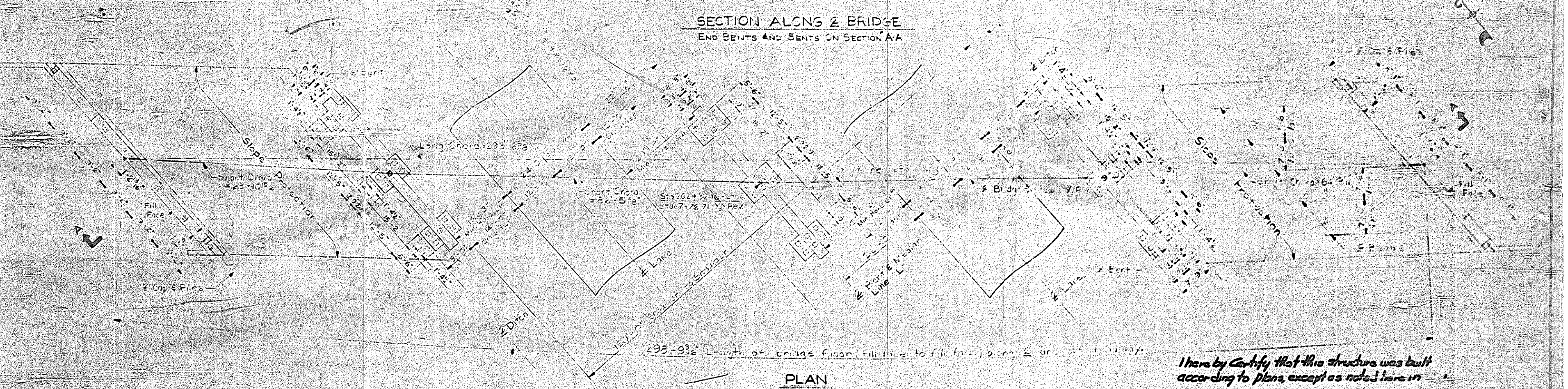


SECTION ALONG & BRIDGE
END BENTS AND BENTS ON SECTION AA



PLAN

I hereby certify that this structure was built according to plans, except as noted here in

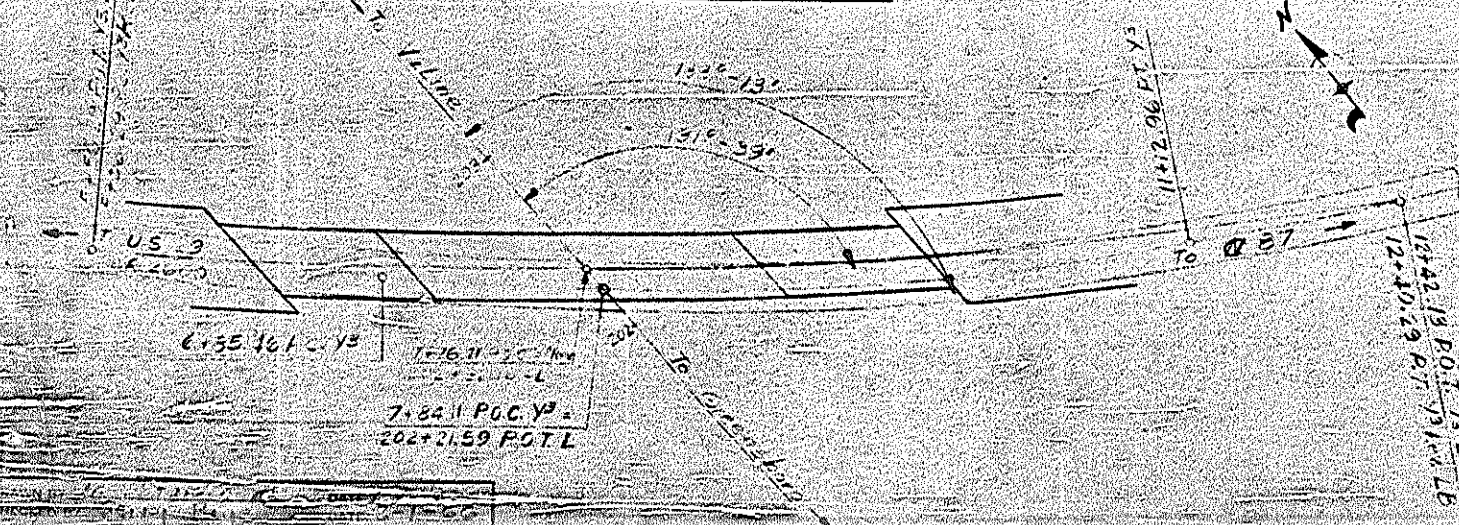
E. E. Sallie
Resident Engineer

NOTES

- ASSUMED LIVE LOAD: HS 12 44.
- OTHER DESIGN DATA: For other design data and general notes, see sheet S-11.
- PILE CAPACITIES: Piles for End Bent NE1 & NE2 & BENT NE3 shall be driven to a minimum bearing capacity of 20 tons each. Piles for Bent NE3 shall be driven to a minimum bearing capacity of 27 tons.
- PILE LENGTHS: The contractor shall be responsible for determining length of pile required. Spacing shall be as shown.
- TRAFFIC: Traffic shall be kept in line construction of proposed structure.
- BENT PILES: Piles for Bent NE3 shall be driven to a minimum bearing capacity of 27 tons.
- CONSTRUCTION ELEVATIONS: Construction elevations for structure shall be furnished to the contractor by the Resident Engineer. The contractor shall be responsible for checking the elevations before construction.

B.M. # 13 = 2" dia. 17" dia. 6" dia. 18" dia. Sta. 139+22.1' El. 777.64 M.S.L.

LOCATION SKETCH



TOTAL BILL OF MATERIAL

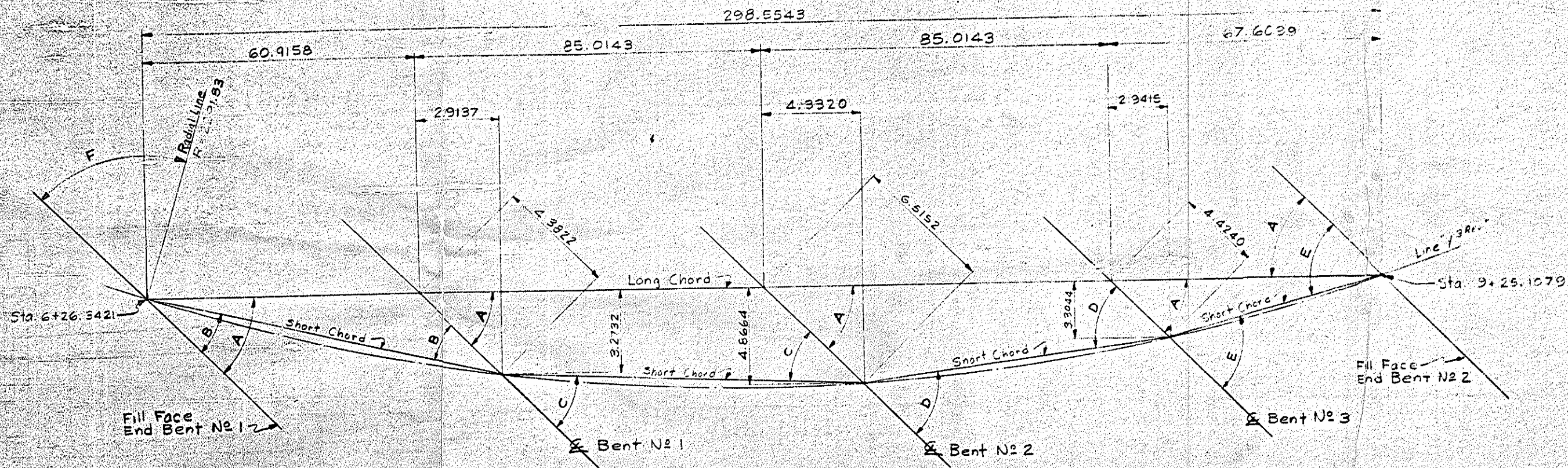
	CLASS 'A' CONCRETE	REINFORCING STEEL	STRUCTURAL STEEL	UNCLASSIFIED STRUCT. EXC.	4" CONCRETE SLOPE PROT.	GRID BAR META. FR.	2" PRESTRESSED CONCRETE PILES
	CU YD.	LEBS.	APPROX. LBS.	CU YD.	SQ. YD.	TONS FT.	IN. FEET
SUPERSTRUCTURE	331.2	66,453	296,300			586.35	
END BENT NE1	21.2	3,927		31.27	204.67		7x 4275' 10"
BENT NE1	39.7	7,136		55.06			15x 4194' 0"
BENT NE2	41.0	7,539		22.27			15x 4267' 0"
BENT NE3	40.9	7,367			270.17		15x 4301' 0"
END BENT NE2	19.4	3,535		160.80	500		7x 4220' 0"
TOTALS	433.4	93,993	296,300	145	544.77	586.35	62x 41,260' 0"

STATE HIGHWAY COMMISSION
RALEIGH
GENERAL DRAWING
BRIDGE WITH PILE FOUNDATION
U.S. 3 N.C. 27

PROJECT No. F-1521504
FOR ALLENDALE COUNTY
STATION: 202+32.16
Sta. 139+22.1' Rev. 7+76.71 Rev.

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1					
2					



LONG CHORD LAYOUT

ANGLES

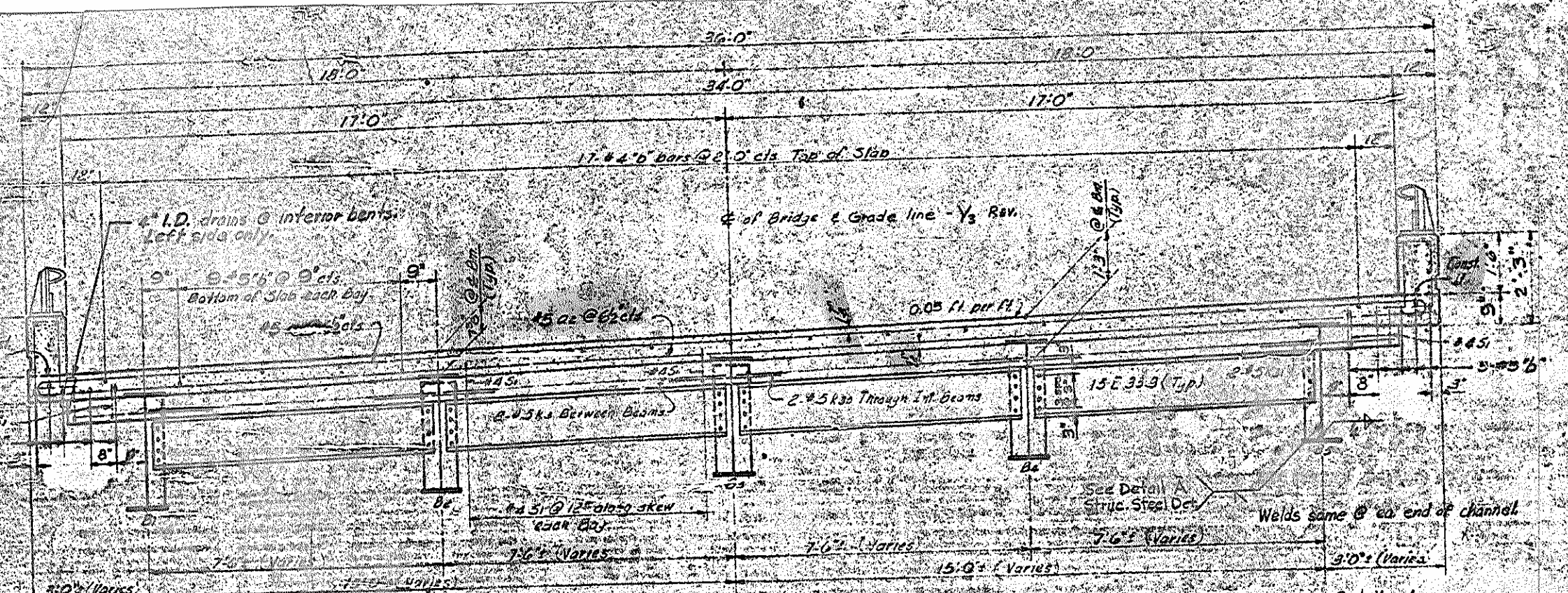
A	=	48° - 19' - 31"
B	=	45° - 23' - 23"
C	=	47° - 16' - 10"
D	=	49° - 23' - 44"
E	=	51° - 15' - 02"
F	=	45° - 24' - 33"

PROJECT No. 8.1592504
ROCKINGHAM COUNTY
STATION: 202+32.16
 SHEET 2 of 2

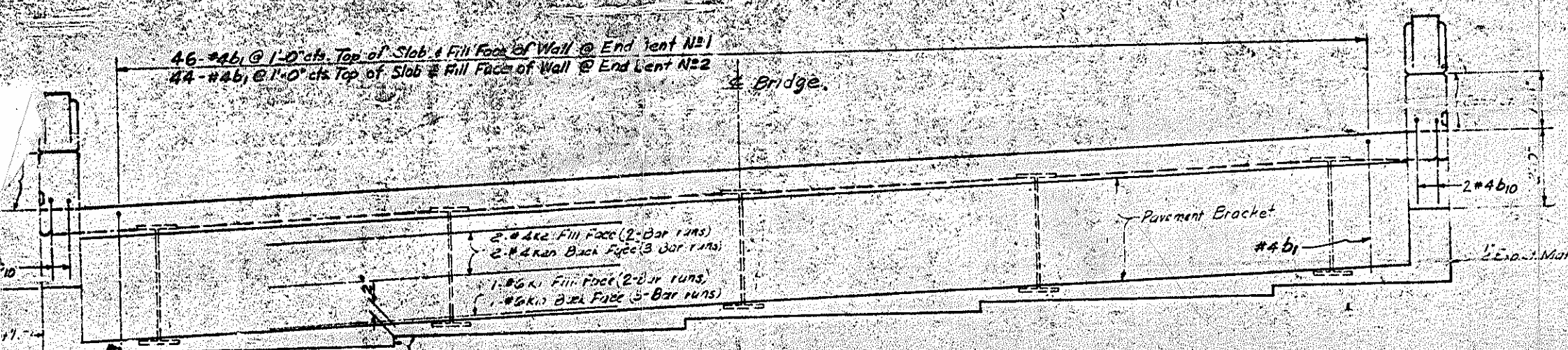
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
 RALPH
 LONG CHORD LAYOUT

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

DESIGNED BY: Stanley P. DATE: 1-27-66
 DRAWN BY: Stanley P. DATE: 1-27-66
 CHECKED BY: Stanley P. DATE: 2-1-66



TYPICAL SECTION
(SHOWING DIAPHRAGMS & BENTS)



END ELEVATION

PROJECT NO. 3.1592504

ROCKINGHAM COUNTY

STATION: 202 + 32.16 - L
= 7 + 76.71 - 1/2 Rev.

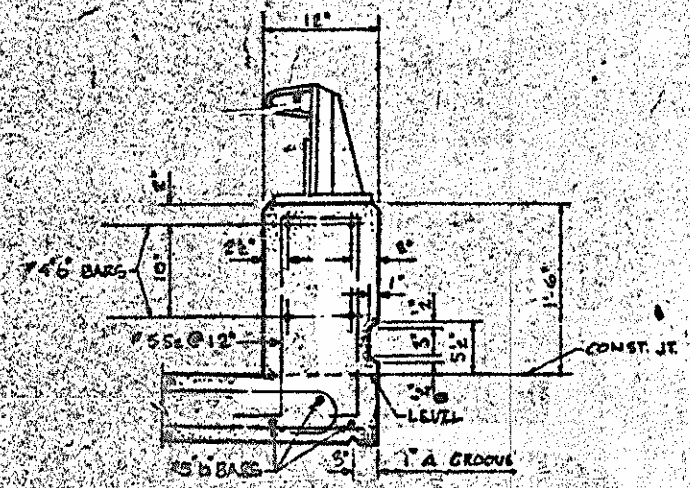
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

SUPERSURFACE
STANDARD TYPICAL SECTIONS
34' ROADWAY - L.H. CURVE
5 STEEL BEAMS
MAR 65 1965

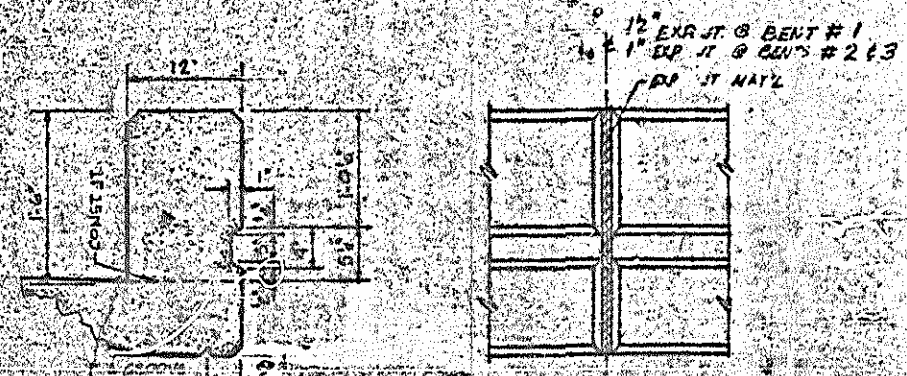
REVISIONS		DATE		BY	NO.
NO.	BY	NO.	BY		
1					5-69
2					130

DATE 10-21-65
DATE 1-19-66
DATE MARCH 1965

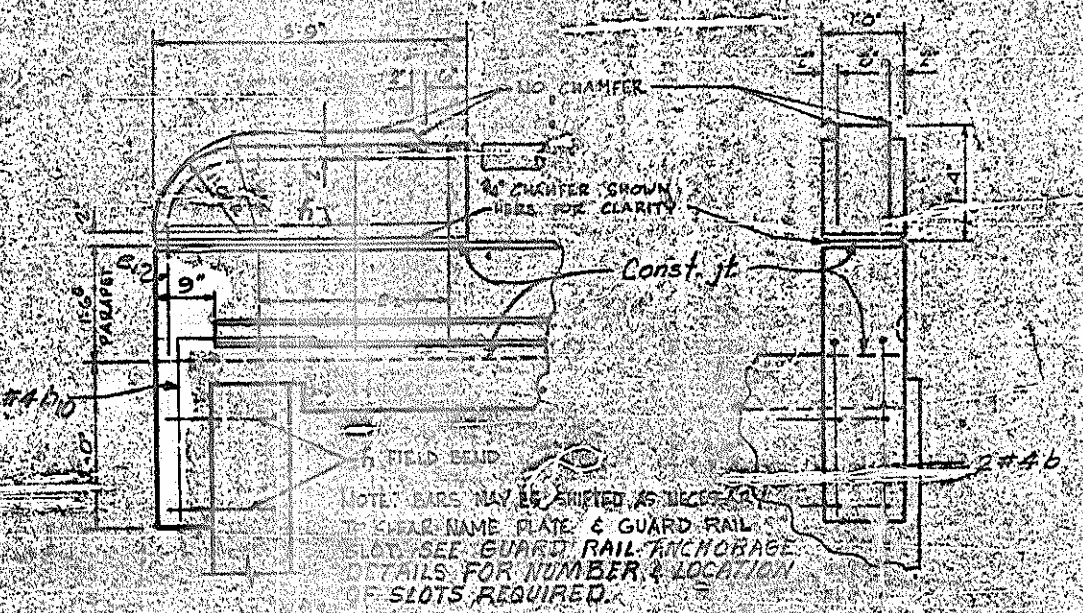
ASSUMED LIVE LOAD HS 15
 CONCRETE IN COMPRESSION 1,500 LBS. PER SQ. IN.
 REINFORCING STEEL IN TENSION 20,000 LBS. PER SQ. IN.
 STRESS IN EXTREME FIBER OF STRUCTURAL STEEL 36,000 LBS. PER SQ. IN.
 FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET G-N FOR BARS INDICATED AND NO. BAR MARK SHOWN ON CONCRETE PLAN FOR THE DIFFERENT GRIDS.
 EXPANSION JOINTS TO BE KEPT FREE OF CONCRETE AND SEALED WITH AP 6 ASPHALT CEMENT.



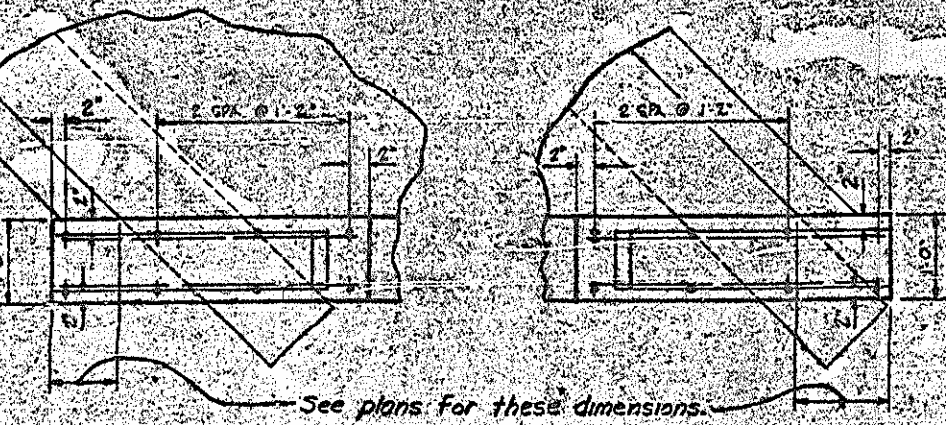
PARAPET / RAIL SECTION



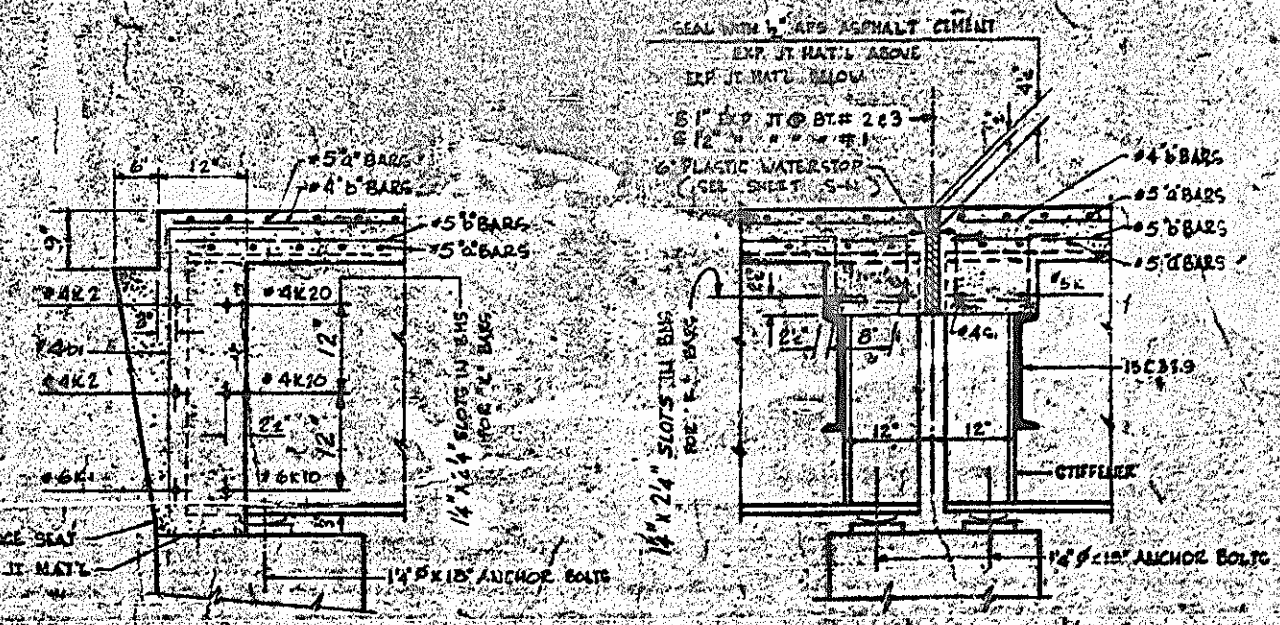
DETAIL RAIL BASE GROOVE



END POST DETAILS



END POST DETAILS



SECTION A-A

SECTION B-B

PROJECT NO. 1.1592534
 ROCKINGHAM COUNTY
 STATION: 202+32.16 - L
 = 7+76.71 - 1/2 Rev.

