

PROJ. REFERENCE NO.	52	150
STATE PROJECT NO.	6145A11	51/274-1111a
DATE		

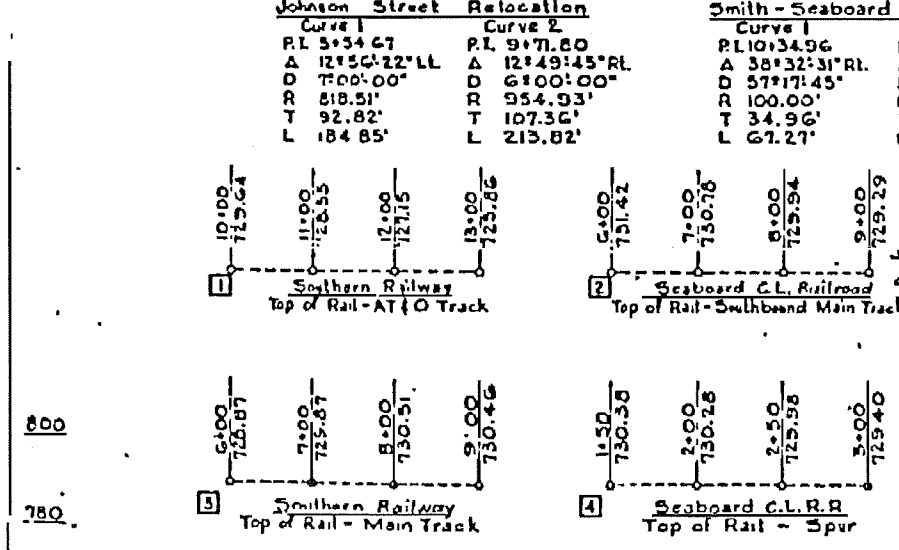
Retaining Wall
This wall is necessary to keep fill off of power company R/W.

Ramp 1 Graham
Vertical Curve
P.I. 110+50
Elev. 146.70
650' V.C.

Johnson St. Reloc.
Vertical Curve
P.I. 110+50
Elev. 146.70
650' V.C.

Bench Marks - Johnson Street
BM No. 37 - 3/4" Reinforced Rd in Concrete 208' Lt. Sta. 1471.54
N-W Expwy. EL. 717.34
BM No. 38 - 3/4" Reinforced Rd in Concrete 160' Lt. Sta. 1491.61
N-W Expwy. EL. 711.56
BM No. 40 - 3/4" Reinforced Rd in Concrete 92' Lt. Sta. 1591.22
N-W Expwy. EL. 729.59

Reel # 297
Pos #

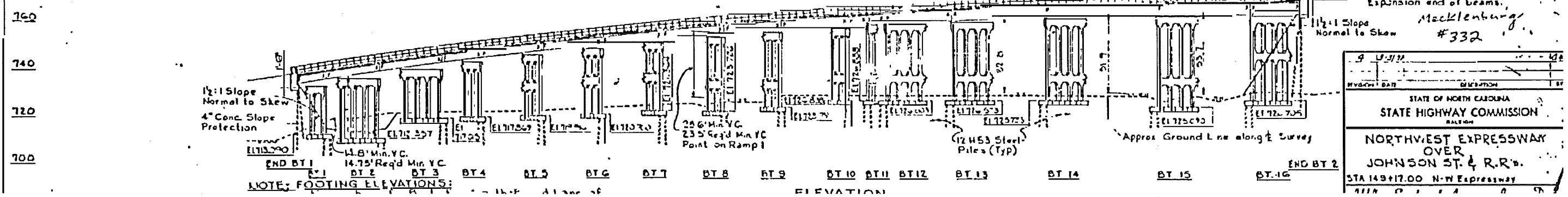


I hereby certify that this structure has been built according to plans except as noted herein.
Resident Engineer

NOTE:
For General Notes See Borings, Dwg. No. 5G.
For Electrical Notes see Borings, Dwg. No. 5D.
For Plan of Utilities see Curves, Dwg. No. 5D.

ESTIMATE OF QUANTITIES

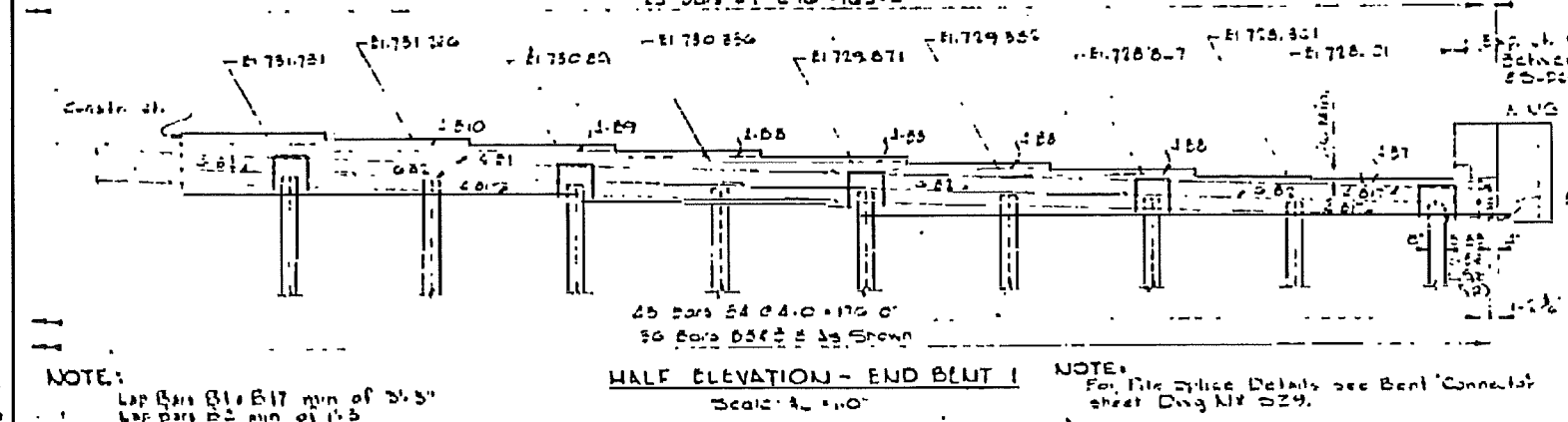
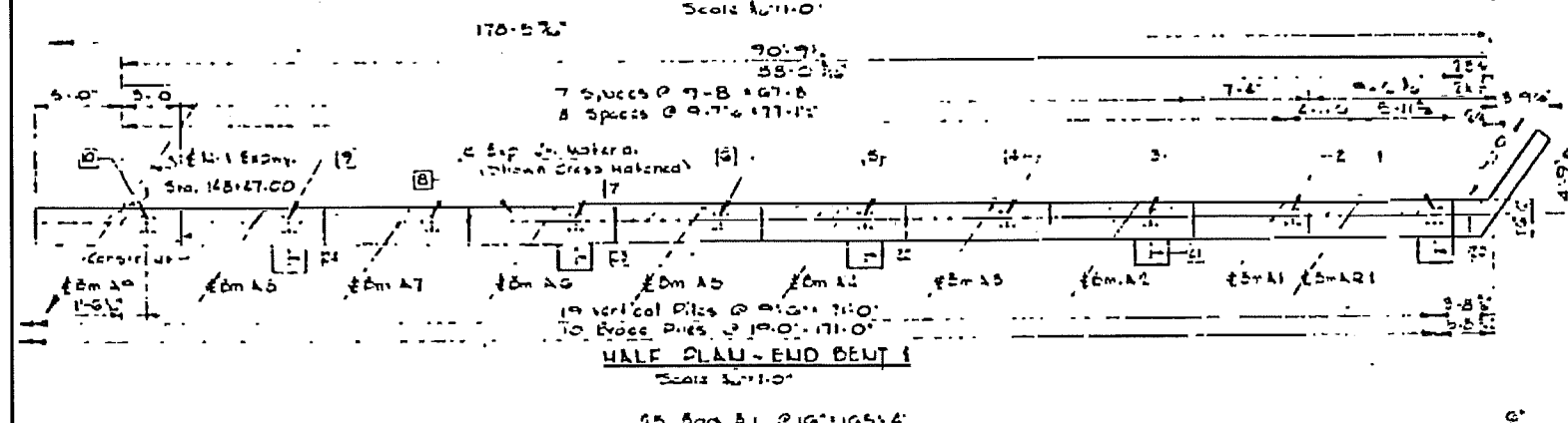
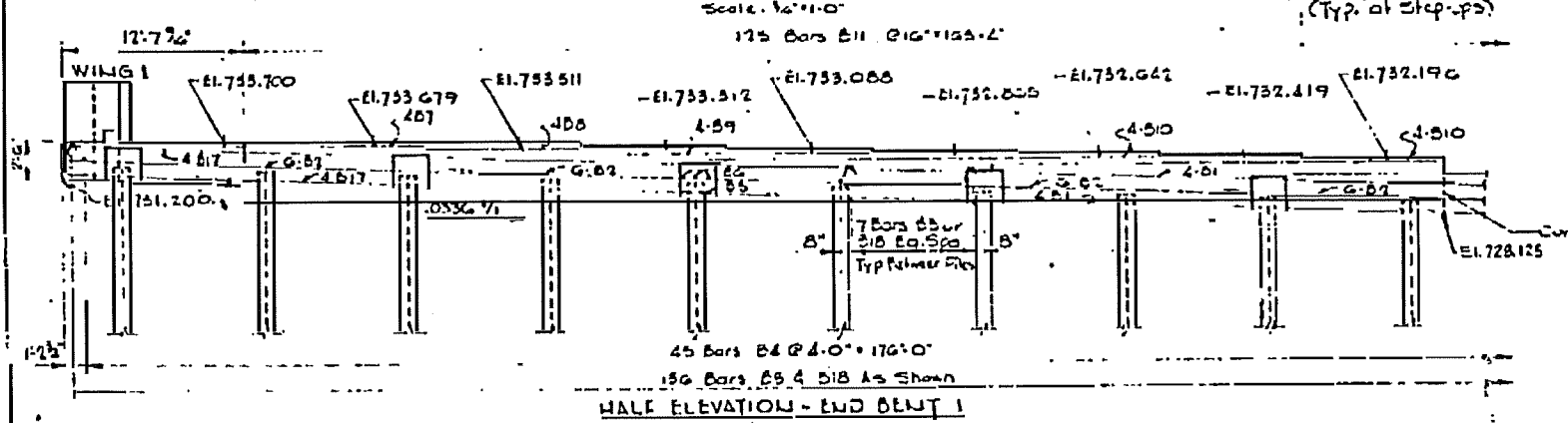
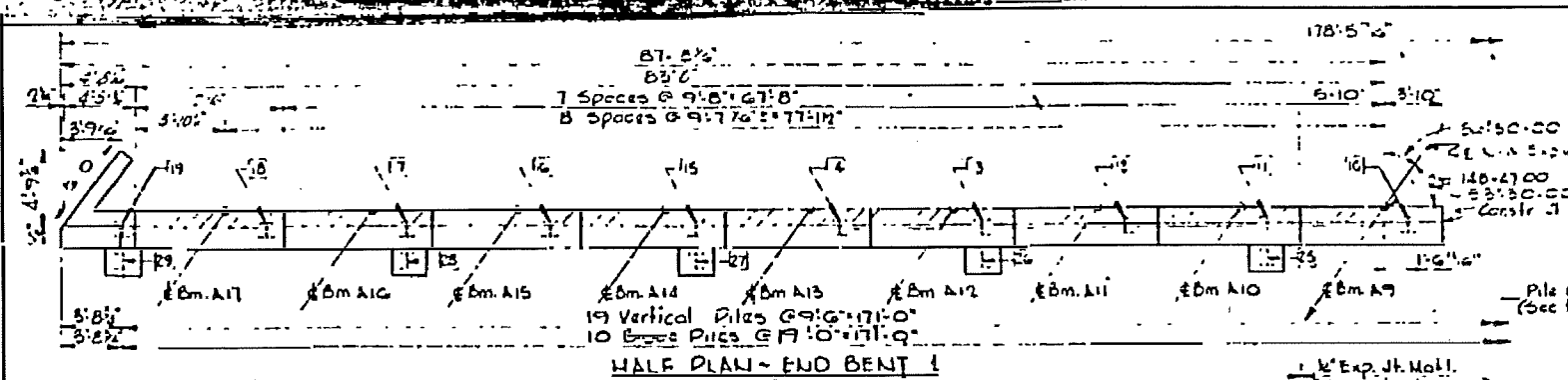
SHEET	SHEET NO.	CONCRETE CLASS A CY	CONCRETE CLASS B CY	REINF. STEEL Lbs.	STR. STEEL LBS (APPROX)	UNCLAS. STR. ENCL. CY	12H53 STL PILES L.F.	2-BAR METAL RAIL L.F.	4 CONC. 3/4" DIA. PILES CY
GENERAL PLAN	131								
LAYOUT	52								
BORINGS	53-58								
END BENT 1	59								
BENT'S 1-16 (CONC)	510-520								
END BENT 2	551								
END BENT 3	552								
FRAMING PLAN	553-555								
DECK	556-576								
CONSTRUCTION EL.	577-587								
2-BAR METAL RAIL	590								
TRACK DETAILS	591								
TOTALS		4799.2	445.3	2,012,611	5,125,121,400	389	11,501.86	2,731.01	2,020.52



NOTE:
"F" denotes fixed and "A" denotes Expansion end of beams.

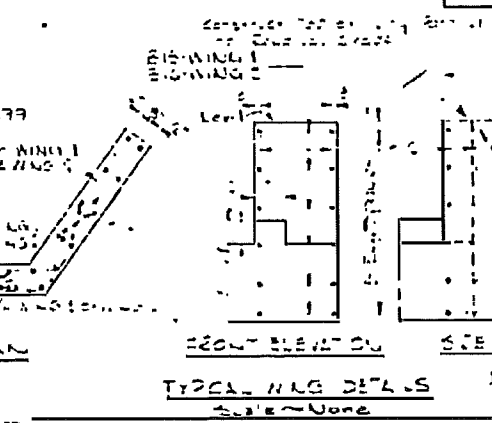
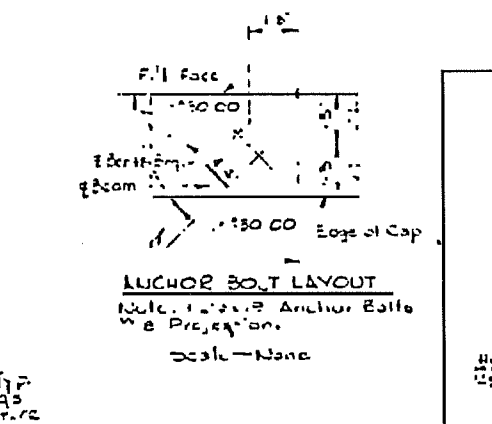
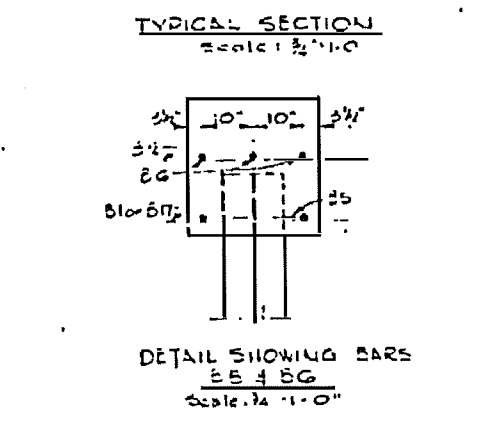
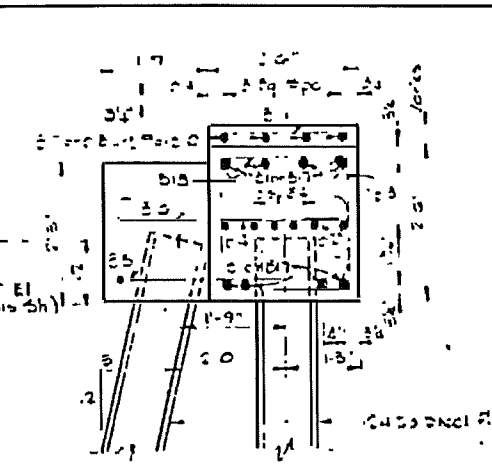
Rev. No. 3 - Revised Class AA Concrete Quantities for Barrier Medium due to raising height. Plan and correct total of concrete by 1811 cu yd. April 1970

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
NORTHWEST EXPRESSWAY OVER JOHNSON ST. & R.R.
STA 149+17.00 N-W Expressway



NOTE:
Lap Bars #1 & #17 min of 3'-5"
Lap Bars #2 min of 1'-5"

NOTE:
For Pile Splice Details see Bent Connector sheet Ding No. 029.
Piles to be driven to a minimum bearing capacity of 50 tons/pile.



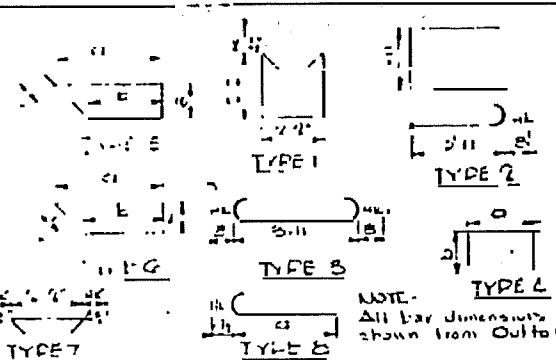
PROJ. NUMBER NO. 5/10
STATE PROJECT NO. 6-254811
SHEET NO. 10110

BILL OF REINFORCEMENT

BAR	NO.	SIZE	TYPE	LENGTH	a	b	ft	in
B1	13	10	2	10				
B2	1	1	1	10				
B3	1	1	1	10				
B4	1	1	1	10				
B5	1	1	1	10				
B6	1	1	1	10				
B7	1	1	1	10				
B8	1	1	1	10				
B9	1	1	1	10				
B10	1	1	1	10				
B11	1	1	1	10				
B12	1	1	1	10				
B13	1	1	1	10				
B14	1	1	1	10				
B15	1	1	1	10				
B16	1	1	1	10				
B17	1	1	1	10				
B18	136	4	7	2	11			

TABLE OF PILE CUT-OFF ELEVATIONS

PILE NO.	ELEVATION	PILE NO.	ELEVATION
1	735.300	16	731.117
2	735.148	17	731.435
3	734.907	18	731.753
4	734.666	19	732.071
5	734.425	20	732.389
6	734.184	21	732.707
7	733.943	22	733.025
8	733.702	23	733.343
9	733.461	24	733.661
10	733.220	25	733.979
11	732.979	26	734.297
12	732.738	27	734.615
13	732.497	28	734.933
14	732.256	29	735.251
15	732.015		



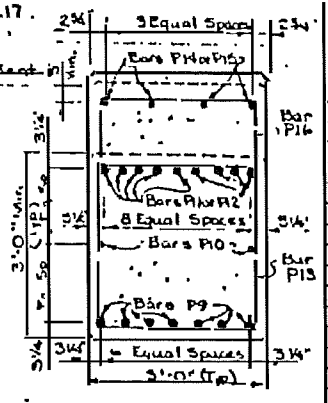
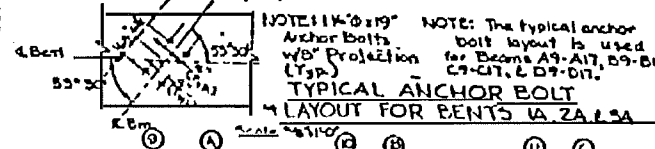
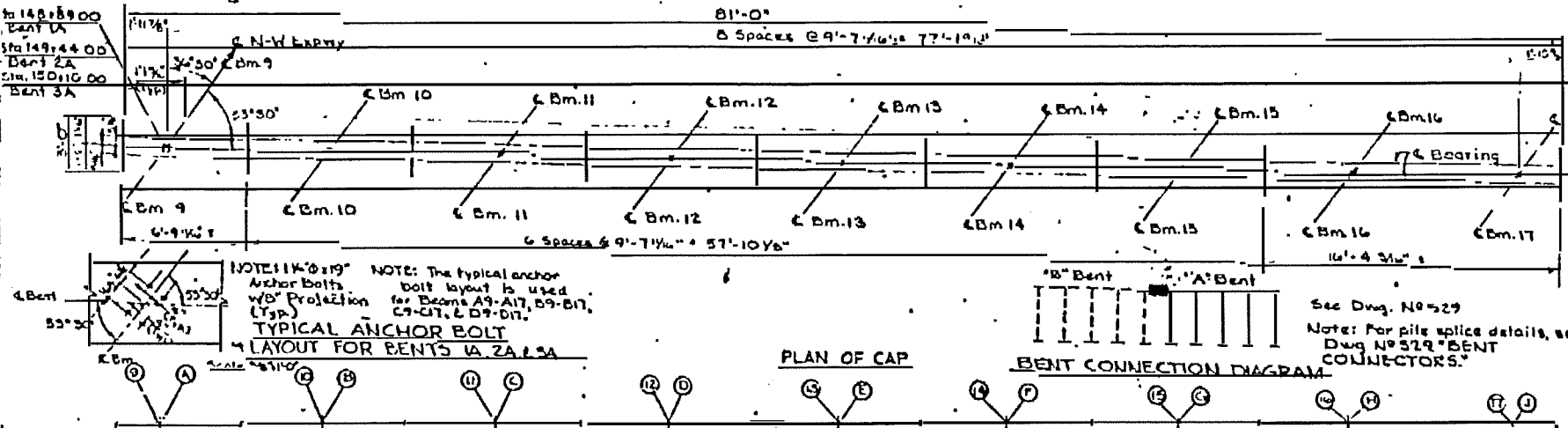
BILL OF MATERIAL

CONCRETE CLASS A 6000
REINFORCING STEEL 10:1
12" x 33" STEEL PILES (29 REQUIRED)
69933

See PRB no 1 page no 9.
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
END BENT 1
Wilbur Smith and Associates, Inc. - DE
CONSULTING ENGINEERS
COLUMBUS NORTH CAROLINA

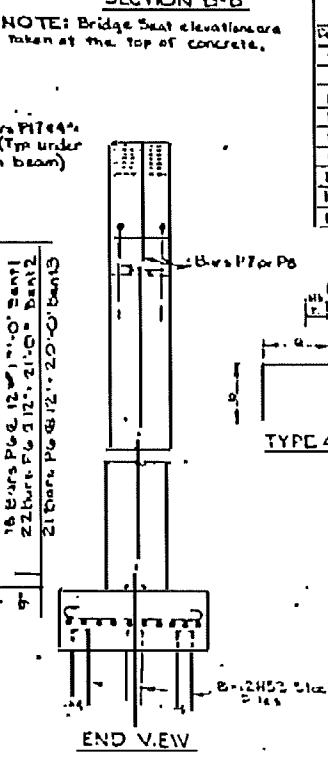
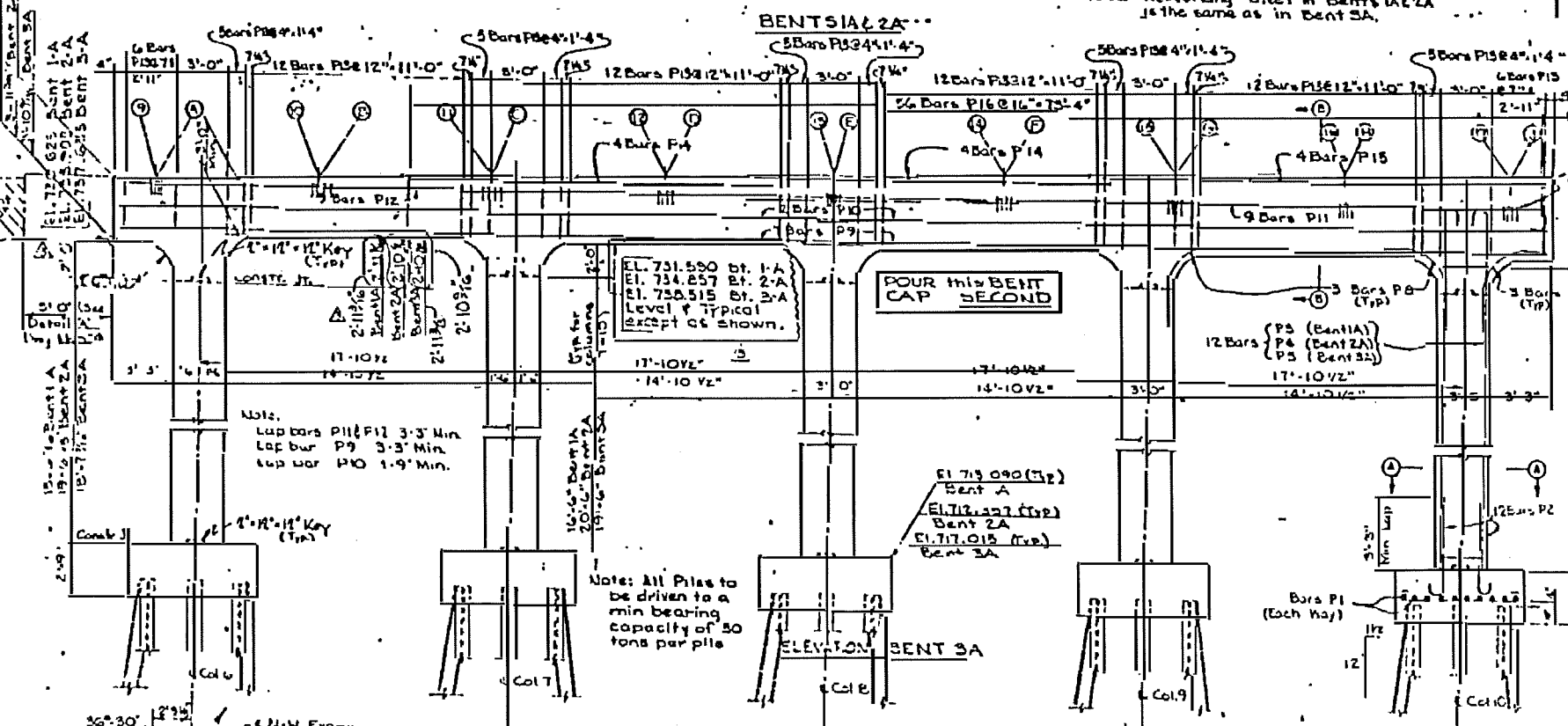
Sta 148+89.00
Bent 1A
Sta 149+44.00
Bent 2A
Sta 150+16.00
Bent 3A

FED. ROAD DIST. NO.	STATE	STATE PROJECT NO.	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
3	N.C.	11-105-211	SUP. 2A-106	57	128

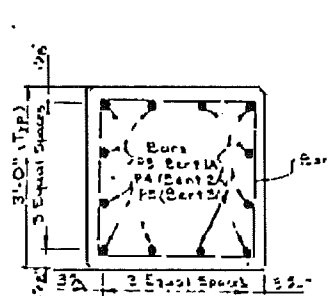
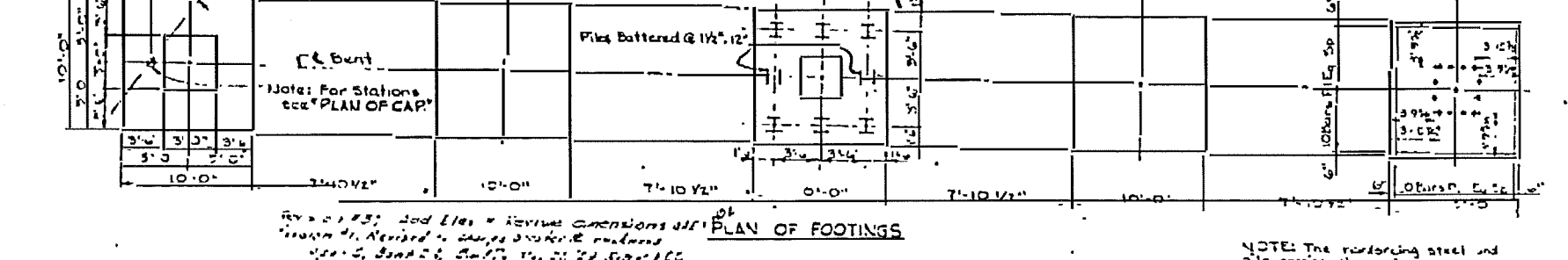


BILL OF REINFORCEMENT															
BAR	NO.	AMOUNT	UNIT	WEIGHT	TOTAL WEIGHT	NO.	AMOUNT	UNIT	WEIGHT	TOTAL WEIGHT	NO.	AMOUNT	UNIT	WEIGHT	TOTAL WEIGHT
P1	100	100	7	5	1	2	9	6	0	10	12	52	228	728	
P2	60	60	12	1	6	7	4	11	1	12	17	10	170	100	
P3	10	10	10	1	1	2	2	1	1	1	1	1	1	1	
P4	60	60	1	1	1	1	1	1	1	1	1	1	1	1	
P5	60	60	1	1	1	1	1	1	1	1	1	1	1	1	
P6	10	10	1	1	1	1	1	1	1	1	1	1	1	1	
P7	6	6	1	1	1	1	1	1	1	1	1	1	1	1	
P8	24	24	5	3	7	7	2	2	0	0	4	1	1	1	
P9	14	14	1	1	1	1	1	1	1	1	1	1	1	1	
P10	4	4	1	1	1	1	1	1	1	1	1	1	1	1	
P11	9	9	1	1	1	1	1	1	1	1	1	1	1	1	
P12	9	9	1	1	1	1	1	1	1	1	1	1	1	1	
P13	100	100	1	1	1	1	1	1	1	1	1	1	1	1	
P14	8	8	1	1	1	1	1	1	1	1	1	1	1	1	
P15	4	4	1	1	1	1	1	1	1	1	1	1	1	1	
P16	36	36	1	1	1	1	1	1	1	1	1	1	1	1	
P17	36	36	1	1	1	1	1	1	1	1	1	1	1	1	

BRIDGE SEAT ELEVATIONS											
Span	1	2	3	4	5	6	7	8	9	10	11
1	734.90	737.80	741.5	745.5	749.5	753.5	757.5	761.5	765.5	769.5	773.5
2	734.90	737.80	741.5	745.5	749.5	753.5	757.5	761.5	765.5	769.5	773.5
3	734.90	737.80	741.5	745.5	749.5	753.5	757.5	761.5	765.5	769.5	773.5
4	734.90	737.80	741.5	745.5	749.5	753.5	757.5	761.5	765.5	769.5	773.5
5	734.90	737.80	741.5	745.5	749.5	753.5	757.5	761.5	765.5	769.5	773.5
6	734.90	737.80	741.5	745.5	749.5	753.5	757.5	761.5	765.5	769.5	773.5
7	734.90	737.80	741.5	745.5	749.5	753.5	757.5	761.5	765.5	769.5	773.5
8	734.90	737.80	741.5	745.5	749.5	753.5	757.5	761.5	765.5	769.5	773.5
9	734.90	737.80	741.5	745.5	749.5	753.5	757.5	761.5	765.5	769.5	773.5
10	734.90	737.80	741.5	745.5	749.5	753.5	757.5	761.5	765.5	769.5	773.5
11	734.90	737.80	741.5	745.5	749.5	753.5	757.5	761.5	765.5	769.5	773.5



BILL OF MATERIAL											
Item	Unit	Quantity	Unit Price	Total Price							
Concrete Class A	CY	123.6	12.5	1545.00							
Reinforcing Steel	LS	170.0	1.20	204.00							
12M32 Steel Piles (40 min reqd)	LF	254	2.00	508.00							
Inchrest of Structure Excavation	YD	254	2.00	508.00							



STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

BENTS 1A, 2A & 3A

Sta. 149+17.00 N.W. Expwy. Mecklenburg, N.C.

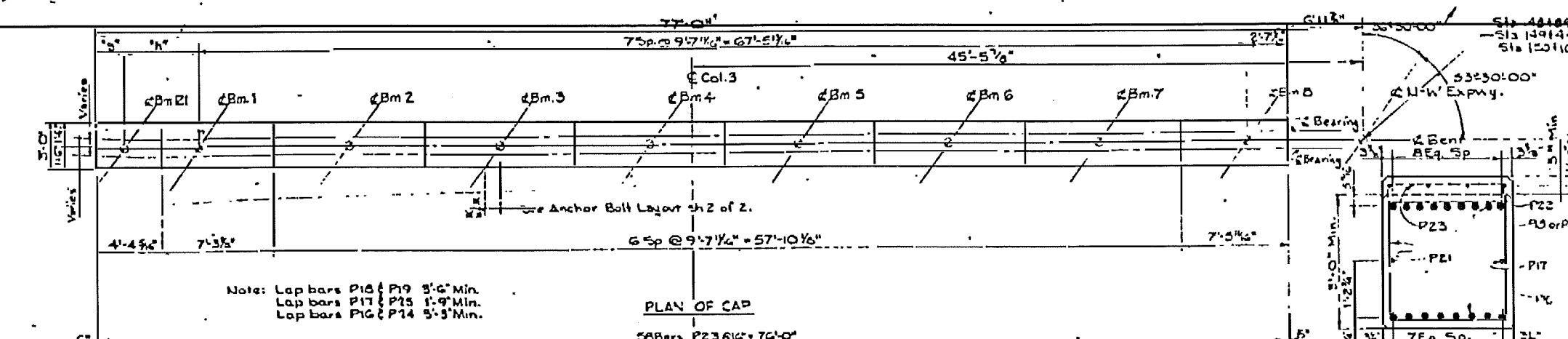
Wilder Smith and Associates, Inc. - Design CONSULTING ENGINEERS

CO. 108A 8-C

Rev. 1/23; Add Elev. & Rebar Dimensions for Bent 1A, Revised to show 30 ton pile capacity. Rev. 2/23; Bent 2 & 3; Add Sta. 149+17.00. Rev. 3/23; Revised to change Bridge Seat Elevations. Rev. 4/23; Add Sta. 149+17.00 & 149+17.00.

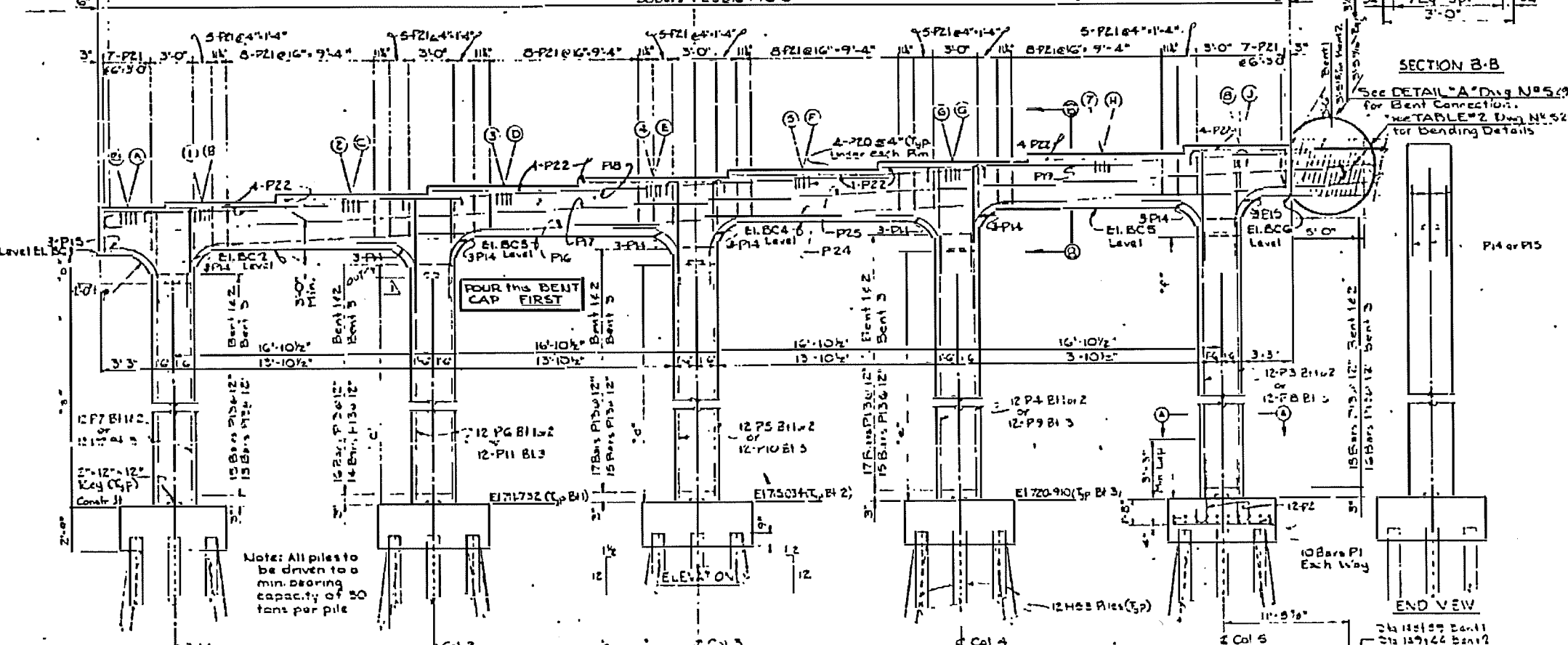
NOTE: The reinforcing steel and pile spacing shown is typical for all footings of Bents 1A, 2A, & 3A.

NO. ROAD DIST. NO.	STATE	PROJECT NO.	DIST. NO.	SHEET NO.	TOTAL SHEETS
1	N.C.	81654B(1) SUP'RA-1600	512	19	



Note: Lap bars P18 & P19 3'-6" Min.
Lap bars P17 & P15 1'-9" Min.
Lap bars P16 & P14 5'-3" Min.

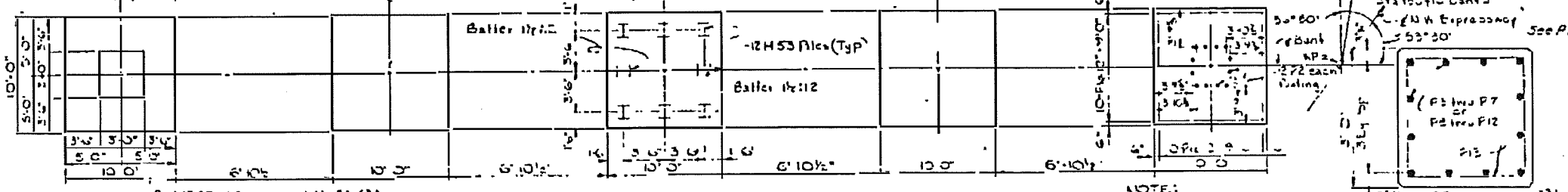
PLAN OF CAP



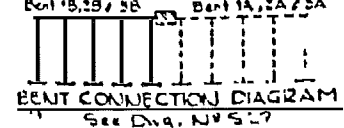
Note: All piles to be driven to a min. bearing capacity of 20 tons per pile

ELEVATION

END VIEW



PLAN OF FOOTINGS



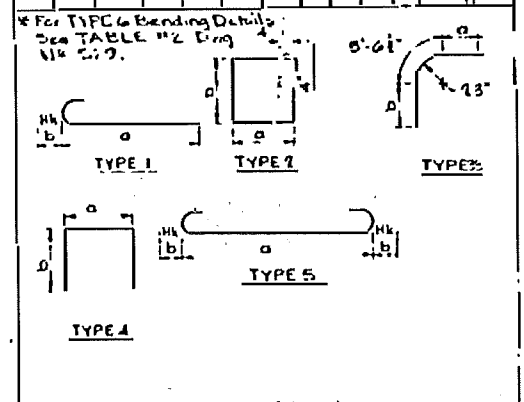
Note: For pile splice detail, see Dwg. No. S-29
BENT CONNECTORS

NOTE: Spacing of reinforcing piles typical for all bent caps

WORK WITH DWG. NO. S-1 & S-2

SECTION A-A

BILL OF REINFORCEMENT									
BAR NUMBER	SIZE	TYPE	LENGTH	Q	D	V/EIGHT			
BAR	NUMBER	SIZE	TYPE	LENGTH	Q	D	V/EIGHT		
P1	100	7	5	11	2	9	0	10	2222
P2	50	CO	10	1	6	7	1	11	75
P3	12	10	1	23	0	21	4	1	74
P4	12	10	1	22	2	20	6	1	74
P5	12	10	1	21	4	19	8	1	73
P6	12	10	1	30	5	13	0	1	74
P7	12	10	1	19	8	18	0	1	74
P8	12	10	1	21	0	19	4	1	74
P9	12	10	1	20	2	18	6	1	74
P10	12	10	1	19	4	17	8	1	74
P11	12	10	1	18	6	16	10	1	74
P12	12	10	1	17	8	15	12	1	74
P13	83	73	4	2	11	0	2	7	2
P14	24	24	5	3	7	7	0	2	0
P15	6	6	5	3	5	7	1	0	2
P16	8	8	10	5	42	3			
P17	2	2	5	5	41	6			
P18	2	2	11	1	50	2	48	4	1
P19	9	9	11	4	40	9			
P20	36	36	4	4	3	4	2	8	0
P21	86	86	5	2	11	4	2	8	2
P22	36	36	4	4	11	0			
P23	58	58	4	4	6	8			
P24	8	8	10	6	47	0			
P25	2	2	5	6	4	5			



All bar dimensions are out to out.

BILL OF MATERIAL			
Item	Unit	Quantity	Notes
Concrete Class A	CY	1091406	
Reinforcing Steel	Lbs	950000	
Steel Piles 12 H53	LF	540	
Struct. Steel	CY	2215	

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

BENTS 1B, 2R & 3B

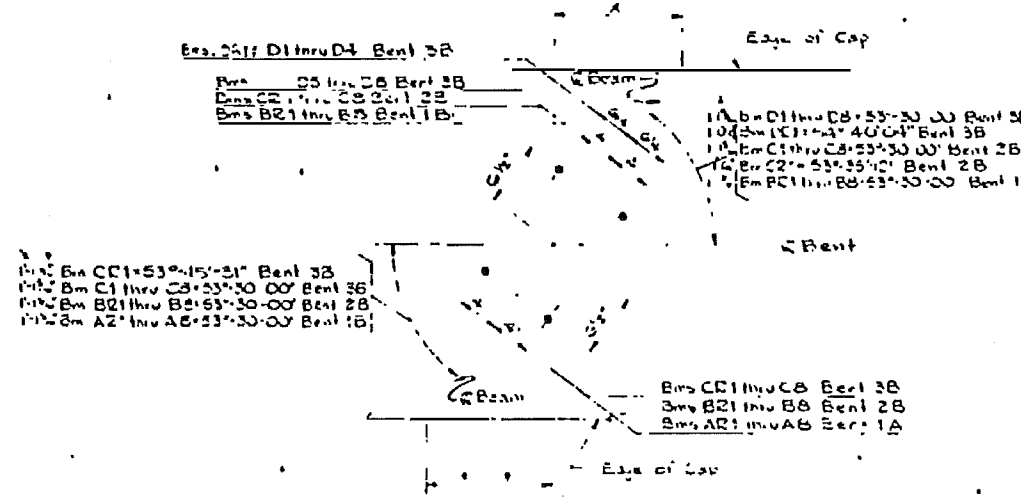
11115 South and Associates, Inc. - Design
CONSULTING ENGINEERS

DATE	BY	DESCRIPTION
5/13	JSO	

Beam	Span B	Span C	Span D
1	3'	4'	4'
2	3'	4'	4'
3	3'	4'	4'
4	3'	4'	4'
5	3'	4'	4'
6	3'	4'	4'
7	3'	4'	4'
8	3'	4'	4'

BENT 1		BENT 2		BENT 3	
Span A	Span B	Span B	Span C	Span C	Span D
21 730.445	A 730.445	1 730.775	A 730.775	1 730.775	A 730.775
1 730.775	B 730.775	1 731.050	B 731.050	1 731.050	B 731.050
2 731.261	C 731.261	2 731.261	C 731.261	2 731.261	C 731.261
3 731.261	D 731.261	3 731.261	D 731.261	3 731.261	D 731.261
4 732.265	E 732.265	4 732.265	E 732.265	4 732.265	E 732.265
5 732.265	F 732.265	5 732.265	F 732.265	5 732.265	F 732.265
6 733.195	G 733.195	6 733.195	G 733.195	6 733.195	G 733.195
7 733.560	H 733.560	7 733.560	H 733.560	7 733.560	H 733.560
8 734.125	I 734.125	8 734.125	I 734.125	8 734.125	I 734.125

NOTE: Bridge Seat Elevations given on top of Finished Concrete.



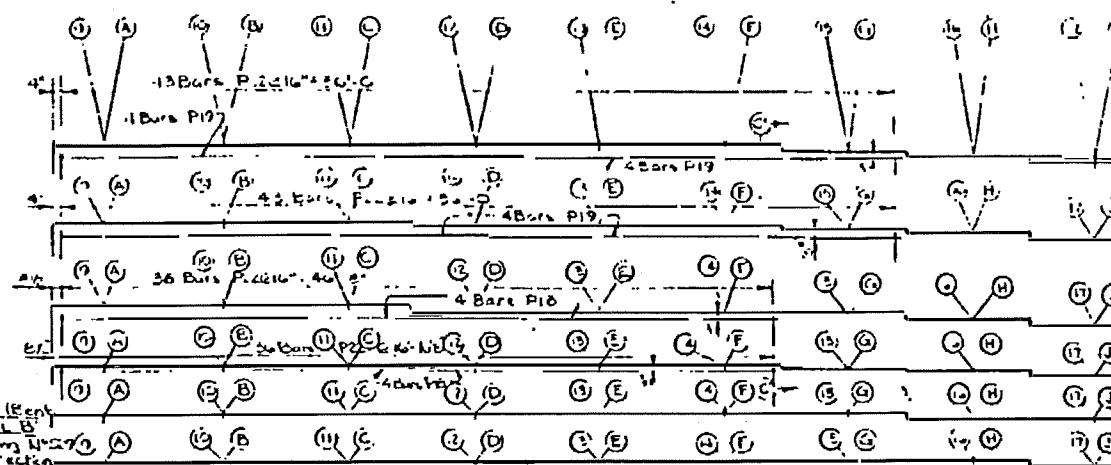
	BENT 1	BENT 2	BENT 3
a	13'-0 1/4"	15'-5 1/4"	11'-5 3/4"
b	2'-0"	2'-0"	2'-0"
c	13'-10 1/4"	15'-10 1/4"	11'-10"
d	1'-2 1/2"	1'-6 1/2"	1'-7 1/2"
e	15'-0 1/4"	15'-0 1/4"	15'-5 3/4"
f	10'-4 1/2"	10'-4 1/2"	10'-3 1/2"
g	1'-2 1/2"	1'-0 1/2"	1'-9 1/2"
h	11'-0"	4'-11 1/2"	11'-0"

ANCHOR BOLT LAYOUT

BENTS 1B, 2B, 3B
NOTE: 1/2" x 14" Anchor Bolts
7/8" Projection Typ.

