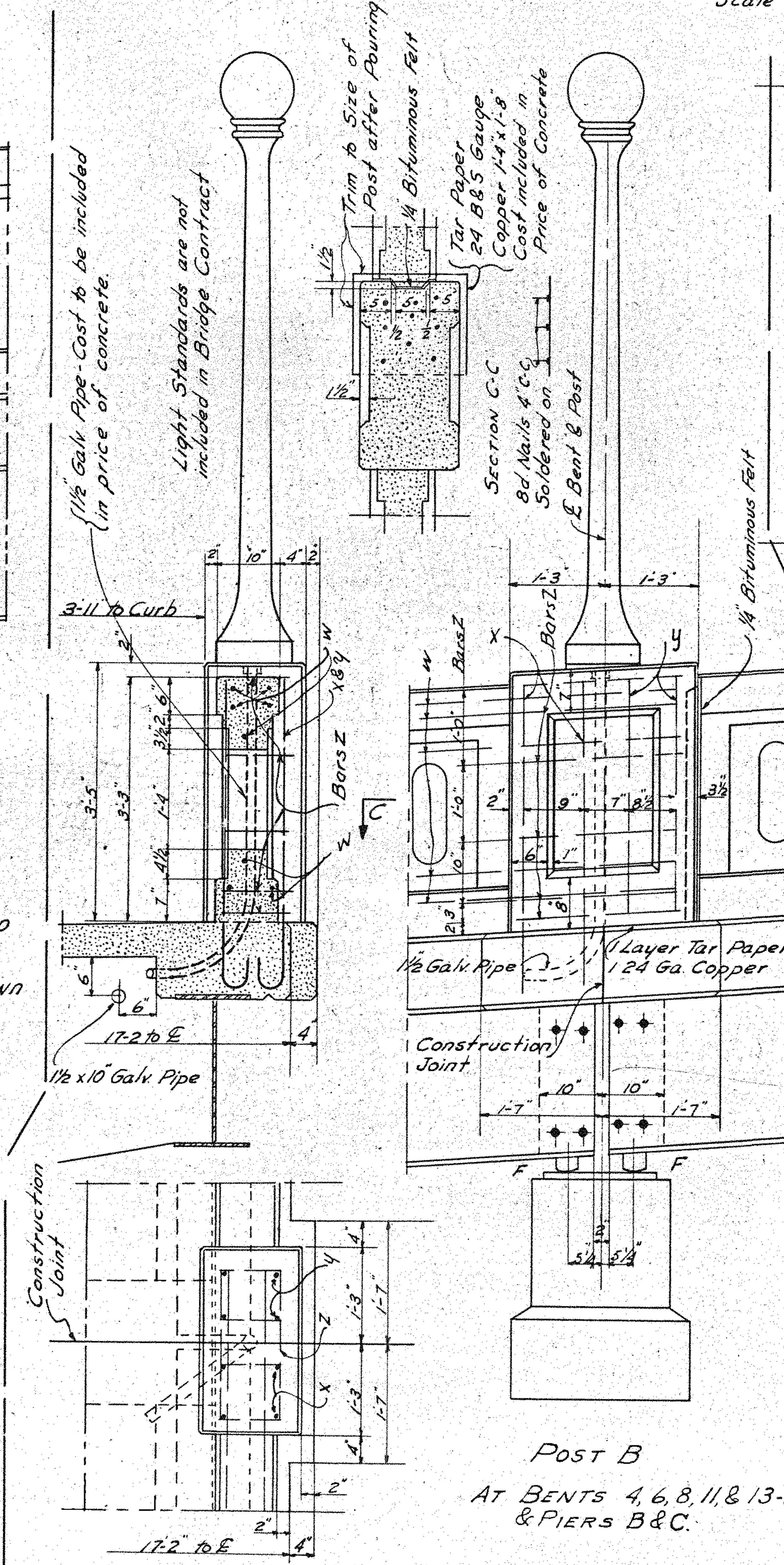
Post A on Girder Span
Steel ordered on Sheet 16.


1'-2½"
1'-2½"
Construction Joint
10"
3
4
3

Post E at Bent 3

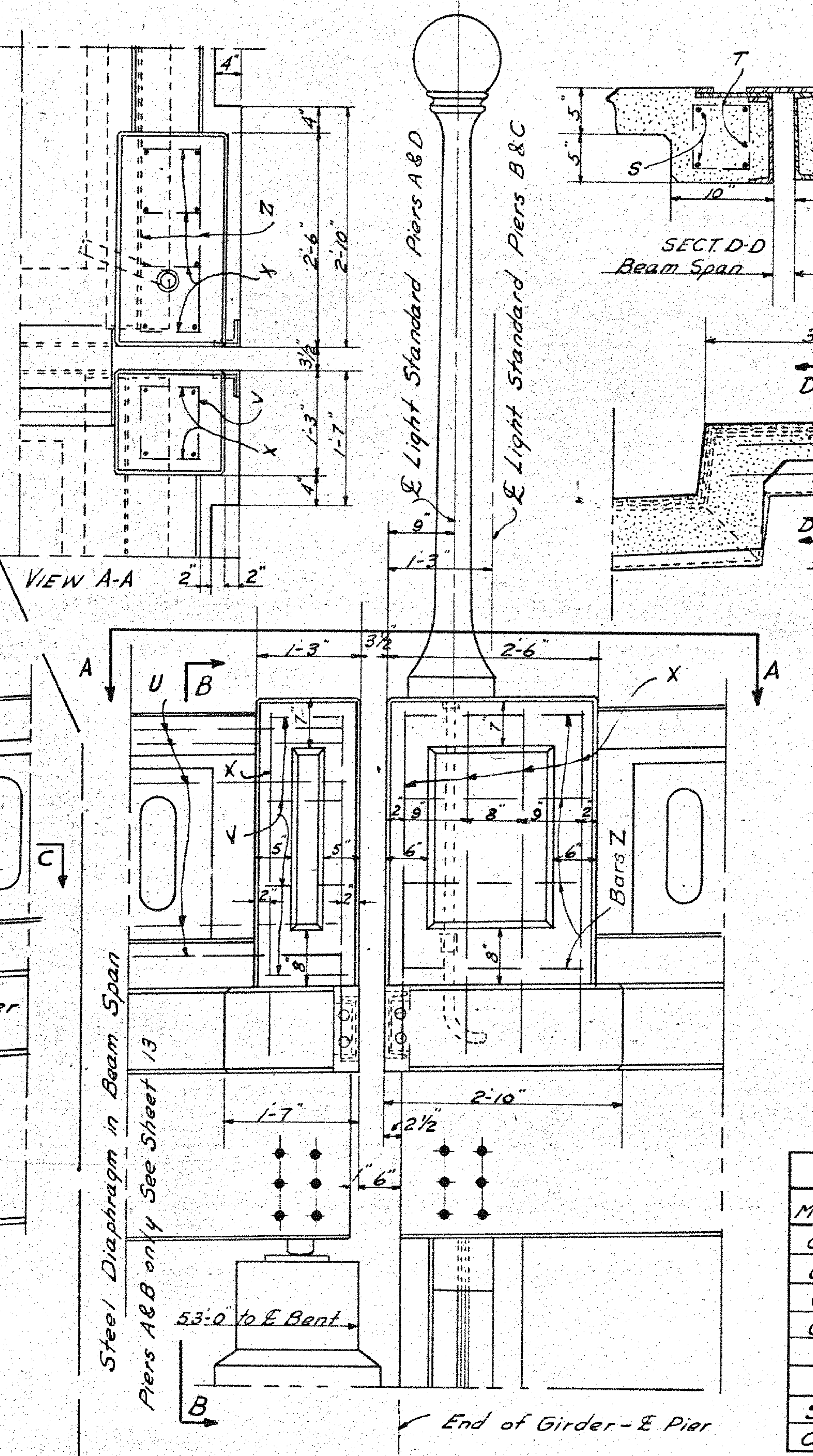
Everything not shown same as Post A Steel on Sheet 10

Chamfer where shown on handrail is ½"


1½ Galv. Pipe-Cost to be included in price of concrete.
Light Standards are not included in Bridge Contract
Trim to Size of Post after Pouring
¼ Bituminous Felt
Tar Paper 24 B & S Gauge Copper 1¼ x 1-8 Cost included in Price of Concrete
Section C-C
8d Nails 4" C.C. Soldered on
℄ Bent & Post
3'-11 to Curb
Bars Z
W
X & Y
C
1½ x 10" Galv. Pipe
17'-2 to ℄
Construction Joint
17'-2" to ℄
1½ Galv. Pipe
1 Layer Tar Paper 1 24 Ga. Copper
¼ Bituminous Felt
F
F
5¼
5¼

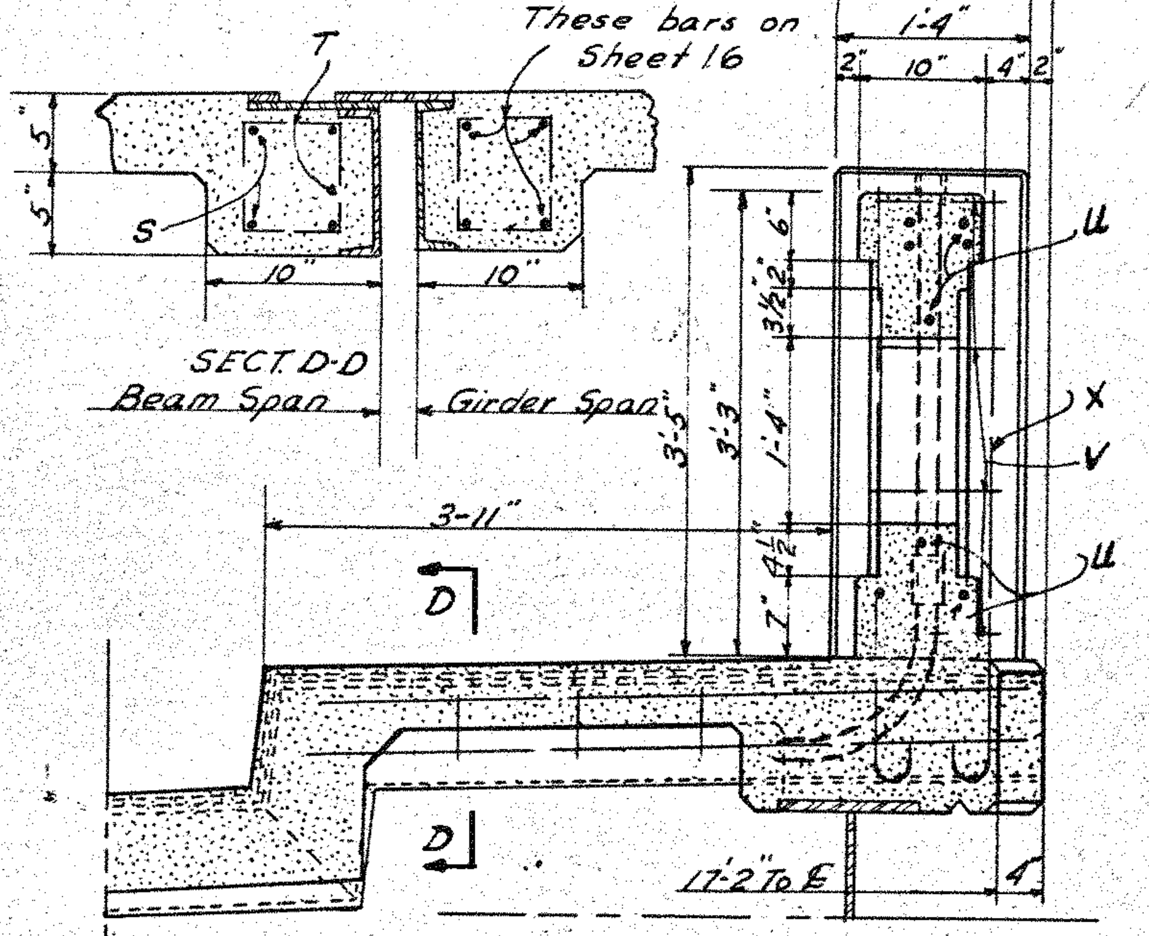
Post B

At Bents 4, 6, 8, 11, & 13-15-17 & Piers B & C.


View A-A
℄ Light Standard Piers A & D
℄ Light Standard Piers B & C
A
A
B
B
U
X
V
Bars Z
Steel Diaphragm in Beam Span Piers A & B only See Sheet 13
53'-0" to ℄ Bent
End of Girder - ℄ Pier
2'-6"
2'-10"

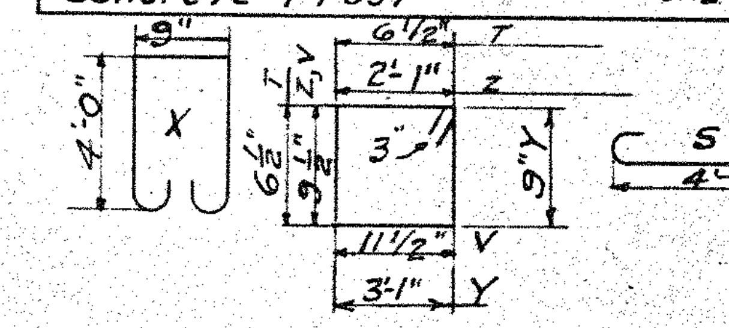
Post C
Piers A & D

Post D
Steel ordered on Sheet 16


These bars on Sheet 16
T
S
10"
10"
Sect. D-D Beam Span
Girder Span
3'-11"
D
D
U
X
V
U
17'-2" to ℄

Section B-B

Steel 1-Post C-4 Req'd					
Mark	Number	Size	Length		Place
CS	4	5/8" ϕ	6'-3"	B	Slab
CT	3	#4 Wire	2'-8"	B	Slab
CU	8	3/8" ϕ	3'-3"	S	Rail
CV	4	#4 Wire	4'-0"	B	Hoops
CX	2	½" □	9'-9"	B	Vertical
4 Bars S & 3		T			27.3 Lb.
Steel 1-Post					28.8 Lb.
Concrete 1-Post					0.205 C.Y.


9"
4'-0"
X
6½"
T
2'-1"
Z
6½
9½
3"
9" Y
11½"
V
3'-1"
Y
S
4'-11"

Steel 1 Post B-10 Req'd {Beam Spans}					
Mark	Number	Size	Length		Place
CW	8	3/8 Ø	4'-6"	S	Rail
CX	2	½" □	9'-9"	B	Vertical
CY	2	½" □	8'-2"	B	Vertical
CZ	5	3/8 Ø	6'-3"	B	Hoops
Steel 1-Post					55.9 Lb
Concrete 1 Post					0.395 C.Y.

S.C. State Highway Department
Columbia

Handrail Posts

Bridge Over
Waccamaw River

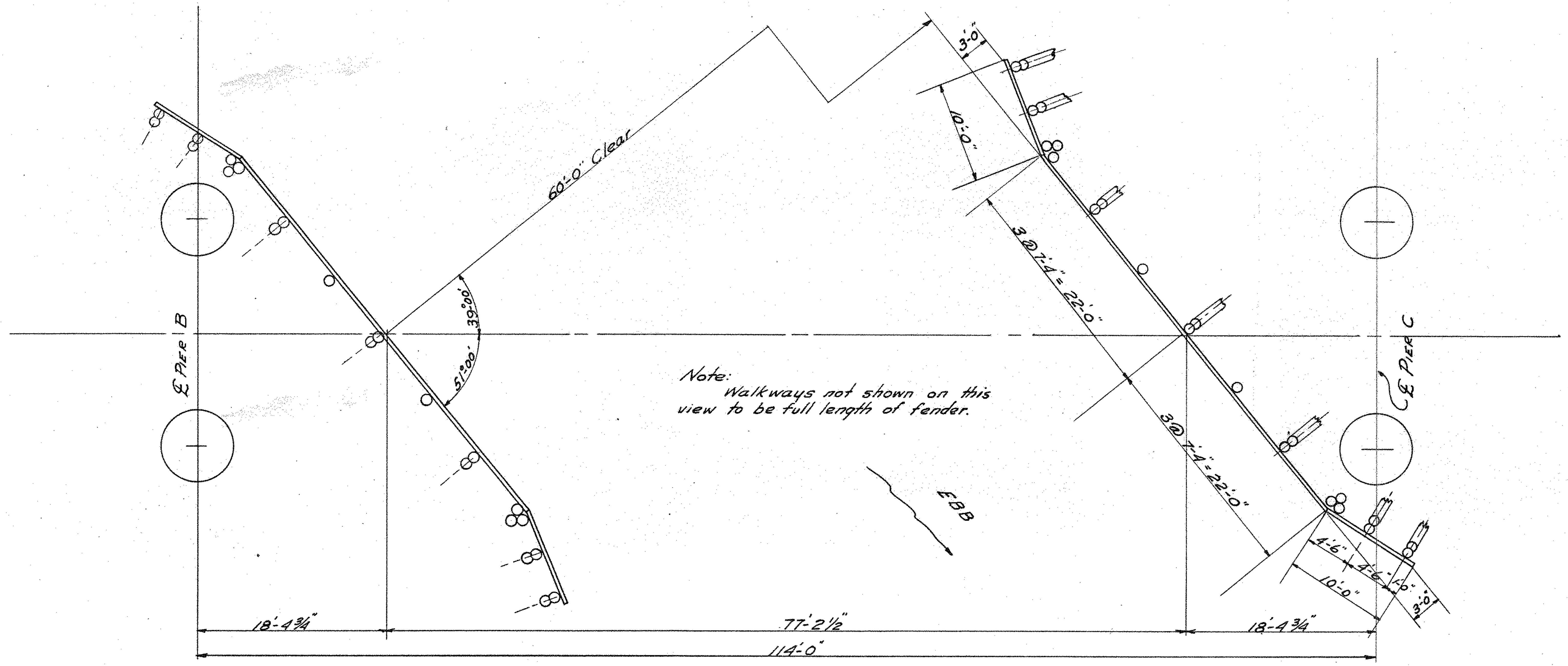
Conway Horry Co.