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

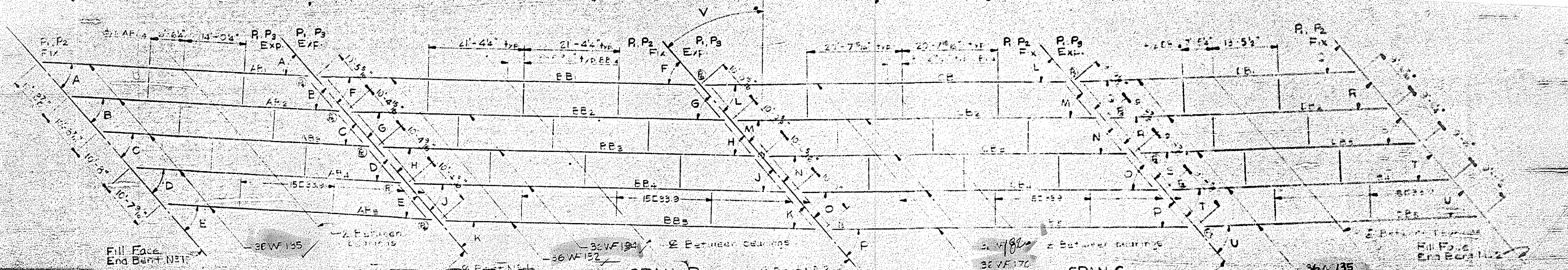
1.5m SUPERSTRUCTURE
 DETAILS FOR ONE BAR METAL
 RAIL

MARCH 1965

REVISIONS			
NO.	BY	DATE	REVISION
1			
2			

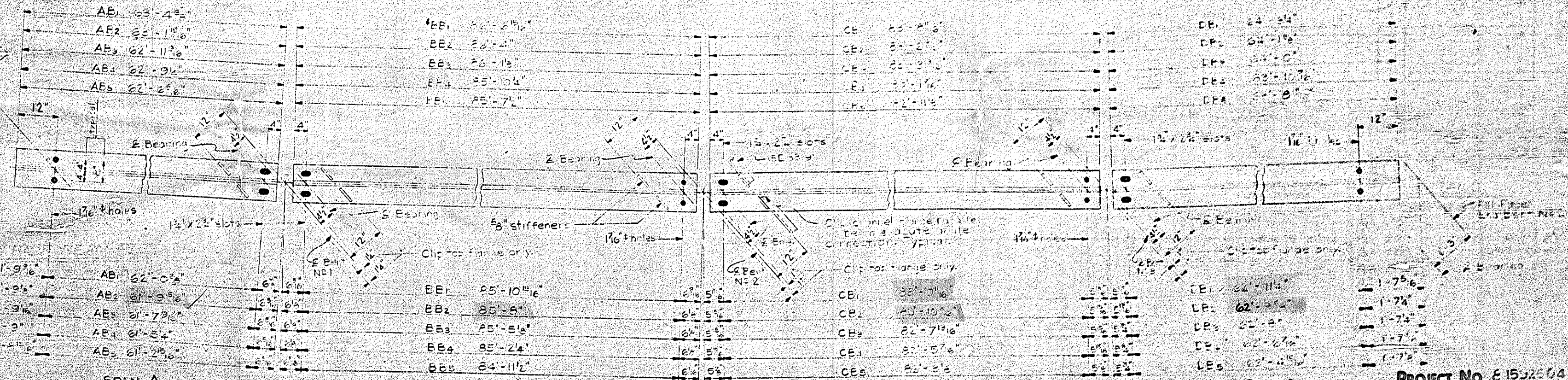
S-70
 130

DATE 10-29-63
 DATE 1-19-65



CHANGE ROLL

BEAM, DIAPHRAGM & PLATE LAYOUT

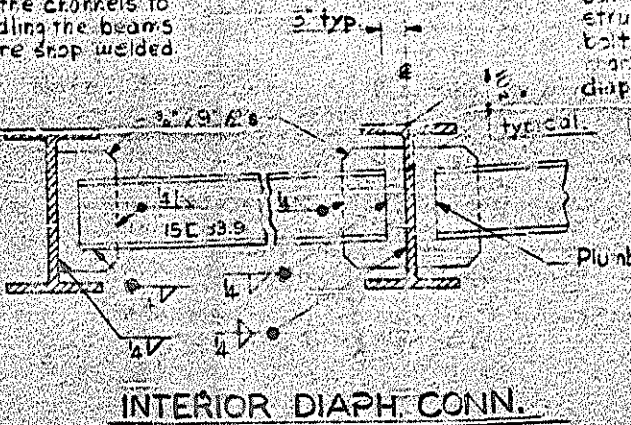


Note: In lieu of the welding procedure for shop and field welds indicated for the int. diaphragm connections, the contractor may, at his option, shop weld the connector plates to the beam webs, and field weld the connectors to the connector plates. Special care in handling the beams must be observed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

Note: The contractor may, at his option, but without change in the contract price of structural steel, use split 18WF50 connections bolted to the beam web and welded to the diaphragm in lieu of the welded plate int. diaphragm connection shown.

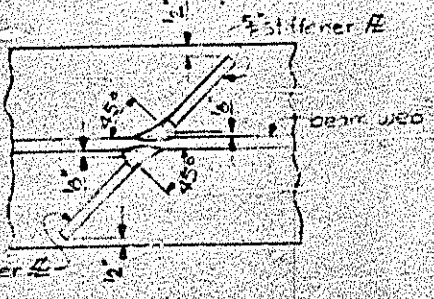
ANGLES

A	48-50-58	W	43-04-16
B	49-11-14	M	43-14-04
C	49-15-23	N	43-33-44
D	49-21-15	V	43-33-20
E	49-24-12	F	43-42-52
F	49-28-10	G	43-56-48
G	49-32-08	H	51-05-58
H	49-36-06	I	51-15-32
I	49-40-04	J	51-24-01
J	49-44-02	K	51-32-55
K	49-48-00	L	51-41-49
L	49-52-58	M	51-50-43
M	49-57-56	N	52-00-37
N	49-62-54	O	52-09-31
O	49-67-52	P	52-18-25
P	49-72-50	Q	52-27-19
Q	49-77-48	R	52-36-13
R	49-82-46	S	52-45-07
S	49-87-44	T	52-54-01
T	49-92-42	U	53-02-55
U	49-97-40	V	53-11-49
V	49-102-38	W	53-20-43
W	49-107-36	X	53-29-37
X	49-112-34	Y	53-38-31
Y	49-117-32	Z	53-47-25
Z	49-122-30		



STIFFENER DETAILS

Place stiffeners parallel to end of beam web. Omit stiffeners on outside of exterior beams and at end bents.



DETAIL A

	Span A				Span B				Span C				Span D			
	Ext.	Int.	Ext.	Int.	Ext.	Int.	Ext.	Int.	Ext.	Int.	Ext.	Int.	Ext.	Int.		
Horizontal curve compensation	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"		
Beam Camber	1/16"	1/16"	2/32"	2/32"	2/32"	2/32"	2/32"	2/32"	1/32"	1/32"						

PROJECT No. E 1502204
 FAYETTEVILLE COUNTY
 STATION: 202+32.15-L
 7-7-71 - J. R. P.

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
 RALEIGH

STRUCTURAL STEEL
 DETAILS

October 1961

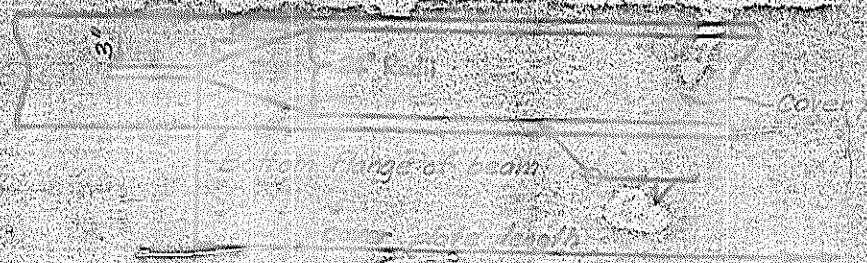
REVISIONS			
NO.	BY	DATE	NO. OF SHEETS
1			52
2			52

13 Spa. @ 8"	11 Spa. @ 10"	9 Spa. @ 12"	7 Spa. @ 14"	5 Spa. @ 16"	BB1 - 364 Studs
14 Spa. @ 7 1/2"	12 Spa. @ 9"	10 Spa. @ 11"	7 Spa. @ 13"	5 Spa. @ 15"	BB2 - 388 Studs
14 Spa. @ 7 1/2"	12 Spa. @ 9"	10 Spa. @ 11"	7 Spa. @ 13"	5 Spa. @ 15"	BB3 - 388 Studs
13 Spa. @ 8"	11 Spa. @ 10"	9 Spa. @ 12"	7 Spa. @ 14"	5 Spa. @ 16"	BB5 - 364 Studs
13 Spa. @ 8"	10 Spa. @ 10"	9 Spa. @ 12"	7 Spa. @ 14"	5 Spa. @ 16"	CB1 - 356 Studs
15 Spa. @ 7 1/2"	12 Spa. @ 9"	10 Spa. @ 11"	6 Spa. @ 12"	5 Spa. @ 14"	CB2 - 388 Studs
15 Spa. @ 7 1/2"	12 Spa. @ 9"	10 Spa. @ 11"	6 Spa. @ 12"	5 Spa. @ 14"	CB3 - 388 Studs
15 Spa. @ 7 1/2"	12 Spa. @ 9"	10 Spa. @ 11"	6 Spa. @ 12"	5 Spa. @ 14"	CB4 - 388 Studs
13 Spa. @ 8"	10 Spa. @ 10"	9 Spa. @ 12"	7 Spa. @ 14"	5 Spa. @ 16"	CB5 - 356 Studs
10 Spa. @ 8"	8 Spa. @ 10"	7 Spa. @ 12"	5 Spa. @ 14"	3 Spa. @ 16"	DB1 - 268 Studs
11 Spa. @ 7 1/2"	9 Spa. @ 9 1/2"	9 Spa. @ 10"	6 Spa. @ 11"	3 Spa. @ 12"	DB2 - 308 Studs
11 Spa. @ 7 1/2"	9 Spa. @ 9 1/2"	9 Spa. @ 10"	6 Spa. @ 11"	3 Spa. @ 12"	DB3 - 308 Studs
11 Spa. @ 7 1/2"	9 Spa. @ 9 1/2"	9 Spa. @ 10"	6 Spa. @ 11"	3 Spa. @ 12"	DB4 - 308 Studs
10 Spa. @ 8"	8 Spa. @ 10"	7 Spa. @ 12"	5 Spa. @ 14"	3 Spa. @ 16"	DB5 - 268 Studs
- Spa. @ -	- Spa. @ -	- Spa. @ -	- Spa. @ -	- Spa. @ -	- Studs
- Spa. @ -	- Spa. @ -	- Spa. @ -	- Spa. @ -	- Spa. @ -	- Studs
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- Spa. @ -	- Spa. @ -	- Spa. @ -	- Spa. @ -	- Spa. @ -	- Studs
- Spa. @ -	- Spa. @ -	- Spa. @ -	- Spa. @ -	- Spa. @ -	- Studs

- 6" x 16" x 33'-0" AB1 & AB5
- 10" x 19 1/2" x 54'-6" BB1 & BB6
- 10" x 19 1/2" x 53'-0" CB1 & CB5
- 6" x 4" x 34'-6" DB1 & DB5
- 8" x 4" x 35' AB2,3,4
- 10" x 14" x 55'-0" BB2,3,4
- 10" x 19 1/2" x 53'-0" CB2,3,4
- 9" x 4" x 37'-0" DB2,3,4

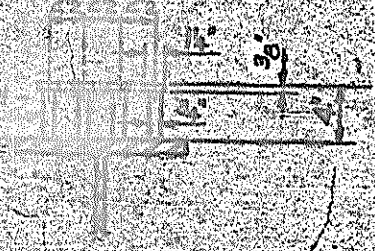
HALF BEAM ELEVATION & STUD SPACING

All beams & cover plates to be A.S.T.M. A36 grade structural steel.



Note: At the contractor's option, he may substitute for the cover plates designated on the plans cover plates of an equivalent area provided these plates are at least 5/16" in thickness and do not exceed a width equal to the flange width less 2" or a thickness equal to 1 1/2 times the flange thickness. The size of the weld for attaching these cover plates shall be in accordance with the AWS specifications.

For slots in beam web for "K" bars see Section AA & Section BB.



STUD DETAIL

Fill Plate

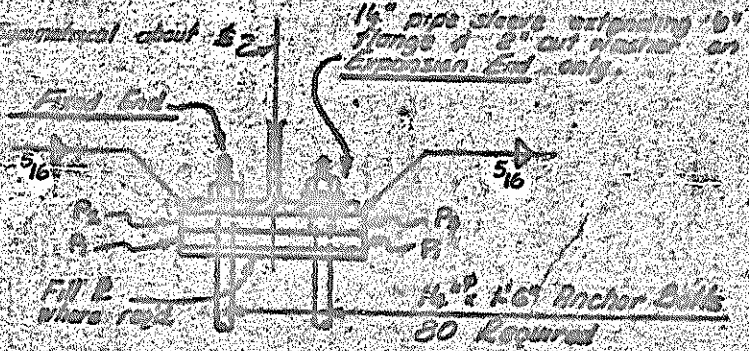


No planing req'd. for fill plates. In planing out of tool, to be in this direction.

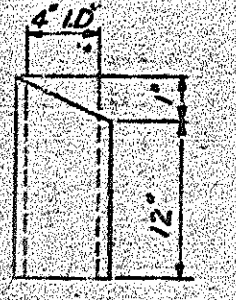
BEARING PLATE DETAILS

List of bearing plates req'd.

- P1 - 40
 - P2 - 20
 - F5 - 20
 - P3 - 5
 - P4 - 3
 - P6 - 2
 - P7 - 2
 - P8 -
 - P9 -
 - P10 -
- Note: Fill P's may be combined with P1.



SECTION THRU BEAM



Drips to be std. wt. galv. steel and shall receive 2 field coats of aluminum paint. Set tops of drains 3/8" below top surface slab.

DRAIN DETAIL

6 Required

PROJECT No. 0.1592504

ROCKINGHAM COUNTY

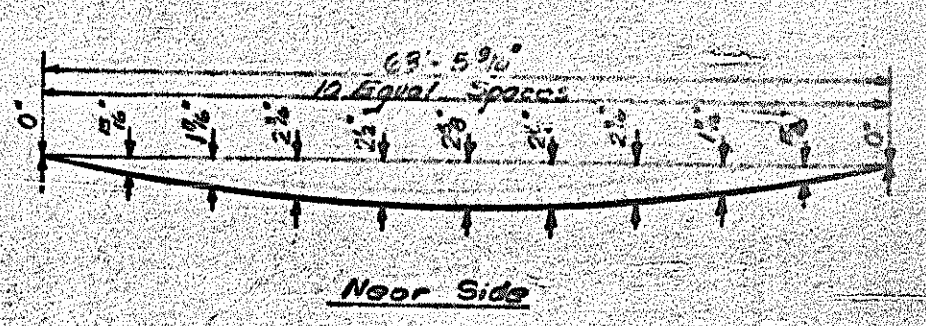
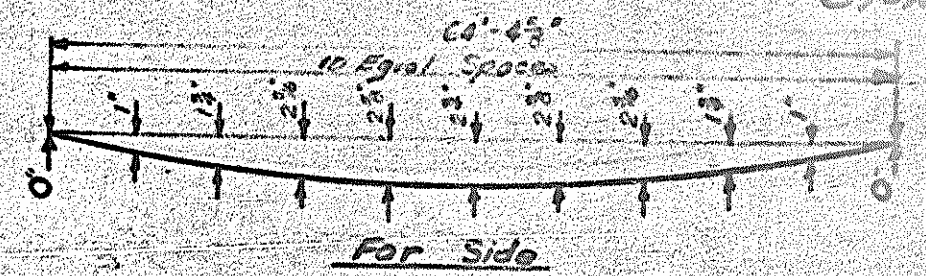
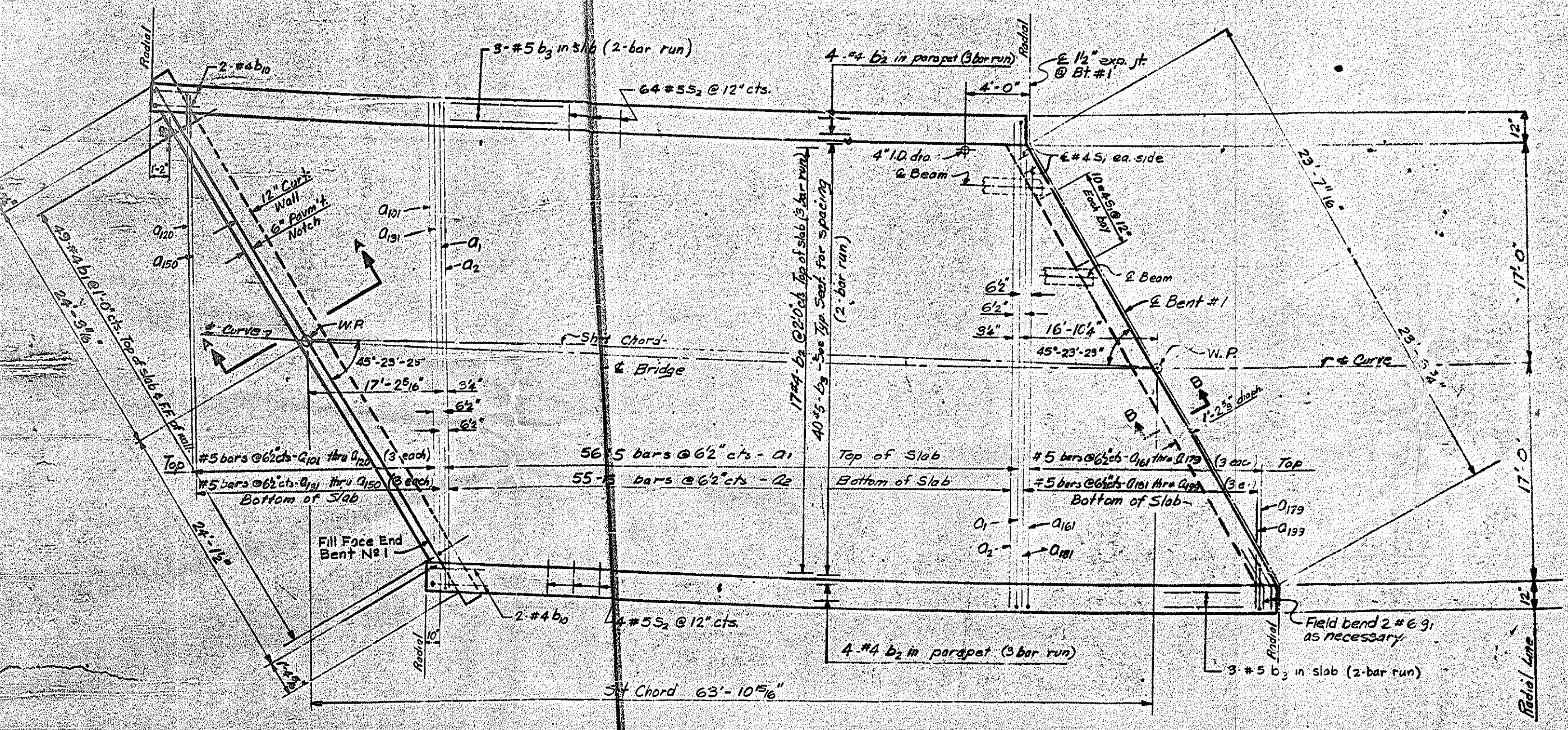
STATION: 202+32.16-2

SHEET 2 of 2 = 7-76.71 - 1/3 Rev.

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
STRUCTURAL STEEL
DETAILS

MAY 1964

DESIGNED BY: H.L. Stanley, Jr. DATE: 11-2-65
CHECKED BY: DATE: 1-19-66



PARAPET OFFSETS

Chords measured from fill face of Bent #1 to Bent #1. Offset on face of parapet 17'-0" radial from bridge.

CLASS A CONCRETE BY POURS	
Slab, diaphragm, etc.	61.2 cu. yd.
Parapet	14.2 cu. yd.
End Posts	.5 cu. yd.

PLAN

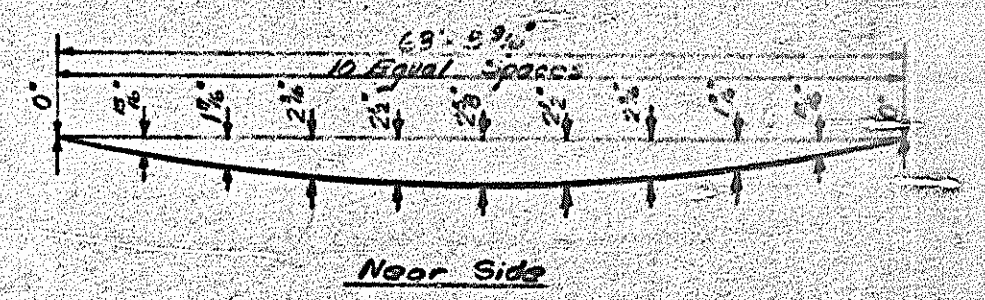
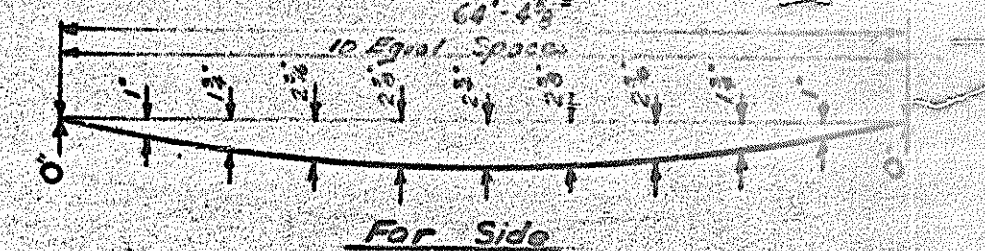
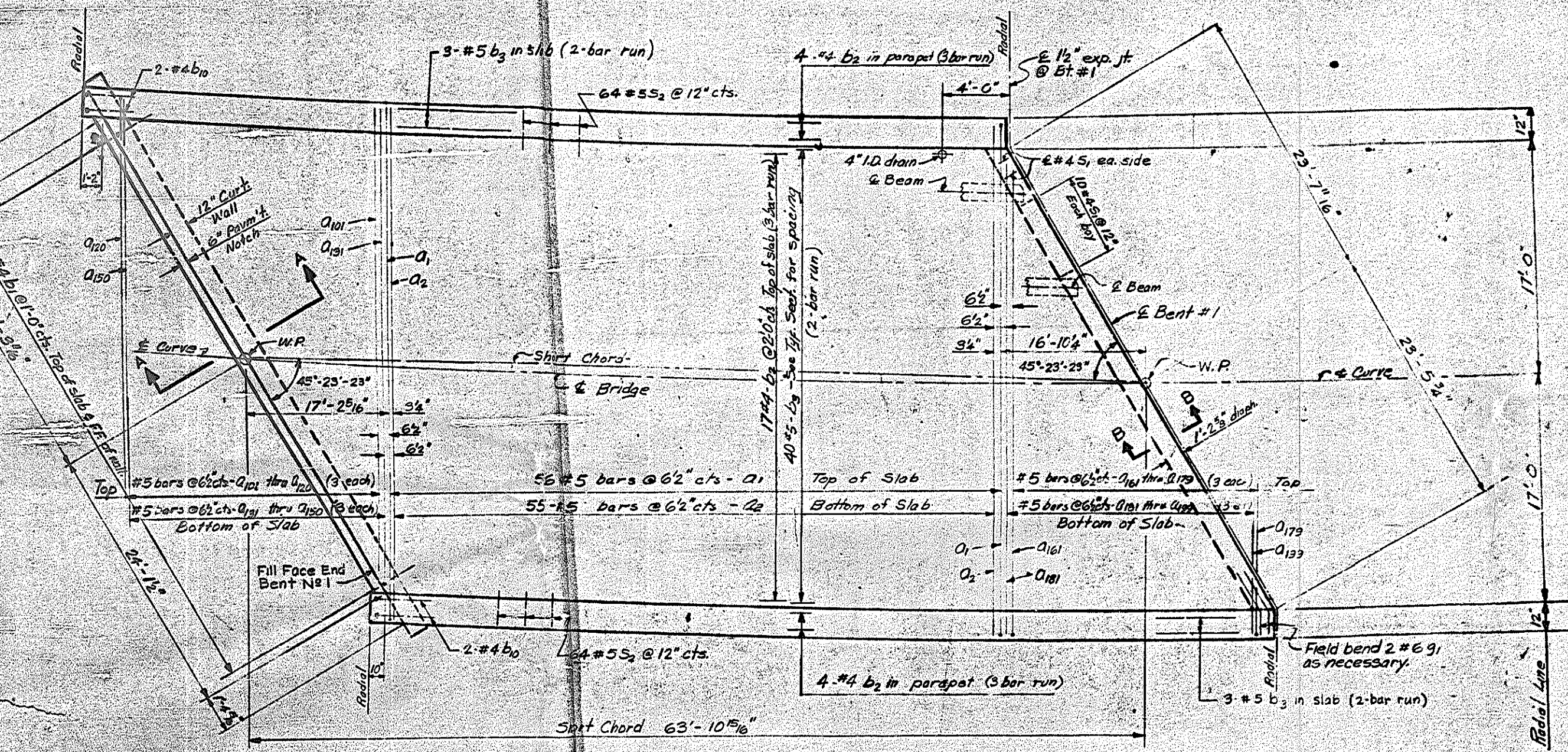
Note: End Posts and Rails not shown.