	BC1	BC2	BC3	BC4	BC5	BC6
Bent 1B	730.445	730.445	730.445	730.445	730.445	730.445
Bent 2B	730.775	730.775	730.775	730.775	730.775	730.775
Bent 3B	731.050	731.050	731.050	731.050	731.050	731.050

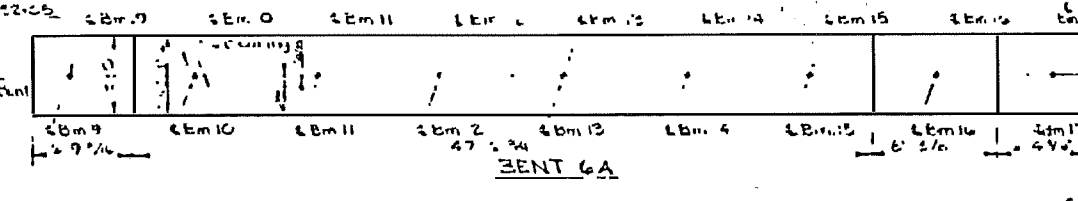
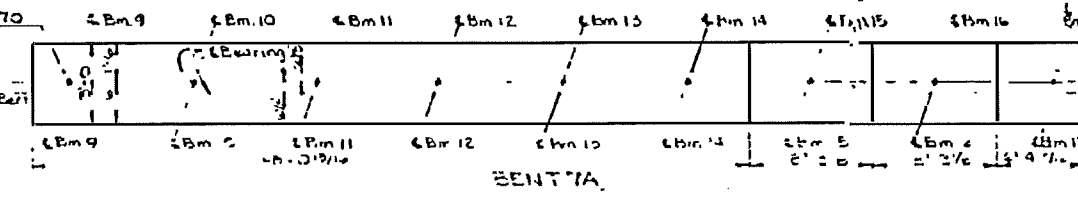
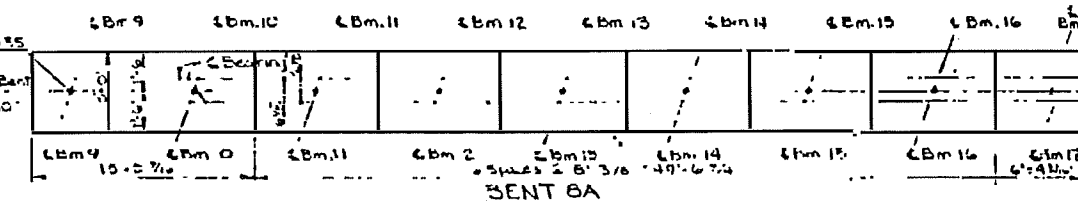
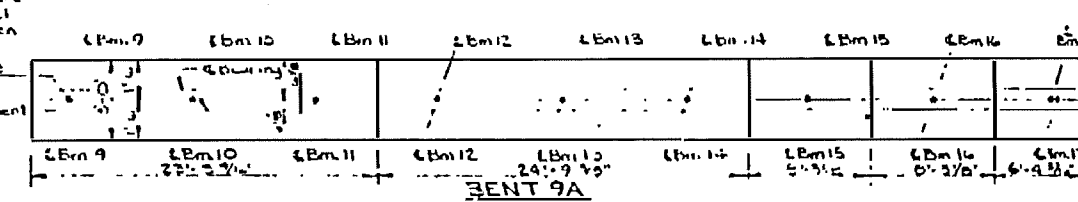
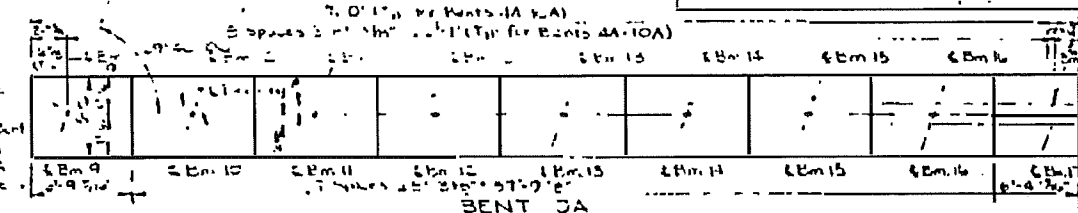
DATE	5/13	BY	JSO
DESCRIPTION	See Note Same Sheet		
STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION			
BENTS 1B, 2B & 3B			
WILBUR SMITH AND ASSOCIATES, Inc. - DESIGN CONSULTING ENGINEERS 1401 N. W. Express Highway, Hickory, N.C. HICKORY, N.C. 28601			



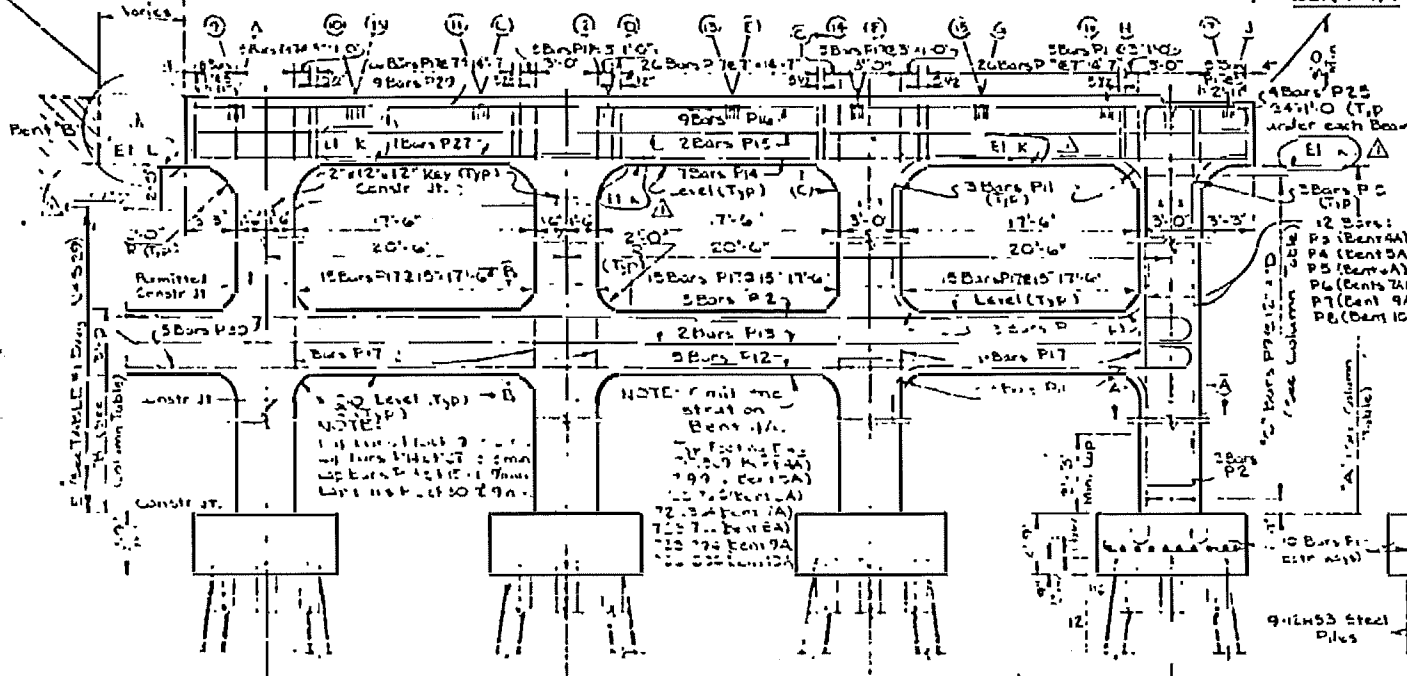
BENT 9A
 BENT 8A
 BENT 7A
 BENT 5A
 BENT 4A

NOTE: The beam ends of the Bents 4A-7A and 9A are to be finished with the same. The beams in Bent 4A are to be finished with the same.

PROJECT NO.	514	TOTAL SHEETS	150
STATE PROJECT NO.	81562B11	DATE	SUP 24-1 (11)

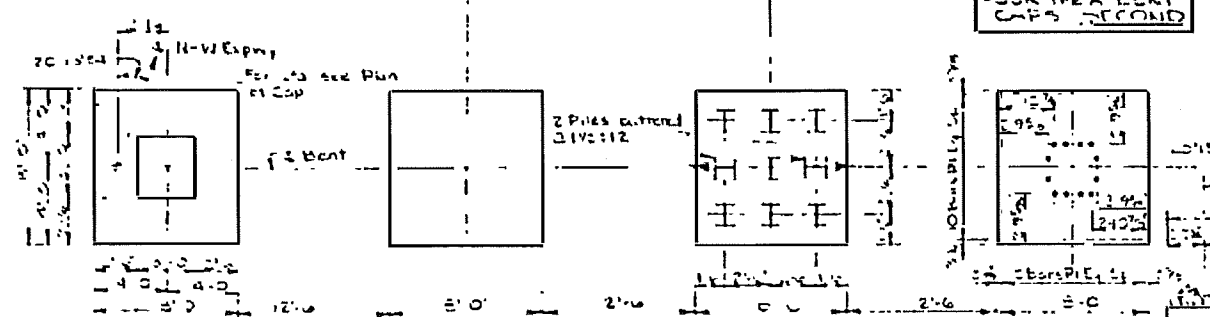


See DETAIL A (Bent 4-7) & DETAIL B (Bents 8-10) for Bent Connections



ELEVATION BENT 6A

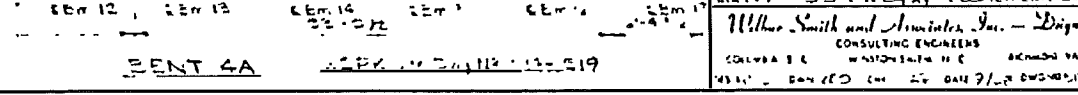
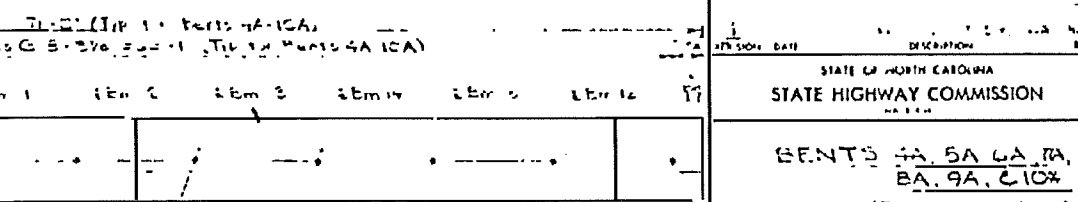
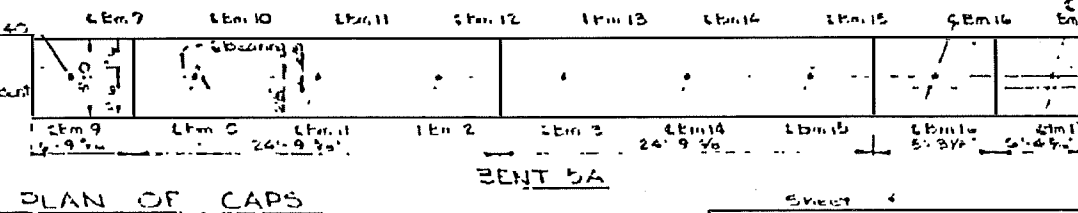
END VIEW



PLAN OF FOOTINGS

NOTE: For Footing - see Detail in Bent Connections Drawing No. 529. Piles are driven to a bearing capacity of 30 tons per sq ft.

NOTE: The Reinforcing Steel in Bent 6A is the same as in Bent 9A. The Reinforcing Steel in Bent 6A is the same as in Bent 9A.



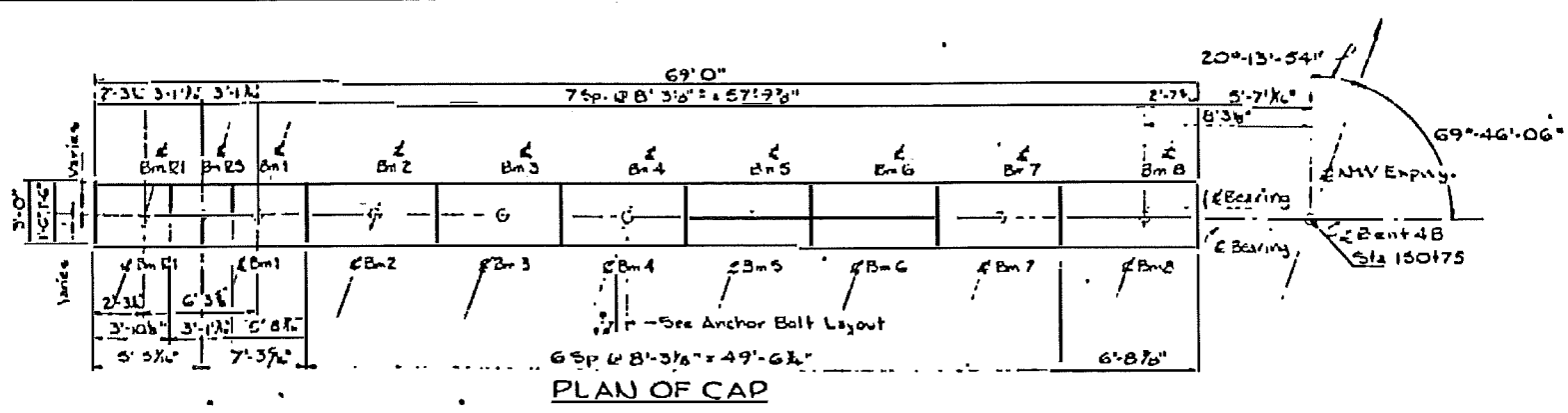
Sheet 4

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

BENTS 4A, 5A, 6A, 7A, 8A, 9A, 10A

Walter Smith and Associates, Inc. - Design CONSULTING ENGINEERS

DATE: 11-15-59



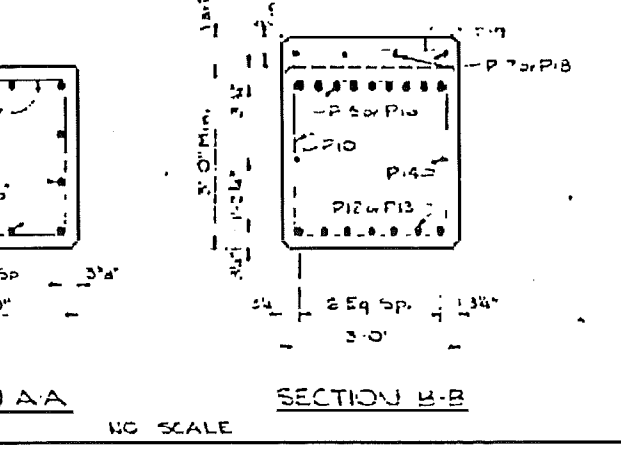
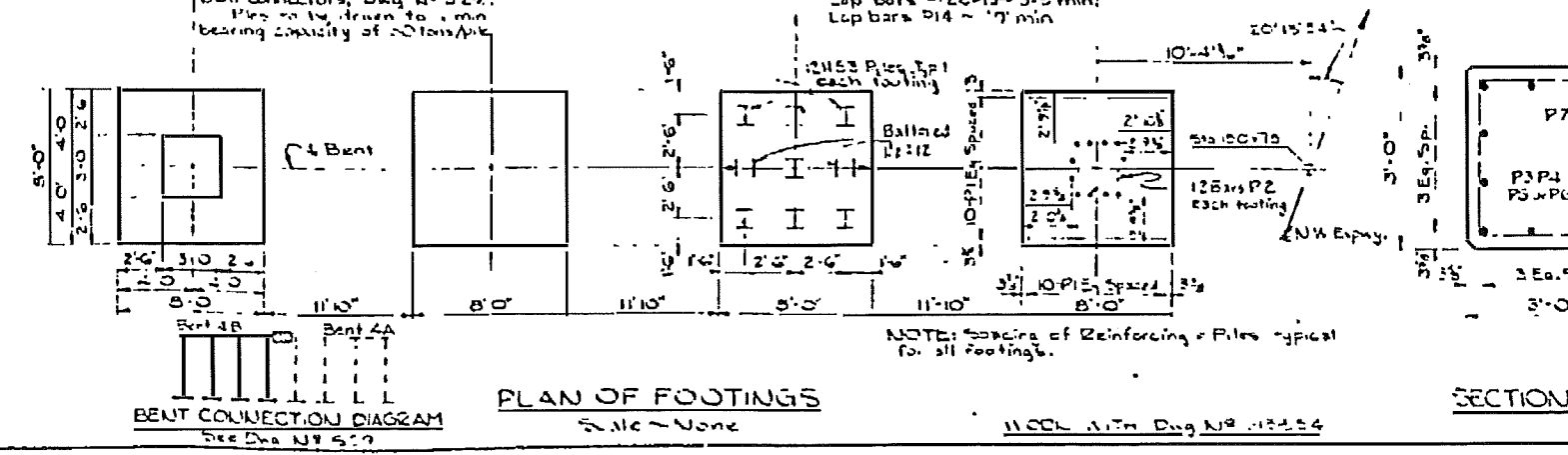
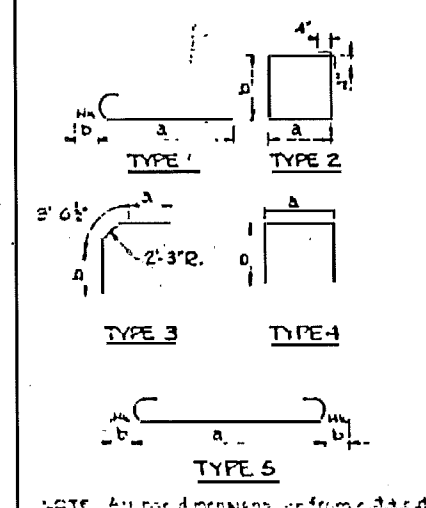
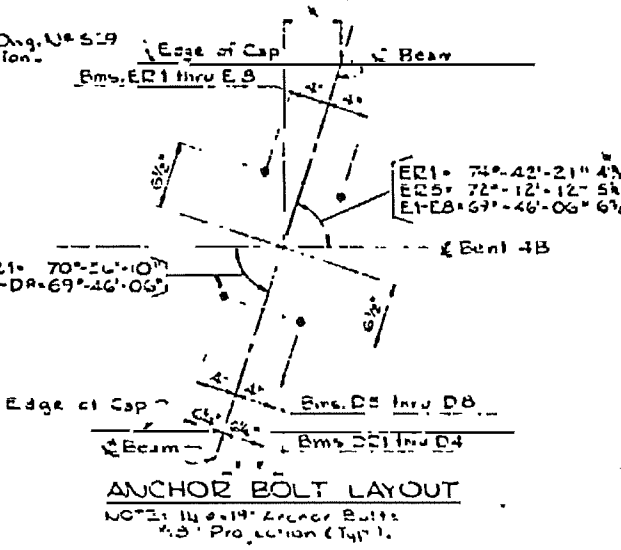
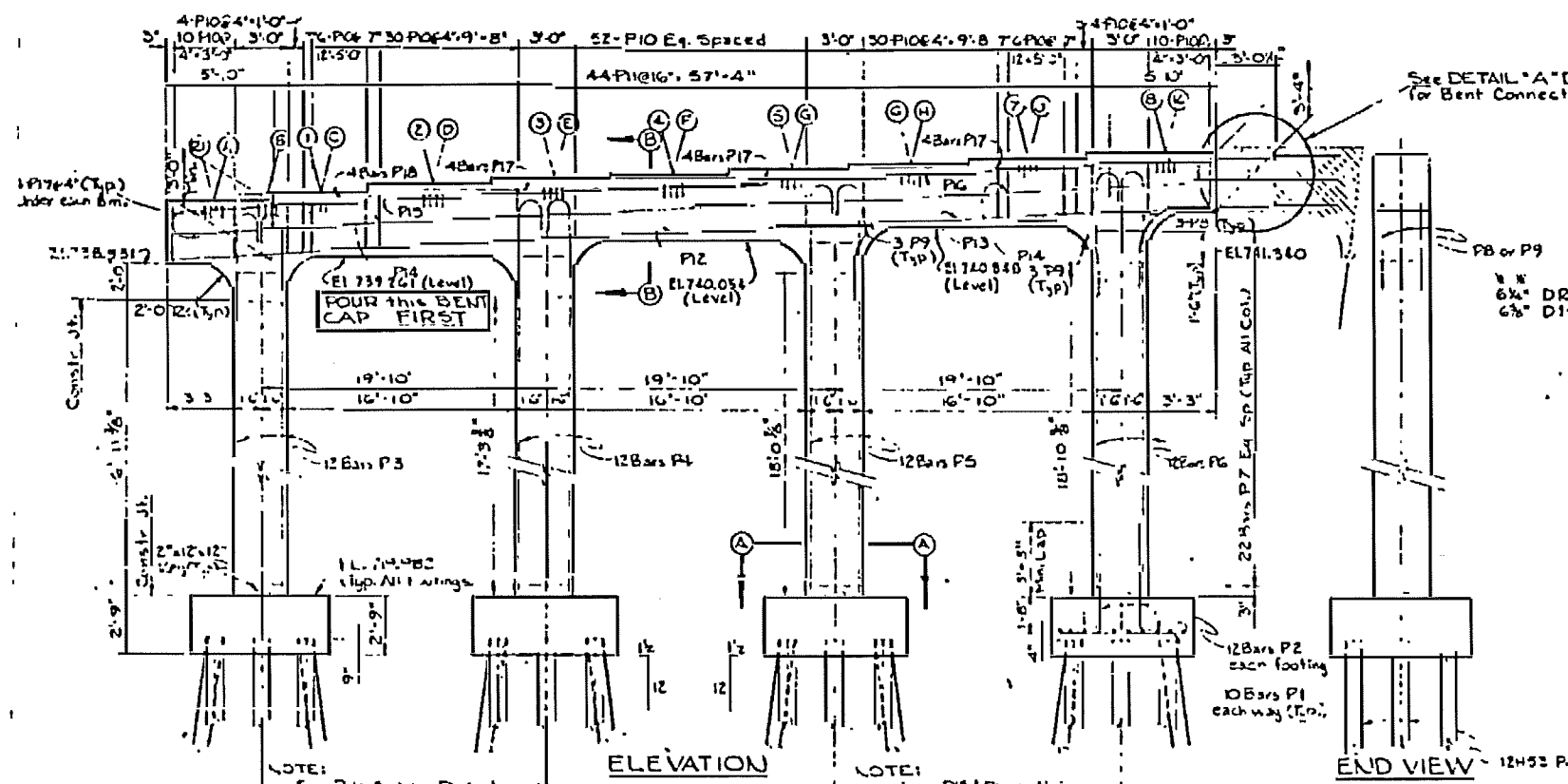
BOOSTER PLATES	
BEAM NO	SPAN E
E1	12'3"
E2	Build Up
E3	Build Up
E4	Build Up
E5	Build Up
E6	Build Up
E7	Build Up
E8	Build Up

BRIDGE SEAT ELEVATIONS	
BENT 4B	
SPAN D	SPAN E
1	742 148
2	742 407
3	743 324
4	743 324
5	743 324
6	743 324
7	744 407
8	744 407

PROJECT NO	SHEET NO	TOTAL SHEETS
61634811	5/16	15/16

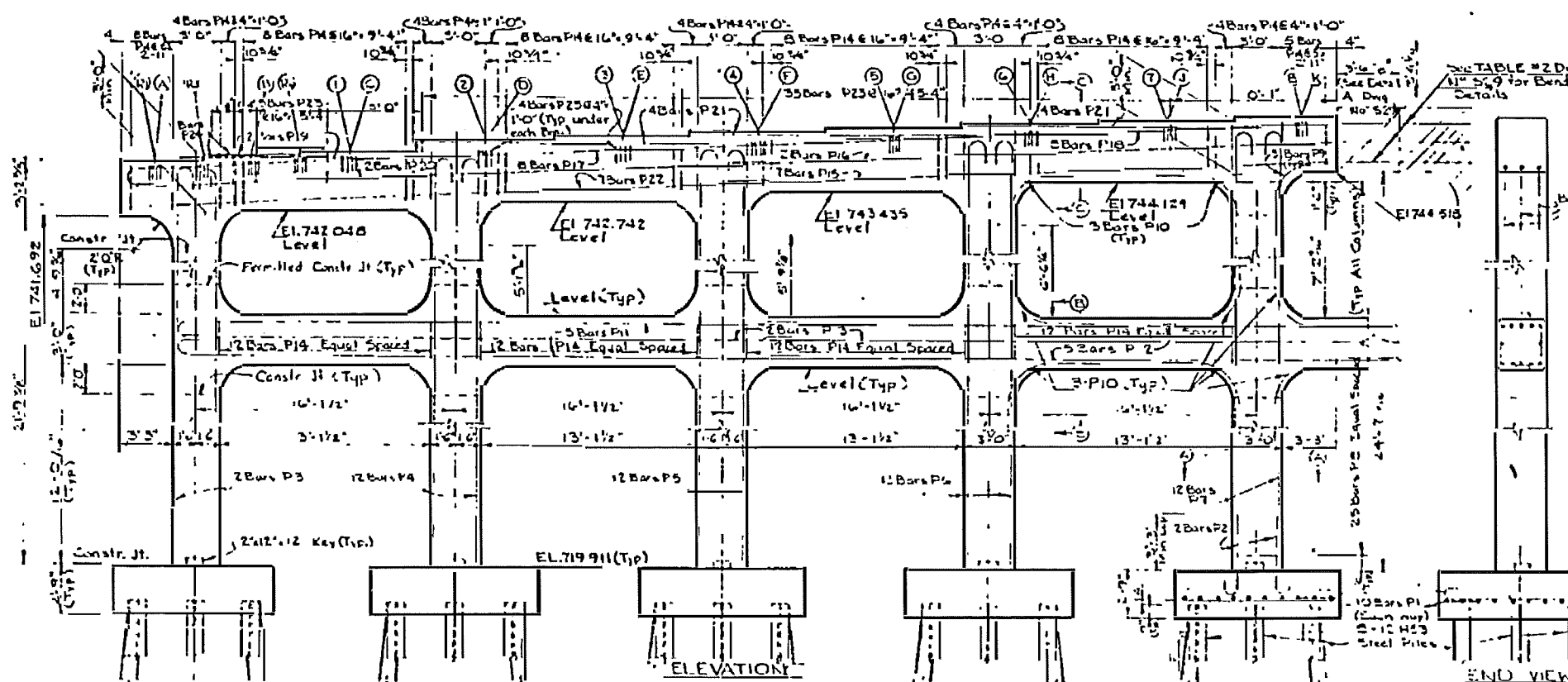
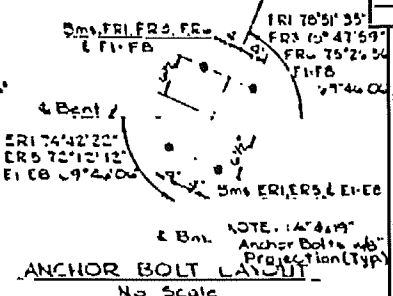
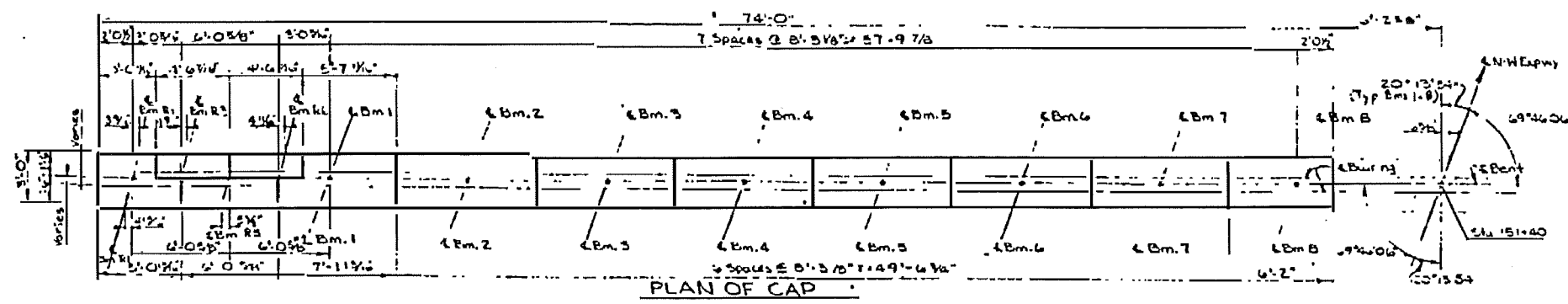
BILL OF REINFORCEMENT																			
NO	QUANTITY	SIZE	TYPE	LENGTH	FT	IN	WEIGHT	NO	QUANTITY										
P1	80	5	6	3'10"	7	0	1.30	P11	40	4	3	4	2	8	0	4	87		
P2	48	10	1	23	7	4	1.30	P12	7	10	54	45	10				1581		
P3	12	10	1	23	2	21	1.30	P13	4	5	51	28	8				161		
P4	12	10	1	23	11	22	1.30	P14	9	11	1	35	1	34	30	1	175		
P5	12	10	1	24	9	23	1.30	P15	4	9	51	40	11				151		
P6	12	10	1	25	6	23	1.30	P16	12	4	51	17	9				182		
P7	88	4	2	11	0	2	1.30	P17	4	4	51	8	7				23		
P8	6	5	3	6	7	1	0	41	P18	40	4	4	3	4	2	8	0	4	87
P9	18	5	3	7	7	2	0	142											
P10	192	5	2	11	4	2	8	1797											
P11	44	4	4	6	7	2	7	0	93										
P12	7	10	54	45	10			1581											
P13	4	5	51	28	8			161											
P14	9	11	1	35	1	34	30	1	175										
P15	4	9	51	40	11			151											
P16	12	4	51	17	9			182											
P17	4	4	51	8	7			23											
P18	40	4	4	3	4	2	8	0	4	87									

NOTE: Bridge Seat Elevations given on top of Finished Concrete



BILL OF MATERIAL		
ITEM	UNIT	AMOUNT
CONCRETE CLASS 'A'	C.Y.	157
REINFORCING STEEL	LB	167.6
STEEL PILES 12x53 (36 rods)	L.F.	1430
UNCLASS STRUCTURE EXC. C.Y.		1775

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 DIVISION OF HIGHWAYS
 BENT 4B
 WILBUR SMITH AND ASSOCIATES, INC. - DESIGN
 CONSULTING ENGINEERS
 1100 S. W. 11th St., Raleigh, N.C.



BRIDGE SEAT ELEVATIONS

ROW	LANE	ROW	SPAN
A	744.911	W3	744.911
B	745.280	W3	745.191
C	745.651	1	745.651
D	746.240	2	746.240
E	746.842	4	746.842
F	747.099	5	747.099
G	747.555	6	747.555
H	747.811	7	747.811
I	747.867	8	747.867

NOTE: Bridge seat elevations are taken at the top of concrete.

PROJ REFERENCE NO: 577

STATE PROJECT NO: 11654 BIL

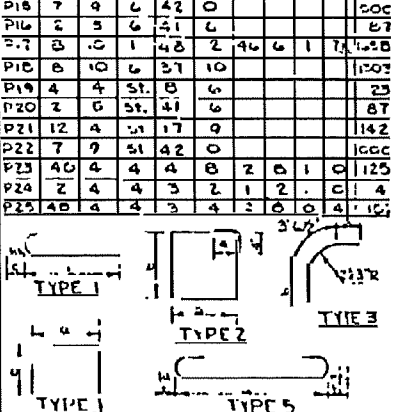
FA PROJ NO: SUP 24-1116

TOTAL SHEETS: 150

DESCRIPTION: SUP 24-1116

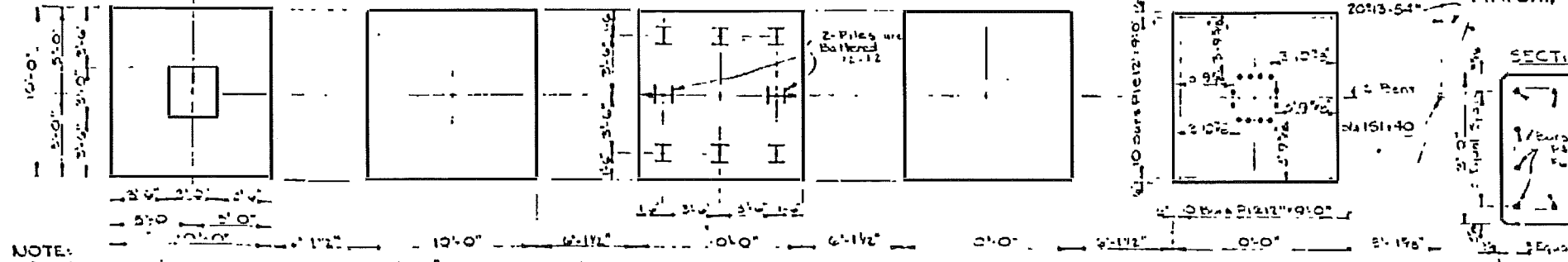
BILL OF REINFORCEMENT

BAR NO.	SIZE	THK	LENGTH	Q	WEIGHT
P1	100	7	5	11	2 9 6 0 10
P2	60	0	1	6	7 4 11 1 7
P3	12	10	1	2	0 24 4 1 7
P4	12	10	1	2	6 9 23 1 1
P5	12	10	1	2	7 5 25 9 1
P6	12	10	1	2	6 1 26 5 1
P7	12	10	1	2	6 9 27 1 1
P8	12	10	1	2	7 1 27 9 1
P9	4	2	11	0	2 7 2 7
P10	7	8	3	7	1 0 2 0
P11	10	9	1	40	3 39 0 1 7
P12	10	9	5	59	0 1 32 6
P13	4	5	5	28	0 1 2 0
P14	12	8	5	2	11 4 2 5 2
P15	7	9	6	42	0 1 1 0
P16	2	3	6	41	0 1 1 0
P17	8	10	1	48	2 46 6 1 7
P18	8	10	6	51	10 4 1 1
P19	4	4	4	8	2 6 1 0
P20	2	6	4	3	2 1 0 4
P21	12	4	4	17	0 1 1 0
P22	7	9	5	42	0 1 1 0
P23	4	4	4	8	2 6 1 0
P24	2	4	4	3	2 1 0 4
P25	4	4	4	3	2 6 1 0



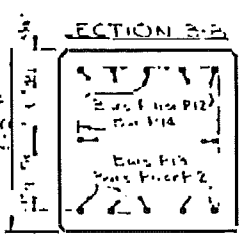
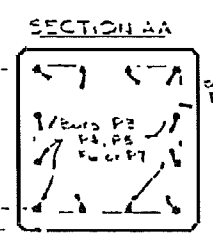
NOTE: Lay bars P11, P12, P15 & P22 min 2'-9" Lay bars P13, P14 min 3'-3" Lay bars P3, P6, P20 min 1'-9"

FOUR THIS BENT CAP FIRST



NOTE: All piles to be driven to a min bearing capacity of 30 tons per pile. For pile splice details see Dwg No 223.

NOTE: The reinforcing steel and pile spacing shown is typical for all footings.



BILL OF MATERIALS

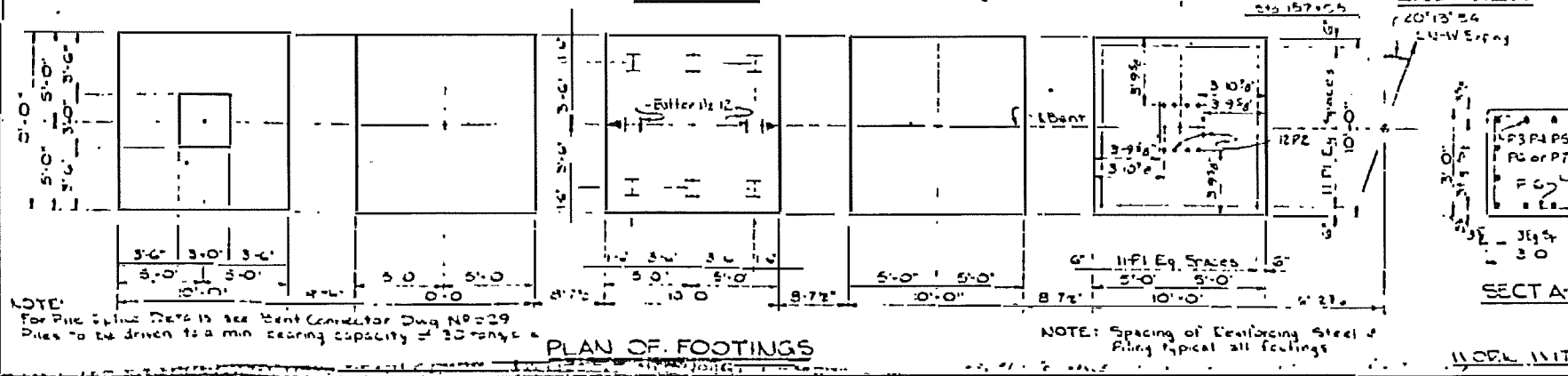
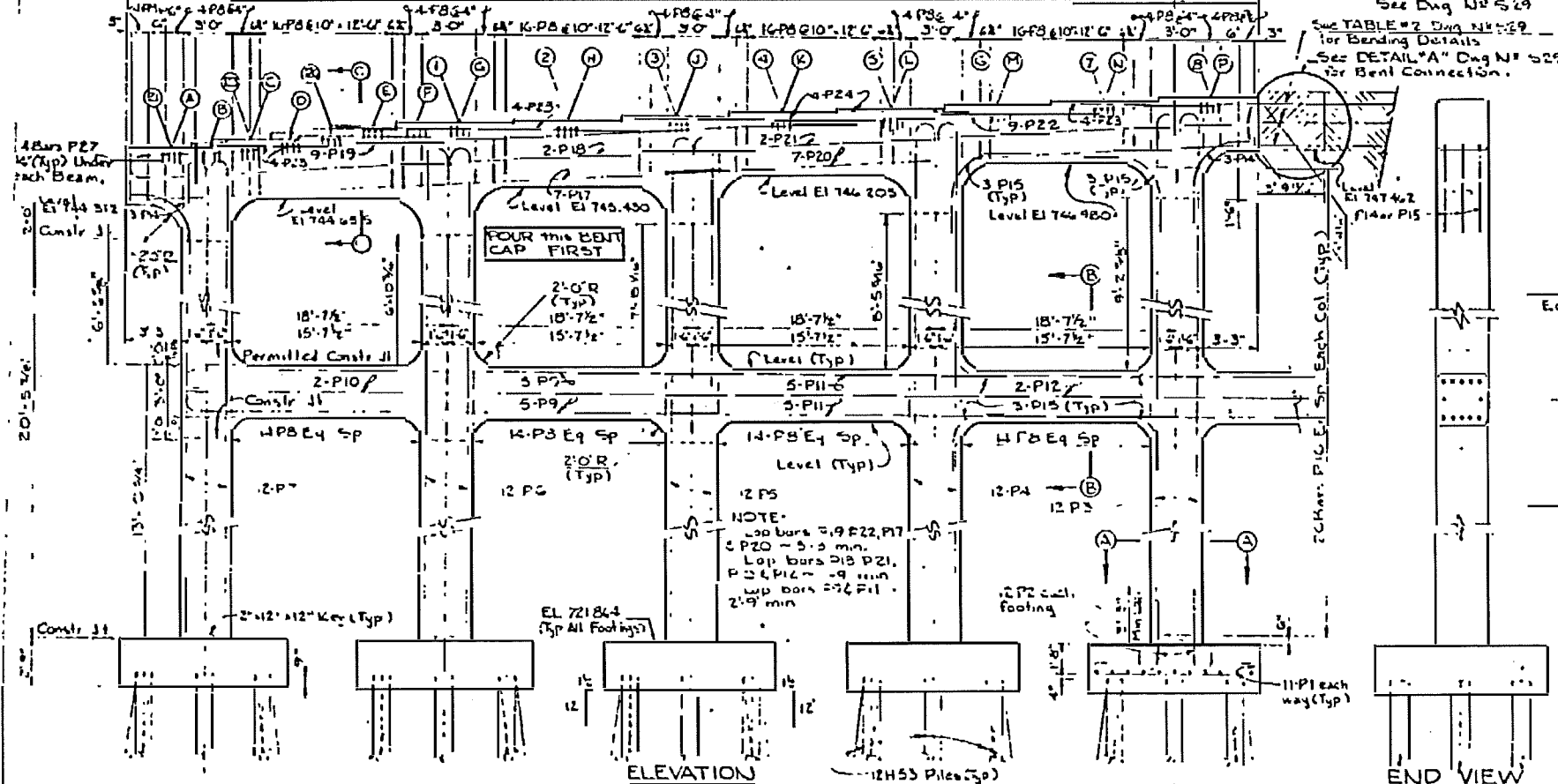
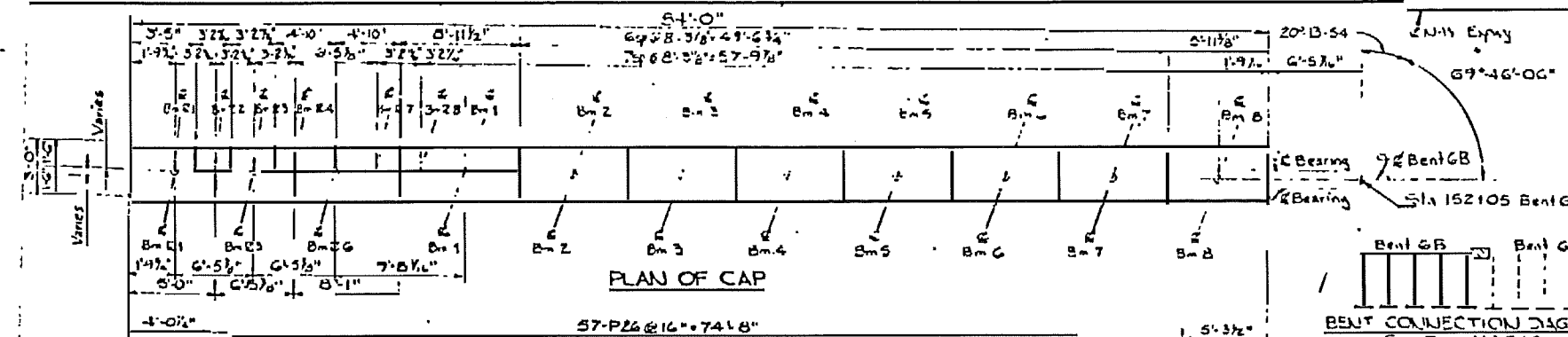
ITEM	LIST QUANTITY
Concrete Class A	CY 137.0
Reinforcing Steel	Lbs 25,536
12#53 Steel Piles #40 max	LF 1000

See PR B no 2 page m 2 4 4867

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

BENT 5B

WILBUR SMITH AND ASSOCIATES, INC - DESIGN CONSULTING ENGINEERS



ROOSTER PLATES BENT GB

SPAN F	SPAN C ₁
1	2
2	3
3	4
4	5
5	6
6	7
7	8

BRIDGE SEAT ELEVATIONS BENT GB

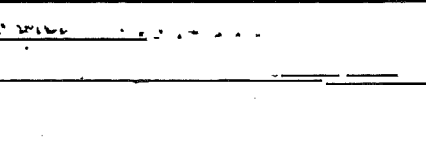
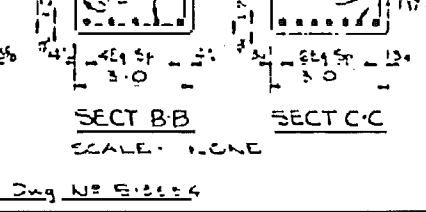
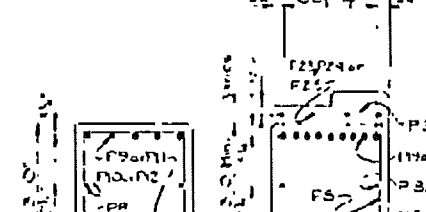
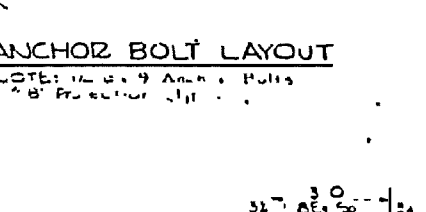
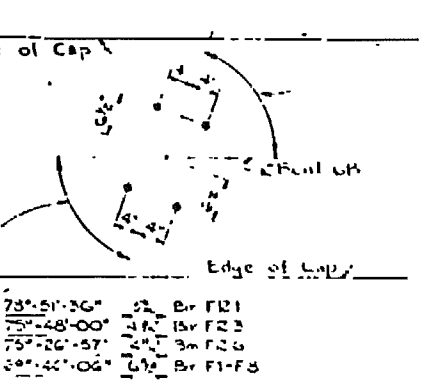
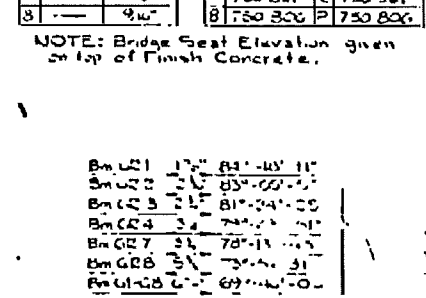
SPAN F	SPAN C ₁
1	2
2	3
3	4
4	5
5	6
6	7
7	8

PROJ. NUMBER NO. 518
SHEET NO. 150
TOTAL SHEETS

STATE PROJECT NO. 0.1054811
SUF 24-1(110)
DESCRIPTION

BILL OF REINFORCEMENT

NO.	LENGTH	DIAMETER	WEIGHT
1	110	7	2511
2	60	0	1700
3	12	10	1580
4	12	10	1497
5	12	10	1469
6	12	10	1446
7	12	10	1423
8	12	10	1400
9	12	10	1377
10	12	10	1354
11	12	10	1331
12	12	10	1308
13	12	10	1285
14	12	10	1262
15	12	10	1239
16	12	10	1216
17	12	10	1193
18	12	10	1170
19	12	10	1147
20	12	10	1124
21	12	10	1101
22	12	10	1078
23	12	10	1055
24	12	10	1032
25	12	10	1009
26	12	10	986
27	12	10	963
28	12	10	940
29	12	10	917
30	12	10	894
31	12	10	871
32	12	10	848



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
CONCRETE CLASS 'A'	CY	48
REINFORCING STEEL	Lbs	23628
STEEL PILES 12H55	LF	440
UNCLASS. STRIP TIE LXC.	CY	17460