Scale ¾" = 1'-0"

F.A. Proj. No. 320 Route US 501.

Drawn F.K.P. June 19, 1936
Traced T.E.C. July 10, 1936
Ch'k'ed W.F.L. Aug. 1, 1936.
Rev'ed for 2½ Ft. Ext. Aug. 4/6/37
Checked by W.F.L. 3/29/37

FED ROAD DIST. NO.	STATE	COUNTY	FED AID PROJ. NO.	ROUTE NO	SHEET NO	TOTAL SHEETS
14	SC.	HORRY	320 B	US.501	20	52


3'-0"
10'-0"
60'-0" Clear
3 @ 7'-4" = 22'-0"
3 @ 7'-4" = 22'-0"
39°00'
51°00'
℄ Pier B
℄ Pier C
EBB
4'-6"
4'-6"
1'-0"
10'-0"
3'-0"
18'-4¾"
77'-2½"
18'-4¾"
114'-0"

Note:
Walkways not shown on this view to be full length of fender.

BILL OF CREOSOTED LUMBER 2 FENDERS				
PIECES	SIZE	LENGTH	PLACE	FT. BM.
8	4"x12"	10'-0"	Walk	320
8	"	22'-0"	" "	704
26	8x12	1-3	Blocks	260
16	4x12	22'-0"	Strakes	1408
24	"	14-8	" "	1408
32	"	10-0	" "	1280
			TOTAL	5380

44 PILES 2000 LIN FT.

BILL OF HARDWARE		
NUMBER	ITEM	SIZE
28	Bolts	¾"x32"
48	"	¾"x30"
30	"	¾"x26"
14	"	¾"x24"
186	"	¾"x20"
28	Drift Bolts	¾"x12"
108	Spikes	⅜x8"
640	Washers	¾ Cast
Weight	1610.0	Lbs.

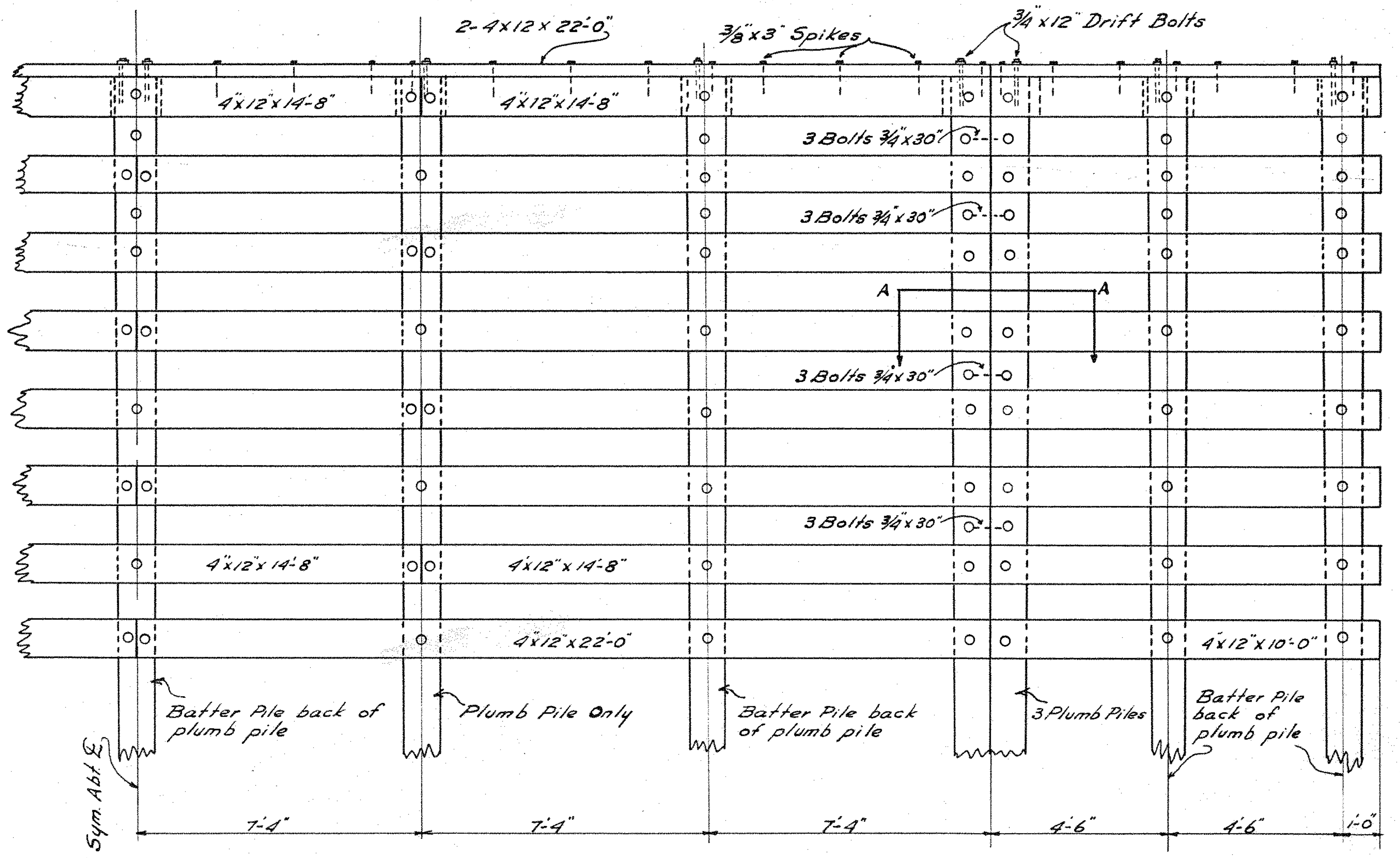
Note: The lengths of bolts shown are for the purpose of computing hardware weights only. The contractor shall determine the proper lengths and furnish accordingly

Note:

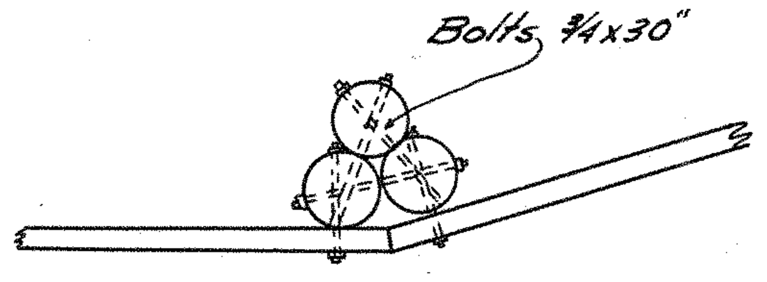
The lengths of piles used in computing quantities are aproximate only. The contractor shall determine the proper lengths and furnish accordingly.

Piles to be driven to 15 tons bearing by formula.

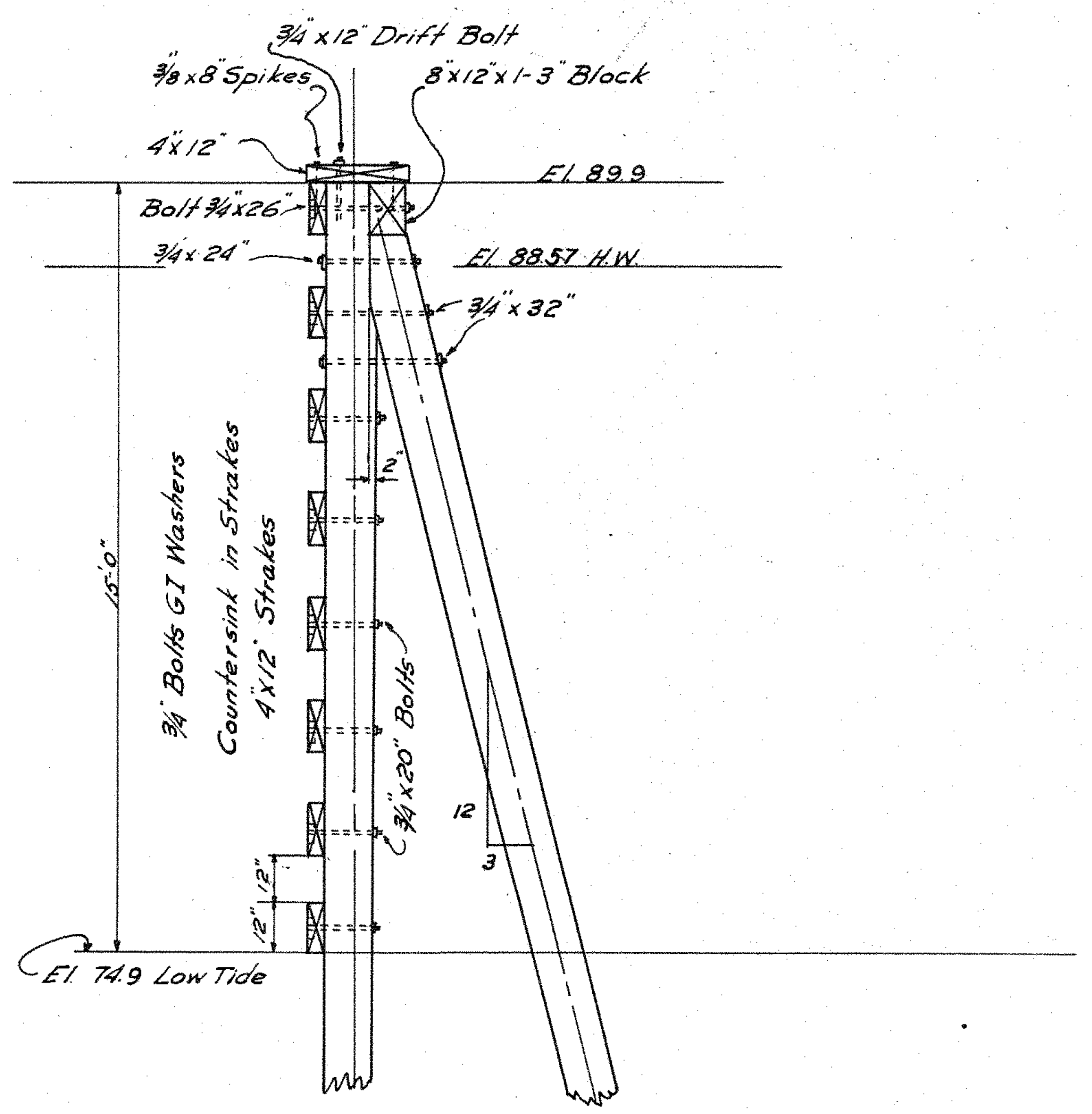
All pile heads and cut ends of strakes to receive treatment as described in the specifications.


2-4x12x22'-0"
⅜x3" Spikes
¾"x12" Drift Bolts
4"x12"x14'-8"
4"x12"x14'-8"
3 Bolts ¾"x30"
3 Bolts ¾"x30"
A
A
3 Bolts ¾"x30"
3 Bolts ¾"x30"
4"x12"x14'-8"
4"x12"x14'-8"
4"x12"x22'-0"
4"x12"x10'-0"
Batter Pile back of plumb pile
Plumb Pile Only
Batter Pile back of plumb pile
3 Plumb Piles
Batter Pile back of plumb pile
Sym Abt ℄
7'-4"
7'-4"
7'-4"
4'-6"
4'-6"
1'-0"

ELEVATION DEVELOPED



SECTION A-A


¾"x12" Drift Bolt
⅜x8 Spikes
8"x12"x1'-3" Block
4"x12"
El 89.9
Bolt ¾"x26"
¾"x24"
El 88.57 H.W.
¾"x32"
15'-0"
¾" Bolts G.I. Washers Countersink in Strakes 4"x12" Strakes
¾"x20" Bolts
12
3
12"
12"
El 74.9 Low Tide

END ELEVATION

S.C. STATE HIGHWAY DEPARTMENT
COLUMBIA S.C.

FENDER

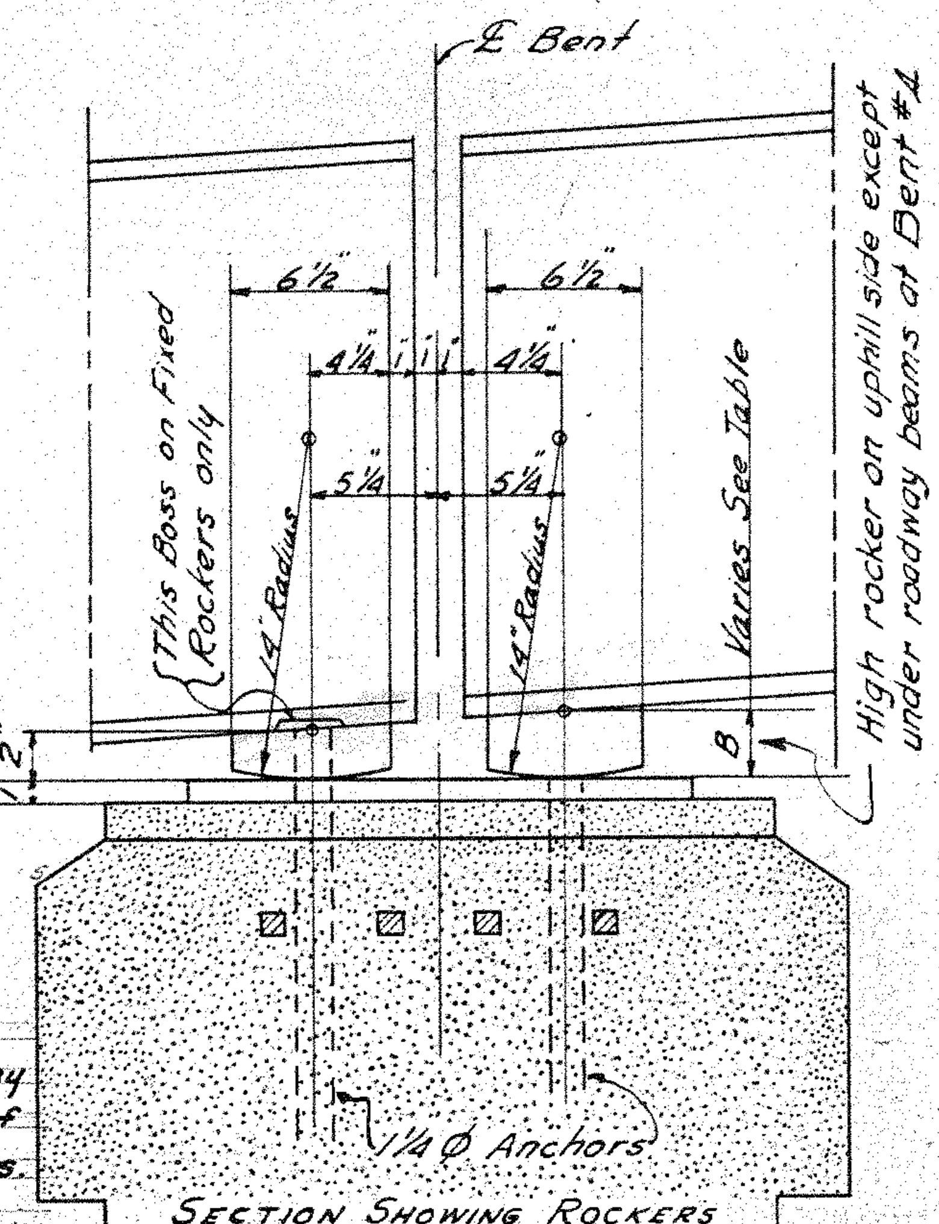
WACCAMAW RIVER
CONWAY HORRY CO.
F.A.P. 320 U.S. ROUTE 501

Drawn F.K.P. June 13, 1936
Traced T.E.C. June 22, 1936
Checked D.G.F. July 23, 1936

FED ROAD DIST. NO.	STATE	COUNTY	F.A. PROJ. NO.	FISCAL YR.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	HORRY	320 B	1936	U.S. 501	22	32

DIMENSION B		
BENT	ROADWAY	SIDEWALK
2	2 13/16"	2 11/16"
4	See Detail	2 13/16"
5	2 5/8"	2 5/8"
6	2 9/16"	2 9/16"
7	2 1/2"	2 1/2"
8	2 3/8"	2 3/8"
9	2 5/16"	2 5/16"
10	2 5/16"	2 5/16"
11	2 3/8"	2 3/8"
12	2 1/2"	2 1/2"
13	2 9/16"	2 9/16"
14	2 5/8"	2 5/8"
15	2 5/8"	2 5/8"
16	2 5/8"	2 5/8"
17	2 5/8"	2 5/8"
18	2 5/8"	2 5/8"