PROJECT No. 8.1592504
 ROCKINGHAM COUNTY
 STATION: 202+32.16-L
 7+76.71-15 Rev.

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
 SUPERSTRUCTURE
 SPAN A

October

B65



PARAPET OFFSETS

Chords measured from fill face Bent #1 to Bent #1.
Offsets are 1' face of parapet 17'-0" radial from Bent #1.

CLASS A CONCRETE BY POURS	
Slab, diaph, etc.	61.2 cu. yd.
Parapet	14.2 cu. yd.
End Posts	.3 cu. yd.

PLAN

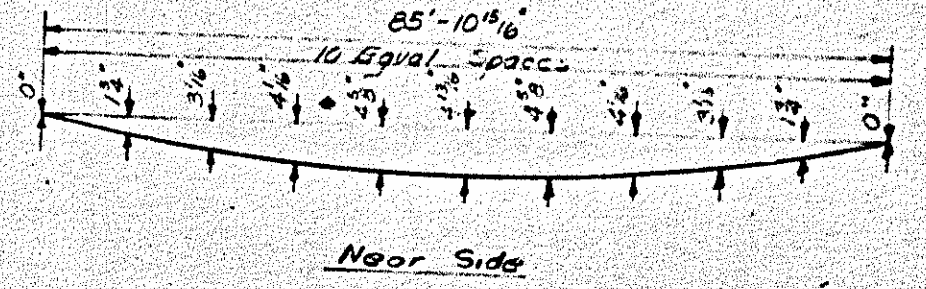
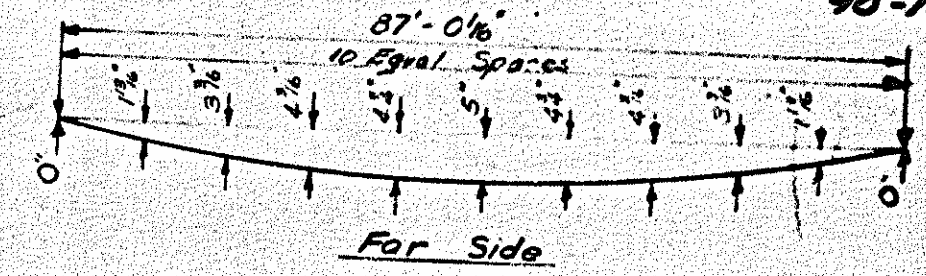
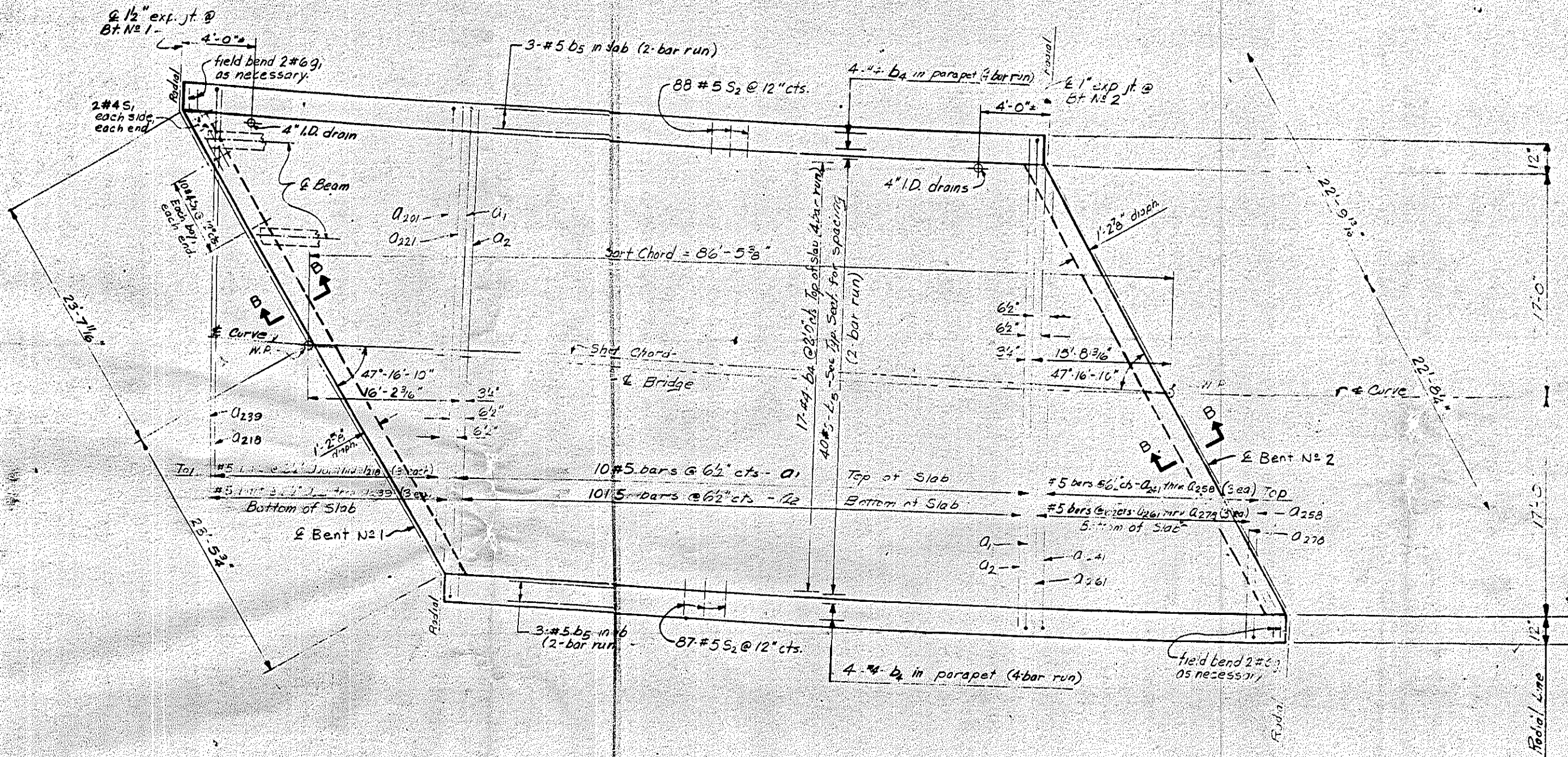
Note: End Posts and Rails are not shown.

PROJECT NO. 8.1592504
 ROCKINGHAM COUNTY
 STATION: 202+32.16-L-
 +7+76.71-1/2

DATE	BY	REVISION

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
SUPERSTRUCTURE
SPAN A
 October

DATE: 11-65
 DATE: 1-66



PARAPET OFFSETS

Offsets are shown at Bent No 2
to face of parapet 17'-5\"/>

CLASS A CONCRETE BY POURS	
Slab, drain, etc.	7.5 cu yd
Parapets	18.9 cu yd

PLAN

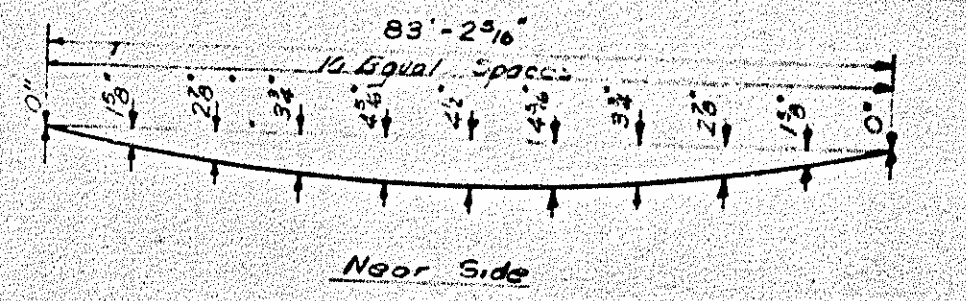
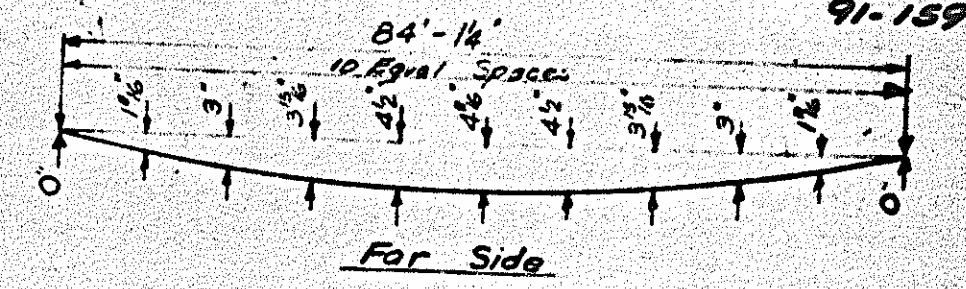
Note: End Posts & Rails not shown.

PROJECT NO. 8.1592504
 ROCKINGHAM COUNTY
 STATION: 202+32.16-L-
 7+76.71-Ys Rev.

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 SUPERSTRUCTURE
 SPAN B

October 1965
 S-74
 120

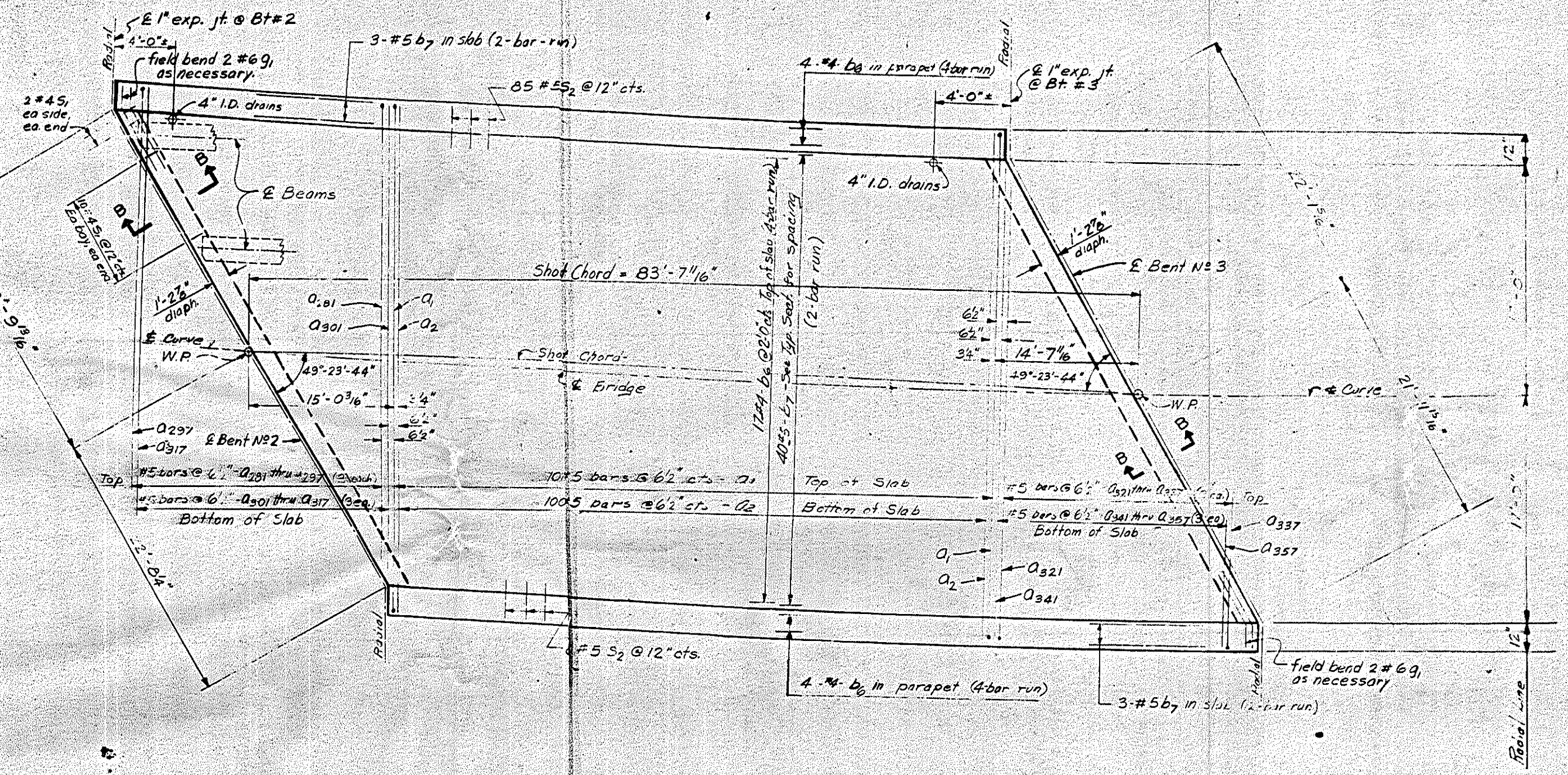
DRAWN BY: H.C. Stanley, Jr. DATE: 10-22-65
 CHECKED BY: Gerry Ows DATE: 1-19-66



PARAPET OFFSETS

Chords measured from E Bent No 2 to E Bent No 3
Offsets are to line of parapet 11'-0" radial from E Bridge.

CLASS A CONCRETE BY POURS	
Slab, diaph., etc.	70.3 cu. yd.
Parapets	18.3 cu. yd.



PLAN

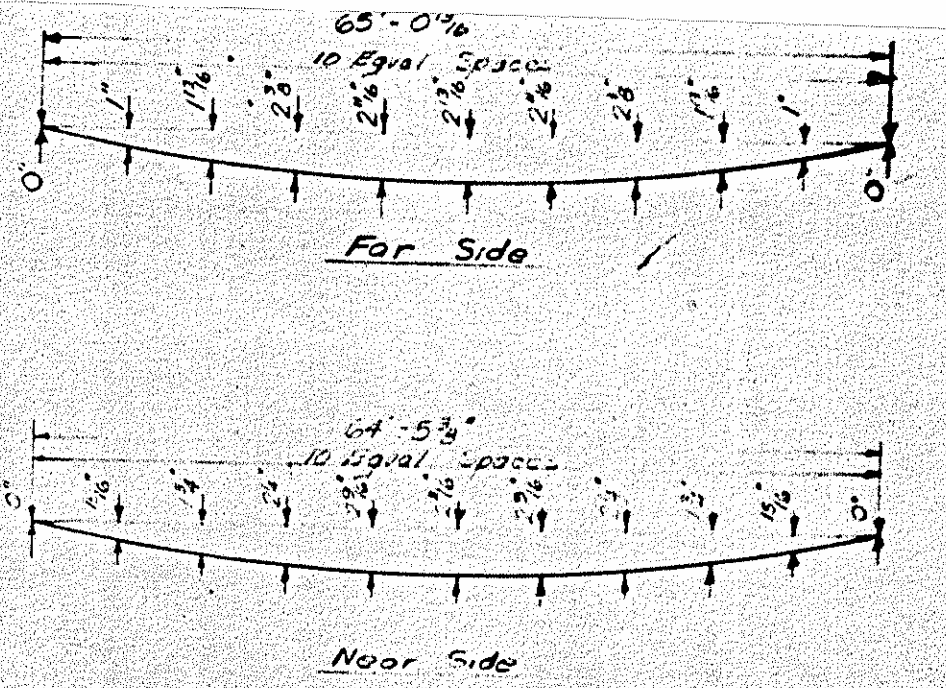
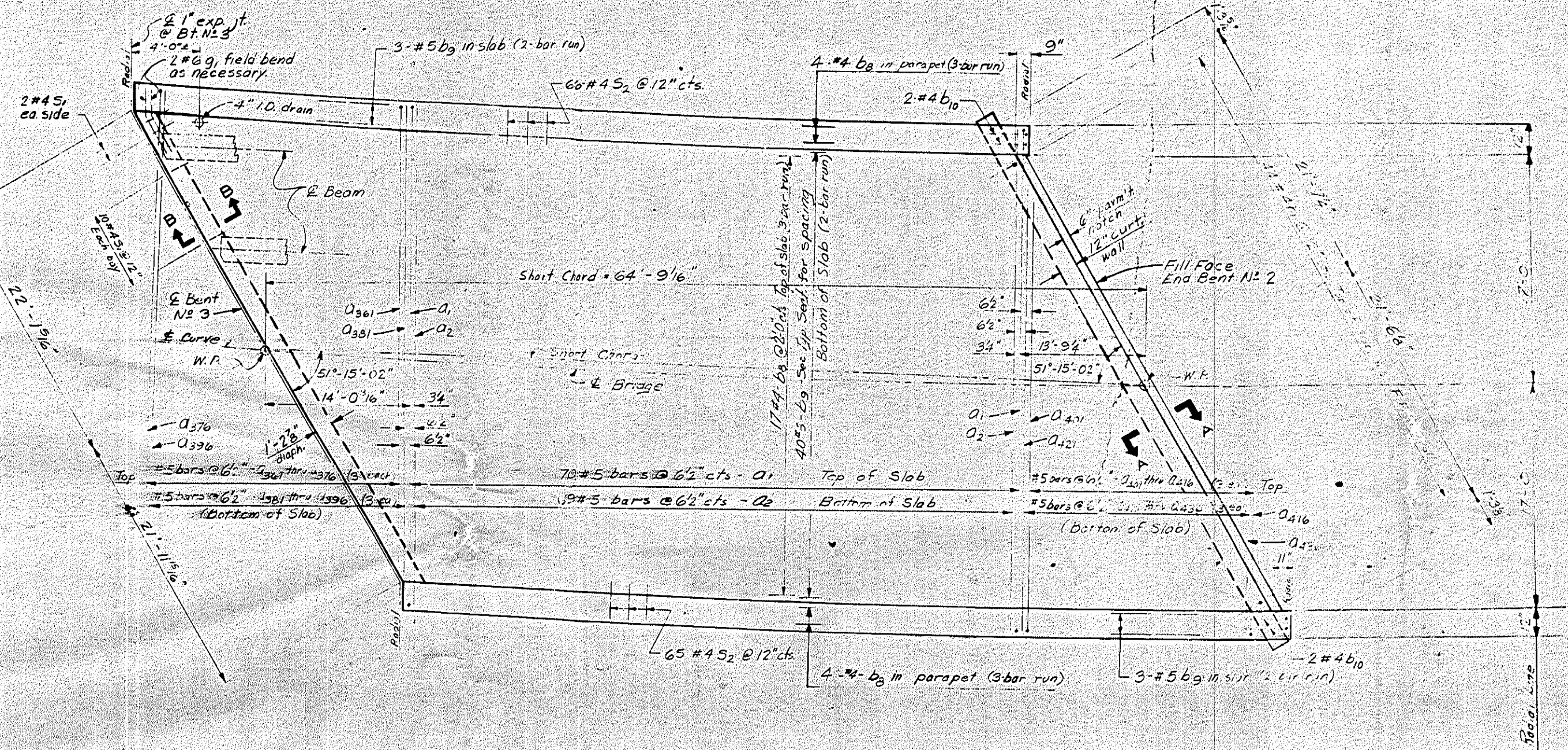
Note: End Posts & Rails Not Shown

DATE 10-25-65
DATE 1-19-66

PROJECT NO. 8.1592504
ROCKINGHAM COUNTY
STATION: 202+32.16-L-
7+76.71-Y3 Rev

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
SUPERSTRUCTURE
SPAN C

October 1965
5-75



PARAPET OFFSETS

Offsets measured from & B.P. to F.F.E.B. #2
 Offsets measured to face of parapet 17'-0" radial from & bridge.

CLASS A CONCRETE BY FORMS	
Slab	6.9 cu. yd.
Form ft.	14.3 cu. yd.
End Posts	.3 cu. yd.

PLAN

Note: Posts & Rails Not Shown

PROJECT NO. 8.1592504
 ROCKINGHAM COUNTY
 STATION: 202 + 32.16 - L
 7 + 76.71 - Y₂ Rev.

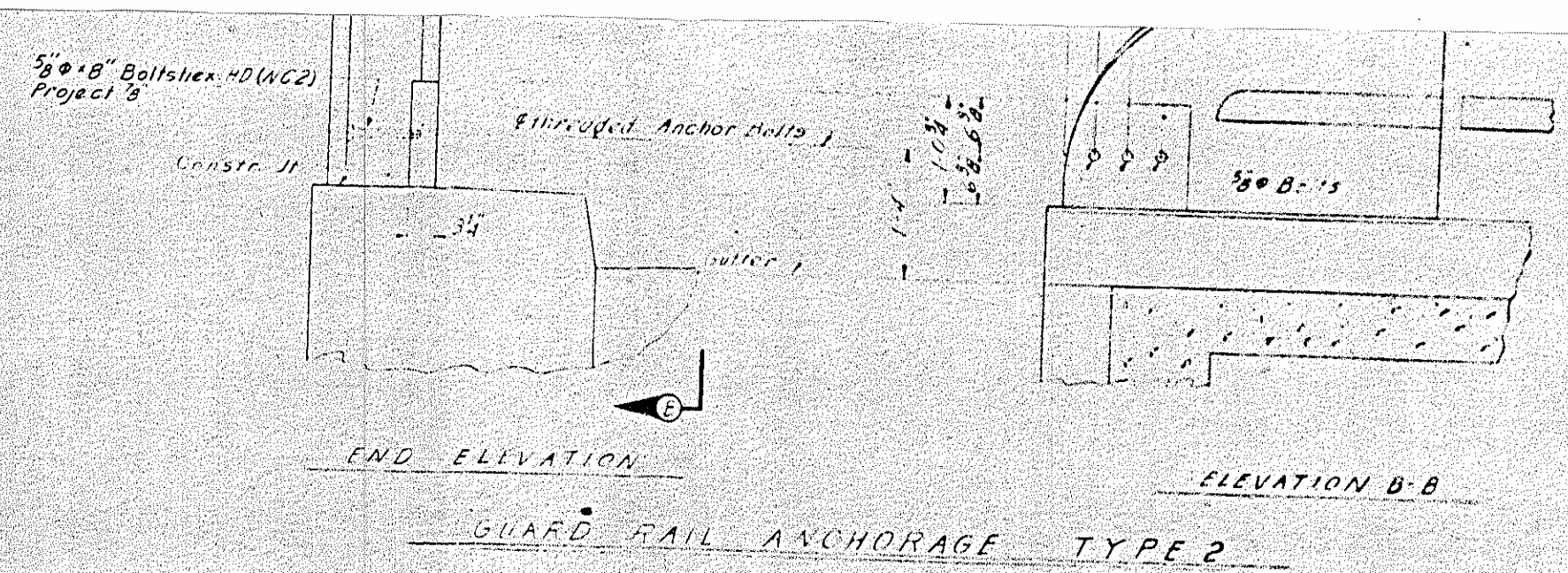
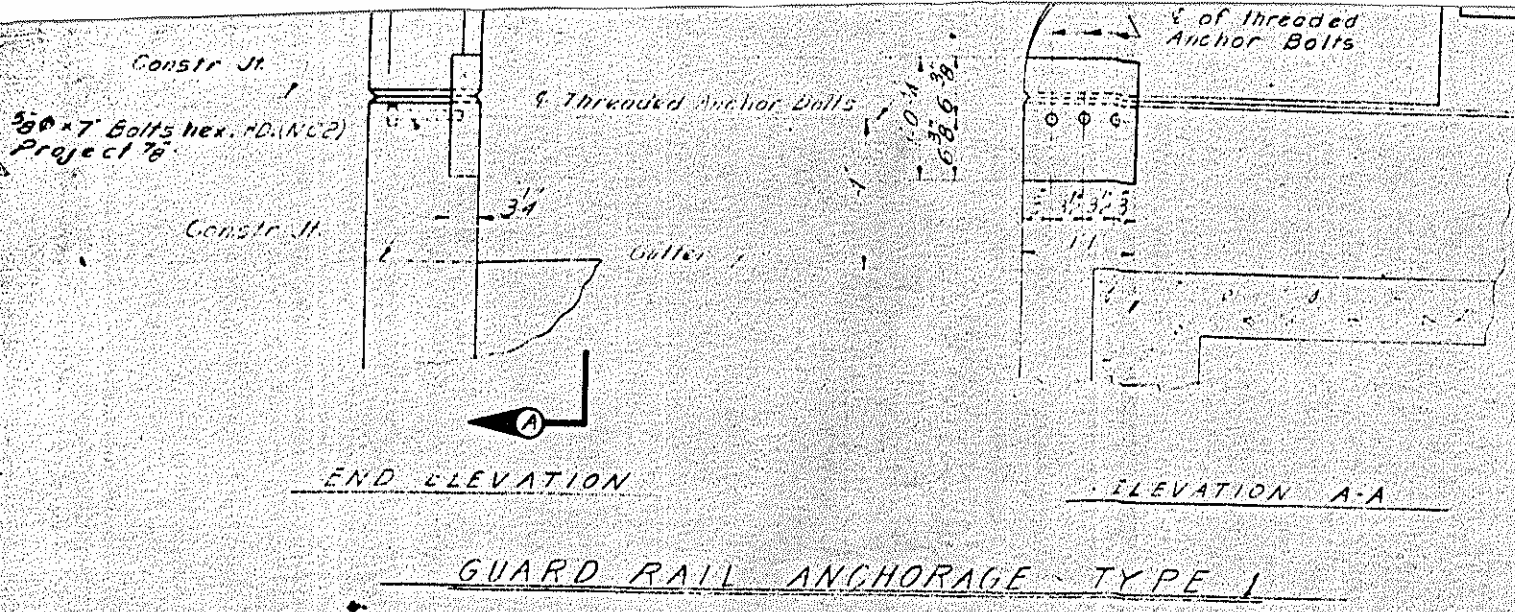
STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