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

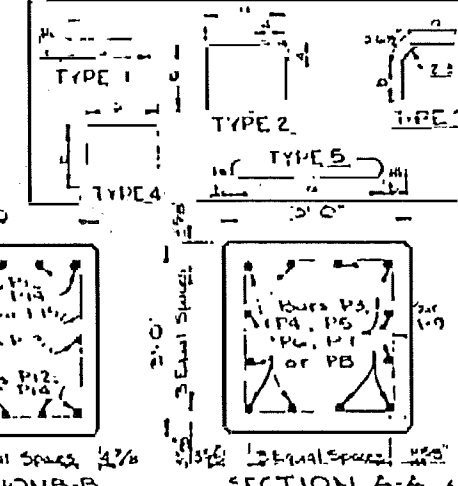
BENT GB

Sta 149+7.00 N.W. Expy., Plockenby C

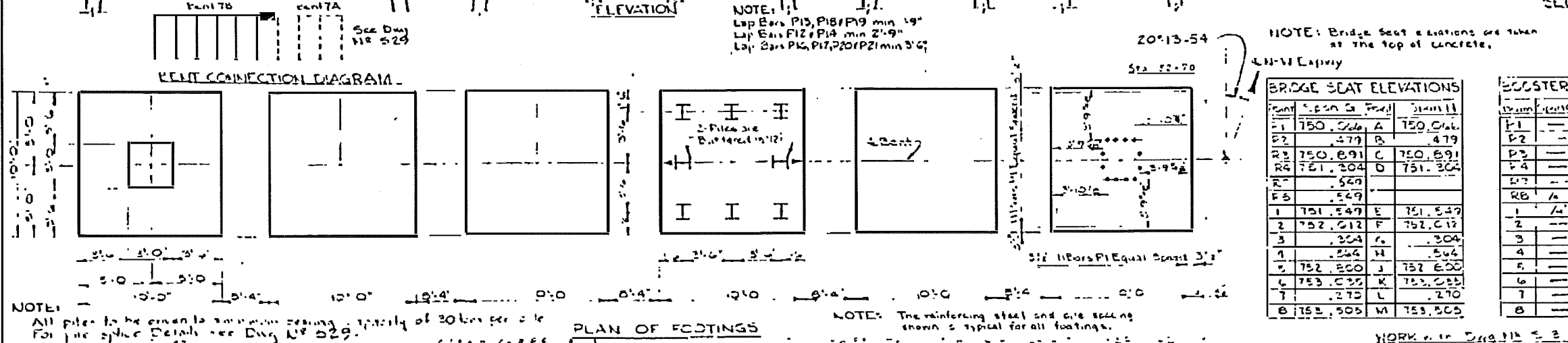
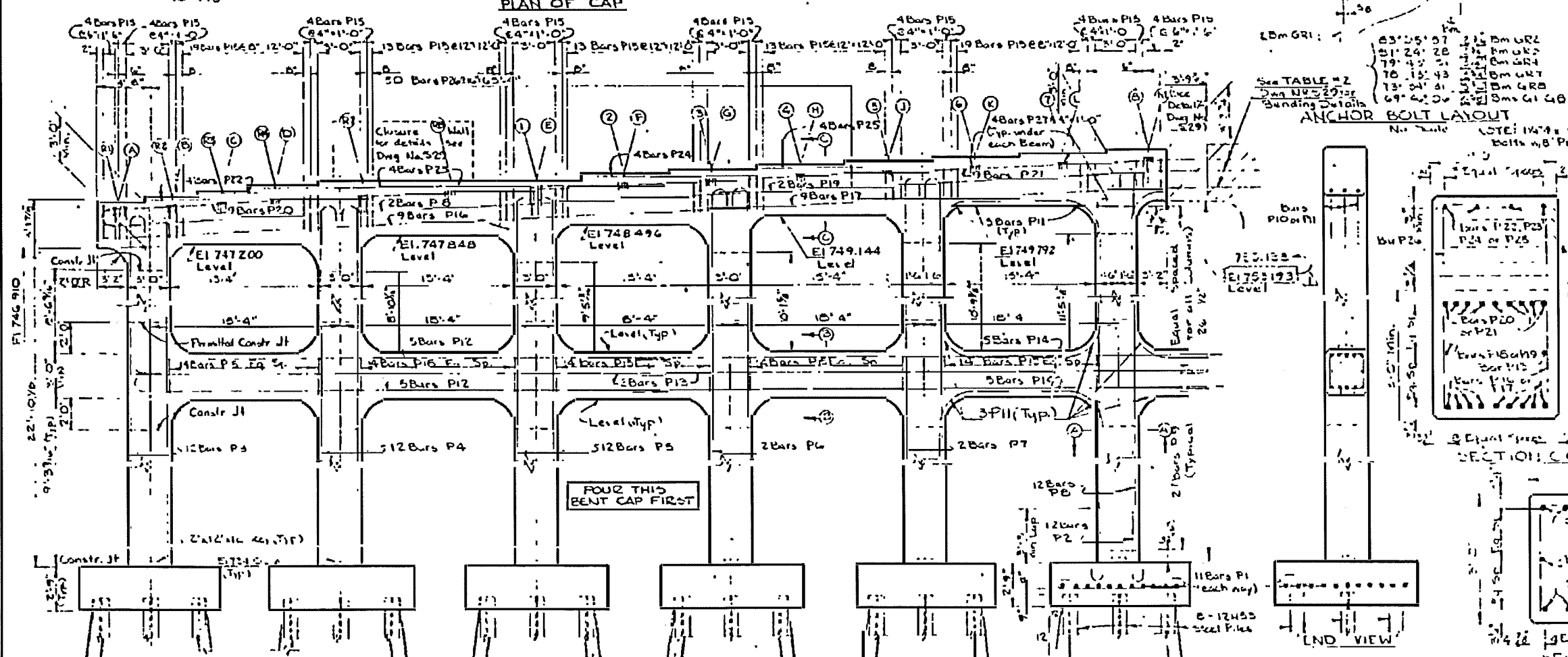
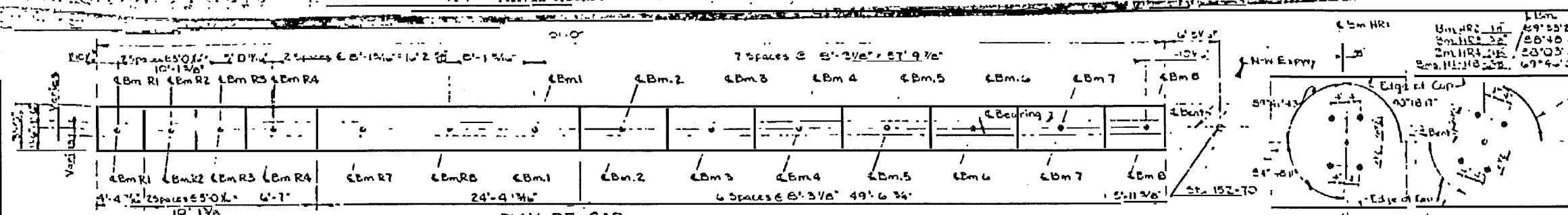
WILBUR SMITH AND ASSOCIATES, INC. - DESIGN
CONSULTING ENGINEERS

PROJECT NO.	519	TOTAL SHEETS	150
STATE PROJECT NO.	FA PROJ NO	DESCRIPTION	
P-124811	60F 24-1(114)		

BILL OF REINFORCEMENT									
BAR NO.	SIZE	TYPE	LENGTH	a	b	c	d	e	f
			FT.	IN.	FT.	IN.	FT.	IN.	FT.
P1	152	7	5	11	2	9	6	0	14
P2	72	10	1	6	7	4	11	1	7
P3	12	10	1	21	1	25	5	1	7
P4	12	10	1	27	9	26	1	1	7
P5	12	10	1	28	5	26	9	1	7
P6	12	10	1	29	1	27	5	1	7
P7	12	10	1	29	8	28	0	1	7
P8	12	10	1	30	4	28	8	1	7
P9	102	4	2	11	0	7	2	7	11
P10	6	5	3	6	7	1	0	2	4
P11	0	5	3	7	7	2	0	2	7
P12	0	9	1	53	3	52	0	1	3
P13	4	5	5	51	5	5	1	1	2
P14	10	9	5	52	0				1
P15	20	5	2	11	4	2	8	2	1
P16	9	11	5	60	0				1
P17	9	11	5	31	6				1
P18	2	3	5	60	0				1
P19	2	3	6	49	11				1
P20	9	11	5	53	11	52	1	1	9
P21	9	11	5	59	7				1
P22	8	4	5	6	4				1
P23	8	4	5	16	9				1
P24	4	4	5	17	10				1
P25	4	4	5	9	7				1
P26	50	4	4	5	4	2	8	1	4
P27	50	4	4	3	4	2	8	0	4



BILL OF MATERIALS		
ITEM	UNIT	QUANTITY
Concrete Class A'	C.Y.	128.3
Reinforcing Steel	Lbs	35231
2155 Steel Piles	L.F.	170.2
Unclassified Structure	S.Y.	12.25



BRIDGE SEAT ELEVATIONS			
Point	Station	Grade	Structure
P1	750.000	A	750.000
P2	750.000	B	750.000
P3	750.000	C	750.000
P4	750.000	D	750.000
P5	750.000	E	750.000
P6	750.000	F	750.000
P7	750.000	G	750.000
P8	750.000	H	750.000
P9	750.000	I	750.000
P10	750.000	J	750.000
P11	750.000	K	750.000
P12	750.000	L	750.000
P13	750.000	M	750.000

NOTE: All piles to be driven to maximum bearing capacity of 30 tons per pile. For pile splice details see Dwg No. 529.

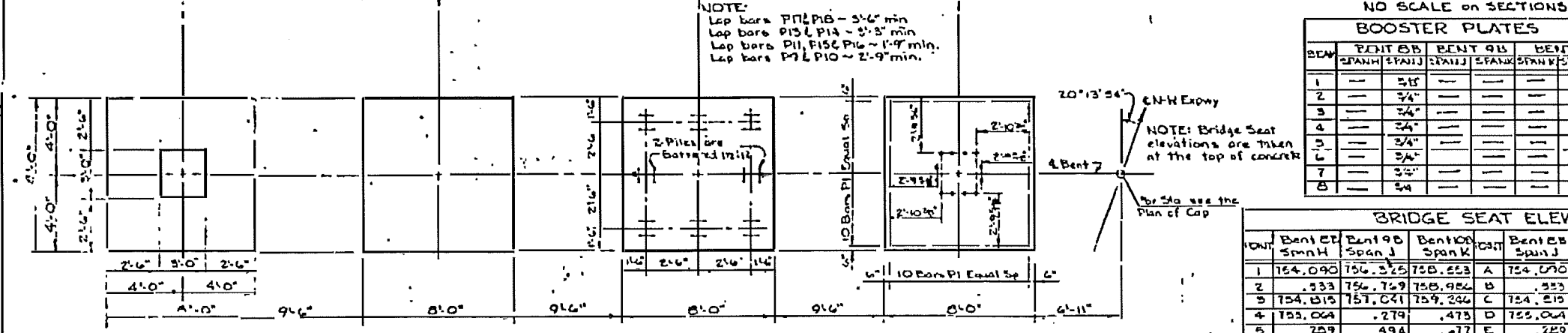
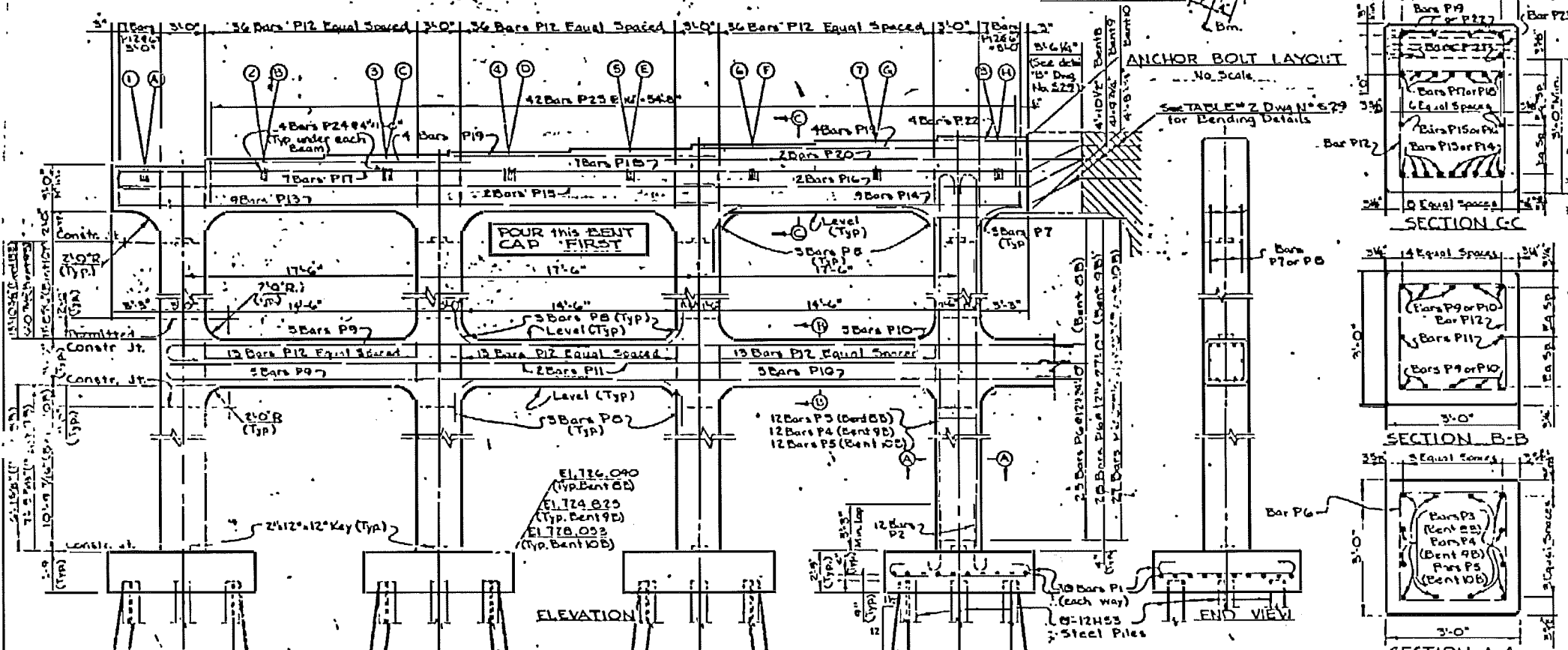
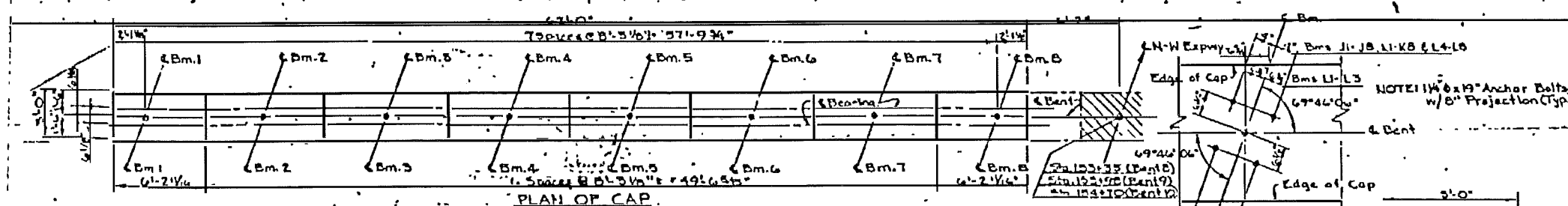
NOTE: The reinforcing steel and pile spacing shown is typical for all footings.

NOTE: Bridge seat elevations are taken at the top of concrete.

PLAN OF FOOTINGS

BENT 7B

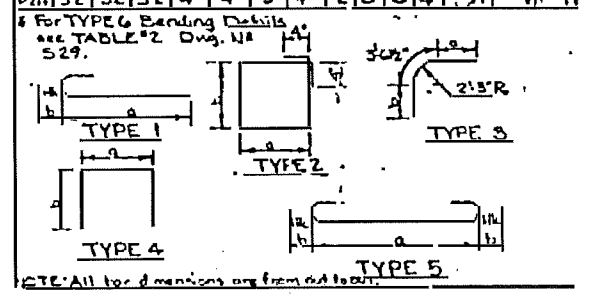
Sta. 49+70.00 to 49+70.00
WILBUR SMITH AND ASSOCIATES, Inc. - DESIGN CONSULTING ENGINEERS
COLUMBIA, S.C.



STATE PROJECT NO.	520	150
FA PROJ NO.	B 1654611	6UF 24-1(116)
DESCRIPTION		

BILL OF REINFORCEMENT

BAR	NUMBER	LENGTH	WEIGHT
STG	STG	FT. IN.	LB.
P1	80	80	6 5
P2	48	48	10 1
P3	48	48	10 1
P4	48	48	10 1
P5	48	48	10 1
P6	100	100	4 2
P7	6	6	5 3
P8	60	60	5 3
P9	10	10	9 1
P10	10	10	9 1
P11	4	4	5 3
P12	161	161	5 2
P13	9	9	10 5
P14	9	9	10 5
P15	2	2	5 3
P16	2	2	5 3
P17	7	7	11 1
P18	7	7	11 1
P19	12	12	4 5
P20	2	2	4 5
P21	161	161	4 4
P22	4	4	4 4
P23	42	42	4 4
P24	32	32	4 4



BOOSTER PLATES

SPAN	BENT 8B	BENT 9B	BENT 10B
1	35"		7/8"
2	34"		12"
3	34"		12"
4	34"		12"
5	34"		3/8"
6	34"		9/16"
7	34"		3/4"
8	34"		1 1/2"

BRIDGE SEAT ELEVATIONS

SPAN	Bent 8B	Bent 9B	Bent 10B	Bent 8B	Bent 9B	Bent 10B
1	154.090	156.325	158.555	A	154.090	156.325
2	.333	156.769	158.984	B	.333	156.769
3	154.815	157.041	159.246	C	154.815	157.041
4	155.064	.279	.473	D	155.064	.279
5	.259	.494	.277	E	.259	.494
6	.514	.709	1.000	F	.514	.709
7	.739	1.022	1.313	G	.739	1.022
8	1.012	1.306	1.601	H	1.012	1.306

BILL OF MATERIALS

ITEM	UNIT	QTY	PRICE	TOTAL
Concrete, Class 'A'	CY	105.6	108.00	11412.00
Reinforcing Steel	Lbs	20172	20.50	413526.00
12H53 Steel Piles (31 on rd)	L.F.	1152	12.41	14300.32
Unclassified Structure Excavator	CY	85.4	92.20	7875.88

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
BILLED

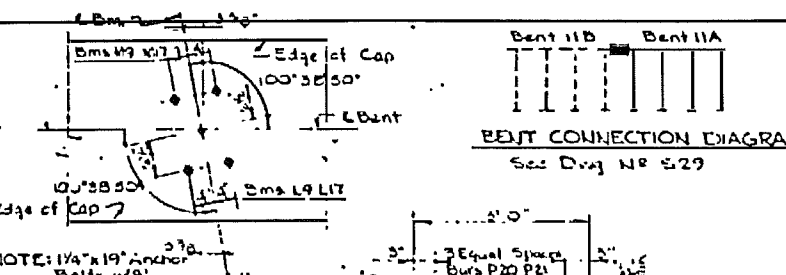
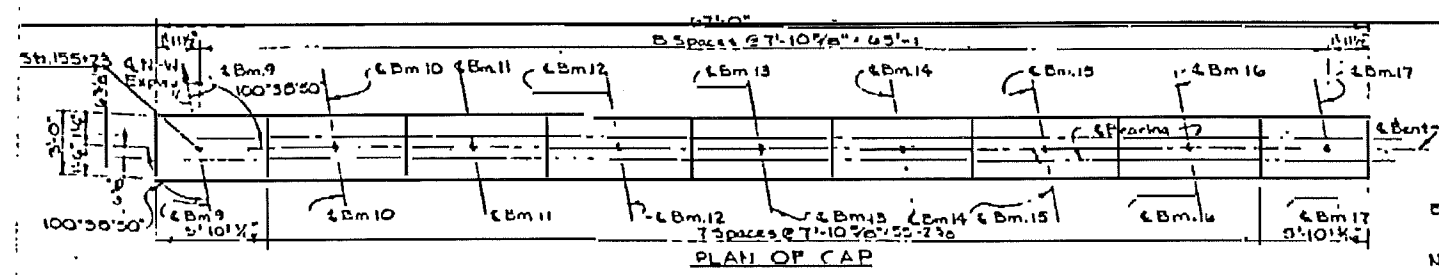
BENTS 8B, 9B & 10B

Sta. 149+17.00 thru E. Hwy. Mecklenburg
WILBUR SMITH AND ASSOCIATES, INC. - DESIGN
CONSULTING ENGINEERS
WALTON SALES & ENGINEERING
100 W. 15th St. Winston-Salem, N.C. 27157

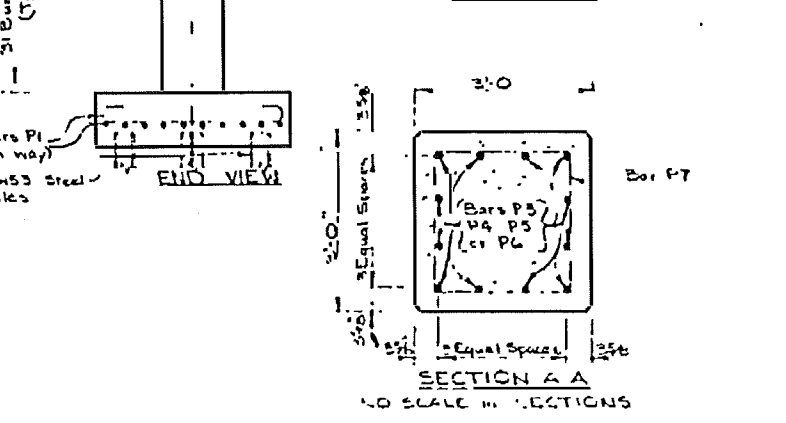
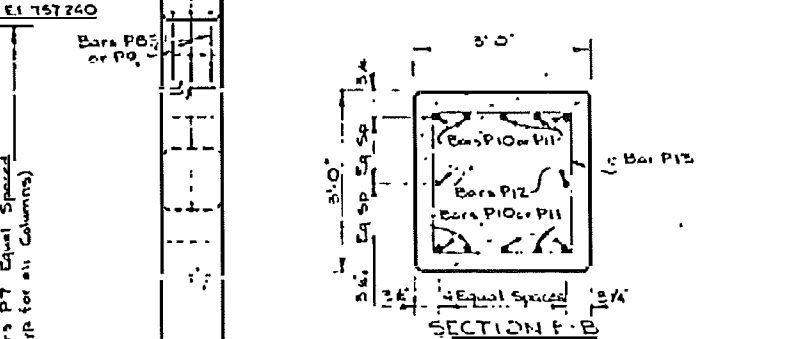
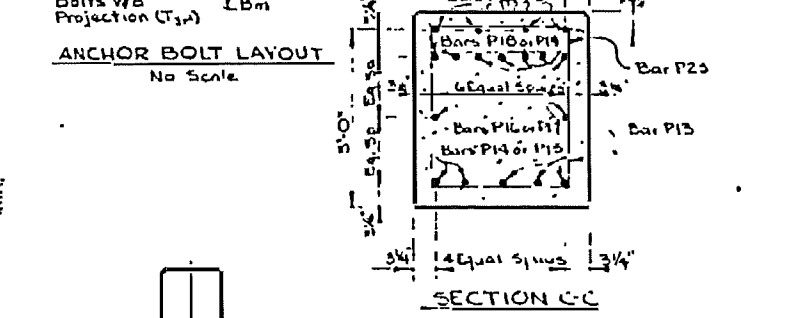
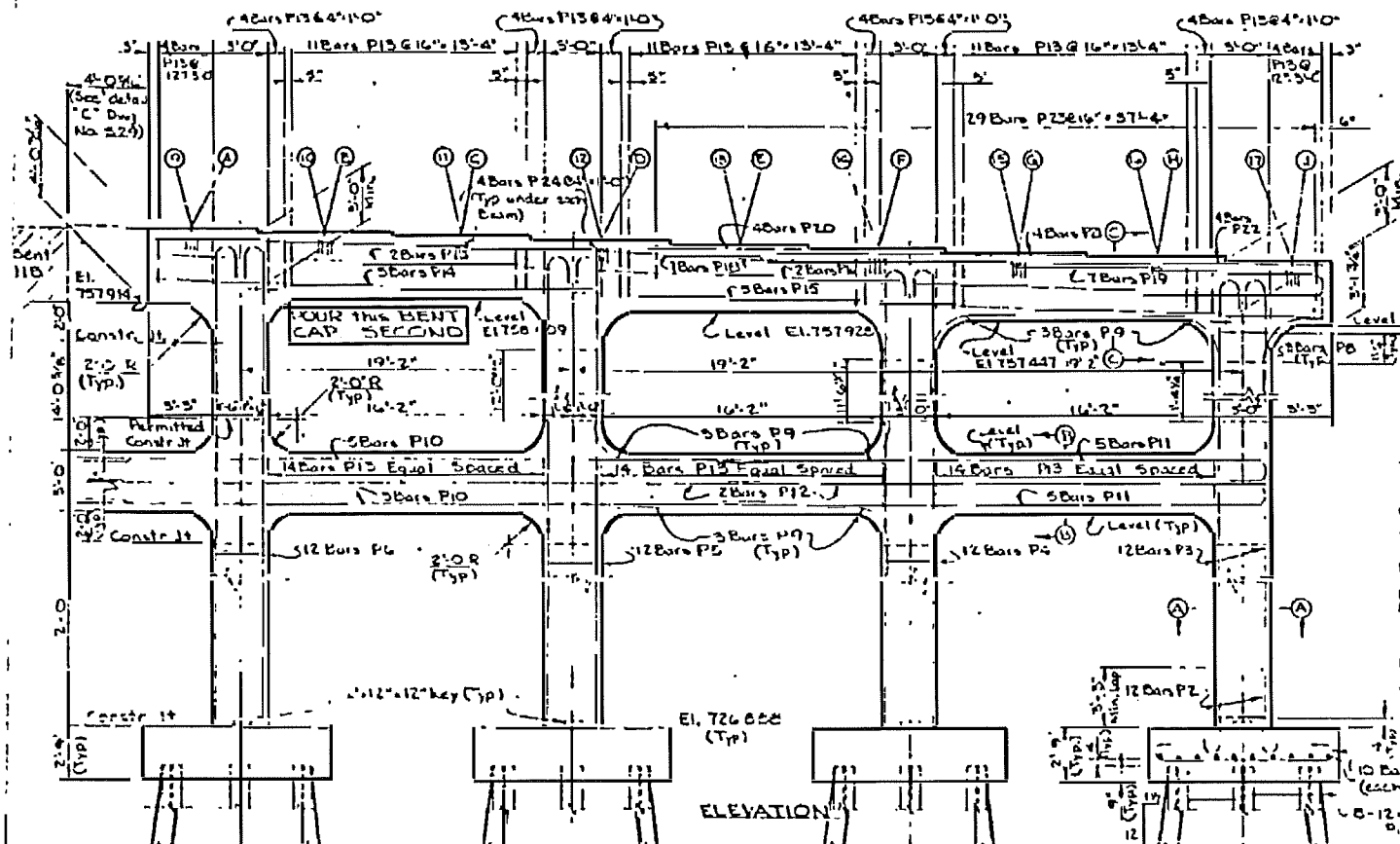
NOTE: For Pile Splice Details see Bent Connector, Dwg. 14529. Piles to be driven to a min. bearing capacity of 50 tons/pile.

NOTE: The reinforcing steel end pile capping shown is typical for all footings in Bents 8B, 9B & 10B.

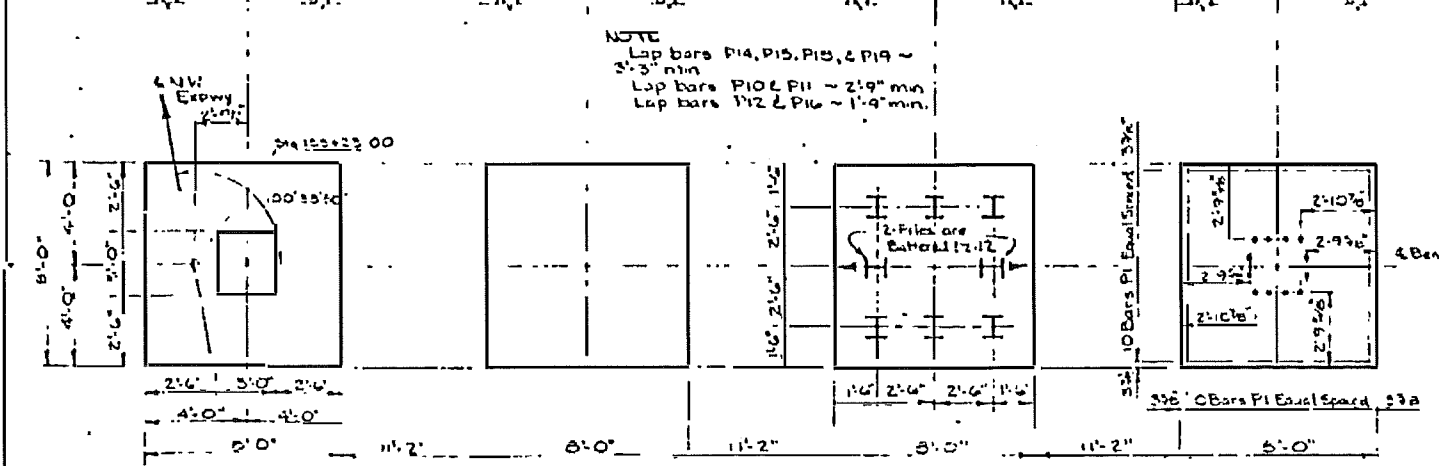
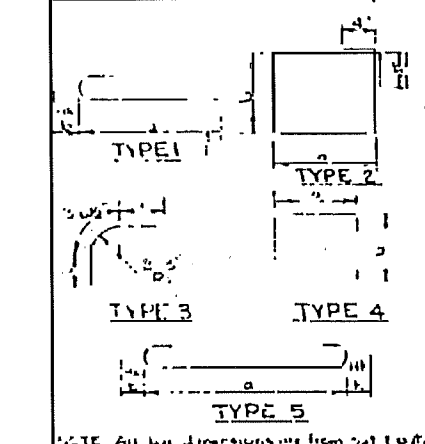
WORK with Dwg. NE 513LS14



NO.	DESCRIPTION	QTY	UNIT
1	1/2\"/>		



BAR NO.	SIZE	TYPE	LENGTH	QTY	UNIT
P1	5/8"	1	10' 7 1/2"	1	174.20
P2	5/8"	1	10' 7 1/2"	1	174.20
P3	5/8"	1	10' 7 1/2"	1	174.20
P4	5/8"	1	10' 7 1/2"	1	174.20
P5	5/8"	1	10' 7 1/2"	1	174.20
P6	5/8"	1	10' 7 1/2"	1	174.20
P7	5/8"	1	10' 7 1/2"	1	174.20
P8	5/8"	1	10' 7 1/2"	1	174.20
P9	5/8"	1	10' 7 1/2"	1	174.20
P10	5/8"	1	10' 7 1/2"	1	174.20
P11	5/8"	1	10' 7 1/2"	1	174.20
P12	5/8"	1	10' 7 1/2"	1	174.20
P13	5/8"	1	10' 7 1/2"	1	174.20
P14	5/8"	1	10' 7 1/2"	1	174.20
P15	5/8"	1	10' 7 1/2"	1	174.20
P16	5/8"	1	10' 7 1/2"	1	174.20
P17	5/8"	1	10' 7 1/2"	1	174.20
P18	5/8"	1	10' 7 1/2"	1	174.20
P19	5/8"	1	10' 7 1/2"	1	174.20
P20	5/8"	1	10' 7 1/2"	1	174.20
P21	5/8"	1	10' 7 1/2"	1	174.20
P22	5/8"	1	10' 7 1/2"	1	174.20
P23	5/8"	1	10' 7 1/2"	1	174.20
P24	5/8"	1	10' 7 1/2"	1	174.20

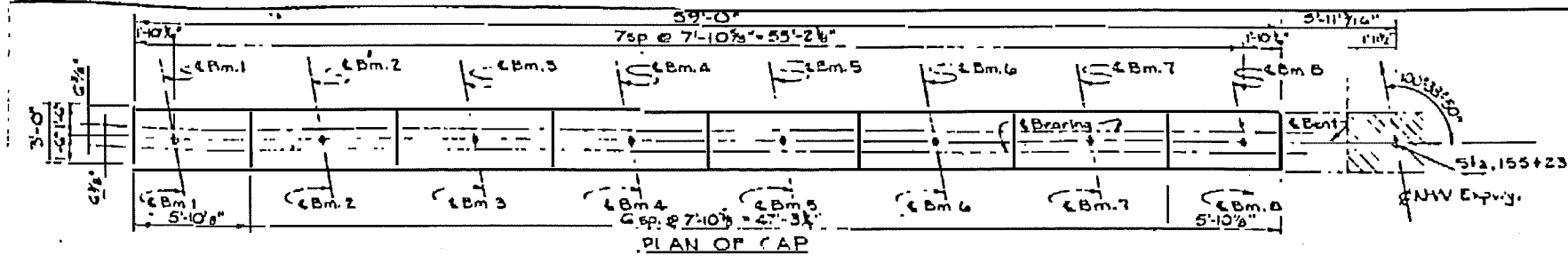


SPAN	SPAN	SPAN	SPAN
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24

ITEM	UNIT	QTY
Concrete Class A	C.Y.	110
Reinforcing Steel	Lbs.	1720
12x12 Steel Pile (32x32x12)	L.F.	468
12x12 Steel Pile (32x32x12)	L.F.	468
See PRB no 4 page no 17		

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 BENT 11A
 502 149 ST OC W Hwy Mecklenburg
 WILBUR SMITH AND ASSOCIATES, INC. DESIGN
 CONSULTING ENGINEERS
 1100 S. W. 11th St. Suite 900 Fort Lauderdale, FL 33315

NOTE: For Pile Splice Details see Bent Connector Draw No 529
 Piles are to be driven to min bearing capacity of 30 tons per ft²

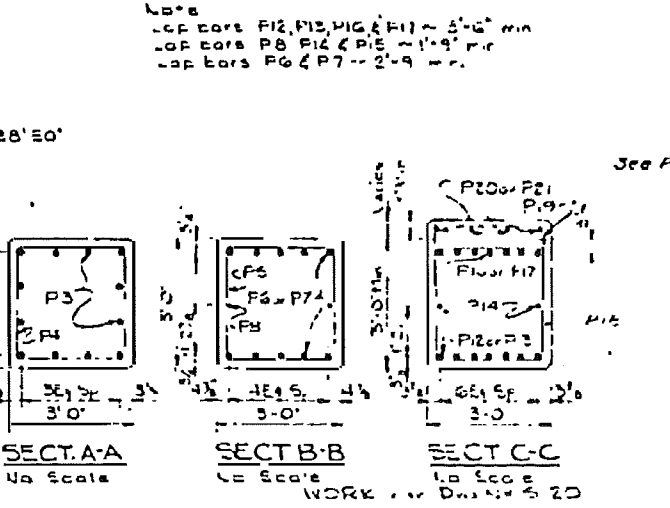
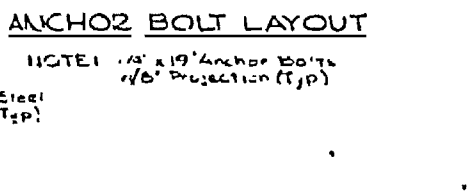
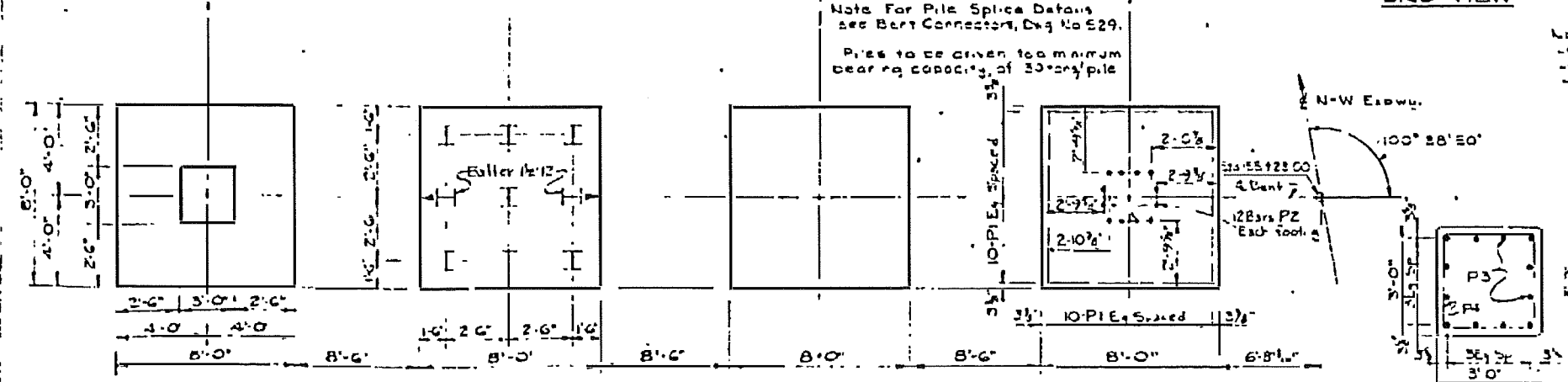
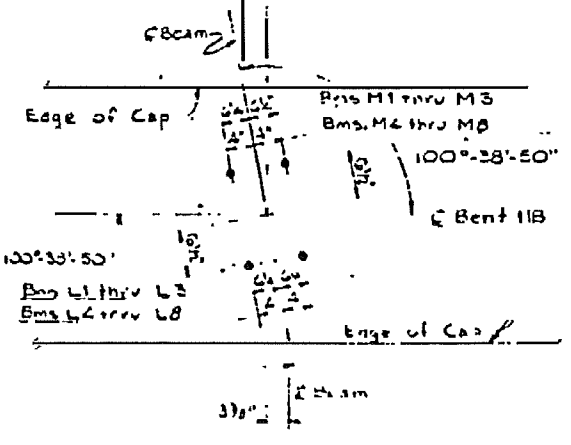
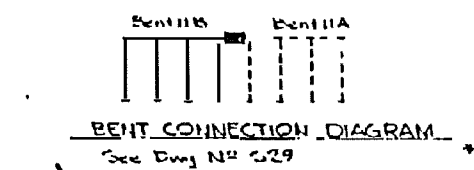
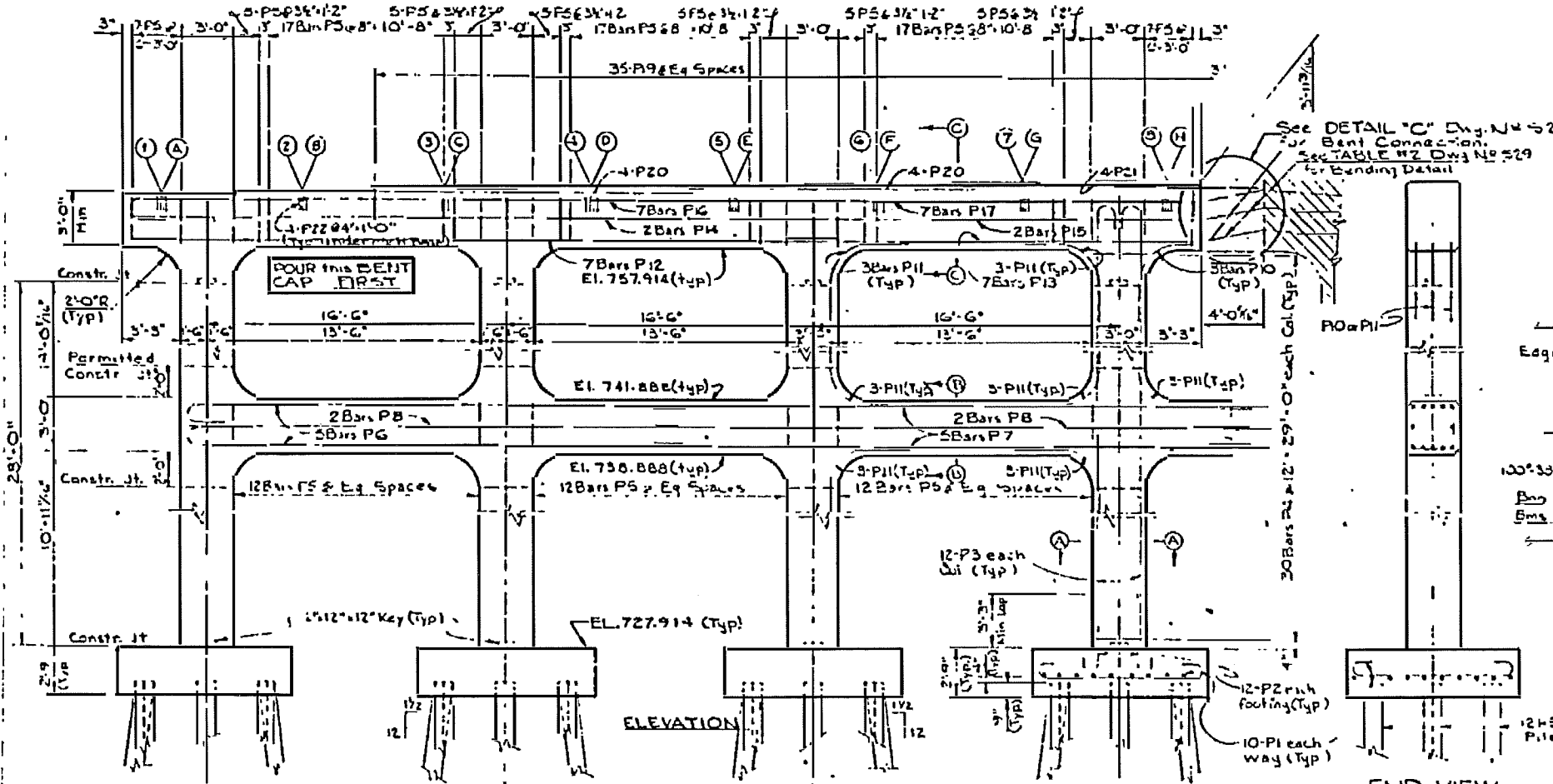


FOOTER PLATES	
BENT	SPAN
1	5.10'
2	5.10'
3	5.10'
4	5.10'
5	5.10'
6	5.10'
7	5.10'
8	5.10'

BRIDGE SEAT ELEVATIONS	
BENT IIB	
SPAN	ELEVATION
1	700.914
2	701.232
3	701.373
4	701.445
5	701.556
6	701.655
7	701.704
8	701.848

STATE PROJECT NO.	FA PROJ. NO.	TOTAL SHEET
1654E11	SUF 24-1(11)	150

BILL OF REINFORCEMENT					
ITEM	QUANTITY	UNIT	LENGTH	WEIGHT	REMARKS
P1	80	6	8.10	7.0	1.21
P2	48	10	1.07	4.11	1.20
P3	48	10	1.24	2.32	1.75
P4	120	4	11.0	2.7	4.2
P5	131	5	2.11	2.8	15.9
P6	10	9	1.28	11.27	1.3
P7	10	9	51.34	4	1.67
P8	4	5	51.30	1	2.6
P9	NOT USE	0	-	-	-
P10	5	5	3.67	1.0	4.1
P11	20	5	3.77	2.0	29.5
P12	7	11	5.39	3	1.40
P13	7	11	6.59	9	11.4
P14	2	5	51.31	8	6.6
P15	2	5	6.30	0	7.9
P16	7	11	1.33	0.31	1.94
P17	7	11	6.40	0	1.85
P18	NOT BUILT	-	-	-	-
P19	3	4	6.8	2.8	2.0
P20	3	4	51.17	0	9.1
P21	4	4	51.17	4	4.6
P22	32	4	4.3	4.2	0.4
P23	7	11	6.40	0	1.85



BILL OF MATERIAL	
ITEM	UNIT
CONCRETE CLASS 'A'	CY 1020
REINFORCING STEEL	LB 20449
STEEL PILES 12x13x1/2	CY 110921
UNCLASS. STRUCTURE EXC.	CY 110921

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

BENT IIB

512 14911.00 N.W. Expwy. Mecklenburg Co.