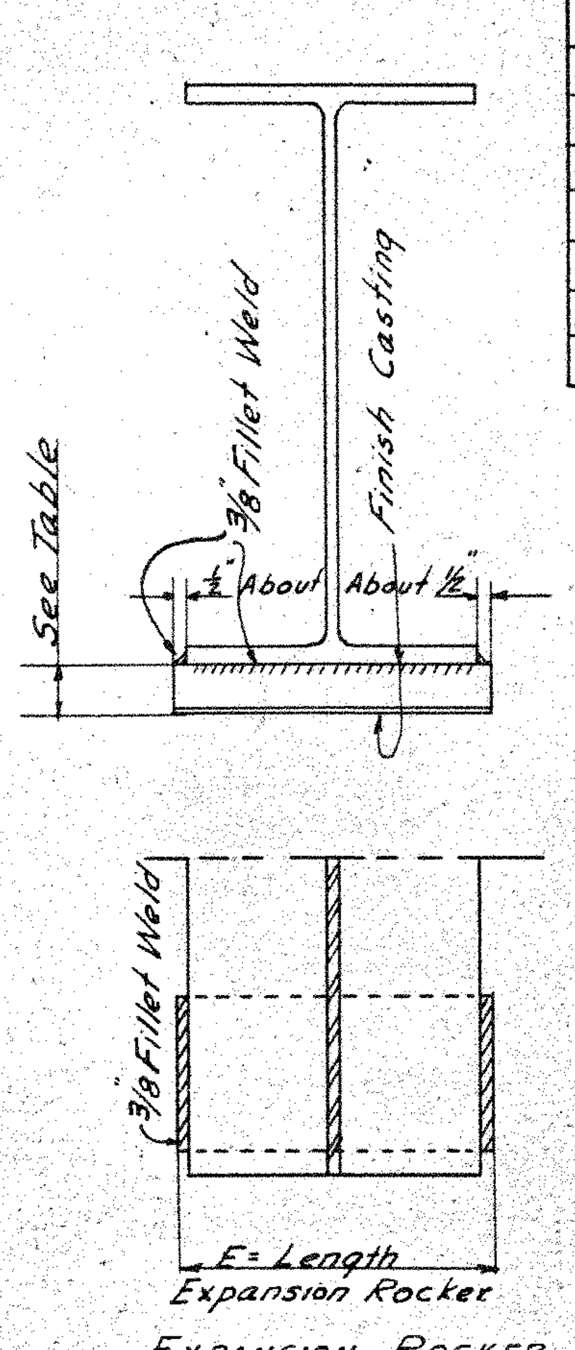
Note: The variation in thickness of rockers may be made up by fillers if the contractor prefers.


℄ Bent
6½"
6½"
4¼"
4¼"
5¼"
5¼"
This Boss on Fixed Rockers only
14" Radius
14" Radius
Varies See Table
B
High rocker on uphill side except under roadway beams at Bent #1
1½"
1¼ Ø Anchors

SECTION SHOWING ROCKERS

Where two Spans land on Bent

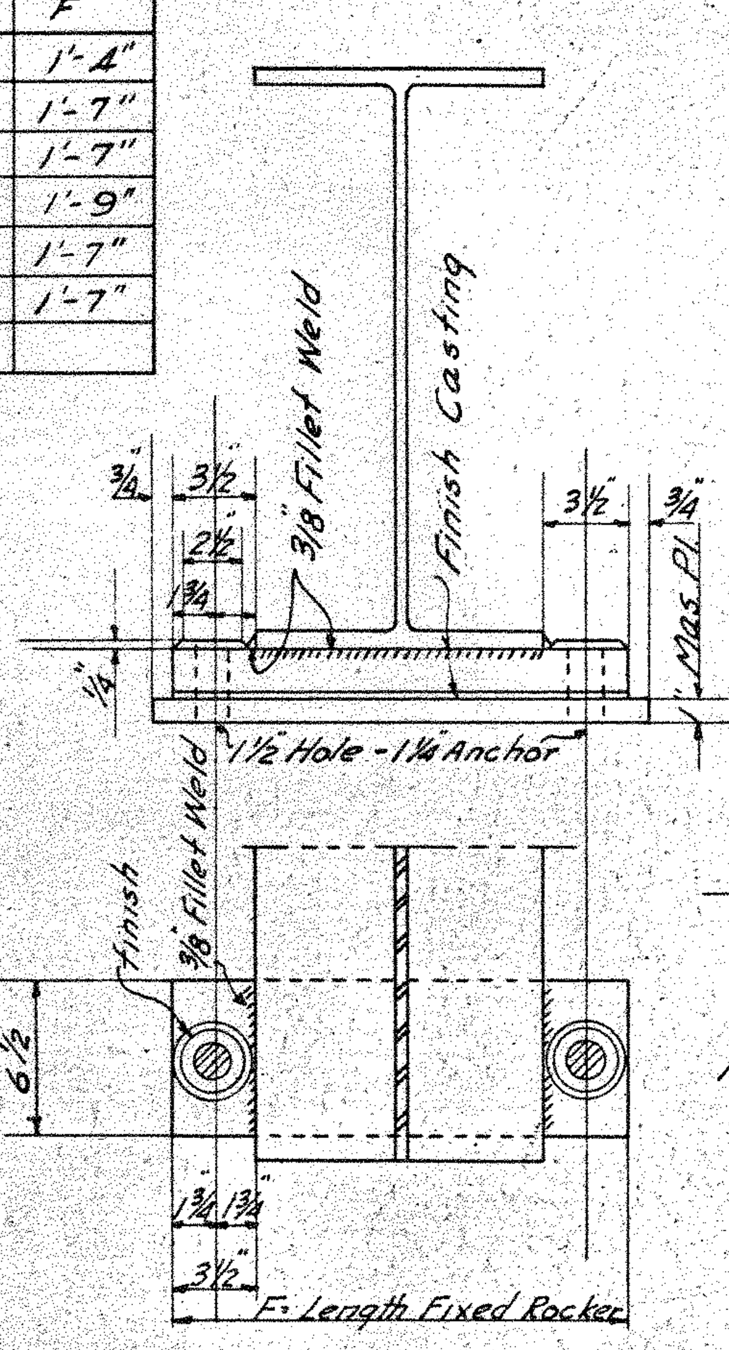
LENGTH OF ROCKERS		
BEAM	E	F
24WF74	10"	1'-4"
24WF100	1'-1"	1'-7"
24WF120	1'-1"	1'-7"
24WF140	1'-3"	1'-9"
36WF150	1'-1"	1'-7"
36WF160	1'-1"	1'-7"


See Table
3/8 Fillet Weld
Finish Casting
About ½
About ½
3/8 Fillet Weld
E = Length

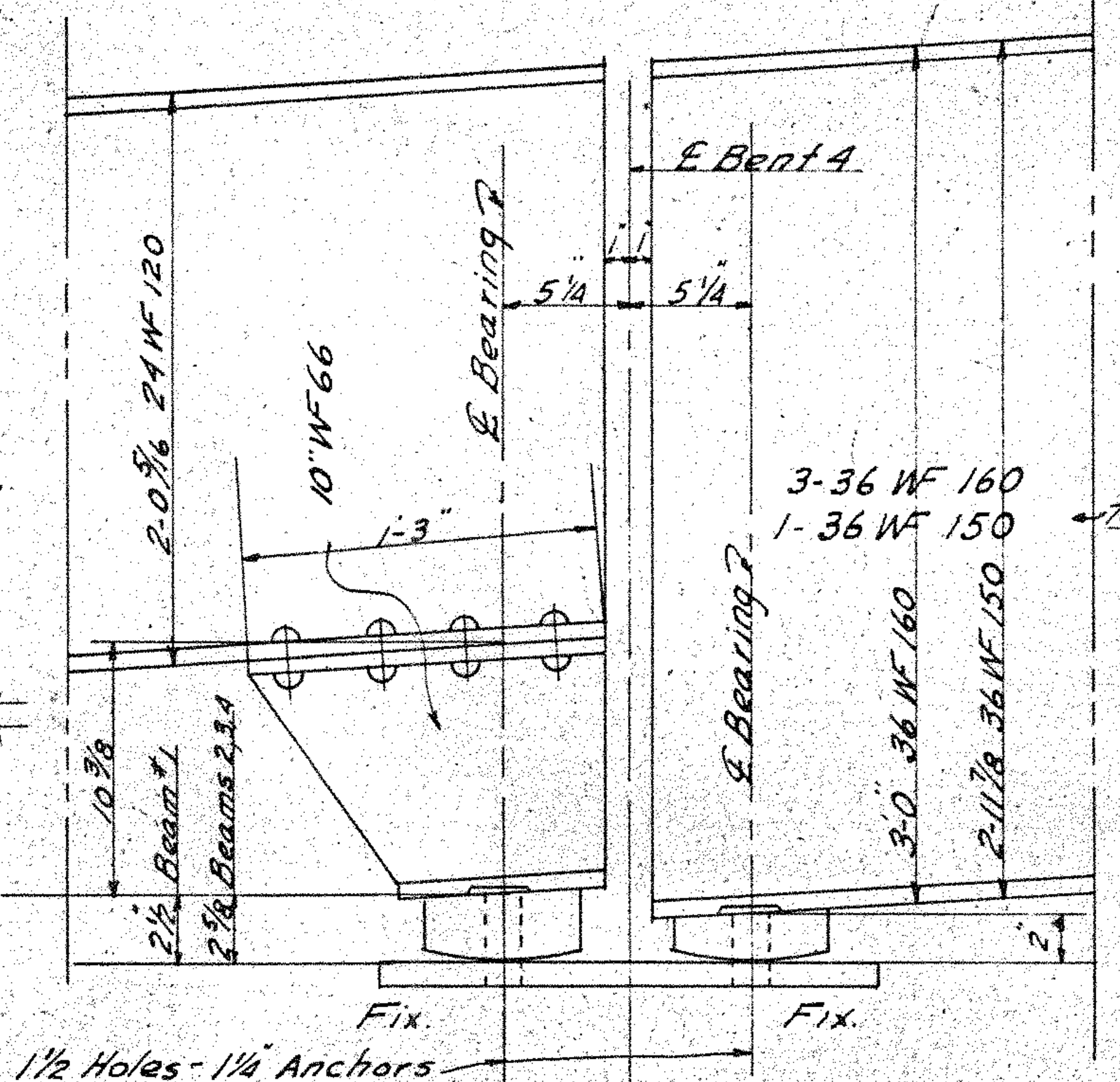
Expansion Rocker

EXPANSION ROCKER

MATERIAL CAST STEEL

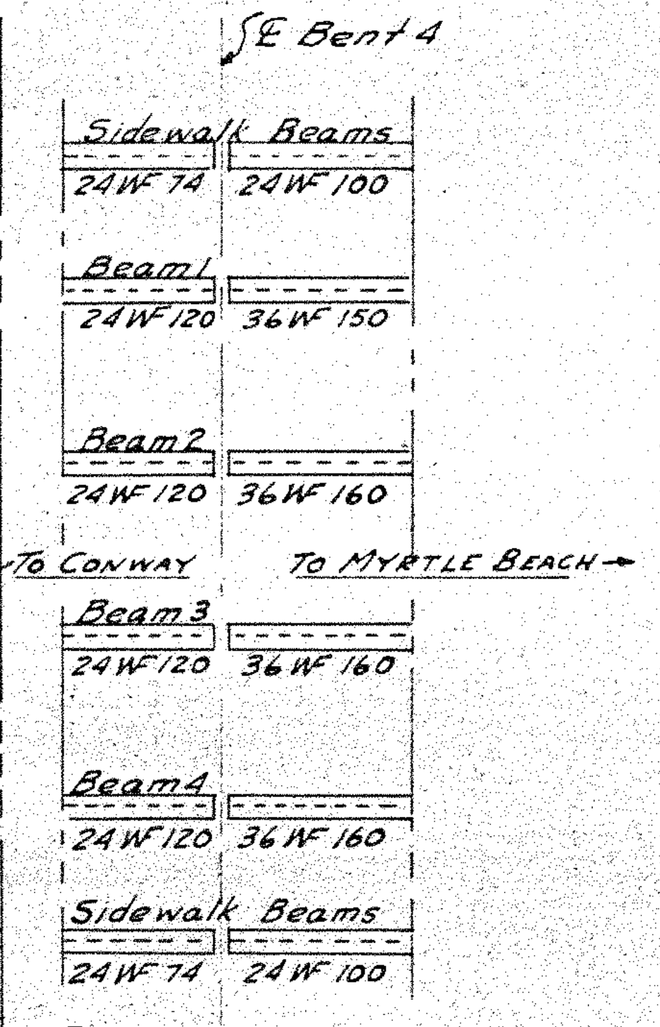

3/4
3½
2½
3/4
3½
3/4
3/8 Fillet Weld
Finish Casting
Mas. Pl.
1½" Hole - 1¼ Anchor
Finish
3/8 Fillet Weld
6½
1¾
3½
F = Length Fixed Rocker

FIXED ROCKER

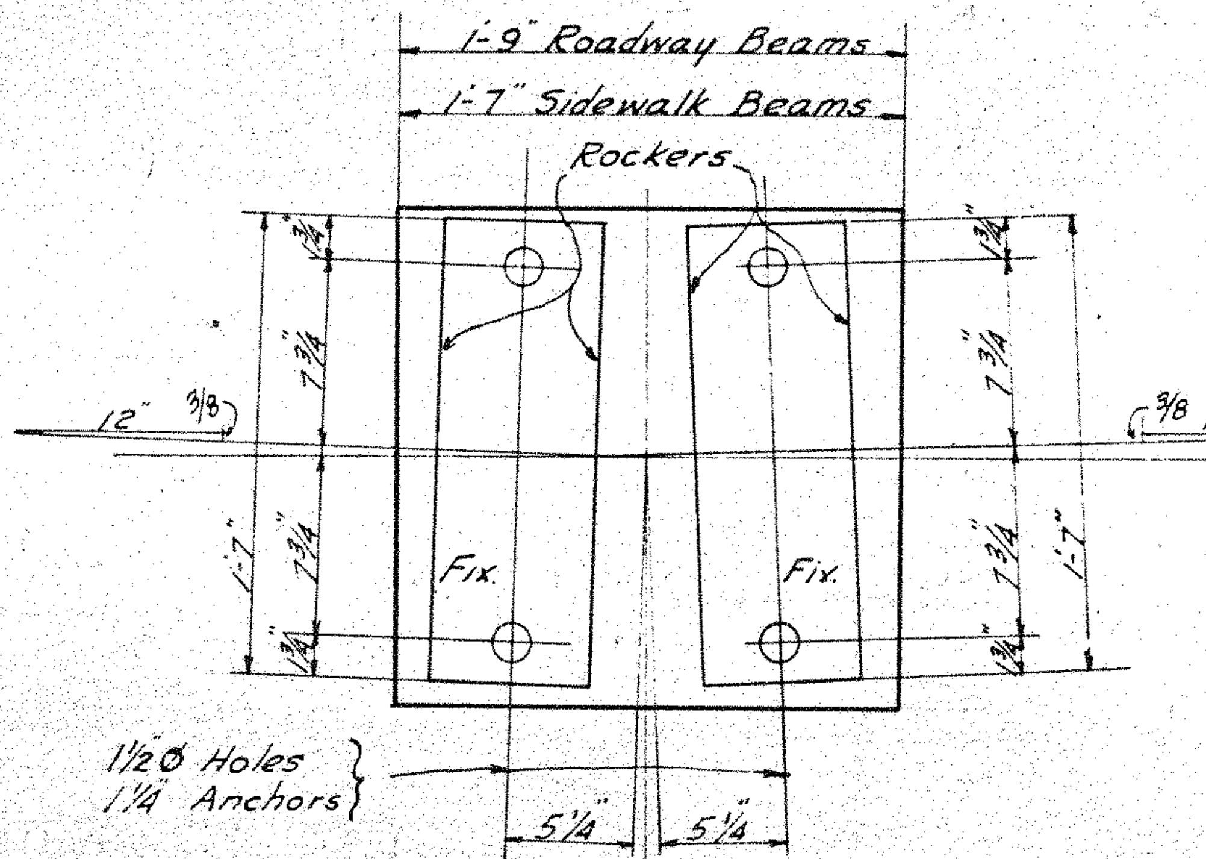

℄ Bent 4
℄ Bearing
℄ Bearing
5¼
5¼
10" WF 66
2-0⅜ 24 WF 120
1'-3"
3-36 WF 160
1-36 WF 150
3-0 36 WF 160
2-11⅞ 36 WF 150
10⅜
2½ Beam #1
2⅜ Beams 2,3,4
Fix.
Fix.
1½ Holes - 1¼ Anchors
2

BENT 4

Showing build-up under roadway beams.