**SUPERSTRUCTURE
SPAN D**

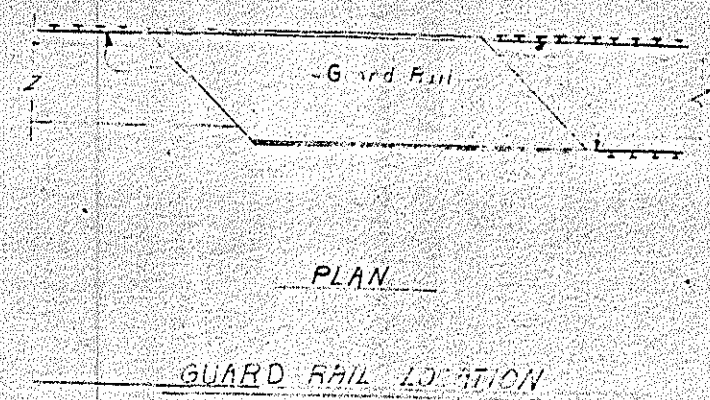
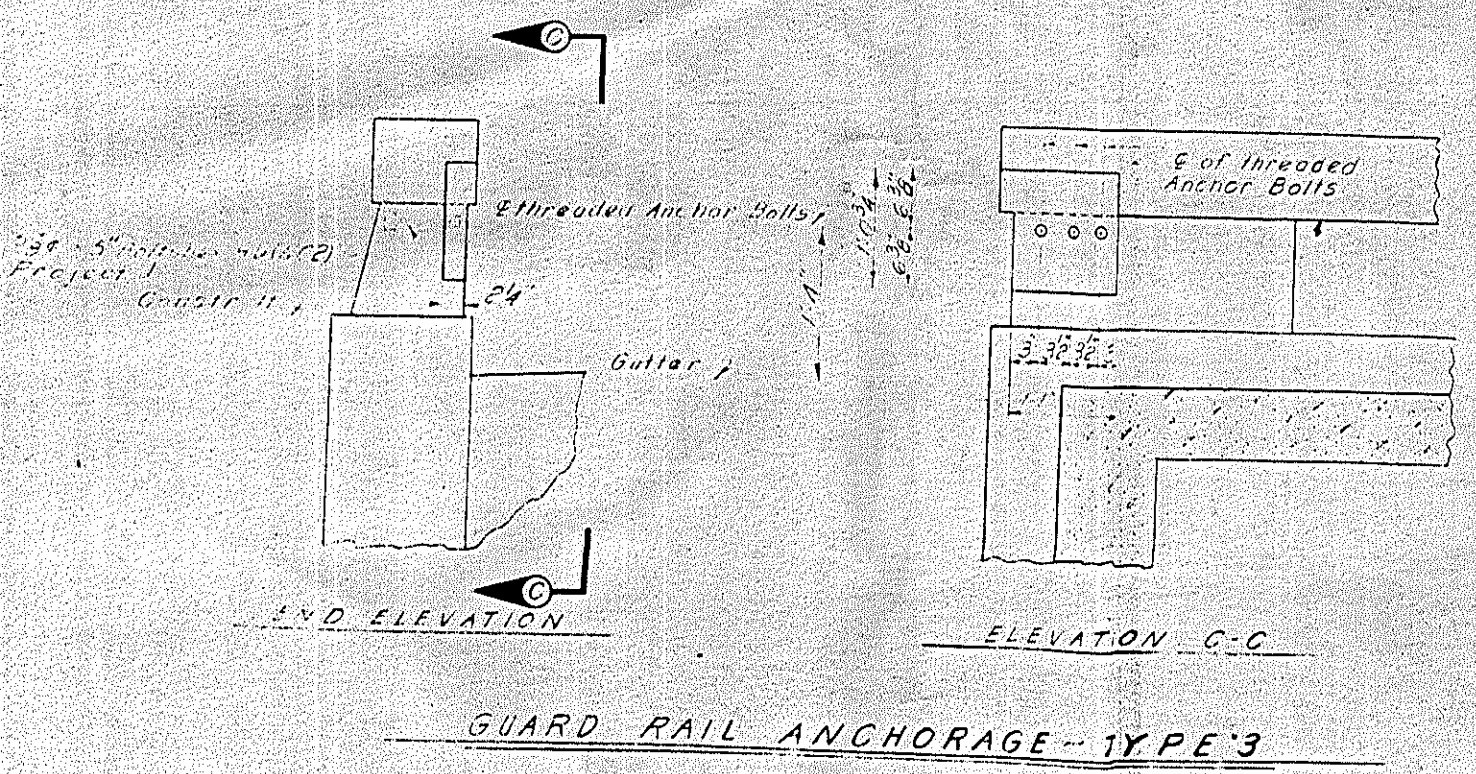
October 1965

REVISED
5-76
130

DRAWN BY: H.C. Stealey, Jr. DATE: 10-26-65
 CHECKED BY: Gerry Page DATE: 1-19-65



NOTE
 Cost of guard rail anchor bolts, complete in place shall be included in the unit contract price bid for class 'A' concrete.
 Nuts and bolts are to conform to the requirements of ASTM A 307 and are to be galvanized to conform to the requirements of ASTM A 153.
 Note to be regular hexagon.



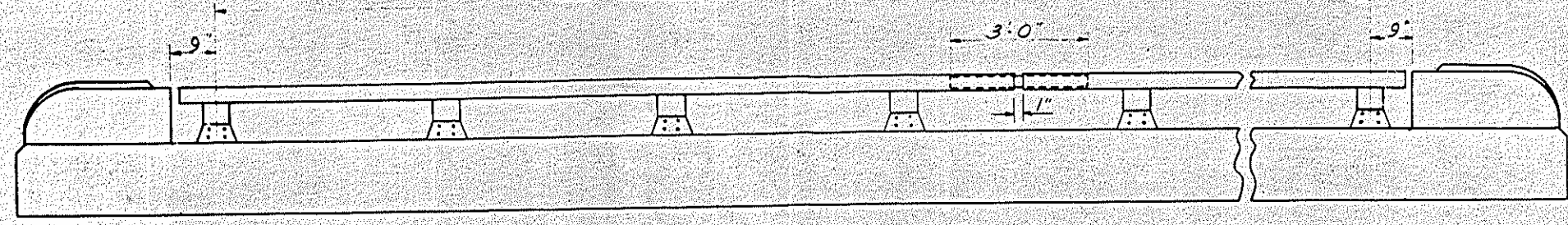
PROJECT No. 11592504
 RICHMOND COUNTY
 STATION: 232+32.16-L
 = 7+72.71-4, P.V.

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 GUARD RAIL ANCHORAGE
 AT END POST

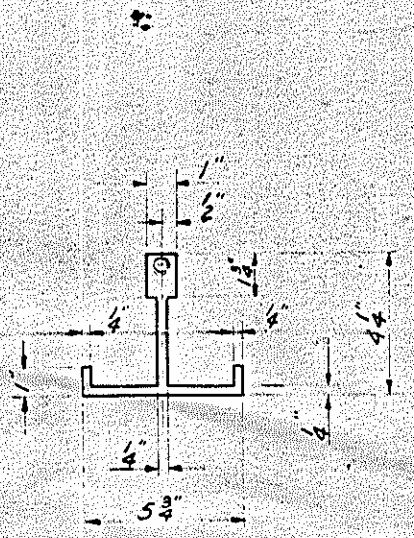
REVISIONS						SHEET NO. 3-77
NO.	BY	DATE	NO.	BY	DATE	
1			1			TOTAL SHEETS 130
2			2			

DATE 11-10-65
 DRAWN BY H. C. Stanley, Jr.
 CHECKED BY G. E. Payne

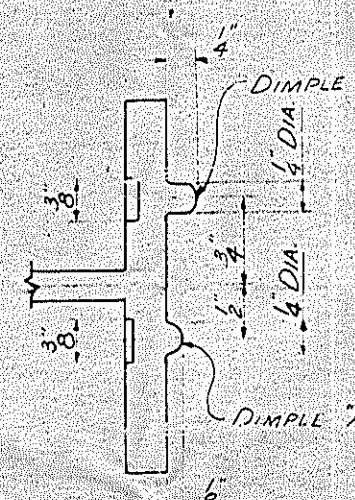
SEE FOLLOWING SHEET FOR RAIL POST SPACING



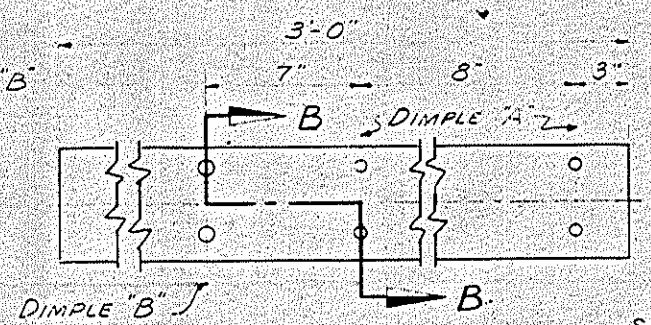
ELEVATION



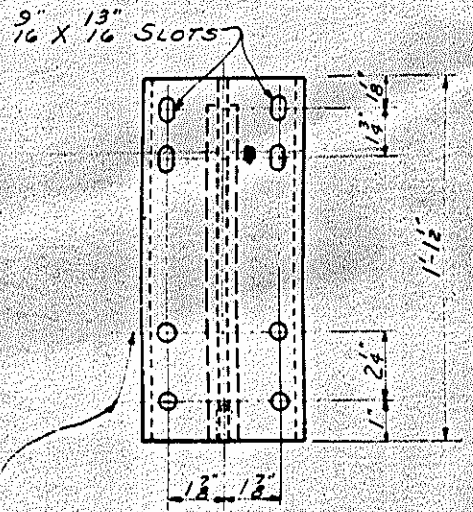
PLAN



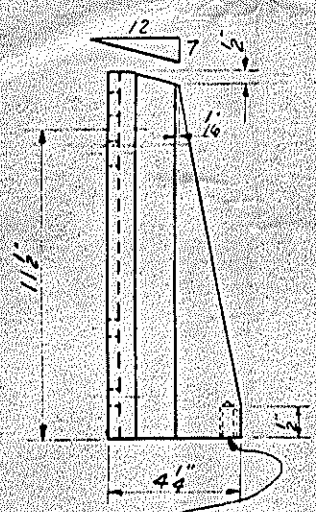
SECTION B-B



BAR SECTION
 EXPANSION BAR DETAILS

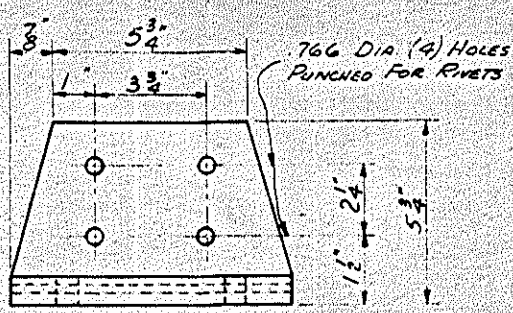


FRONT ELEVATION

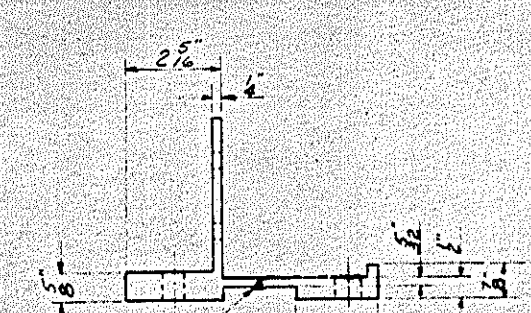


SIDE ELEVATION

DETAILS OF POST



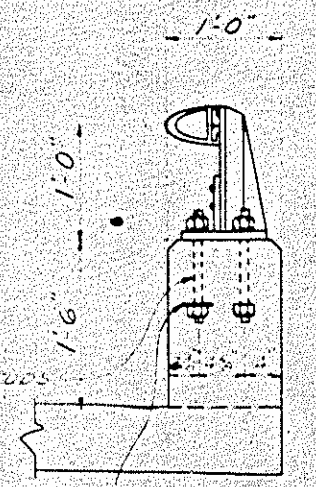
FRONT ELEVATION



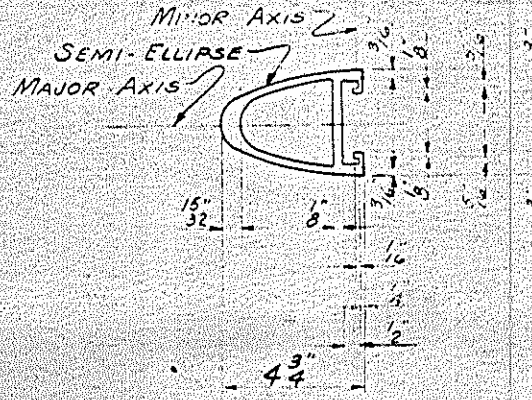
SIDE ELEVATION

POST BASE DETAILS

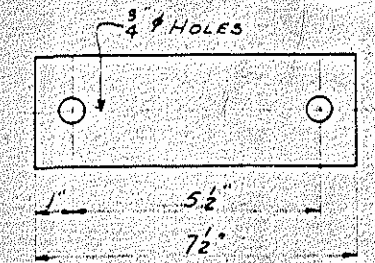
4 3/8 ANCHOR STUDS



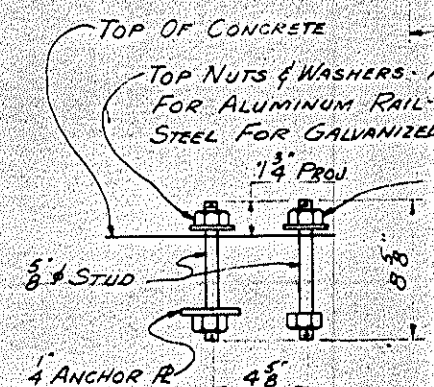
SECTION THRU PARAPET & RAIL



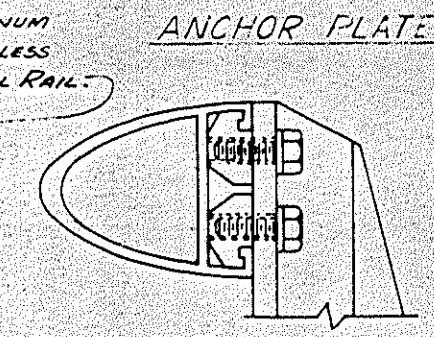
RAIL SECTION



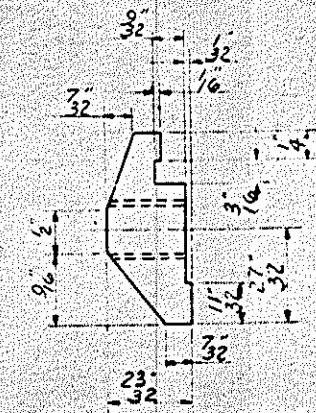
RAIL CAP



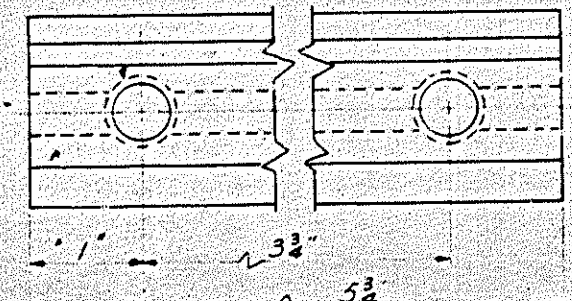
ANCHOR ASSEMBLY



CLAMP & RAIL ASSEMBLY



CLAMP BAR DETAIL
 (2 REQUIRED PER POST)



2-13 THREAD HOLES FOR 1/2" DIA. STAINLESS
 STEEL HEX HD BOLT 6-11, CD 132 TD 16 TH
 WASHER ALUMINUM 6061-T6

AT THE CONTRACTORS OPTION METAL RAIL MAY BE EITHER ALUMINUM OR GALVANIZED STEEL IN ACCORDANCE WITH THE REQUIREMENTS OF THE GENERAL NOTES AND THE FOLLOWING SPECIFICATIONS FOR THE ALTERNATE MATERIALS; HOWEVER THE CONTRACTOR WILL BE REQUIRED TO USE THE SAME RAIL MATERIAL ON ALL STRUCTURES ON THE PROJECT FOR WHICH METAL RAIL IS DESIGNATED.

ALUMINUM RAILS

MATERIAL FOR POSTS, BASES & RAILS, EXPANSION BARS & CLAMP BARS SHALL BE A.S.T.M. B-221 ALLOY 6061 OR 6062-T6.
 MATERIAL FOR ALUMINUM WASHER SHALL BE A.S.T.M. B-209 ALLOY ALCLAD 2024-T3.
 MATERIAL FOR RIVETS SHALL BE A.S.T.M. B-316 ALLOY 6061 OR 6062-T6. RIVETS SHALL BE SIX BUTTON HEAD & CONE POINT CONE POINT AS PER DRAWING.
 NUTS SHALL BE A.S.T.M. B-211 ALLOY 6061 OR 6062-T6. THE BASE OF RAIL POSTS OR ANY OTHER ALUMINUM SURFACE IN CONTACT WITH CONCRETE SHALL BE THOROUGHLY COATED WITH AN ALUMINUM IMPREGNATED CAULKING COMPOUND OF APPROVED QUALITY.

GENERAL NOTES

1. RAILING SHALL BE CONTINUOUS FROM END POST TO END POST OF BRIDGE. EACH JOINT IN RAIL LENGTH SHALL BE SPICED AS DETAILED. PANEL LENGTHS OF RAIL SHALL BE ATTACHED TO A MINIMUM OF FOUR POSTS.
2. END OF RAIL TO CLEAR FACE OF CONCRETE END POST BY 1 1/2".
3. MATERIAL FOR ANCHOR STUDS SHALL BE TYPE 430 STAINLESS STEEL WITH MINIMUM 70,000 PSI ULTIMATE STRENGTH. THREADS TO BE ROLLED & NOT CUT. STUDS TO BE EMBEDDED 7" IN CONCRETE. NUTS SHALL BE AMERICAN STANDARD FINISHED HEXAGON THICK DASH NUTS, CLASS 2B THREAD ANCHOR NUTS SHALL BE A.S.T.M. A7 OR A36 MACHINING SCREWS FOR RAIL ATTACHMENT SHALL BE STAINLESS STEEL.
4. CERTIFIED MILL REPORTS ARE REQUIRED FOR RAILS & POSTS. SAMPLING INSPECTION IS NOT REQUIRED.
5. METAL RAIL POSTS TO BE SET NOMINAL TO CURB GRADE.
6. METHOD OF MEASUREMENT FOR METAL RAILS: UNLESS OTHERWISE STATED THE LENGTH OF METAL RAILS TO BE PAID FOR SHALL BE THE CONTINUOUS HORIZONTAL LENGTH MEASURED FROM INSIDE TO INSIDE OF CONCRETE POSTS.
7. CURVED RAIL USUALLY WHERE RAILS ARE TO BE USED ON BRIDGES OR HORIZONTAL AND/OR VERTICAL CURVATURE, THE CONTRACTOR MAY AT HIS OPTION HAVE THE REGULAR CURVATURE IN THE RAIL FORMED IN THE SHOP OR IN THE FIELD. IN EITHER EVENT THE RAIL SHALL CONFORM WITHOUT BUCKLING OR KINKING TO THE REQUIRED CURVATURE IN A UNIFORM MANNER ACCEPTABLE TO THE ENGINEER.

GALVANIZED STEEL RAILS

MATERIALS AND GALVANIZING ARE TO CONFORM TO THE FOLLOWING SPECIFICATIONS.
 RAIL POST & POST BASE: A.S.T.M. A36 GRADE STRUCTURAL STEEL GALVANIZED TO A.S.T.M. A123.
 RAIL & EXPANSION BAR: A.S.T.M. A36 GRADE STRUCTURAL STEEL GALVANIZED TO A.S.T.M. A123.
 CLOSURE PLATES & SHIMS: STEEL A36 GRADE C - GALVANIZED TO A.S.T.M. A123.
 NUTS & WASHERS FOR TOP END OF ANCHOR ASSEMBLY FOR STEEL RAIL SHALL BE TYPE 430 STAINLESS STEEL.
 THE CUT ENDS OF GALVANIZED STEEL RAILING, AFTER GRINDING SMOOTH, SHALL BE GIVEN TWO COATS OF ZINC PAINT MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATION MIL-P-26915 USAF TYPE 1.

POST LENGTH: 5'-1 1/4"

PROJECT NO. 159250

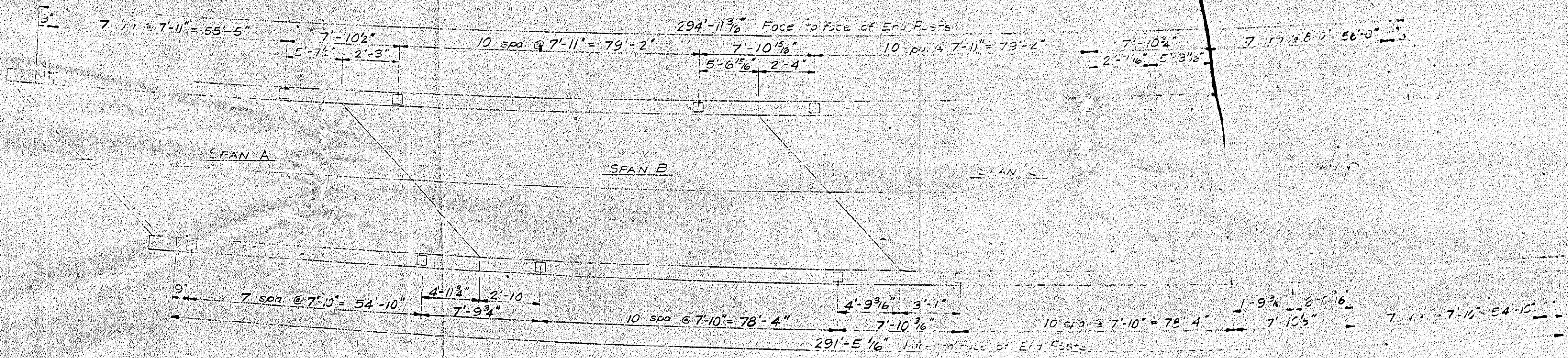
COUNTY

STATION: 22+32.16 - L
 7+16.71 - 1/2 FEET

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 STANDARD
 1 BAR
 METAL RAIL