WILBUR SMITH AND ASSOCIATES, INC. - DESIGN
CONSULTING ENGINEERS
1101 W. 10th St. Raleigh, N.C. 27603

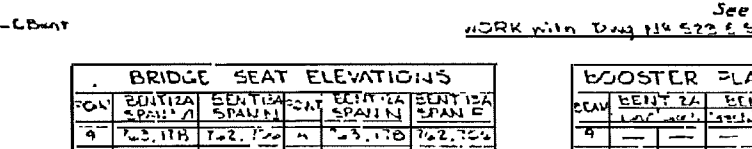
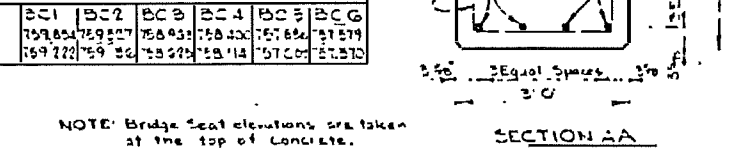
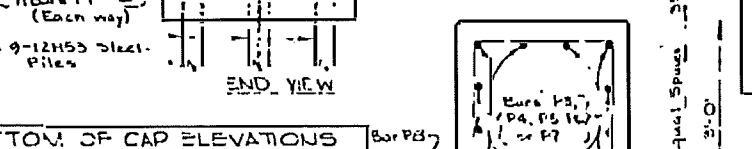
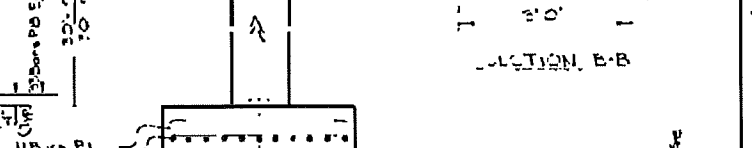
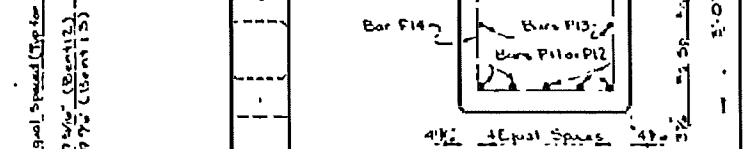
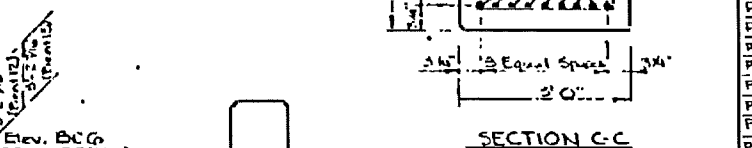
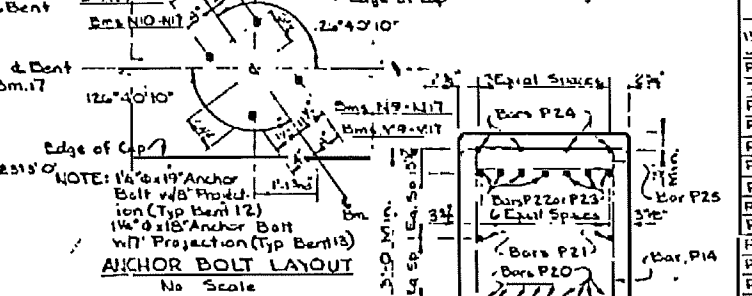
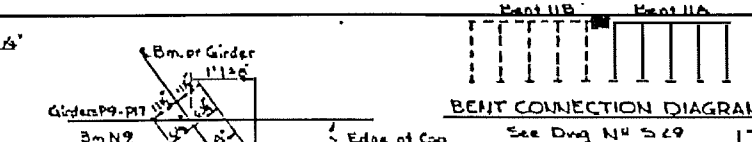
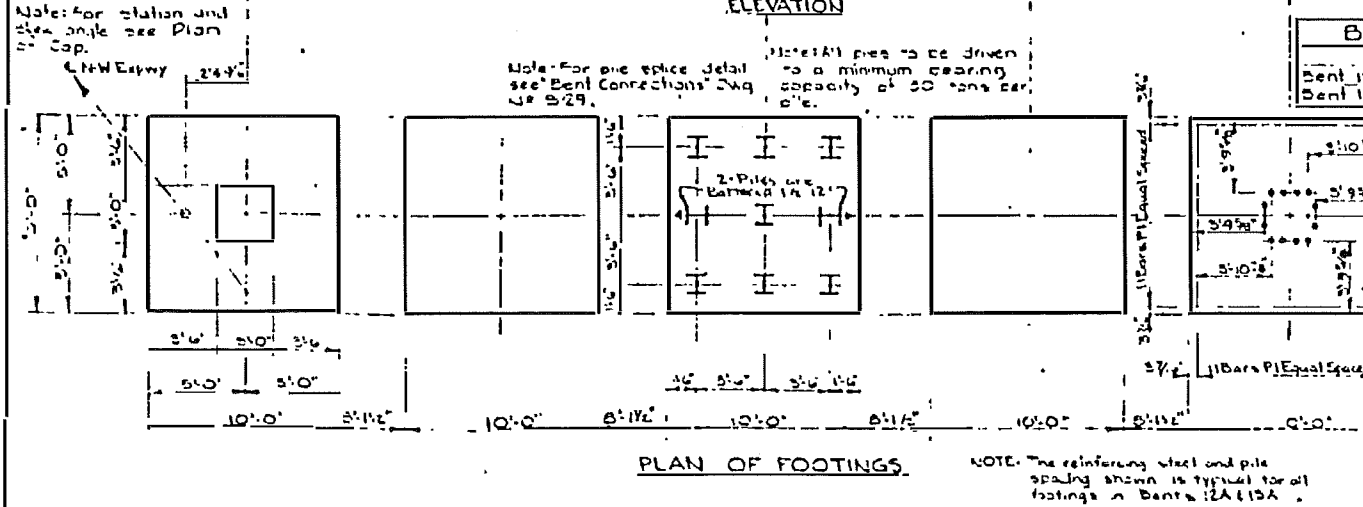
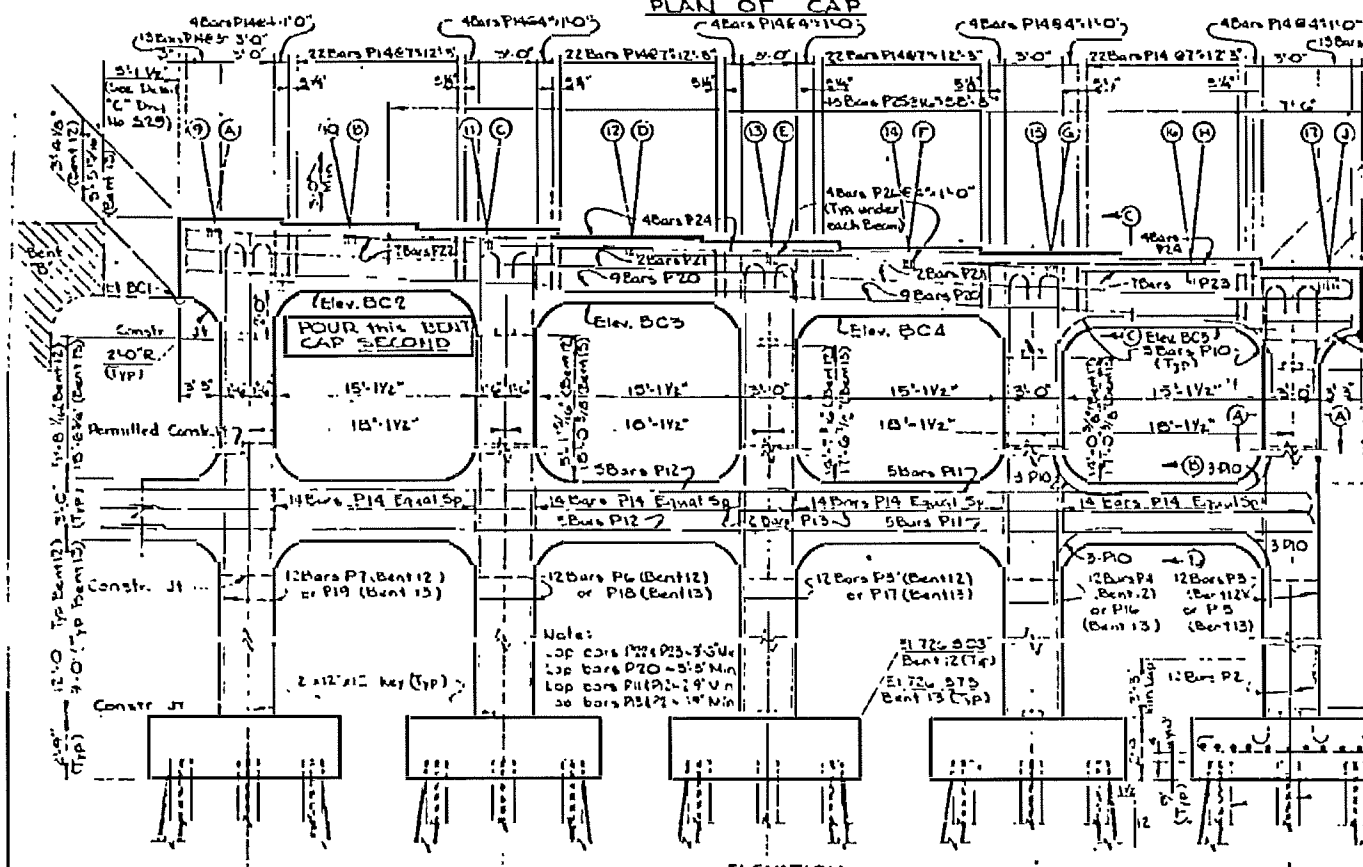
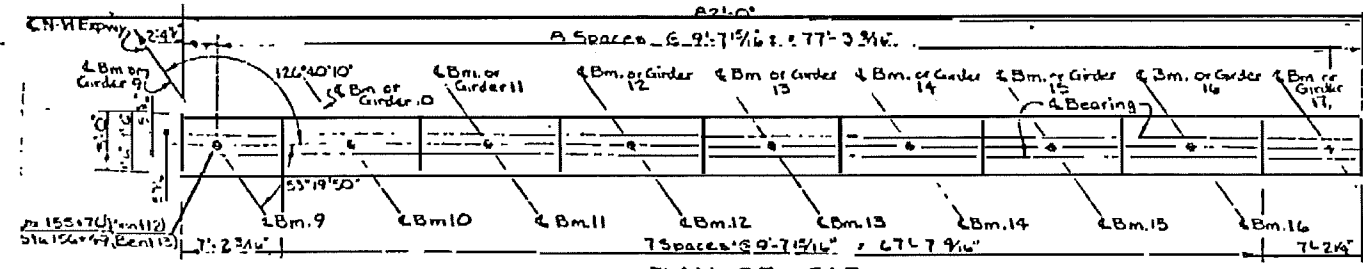
Note For Pile Splice Details
see Bent Connectors, Dwg No E29.
Piles to be driven to maximum
bearing capacity of 33 tons/pile.

NOTE: Spacing of Reinforcing & Piling
typical for All Footings.

NOTE: Bridge Seat
Elevations given on top
of Finished Concrete

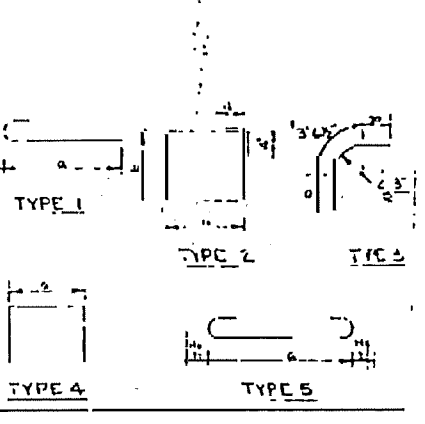
NOTE: 1/2" x 19" Anchor Bolts
1/8" Projection (Typ)

1/2" x 19" Anchor Bolts
1/8" Projection (Typ)
12#3 Steel Piles (Typ)



PROJ. REFERENCE NO.	523	TOTAL SHEETS	150
STATE PROJ. DIST. NO.	51484811	PA. PAGE NO.	SUF 24-1(10)
DESCRIPTION			

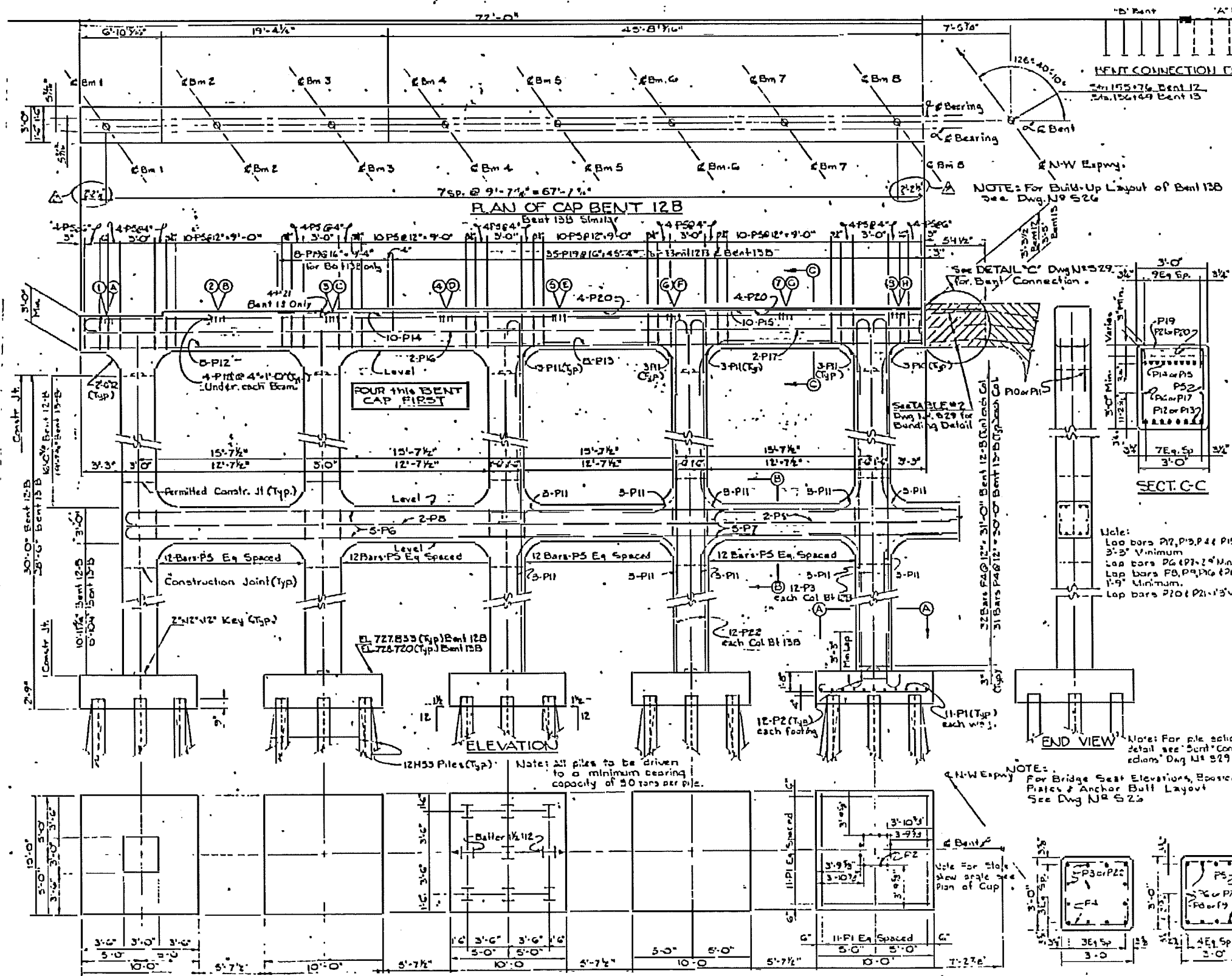
BAR NUMBER	SIZE	TYPE	LENGTH		WEIGHT				
			FT	IN	LB	TON			
P1	11	5	11	2	9	10	2511	2511	
P2	12	1	6	7	4	11	1700	1700	
P3	12	1	35	0	53	4	178	1807	
P4	12	1	35	0	53	4	178	1807	
P5	12	1	36	4	57	8	174	1870	
P6	12	1	36	10	55	2	172	1903	
P7	12	1	37	6	55	10	174	1924	
P8	12	1	11	0	2	7	2	1212	212
P9	12	1	6	7	1	0	2	10	41
P10	12	1	7	7	2	0	2	10	617
P11	12	1	44	1	42	1	3	1499	499
P12	12	1	44	1	42	1	3	1499	499
P13	12	1	42	8				178	178
P14	202	5	2	11	4	2	0	2	2500
P15	12	1	35	0	53	4	1	178	1807
P16	12	1	35	10	54	2	1	178	1850
P17	12	1	36	4	57	8	1	174	1870
P18	12	1	36	10	55	2	1	172	1903
P19	12	1	37	6	55	10	1	174	1924
P20	18	10	51	42	7				3295
P21	4	4	51	42	0				175
P22	7	7	51	33	17				126
P23	7	7	53	5	51	10	1	192	92
P24	12	12	4	20					160
P25	43	43	4	4	6	5	2	0	205
P26	36	36	4	4	3	11	2	0	64



NOTE: ALL BENT CONNECTIONS AT BENT 12 & 13 TO BE SHOWN AT 1/4" = 1'-0"

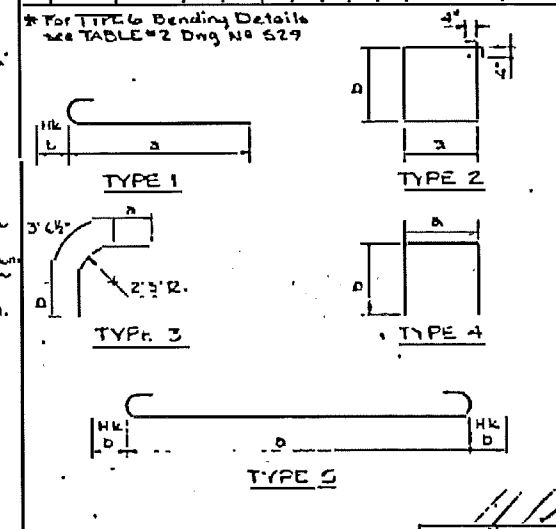
ITEM	UNIT	AMOUNT	PRICE
Concrete Class A	CY	138.0	157.
Reinforcing Steel	LB	24,972	28.1
ZMS Steel Piles 145mm	FT	1550	4.0
Inclass Structure Erection	DAY	100	200
See PR 1 no 4 page nos 35 & 37		1156.17	1141

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
BENTS 12A & 13A
51, 1491750 11/11/50 Mecklenburg, S.C.
WILBUR SMITH AND ASSOCIATES, INC. ENGINEERS
1111 S. 11th St. Raleigh, N.C.



DATE	REVISION NO.	DESCRIPTION
11/25/54	1	AS SHOWN
12/14/54	2	REVISED PER FIELD

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
P1	110	10	7	5 11 2 9 6 0 10	2,511 2,311
P2	60	60	10	1 4 7 4 11 1 7 1/2	1,700 1,500
P3	60	60	10	1 3 2 3 4 1 7 1/2	1,402 1,202
P4	160	160	4	2 11 0 2 7 2 7	1,174 1,174
P5	135	135	5	2 11 4 2 8 2 8	1,605 1,605
P6	10	10	9	1 3 2 3 3 1 1 3	1,174 1,174
P7	10	10	9	5 1 3 1 3	1,402 1,202
P8	2	2	5	5 1 3 1 3	70 70
P9	2	2	5	3 1 3 1 3	84 84
P10	6	6	5	3 6 7 1 0 2 0	41 41
P11	70	70	5	3 7 7 2 0 2 0	617 317
P12	8	8	10	5 1 3 7 5	1,288 1,288
P13	8	8	10	6 1 6 3	1,392 1,392
P14	10	10	10	1 4 2 10 4 2 1 7 1/2	2,015 2,015
P15	10	10	10	6 5 8 6	1,651 1,651
P16	2	2	5	5 1 3 4 8	76 76
P17	2	2	5	6 4 5 6	95 95
P18	32	32	4	4 3 4 2 8 0 4	71 71
P19	35	35	4	4 5 2 8 2 8 1 6	132 63
P20	8	8	4	5 1 2 10	138 138
P21	4	4	5	1 10 11	29 29
P22	60	60	10	1 3 4 8 3 1 7 1/2	8,500 8,500



ITEM	UNIT	QUANTITY
CONCRETE CLASS "A"	CY	149.7
REINFORCING STEEL	LBS	24,807
STEEL PILES 12H55 (45 each rail)	LF	4,855
UNCLASS. STRUCTURE EXCAVATION	CY	220

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

RENTS 12B/13B

Sta. 491700 N.W. Expwy. near Farming Co.

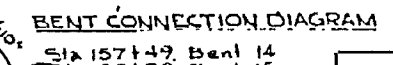
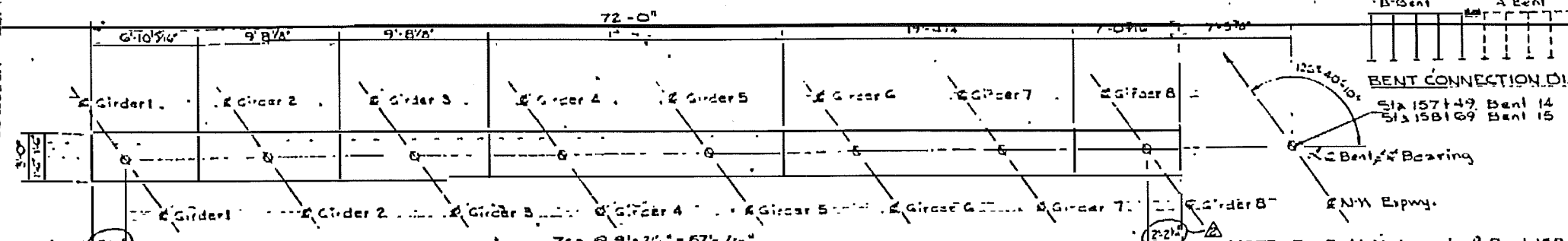
WILBUR SMITH AND ASSOCIATES, INC. - DESIGN ENGINEERS

PLAN OF FOOTINGS
Scale = None

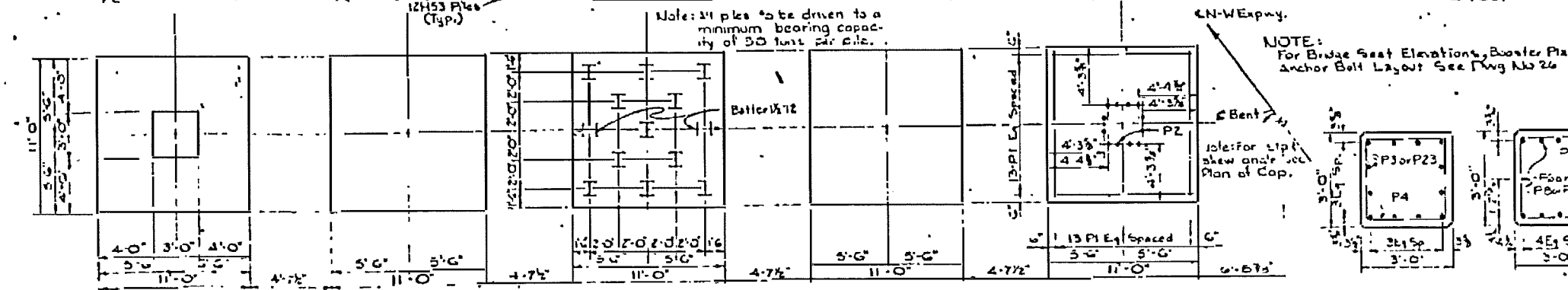
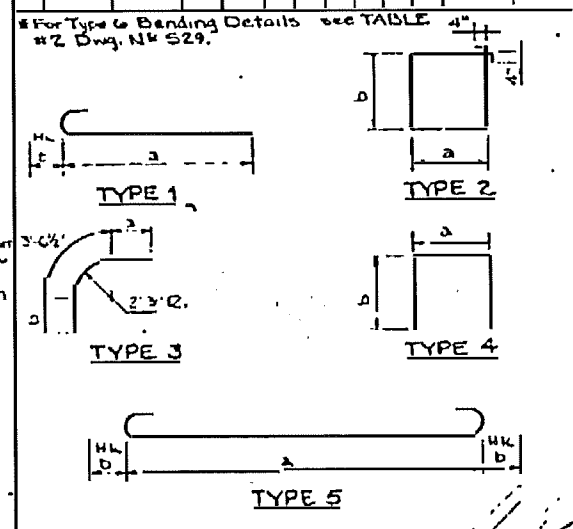
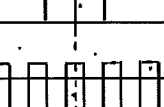
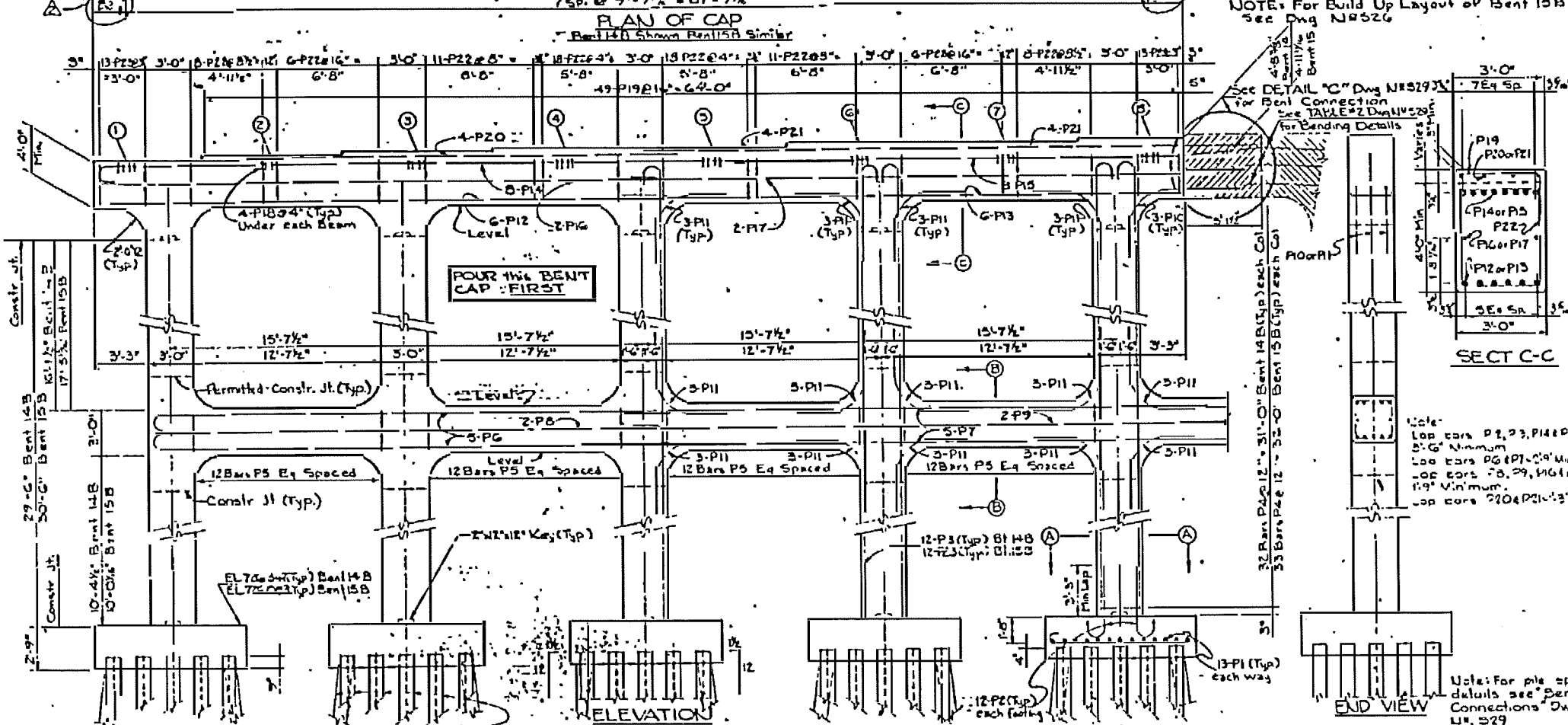
NOTE: Spacing of Reinforcing Piles typical for all footings in both Bent 2B & Bent 13B.

SECT. A-A SECT. B-B
WORK WITH DRAWING 222-226

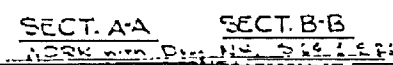
NO. SHEETS	26	TOTAL SHEETS	26
DATE	11/20/58	PROJECT	21,640th St. 24-1(11)



NO.	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
P1	130	7	5	12 2 10	3,233
P2	60	10	1	6 7 3 11	1,700
P3	60	10	1	3 8 35 0	1,467
P4	160	4	2	11 0 2 7 2 7	1,176
P5	38	8	2	11 4 2 8 2 8	567
P6	10	10	9	1 38 2 33 11	1,196
P7	10	10	9	5 1 41 3	1,402
P8	2	5	5	3 5	70
P9	2	5	5	4 0 5	84
P10	6	5	3	6 4 1 2 2 0	42
P11	6	5	3	7 7 2 0 2 0	617
P12	6	11	5	3 7 7	1,148
P13	6	11	4	4 6	1,402
P14	8	11	1	4 7 2 4 4 1	2,065
P15	8	11	6	3 7	1,640
P16	2	5	5	3 6 8	74
P17	2	5	6	4 5 7	95
P18	32	4	4	3 4 2 8 0 4	71
P19	49	4	4	5 8 2 8 1 6	185
P20	4	4	5	2 0 4	54
P21	8	4	5	2 0 6	110
P22	112	5	2	13 4 2 8 3 8	1,558
P23	60	10	1	3 7 8 3 0 1 7 1	9125



ITEM	UNIT	AMOUNT	REMARKS
CONCRETE CLASS 'A'	CY	129.2	12.1
REINFORCING STEEL	LB	23,276	2,222
STEEL PILES 12H33 (S&W)	LF	3,420	3,420
UNCLASS. STRUCTURE EXC.	CY	250	25



Rev #1 - CHANGE BAR SPACING IN PLAN OF CAP FOR BENT 14B
 Rev. No. 11/20/58

NOTE: Spacing of Reinforcing / Piles Typical for all footings in both Bent 14B / Bent 15B.

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 BENTS 14B & 15B
 574 1491700 N.W. Espy Pk. Raleigh, N.C.
 WILBUR SMITH AND ASSOCIATES, INC. - DESIGN ENGINEERS

PROJECT NO.	527	TOTAL SHEETS	150
STATE PROJECT NO.	8,165,481	DESCRIPTION	BRIDGE
FA. PROJ. NO.	6UP74-1(116)		

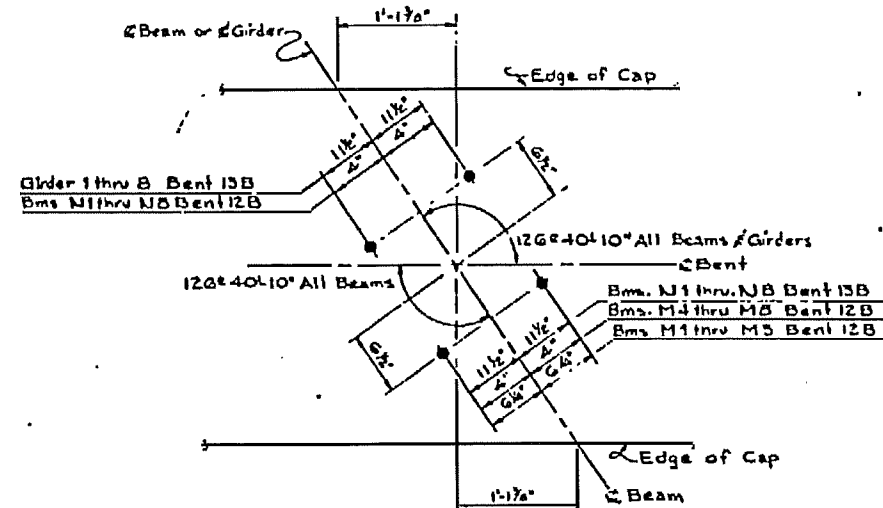
BRIDGE SEAT ELEVATIONS							
BENT 12B				BENT 13B			
SPAN	M	N		SPAN	N	P	
1	762.535	A	762.835	1	762.220	A	762.220
2	763.072	B	763.072	2	762.454	B	762.454
3	763.072	C	763.072	3	762.540	C	762.540
4	763.128	D	763.128	4	762.637	D	762.637
5	763.128	E	763.128	5	762.637	E	762.637
6	763.128	F	763.128	6	762.637	F	762.637
7	763.128	G	763.128	7	762.437	G	762.437
8	763.128	H	763.128	8	762.731	H	762.731

BOOSTER PLATES							
BENT 12B				BENT 13B			
SPAN	M	N		SPAN	N	P	
1		A		1		A	
2		B		2		B	
3	3/4"	C	3/4"	3	1/2"	C	
4		D	3/4"	4		D	1/2"
5	5/16"	E	1/2"	5	1/4"	E	1/2"
6	1/2"	F	1/2"	6	1/2"	F	
7	3/4"	G	3/4"	7	3/4"	G	3/4"
8	3/4"	H	3/4"	8	3/4"	H	3/4"

BRIDGE SEAT ELEVATIONS							
BENT 14B				BENT 15B			
SPAN	M	N		SPAN	N	P	
1	761.847	1	762.58	1	762.58		
2	762.114	2	762.89	2	762.89		
3	762.233	3	763.07	3	763.07		
4	762.318	4	763.11	4	763.11		
5	762.318	5	763.22	5	763.22		
6	762.450	6	763.33	6	763.33		
7	762.450	7	763.41	7	763.41		
8	762.545	8	763.515	8	763.515		

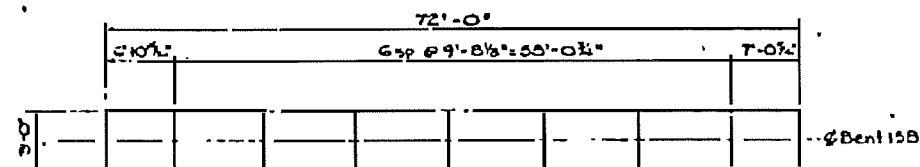
BOOSTER PLATES							
BENT 14B				BENT 15B			
SPAN	M	N		SPAN	N	P	
1				1			
2				2			
3				3			
4				4			
5	3/4"			5			
6				6			
7	1/2"			7			
8				8			

1. 6-09 Revise Booster R. W. & H. 10/10
 DIVISION DATE DESCRIPTION BY
 STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 BENTS 12B, 13B, 14B & 15B
 Sta. 149+17.00 N-W Expwy. Mecklenburg Co
 Wilbur Smith and Associates, Inc. - Design
 CONSULTING ENGINEERS
 COLUMBIA S.C. WASHINGTON, D.C. MEMPHIS, TENN.
 4/1/75 emd/JP ON JOG 5/1/75 emd/JP

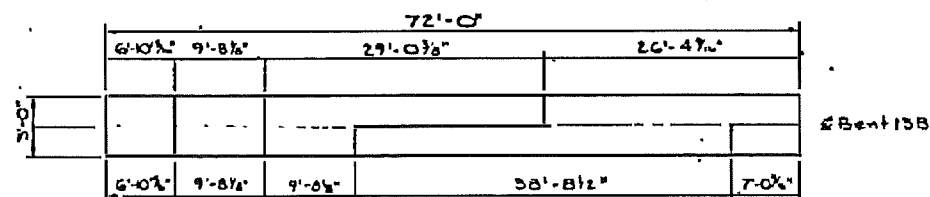


ANCHOR BOLT LAYOUT BENTS 12B & 13B

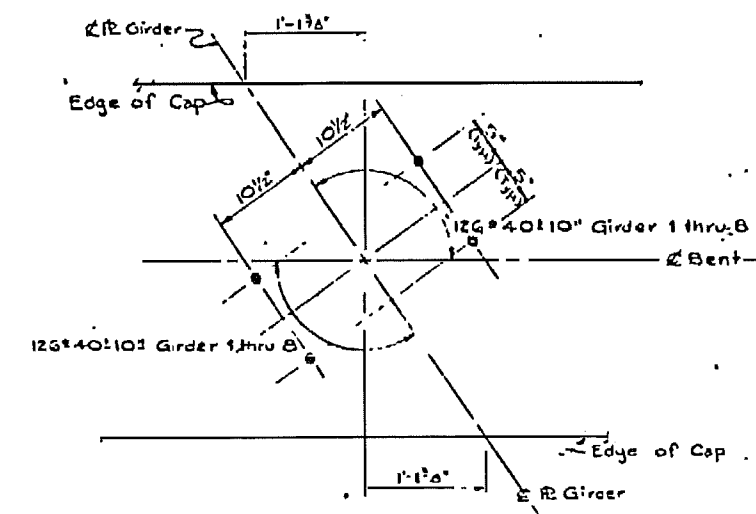
NOTE: 1 1/4" x 19" Anchor Bolts w/6" Projection (Typ Bent 12)
 1 1/4" x 18" Anchor Bolts w/7" Projection (Typ Bent 13)



BUILD UP LAYOUT BENT 13B



BUILD UP LAYOUT BENT 13B

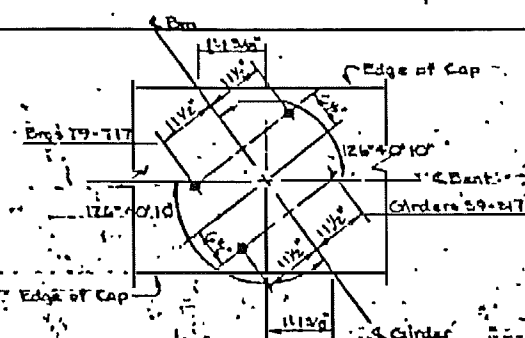
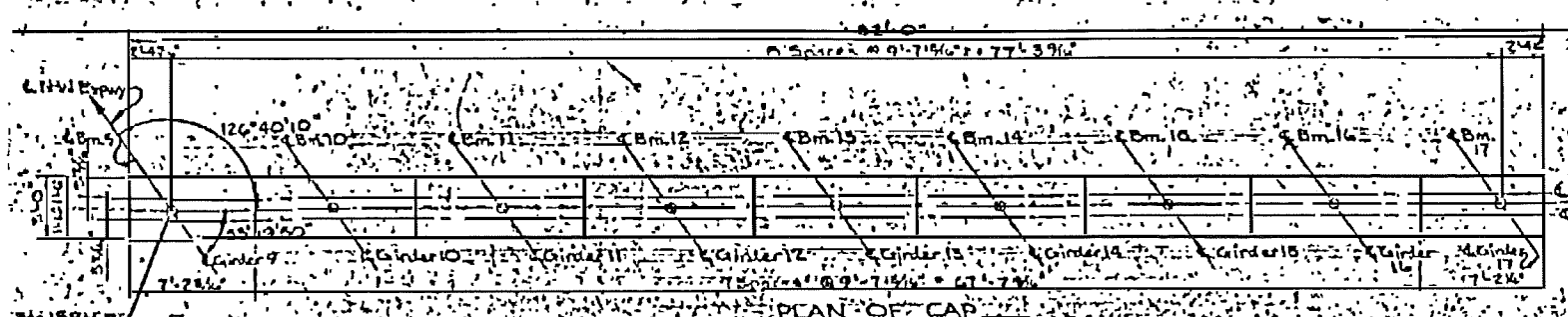


ANCHOR BOLT LAYOUT BENTS 14B & 15B

NOTE: 1 1/2" x 21" Anchor Bolts w/6" Projection (Typ)

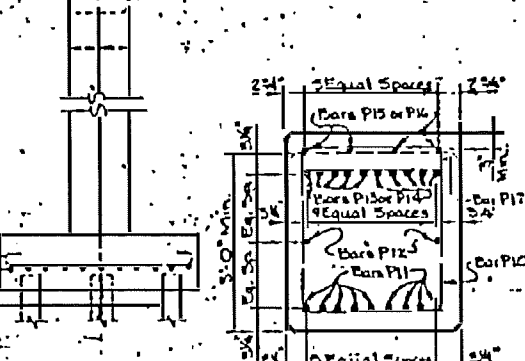
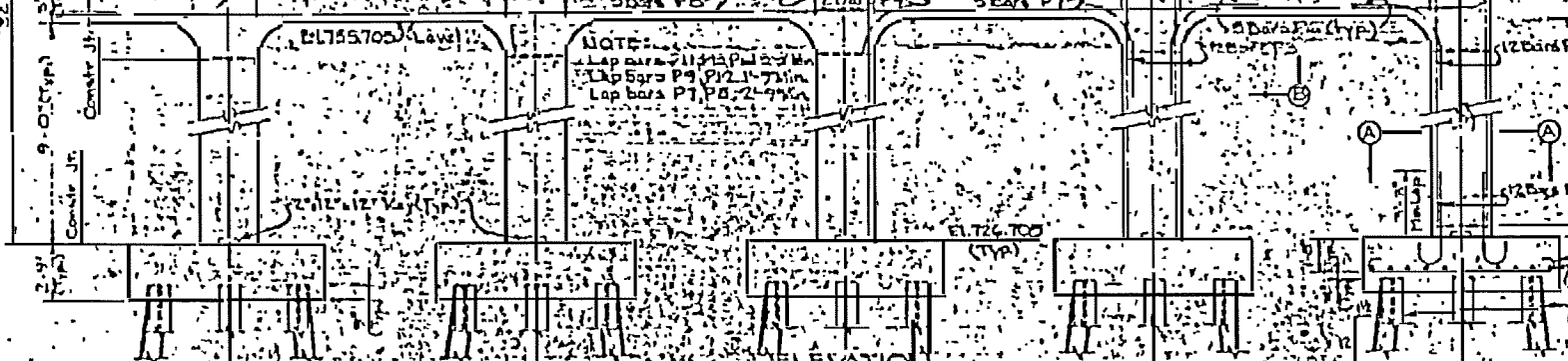
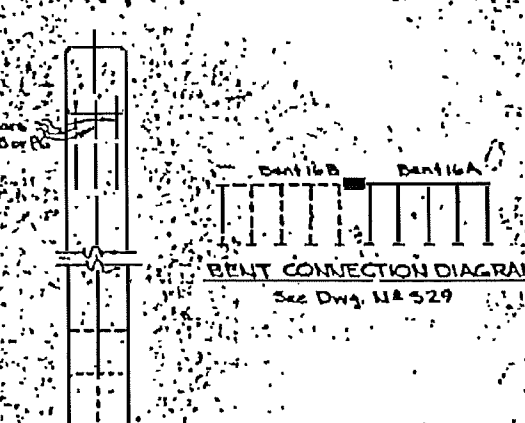
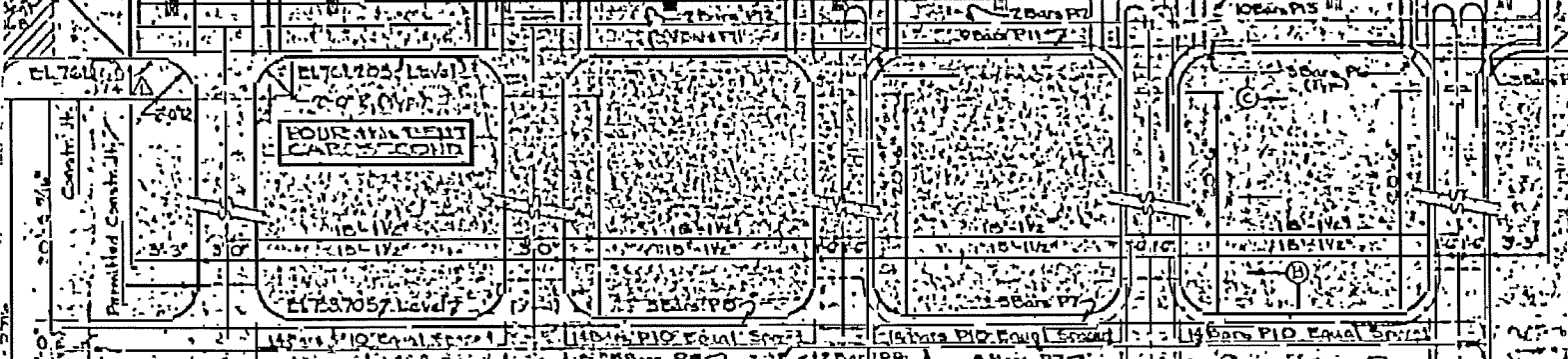
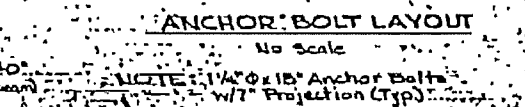
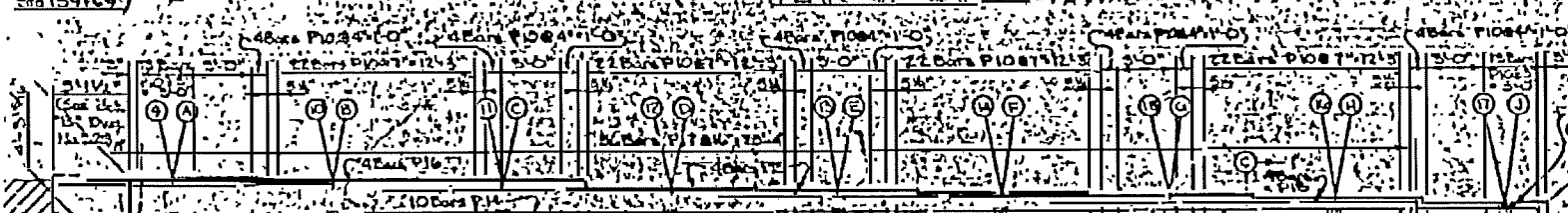
Revision 1: Revise Booster R. 4/1/75

WORK WITH DWG. NO. 522-525

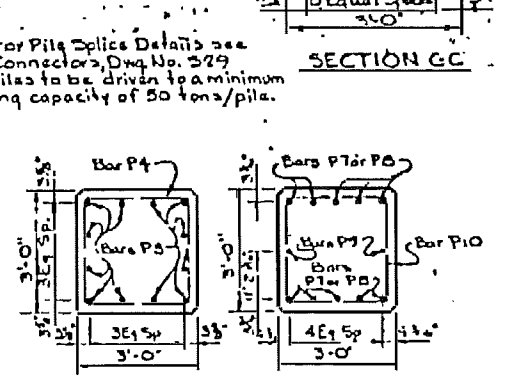
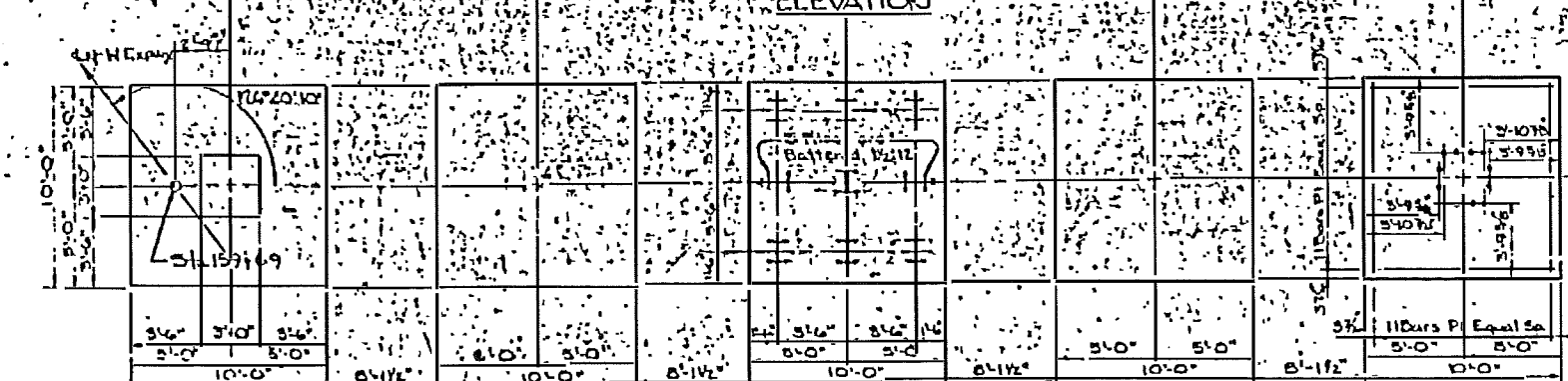


PROJ REFERENCE NO.	SHEET NO.	TOTAL SHEETS
STATE PROJECT NO.	PA PROJ NO.	DESCRIPTION
01684011	347 24-1016	

BILL OF REINFORCEMENT										
BAR NO.	SIZE	TYPE	LENGTH	QTY	TD	WEIGHT				
			FT.			LB.				
P1	110	7	5	11	2	9	6	0	10	2511
P2	60	10	1	6	7	4	11	1	17	1703
P3	60	10	1	36	0	37	0	1	17	925
P4	175	4	7	11	0	2	7	2	7	128
P5	6	5	5	6	7	1	0	2	0	47
P6	78	5	3	7	7	2	0	2	0	41
P7	10	9	1	44	0	43	0	1	5	150
P8	10	9	5	43	0	43	0	1	1	146
P9	4	5	5	42	0	42	0	1	1	87
P10	202	5	2	11	4	2	0	2	0	258
P11	10	10	5	42	7	42	0	1	1	330
P12	4	5	5	42	0	42	0	1	1	87
P13	10	10	1	53	0	51	0	1	17	299
P14	10	10	5	53	11	53	0	1	1	459
P15	12	4	5	20	0	20	0	1	1	114
P16	4	4	5	21	10	21	0	1	1	58
P17	56	4	4	7	4	2	0	2	4	274
P18	36	4	4	5	4	2	0	0	4	66



BRIDGE SEAT ELEV				BOOSTER ELEV			
SPAN	STANT	FOUN	STANT	SPAN	STANT	FOUN	STANT
9	765.477	A	765.477	9	---	---	---
10	379	B	379	10	---	---	---
11	257	C	257	11	---	---	---
12	154	D	154	12	---	---	---
13	765.000	E	765.000	13	---	---	---
14	764.000	F	764.000	14	---	---	---
15	727	G	727	15	---	---	---
16	540	H	540	16	---	---	---
17	764.205	J	764.205	17	---	---	---



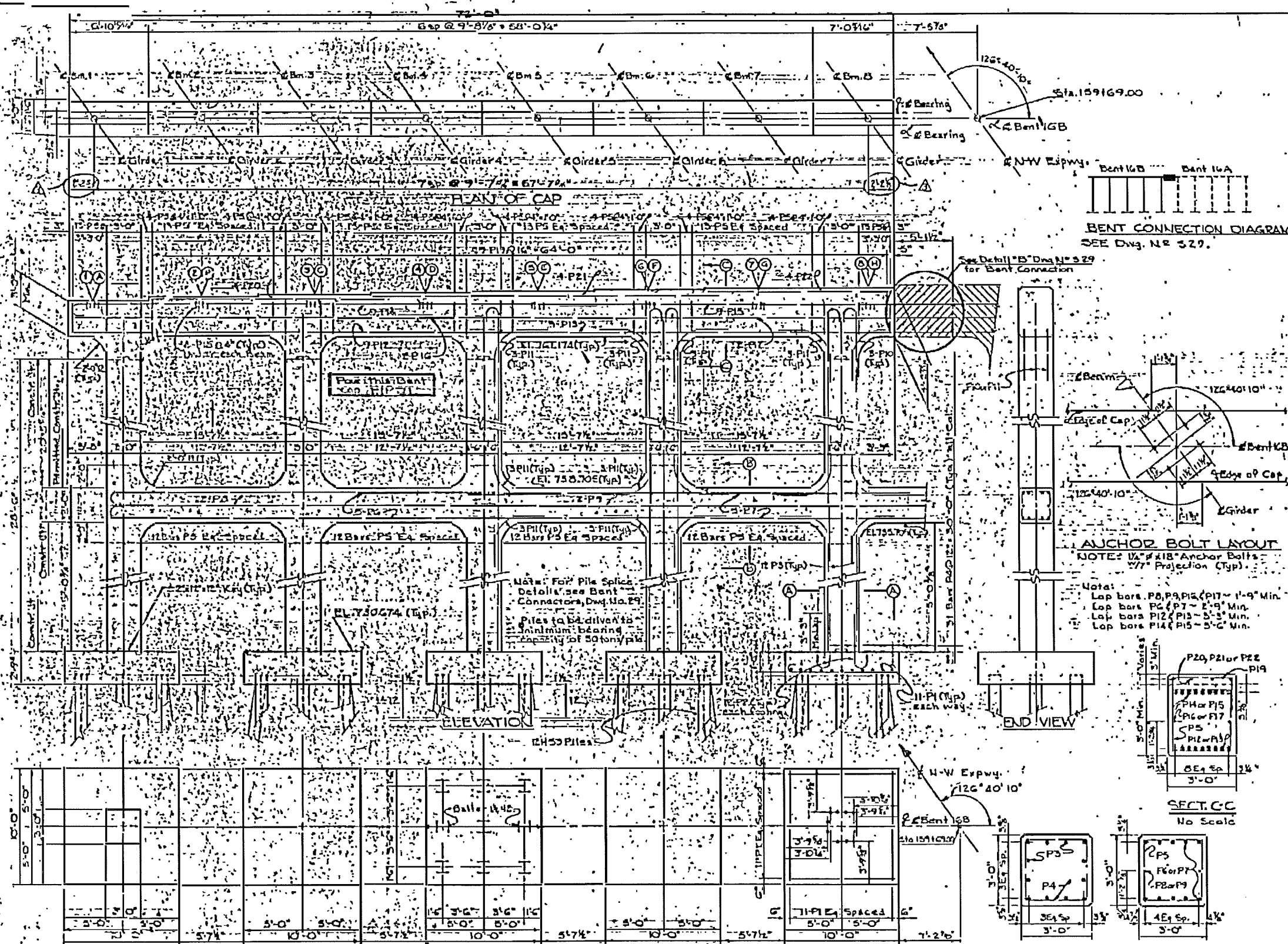
REVISION #1: Revised to change BOOSTER R THICKNESS FOR BMS 10 INAU 11 SOAN T. B.R. 6-24-69 Y. JIB

NOTE: The reinforcing steel and pile spacing shown is typical for all footings.