℄ Bent 4
Sidewalk Beams
24WF 74
24WF 100
Beam 1
24WF 120
36WF 150
Beam 2
24WF 120
36WF 160
To Conway
To Myrtle Beach
Beam 3
24WF 120
36WF 160
Beam 4
24WF 120
36WF 160
Sidewalk Beams
24WF 74
24WF 100

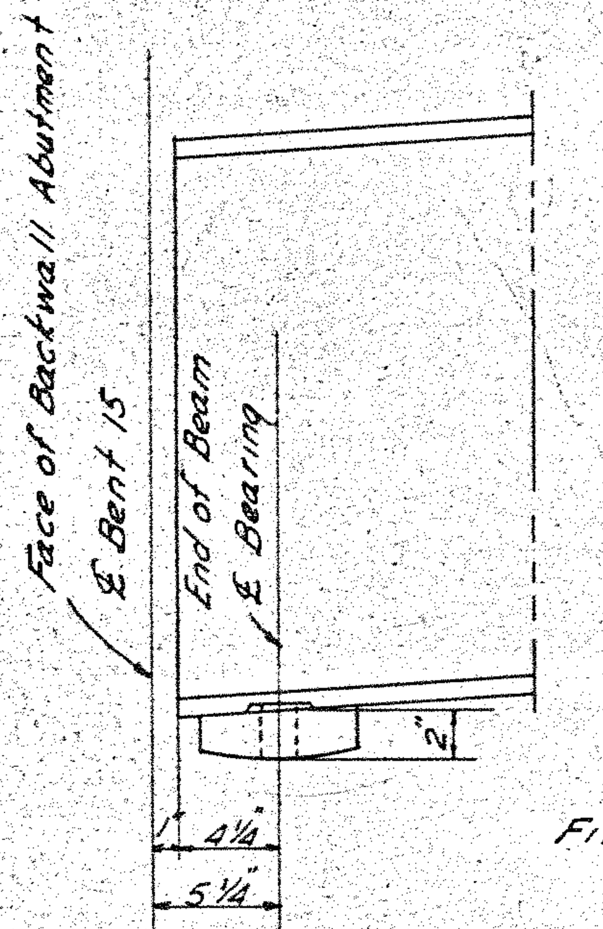
BEAMS AT BENT 4


1-9" Roadway Beams
1-7" Sidewalk Beams
Rockers
12"
3/8
3/8
12"
7¾
7¾
7¾
7¾
1-7
1-7
Fix.
Fix.
1½ Ø Holes
1¼ Anchors
5¼
5¼

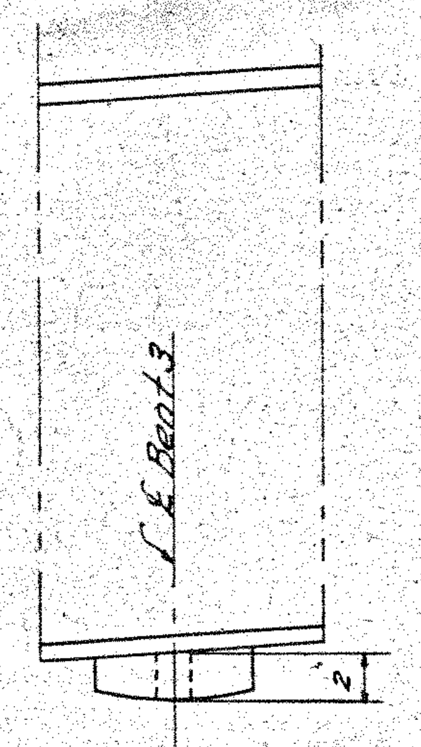
Mas. Pls. Bents 6&8

Roadway 8 Reqd. Each Pl. 21"x1"x1'-8½

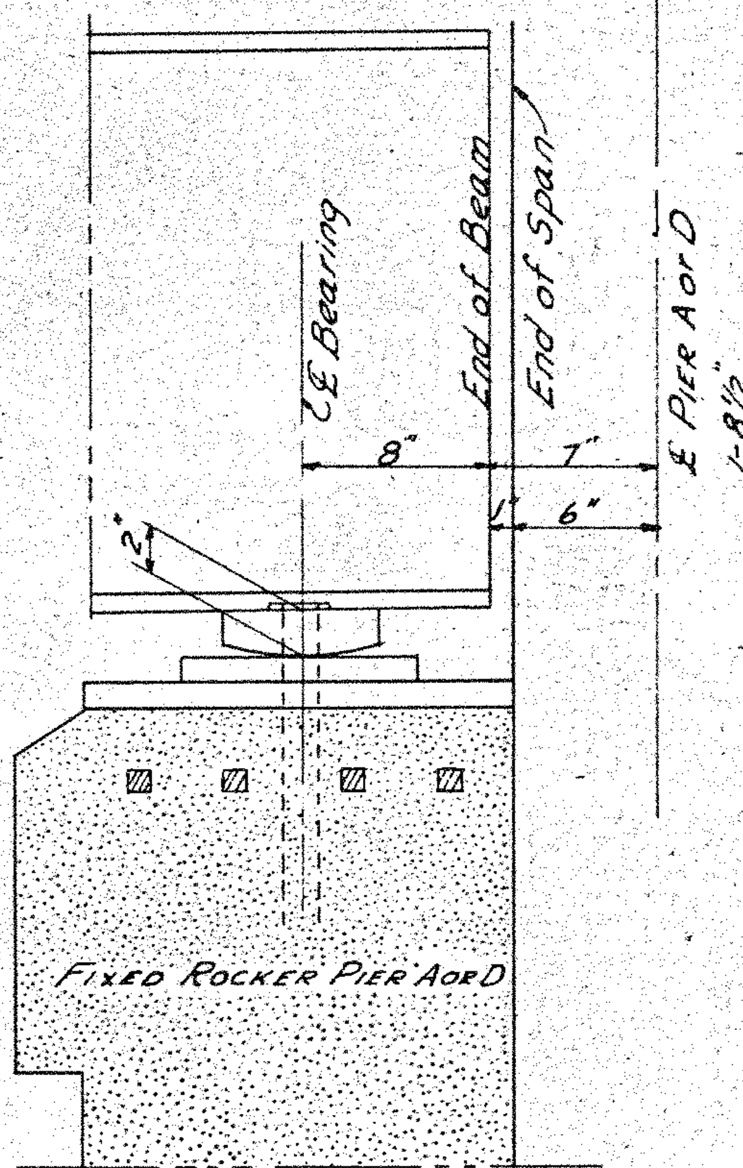
Sidewalk 4 Reqd. Each Pl. 19"x1"x1'-8½


Face of Backwall Abutment #1
℄ Bent 15
End of Beam
℄ Bearing
2
4¼
5¼

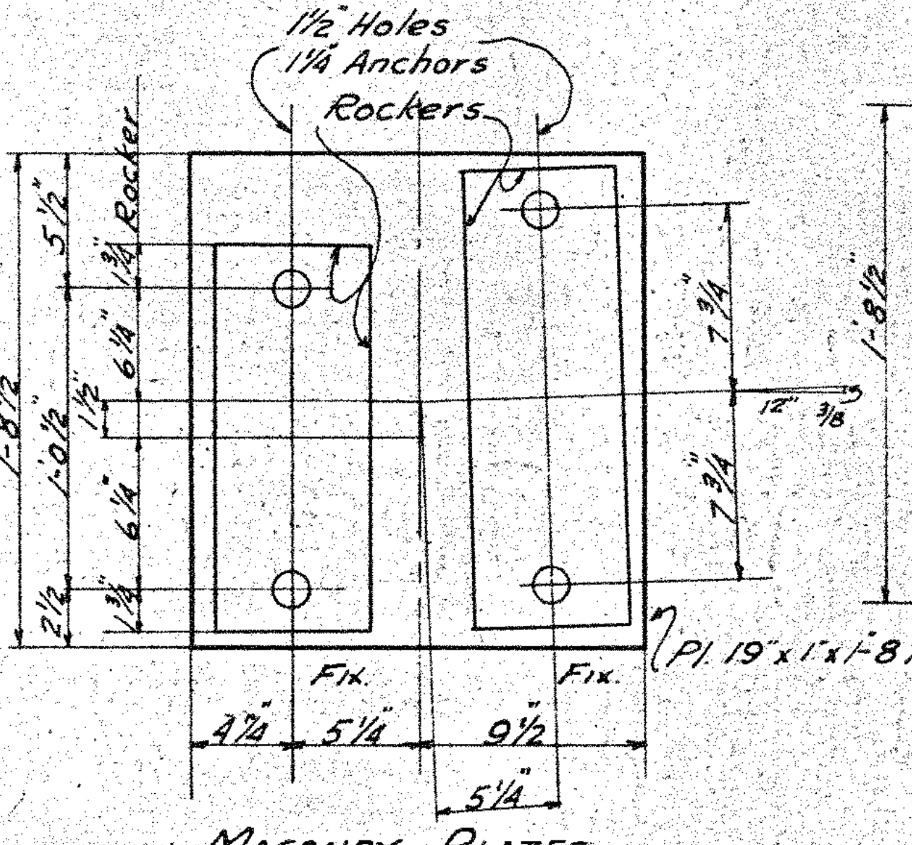
FIXED ROCKER ABUTMENT & BENT 19



FIXED ROCKER BENT 3


℄ Bearing
End of Beam
End of Span
℄ Pier A or D
8"
7"
6"
2"

FIXED ROCKER PIER A or D


1½" Holes
1¼ Anchors
Rockers
Rocker
1'-8½
1-0½
5½
2½
6¼
6¼
2½
7¾
7¾
12"
3/8
Fix.
Fix.
Pl. 19"x1"x1'-8½
4¾
5¼
9½
5¼

MASONRY PLATES

SIDEWALK BEAMS BENT 4

2 REQ'D 1-Right as shown
1-Left-opposite hand

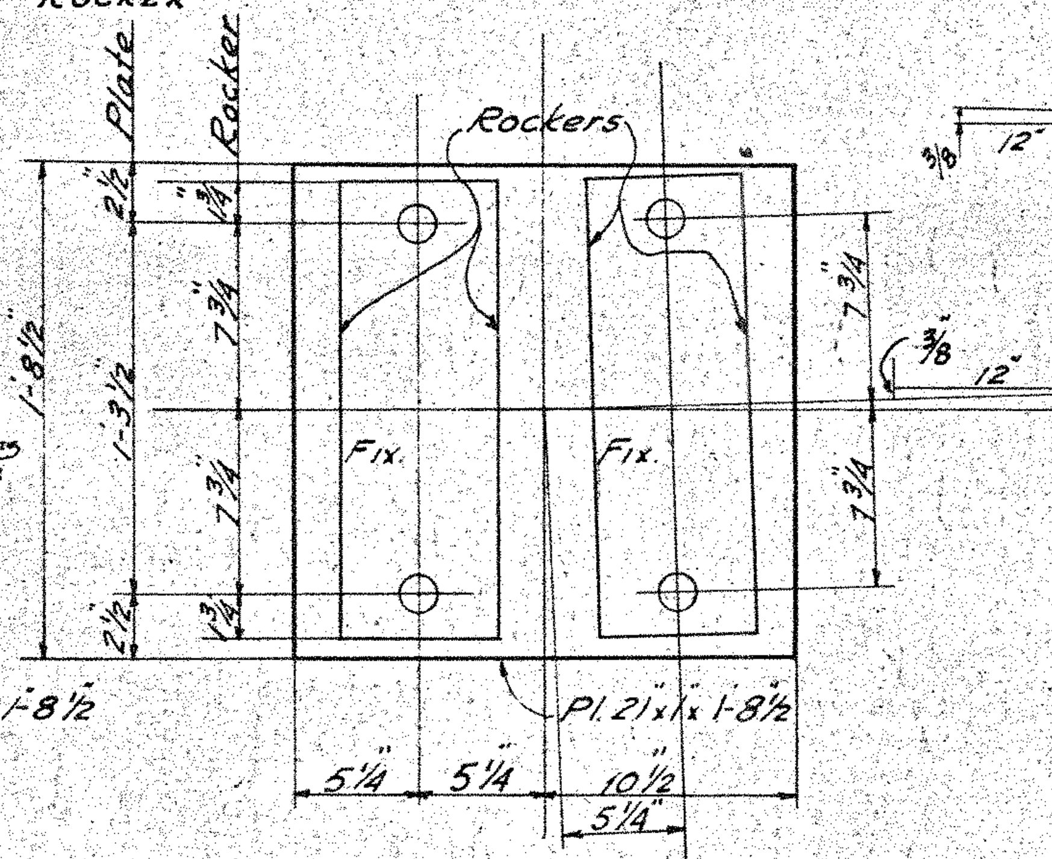
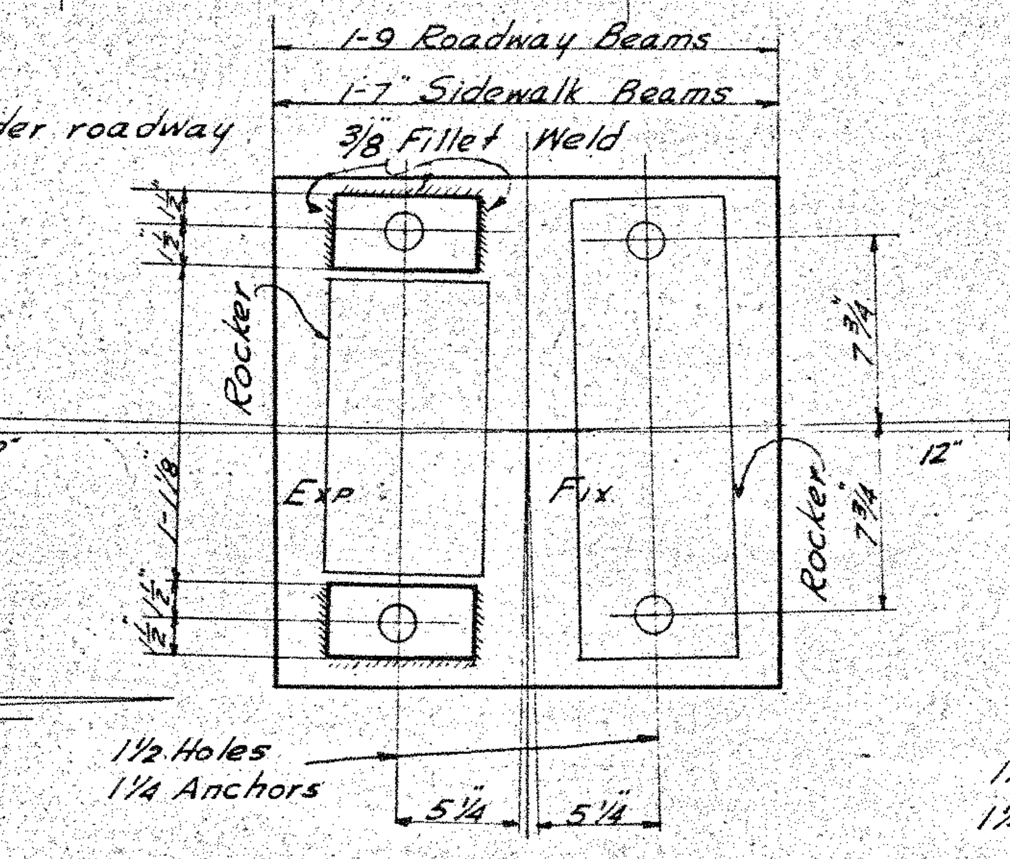


Plate
Rocker
Rockers
1'-8½
1'-3½
2½
7¾
7¾
2½
7¾
7¾
3/8
12"
Fix.
Fix.
Pl. 21"x1"x1'-8½
5¼
5¼
10½
5¼

MASONRY PLATES BENT 4

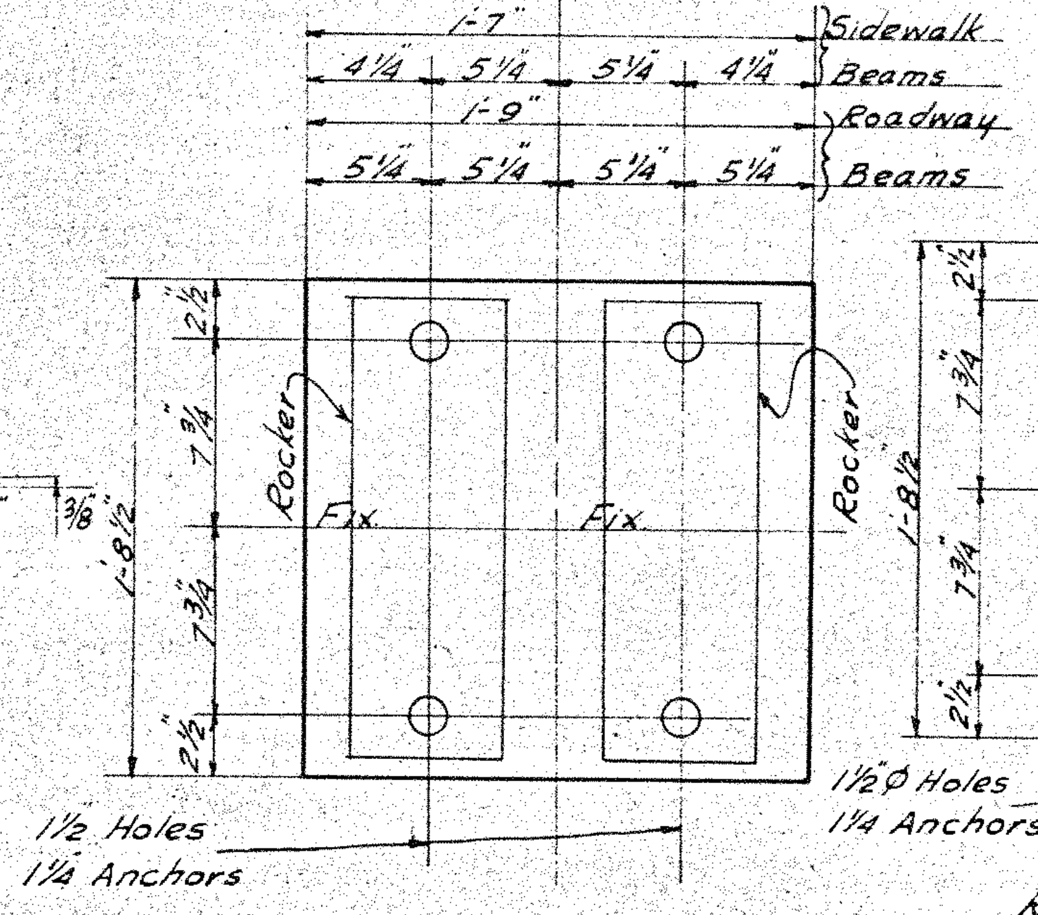
ROADWAY BEAMS 4 REQ'D


1-9 Roadway Beams
1-7 Sidewalk Beams
3/8 Fillet Weld
Rocker
Rocker
Exp.
Fix.
12"
3/8
12"
3/8
1-1/8
7¾
7¾
1½ Holes
1¼ Anchors
5¼
5¼