JULY

1964
 5-7
 130

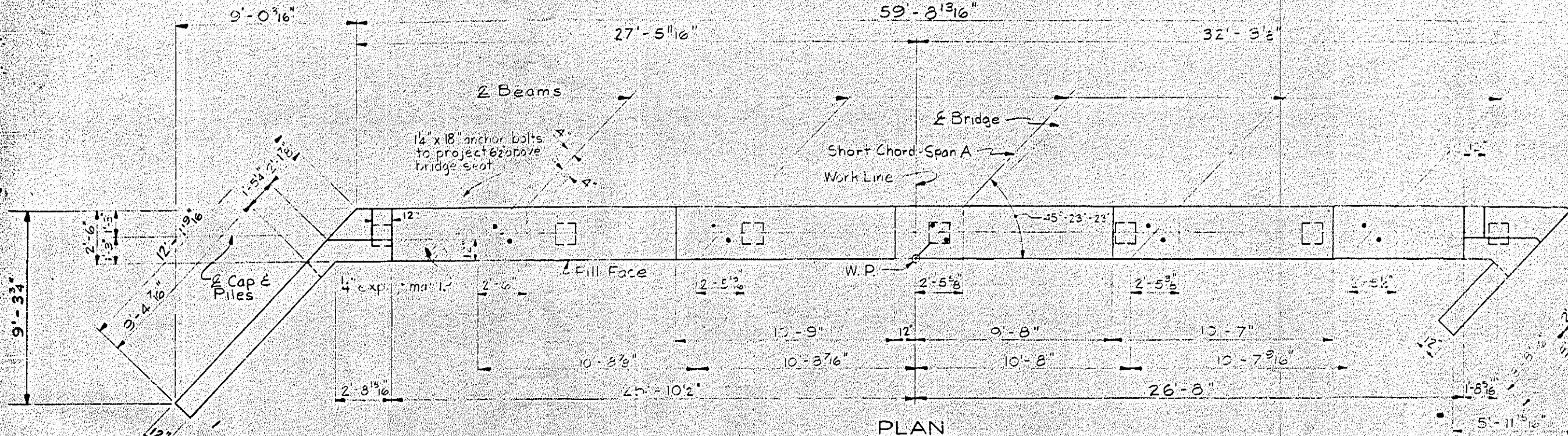


PLAN SHOWING RAIL POST SPACING

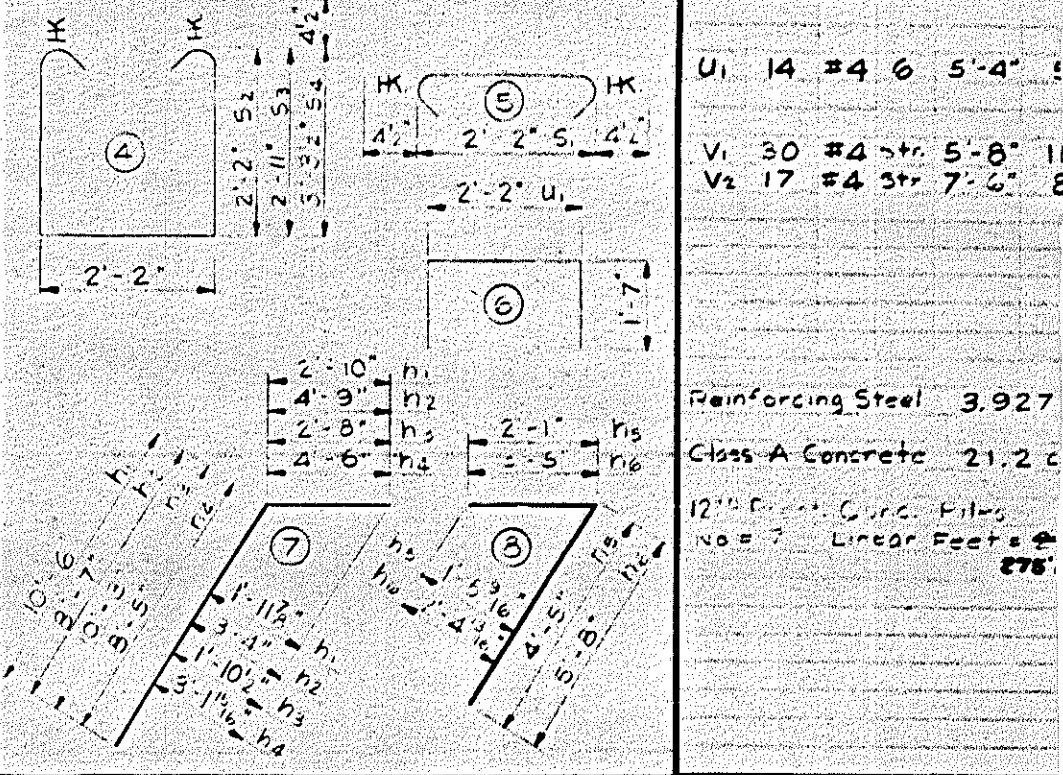
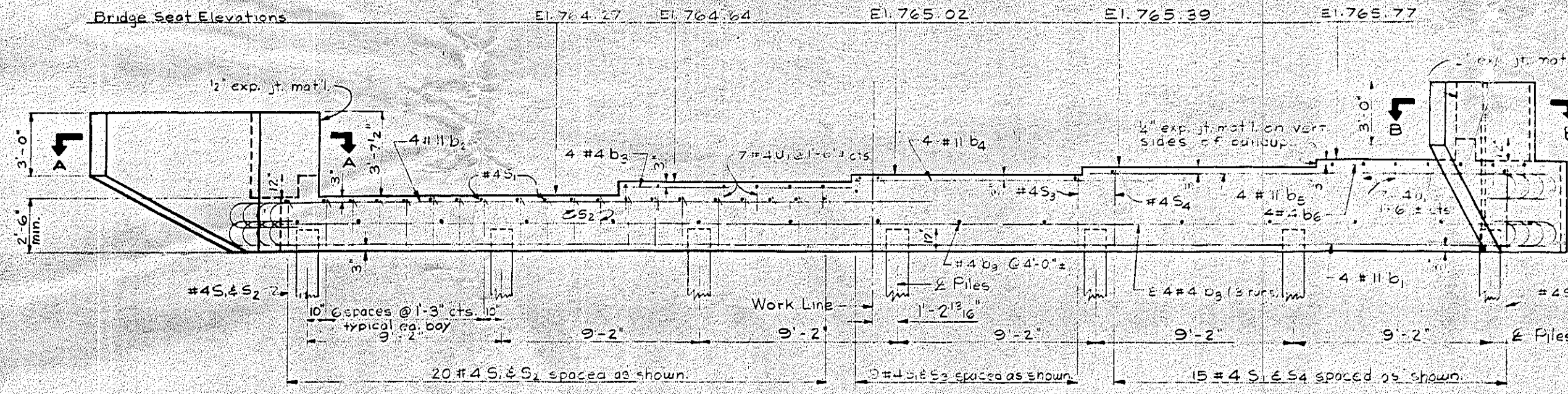
PROJECT No. 8.1592504
 ROCKINGHAM COUNTY
 STATION 202+32.16-L
 = 7+76.71 - Y₃ Res.

STATE OF NORTH CAROLINA		1965	
STATE HIGHWAY COMMISSION			
RALEIGH			
<u>RAIL POST SPACING</u>			
November			
REVISIONS			
NO.	BY	DATE	NO. BY DATE
1			
2			
SHEET NO.			5-79
TOTAL SHEETS			130

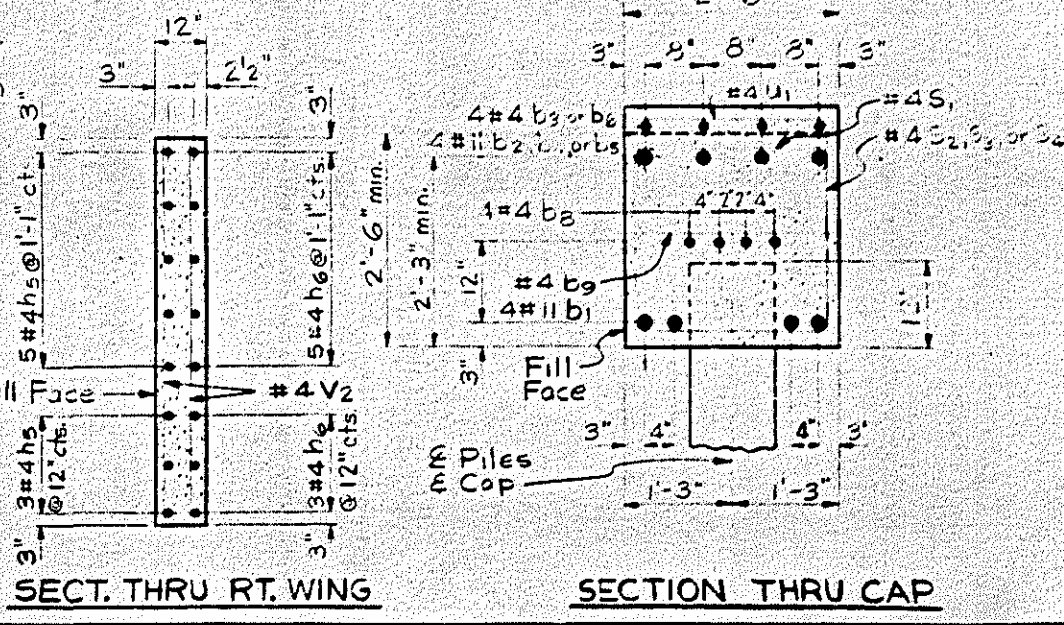
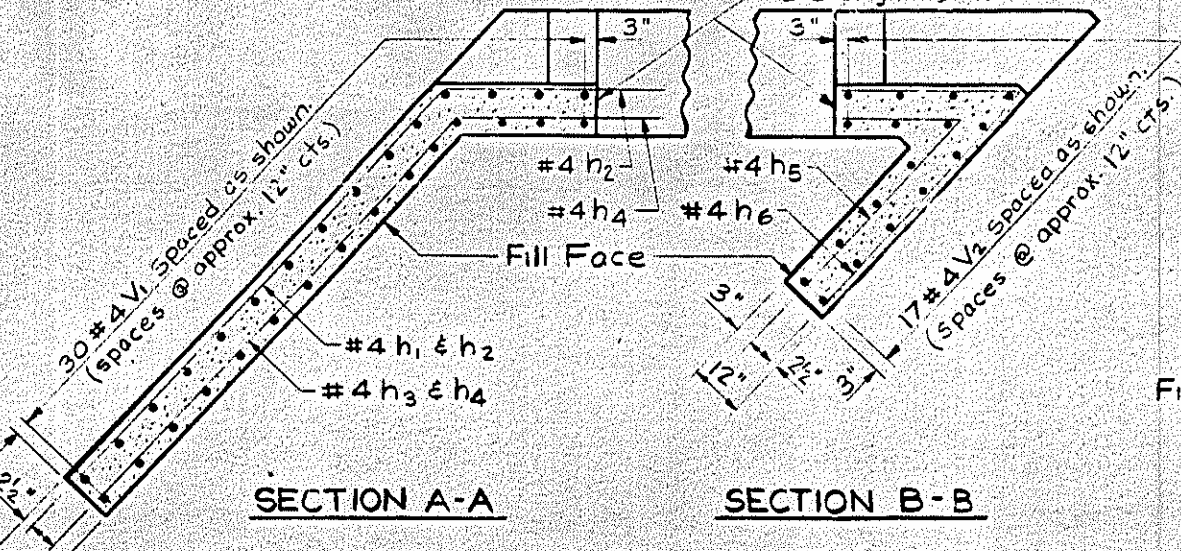
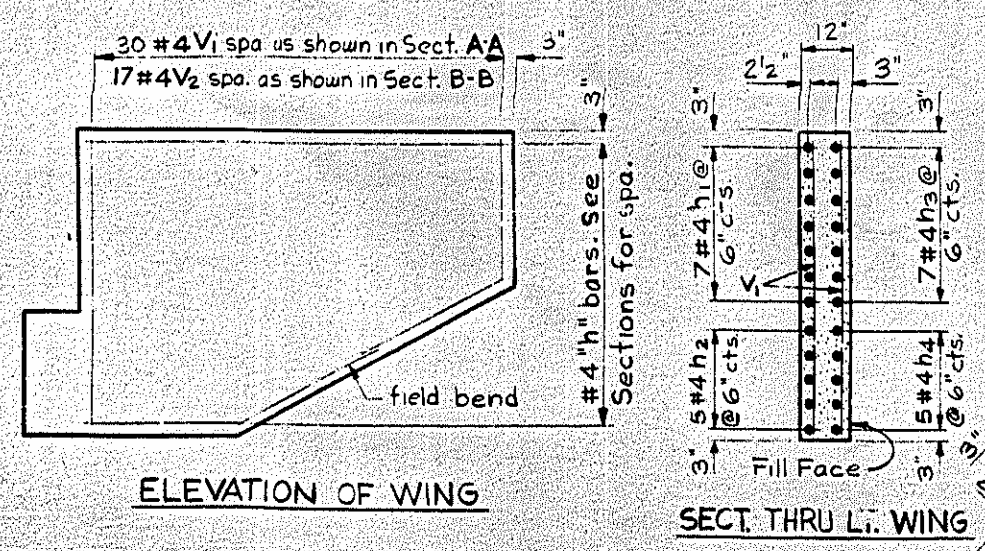
1-10-65
 P. 139



BAR TYPES		BILL OF MATERIAL	
All Dimensions Are Out to Out		FOR END BENT NO 1	
HK. (1)	HK. (1)	BAR NO	SIZE TYPE LENGTH WT
1'-7"	6'-3"	b1	#11 1 62'-5" 13
		b2	#11 2 34'-4" 7
		b3	#4 Str 10'-9" 3
		b4	#11 Str 14'-3" 3
		b5	#11 2 21'-4" 4
		b6	#4 Str 9'-0" 4
HK. (2)	HK. (2)	b8	#4 Str 20'-9" 11
1'-7"	32'-9"	b9	#4 Str 2'-2"
1'-7"	19'-9"		
		h1	#4 7 13'-4"
		h2	#4 7 13'-4"
		h3	#4 7 12'-11"
		h4	#4 7 12'-11"
		h5	#4 8 6'-6"
		h6	#4 8 9'-1"
		S1	#4 5 2'-11"
		S2	#4 4 7'-3"
		S3	#4 4 8'-9"
		S4	#4 4 9'-0"
		U1	#4 6 5'-4"
		V1	#4 Str 5'-8"
		V2	#4 Str 7'-6"



Note: Piles shall be driven to a minimum bearing capacity of 30 tons each.



PROJECT NO. 8.159250
 ROCKINGHAM COUNTY
 STATION: 202+32.16-L-

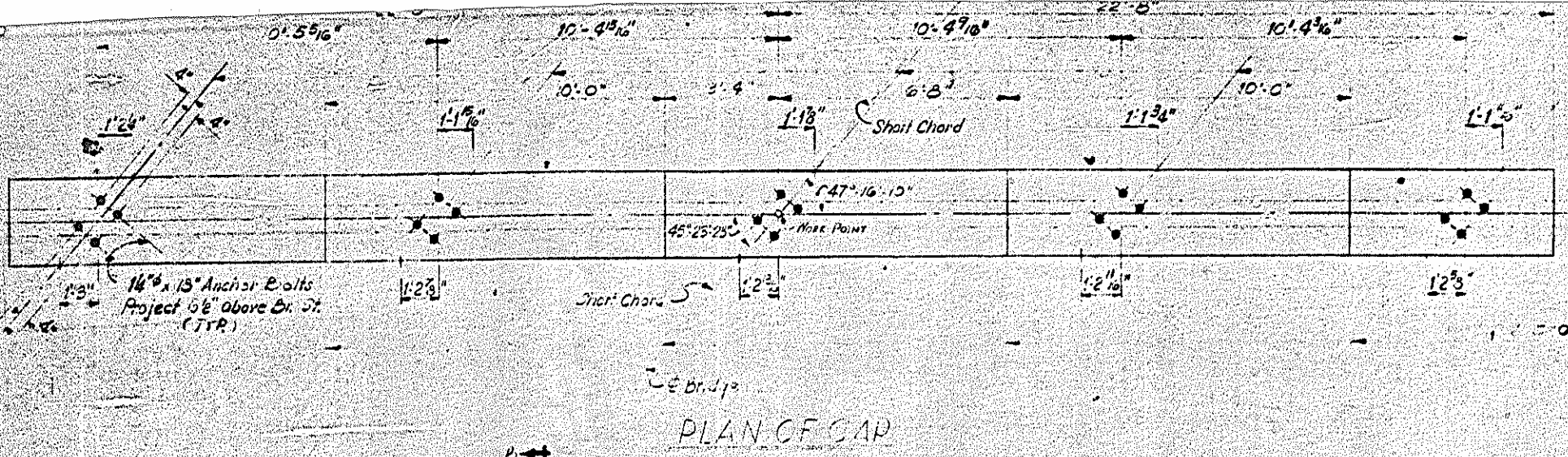
STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