NOTE: For Pile Splice Details see Bent Connectors, Dwg. No. 529. Piles to be driven to a minimum bearing capacity of 30 tons/pile.

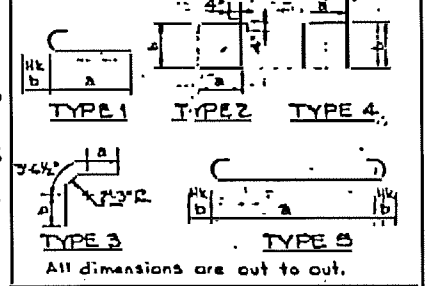
REVISION #1: Revised to delete BOOSTER R. WAE / HDL 6/25

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
BENT 16 A
Sta. H911700 N-W Expwy. Hicklenburg Co.
WILBUR SMITH AND ASSOCIATES, INC. - DESIGN
CONSULTING ENGINEERS
1011-1012 W. HARRIS ST. RALEIGH, N.C. 27601



STATE PROJECT NO.	529	150
DATE PROJECT NO.	8-16-54 (B)	8-16-54 (B)
DATE PROJECT NO.	8-16-54 (B)	8-16-54 (B)

BILL OF REINFORCEMENT									
LINE	ITEM	SIZE	TYPE	LENGTH	A	B	HEIGHT	QUANTITY	REMARKS
P1	110	7	S	11	2	9	0	10	261
P2	60	10	I	7	4	11	1	7	100
P3	60	10	I	24	8	13	0	1	7
P4	155	4	Z	11	0	2	7	2	1.82
P5	155	5	Z	11	4	2	0	2	1.82
P6	10	9	I	35	2	3	11	1	1.76
P7	10	9	I	41	3	3	3	3	1.43
P8	2	5	S	33	5	5	5	5	70
P9	2	9	S	40	5	5	5	5	84
P10	6	8	I	9	1	2	2	0	42
P11	78	5	Z	7	7	2	0	2	6.17
P12	9	10	S	37	5	5	5	5	1.44
P13	9	10	S	41	5	5	5	5	1.44
P14	9	11	S	47	2	4	4	4	1.25
P15	9	11	S	53	9	5	5	5	1.53
P16	2	5	S	35	8	5	5	5	72
P17	2	5	S	45	9	5	5	5	95
P18	32	4	Z	4	3	4	2	0	4
P19	49	4	Z	4	5	2	0	0	1.85
P20	4	4	S	20	7	5	5	5	55
P21	4	4	S	30	7	5	5	5	60
P22	4	4	S	16	7	5	5	5	43



BRIDGE SEAT ELEVATIONS			BOOSTER PLATES		
BENT 1GB			BENT 1GB		
SPAN S	SPAN T		SPAN S	SPAN T	
1	764.172	A	764.174	1	1/2"
2	764.513	B	764.513	2	1/2"
3	764.704	C	764.704	3	1/2"
4	764.854	D	764.861	4	1/2"
5	764.992	E	764.992	5	1/2"
6	765.121	F	765.121	6	1/2"
7	765.249	G	765.249	7	1/2"
8	765.375	H	765.375	8	1/2"

NOTE: Bridge Seat Elevation given out of Finished Concrete. See R.R. 5 page m. 72.

BILL OF MATERIAL		
ITEM	QUANTITY	REMARKS
CONCRETE CLASS "A"	CY. 108	
REINFORCING STEEL	LB. 2713	
STEEL PILES 12HS (45m)	LF. 312	
UNCLASS. STEEL TUBE EYE	CY. 1.5	

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
BENT 1GB
Sta 1491700 N-W Emory Mcklenburg Co.
HILBUR SMITH AND ASSOCIATES, INC.-DESIGN
CONSULTING ENGINEERS
1175 Tenth St. Charlotte, N.C.

REVISION #1: REVISED TO CHANGE BOOSTER R THICKNESS FOR BMS 2 THRU B SPAN T. D.R. 6-24-59. A/D.

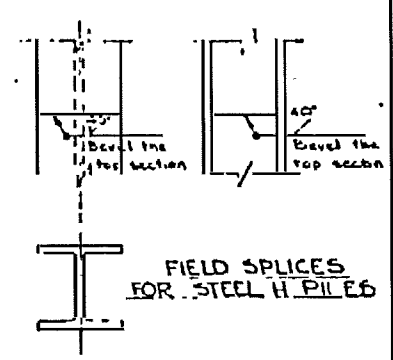
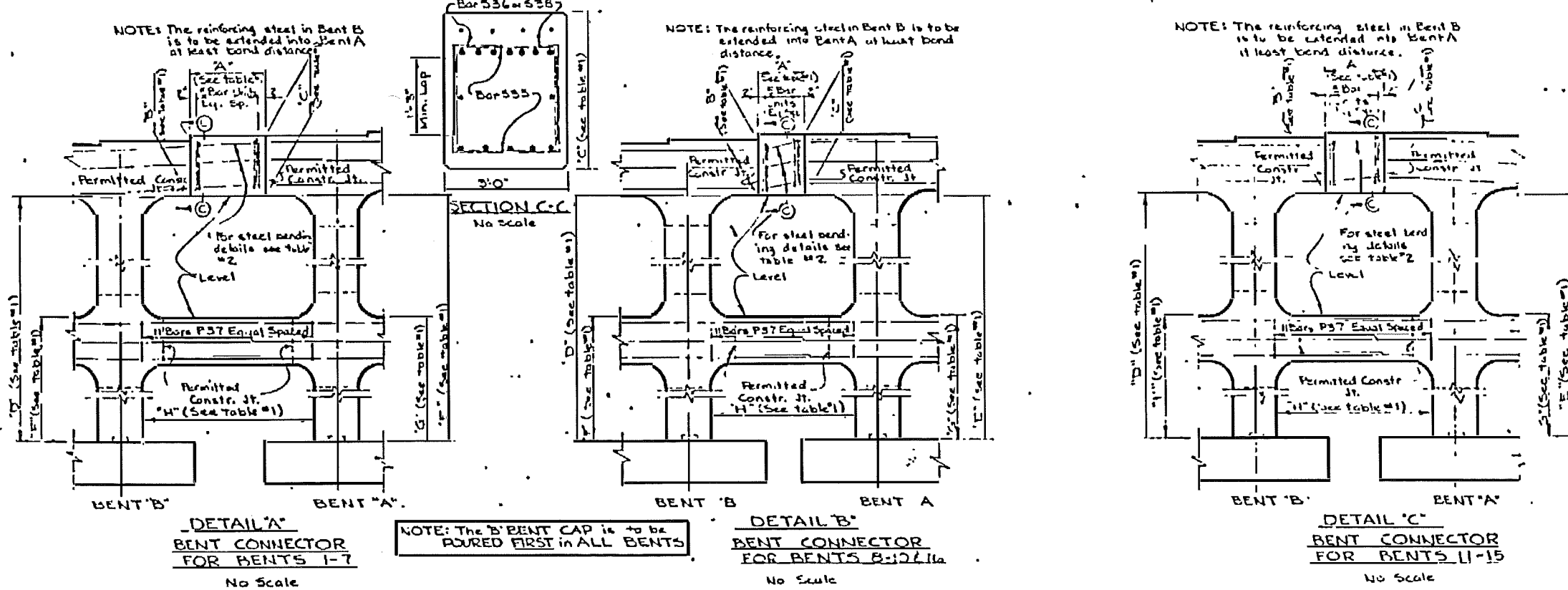
REV #2 - CHANGE EN SECTION IN PLAN VIEW OF CAP 1/2" RE / 1/2" REV. A/D 7/1/59

NOTE: Spacing of Reinforcing / Piles typical for all footings.
Scale: None. Revision #1: Revised to Delete Booster R W/ 1/2" of WORK WITH DWG. NO 527



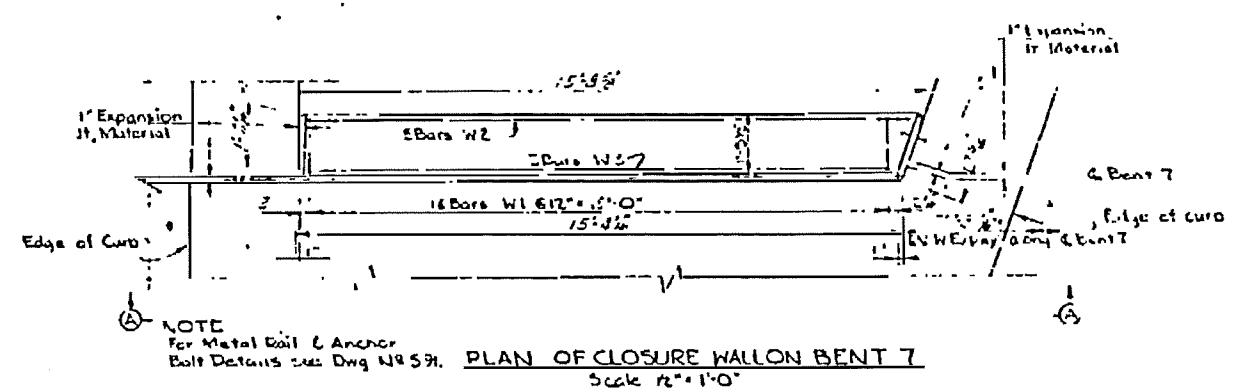
BENT CONNECTOR REINFORCING JNT (2 Bars S35 & 2 Bars S36 or S38)

PROJECT REFERENCE NO.	WELL NO.	TOTAL SHEETS
STATE PROJECT NO.	FA PROJ NO.	DESCRIPTION
B1054811	SUF 24-1(16)	



BENT	A	B	C	D
1	3'-8"	0'-2 1/2"	3'-0"	0'-2"
2	3'-8"	0'-2 1/2"	3'-0"	0'-2"
3	3'-8"	0'-2"	3'-0"	0'-2"
4				
5	6'-0"			0'-2"
6	7'-2"			0'-2 1/2"
7	7'-5"			0'-2"
8	3'-0"	1'-0"	3'-0 1/2"	
9	3'-0"	1'-5 1/2"	3'-0 1/2"	
10	3'-0"	1'-3 1/2"	4'-1 1/4"	
11	3'-8"	1'-0 1/4"	3'-1 1/2"	
12	3'-5"	0'-4 1/4"	3'-1 1/4"	2'-4"
13	3'-5"	0'-1 1/2"	3'-2"	2'-1 1/4"
14	3'-8"	0'-8 1/2"	3'-5"	2'-1 1/4"
15	3'-8"	1'-0 3/4"	3'-1 1/2"	2'-1"
16				

BENT	A Length of Connector	B Depth of Cup Bent B	C Depth of Cup Bent A	D Height of Connector Bent B	E Height of Connector Bent A	F Height of Strut Bent B	G Height of Strut Bent A	H Distance between Columns
1	3'-0"	2'-0"	3'-11 1/2"	15'-10 1/2"	17'-6 3/8"			11'-6"
2	3'-0"	3'-2 1/2"	3'-11 1/2"	18'-0 1/2"	21'-6 9/16"			11'-6"
3	3'-0"	3'-5 1/2"	3'-10 1/2"	16'-0 1/2"	20'-7 1/8"			11'-6"
4	3'-0 1/2"	3'-4"	3'-7 1/2"	21'-4 1/2"	23'-5 1/8"			9'-0 1/2"
5	3'-6 1/2"	3'-1 1/2"	3'-6 1/2"	24'-7 1/2"	24'-7 1/2"	15'-0 1/2"	15'-0"	10'-0 1/2"
6	3'-9 1/2"	3'-1 1/2"	3'-6 1/2"	25'-7 1/2"	26'-0 1/2"	15'-10 1/2"	15'-0"	10'-3 1/2"
7	3'-9 1/2"	3'-1 1/2"	3'-6 1/2"	26'-1 1/2"	26'-9 1/2"	12'-5 1/2"	15'-0"	10'-5 1/2"
8	3'-6 1/2"	4'-0 1/2"	3'-0 1/2"	25'-0"	27'-4 1/2"	9'-1 1/2"	11'-6"	10'-0 1/2"
9	3'-6 1/2"	4'-9 1/2"	4'-1 1/2"	25'-6 1/2"	27'-2 1/2"	10'-5 1/2"	11'-6"	10'-0 1/2"
10	3'-6 1/2"	4'-8 1/2"	4'-1 1/2"	27'-6 1/2"	27'-2 1/2"	13'-9 1/2"	15'-0"	10'-0 1/2"
11	4'-0 1/2"	3'-11 1/2"	4'-0 1/2"	35'-0"	31'-0 1/2"	13'-11 1/2"	15'-0"	10'-6 1/2"
12	5'-1 1/2"	3'-3 1/2"	3'-4 1/2"	32'-0"	33'-0 1/2"	13'-11 1/2"	15'-0"	11'-7 1/2"
13	5'-1 1/2"	3'-0"	3'-5 1/2"	30'-6"	32'-7 1/2"	9'-10 1/2"	12'-0"	11'-7 1/2"
14	5'-1 1/2"	4'-8 1/2"	4'-9 1/2"	31'-6"	32'-1 1/2"	13'-4 1/2"	14'-0"	11'-7 1/2"
15	5'-1 1/2"	4'-11 1/2"	5'-0 1/2"	32'-6"	33'-5 1/2"	13'-0 1/2"	14'-0"	11'-7 1/2"
16	5'-1 1/2"	4'-2 1/2"	4'-5 1/2"	35'-6"	34'-5 1/2"	8'-0 1/2"	12'-0"	11'-7 1/2"

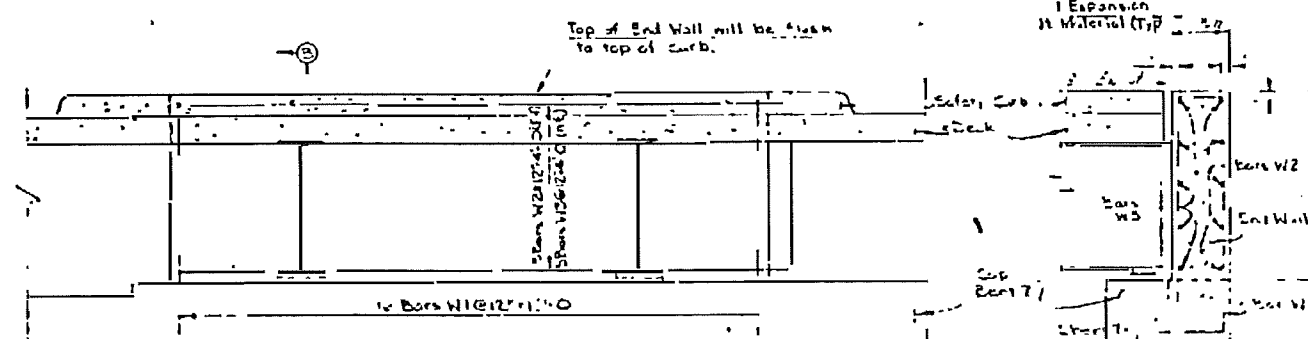


BAR	NO.	SIZE	LENGTH	WEIGHT
W1	16	#7	15'-3 1/2"	130
W2	2	#2	15'-3 1/2"	83
W3	5	#3	4'-1 1/2"	47

ITEM	QTY	UNIT	CONTR.
Concrete, Class A	77	cu yd	3.5
Reinforcing Steel	264	lbs	2.3

BAR	NO.	SIZE	LENGTH	WEIGHT
P35	10	#5	10	83
P36	10	#5	10	47
P37	11	#5	11	130
P38	5	#4	5	87

ITEM	QTY	UNIT	CONTR.
Concrete, Class A	77	cu yd	3.5
Reinforcing Steel	264	lbs	2.3



CORR THIS DWG. WITH DWG. 12-5022E

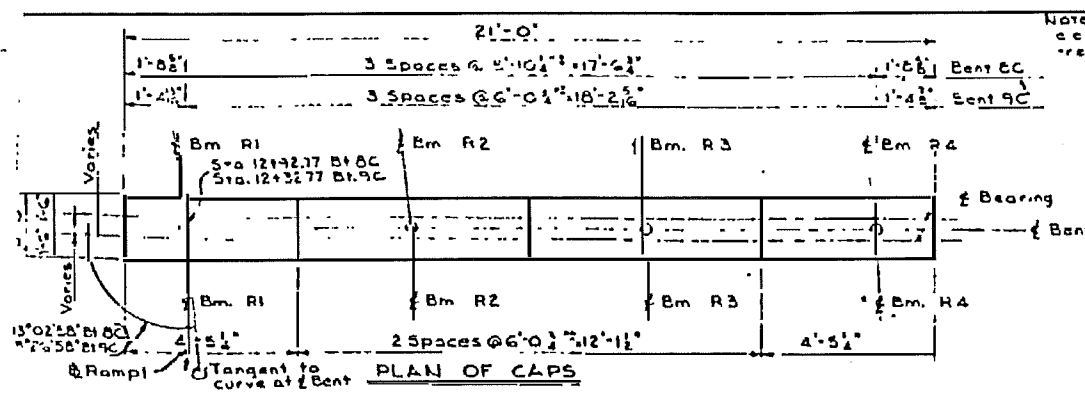
NOTE: All bar dimensions are from cat face.

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

BENT CONNECTORS
CLOSURE WALL (BENT 7) DETAIL

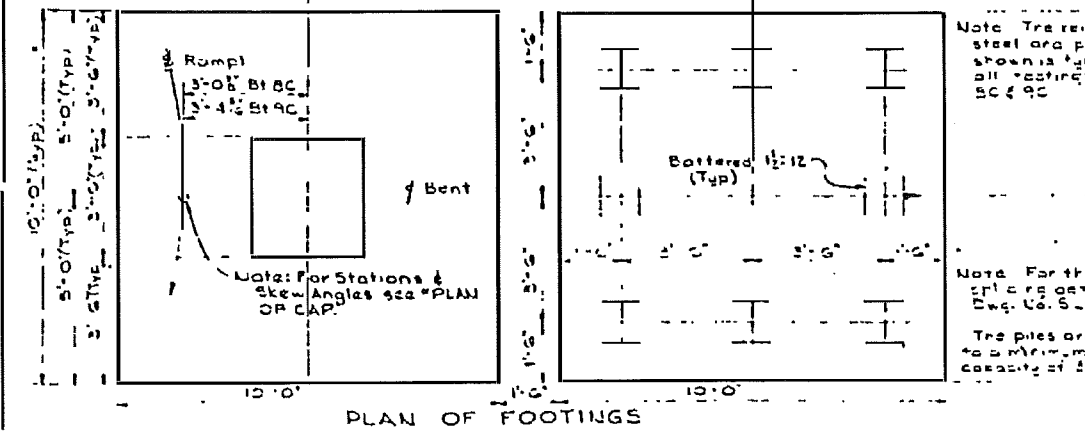
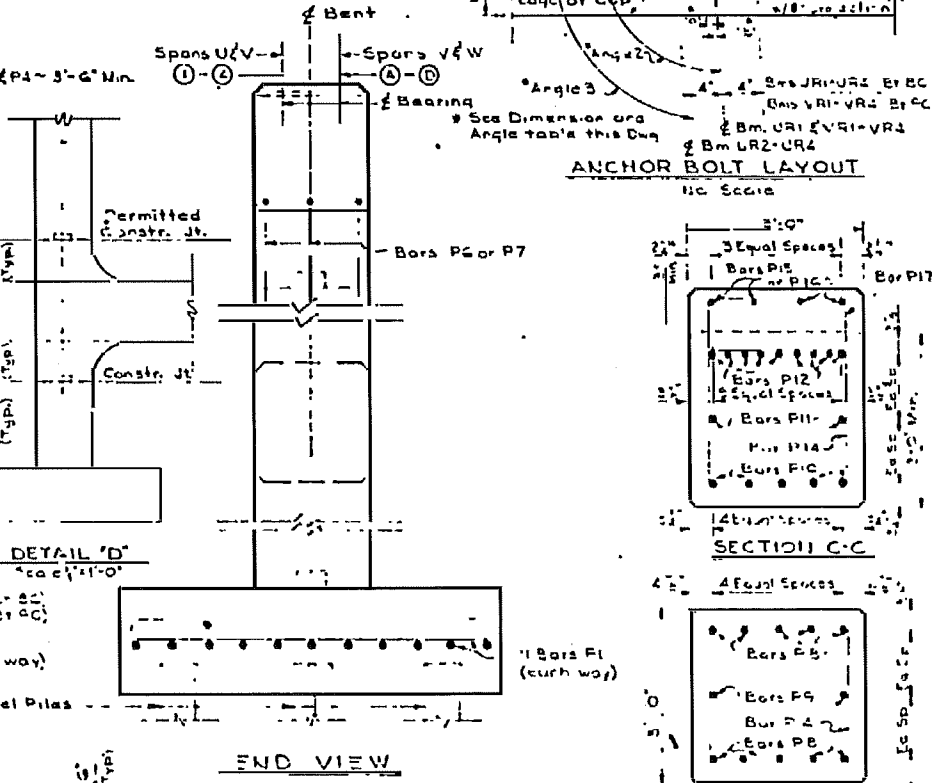
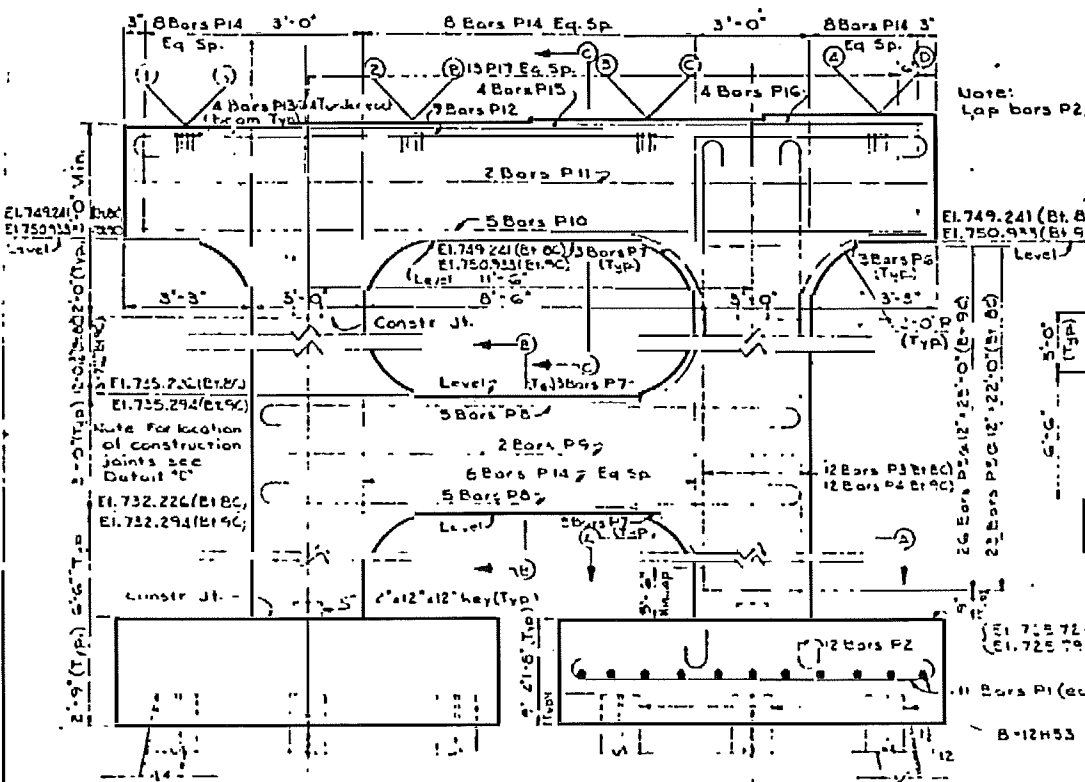
11/11/00 W.E. Espy, Mechanical C
William Smith and Associates, Inc. - Design
CONSULTING ENGINEERS

See PRB no.1 page nos. 26, 45, 46, 53; PRB no.2 page nos. 8, 27, 47, 51, 57, 79;
PRB no.3 page nos. 34, 65; PRB no.4 page nos. 22, 46, 60; PRB no.5 page nos. 26, 40, 42.

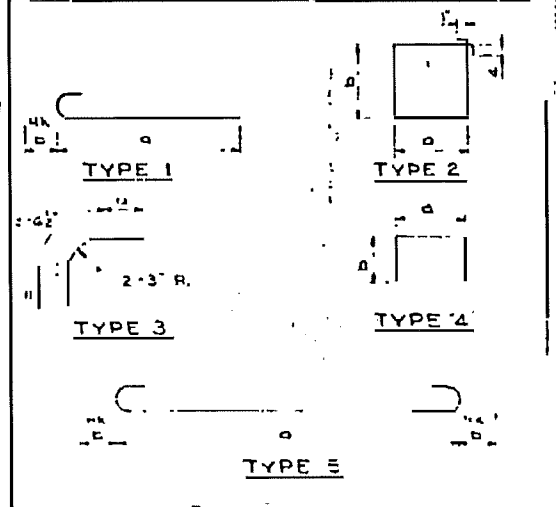


Span	BENT BC			BENT AC			BENT BC			BENT AC		
	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	
1	752.241	753.983	752.241	752.241	753.983	752.241	752.241	753.983	752.241	753.983	752.241	
2	752.716	754.201	752.716	752.716	754.201	752.716	752.716	754.201	752.716	754.201	752.716	
3	753.190	754.650	753.190	753.190	754.650	753.190	753.190	754.650	753.190	754.650	753.190	
4	753.625	755.309	753.625	753.625	755.309	753.625	753.625	755.309	753.625	755.309	753.625	

Span	Angle	Angle	Angle
JR1	1/4"	1/4"	1/4"
JR2	1/4"	1/4"	1/4"
JR3	1/4"	1/4"	1/4"
JR4	1/4"	1/4"	1/4"
JR1	1/4"	1/4"	1/4"
JR2	1/4"	1/4"	1/4"
JR3	1/4"	1/4"	1/4"
JR4	1/4"	1/4"	1/4"
JR1	1/4"	1/4"	1/4"
JR2	1/4"	1/4"	1/4"
JR3	1/4"	1/4"	1/4"
JR4	1/4"	1/4"	1/4"



BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
P1	44	4.4	7	5	100.0
P2	24	7.1	11	1	87.1
P3	21	11	1	27	354.9
P4	24	11	1	27	354.9
P5	2	5	2	11	33.8
P6	6	6	5	3	42
P7	15	15	5	3	142
P8	10	10	9	5	52.1
P9	2	2	5	5	29
P10	5	5	10	5	241
P11	2	2	5	20	23
P12	9	9	11	5	115.6
P13	1	1	4	4	26
P14	12	12	5	2	378
P15	4	4	4	7	25
P16	4	4	4	10	27
P17	13	13	4	7	67



ITEM	UNIT	QTY	WEIGHT
Concrete Class 'A'	CY	45.3	45.3
Reinforcing Steel	LEB	870.4	870.4
12# B3 Steel Piles (10' ea leg)	LF	144	144
12# B3 Steel Piles (10' ea leg)	CY	57.6	57.6

REVISION DATE: _____

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

BENTS 8C & 9C

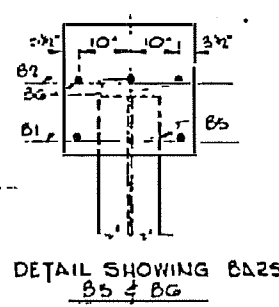
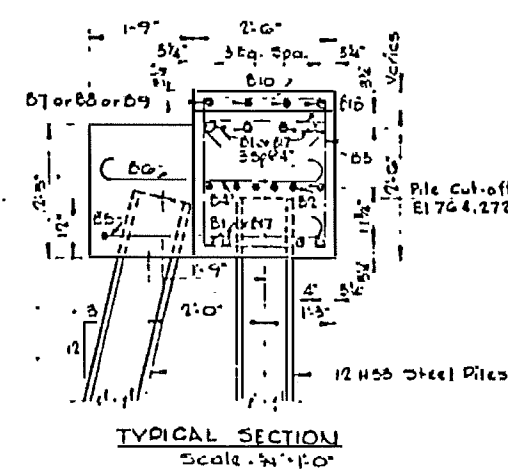
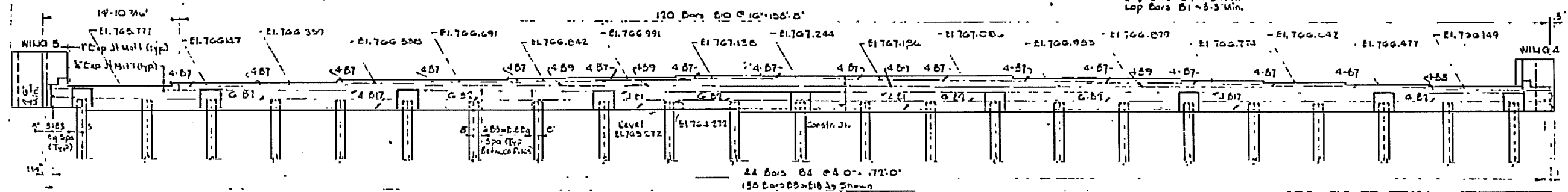
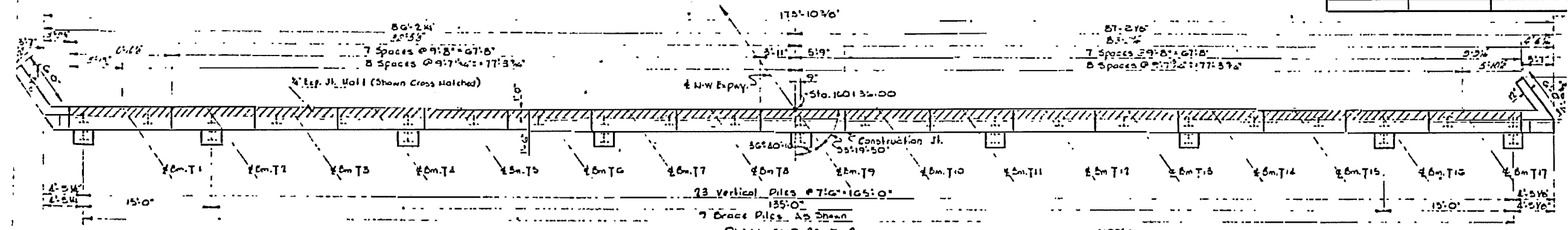
Scale: 1" = 10'-0"

Walter Smith and Associates, Inc. Design CONSULTING ENGINEERS

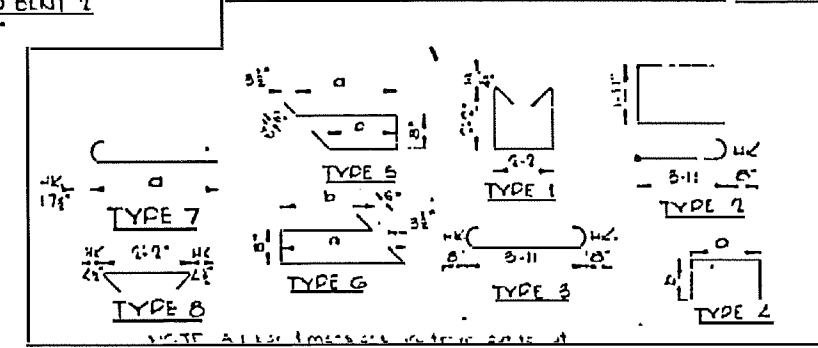
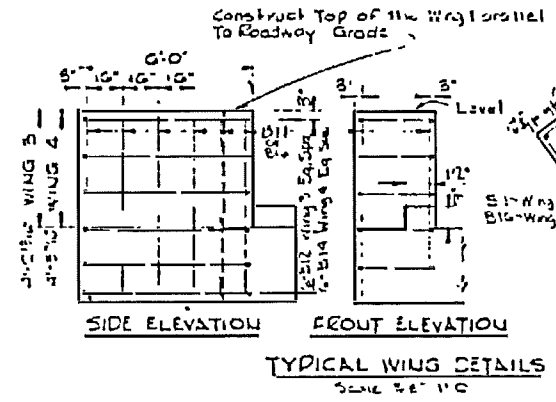
EDWIN S. C. WILSON, P.E. ENGINEER

415 E. B. BAY ST. CH. HILL, N.C. 27514

PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B.1654811	532	158
STATE PROJECT NO.	FA PROJ. NO.	DESCRIPTION
	SUP 24-1(116)	



Notes for Pile Splice Details see Bent Connectors, Dwg No. 529
Piles to be driven a minimum bearing capacity of 50 tons/pile.



BILL OF REINFORCEMENT											
BAR NO	SIZE	TYPE	LENGTH	Q	B	Q	B	Q	B	Q	WT.
B1	16	3	21	1	1	1	1	1	1	1	261
B2	16	4	21	1	1	1	1	1	1	1	271
B3	20	4	7	0	0	0	0	0	0	0	208
B4	4	1	51	1	1	1	1	1	1	1	61
B5	7	2	11	1	1	1	1	1	1	1	50
B6	7	2	11	1	1	1	1	1	1	1	218
B7	10	4	21	1	1	1	1	1	1	1	241
B8	10	4	21	1	1	1	1	1	1	1	41
B9	16	4	51	1	1	1	1	1	1	1	20
B10	120	4	4	2	2	2	2	2	2	2	282
B11	16	4	21	1	1	1	1	1	1	1	61
B12	16	4	21	1	1	1	1	1	1	1	55
B13	16	4	21	1	1	1	1	1	1	1	32
B14	16	4	21	1	1	1	1	1	1	1	42
B15	16	4	21	1	1	1	1	1	1	1	21
B16	16	4	21	1	1	1	1	1	1	1	10
B17	16	4	21	1	1	1	1	1	1	1	378
B18	16	4	21	1	1	1	1	1	1	1	105

BILL OF MATERIAL	
CONCRETE CLASS 'A'	1866 CY
REINFORCING STEEL	10,000 LBS
17-HSS STEEL PILES (37 PILES)	1450 LBS

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

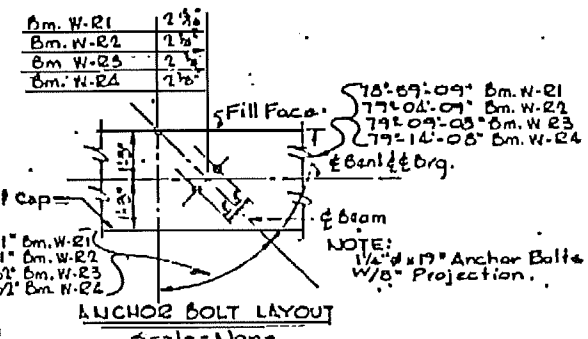
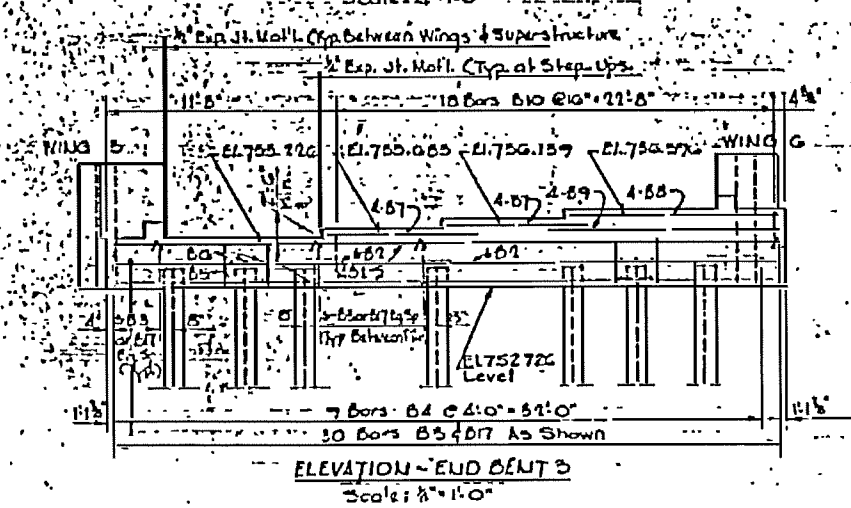
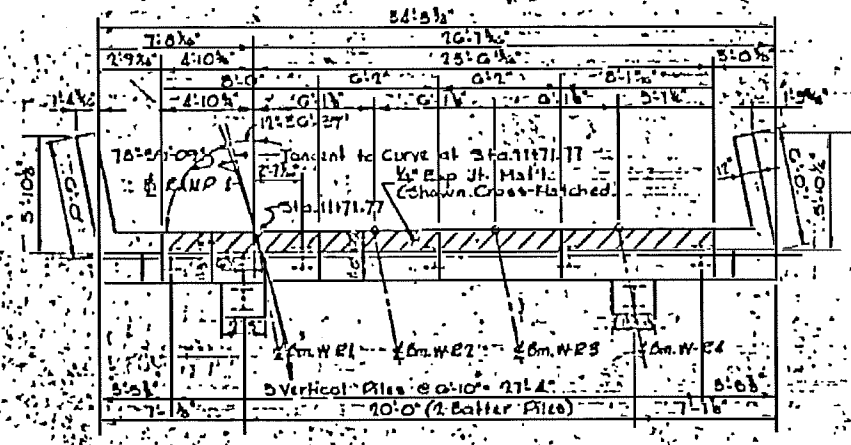
END BENT 2

49.7 CC HW Expwy, Vecklenburg Co.

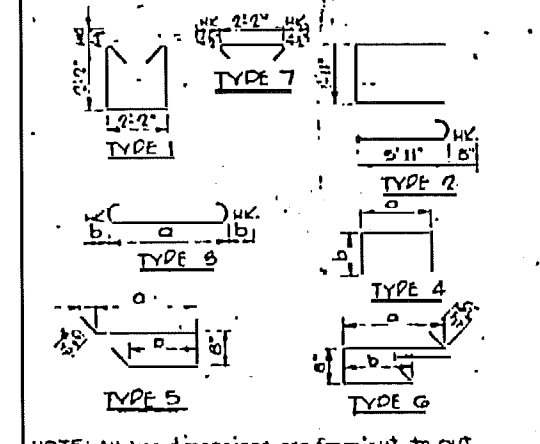
Wilbur Smith and Associates Inc. Delin
CONSULTING ENGINEERS
COLUMBIA, S.C. WILSON-BALLEN, N.C. ARCHONDA
RECALL DRAWING FOR 44 DATE 9/66 OUR 4231

See PRB. no. 6 page m.42

POL. NUMBER	SHEET NO.	TOTAL SHEETS
81054811	33	100
STATE PROJECT NO.	PA. POL. NO.	DESCRIPTION
81054811	SUP24-1(110)	

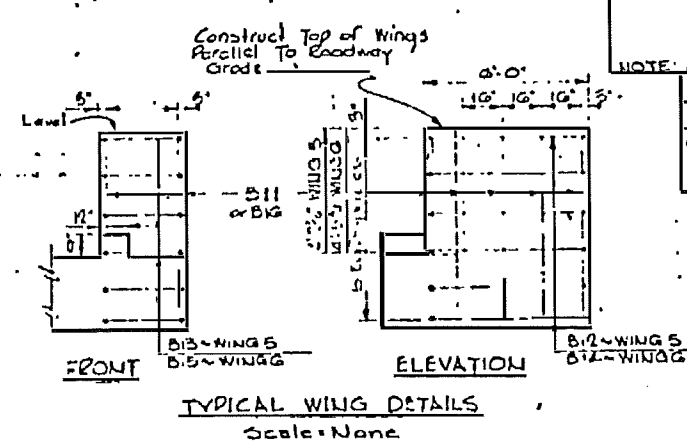
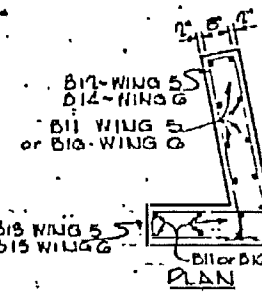
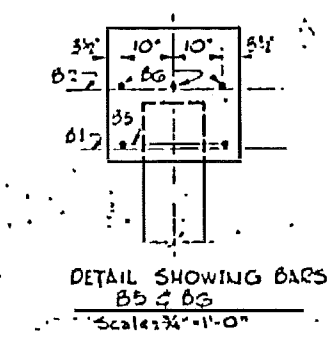
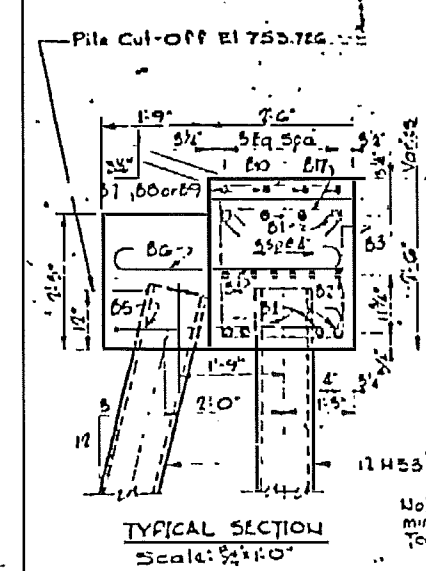


BILL OF REINFORCEMENT									
BAR	NUMBER	SIZE	TYPE	LENGTH		D		WEIG	
				FT.	IN.	FT.	IN.	FT.	IN.
B1	8	10	S	37	3	11	1	7 1/2	1 1/2
B2	17	4	ST	17	7				1 1/2
B3	30	4	S	7	3				1 1/2
B4	7	4	ST	2	2				1 1/2
B5	2	6	S	11	1				1 1/2
B6	6	6	S	5	5	3	11	0	0
B7	8	4	ST	7	3				1 1/2
B8	4	4	ST	10	7				1 1/2
B9	4	4	ST	12	1				1 1/2
B10	18	4	G	2	2	2	2	0	0
B11	18	4	ST	0	4				1 1/2
B12	6	4	S	13	2	5	10	5	0
B13	6	4	S	0	10	2	8	2	6
B14	6	4	G	12	10	5	8	5	0
B15	6	4	G	0	10	2	8	2	6
B16	16	4	ST	0	11				1 1/2
B17	30	4	S	7	2				1 1/2



BILL OF MATERIAL		
ITEM	QTY	REMARKS
CLASS 'A' CONCRETE	142	
REINFORCING STEEL	2735	
12HB STEEL PILES (7 PILES EACH)	330	

See PRB to 6 page no. 35.