MASONRY PLATES BENTS 5, 7-9

Roadway 12 Req'd Each 1 Pl. 21"x1"x1'-8½
2 Pls. 3"x¾"x0'-6"

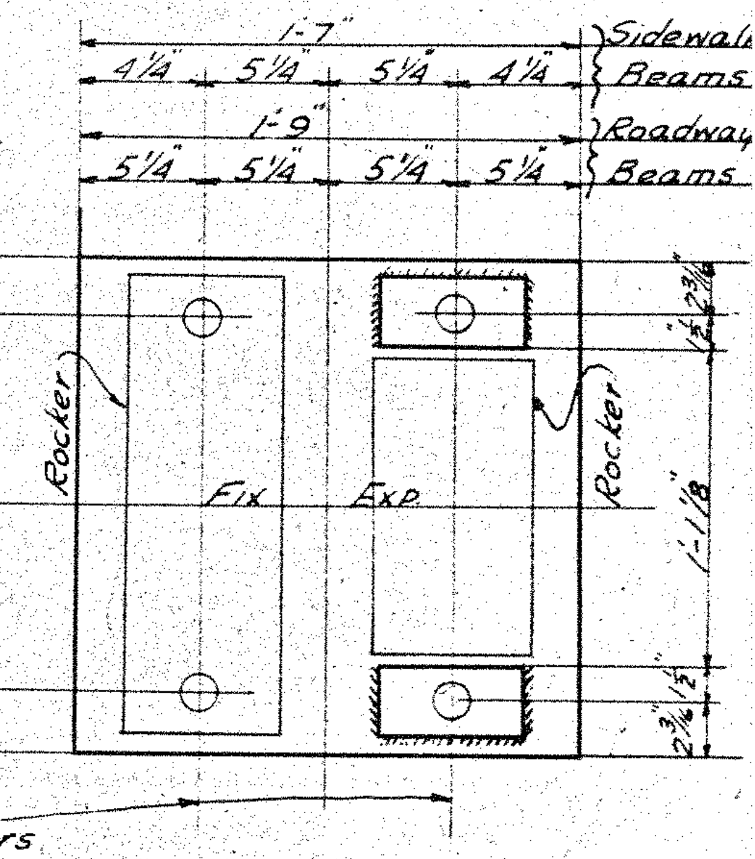
Sidewalk 6 Req'd Each 1 Pl. 19"x1"x1'-8½
2 Pls. 3"x¾"x0'-6"


1-7"
4¼
5¼
5¼
4¼
1-9"
5¼
5¼
5¼
5¼
Sidewalk Beams
Roadway Beams
Rocker
Rocker
Fix
Fix
1'-8½
2½
7¾
7¾
2½
1½ Holes
1¼ Anchors

MASONRY PLATES BENTS 11-13-15-17

Roadway 8 Req'd Each 1 Pl. 21"x1"x1'-8½

Sidewalk 4 " " " 1 Pl. 19"x1"x1'-8½


1-7"
4¼
5¼
5¼
4¼
Sidewalk Beams
1-9"
5¼
5¼
5¼
5¼
Roadway Beams
Rocker
Rocker
Fix
Exp
1-1/8
2½
7¾
7¾
2½
1½ Ø Holes
1¼ Anchors

MASONRY PLATES BENTS 10, 12-14-16-18.

Roadway 12 Req'd Each 1 Pl. 21"x1"x1'-8½
2 Pls. 3"x¾"x0'-6"

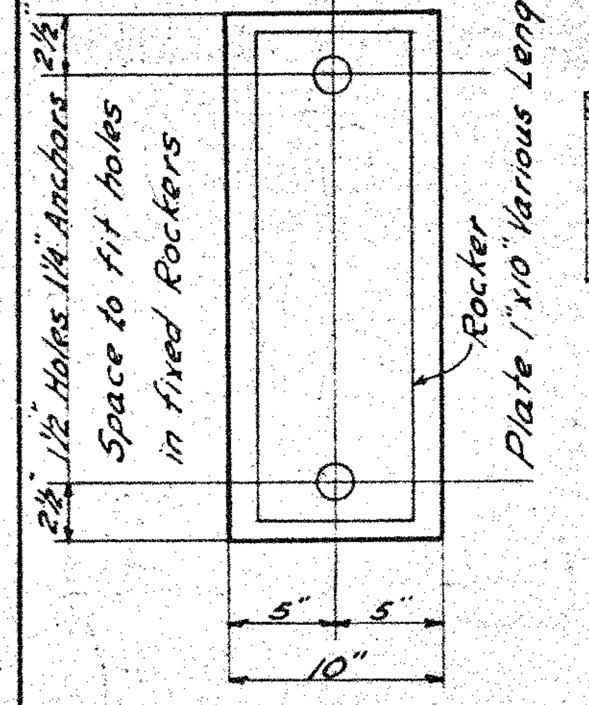
Sidewalk 6 Req'd Each Pl. 19"x1"x1'-8½
2 Pls. 3"x¾"x0'-6"

QUANTITIES FOR 212 FT. EXTENSION	
Masonry & Guide Pls.	2925 Lbs.
Rockers	3423 Lbs
Anchor Bolts	776 Lbs

ORIGINAL SUMMARY OF QUANTITIES	
Masonry & Guide Pls.	10,617 Lbs.
Rockers	11,606 Lbs.
Anchor Bolts	2,814 Lbs.

DEFLECTION & CAMBER BEAM SPANS (INCHES)								
SPAN	BEAM	D.L. BEAM	Roadway Slab	Sidewalk Slab	Hand Rail	Live Load	Vertical Curve	Total
1-2 42' SIMPLE	INTERIOR	.07	.38	—	—	.20	—	.65
	CURB	.07	.33	.05	—	.20	—	.65
	SIDEWALK	.07	—	.35	.30	.20	—	.92
2-3-4 42 CONT.	INTERIOR	.03	.20	—	—	.17	—	.40
	CURB	.03	.18	.03	—	.16	—	.40
	SIDEWALK	.03	—	.16	.13	.08	—	.40
53' SIMPLE	INTERIOR	.09	.39	—	—	.30	.60	1.38
	CURB	.09	.22	.06	—	.30	.60	1.27
	SIDEWALK	.09	—	.60	.49	.30	.60	2.08

Spans 15-16, 16-17, 17-18, 18-19 on -6.5% grade, no vertical curve.

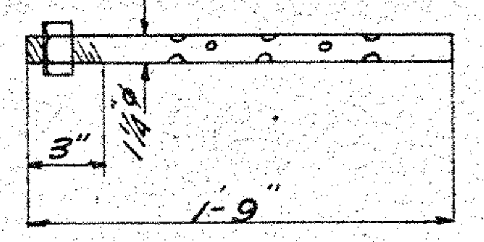

2½
1½" Holes, 1¼ Anchors
Space to fit holes in fixed Rockers
Rocker
Plate 1"x10" Various Lengths
2½
5"
5"
10"

MASONRY PLATE FIXED ENDS

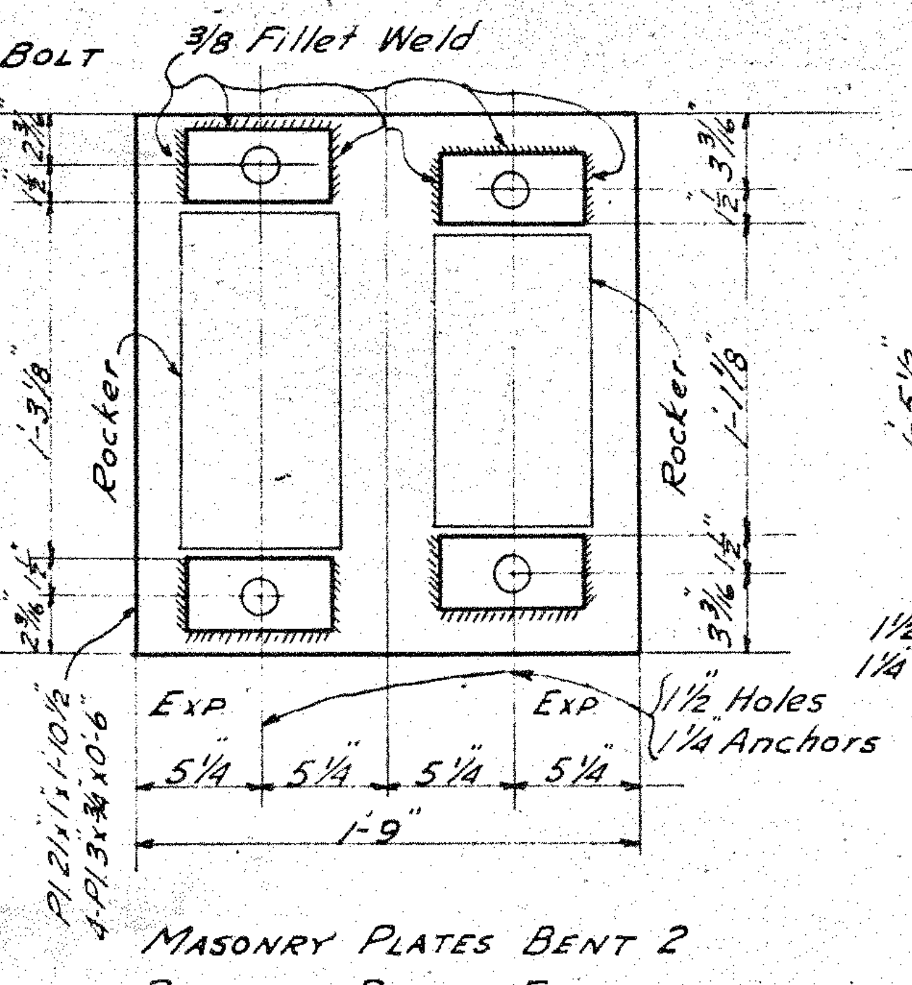
ABUTMENT 1 BENTS 3 & 19

PIERS A & D

Material Rolled Steel



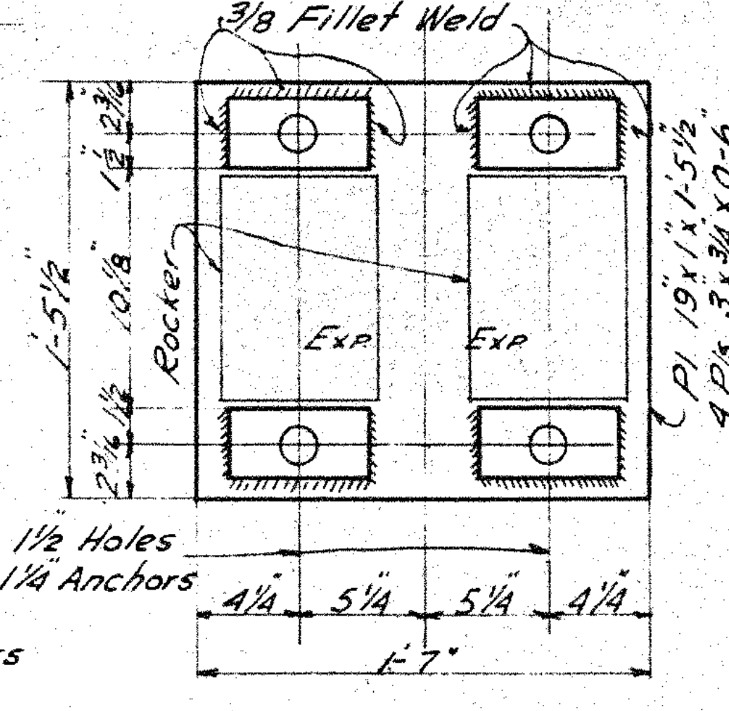
SWEDGE BOLT


3/8 Fillet Weld
1-3/8
1-0½
Rocker
Rocker
1-1/8
Exp
Exp
1½ Holes
1¼ Anchors
5¼
5¼
5¼
5¼
1-9"
Pl 21"x1"x1-0½
4 Pls 3"x¾"x0-6

MASONRY PLATES BENT 2

ROADWAY BEAMS EXP.

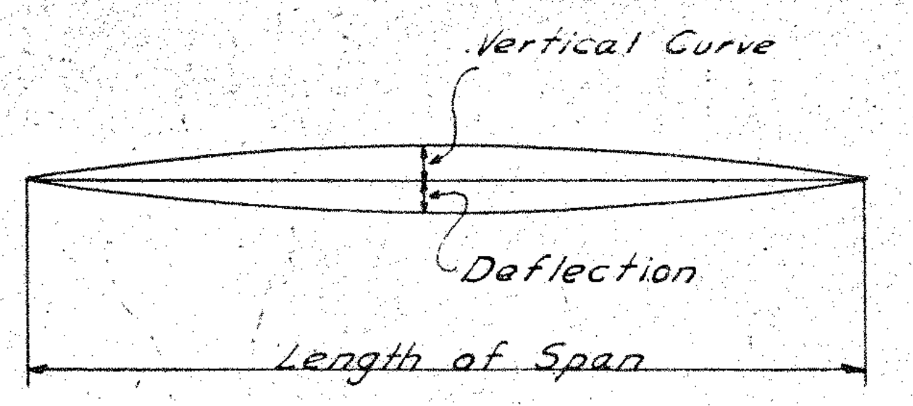
4 REQ'D


3/8 Fillet Weld
1-5½
1-0⅛
Rocker
Exp
Exp
Pl. 19"x1"x1-5½
4 Pls 3"x¾"x0-6
1½ Holes
1¼ Anchors
4¼
5¼
5¼
4¼
1-7"

MASONRY PLATES BENT 2

SIDEWALK BEAMS EXP.