END BENT NO 1

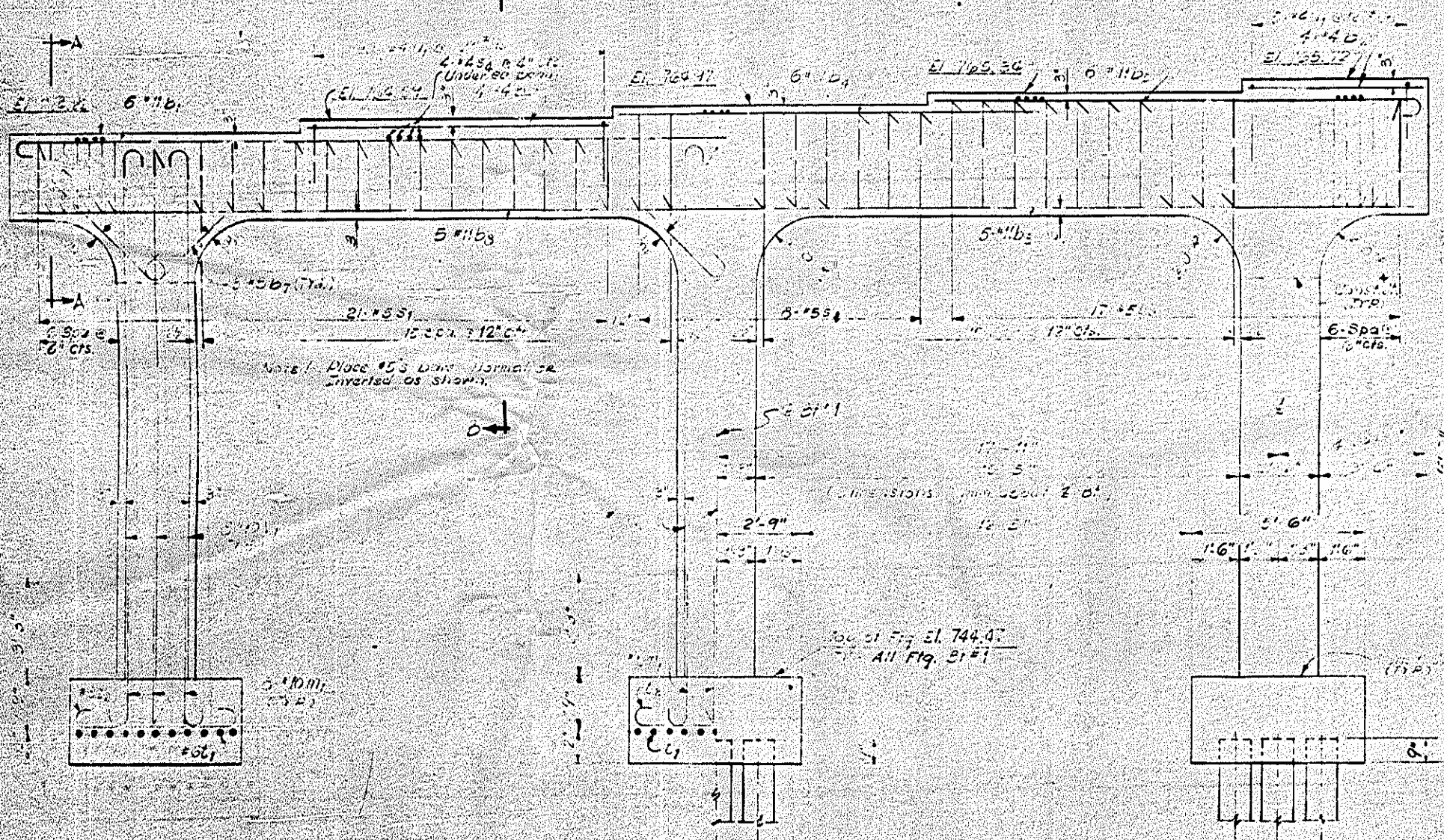
REVISIONS		DATE	NO	BY	DATE
NO	BY	DATE	NO	BY	DATE

DECEMBER 1965

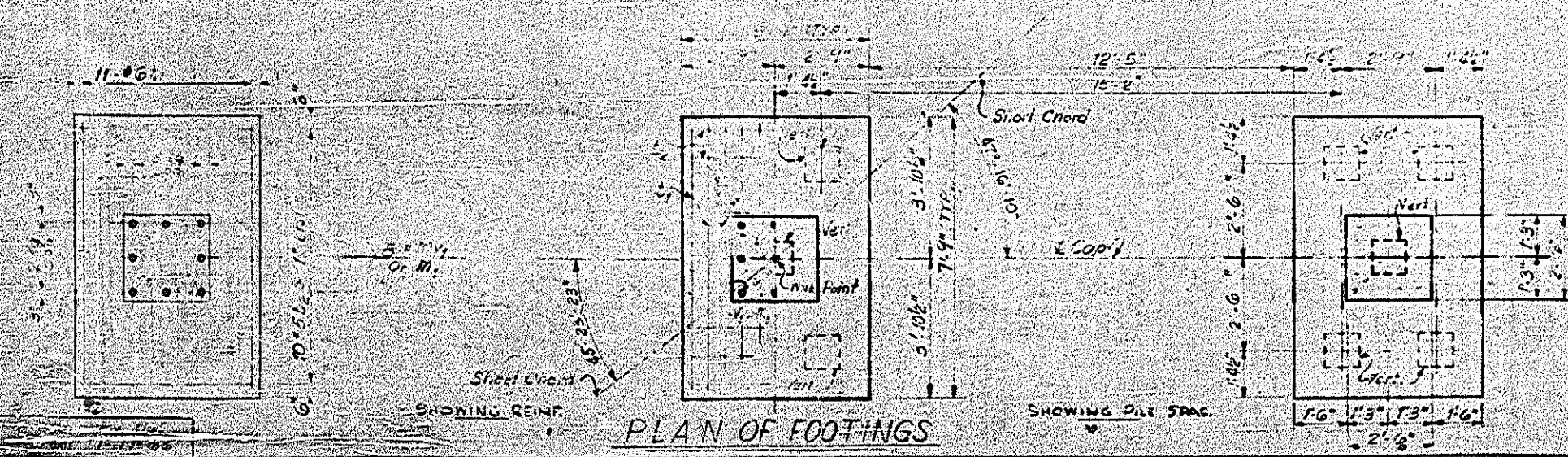
581
 130



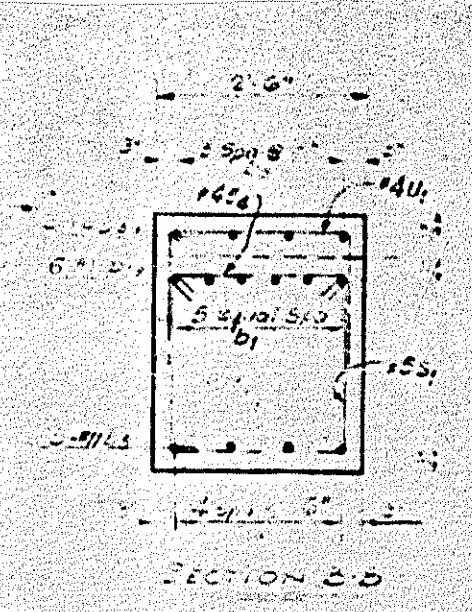
PLAN OF CAP



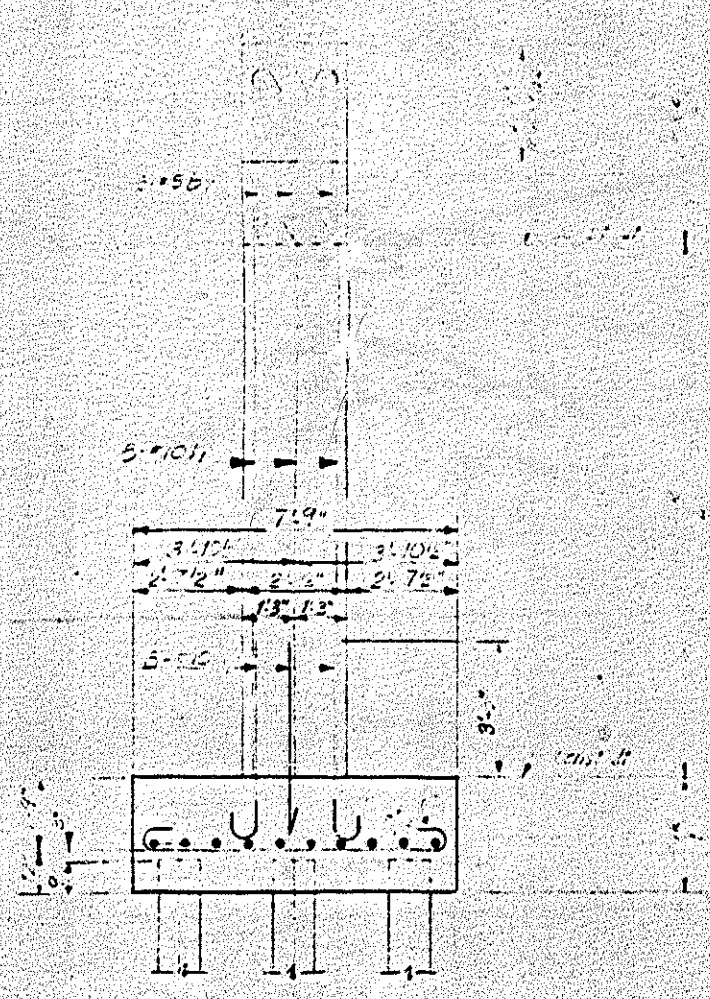
ELEVATION



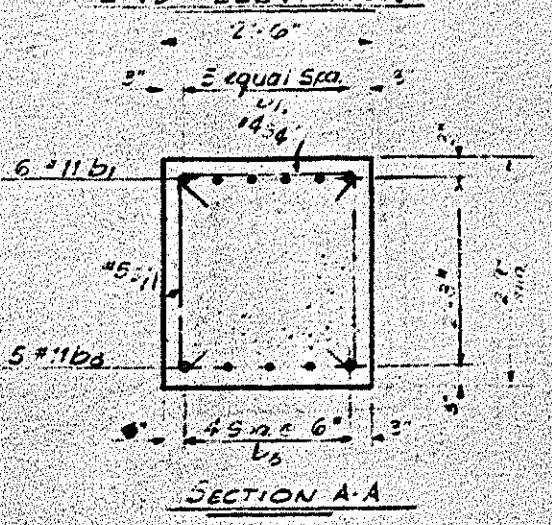
PLAN OF FOOTINGS



SECTION B-B



END ELEVATION



SECTION A-A

BAR TYPES			BILL OF MATERIAL		
			FOR BENT #1		
BAR NO.	SIZE	TYPE	LENGTH	QUANTITY	WEIGHT
U1	6	#1	25'-7"	216	
V1	6	#4	7'-7"	26	
V2	6	#4	13'-7"	26	
V3	6	#4	17'-7"	26	
V4	6	#4	21'-7"	26	
V5	6	#4	25'-7"	26	
V6	6	#4	29'-7"	26	
V7	6	#4	33'-7"	26	
V8	6	#4	37'-7"	26	
V9	6	#4	41'-7"	26	
V10	6	#4	45'-7"	26	
V11	6	#4	49'-7"	26	
V12	6	#4	53'-7"	26	
V13	6	#4	57'-7"	26	
V14	6	#4	61'-7"	26	
V15	6	#4	65'-7"	26	
V16	6	#4	69'-7"	26	
V17	6	#4	73'-7"	26	
V18	6	#4	77'-7"	26	
V19	6	#4	81'-7"	26	
V20	6	#4	85'-7"	26	
V21	6	#4	89'-7"	26	
V22	6	#4	93'-7"	26	
V23	6	#4	97'-7"	26	
V24	6	#4	101'-7"	26	
V25	6	#4	105'-7"	26	
V26	6	#4	109'-7"	26	
V27	6	#4	113'-7"	26	
V28	6	#4	117'-7"	26	
V29	6	#4	121'-7"	26	
V30	6	#4	125'-7"	26	
V31	6	#4	129'-7"	26	
V32	6	#4	133'-7"	26	
V33	6	#4	137'-7"	26	
V34	6	#4	141'-7"	26	
V35	6	#4	145'-7"	26	
V36	6	#4	149'-7"	26	
V37	6	#4	153'-7"	26	
V38	6	#4	157'-7"	26	
V39	6	#4	161'-7"	26	
V40	6	#4	165'-7"	26	
V41	6	#4	169'-7"	26	
V42	6	#4	173'-7"	26	
V43	6	#4	177'-7"	26	
V44	6	#4	181'-7"	26	
V45	6	#4	185'-7"	26	
V46	6	#4	189'-7"	26	
V47	6	#4	193'-7"	26	
V48	6	#4	197'-7"	26	
V49	6	#4	201'-7"	26	
V50	6	#4	205'-7"	26	
V51	6	#4	209'-7"	26	
V52	6	#4	213'-7"	26	
V53	6	#4	217'-7"	26	
V54	6	#4	221'-7"	26	
V55	6	#4	225'-7"	26	
V56	6	#4	229'-7"	26	
V57	6	#4	233'-7"	26	
V58	6	#4	237'-7"	26	
V59	6	#4	241'-7"	26	
V60	6	#4	245'-7"	26	
V61	6	#4	249'-7"	26	
V62	6	#4	253'-7"	26	
V63	6	#4	257'-7"	26	
V64	6	#4	261'-7"	26	
V65	6	#4	265'-7"	26	
V66	6	#4	269'-7"	26	
V67	6	#4	273'-7"	26	
V68	6	#4	277'-7"	26	
V69	6	#4	281'-7"	26	
V70	6	#4	285'-7"	26	
V71	6	#4	289'-7"	26	
V72	6	#4	293'-7"	26	
V73	6	#4	297'-7"	26	
V74	6	#4	301'-7"	26	
V75	6	#4	305'-7"	26	
V76	6	#4	309'-7"	26	
V77	6	#4	313'-7"	26	
V78	6	#4	317'-7"	26	
V79	6	#4	321'-7"	26	
V80	6	#4	325'-7"	26	
V81	6	#4	329'-7"	26	
V82	6	#4	333'-7"	26	
V83	6	#4	337'-7"	26	
V84	6	#4	341'-7"	26	
V85	6	#4	345'-7"	26	
V86	6	#4	349'-7"	26	
V87	6	#4	353'-7"	26	
V88	6	#4	357'-7"	26	
V89	6	#4	361'-7"	26	
V90	6	#4	365'-7"	26	
V91	6	#4	369'-7"	26	
V92	6	#4	373'-7"	26	
V93	6	#4	377'-7"	26	
V94	6	#4	381'-7"	26	
V95	6	#4	385'-7"	26	
V96	6	#4	389'-7"	26	
V97	6	#4	393'-7"	26	
V98	6	#4	397'-7"	26	
V99	6	#4	401'-7"	26	
V100	6	#4	405'-7"	26	

ALL DIMENSIONS ARE SHOWN AS SHOWN UNLESS NOTED OTHERWISE.

NOTE: REINFORCING STEEL SHALL BE AS SHOWN UNLESS NOTED OTHERWISE.

BEARING PILES TO BE DRIVEN TO A BEARING CAPACITY OF 30 TONS EACH.

* THE BEARS HAVE NOT BEEN LOCATED.

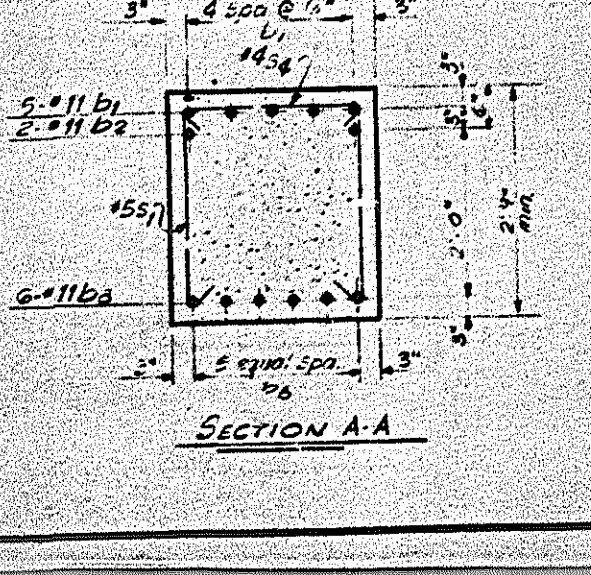
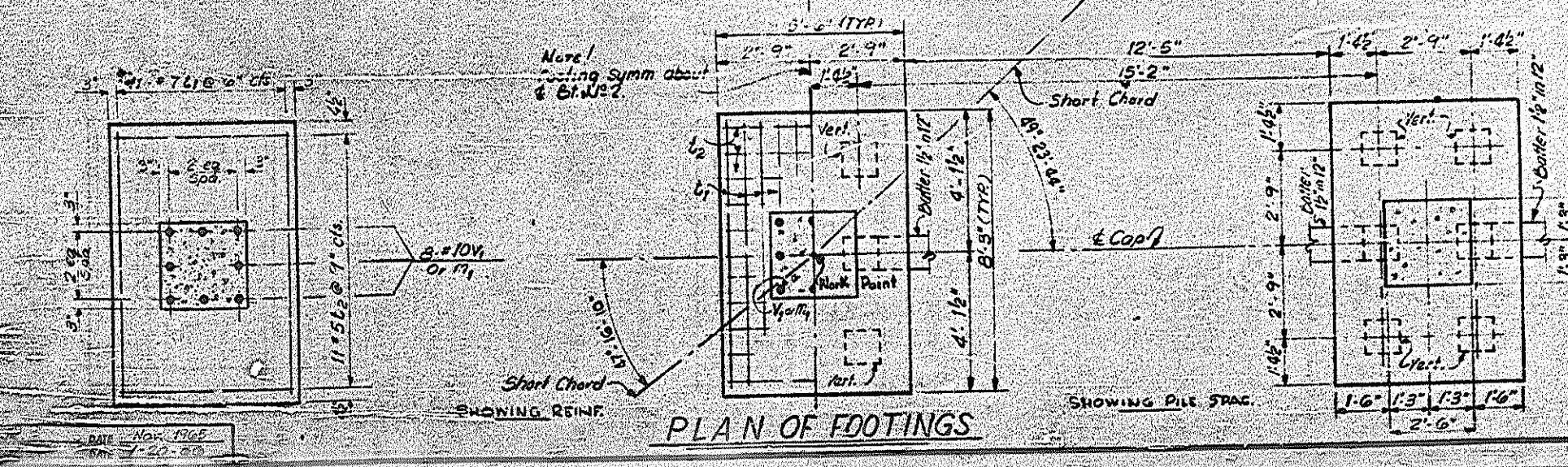
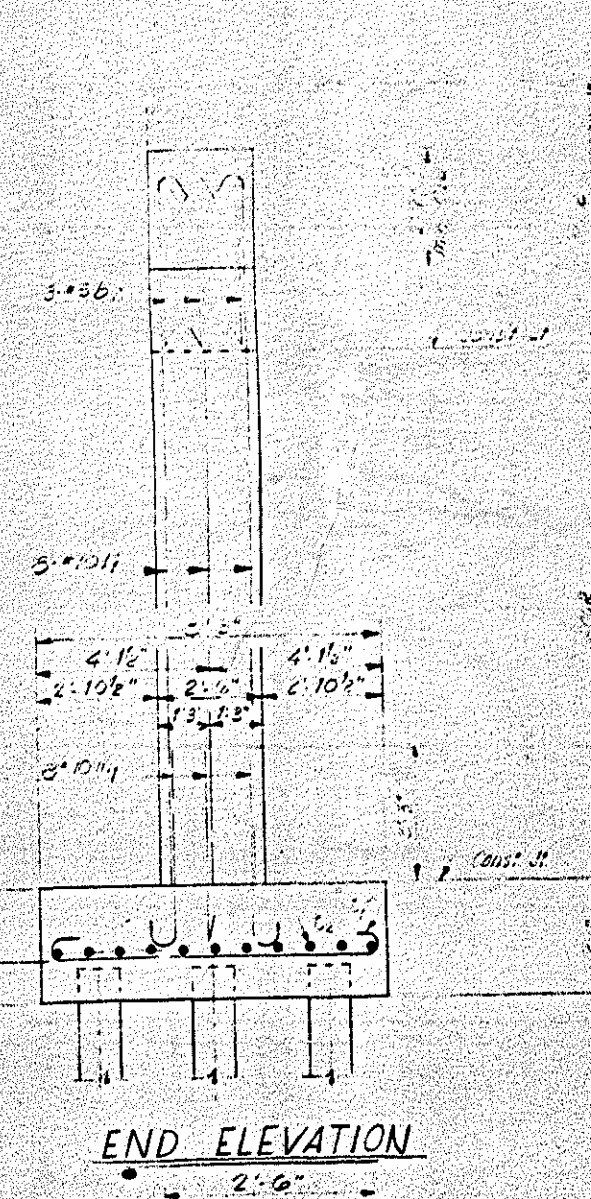
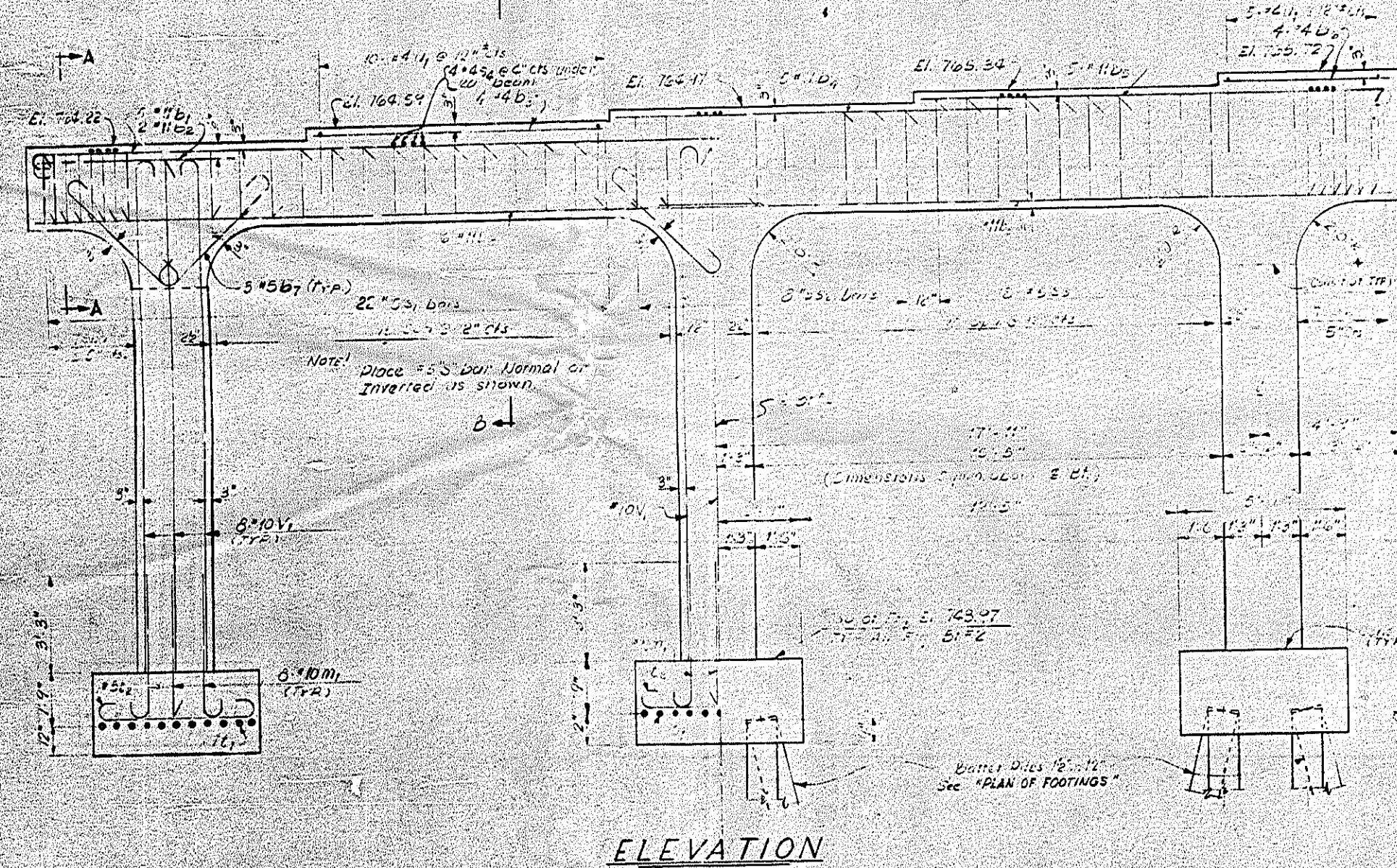
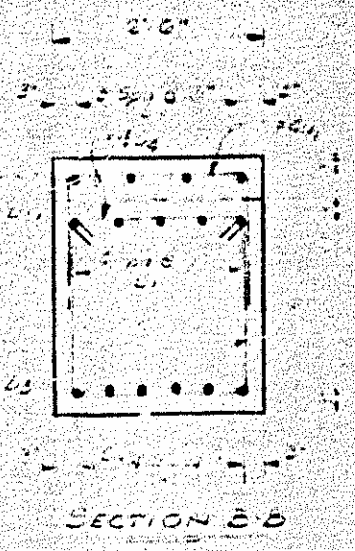
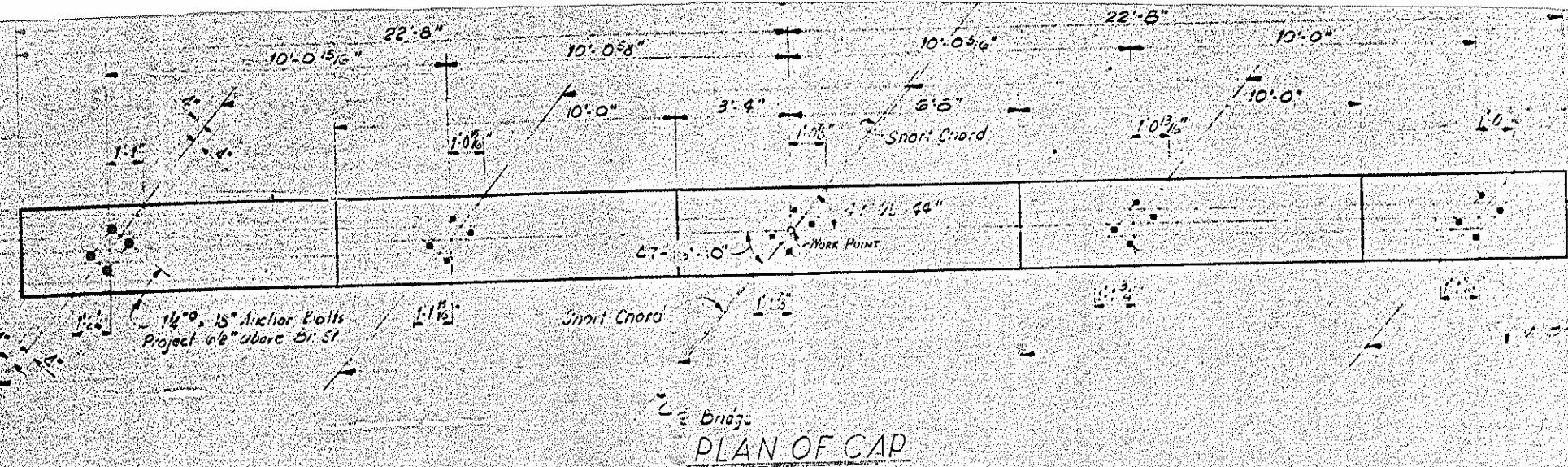
HEAD OF V-BARS MUST BE SET TO THE CORRECT ELEVATION TO MATCH THE ELEVATION OF THE PILES.

PROJECT NO. B.159.254
 ROCKY MOUNT COUNTY
 STATION: 102 + 32.5

NORTH CAROLINA
STATE HIGHWAY COMMISSION
 DIVISION
SUBSTRUCTURE
 BENT #1

REVISIONS

NO.	BY	DATE	DESCRIPTION
1		5-22	

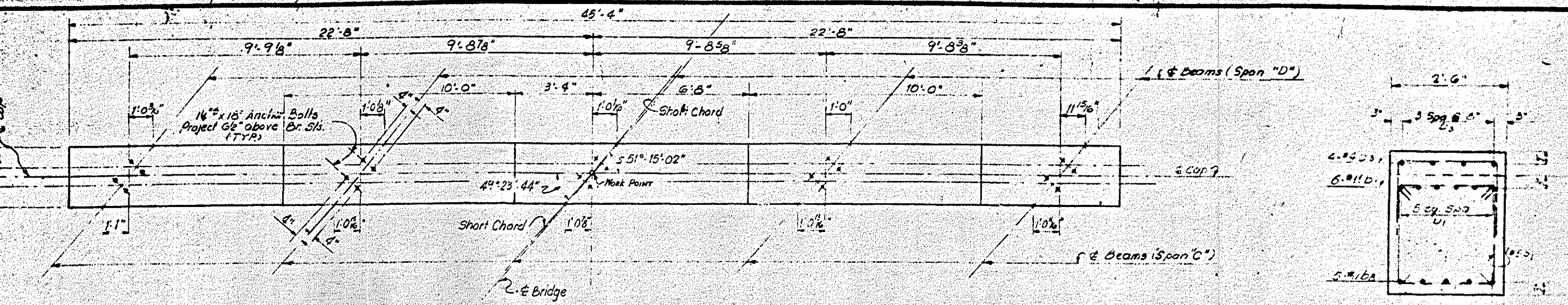


BAR TYPES		BILL OF MATERIAL				
		FOR BENT #2				
BAR NO.	SIZE	TYPE	LENGTH	WEIGHT		
B1	5	#11	27'-0"	100		
B2	4	#5	27'-0"	100		
B3	4	#5	27'-0"	100		
B4	5	#11	27'-0"	100		
B5	4	#5	27'-0"	100		
B6	4	#5	27'-0"	100		
B7	15	#5	27'-0"	100		
B8	12	#11	27'-0"	100		
M1	24	#10	17'-0"	100		
B9	5	#11	27'-0"	100		
B10	5	#11	27'-0"	100		
B11	5	#11	27'-0"	100		
B12	5	#11	27'-0"	100		
B13	5	#11	27'-0"	100		
B14	5	#11	27'-0"	100		
B15	5	#11	27'-0"	100		
B16	5	#11	27'-0"	100		
B17	5	#11	27'-0"	100		
B18	5	#11	27'-0"	100		
B19	5	#11	27'-0"	100		
B20	5	#11	27'-0"	100		
B21	5	#11	27'-0"	100		
B22	5	#11	27'-0"	100		
B23	5	#11	27'-0"	100		
B24	5	#11	27'-0"	100		
B25	5	#11	27'-0"	100		
B26	5	#11	27'-0"	100		
B27	5	#11	27'-0"	100		
B28	5	#11	27'-0"	100		
B29	5	#11	27'-0"	100		
B30	5	#11	27'-0"	100		
B31	5	#11	27'-0"	100		
B32	5	#11	27'-0"	100		
B33	5	#11	27'-0"	100		
B34	5	#11	27'-0"	100		
B35	5	#11	27'-0"	100		
B36	5	#11	27'-0"	100		
B37	5	#11	27'-0"	100		
B38	5	#11	27'-0"	100		
B39	5	#11	27'-0"	100		
B40	5	#11	27'-0"	100		
B41	5	#11	27'-0"	100		
B42	5	#11	27'-0"	100		
B43	5	#11	27'-0"	100		
B44	5	#11	27'-0"	100		
B45	5	#11	27'-0"	100		
B46	5	#11	27'-0"	100		
B47	5	#11	27'-0"	100		
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B49	5	#11	27'-0"	100		
B50	5	#11	27'-0"	100		
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B53	5	#11	27'-0"	100		
B54	5	#11	27'-0"	100		
B55	5	#11	27'-0"	100		
B56	5	#11	27'-0"	100		
B57	5	#11	27'-0"	100		
B58	5	#11	27'-0"	100		
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B62	5	#11	27'-0"	100		
B63	5	#11	27'-0"	100		
B64	5	#11	27'-0"	100		
B65	5	#11	27'-0"	100		
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B89	5	#11	27'-0"	100		
B90	5	#11	27'-0"	100		
B91	5	#11	27'-0"	100		
B92	5	#11	27'-0"	100		
B93	5	#11	27'-0"	100		
B94	5	#11	27'-0"	100		
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B99	5	#11	27'-0"	100		
B100	5	#11	27'-0"	100		

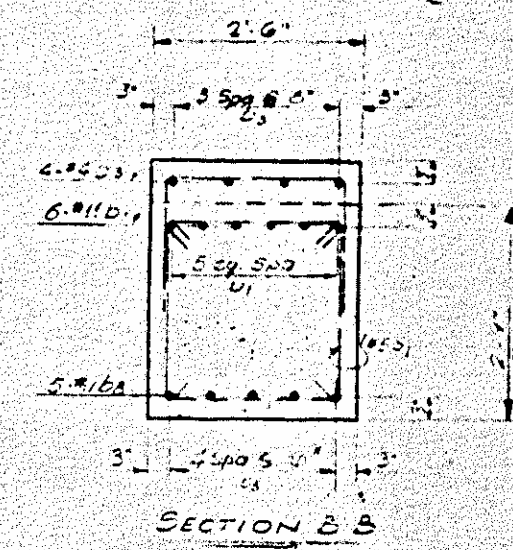
PROJECT NO. 1592504
 ROCKINGHAM COUNTY
 STATION: 202 + 32.15

STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION SUBSTRUCTURE				
BENT #2				
NOVEMBER '65				
REVISIONS				
NO.	BY	DATE	NO.	BY
1			1	
2			2	

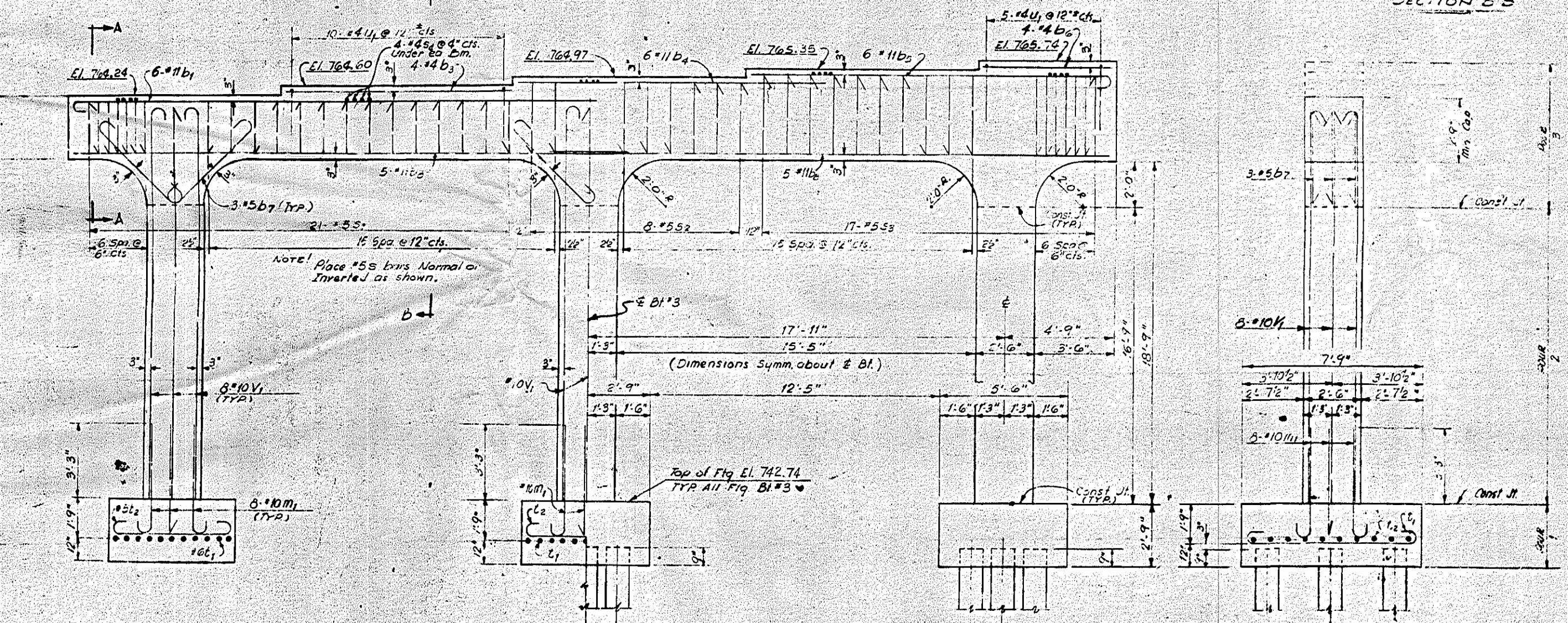
DATE: Nov. 1965
 BY: J. W. ...