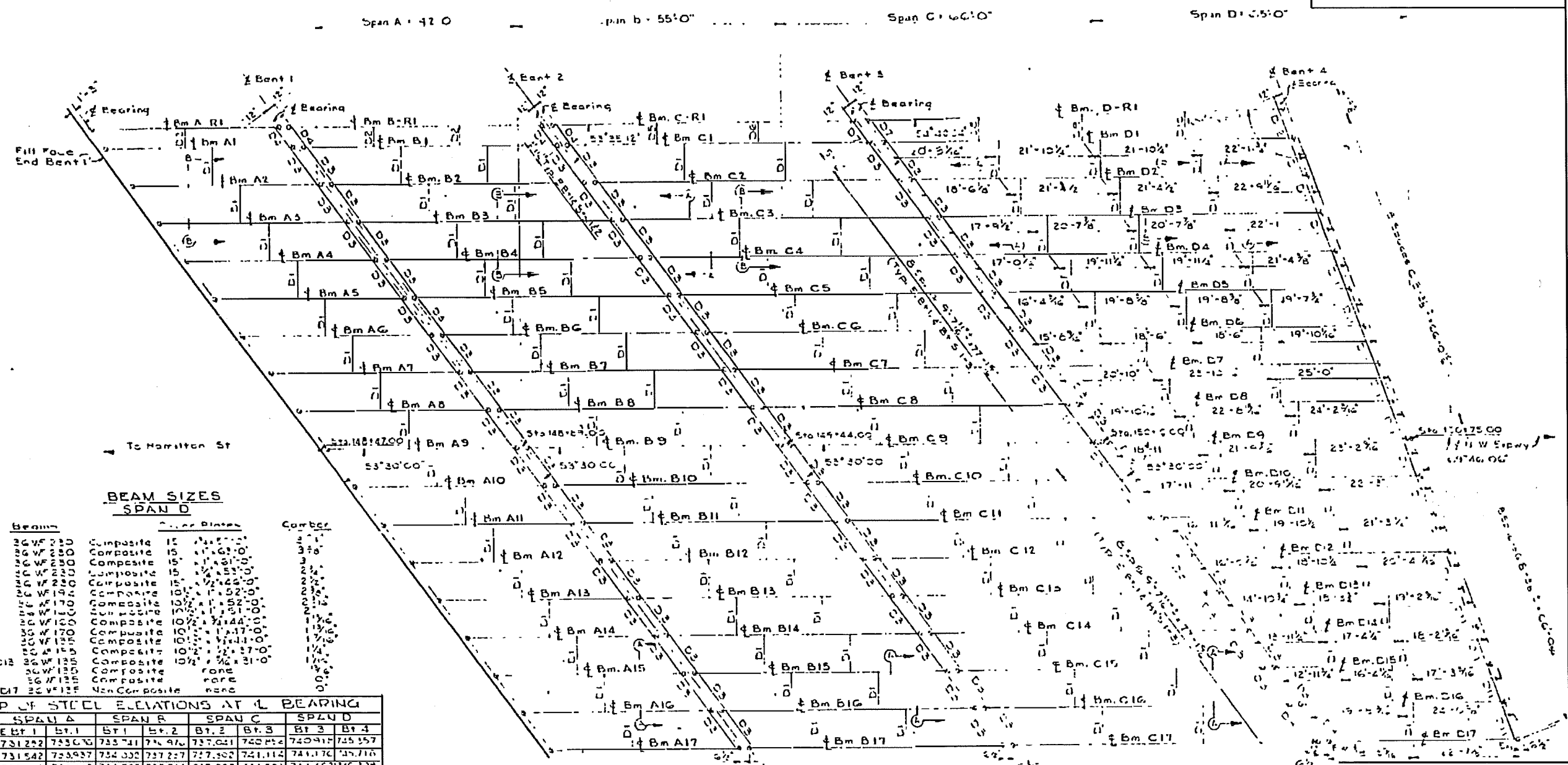
Notes: For pile splice detail, see Bent Connectors, Dwg. No. 329

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

END BENT 3

Sta 129+17.00 ± LW Exp. Necklinburg

Willam Smith and Associates, Inc. - Design
CONSULTING ENGINEERS
EDMUNDS & C. WYOMING, N.C.
43140L DWG SET CH. JAD. DATE 9-68 DWG NO. 239



BEAM SIZES SPAN D

Beam	Beam	Cover Plates	Center
D1	36 WF 230	Composite 15"	3 3/8"
D2	36 WF 230	Composite 15"	3 3/8"
D3	36 WF 230	Composite 15"	3 3/8"
D4	36 WF 230	Composite 15"	3 3/8"
D5	36 WF 230	Composite 15"	3 3/8"
D6	36 WF 230	Composite 15"	3 3/8"
D7	36 WF 230	Composite 15"	3 3/8"
D8	36 WF 230	Composite 15"	3 3/8"
D9	36 WF 230	Composite 15"	3 3/8"
D10	36 WF 230	Composite 15"	3 3/8"
D11	36 WF 230	Composite 15"	3 3/8"
D12	36 WF 230	Composite 15"	3 3/8"
D13	36 WF 230	Composite 15"	3 3/8"
D14	36 WF 230	Composite 15"	3 3/8"
D15	36 WF 230	Composite 15"	3 3/8"
D16	36 WF 230	Composite 15"	3 3/8"
D17	36 WF 230	Composite 15"	3 3/8"

TOP OF STEEL ELEVATIONS AT L BEARING

SPAN	SPAN A		SPAN B		SPAN C		SPAN D	
	Bt 1	Bt 2	Bt 1	Bt 2	Bt 1	Bt 2	Bt 1	Bt 2
1	731.242	733.070	733.741	734.976	737.021	740.054	740.915	745.557
2	731.542	733.937	734.032	737.227	737.402	741.114	741.176	747.116
3	732.049	734.442	734.507	737.743	737.977	741.601	741.662	747.604
4	732.553	734.950	735.023	738.258	738.303	742.096	742.157	748.106
5	733.057	735.455	735.511	738.775	738.810	742.591	742.652	748.610
6	733.561	735.961	736.015	739.289	739.324	743.086	743.147	749.114
7	734.065	736.469	736.523	739.803	739.838	743.581	743.642	749.618
8	734.569	736.977	737.031	740.317	740.352	744.076	744.137	750.122
9	735.073	737.485	737.539	740.831	740.866	744.571	744.632	750.626
10	735.577	737.993	738.047	741.345	741.380	745.066	745.127	751.130
11	736.081	738.501	738.555	741.859	741.894	745.561	745.622	751.634
12	736.585	739.009	739.063	742.373	742.408	746.056	746.117	752.138
13	737.089	739.517	739.571	742.887	742.922	746.551	746.612	752.642
14	737.593	740.025	740.079	743.401	743.436	747.046	747.107	753.146
15	738.097	740.533	740.587	743.915	743.950	747.541	747.602	753.650
16	738.601	741.041	741.095	744.429	744.464	748.036	748.097	754.154
17	739.105	741.549	741.603	744.943	744.978	748.531	748.592	754.658

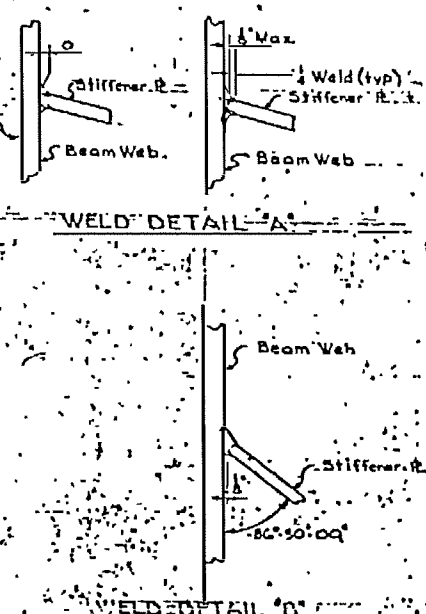
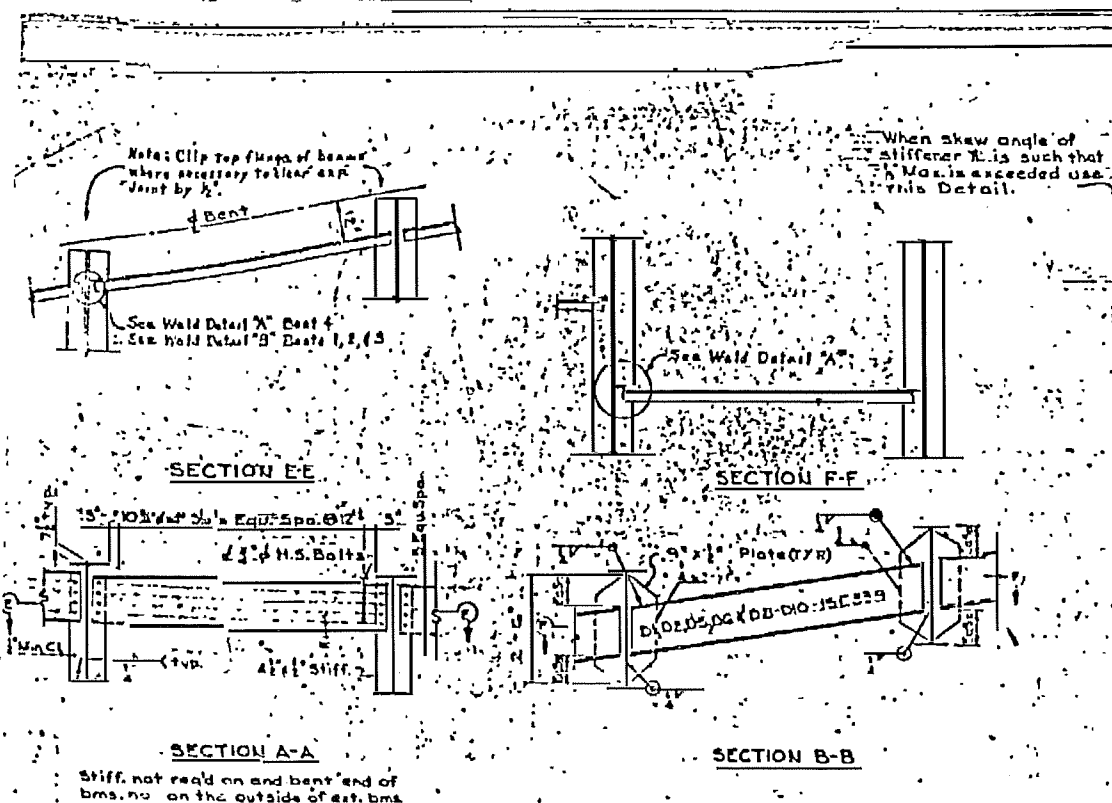
BEAM SIZES SPANS A ETC

Beams	Beam	Cover Plates	Center
A1-A17	36 WF 135	Non Composite	0"
B1-B17	36 WF 35	Composite 10 1/2"	55'-0"
B4	36 WF 135	Composite	20'-0"
B1-B3	36 WF 135	Composite	31'-0"
B6-B7	36 WF 135	Composite	40'-0"
B10-B11	36 WF 135	Composite	47'-0"
C1-C5	36 WF 50	Composite	42'-0"
C6-C8	36 WF 70	Composite	47'-0"
C9-C10	36 WF 100	Composite	47'-0"
C11-C17	36 WF 135	Composite	47'-0"

NOTE: All joints to be made in accordance with AISC 1.5D.2010.

Sheet 34 of 150
 8.1654B11 SURF 74.1(16)

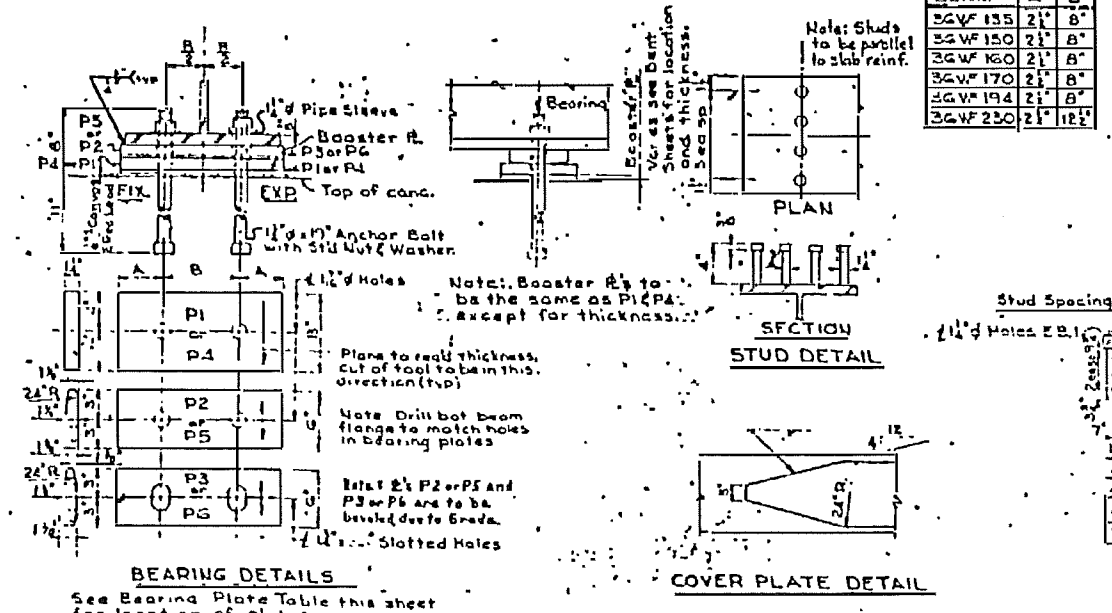
DESIGNED BY: [Signature]
 CHECKED BY: [Signature]
 STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 CONSULTING ENGINEER
 WILLIAM SMITH AND ASSOCIATES, INC. - RENO
 CONSULTING ENGINEERS
 211 W. W. Express, Mechanicsville, VA 23103
 PHONE: (804) 747-1111 FAX: (804) 747-1112



COVER PLATES	
Plate	Beam
10 1/2 x 1 x 31'-0"	B1-B8 & B10-B16 & D12 & D13
10 1/2 x 1 x 40'-0"	B9
10 1/2 x 1 x 40'-0"	C11
10 1/2 x 1 x 47'-0"	C9 & D9 & C17
10 1/2 x 1 x 44'-0"	C1-C8 & C10-C16 & D8 & D10
10 1/2 x 1 x 37'-0"	D11
10 1/2 x 1 x 31'-0"	D7
10 1/2 x 1 x 52'-0"	D5 & D6
15 x 1 x 46'-0"	D4
15 x 1 x 53'-0"	D3
15 x 1 x 61'-0"	D2
15 x 1 x 68'-0"	D1
10 1/2 x 1 x 35'-0"	B12 & B17

BEARING PLATES		SPAN A				SPAN B				SPAN C				SPAN D			
Beams	Plate	Bt.1	Bt.2	Bt.3	Bt.4	Bt.1	Bt.2	Bt.3	Bt.4	Bt.1	Bt.2	Bt.3	Bt.4	Bt.1	Bt.2	Bt.3	Bt.4
36WF135	P1(P2)																
36WF150	P1(P2)																
36WF160	P1(P2)																
36WF170	P1(P2)																
36WF194	P1(P2)																
36WF230	P1(P2)																

PROJ. REFERENCE NO. SHEET NO. TOTAL SHEETS
 STATE PROJECT NO. 5 35 150
 01654B11 SUP 24-1(16)



BEAM	A	B	Beam	D-R1
36WF135	21'	8"	22' x 10" x 16" 155 Spacing 17'-6" 10 Equ. Spa.	Beam D-R1
36WF150	21'	8"	21' x 9" x 15" 118 Equ. Spa.	Beam D4
36WF160	21'	8"	20' x 9" x 15" 114 Equ. Spa.	Beam D5
36WF170	21'	8"	20' x 9" x 15" 112 Equ. Spa.	Beam D6
36WF194	21'	8"	19' x 9" x 15" 108 Equ. Spa.	Beam D7
36WF230	21'	18"	18' x 9" x 15" 102 Equ. Spa.	Beam D8
			17' x 9" x 15" 100 Equ. Spa.	Beam D9
			16' x 9" x 15" 96 Equ. Spa.	Beam D10
			15' x 9" x 15" 90 Equ. Spa.	Beam D11
			14' x 9" x 15" 84 Equ. Spa.	Beam D12
			13' x 9" x 15" 78 Equ. Spa.	Beam D13
			12' x 9" x 15" 72 Equ. Spa.	Beam D14
			11' x 9" x 15" 66 Equ. Spa.	Beam D15
			10' x 9" x 15" 60 Equ. Spa.	Beam C-R1
			9' x 9" x 15" 54 Equ. Spa.	Beams C1-C16
			8' x 9" x 15" 48 Equ. Spa.	Beam C17
			7' x 9" x 15" 42 Equ. Spa.	Beams B1-B8 & B10-B16
			6' x 9" x 15" 36 Equ. Spa.	Beams B9, B17

ESTIMATED WEIGHT OF STRUCTURAL STEEL			
SPAN A	SPAN B	SPAN C	SPAN D
112,500	172,000	232,000	210,700

See PRB no 1 page nos. 17, 35, 34 & 72.

BEARING TO BEARING		
Beam	Horizontal	On Grade
R1	87'-9 1/2"	87'-11 1/2"
1	84'-0 1/2"	87'-0 1/2"
2	84'-0 1/2"	84'-2 1/2"
3	81'-2 1/2"	81'-1 1/2"
4	78'-5 1/2"	79'-4 1/2"
5	75'-5 1/2"	75'-4 1/2"
6	72'-5 1/2"	72'-4 1/2"
7	69'-5 1/2"	69'-4 1/2"
8	66'-5 1/2"	66'-10 1/2"
9	63'-11"	64'-0 1/2"
10	61'-0 1/2"	61'-1 1/2"
11	58'-7 1/2"	58'-2 1/2"
12	55'-5 1/2"	55'-2 1/2"
13	52'-2 1/2"	52'-5 1/2"
14	49'-6 1/2"	49'-7 1/2"
15	46'-7 1/2"	46'-8 1/2"
16	43'-4 1/2"	43'-9 1/2"
17	40'-10 1/2"	40'-11 1/2"

Rev #1. Revised to add dimensions for C-R1 in Beam Details. 10-10-69

Rev #1. Revise Dimension for C-R1 in BEARING TABLE. 10-10-69

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

SPANS A, B, C & D
 FRAMING PLAN

BEAM DETAILS
 Ends of beams shall be made plumb when the grade causes more than 1" horizontal difference between top of beam.

Work this sheet with Dwg 10-10-69 Sheet 02 of 15
 For Notes see Spans U, V, W, D & Q 10-10-69

W. H. Smith and Associates, Inc. - Design CONSULTING ENGINEERS
 111 W. 10th St. Raleigh, N.C. 27601

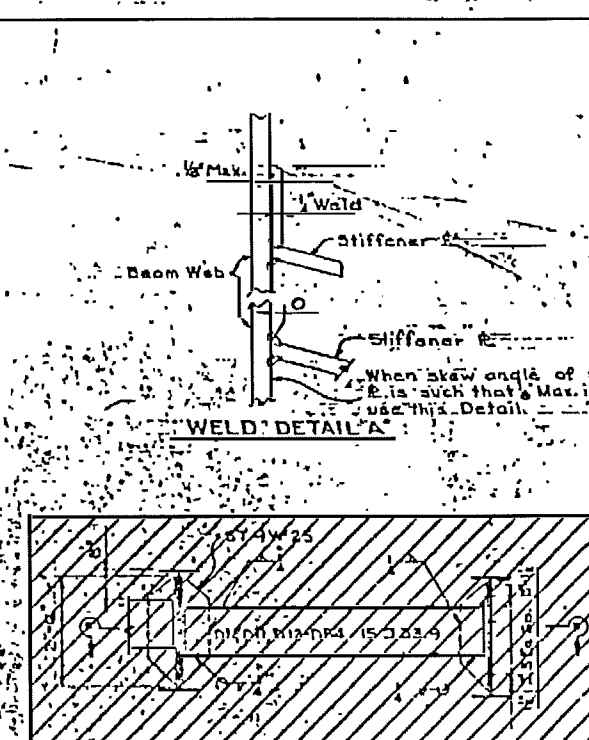
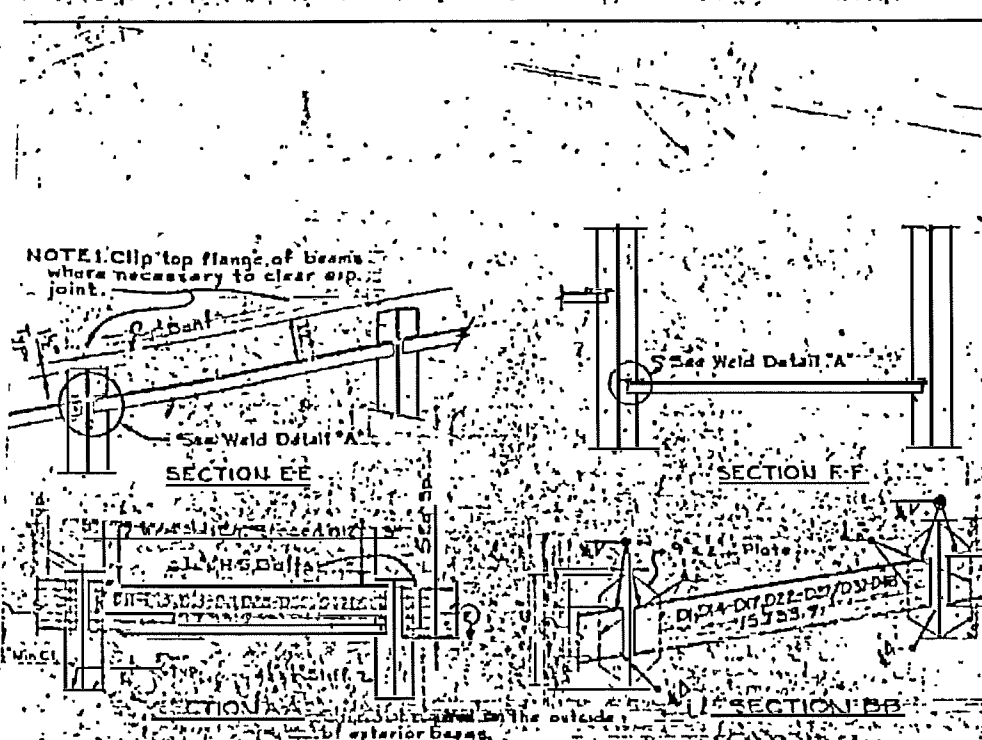
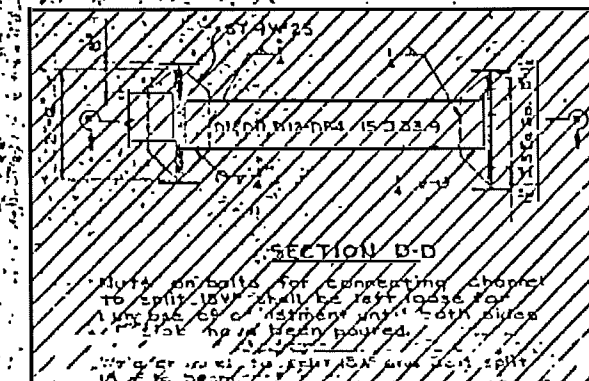


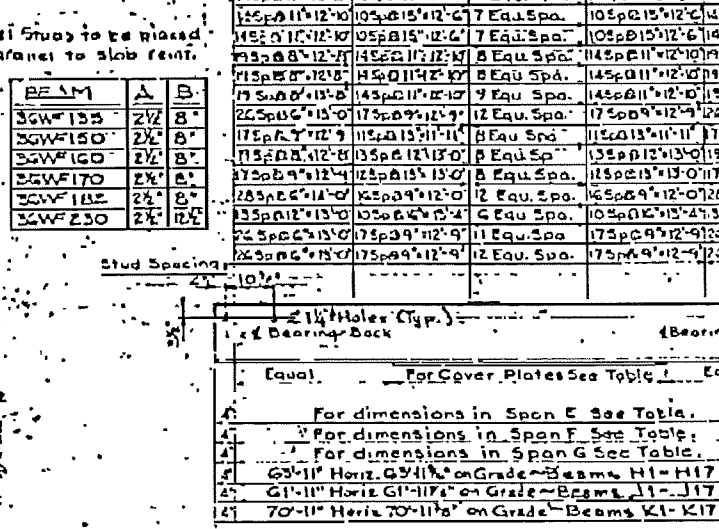
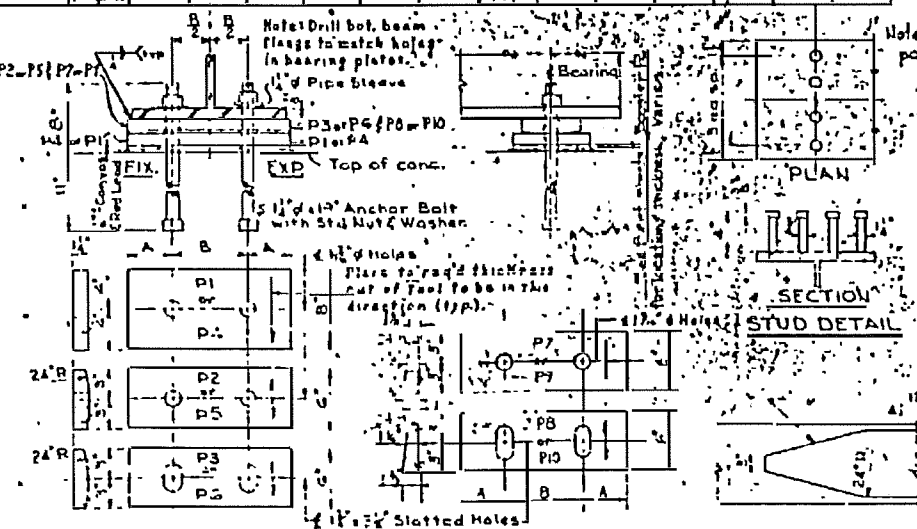
Plate	Beam
10' x 1' x 39'-0"	FRI
10' x 1' x 47'-0"	E9 F9 G9 H9 J9
10' x 1' x 34'-0"	F23, F24, G24, G21 / E21
10' x 1' x 42'-0"	G27
10' x 1' x 52'-0"	K2-K8 / K10-K16
15' x 1' x 42'-0"	K9
10' x 1' x 49'-0"	K17-K17
10' x 1' x 44'-0"	E1-E8, E10-E16, F1-F8, F10-F6, G28, G1-G3, G10-G16, H1-H6, H10-H6, J1-J6, J10-J6
10' x 1' x 43'-0"	J12, J13, H14-H17, G11, F17, E17

Sheet No.	537
Project No.	155
Revision	
DATE	SUP 24-1916

Beam	SPAN L		SPAN F		SPAN G		SPAN H		SPAN J		SPAN K	
	Rate	Beam	Rate	Beam	Rate	Beam	Rate	Beam	Rate	Beam	Rate	Beam
3GW135	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8
3GW160	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8
3GW170	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8
3GW182	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8
3GW250	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8	P1P7	P1P8



BEAM NO.	SPAN E		SPAN F		SPAN G	
	HORIZ. ON GR.	HORIZ. ON GR.	HORIZ. ON GR.	HORIZ. ON GR.	HORIZ. ON GR.	HORIZ. ON GR.
R1	62'-11 1/2"	62'-2 1/2"	61'-0 1/2"	61'-1 1/2"	60'-1 1/2"	60'-2 1/2"
R2					60'-4 1/2"	60'-4 1/2"
R3			61'-9 1/2"	61'-10 1/2"	60'-7 1/2"	60'-7 1/2"
R4					60'-10 1/2"	60'-11 1/2"
R5	62'-11 1/2"	63'-0 1/2"				
R6			61'-11 1/2"	61'-11 1/2"		
R7					61'-2 1/2"	61'-3 1/2"
R8					62'-4 1/2"	62'-5 1/2"
1	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
2	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
3	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
4	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
5	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
6	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
7	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
8	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
9	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
10	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
11	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
12	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
13	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
14	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
15	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
16	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"
17	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"	63'-11"	63'-11 1/2"



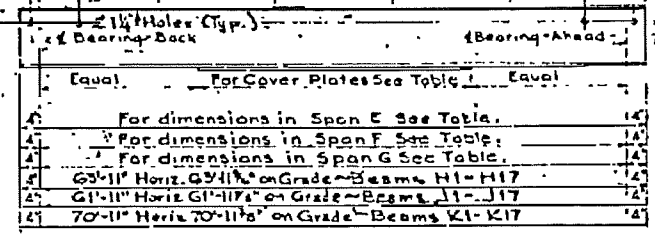
BEAM	A	B
3GW135	2 1/2"	8"
3GW150	2 1/2"	8"
3GW160	2 1/2"	8"
3GW170	2 1/2"	8"
3GW182	2 1/2"	8"
3GW250	2 1/2"	12"

- Beam K9
- Beams K2-K8, K10-K16
- Beams K17-K17
- Beams J2-J6, J10-J16
- Beams J17-J17
- Beam H9
- Beams H1-H6, H10-H17
- Beam G-R1
- Beams G-22
- Beam G-23
- Beam G-24
- Beam G-27
- Beam G-28
- Beams G1-G17
- Beam F-21
- Beam F-23
- Beam F-24
- Beams F1-F17
- Beam E-R1, E-R5
- Beam E9
- Beams E1-E8, E10-E17

See P.R.B. no. 2 page nos. 18, 37, 57 & 77; P.R.B. no. 3 page nos. 34 & 65.

ESTIMATED WEIGHT OF STRUCTURAL STEEL					
SPAN E	SPAN F	SPAN G	SPAN H	SPAN J	SPAN K
237	1002	248	1002	248	1002
Lbs	Lbs	Lbs	Lbs	Lbs	Lbs

For Notes see Spans U, V, W Dwg. No. 545



BEARING DETAILS See Bearing Plate Table this sheet for location of plates.

COVER PLATE DETAIL Note: Stud to be placed parallel to slab center.

Sheet 4 of 13 Work this sheet with Dwg. No. 525 & 527

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

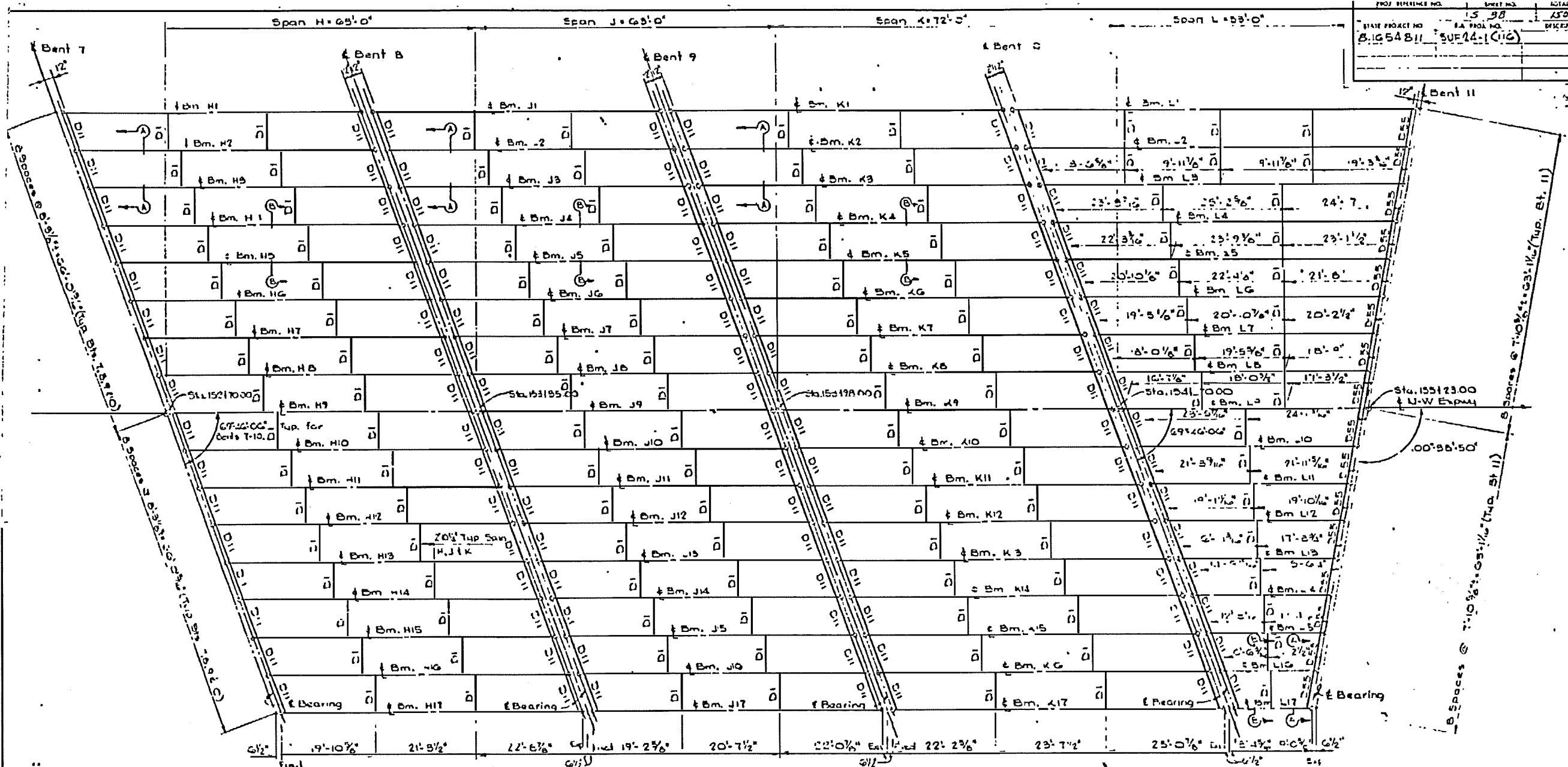
SPANS E, F, G, H, J, K
FRAMING PLAN

520 194 117 CO N-W Espwy Vachlenburg, Co

Walter Smith and Associates, Inc. - Design
CONSULTING ENGINEERS

DATE: 10/25/16

PROJ REFERENCE NO. 15 98
 STATE PROJECT NO. B.1654811
 SHEET NO. 50F24-1(C16)
 TOTAL SHEETS 150
 DIVISION DESCRIPTION



Note: All dimensions shown on this sheet are horizontal.

PLAN
 Scale: 1"=10'-0"

BEAM SIZES		SPAN L		Camber
SPAN H		SPAN L		Camber
Bms. H1 & H7	36WF 150 Composite	Bm. L1	36WF 240 Composite	3 1/2"
Bms. H9	36WF 170 Composite	Bm. L2	36WF 230 Composite	2 3/4"
Bms. H2, H8 & H10-H16	36WF 150 Composite	Bm. L3	36WF 130 Composite	2 1/2"
SPAN J		Bm. L4	36WF 182 Composite	2 1/2"
Bms. J1 & J7	36WF 30 Composite	Bm. L5	36WF 130 Composite	1 3/4"
Bms. J9	36WF 160 Composite	Bm. L6	36WF 150 Composite	1 3/4"
Bms. J2, J8 & J10-J16	36WF 155 Composite	Bm. L7	36WF 155 Composite	1 3/4"
SPAN K		Bm. L8	36WF 155 Composite	1 3/4"
Bms. K1 & K7	36WF 182 Composite	Bm. L9	36WF 155 Composite	1 3/4"
Bm. K9	36WF 230 Composite	Bm. L10	36WF 155 Composite	None
Bms. K2-K6 & K10-K16	36WF 150 Composite	Bm. L11	36WF 155 Non-Composite	None
		Bm. L12	36WF 135 Non-Composite	None
		Bm. L13	36WF 135 Non-Composite	None
		Bm. L14	36WF 135 Non-Composite	None
		Bm. L15	36WF 135 Non-Composite	None
		Bm. L16	36WF 135 Non-Composite	None
		Bm. L17	36WF 155 Non-Composite	None

TOP OF BEAM ELEVATIONS AT & BEARING											
11 751.821	11 57.309	11 57.349	11 50.552	11 50.552	11 701.92	11 701.920	11 701.920	11 701.920	11 701.920	11 701.920	11 701.920
2 755.171	2 57.728	2 57.728	2 50.022	2 50.022	2 722.205	2 722.205	2 722.205	2 722.205	2 722.205	2 722.205	2 722.205
3 750.553	3 758.070	3 758.070	3 50.724	3 50.724	3 702.600	3 702.600	3 702.600	3 702.600	3 702.600	3 702.600	
4 1155.813	4 .269	4 .269	4 .533	4 .533	4 .269	4 .269	4 .269	4 .269	4 .269	4 .269	4 .269
5 756.048	5 .494	5 .494	5 .719	5 .719	5 .494	5 .494	5 .494	5 .494	5 .494	5 .494	5 .494
6 .728	6 .719	6 .719	6 .759	6 .759	6 .719	6 .719	6 .719	6 .719	6 .719	6 .719	6 .719
7 .518	7 .518	7 .518	7 .518	7 .518	7 .518	7 .518	7 .518	7 .518	7 .518	7 .518	7 .518
8 .758	8 .758	8 .758	8 .758	8 .758	8 .758	8 .758	8 .758	8 .758	8 .758	8 .758	8 .758
9 .933	9 .933	9 .933	9 .933	9 .933	9 .933	9 .933	9 .933	9 .933	9 .933	9 .933	9 .933
10 .978	10 .978	10 .978	10 .978	10 .978	10 .978	10 .978	10 .978	10 .978	10 .978	10 .978	10 .978
11 .969	11 .969	11 .969	11 .969	11 .969	11 .969	11 .969	11 .969	11 .969	11 .969	11 .969	11 .969
12 .958	12 .958	12 .958	12 .958	12 .958	12 .958	12 .958	12 .958	12 .958	12 .958	12 .958	12 .958
13 .950	13 .950	13 .950	13 .950	13 .950	13 .950	13 .950	13 .950	13 .950	13 .950	13 .950	13 .950
14 .942	14 .942	14 .942	14 .942	14 .942	14 .942	14 .942	14 .942	14 .942	14 .942	14 .942	14 .942
15 .936	15 .936	15 .936	15 .936	15 .936	15 .936	15 .936	15 .936	15 .936	15 .936	15 .936	15 .936
16 .928	16 .928	16 .928	16 .928	16 .928	16 .928	16 .928	16 .928	16 .928	16 .928	16 .928	16 .928
17 756.624	17 58.045	17 58.045	17 50.225	17 50.225	17 701.920	17 701.920	17 701.920	17 701.920	17 701.920	17 701.920	17 701.920

Note: This sheet with Eng. No. 53452 Sheet 2 of 13.

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

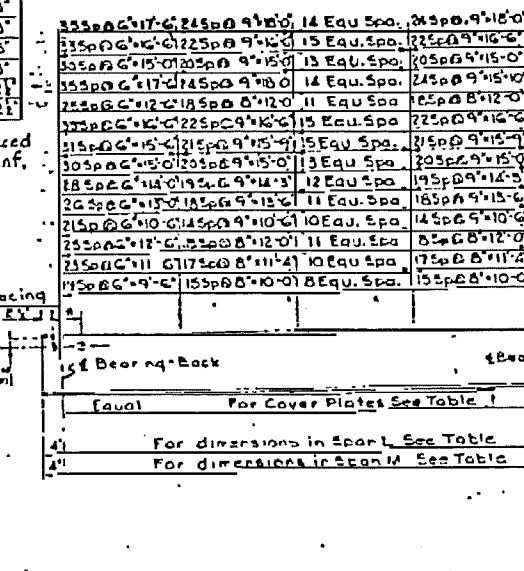
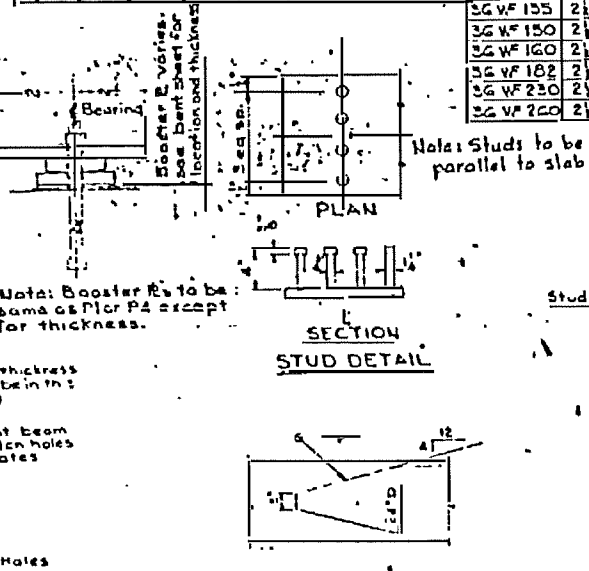
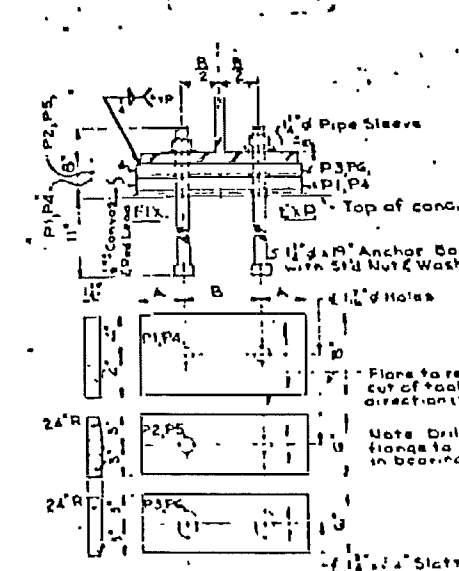
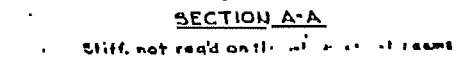
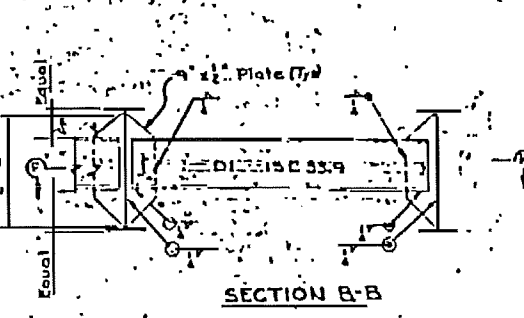
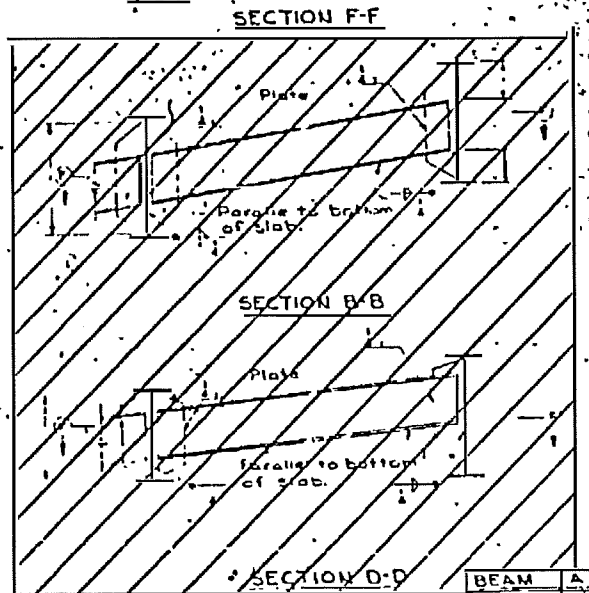
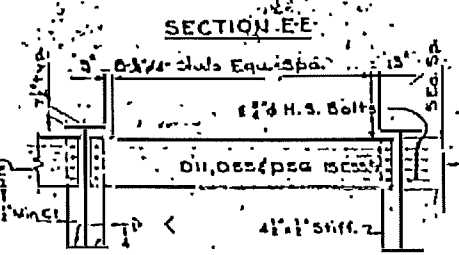
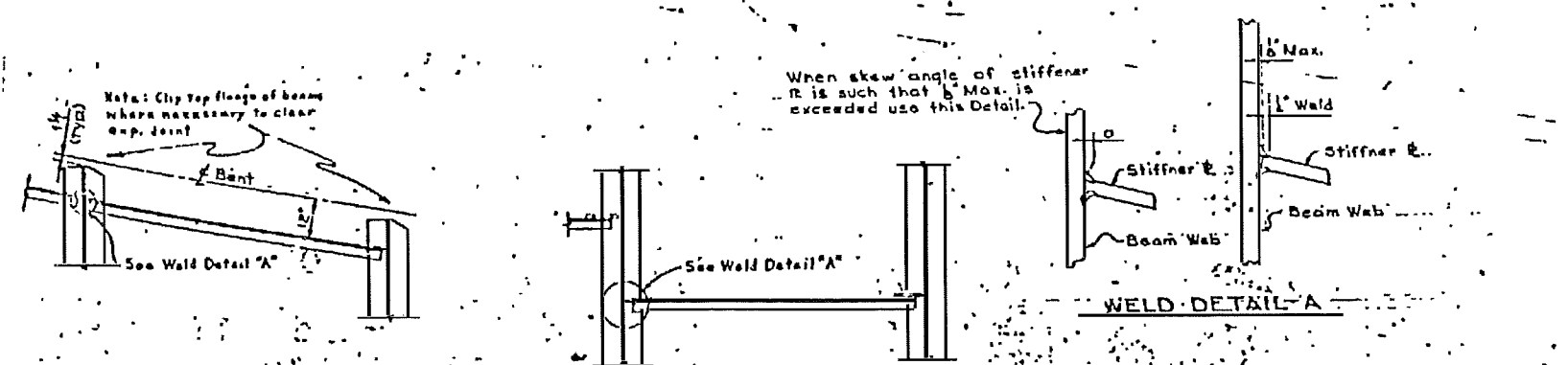
SPANS H, J, K & L
 FRAMING PLAN

Walter Smith and Associates, Inc. - Design
 CONSULTING ENGINEERS
 10765 729
 RICHMOND, VA

COVER PLATES	
Plates	Beam
10' x 14'-0"	L9xM9
10' x 36'-0"	L8xM8
10' x 43'-0"	L7xM7
10' x 44'-0"	L6xM6
10' x 51'-0"	L4 L5 M4 M5
15' x 45'-0"	L3xM3
15' x 54'-0"	L2xM2
15' x 60'-0"	L1xM1

Beam	SPAN L		SPAN M	
	Horizontal	In Grade	Horizontal	In Grade
1	86'-5 1/2"	62'-5 1/2"	86'-5 1/2"	86'-5 1/2"
2	82'-1 1/2"	82'-1 1/2"	82'-1 1/2"	82'-1 1/2"
3	77'-9 1/2"	77'-9 1/2"	77'-9 1/2"	77'-9 1/2"
4	73'-5 1/2"	73'-5 1/2"	73'-5 1/2"	73'-5 1/2"
5	69'-2 1/2"	69'-2 1/2"	69'-2 1/2"	69'-2 1/2"
6	64'-10 1/2"	64'-10 1/2"	64'-10 1/2"	64'-10 1/2"
7	60'-6 1/2"	60'-6 1/2"	60'-6 1/2"	60'-6 1/2"
8	56'-2 1/2"	56'-2 1/2"	56'-2 1/2"	56'-2 1/2"
9	51'-11"	51'-11"	51'-11"	51'-11"
10	47'-7 1/2"	47'-7 1/2"	47'-7 1/2"	47'-7 1/2"
11	43'-3 1/2"	43'-3 1/2"	43'-3 1/2"	43'-3 1/2"
12	38'-9 1/2"	38'-9 1/2"	38'-9 1/2"	38'-9 1/2"
13	34'-5 1/2"	34'-5 1/2"	34'-5 1/2"	34'-5 1/2"
14	30'-1 1/2"	30'-1 1/2"	30'-1 1/2"	30'-1 1/2"
15	26'-0"	26'-0"	26'-0"	26'-0"
16	21'-8 1/2"	21'-8 1/2"	21'-8 1/2"	21'-8 1/2"
17	17'-4 1/2"	17'-4 1/2"	17'-4 1/2"	17'-4 1/2"

BEARING PLATES					
Beams	Plate	SPAN L		SPAN M	
		Bt. 10	Bt. 11	Bt. 11	Bt. 12
36WF155	P1xP2	L7-L17		M7-M17	
	P1xP3		L7-L17		M7-M17
36WF150	P1xP2	L6		M6	
	P1xP3		L6		M6
36WF160	P1xP2	L5		M5	
	P1xP3		L5		M5
36WF182	P1xP2	L4		M4	
	P1xP3		L4		M4
36WF230	P1xP2	L2/L3		M2/M3	
	P1xP3		L2/L3		M2/M3
36WF260	P1xP2	L1		M1	
	P1xP3		L1		M1



BEAM	A	B
36WF155	21'	8'
36WF150	21'	6'
36WF160	21'	6'
36WF182	21'	6'
36WF230	21'	12'
36WF260	21'	12'

36WF155	21' x 8'	14 Equ. Spa.	21' x 8'	14 Equ. Spa.	21' x 8'	14 Equ. Spa.	Beam M1
36WF150	21' x 6'	13 Equ. Spa.	21' x 6'	13 Equ. Spa.	21' x 6'	13 Equ. Spa.	Beam M2
36WF160	21' x 6'	13 Equ. Spa.	21' x 6'	13 Equ. Spa.	21' x 6'	13 Equ. Spa.	Beam M4
36WF182	21' x 6'	14 Equ. Spa.	21' x 6'	14 Equ. Spa.	21' x 6'	14 Equ. Spa.	Beam L1
36WF230	21' x 12'	11 Equ. Spa.	21' x 12'	11 Equ. Spa.	21' x 12'	11 Equ. Spa.	Beam M7
36WF260	21' x 12'	11 Equ. Spa.	21' x 12'	11 Equ. Spa.	21' x 12'	11 Equ. Spa.	Beam L2
36WF155	21' x 8'	15 Equ. Spa.	21' x 8'	15 Equ. Spa.	21' x 8'	15 Equ. Spa.	Beams L3, M3
36WF150	21' x 6'	13 Equ. Spa.	21' x 6'	13 Equ. Spa.	21' x 6'	13 Equ. Spa.	Beam L4
36WF160	21' x 6'	13 Equ. Spa.	21' x 6'	13 Equ. Spa.	21' x 6'	13 Equ. Spa.	Beams L5, M5
36WF182	21' x 6'	12 Equ. Spa.	21' x 6'	12 Equ. Spa.	21' x 6'	12 Equ. Spa.	Beams L6, M6
36WF230	21' x 12'	10 Equ. Spa.	21' x 12'	10 Equ. Spa.	21' x 12'	10 Equ. Spa.	Beam L9, M9
36WF260	21' x 12'	10 Equ. Spa.	21' x 12'	10 Equ. Spa.	21' x 12'	10 Equ. Spa.	Beam L7
36WF155	21' x 8'	15 Equ. Spa.	21' x 8'	15 Equ. Spa.	21' x 8'	15 Equ. Spa.	Beams L8, M8
36WF150	21' x 6'	13 Equ. Spa.	21' x 6'	13 Equ. Spa.	21' x 6'	13 Equ. Spa.	Beams L10, M10

NOTE: SEE SHEET S-61 FOR DETAILS OF S.G. POST BRACKET.