2 REQ'D


Vertical Curve
Deflection
Length of Span

S.C. STATE HIGHWAY DEPARTMENT
COLUMBIA

BEARING PLATES FOR BEAM SPANS

WACCAMAW RIVER
CONWAY HORRY CO
Scale 1½" = 1'-0"

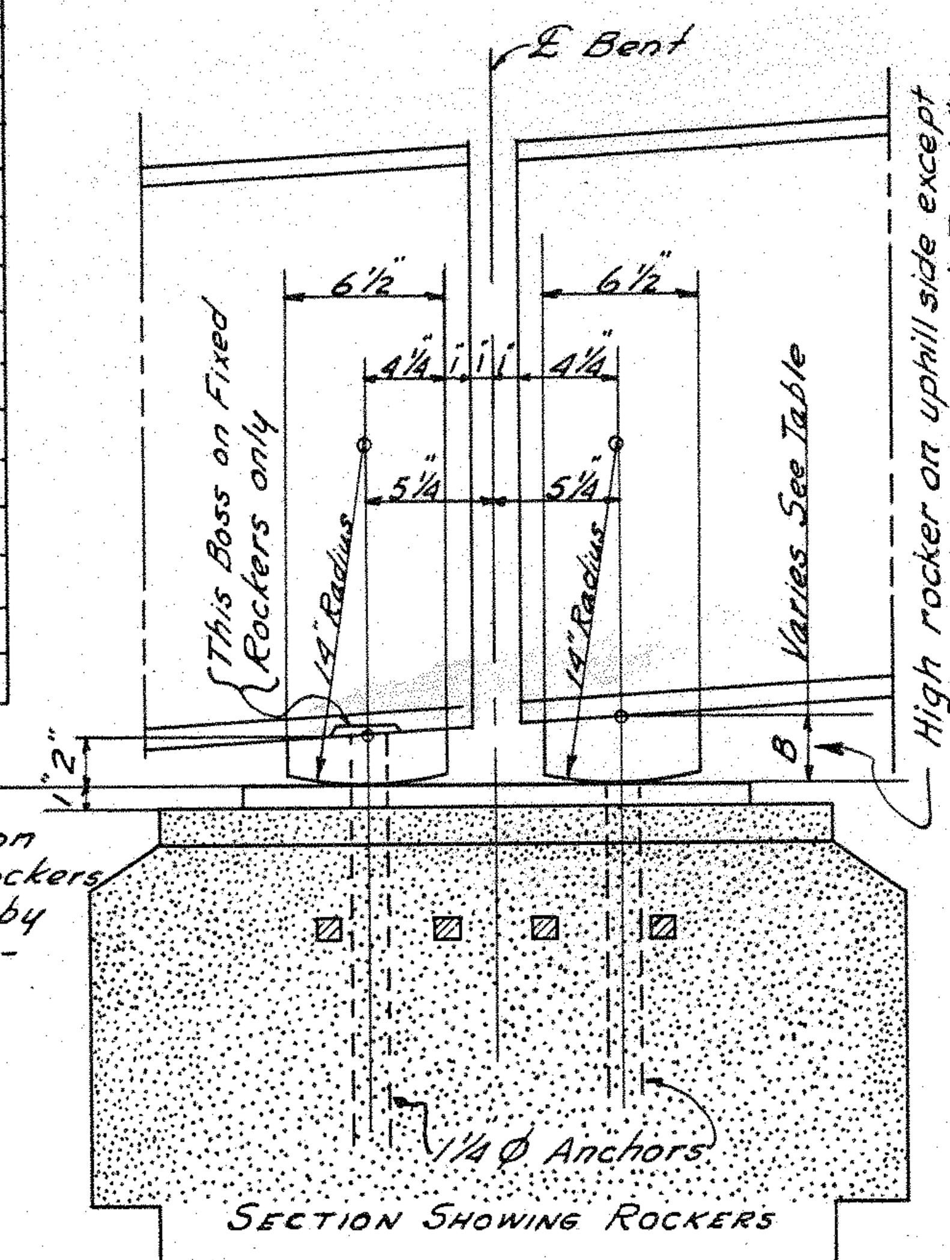
Made F.K.P. July 1936
Traced T.E.C. July 1936

Quantities by D.C.J. Aug. 1936
Checked by L.H. Aug. 1936
Revised for 212 Ft. Ext. Eug. 3/25/37
Checked: W.F.L. 3/29/37

FED. ROAD DIST. NO.	STATE	COUNTY	F.A. PROJ. NO.	FISCAL YR.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	HORRY	320 B	1936	U.S. 501	22	52

DIMENSION B		
BENT	ROADWAY	SIDEWALK
2	2 13/16"	2 11/16"
4	See Detail	2 13/16"
5	2 5/8"	2 5/8"
6	2 9/16"	2 9/16"
7	2 1/2"	2 1/2"
8	2 3/8"	2 3/8"
9	2 5/16"	2 5/16"
10	2 5/16"	2 5/16"
11	2 3/8"	2 3/8"
12	2 1/2"	2 1/2"
13	2 9/16"	2 9/16"
14	2 5/8"	2 5/8"

Note: The variation in thickness of rockers may be made up by fillers if the contractor prefers.

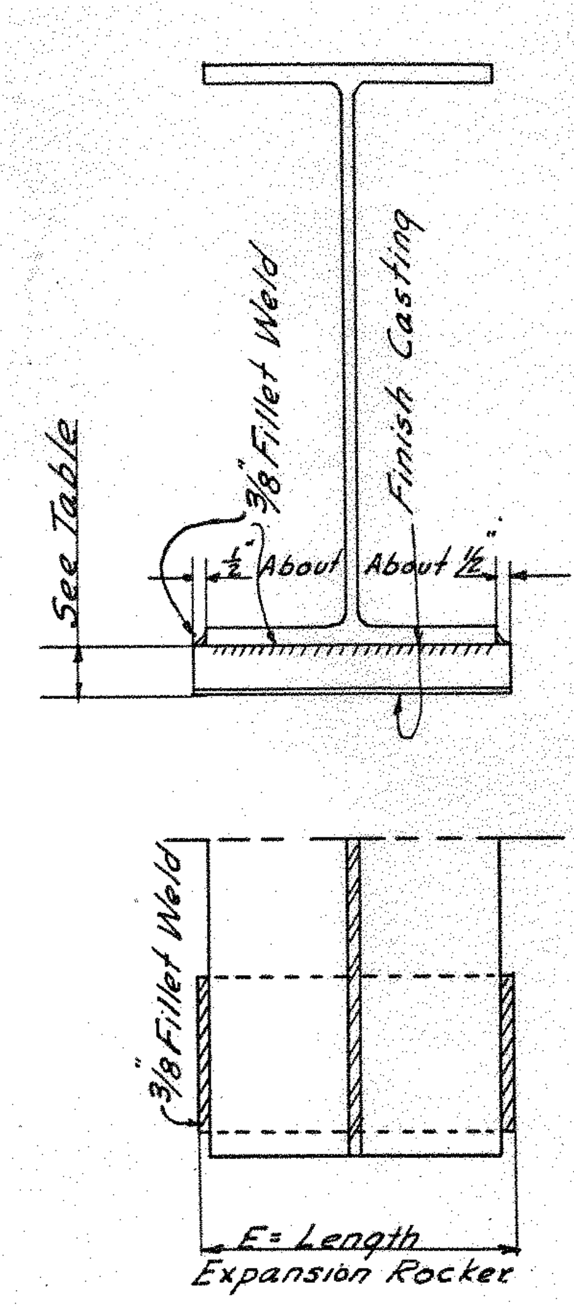


℄ Bent
6½"
6½"
4¼"
4¼"
5¼"
5¼"
14" Radius
14" Radius
This Boss on Fixed Rockers only
Varies See Table
B
High rocker on uphill side except under roadway beams at Bent #4
1½"
1¼ Ø Anchors

SECTION SHOWING ROCKERS

Where two Spans Land on Bent

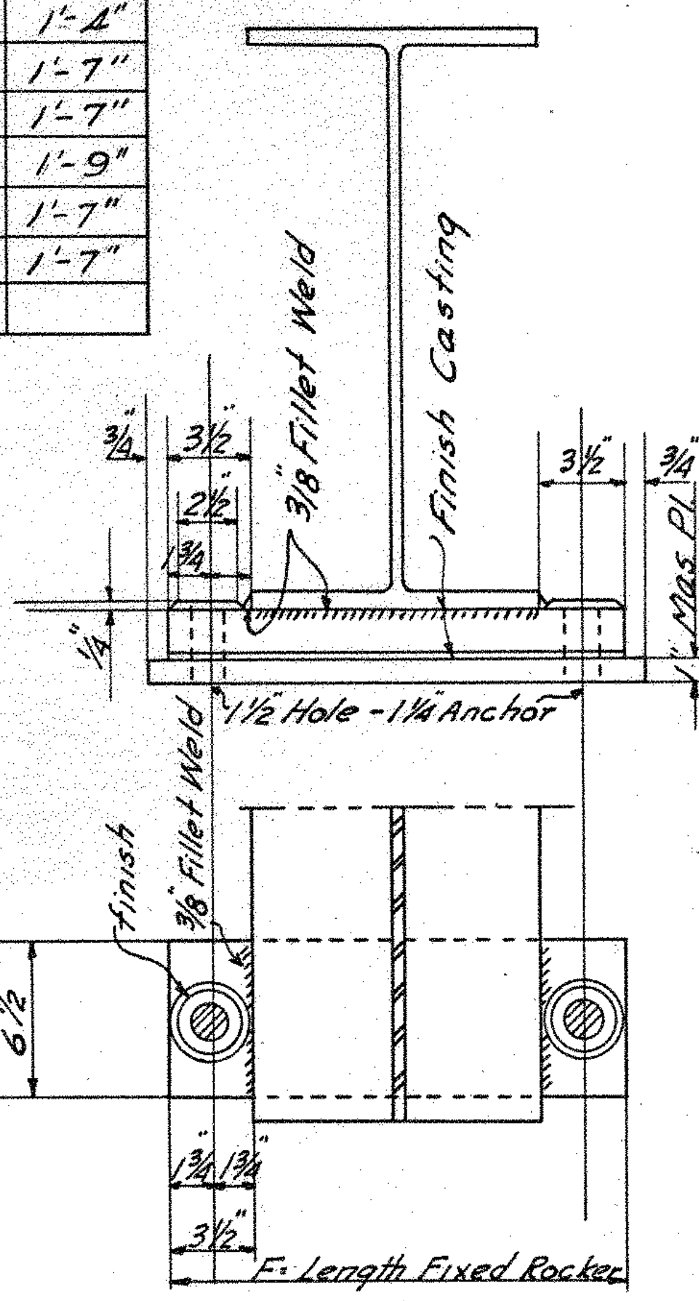
LENGTH OF ROCKERS		
BEAM	E	F
24WF74	10"	1'-4"
24WF100	1'-1"	1'-7"
24WF120	1'-1"	1'-7"
24WF140	1'-3"	1'-9"
36WF150	1'-1"	1'-7"
36WF160	1'-1"	1'-7"



See Table
3/8 Fillet Weld
Finish Casting
About ½"
About ½"
3/8 Fillet Weld
E = Length Expansion Rocker

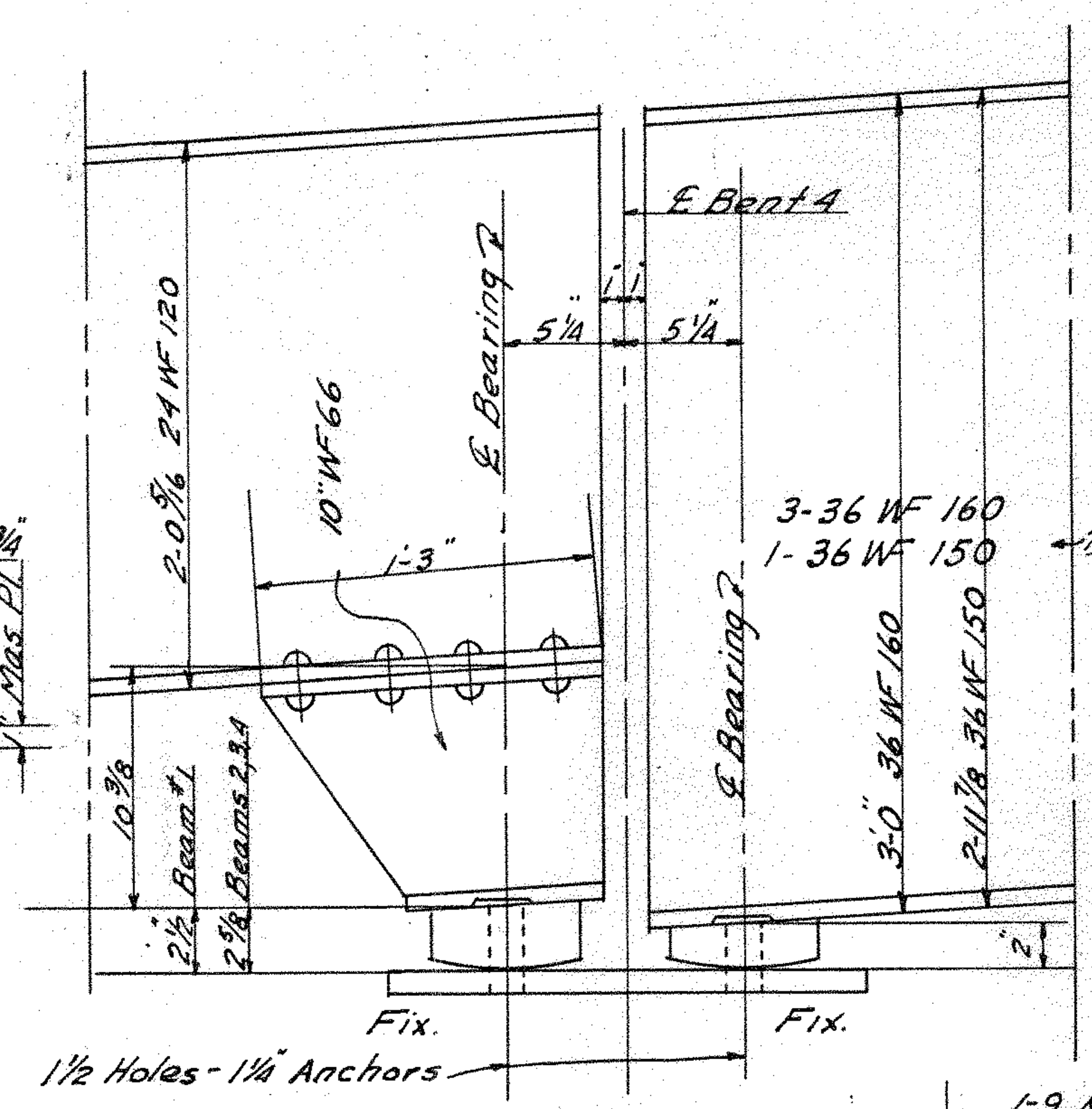
EXPANSION ROCKER

MATERIAL CAST STEEL



3/4
3½
2½
3/4
3/8 Fillet Weld
Finish Casting
3½
3/4
Mas. Pl.
1½ Hole - 1¼ Anchor
Finish
3/8 Fillet Weld
6½"
1¾
1¾
3½
F = Length Fixed Rocker

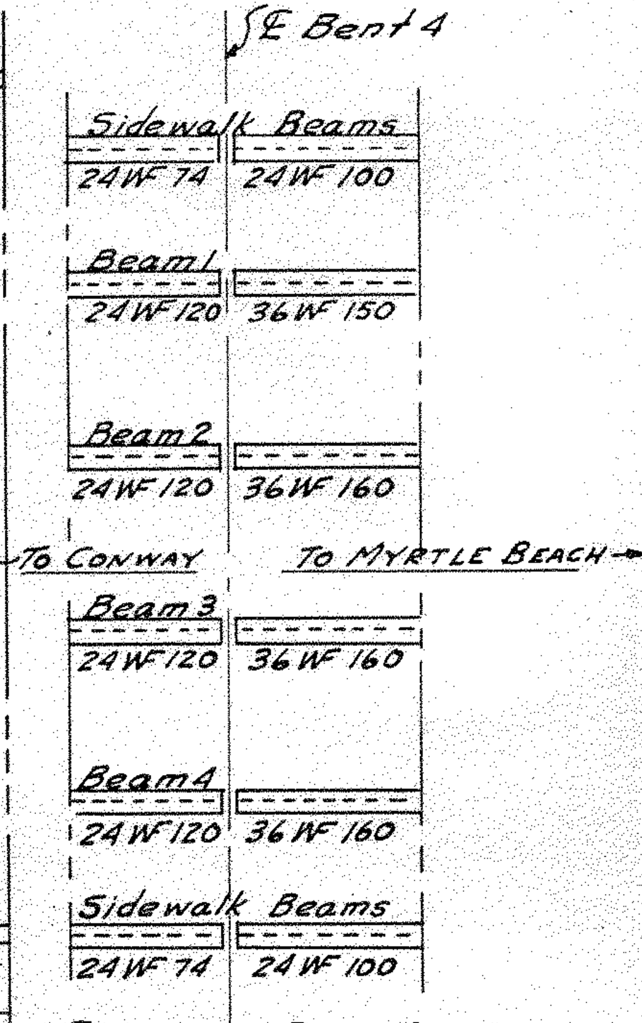
FIXED ROCKER



℄ Bent 4
2-0 9/16
24 WF 120
10" WF 66
1'-3"
℄ Bearing
5¼
5¼
3-36 WF 160
1-36 WF 150
℄ Bearing
3'-0" 36 WF 160
2-11 7/8 36 WF 150
10 3/8
Beam #1
2¼ Beams 2, 3, 4
Fix.
Fix.
1½ Holes - 1¼ Anchors

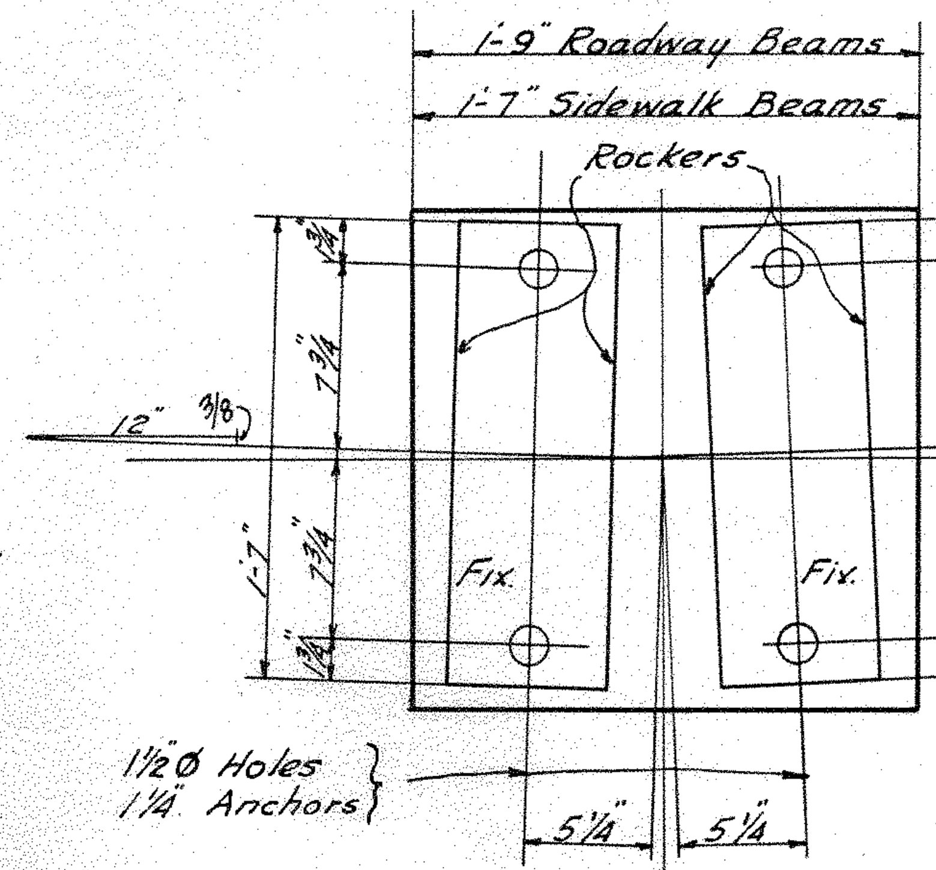
BENT 4

Showing build-up under roadway beams.