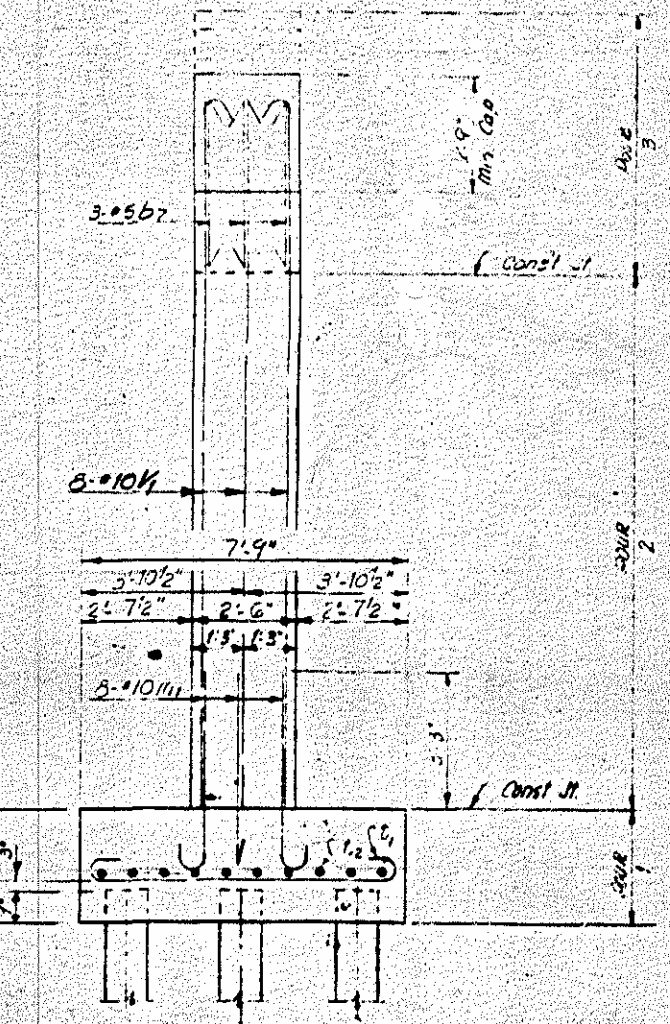
PLAN OF CAP



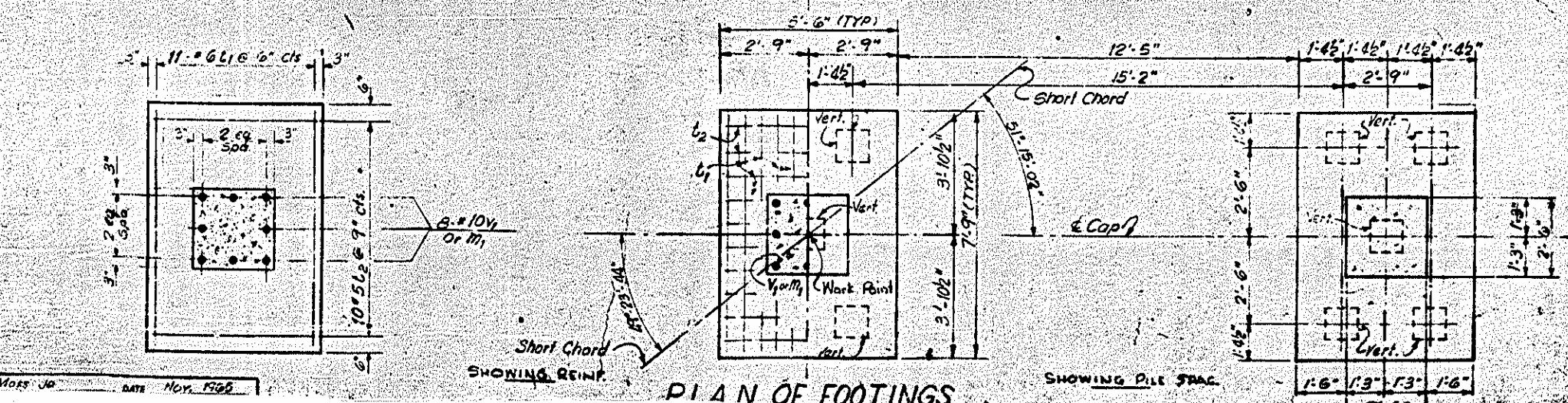
SECTION B-B



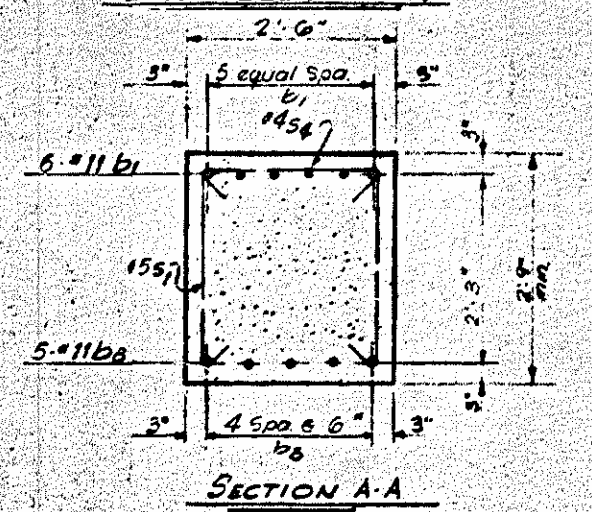
ELEVATION



END ELEVATION



PLAN OF FOOTINGS



SECTION A-A

BAR TYPES		BILL OF MATERIAL	
FOR BENT NO. 9			
BAR NO.	SIZE	TYPE	WEIGHT
b1	#11	①	25.7' 810
b2	#6	②	1.9' 26
b3	#11	③	15.7' 433
b4	#1	④	7.0' 262
b5	#4	⑤	5.7' 15
b6	#5	⑥	5.9' 108
b7	#10	⑦	24.5' 1297
b8	#10	⑧	6.5' 265
m1	#5	⑨	7.10' 172
m2	#5	⑩	4.4' 78
m3	#5	⑪	10.1' 179
m4	#5	⑫	2.11' 38
l1	#6	⑬	8.9' 232
l2	#5	⑭	6.4' 178
u1	#4	⑮	5.2' 52
v1	#10	⑯	22.5' 23.5

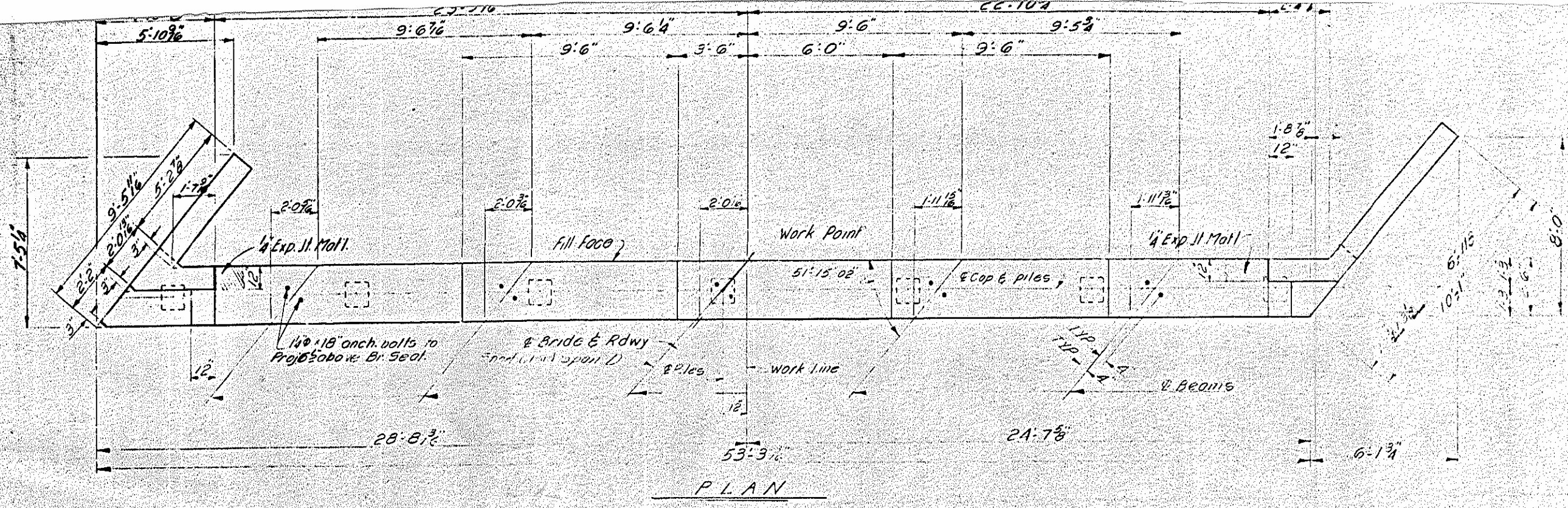
REIN. STEEL: LBS. 167
 CLASS "A" CONC. # Cu. Yds. 40.9
 15" dia. Cast Conc. Piles No. 15 - Lbs. Fr. 4400

CONC. BY POURS	
POUR 1 (Footings)	Cu Yds. 12.6
POUR 2 (Piers)	Cu Yds. 11.6
POUR 3 (Cap)	Cu Yds. 16.5
TOTAL	Cu Yds. 40.7

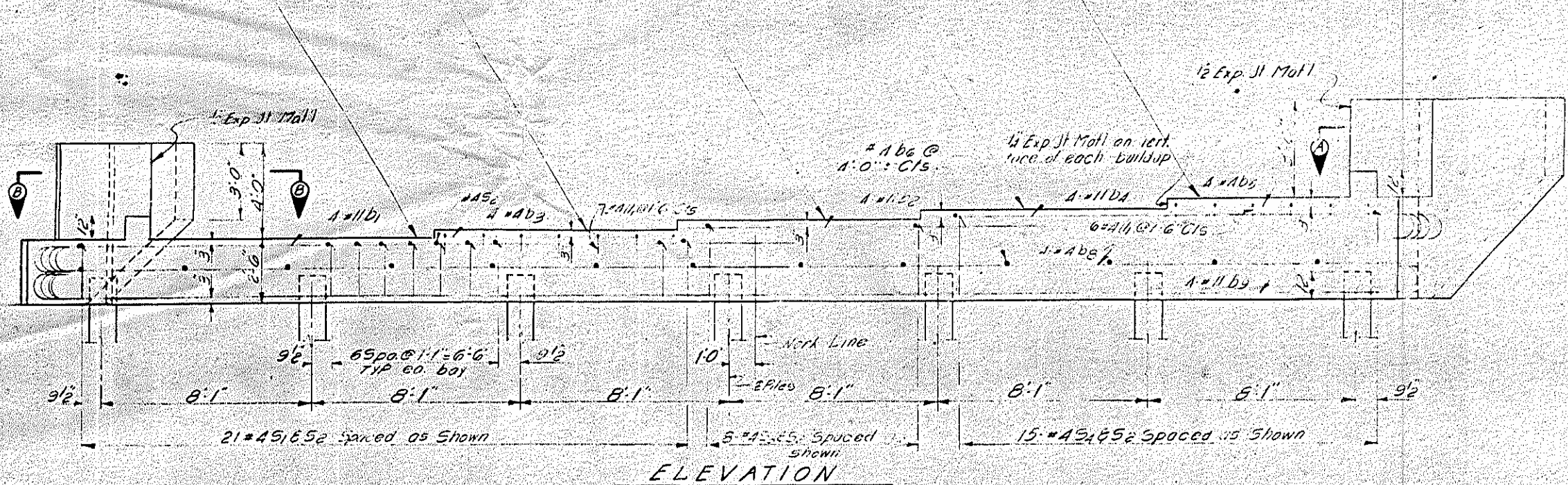
Note! Reinforcing steel may be shifted as necessary to clear anchor bolts.
 Bearing piles to be driven to a min. bearing capacity of 30 Tons each.
 ** Pic heads have not been deducted.
 Hooks on "V" bars may be rotated as necessary to clear reinf. steel in cap.

PROJECT NO. 8.1592504
 ROCKINGHAM COUNTY
 STATION: 202 + 92.15

STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION			
SUBSTRUCTURE			
BENT NO. 9			
NOVEMBER '68			
REVISIONS			
NO.	BY	DATE	BY
1			



Bridge Seat Elevations 764.27 764.64 765.02 765.39 765.77

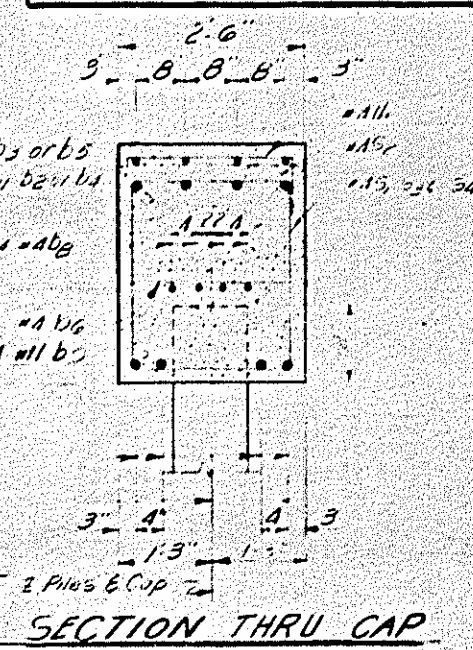
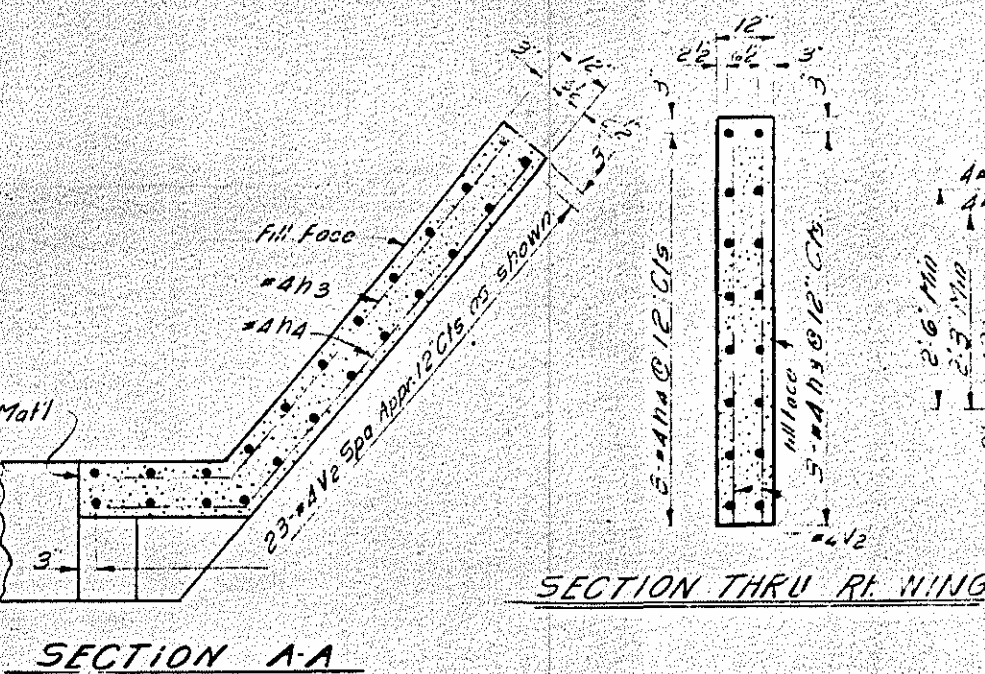
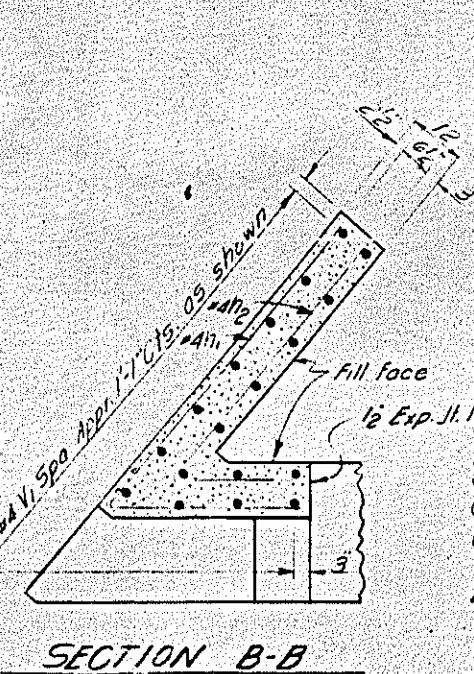
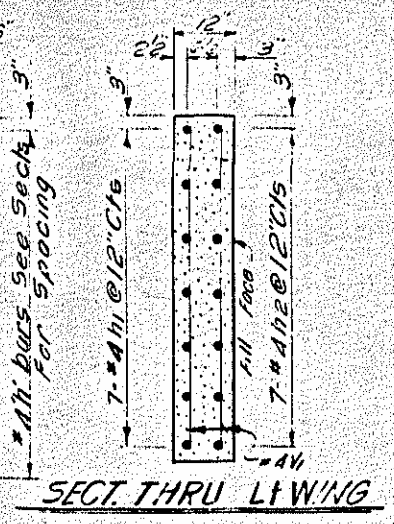
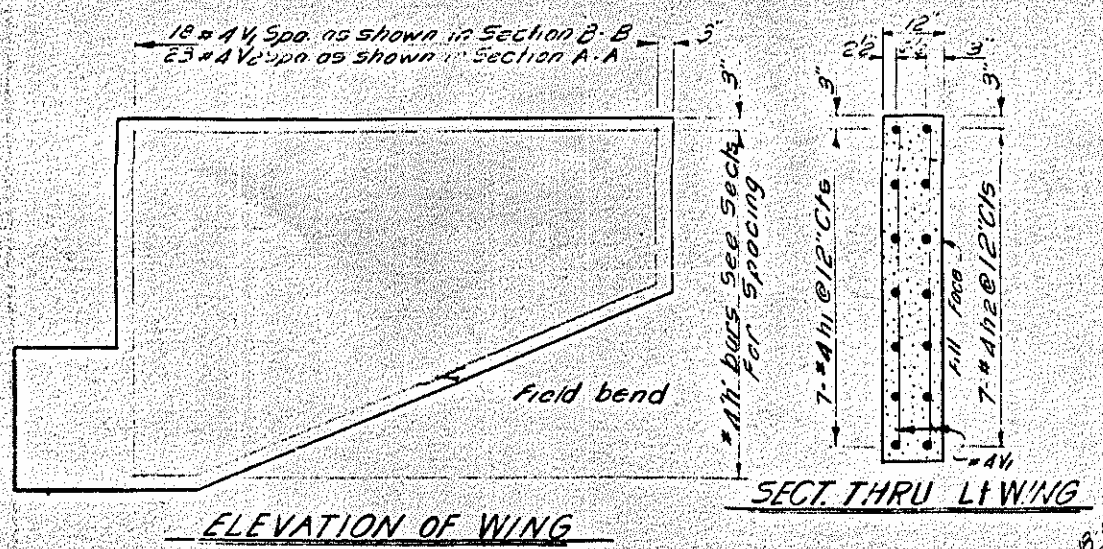


BAR TYPES

All bar dimensions are out to out.