See P.R.B. no. 4 page nos. 12 & 13

ESTIMATED WEIGHT OF STRUCTURAL STEEL	
SPAN L	SPAN M
193,000	193,900

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

SPANS I & M
 FRAMING PLAN

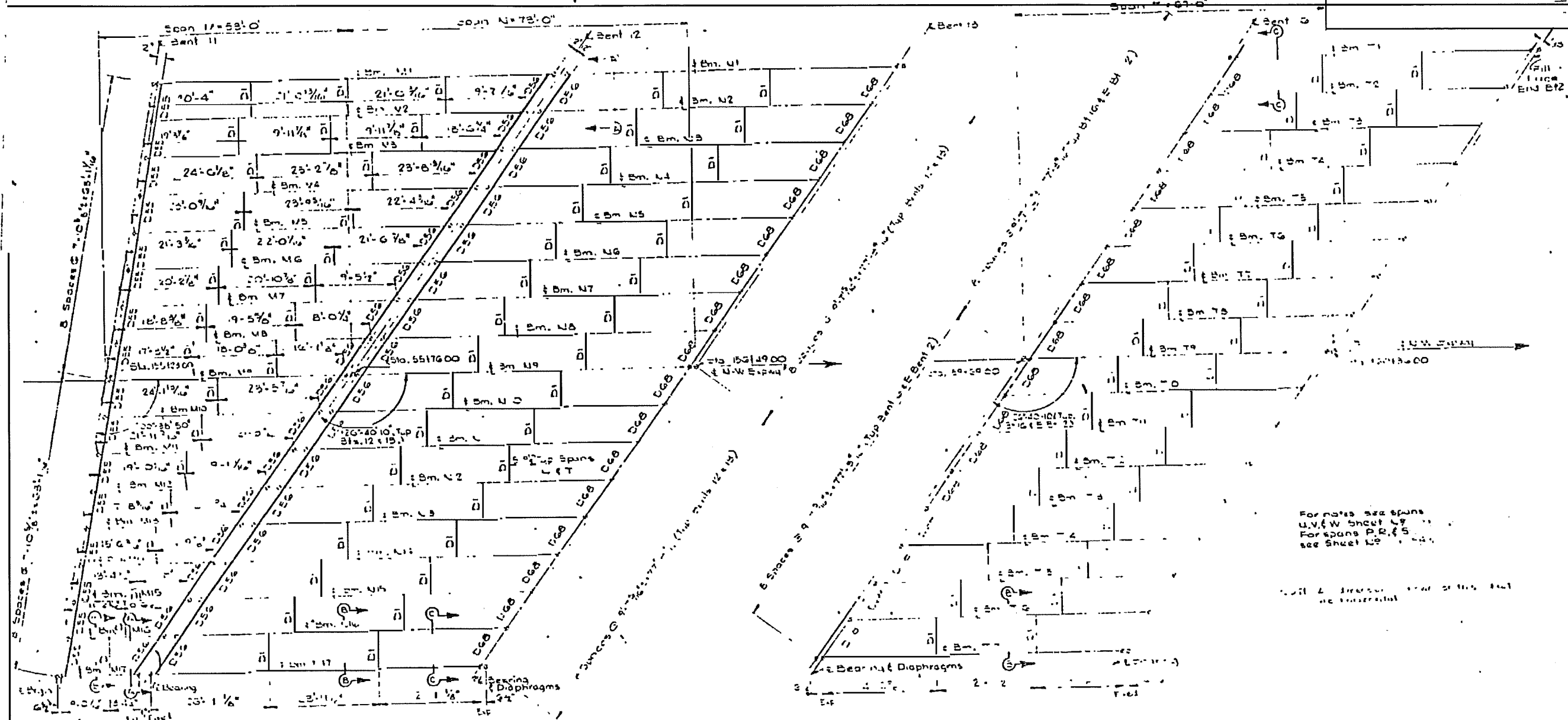
11/18/55
 W. L. Smith and Associates, Inc.
 CONSULTING ENGINEERS

Sheet 6 of 15
 Work this sheet with Dwg. No. 55762
 For notes see Spans U, V & W Dwg. No. 545

BEARING DETAILS
 See Bearing Plate Table this sheet for location of plates.

REV 01 To Change C.M. 9/19/57 IN COVER PLATES TABLE 1/2\"/>

BEAM DETAILS
 Ends of beams shall be made blunt when the grade causes more than a 1/2\"/>



BEAM SIZES

SPAN	NO.	SIZE	MATERIAL
U	1	30W	Composite
U	2	30W	Composite
U	3	30W	Composite
U	4	30W	Composite
U	5	30W	Composite
U	6	30W	Composite
U	7	30W	Composite
U	8	30W	Composite
U	9	30W	Composite
U	10	30W	Composite
U	11	30W	Composite
U	12	30W	Composite
U	13	30W	Composite
U	14	30W	Composite
U	15	30W	Composite
U	16	30W	Composite
U	17	30W	Composite
U	18	30W	Composite
U	19	30W	Composite
U	20	30W	Composite
U	21	30W	Composite
U	22	30W	Composite

BEAM SIZES

SPAN	NO.	SIZE	MATERIAL
U	1	30W	Composite
U	2	30W	Composite
U	3	30W	Composite
U	4	30W	Composite
U	5	30W	Composite
U	6	30W	Composite
U	7	30W	Composite
U	8	30W	Composite
U	9	30W	Composite
U	10	30W	Composite
U	11	30W	Composite
U	12	30W	Composite
U	13	30W	Composite
U	14	30W	Composite
U	15	30W	Composite
U	16	30W	Composite
U	17	30W	Composite
U	18	30W	Composite
U	19	30W	Composite
U	20	30W	Composite
U	21	30W	Composite
U	22	30W	Composite

TABLE OF BEAM ELEVATIONS & BEARING

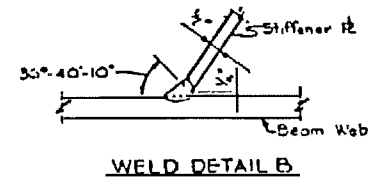
SPAN	NO.	ELEVATION	BEARING
U	1	100.00	90.00
U	2	100.00	90.00
U	3	100.00	90.00
U	4	100.00	90.00
U	5	100.00	90.00
U	6	100.00	90.00
U	7	100.00	90.00
U	8	100.00	90.00
U	9	100.00	90.00
U	10	100.00	90.00
U	11	100.00	90.00
U	12	100.00	90.00
U	13	100.00	90.00
U	14	100.00	90.00
U	15	100.00	90.00
U	16	100.00	90.00
U	17	100.00	90.00
U	18	100.00	90.00
U	19	100.00	90.00
U	20	100.00	90.00
U	21	100.00	90.00
U	22	100.00	90.00

DIVISION
 STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 SPANS U, V & W
 DRAWING PLAN
 Miller Smith and Associates, Inc.
 CONSULTING ENGINEERS
 10000 S. C. HIGHWAY 101
 RALEIGH, N.C. 27615

STATE PROJECT NO.	PA PROJ. NO.	TOTAL SHEETS
2105&B11	SUP 20-1110	150

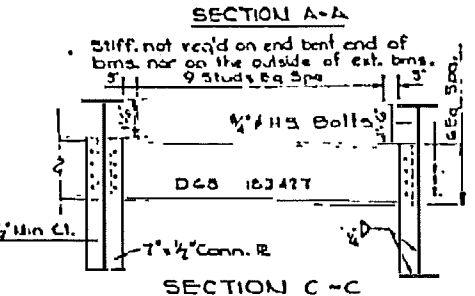
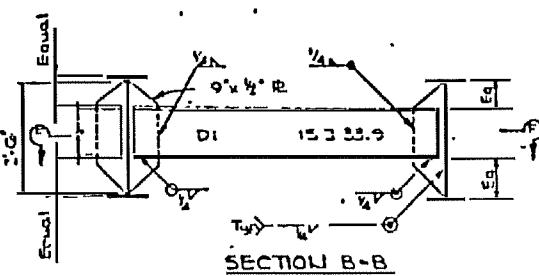
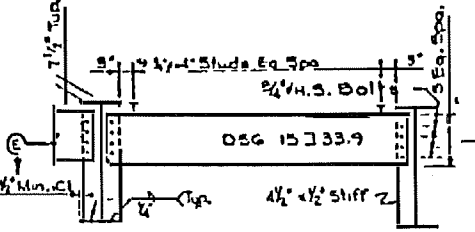
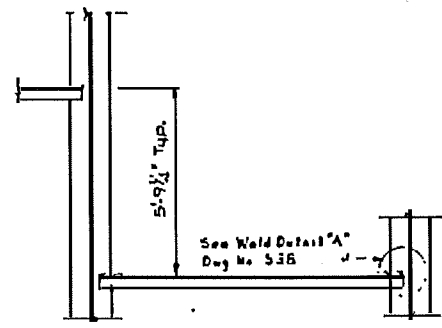
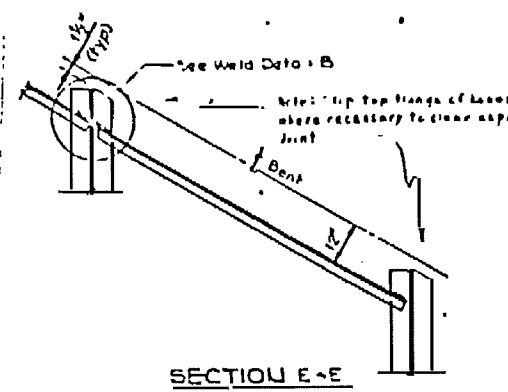
HAUGHED BEAM TABLE

Item	30WF100	30WF110	30WF150
Rollled Beam	30WF100	30WF110	30WF150
Launch Plate Thickness	1/2"	1/2"	3/4"
Launch Flange Plate	12"x12"	12"x12"	12"x12"
A	1'-9"	1'-9"	1'-9"
B	2'-8 1/2"	2'-8 1/2"	2'-8 1/2"
No.	11 & 11	11 & 11	19
Rollled Beam	30WF100	30WF110	30WF150
Launch Plate Thickness	1/2"	1/2"	3/4"
Launch Flange Plate	12"x12"	12"x12"	12"x12"
A	1'-10 1/2"	1'-9 1/2"	1'-9 1/2"
B	2'-5 1/2"	2'-4 1/2"	2'-5 1/2"



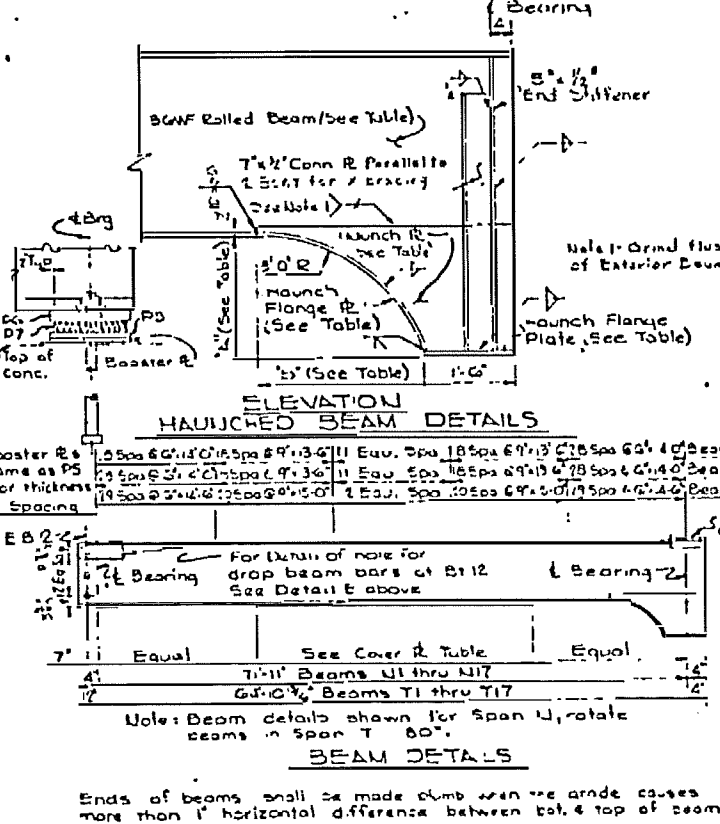
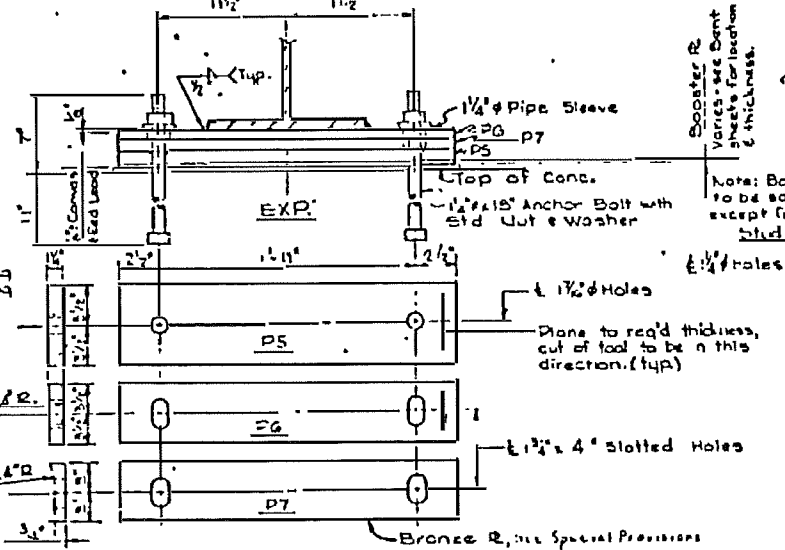
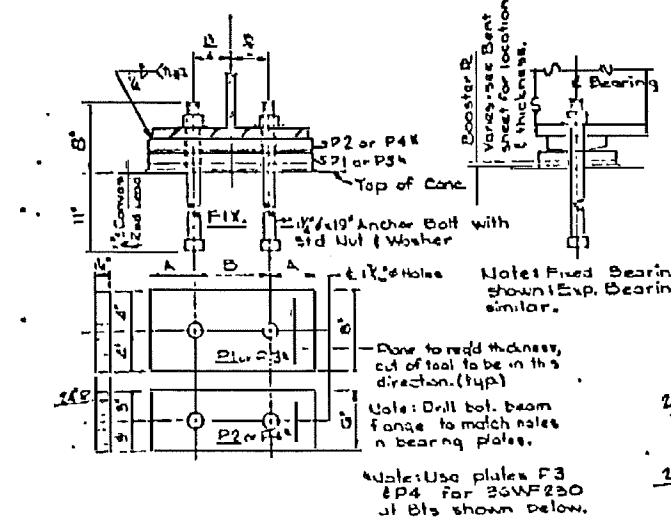
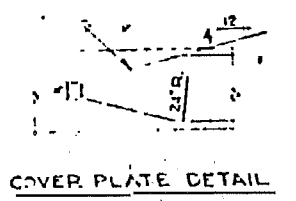
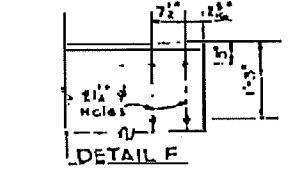
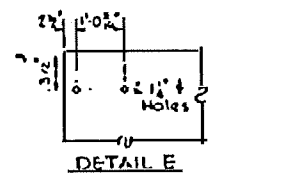
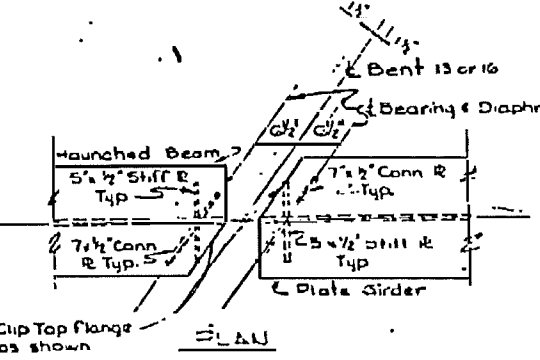
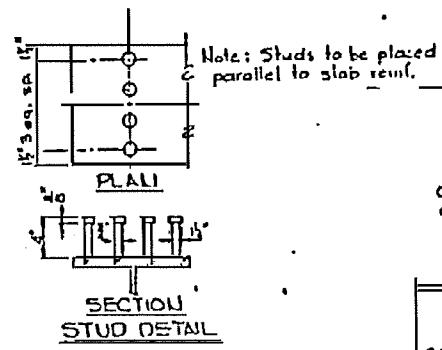
COVER PLATES

Plate	Beam
0 1/2\" x 1\" x 3/8\"	U thru U10 thru U16
0 1/2\" x 1\" x 3/8\"	M1 & M17, T1 & T17
0 1/2\" x 3/4\" x 3/8\"	M9
0 1/2\" x 3/4\" x 3/8\"	T1 thru T8 & T10 thru T16
1 1/2\" x 1\" x 3/8\"	T9



Note: Dimensions shown below are for Fixed Bearing only.

Beam	A	B
30WF104	2 1/2"	8"
30WF150	2 1/2"	8"
30WF160	2 1/2"	8"
30WF170	2 1/2"	8"
30WF182	2 1/2"	8"
30WF230	2 1/2"	12"



See P.R.B. no. 4 page no. 51; P.R.D. no. 5 page no. 60.

ESTIMATE OF STRUCTURAL STEEL

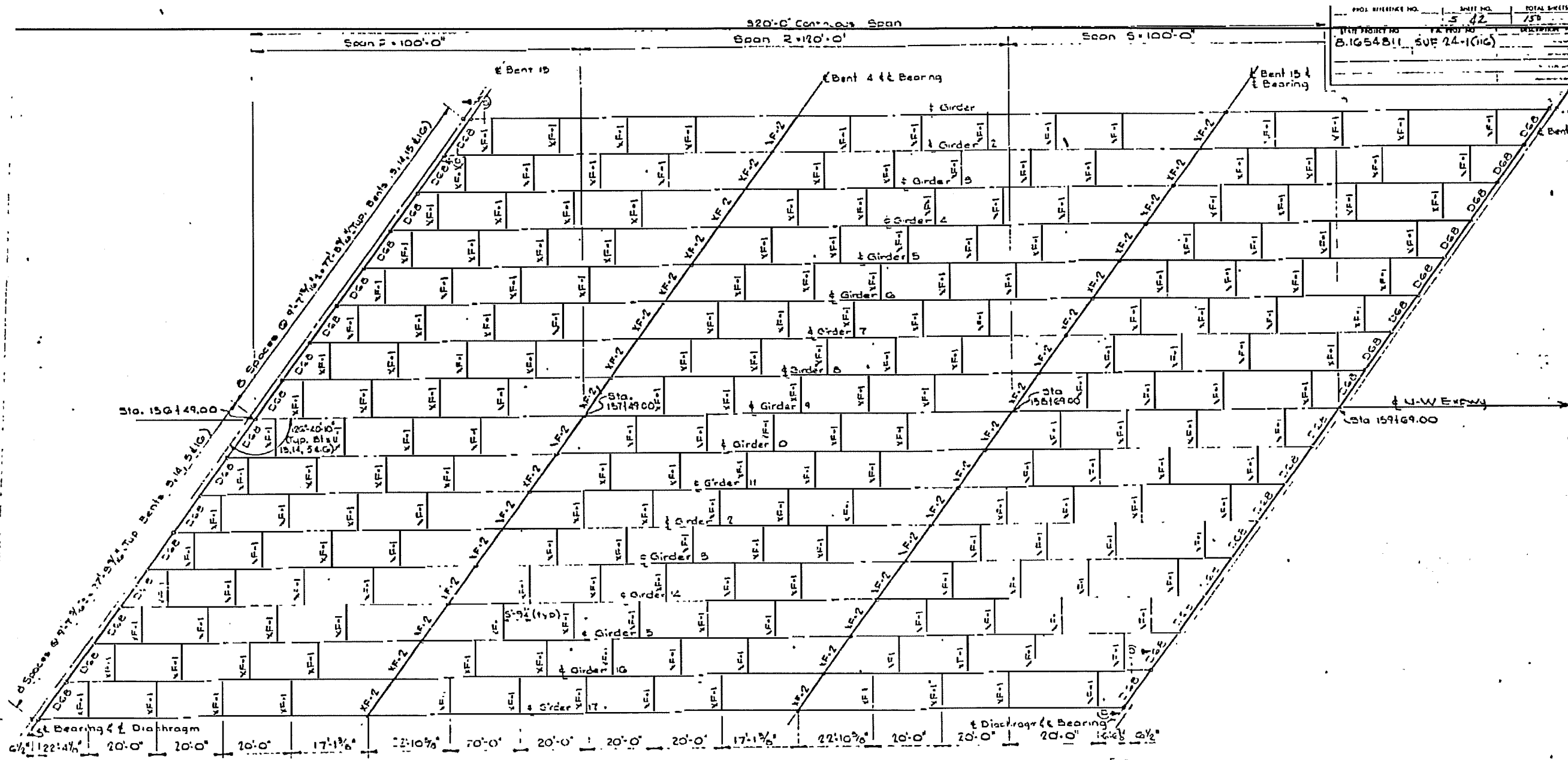
SPAN	QTY	SPAN	QTY
LB5	291,000	SPAN 7	230,100

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

SPANS U & T
FRAMING PLAN

310 14917 CO. HWY. DEPT., U.S. DEPT. OF TRANSPORTATION
WILBUR SMITH AND ASSOCIATES, INC. DESIGN CONSULTING ENGINEERS
CORPORATE OFFICE: 1000 S. W. 10TH ST., MIAMI, FLA. 33135

Revision #1: Revised March 24, 1968. J.L. W.L. 1/68



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B.1654811	5/22	15/20
DATE PRINTED	DATE DRAWN	DESCRIPTION
		SPANS 32 & 5

PLAN
to Scale

TOP OF GIRDER ELEVATION AT BEARINGS			
Span	Bent	Station	Elevation
Span 1	Bent 1	156+49.00	1725.857
		156+50.00	1725.857
		156+51.00	1725.857
		156+52.00	1725.857
		156+53.00	1725.857
Span 2	Bent 2	156+73.00	1725.857
		156+74.00	1725.857
		156+75.00	1725.857
		156+76.00	1725.857
		156+77.00	1725.857
Span 3	Bent 3	156+97.00	1725.857
		156+98.00	1725.857
		156+99.00	1725.857
		157+00.00	1725.857
		157+01.00	1725.857

Notes:
 1. For girder size and dimensions see sheet D-10.
 2. All dimensions shown on this sheet are horizontal. They must be adjusted for grade.

Work this sheet with Dwg 155524
 Sheet 9 of 15

DESIGNED BY: C. J. WALKER
 CHECKED BY: [Signature]
 DATE: [Date]

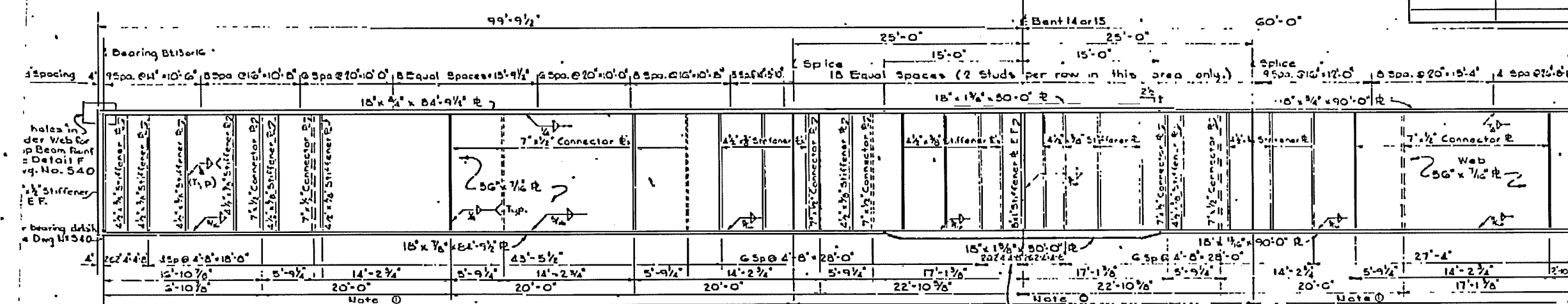
STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 RALEIGH

SPANS 32 & 5
 BRIDGE PLAN

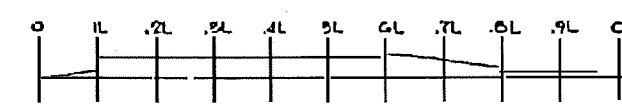
Sta. 156+49.00 N.W. Embank. Necklenburg Cent.

Willis Smith and Associates, Inc. - Design
 CONSULTING ENGINEERS
 1000 S.W. 10th St., Ft. Lauderdale, Fla. 33304
 PHONE: 305-467-1111 FAX: 305-467-1112

STATE PROJECT NO.	543	DESCRIPTION
EST. NO.	24-1(11)	



Note ① Interior Stiffener Plates and Connector Plates to be attached to the top flange with a fillet weld and a tight fit to the bottom flange in this area.
 Note ② Interior Stiffener Plates and Connector Plates to be attached to the bottom flange with a fillet weld and a tight fit to the top flange in this area.

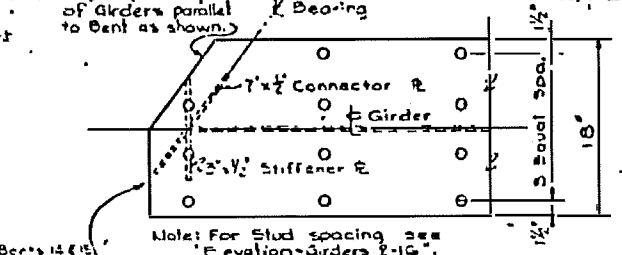


CAMBER DIAGRAM
 No Scale

Note: Values shown below in Camber Table are measured up from base line shown.

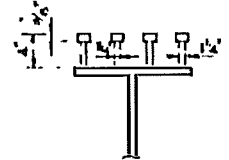
CAMBER		0L	1L	2L	3L	4L	5L	6L	7L	8L	9L	0
Dead Load Girder	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dead Load Slab	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Superimposed Dead Load	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Dead Web Camber	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dead Load Under Deck	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dead Load Slab	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Superimposed Dead Load	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Dead Web Camber	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ELEVATION ~ GIRDERS 2-1G
 No. Scale



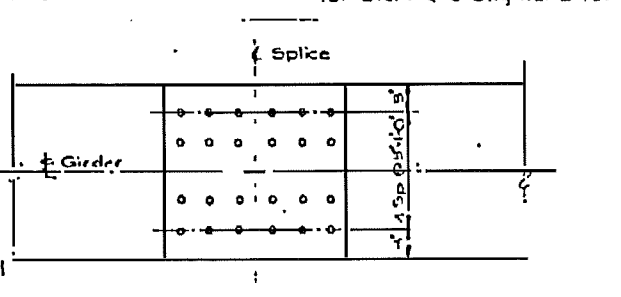
PLAN

Note: When only two (2) studs are used omit the two (2) interior studs.



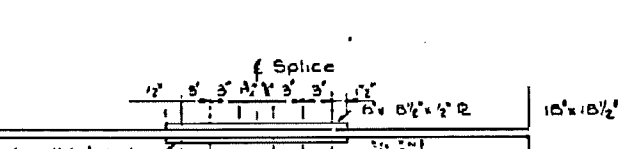
SECTION STUD DETAILS

ELEVATION ~ GIRDERS 2-1G
 No. Scale



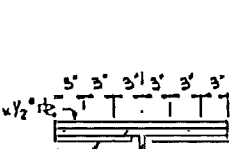
PLAN

Note: For Stud spacing see Elevation ~ GIRDERS 2-1G.

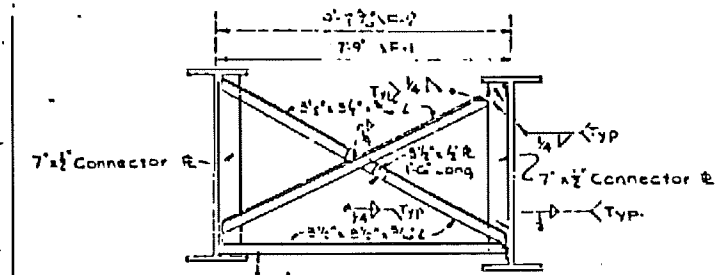


ELEVATION

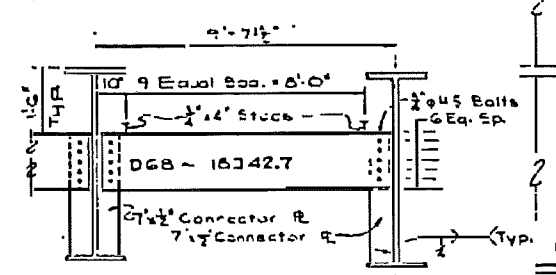
SPICE DETAILS
 Scale: 1/2" = 1'-0"



SECTION



ELEVATION 14-132 14-2
 Scale: 1/2" = 1'-0"



SECTION ~ D-D
 Scale: 1/2" = 1'-0"

GENERAL NOTES

All structural steel for girders and diaphragms shall comply with the latest ASTM Specification A-36.
 Placement of deck concrete shall not commence until all girders have been erected and all cross-bracing is in place except for cross bracing between girders, B and D.
 All studs to be 2 1/2" x 4" x 4" per row unless otherwise noted.
 Camber all girders as shown on Camber Diagram.
 All top and bottom flange plate splices to be ground and full penetration butt weld.
 Five sets of shop plan shall be submitted for approval before fabrication is begun.
 General framing will be required.
 Stiffener plates are to be on one side of interior girders, except for bearing stiffeners which are on each face.
 Stiffener plates are to be on inside face of exterior girders, except for bearing stiffeners which are on each face.
 Stiffener plates shown dashed are for cross-frame connections only and to be omitted on exterior girders only.
 All bolts to be 3/4" High Strength ASTM A-325 Bolts except as noted.
 For requirements for stud shear connectors see Special Provisions.
 Girder splices shall be pinned and bolted before tightening nuts.

Work this sheet with Dwg. No. 541 & 543

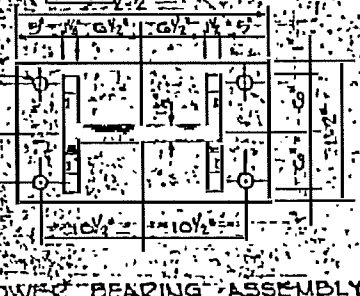
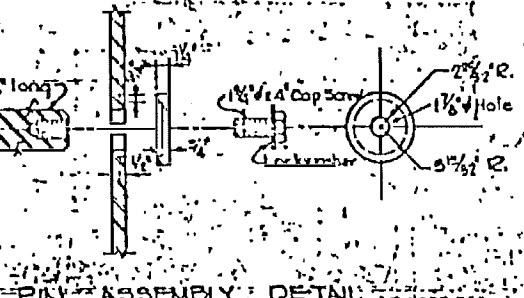
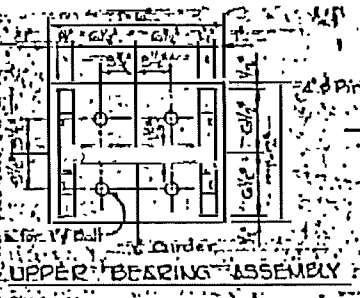
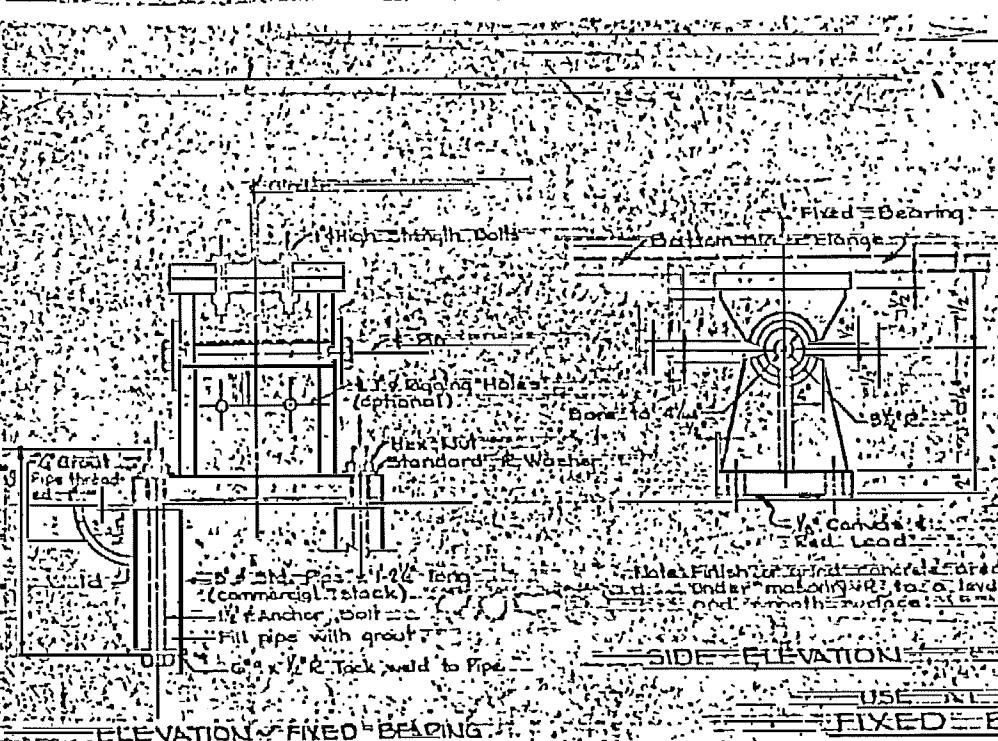
REVISION	DATE	DESCRIPTION	BY

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
 ALBANY

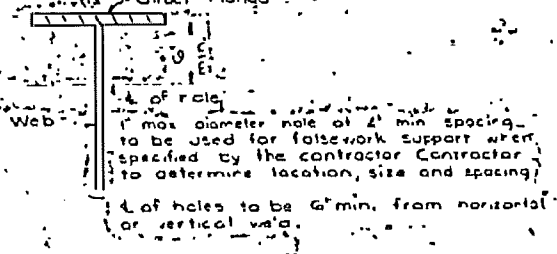
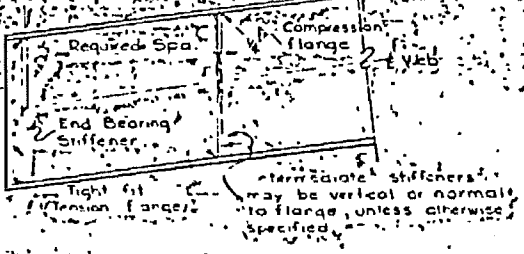
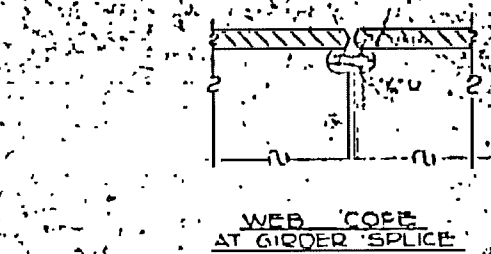
GIRDER DETAILS - 1

Sta. 29+1700.0 - W. Blowing Rock, Mecklenburg Co., N.C.
 WILBUR SMITH AND ASSOCIATES, INC. - DESIGN
 CONSULTING ENGINEERS
 COLUMBUS & E. WASHINGTON SALES, N.C. - DRAWING
 605 N. H. L. 1000 P. O. BOX 1100, SAUTE OULE, N.C. 28782

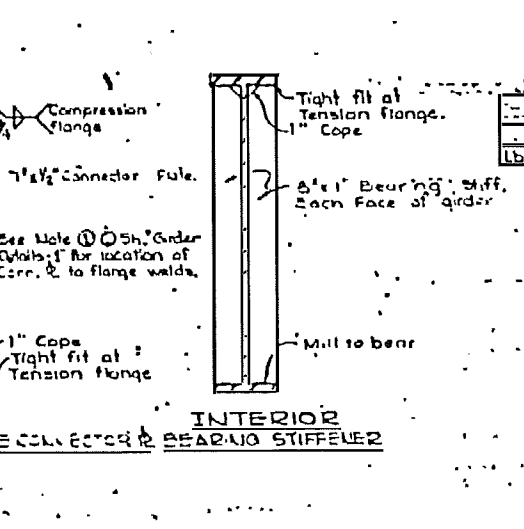
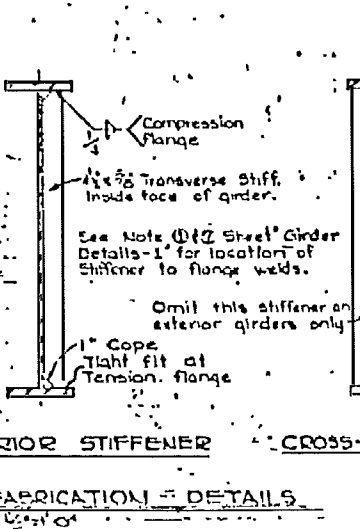
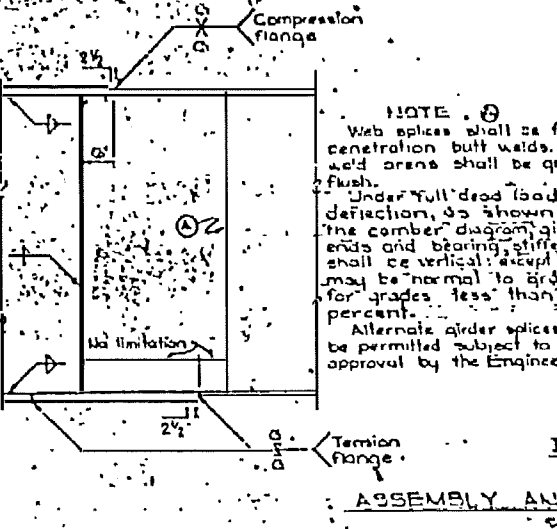
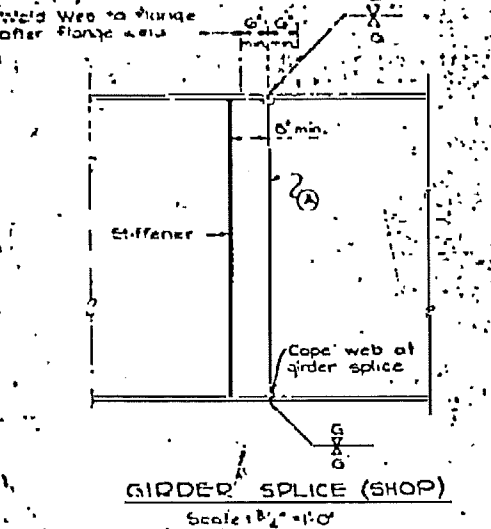
STATE PROJECT NO.	344	DESCRIPTION	1/250
B.1654311	90P24-1116		



All joints to be welded. All ground with fillet welds conforming to AWS Specifications. All weldments to be stress relieved by heat treating after all welding is completed. Materials to be ASTM-A-502. Areas shown shaded and hatched to be machine finished. 4" Pin to be machine finished.



All shop splices in flange and web plates shall be made prior to welding flanges to web plates. Splice other than those shown on the plans will be permitted in the flange plates; however, additional shop web splices will be allowed within the areas shown in the details. The location of the web splices shall be shown on the shop plans. For Shop Web Splice Locations, see "GIRDER SPLICE (SHOP)" this sheet.



NOTE
Web splices shall be full penetration butt welds. All weld areas shall be ground flush. Under full dead load deflection, as shown on the camber diagram, girder ends and bearing stiffeners shall be vertical; except length may be normal to girder for grades less than two percent. Alternate girder splices will be permitted subject to the approval by the Engineer.

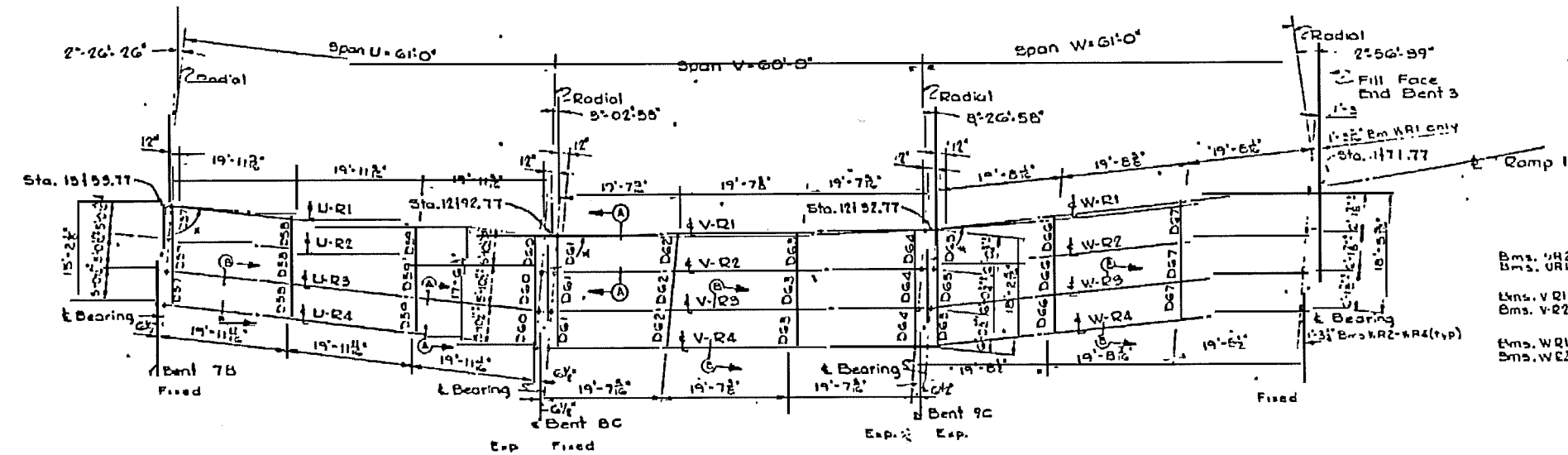
See P.R.B. no 5 page no 13.

ESTIMATE OF STRUCTURAL STEEL	
Continuous Spans P.R.B.	
Lbs	1,311,400

Work this Sheet with Eng. 1454542 SHEET 11 of 13

REVISION	DATE	DESCRIPTION	BY
STATE OF NORTH CAROLINA			
STATE HIGHWAY COMMISSION			
RALEIGH			
GIRDER DETAILS			
315. 1491100 N.W. Express, Wickenburg, C.			
WILBUR SMITH AND ASSOCIATES, INC. DESIGN			
CONSULTING ENGINEERS			
COLUMBIA, S.C. WASHINGTON, D.C. BOSTON, MA			
DLJTS [unclear] HDL [unclear] [unclear]			

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
STATE PROJECT NO.	PA. PROJ. NO.	DESCRIPTION
0.1654 B11	SUF 24-1 (116)	



BEAM SIZES

BEAM	COVER	CANBER
Span U	U	R
Bms. U-R1 to U-R4	10 1/2" x 12" x 25'-0"	Bms. U-R1 to U-R4
Bms. V-R1 to V-R4	10 1/2" x 12" x 25'-0"	Bms. V-R1 to V-R4
Bms. W-R1 to W-R4	10 1/2" x 12" x 25'-0"	Bms. W-R1 to W-R4

PLAN
Scale 1"=10'-0"

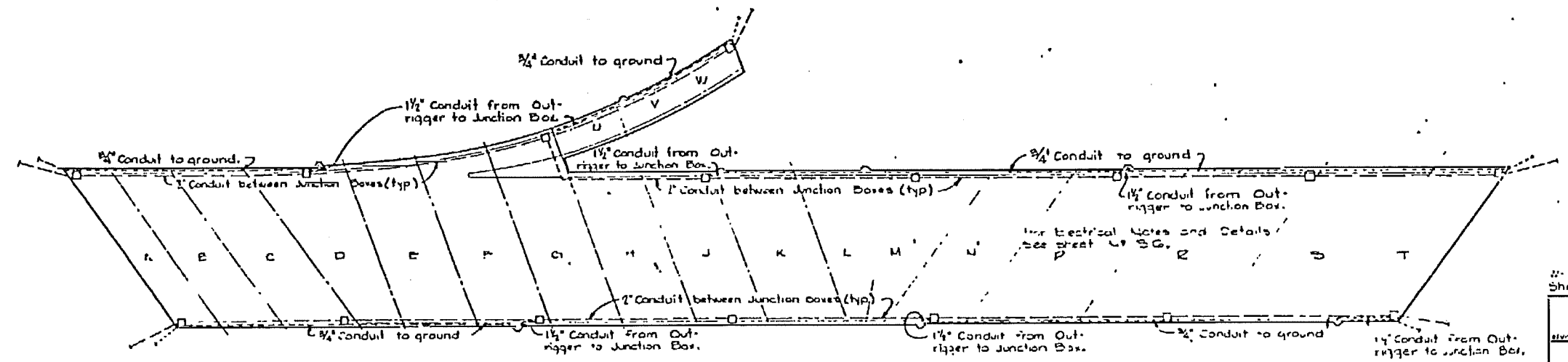
Note: Dimensions shown on this sheet are horizontal.