℄ Bent 4
Sidewalk Beams
24WF74 24WF100
Beam 1
24WF120 36WF150
Beam 2
24WF120 36WF160
To Conway
To Myrtle Beach
Beam 3
24WF120 36WF160
Beam 4
24WF120 36WF160
Sidewalk Beams
24WF74 24WF100

BEAMS AT BENT 4

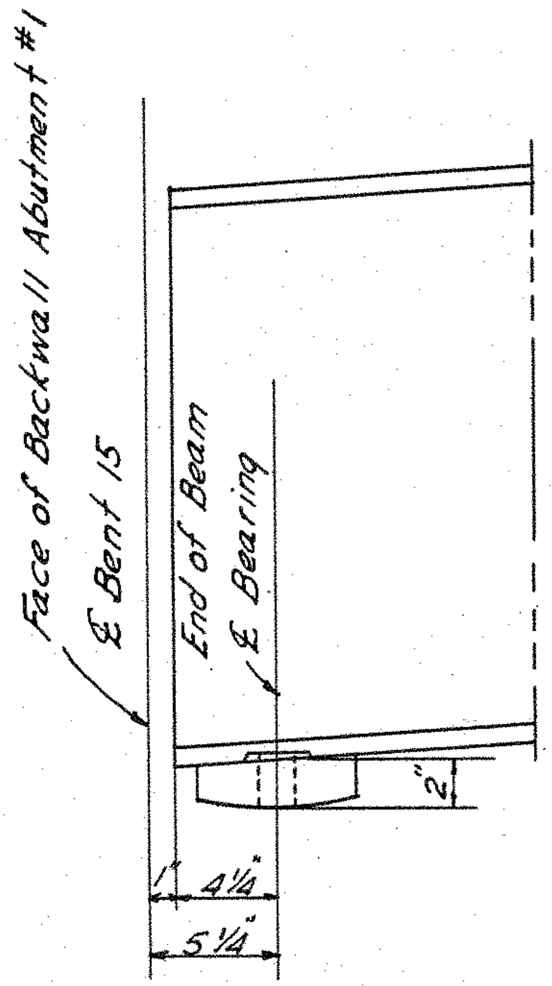


1'-9" Roadway Beams
1'-7" Sidewalk Beams
Rockers
12"
3/8
3/8
12"
Fix.
Fix.
1'-7"
1'-7"
1½ Ø Holes
1¼ Anchors
5¼
5¼

Mas. Pls. Bents 6 & 8

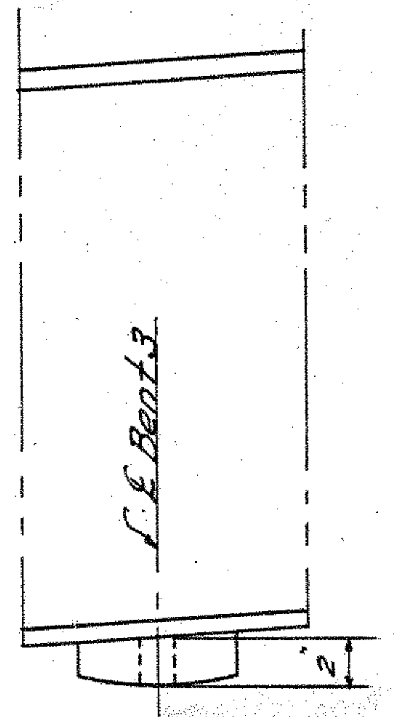
Roadway 8 Reqd. Each Pl. 21"x1"x1'-8½

Sidewalk 4 Reqd. Each Pl. 19"x1"x1'-8½

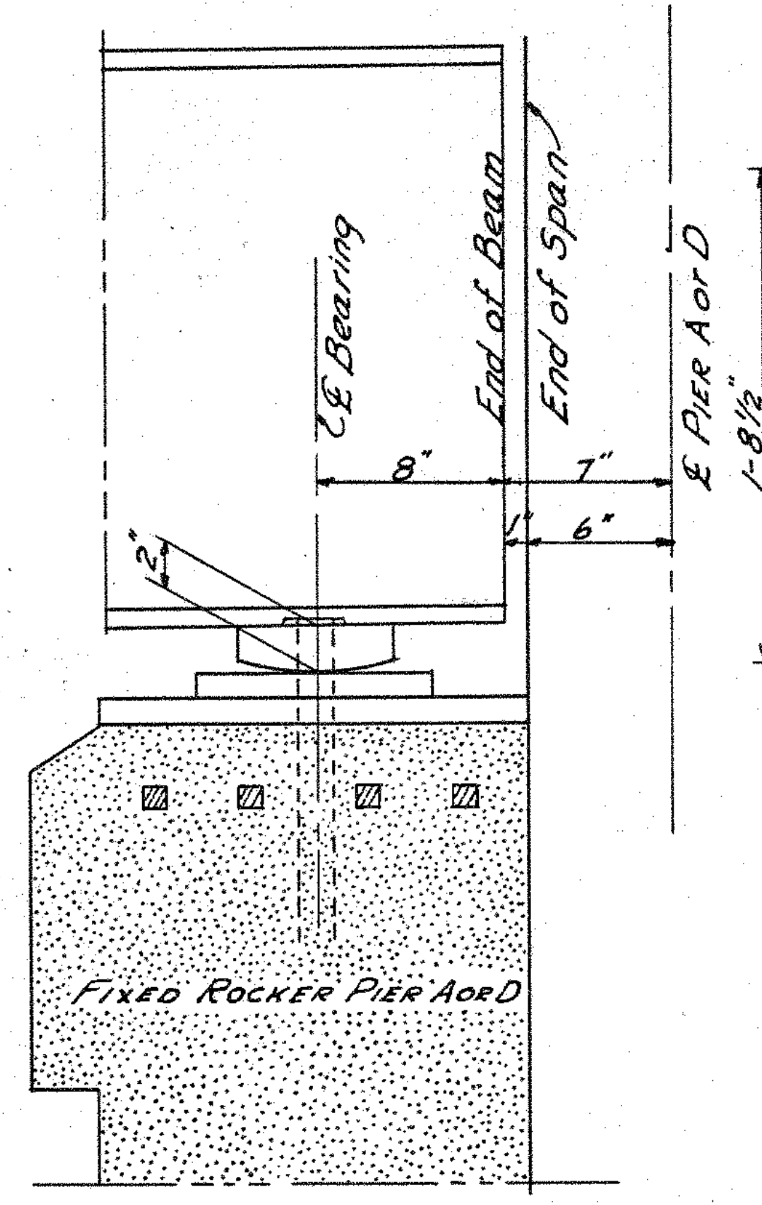


Face of Backwall Abutment #1
℄ Bent 15
End of Beam
℄ Bearing
2"
4¼
5¼

FIXED ROCKER ABUTMENT & BENT 15

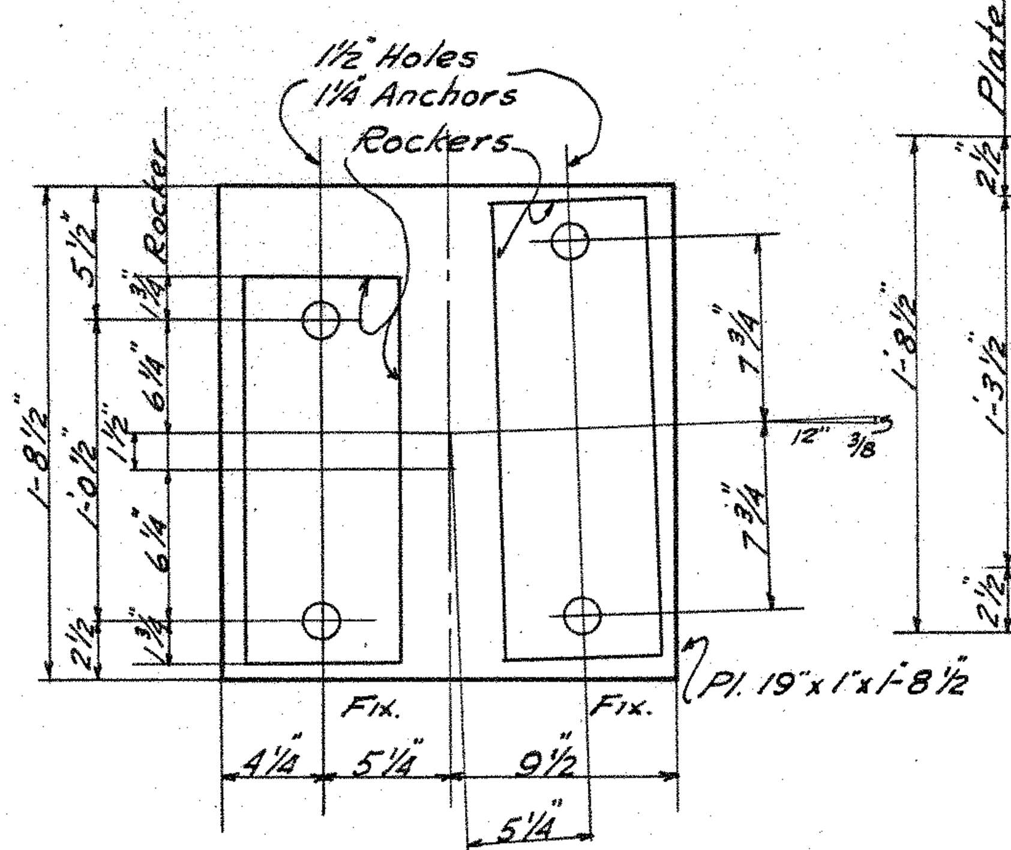


FIXED ROCKER BENT 3



℄ Bearing
End of Beam
End of Span
℄ Pier A or D
8"
7"
6"
2"

FIXED ROCKER PIER A or D



1½ Holes
1¼ Anchors
Rockers
Rocker
Fix.
Fix.
Pl. 19"x1"x1'-8½
12"
3/8
4¼
5¼
9½
5¼

MASONRY PLATES

SIDEWALK BEAMS BENT 4

2 REQ'D 1-Right as shown

1-Left-opposite hand

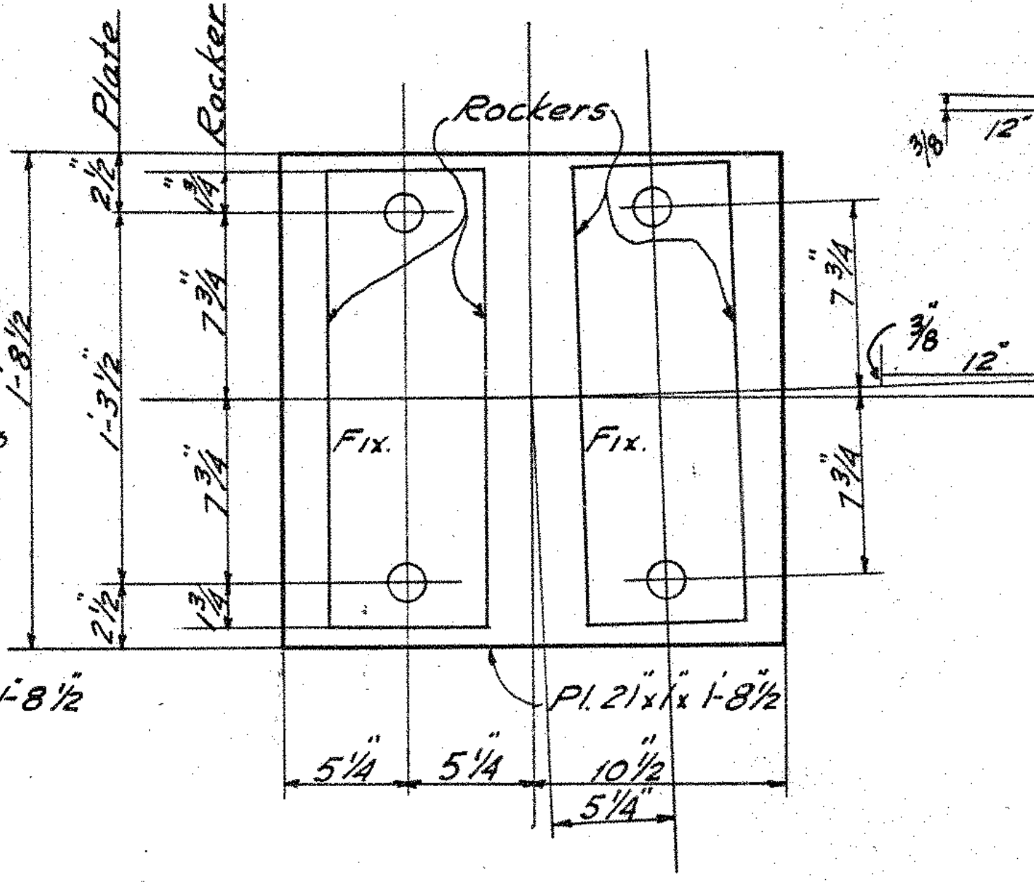
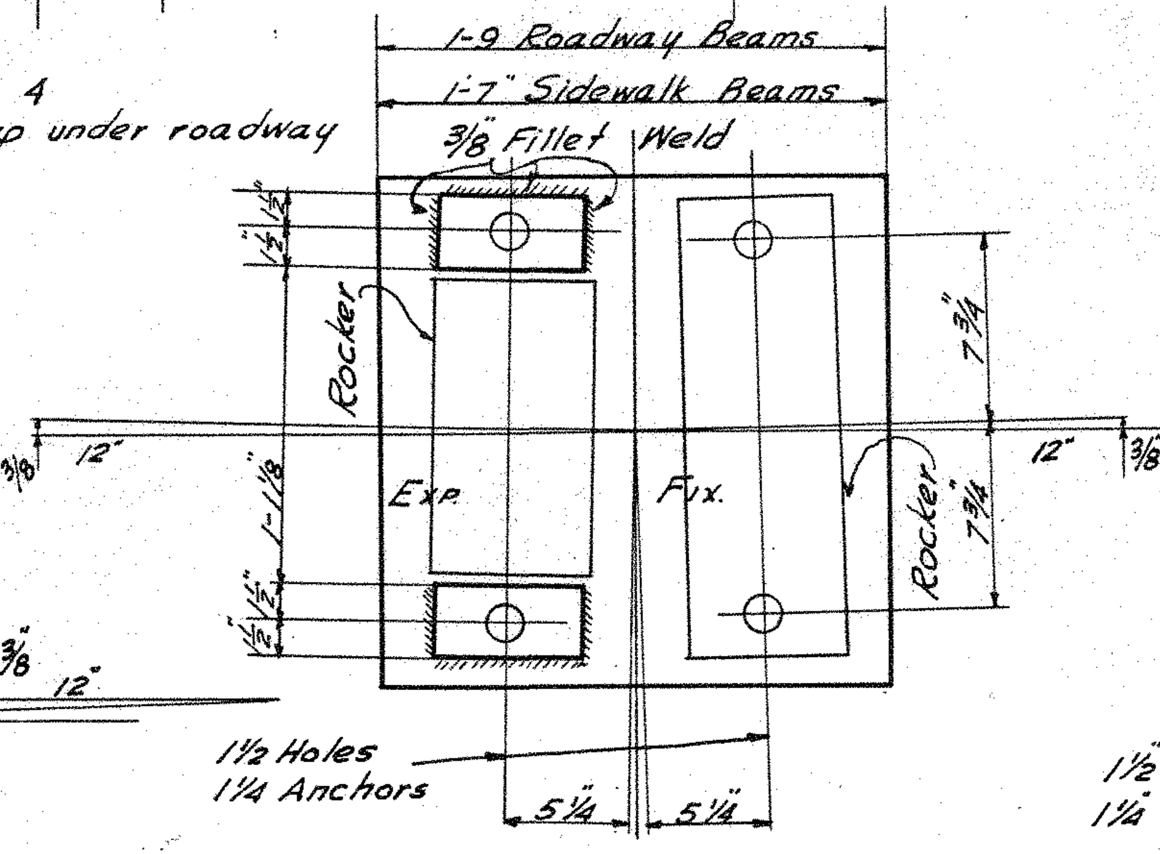