BILL OF MATERIAL				
FOR END BENT NO. 2				
BAR NO	NO	SIZE	TYPE	LENGTH
b1	4	#11	2	30'-1"
b2	4	#11	5/16"	15'-0"
b3	4	#11	5/16"	9'-6"
b4	4	#11	2	19'-10"
b5	4	#11	5/16"	9'-0"
b6	13	#11	5/16"	2'-2"
b8	6	#4	5/16"	27'-5"
b9	4	#11	1	36'-0"
s1	21	#4	3	7'-3"
s2	44	#4	5	2'-11"
s3	6	#4	3	6'-9"
s4	15	#4	3	9'-6"
u1	13	#4	4	5'-4"
v1	18	#4	5/16"	6'-2"
v2	23	#4	5/16"	7'-2"
w1	7	#4	8	9'-11"
w2	7	#4	8	7'-11"
w3	8	#4	7	9'-10"
ha	8	#4	7	10'-5"

Reinforcing Steel Lbs 3
 Class A Conc. Cu Yds 19.1
 100# Cement Bags No. 230



PROJECT NO. 8.1592504
 ROCKINGHAM COUNTY
 STATION: 202+32.16-L

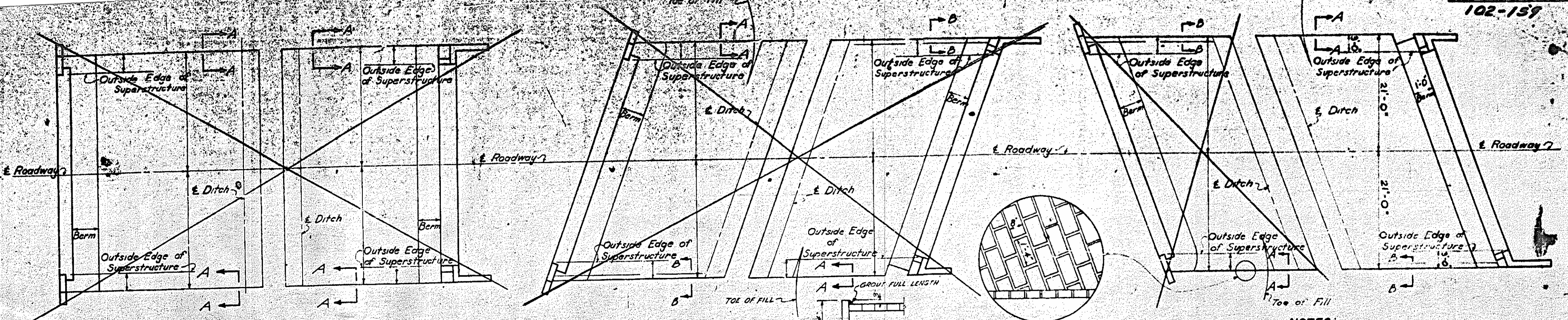
STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

SUBSTRUCTURE
 END BENT No. 2

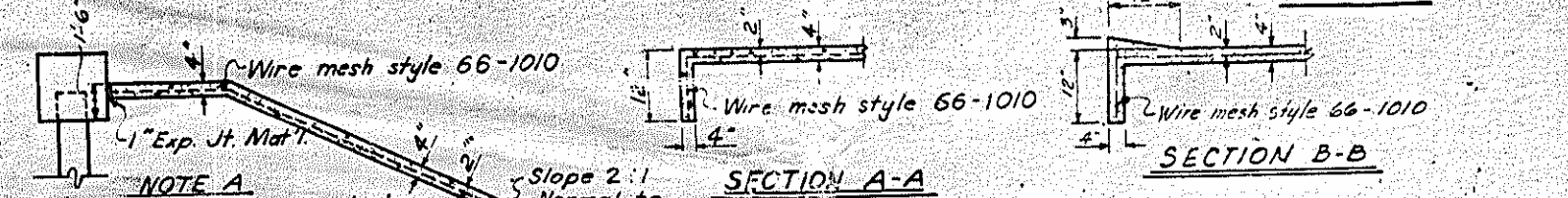
Nov. 1965

REVISIONS				
NO	BY	DATE	NO	BY
1				
2				

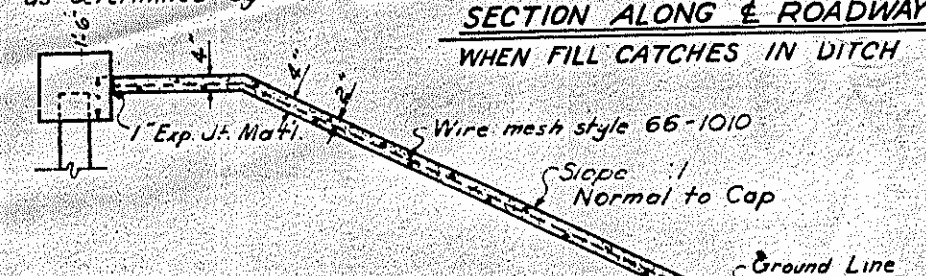
5-85
 130



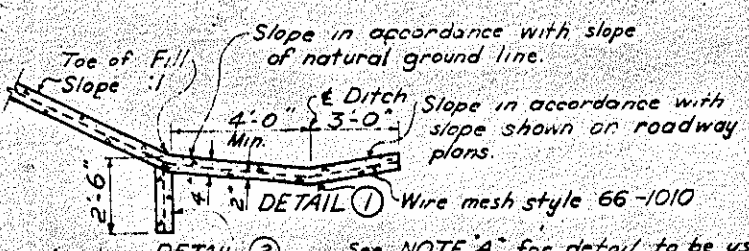
PLAN



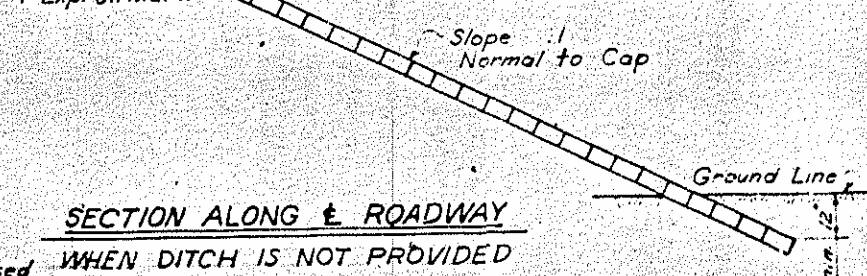
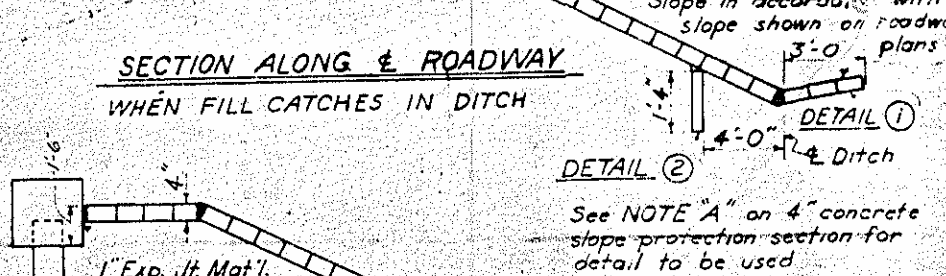
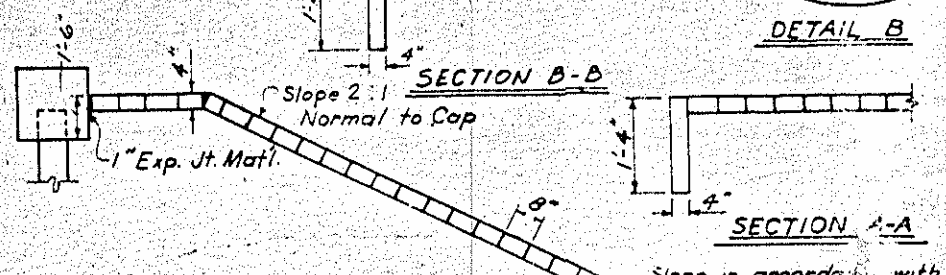
NOTE A
If shoulder sand drains are to be constructed under the roadway grading contract, the concrete slope protection shall be constructed in accordance with DETAIL ① after the drains have been constructed. If shoulder sand drains are to be constructed under the roadway paving contract, the concrete slope protection shall be constructed in accordance with DETAIL ②. The area of slope protection shown has been computed on the basis of DETAIL ① but the contractor will be paid for the area actually constructed as determined by field measurement.



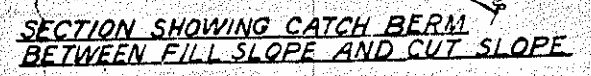
SECTION ALONG & ROADWAY WHEN DITCH IS NOT PROVIDED



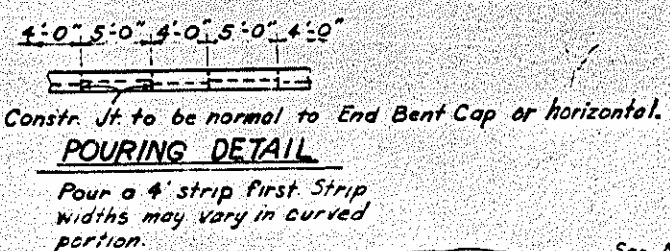
SECTION SHOWING SLOPE WHEN TOE OF FILL IS BACK OF DITCH LINE



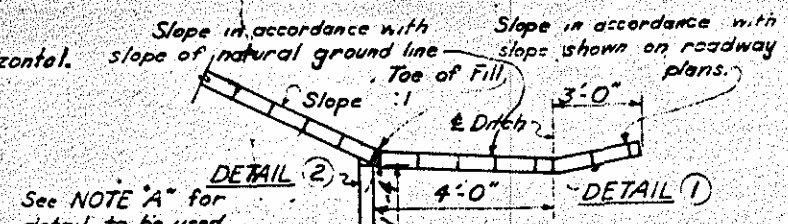
SECTION ALONG & ROADWAY WHEN DITCH IS NOT PROVIDED



SECTION SHOWING CATCH BERM BETWEEN FILL SLOPE AND CUT SLOPE



POURING DETAIL



SECTION SHOWING SLOPE WHEN TOE OF FILL IS BACK OF DITCH LINE

DETAILS FOR ALTERNATE "B"

NOTES:
A 4" concrete slope protection paving shall be placed under the ends of the bridge limits of the protection shall be as shown in the details. The contractor, at his option, may place either type. Alternate "A" or "B" as described below immediately before placing the paving, the slope shall be properly shaped and firmly compacted so that it conforms to the lines and grades shown. The finished surface shall be reasonably smooth and uniform and shall not vary from lines, grades, and sections shown by more than 1/2" along a 10' straight edge.

ALTERNATE "A"
Alternate "A" shall consist of 4" poured in place concrete paving as shown in details on this sheet. Concrete shall be Class B. The concrete surface shall be floated with a wooden float and finished. The quantity to be paid for under this item shall be the number of square yards of slope protection measured in place complete and accepted, including the area of the toe walls below 4" thickness of protection (For example B" pay area for toe wall 1:1 slope). The quantity measured as provided for above, shall be paid for at the contract unit price per square yard for mesh excavation, backfilling preparation of slopes, and all materials, labor, equipment, tools and incidentals necessary to complete the work.

ALTERNATE "B"
Alternate "B" shall consist of solid concrete blocks 4" x 8" x 16" laid in horizontal courses such that those in successive courses will break joints with units in the preceding one. Blocks are to be laid with their long axis parallel to the end bent cap with grouted joints preferably 1/2" but not less than 3/4" nor more than 1 1/4" wide between successive courses and ends of blocks. Joints shall be grouted by pouring a mixture of one part Portland cement to three parts sand mixed with sufficient water to enable the mixture to be poured through a screed. The concrete blocks shall be cast to accurate dimensions, shall have uniform surface color and texture, and shall be manufactured of materials to produce a compressive strength of not less than 3000 p.s.i. at age of 28 days. No broken blocks shall be used except in constructing a straight line along each side of the paving down the slope. Care shall be taken to break the blocks so as to give a uniform workmanlike joint and surface.

Method of measurement and basis of payment shall be as prescribed above under Alternate "A".
ALTERNATE "A" wire mesh reinforcing to be style 66-1010 60" wide adjacent runs of wire mesh to lap at least 6". Slope Protection to be poured in alternate 4' x 4' strips as shown in Pouring Detail. The cost of wire mesh to be included in the contract unit price 6.0 per square yard for 4" concrete slope protection. The same type of slope protection shall be used under both ends of any one bridge.

PROJECT NO. 8.15925 04
ROCKINGHAM COUNTY

STATION: 202+32.16-L-
+ 7+76.71 1/2 Rev.

REV. NO. 4. To remove that portion of the 1/2" coarse aggregate from standard size Number 3 coarse aggregate.

BRIDGE @ Sta. 202-32.16-L	4" Conc. Slope Protection or 4" Conc. Block Slope Protect.		Wire Mesh 60" wide
	E.B. 1	E.B. 2	
	346	900	610
	284.66	270.11	

SHEET 1 of 2

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
STANDARD
SLOPE PROTECTION
PAVING DETAILS

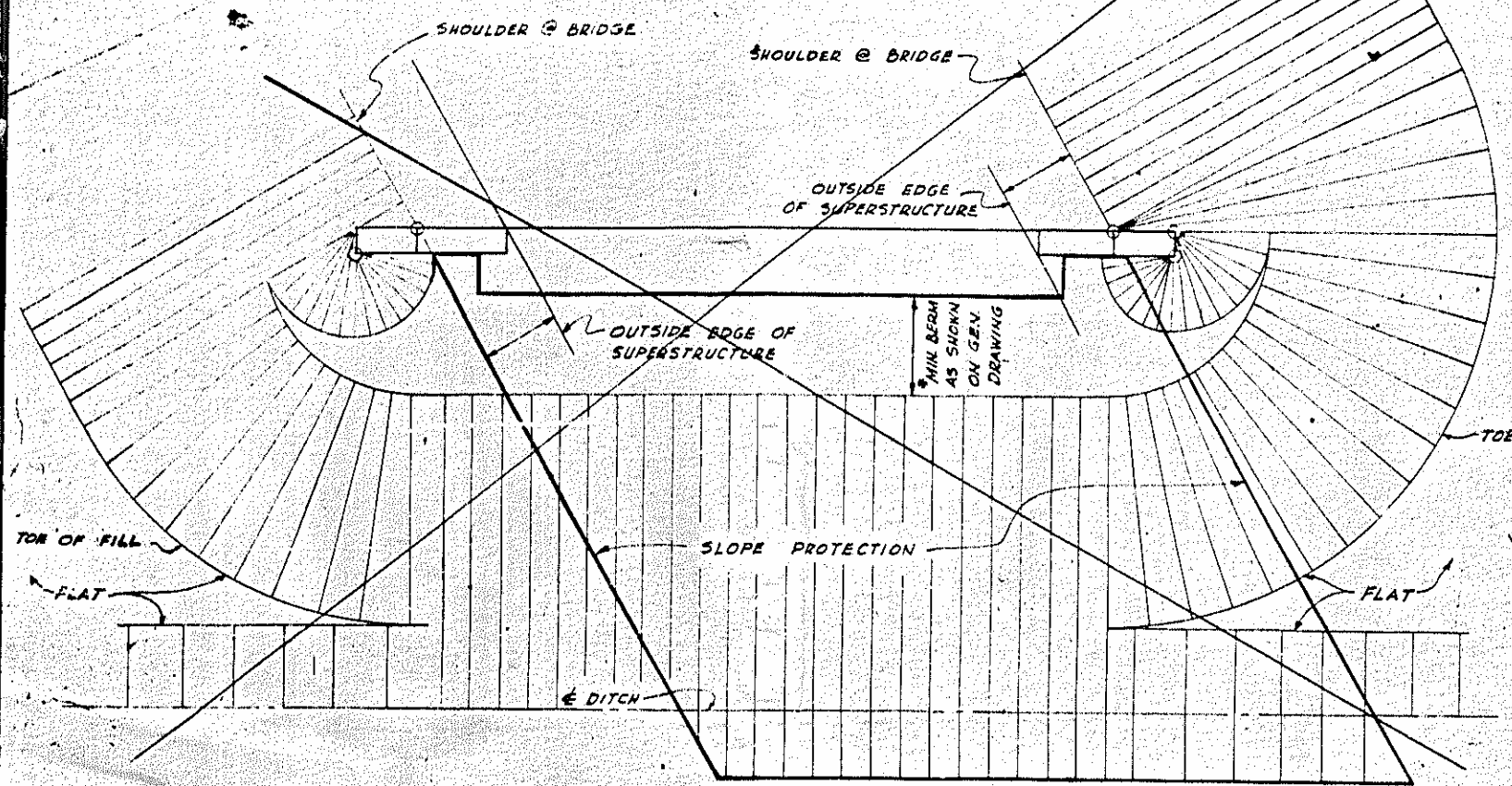
March 1964

ASSEMBLED BY A.C. Stanley Jr. DATE 12-20-65
CHECKED BY Gerry Page DATE 2-1-66
DRAWN BY W.J. Baldwin DATE Mar. 9, 64
CHECKED BY G.T. PHILLIPS DATE MAR. 10, 64

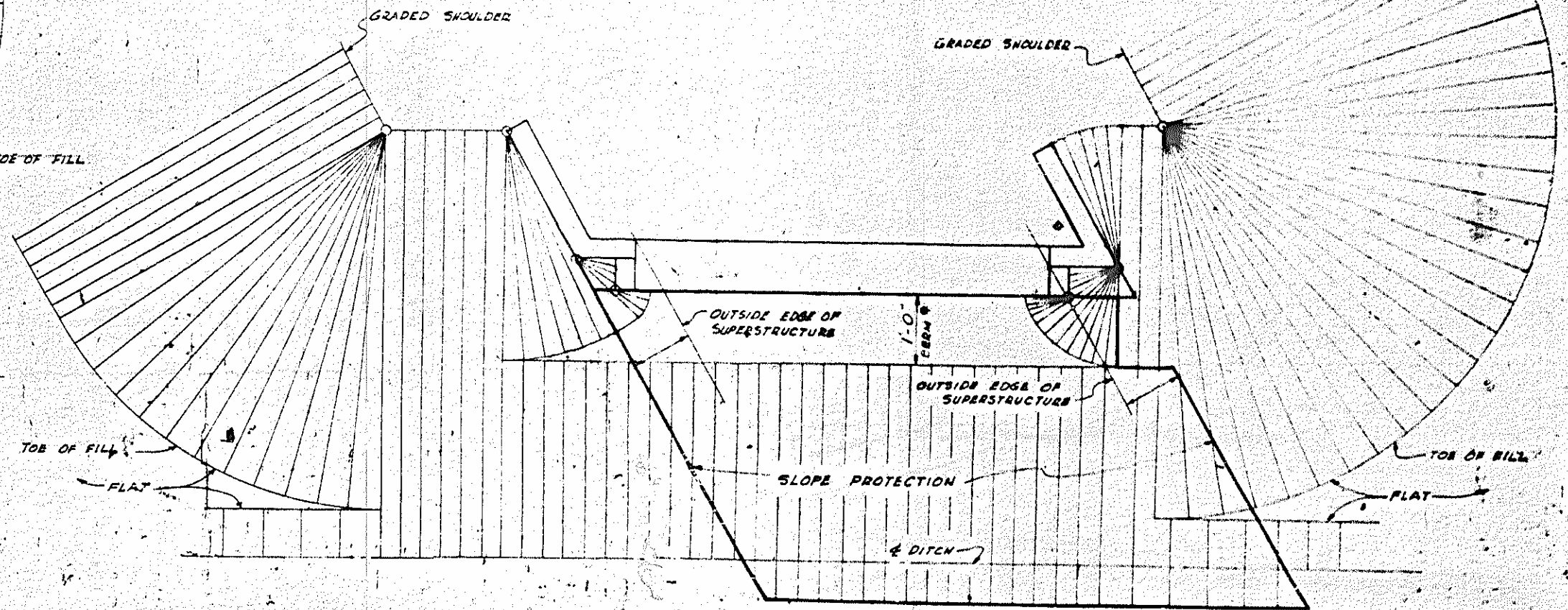
DETAILS FOR ALTERNATE "A"

PLAN WHERE CONG. OR CONG. BLOCK SLOPE PROTECT. MUST BE PLACED AROUND A BENT COLUMN
REV. NO. 2. TO ELIMINATE 90° CORNER AT TOE OF SLOPE FOR GREATER BEARS, AND SEC. B-B, AND TO ALLOW ALTERNATE FOR CONSTRUCTION.
REV. NO. 1. TO SHOW BERM 1'-6" ABOVE BOTTOM OF CAP V-RUN

S-86
130

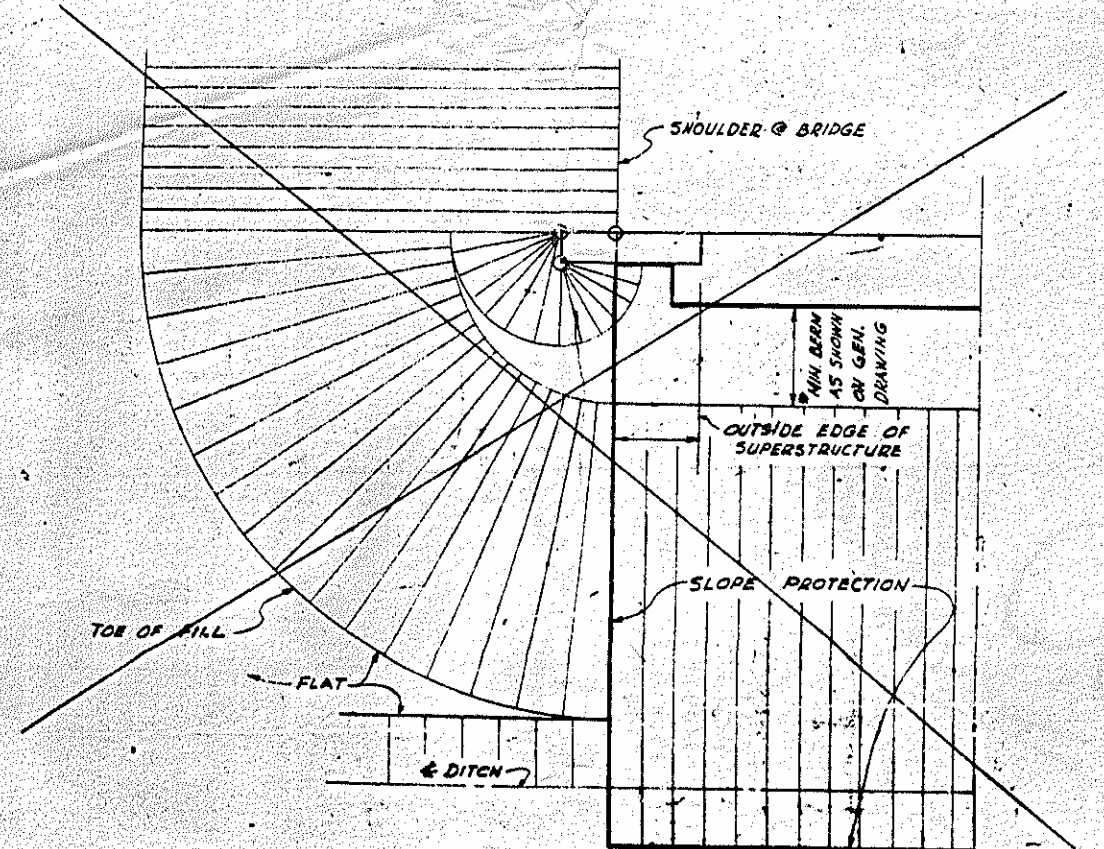


END BENT WITH EAR WALLS - SKEWED



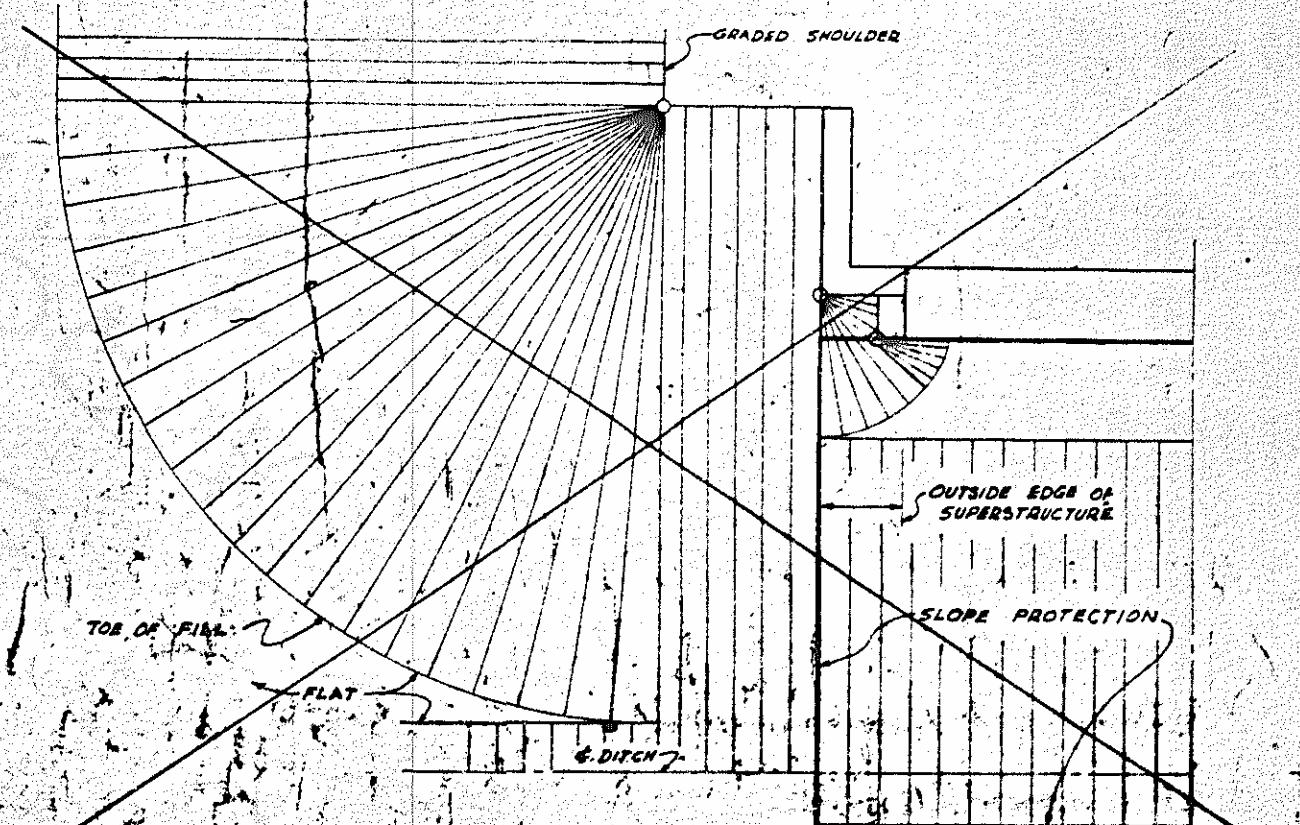
END BENT WITH SWEEP BACK WINGS - SKEWED

NOTE: VARY BERM WIDTH AS NECESSARY TO FIT DITCH ALIGNMENT.



HALF PLAN END BENT WITH EAR WALLS - 90°

NOTE: OTHER SIDE SIMILAR.



HALF PLAN END BENT WITH SWEEP BACK WINGS - 90°

NOTE: OTHER SIDE SIMILAR.

PROJECT NO. 8,1592504
 ROCKINGHAM COUNTY
 STATION: 202+32.16 - L
 = 7+76.71 - Y₃ REV.

SHEET 2 OF 2

STATE OF NORTH CAROLINA	
STATE HIGHWAY COMMISSION	
STANDARD	
SLOPE PROTECTION PAVING	
DETAILS	
FEBRUARY 1964	
REVISED	DATE
1	12-20-63
2	1-27-64
3	3-1-64

ASSEMBLED BY: H.C. Stanley, DATE 12-20-63
 CHECKED BY: G.M. Page, DATE 2-1-66
 DRAWN BY: E.G. ALFORD, JR., DATE FEB '64
 CHECKED BY: G.T. PHILLIPS, DATE MARCH '64

REV. NO. 2 TO ELIMINATE 90° CORNER AT TOE OF SLOPE FOR SKEWED BRIDGES. V.S.P.
 REV. NO. 1 TO TAKE OUT DIMENSIONS FROM OUTSIDE EDGE OF SUPERSTRUCTURE TO OUTSIDE SLOPE PROTECTION.

5-87
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