Plate
Rocker
Rockers
Fix.
Fix.
3/8
12"
Pl. 21"x1"x1'-8½
5¼
5¼
10½
5¼

MASONRY PLATES BENT 4

ROADWAY BEAMS 4 REQ'D



1'-9 Roadway Beams
1'-7 Sidewalk Beams
3/8 Fillet Weld
Rocker
Exp.
Fix.
Rocker
12"
12"
3/8
1'-11/8
1½ Holes
1¼ Anchors
5¼
5¼

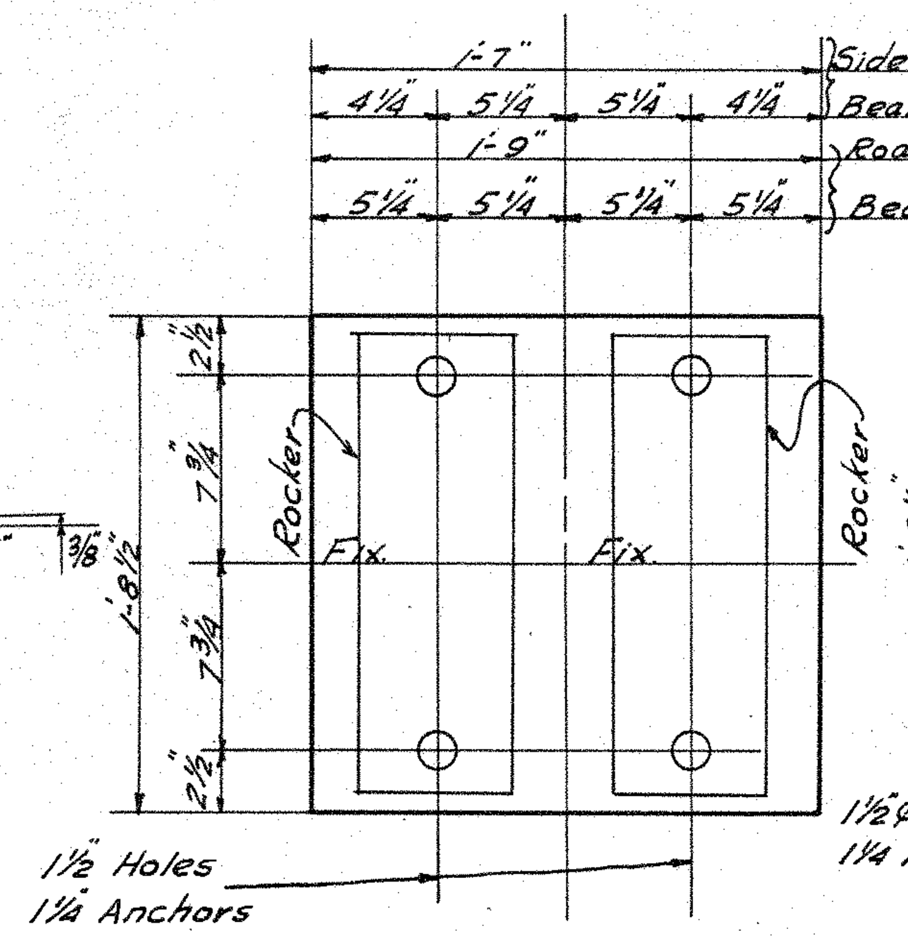
MASONRY PLATES BENTS 5, 7, - 9

Roadway 12 Req'd Each 1 Pl. 21"x1"x1'-8½

2 Pls. 3x3/4"x0'-6"

Sidewalk 6 Req'd Each { 1 Pl. 19"x1"x1'-8½

2 Pls. 3"x3/4"x0'-6"

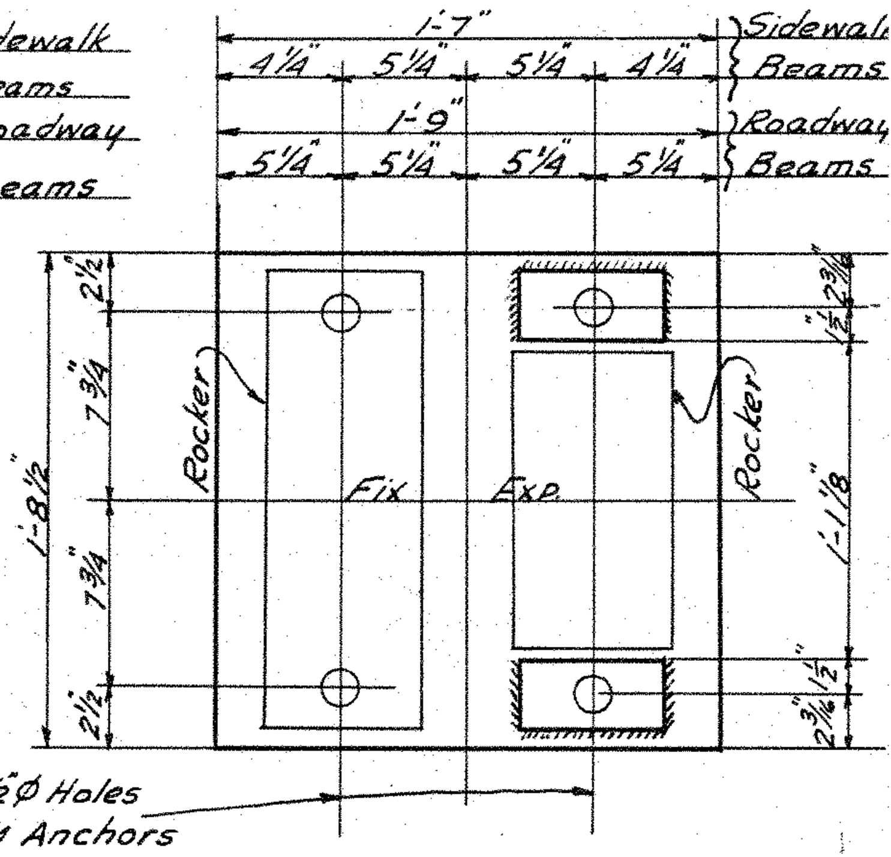


1'-7"
4¼ 5¼ 5¼ 4¼
Sidewalk Beams
1'-9"
5¼ 5¼ 5¼ 5¼
Roadway Beams
Rocker
Fix.
Fix.
Rocker
1'-8½
1½ Holes
1¼ Anchors

MASONRY PLATES BENTS 11-13

Roadway 8 Req'd Each 1 Pl. 21"x1"x1'-8½

Sidewalk 4 " " " " 1 Pl. 19"x1"x1'-8½



1'-7"
4¼ 5¼ 5¼ 4¼
Sidewalk Beams
1'-9"
5¼ 5¼ 5¼ 5¼
Roadway Beams
Rocker
Fix
Exp.
Rocker
1'-11/8
1½ Ø Holes
1¼ Anchors

MASONRY PLATES BENTS 10, 12-14

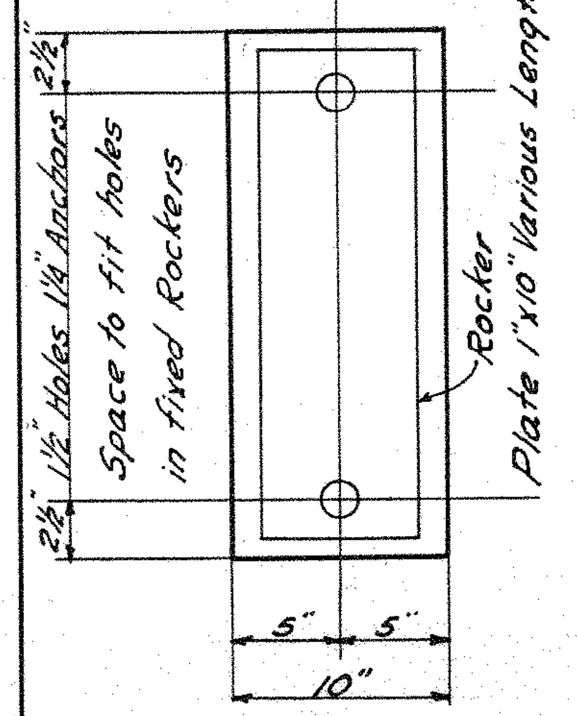
Roadway 12 Req'd Each 1 Pl. 21"x1"x1'-8½

2 Pls. 3"x3/4"x0'-6"

Sidewalk 6 Req'd Each Pl. 19"x1"x1'-8½

2 Pls. 3"x3/4"x0'-6"

SUMMARY OF QUANTITIES	
Masonry & Guide Pls.	10,617 Lb.
Rockers	11,606 Lb.
Anchor Bolts	2,814 Lb.



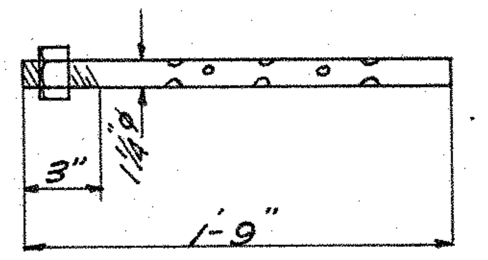
1½" Holes 1¼ Anchors
Space to fit holes in fixed Rockers
Rocker Plate 1"x10" Various Lengths
5"
5"
10"

MASONRY PLATE FIXED ENDS

ABUTMENT 1 BENTS 3 & 15

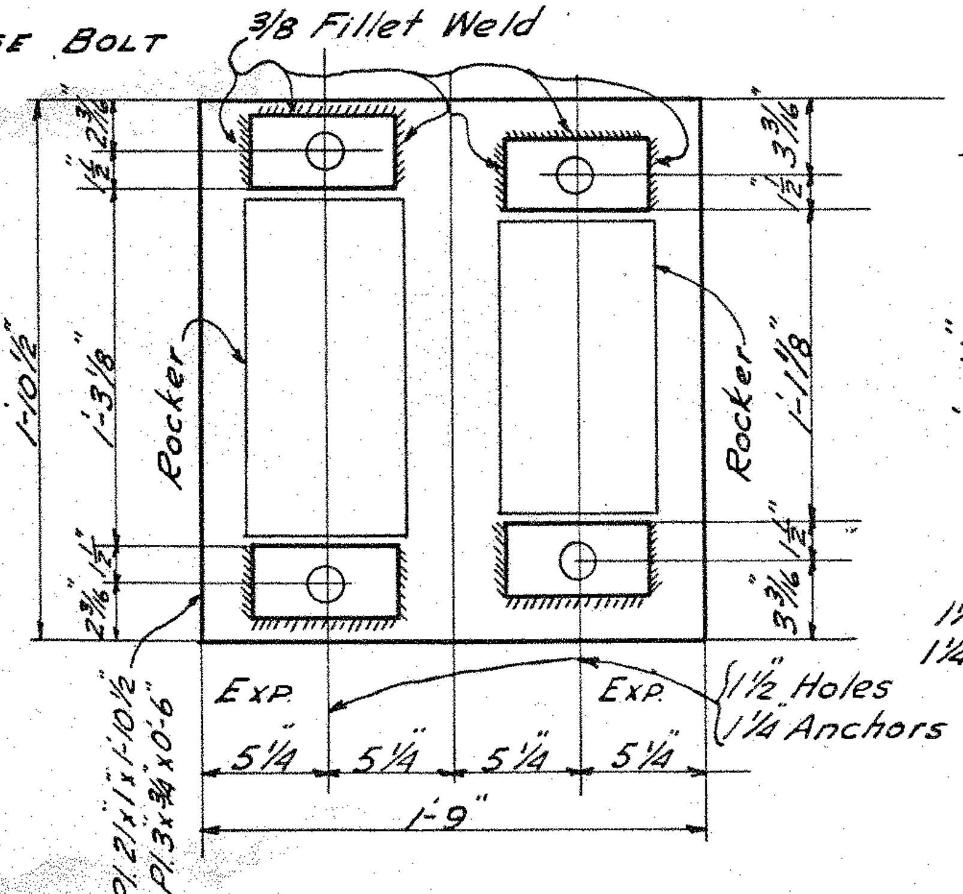
PIERS A & D

Material Rolled Steel



SWEDGE BOLT

DEFLECTION & CAMBER BEAM SPANS (INCHES)								
SPAN	BEAM	D.L. BEAM	Roadway Slab	Sidewalk Slab	Hand Rail	Live Load	Vertical Curve	Total
1-2 42' SIMPLE	INTERIOR	.07	.38	—	—	.20	—	.65
	CURB	.07	.33	.05	—	.20	—	.65
	SIDEWALK	.07	—	.35	.30	.20	—	.92
2-3-4 42 CONT.	INTERIOR	.03	.20	—	—	.17	—	.40
	CURB	.03	.18	.03	—	.16	—	.40
	SIDEWALK	.03	—	.16	.13	.08	—	.40
53' SIMPLE	INTERIOR	.09	.39	—	—	.30	.60	1.38
	CURB	.09	.22	.06	—	.30	.60	1.27
	SIDEWALK	.09	—	.60	.49	.30	.60	2.08

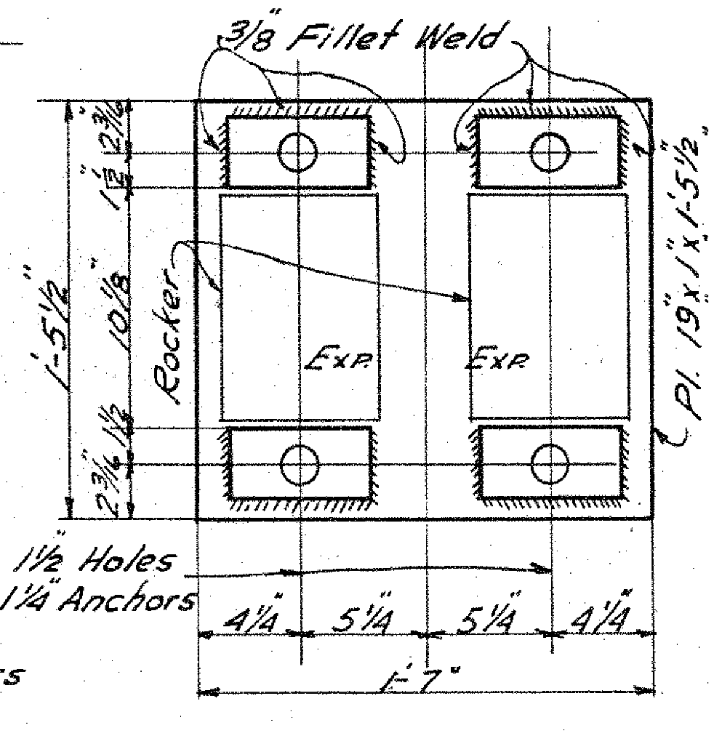


3/8 Fillet Weld
Rocker
Rocker
1'-10½
1'-3 1/8
1'-1 1/8
Pl. 21"x1"x1'-10½
4 Pls. 3"x3/4"x0'-6"
Exp.
Exp.
1½ Holes
1¼ Anchors
5¼ 5¼ 5¼ 5¼
1'-9"

MASONRY PLATES BENT 2

ROADWAY BEAMS EXP.

4 REQ'D

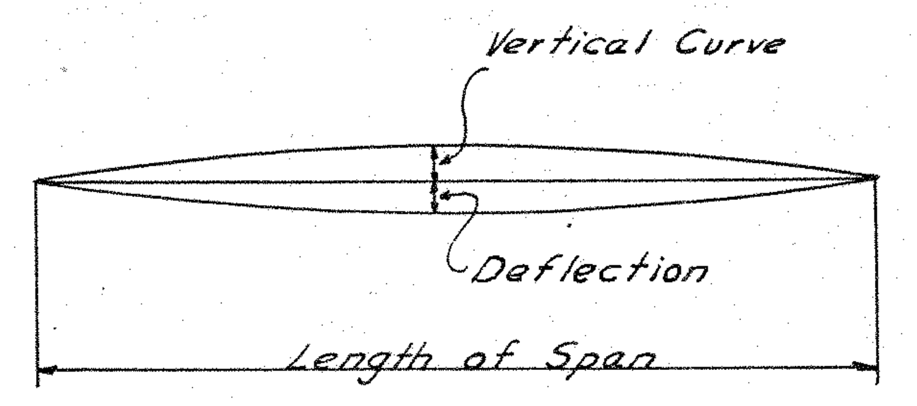


3/8 Fillet Weld
Rocker
Exp.
Exp.
1'-5½
10 1/8
Pl. 19"x1"x1'-5½
4 Pls. 3"x3/4"x0'-6
1½ Holes
1¼ Anchors
4¼ 5¼ 5¼ 4¼
1'-7"

MASONRY PLATES BENT 2

SIDEWALK BEAMS EXP.

2 REQ'D



Vertical Curve
Deflection
Length of Span

Made F.K.P. July 1936

Traced T.E.C. July 1936

Quantities by B.G.I. Aug. 1936

Checked by L.H. Aug. 1936

S.C. STATE HIGHWAY DEPARTMENT

COLUMBIA

BEARING PLATES FOR BEAM SPANS

WACCAMAW RIVER

CONWAY HORRY CO.

Scale 1½" = 1'-0"