BEAM ANGLES *

BU #	SPAN U	SPAN V	SPAN W
R1	90° 18' 17"	95° 44' 59"	01° 00' 51"
R2	89° 59' 17"	95° 33' 03"	00° 55' 51"
R3	89° 48' 21"	95° 21' 06"	00° 50' 52"
R4	89° 03' 34"	95° 09' 10"	00° 45' 52"

TOP OF BEAM ELEVATION AT BEARING

BEAM	SPAN U	SPAN V	SPAN W
U-R1	BENT 7B	BENT 8C	BENT 9C
U-R2	758.289	755.422	757.114
U-R3	758.702	755.897	757.572
U-R4	754.114	756.371	758.031
V-R1	754.277	756.826	758.490
V-R2			758.948
V-R3			759.320
V-R4			759.777



LAYOUT FOR ELECTRICAL SYSTEM

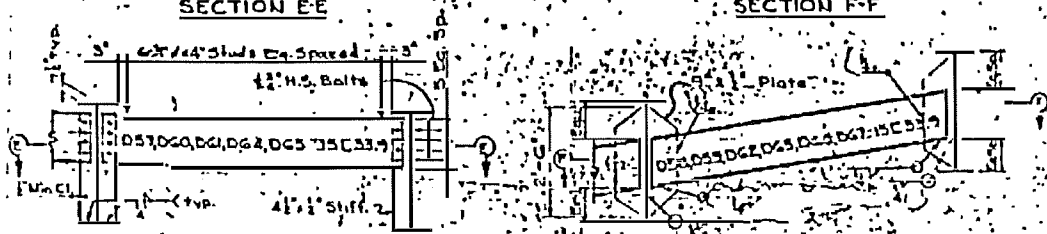
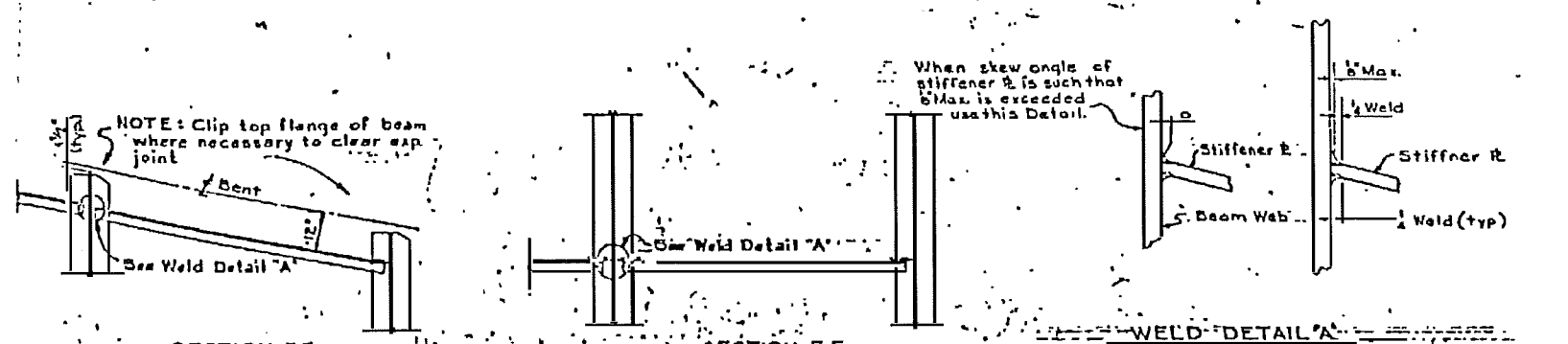
Work this sheet with Exp No. 545 Sheet 12 of 13.

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

**SPANS U, V & W
FRAMING PLAN**

273, 4911700 with Exp. No. Mecklenburg Co.
Miller Smith and Associates, Inc. - Design
CONSULTING ENGINEERS
COLUMBIA S C WASHINGTON S D C DENVER CO
REVISIONS: DATE DESCRIPTION

PROJECT NO.	546	TOTAL SHEETS	150
SHEET NO.	14	DIVISION	
DATE	SUF 24-1(110)		



SPAN	BEARING PLATE		BEARING PLATE	
	SPAN U	SPAN V	SPAN W	SPAN W
R1	59-10	59-10	59-10	59-10
R2	59-10	59-10	59-10	59-10
R3	59-10	59-10	59-10	59-10
R4	59-10	59-10	59-10	59-10

NOTE:
At the Contractors option, he may substitute, for the cover plates designated on the plans, cover plates of equivalent area, provided these plates are at least 1/2" in thickness and do not exceed a width equal to the flange width less 2", or a thickness equal to 1/3 times the flange thickness. The size of the welder attaching these cover plates shall be in accordance with AWS Specifications.

In lieu of the welding procedure for shop and field welds indicated for the intermediate diaphragm connections, the Contractor may, at his option, shop weld the connector plates to the beam webs and field weld the channels to the connector plates. Special care in handling the beam must be observed if the connector plates are shop welded to the beams. The contractor may, at his option, but without change in the contract price of structural steel, use split 15x50 connections bolted to the beam web and welded to the channel diaphragms in lieu of the welded plate intermediate diaphragm connections shown.

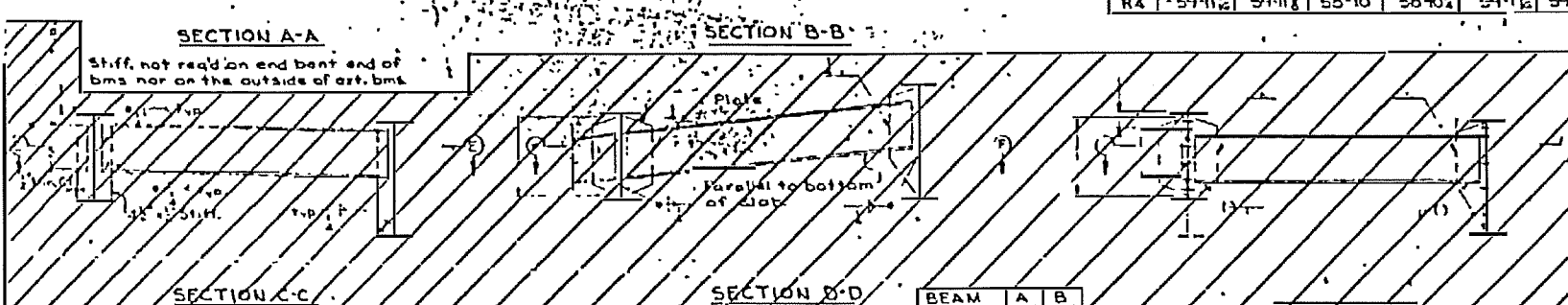
All structural steel shall be ASTM A-36 Grade, except as noted on sheet S-11.

At all fixed points of support, nuts for anchor bolts are to be tightened finger tight and then backed off 1/2 turn. The thread of the nut and bolt shall then be burred with a sharp pointed tool.

For requirements for stud shear connectors, see Special Provisions.

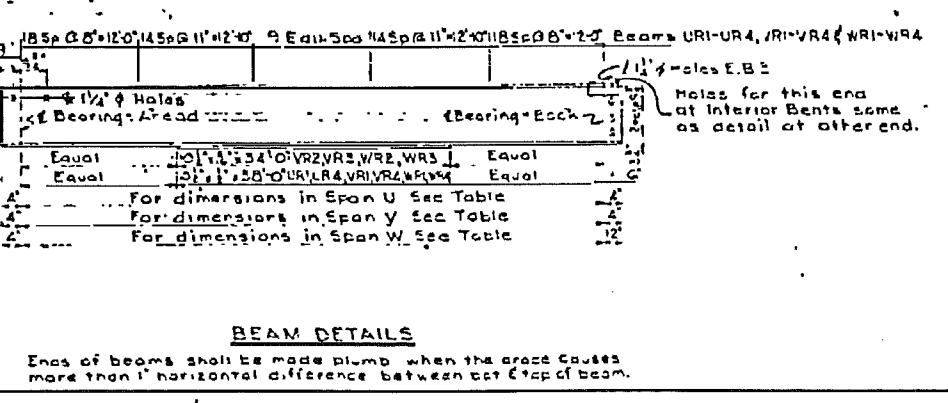
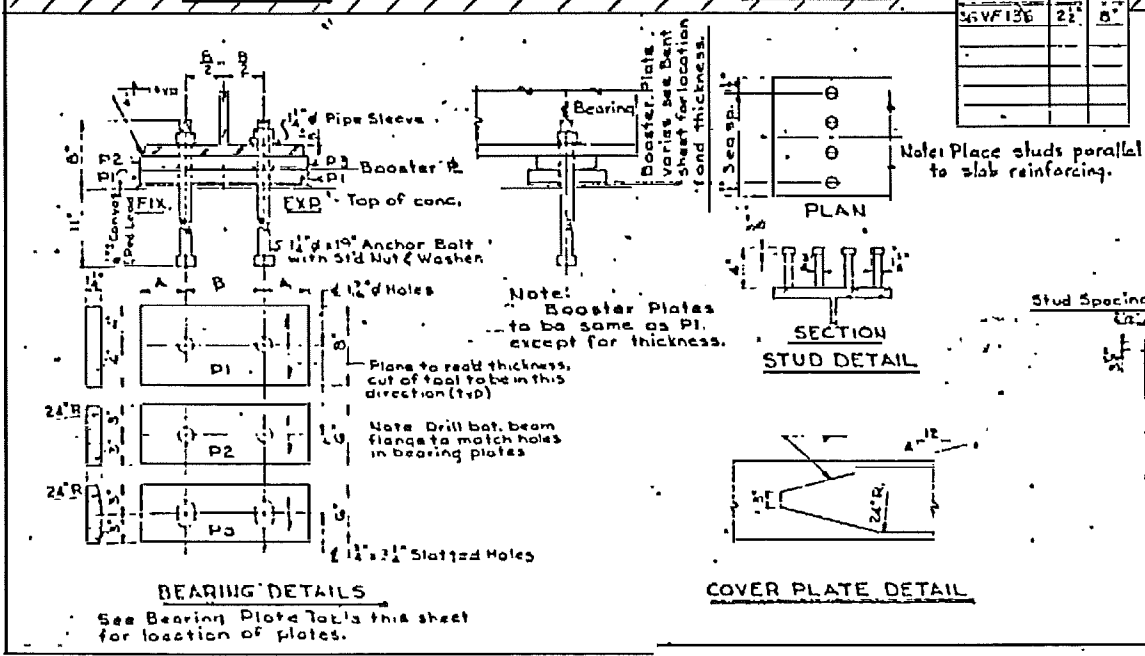
For beam deflections see Construction CI DWG 1590.

For thickness and location of booster plates see individual bent sheets.



BEAM	A	B
36WF136	21"	8"

BEAMS	BEARING PLATES		
	SPAN U	SPAN V	SPAN W
Plates	B1, 7D	B1, BC	B1, BC, B1, 9C, B1, 3
36WF136	P1, P2	URI-UR1	VRI-VR1
	P1, P3	URI-UR2	VRI-VR2 & VRI-VR3



Work this sheet with Dwg No. 544 Sheet 3 of 13

ESTIMATED WEIGHT OF STRUCTURAL STEEL		
SPAN U	SPAN V	SPAN W
28,900	29,300	39,100

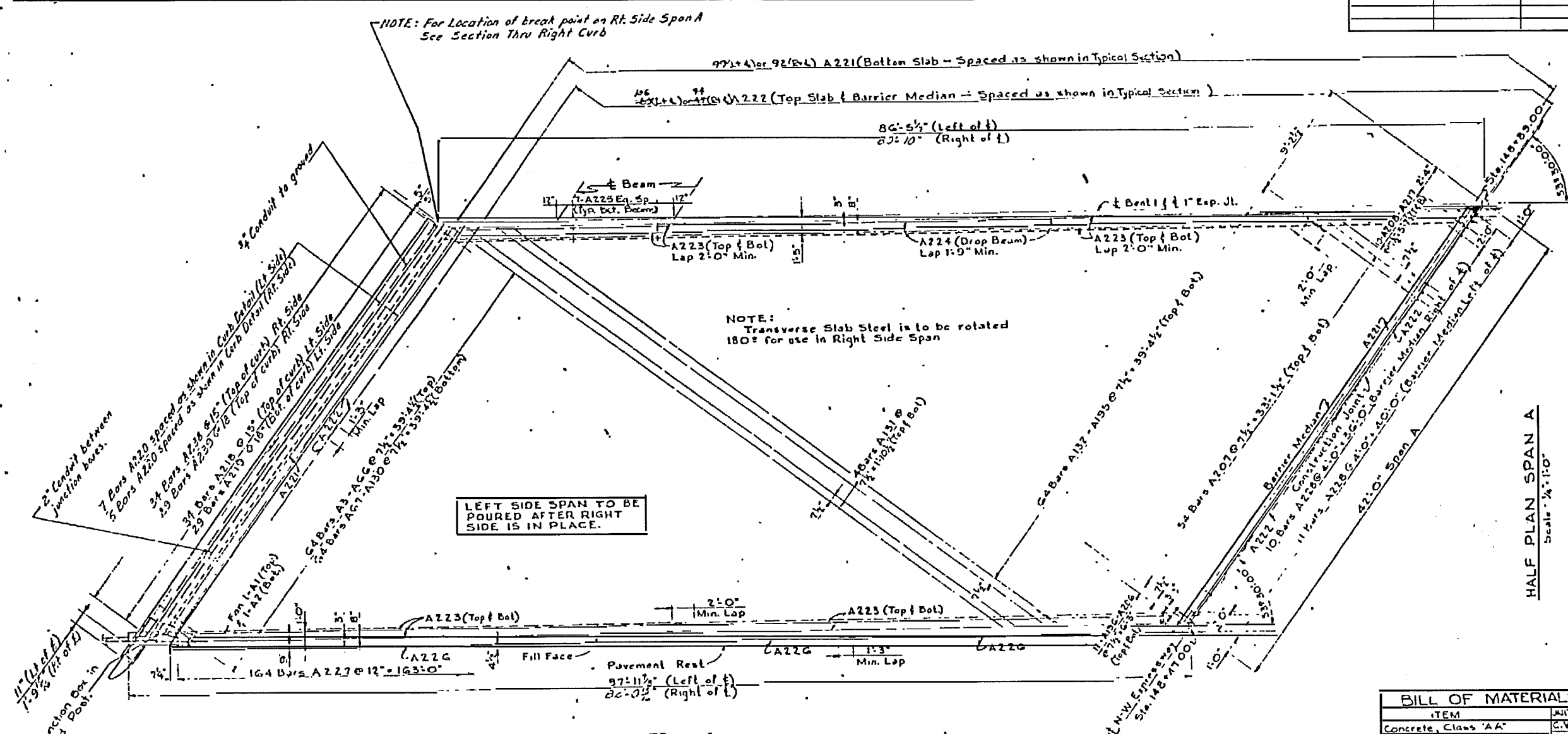
See P&I on 3 pages 214, 215, 216, 217

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

SPANS U, V & W
FRAMING PLAN

Sta 149+17.00 to 151+00.00
W. L. Smith and Associates, Inc. - Design
CONSULTING ENGINEERS
1000 S. W. 10th St., Ft. Lauderdale, Fla. 33304
Tel: 305-546-1111

PROJ REFERENCE NO	SHEET NO	TOTAL SHEETS
STATE PROJECT NO	SA PROJ NO	DESCRIPTION
8 16 5 1 B 11	60E-1-11116	



NOTE: For Location of break point on Rt. Side Span A
See Section Thru Right Curb

NOTE:
Transverse Slab Steel is to be rotated
180° for use in Right Side Span

LEFT SIDE SPAN TO BE
POURED AFTER RIGHT
SIDE IS IN PLACE.

NOTE:
Left Side Span shown, Right
Side same except as noted.

BILL OF MATERIALS	
ITEM	UNIT QUANTITY
Concrete, Class "A"	C.Y. 751.0
Reinforcing Steel	lbs. 45,121
Sealed Oil Conc. Protection	sq. ft. 19,121
	45,121

See RRB no. 1 page no. 17
SHEET 11 of 31

REVISION	DATE	DESCRIPTION

NOTES:
For TYPICAL SECTION see Sheet NO 27 of 31
For CURB DETAIL see Sheet NO 28 of 31
For STANDARD DETAILS see Sheet NO 24 of 31
For Reinforcing Steel and Bending Details see Sp. 27 of 31
Bars A190-A217 to stop at construction joint in Left Side Span and to extend 2' minimum aft of construction joint when used in Right Side Span.
For END WALL see Sheet NO 26 of 31
Revision No 1: Revised Class AA Concrete Quantities for Barrier Median due to raising height 12 in and correct total of concrete.
dyc:cs 164 10 April 8, 1970

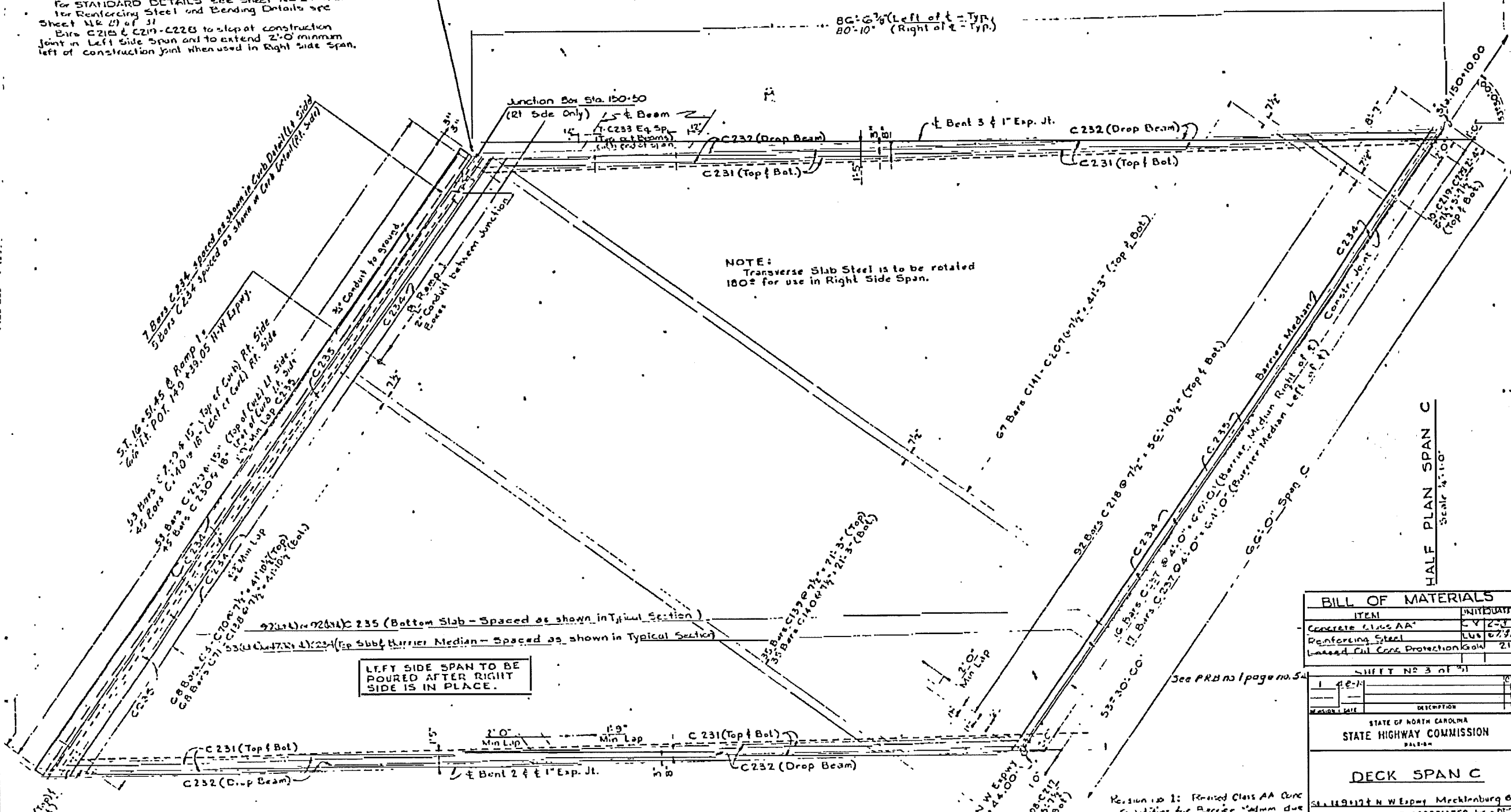
DECK SPAN A	
Sta 149+17.4 N.W. Edwy Mecklenburg Co.	
WILBUR SMITH AND ASSOCIATES, INC. - DCSH	
CONSULTING ENGINEERS	
WILSON RALEY, P.E.	
CONTRACT NO. WAE 100-5000 DATE - 6/81 PAGE 222	

PROJ. ELEMENT NO.	SHEET NO.	TOTAL SHEETS
STATE PROJECT NO.	FA. PROJ. NO.	DESCRIPTION
1e54811	GVF 24-1(111)	

NOTES:
 For TYPICAL SECTION see Sheet No 27 of 31
 For CURB DETAIL see Sheet No 28 of 31
 For STANDARD DETAILS see Sheet No 24 of 31
 For Reinforcing Steel and Bending Details see Sheet No 25 of 31
 Bars C215 & C219-C226 to stop at construction joint in Left Side Span and to extend 2'-0" minimum left of construction joint when used in Right Side Span.

NOTE: For Location of break point on Rt. Side Span C
 See Section Thru Right Curb

86'-6 3/4" (Left of t = Typ.)
 80'-10" (Right of t = Typ.)



NOTE:
 Transverse Slab Steel is to be rotated 180° for use in Right Side Span.

LEFT SIDE SPAN TO BE
 POURED AFTER RIGHT
 SIDE IS IN PLACE.

NOTE:
 Left Side Span shown Right
 Side same except as noted.

HALF PLAN SPAN C
 Scale 1/4" = 1'-0"

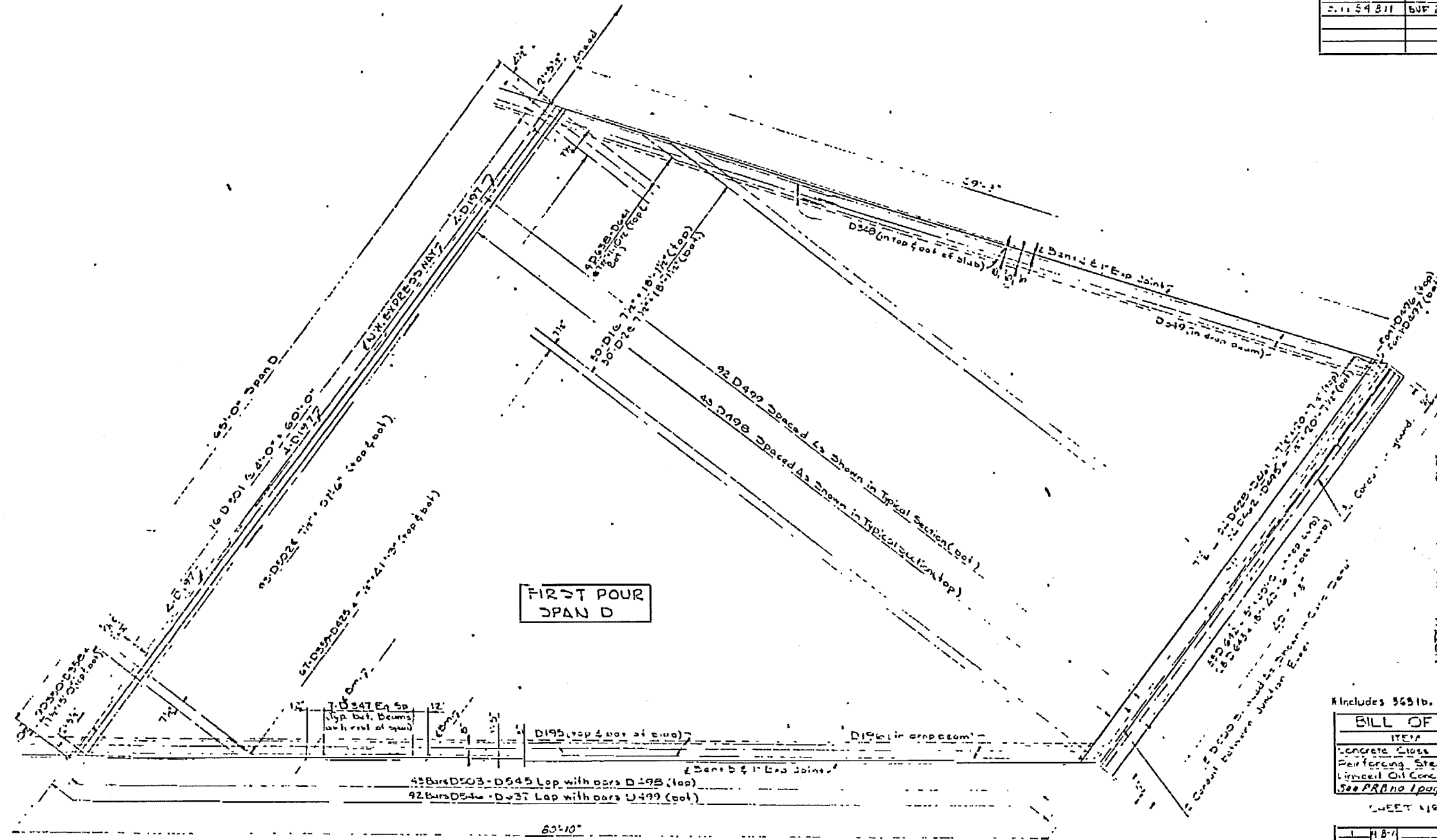
BILL OF MATERIALS	
ITEM	QUANTITY
Concrete Class AA	CY 22.7
Reinforcing Steel	LBS 67.92
Loosened Oil Core Protection Gou	21

SHEET NO 3 of 31	
DATE	DESCRIPTION
STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION	

DECK SPAN C
 15189374 N W Espy Mecklenburg Co.
 WILBUR SMITH AND ASSOCIATES, INC. - DESIGN
 CONSULTING ENGINEERS
 1000 W. W. W. Ave. Raleigh, N.C. 27601
 10/15/77

Revision 10: Revised Class AA Conc
 quantities for Barrier Median due
 to raising height 12" and correct
 total of conc. 2/22/77 April 77

PROJ REFERENCE NO	SHEET NO	TOTAL SHEETS
STATE PROJECT NO	FA PROJ NO	DESCRIPTION
2.11 54811	6VF 24 (111)	



FIRST POUR
SPAN D

Includes 565 lb. for outrigger.

ITEM	QUANTITY
Concrete Class AA	232'
Reinforcing Steel	68.84
Linseed Oil Core Protection	21

See PRB no 1 page no 72.

NOTES:
 For TYPICAL SECTION see Sheet 110 27 of 31
 For CURB DETAIL see Sheet 110 28 of 31
 For STANDARD DETAILS see Sheet 110 24 of 31
 For Reinforcing Steel and Bundling Lists see Sheet 110 29 of 31
 Revision No 1: Revised Class AA Concrete Quantities for Barres
 Medium tie rod raising height 12 in and
 correct total of concrete by 11.2 K.
 April 10, 1970

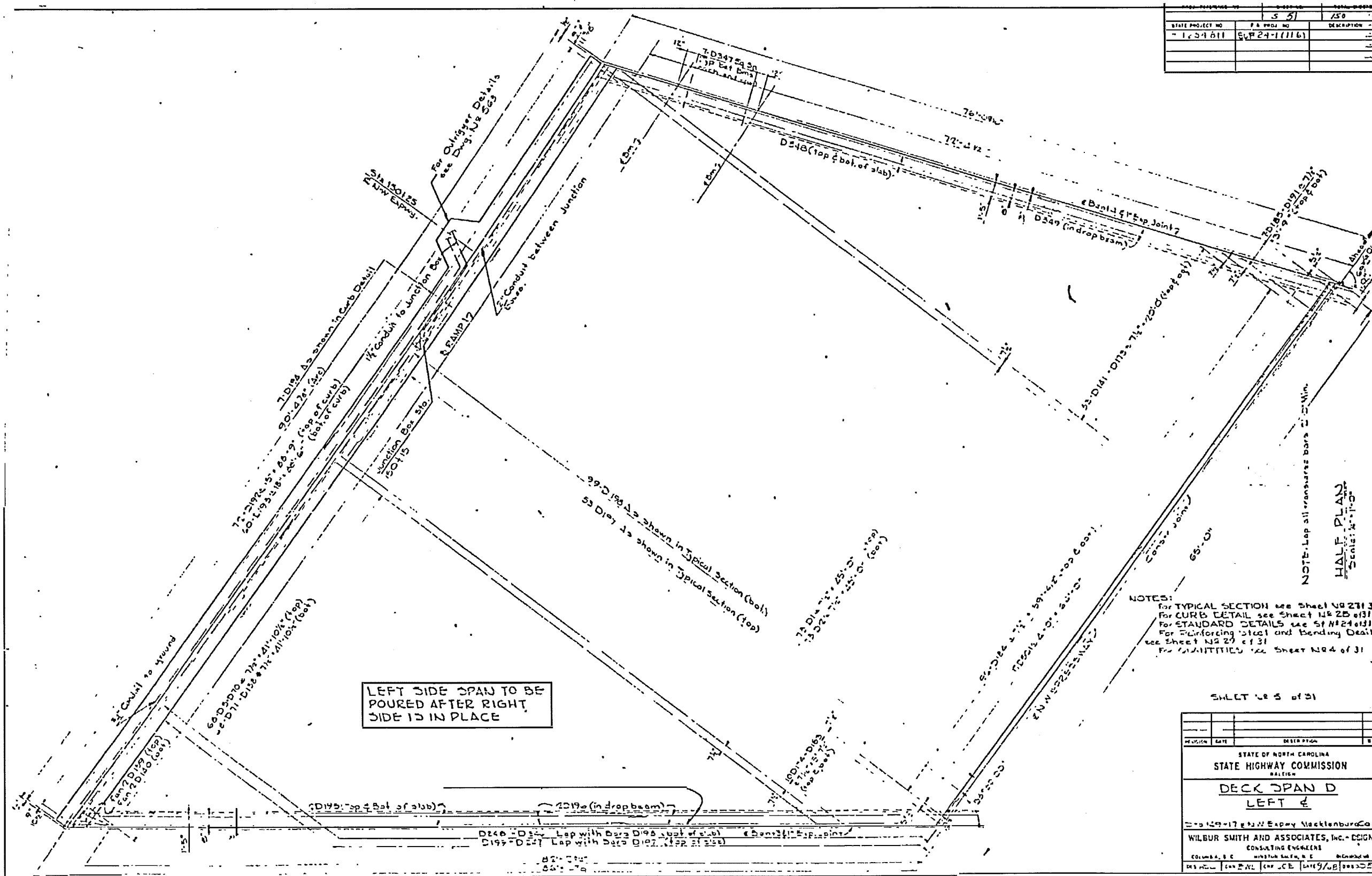
NO	REV	DATE	DESCRIPTION	BY

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 Raleigh

DECK SPAN D
 RIGHT E

210 12517 & VA Engrs. Mecklenburg Co
 WILBUR SMITH AND ASSOCIATES, INC. - DESIGN
 CONSULTING ENGINEERS
 COLUMBIA, S.C. & WILMINGTON, N.C. MEMPHIS, TENN.

STATE PROJECT NO.	551	ASD
F & PROJ NO.	EV 24-1(116)	
DESCRIPTION		



LEFT SIDE SPAN TO BE
POURED AFTER RIGHT
SIDE IS IN PLACE

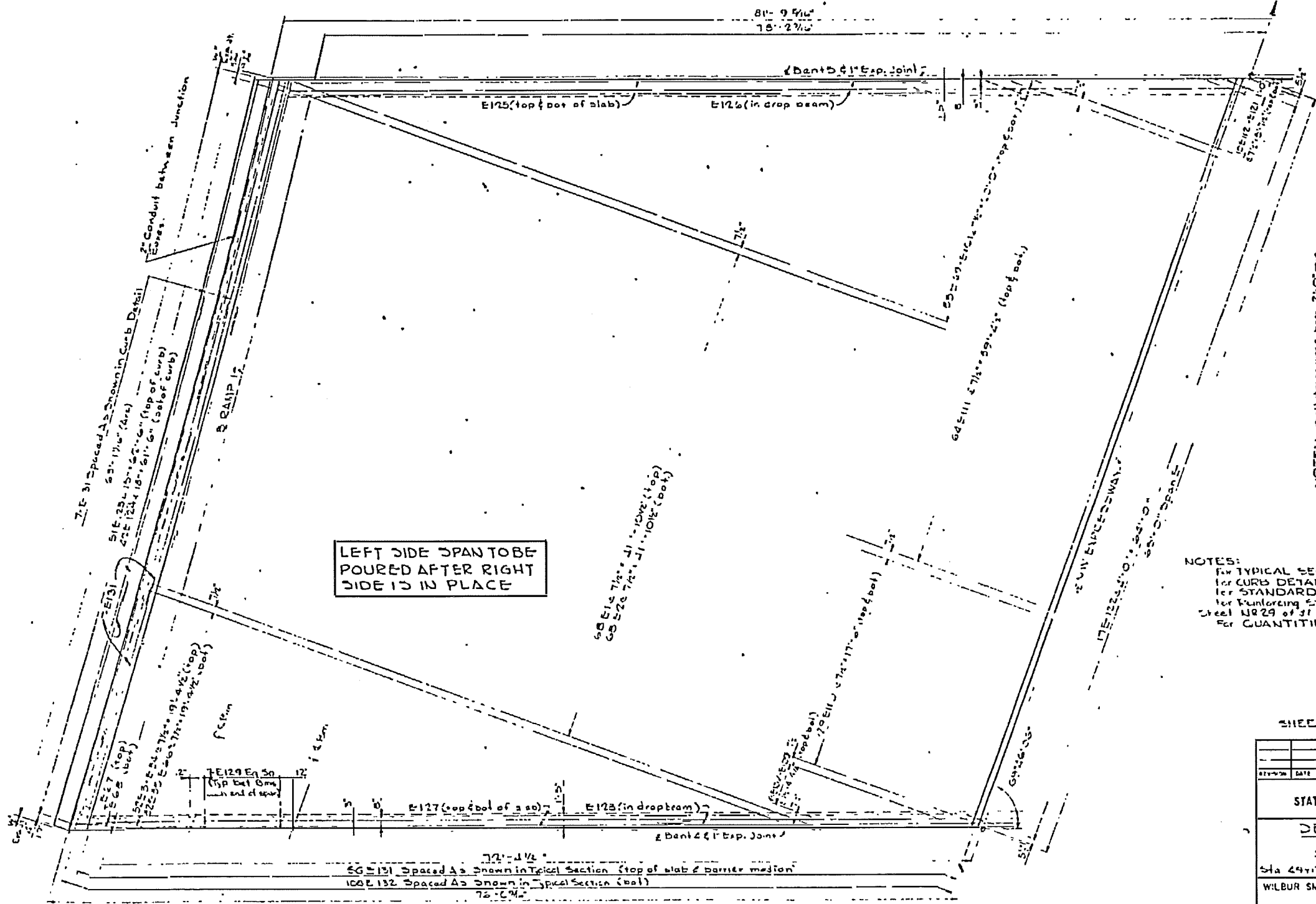
NOTES:
 For TYPICAL SECTION see Sheet N22131
 For CURB DETAIL see Sheet N220131
 For STANDARD DETAILS see S1 N224131
 For REINFORCING STEEL and BENDING DETAILS
 see Sheet N229131
 For DIMENSIONS see Sheet N24 of 31

NOTE: Lap all transverse bars 2' Min.
 HALF PLAN
 Scale: 1/4" = 1'-0"

SHEET N25 of 31

DATE	DESCRIPTION	BY
STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION		
DECK SPAN D LEFT		
24-17 E. W. Expwy. Rockledge, N.C.		
WILBUR SMITH AND ASSOCIATES, Inc. - DESIGN CONSULTING ENGINEERS		
COLUMBIA, S.C.	WILBUR SMITH, P.E.	DESIGNED BY
DATE	DATE	DATE

STATE PROJECT NO	PA PROJ NO	DESCRIPTION
S 165-1811	SUP 27-11114	

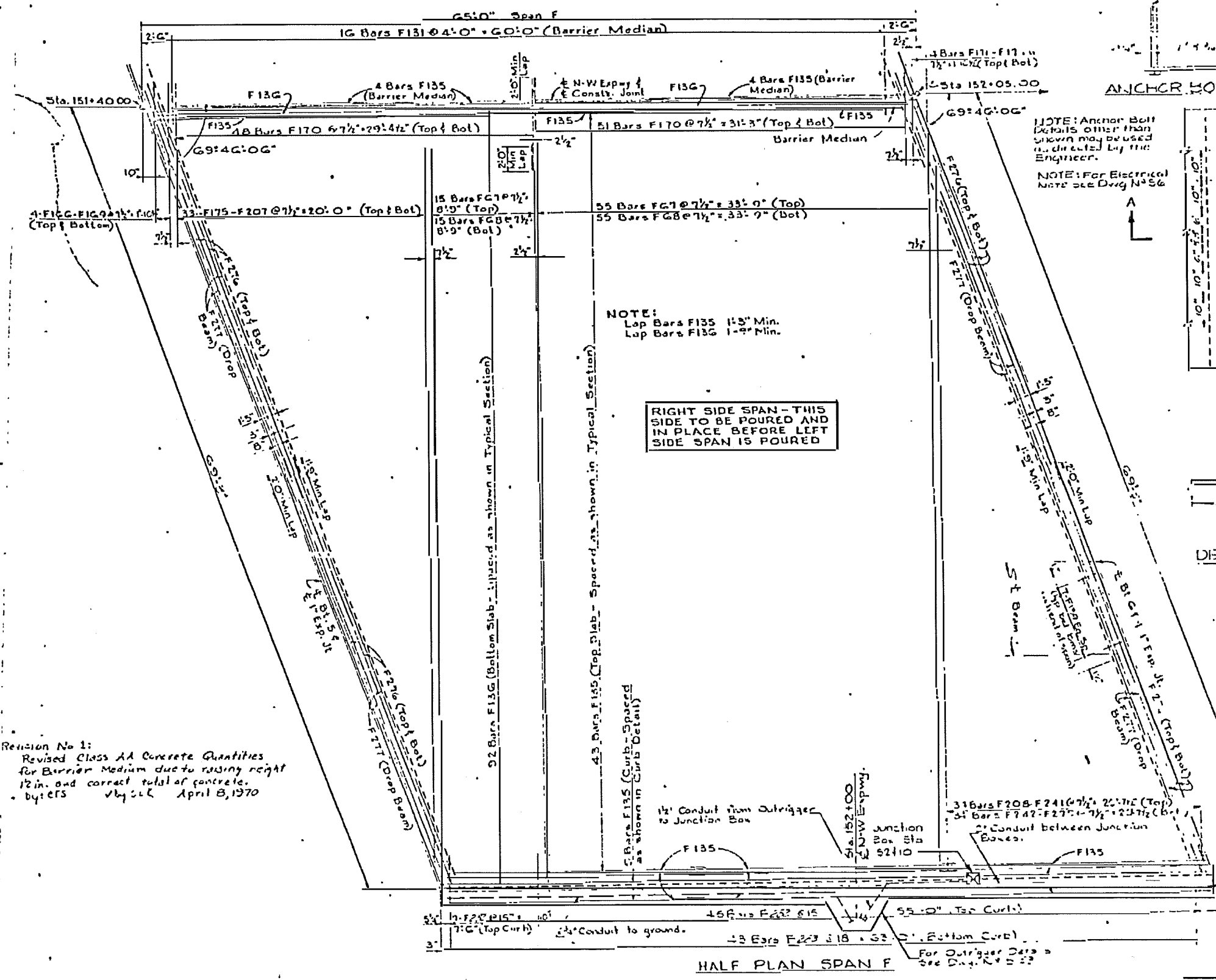


NOTES:
 For TYPICAL SECTION see Sheet NR 27 of 31
 For CURB DETAIL see Sheet NR 26 of 31
 For STANDARD DETAILS see Sheet NR 24 of 31
 For Reinforcing Steel and Bending Details see Sheet NR 29 of 31
 For QUANTITIES see Sheet NR 6 of 31

SHEET 1147 of 31

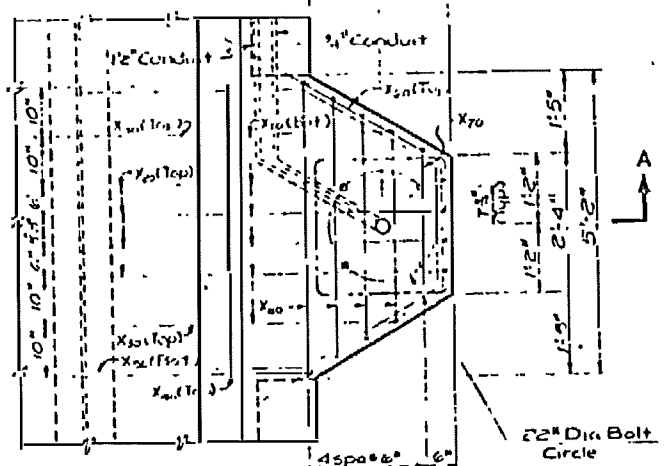
DATE	DESCRIPTION
STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION	
DECK SPAN E LEFT	
Sta 44+7.6 NW Expy. Mecklenburg Co	
WILBUR SMITH AND ASSOCIATES, INC.-DESIGN	
CONSULTING ENGINEERS	
EDWARDS, S. C. WILSON, S. E. C. WILSON, S. E. C.	
MEMPHIS, TENN. 38102	

PROJECT NO.	54	TOTAL SHEETS	150
STATE PROJECT NO.	24-1116	DATE	4-8-70



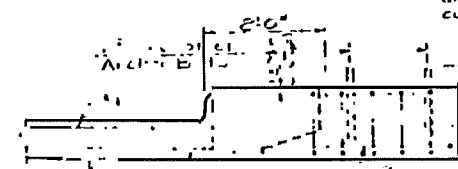
ANCHOR BOLT DETAILS

NOTE: Anchor Bolt Details other than shown may be used as directed by the Engineer.
 NOTE: For Electrical Note see Draw No 56



PLAN

NOTE: No const joint allowed between safety curb and outrigger.



SECTION AA

DETAILS OF OUTRIGGER BRACKET

SEE TYPICAL SECTION - SHEET 115 OF 31 FOR CURB DETAILS - SEE SHEET 116 OF 31 FOR STAIRCASE DETAILS - SEE SHEET NO 24 OF 31 FOR REINFORCING STEEL AND BRACKETING DETAILS - SEE SHEET 116 OF 31

*Includes 3531b for outrigger.

BILL OF MATERIAL		
ITEM	UNIT	QUANTITY
Concrete, Class "AA"	CY	2.69
Reinforcing Steel	Lbs.	7564
Lined Oil Cone Protection	Gals.	22
See P.R. 202, page 17.		(7113)

Scale: 1/4" = 1'-0"

SHEET NO 8 of 31

REVISION DATE DESIGNER
 STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

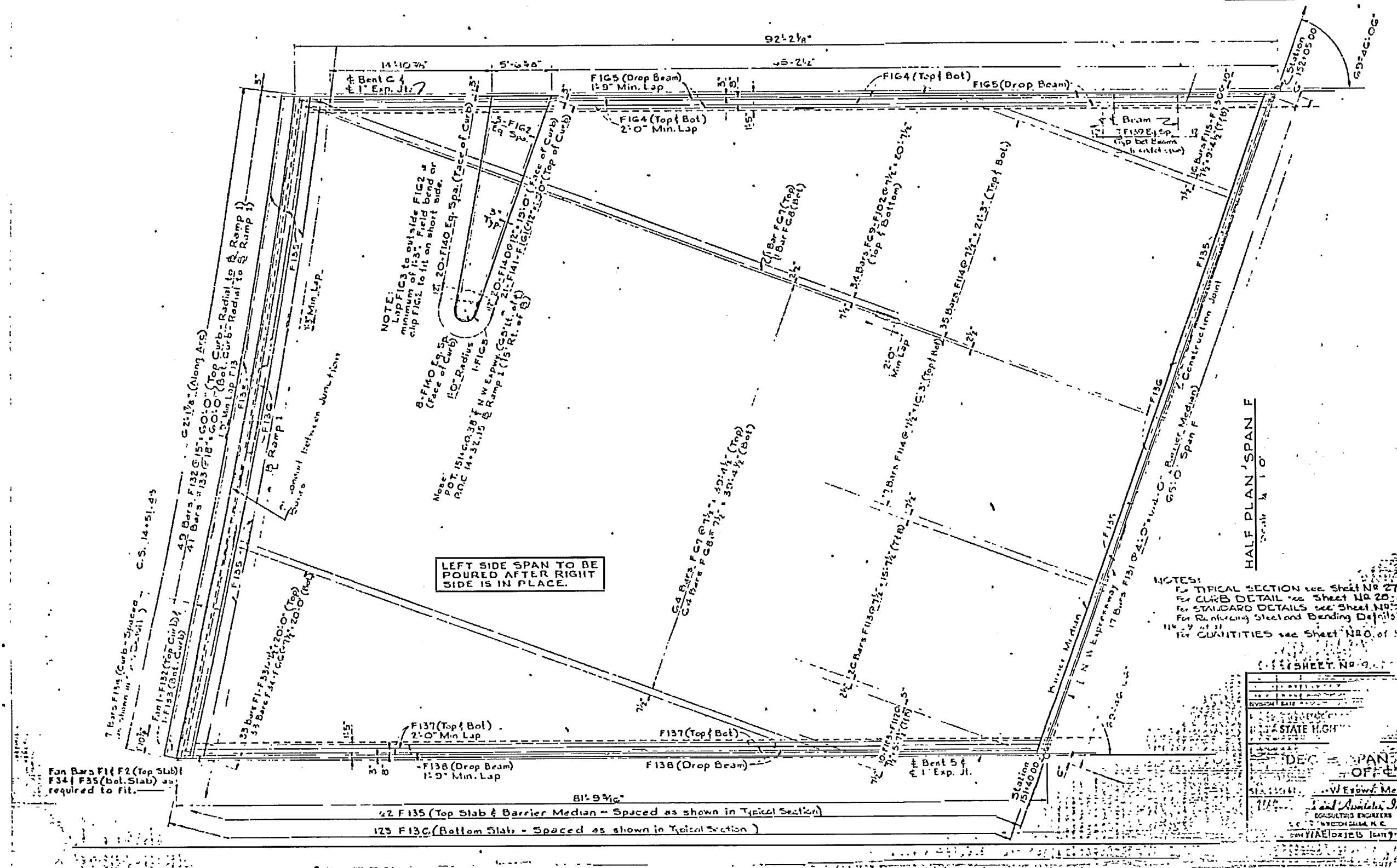
**DECK SPAN F
 RIGHT OF E**
 Sta 149+17.4 N.W. Espy, Mecklenburg Co.
 Wilbur Smith and Associates, Inc. - Design
 CONSULTING ENGINEERS
 COLUMBIA S.C. DIVISION S.W. E. RICHMOND
 411124 DOW WAE. CHART. DATE: 9-68 DWG NO: 202

Revision No 1:
 Revised Class AA Concrete Quantities for Barrier Medium ducts raising height 12 in. and correct total of concrete.
 by: EFS vby: S.L.C. April 8, 1970

RIGHT SIDE SPAN - THIS SIDE TO BE POURED AND IN PLACE BEFORE LEFT SIDE SPAN IS POURED

HALF PLAN SPAN F

STATE PROJECT NO.	1555	DATE	1/50
51051111	EXP 27-1(111)	DESIGNER	



NOTE:
Lap FIGs to outside FIG2
minimum of 1'-3". Field bend or
clip FIGs to fit on short side.

Note:
POT 15'-0" x 39" N.W. Expwy. (Top)
RNC 14'-3" x 15" Ramp 1 (15' Rt. of B)

LEFT SIDE SPAN TO BE
POURED AFTER RIGHT
SIDE IS IN PLACE.

NOTES:
1. TYPICAL SECTION see Sheet No. 27-1(111)
2. CURB DETAIL see Sheet No. 20-1(111)
3. STANDARD DETAILS see Sheet No. 22-1(111)
4. For Reinforcing Steel and Bending Details
5. QUANTITIES see Sheet No. 20-1(111)

HALF PLAN SPAN F
Scale 1/4" = 1'-0"

For Bars F1(F2(Top Slab)
F34(F35(Bot. Slab)) as
required to fit.

42 F135 (Top Slab & Barrier Median - Spaced as shown in Typical Section)
123 F136 (Bottom Slab - Spaced as shown in Typical Section)

SHEET NO. 9

STATE HIGHWAY DEPARTMENT

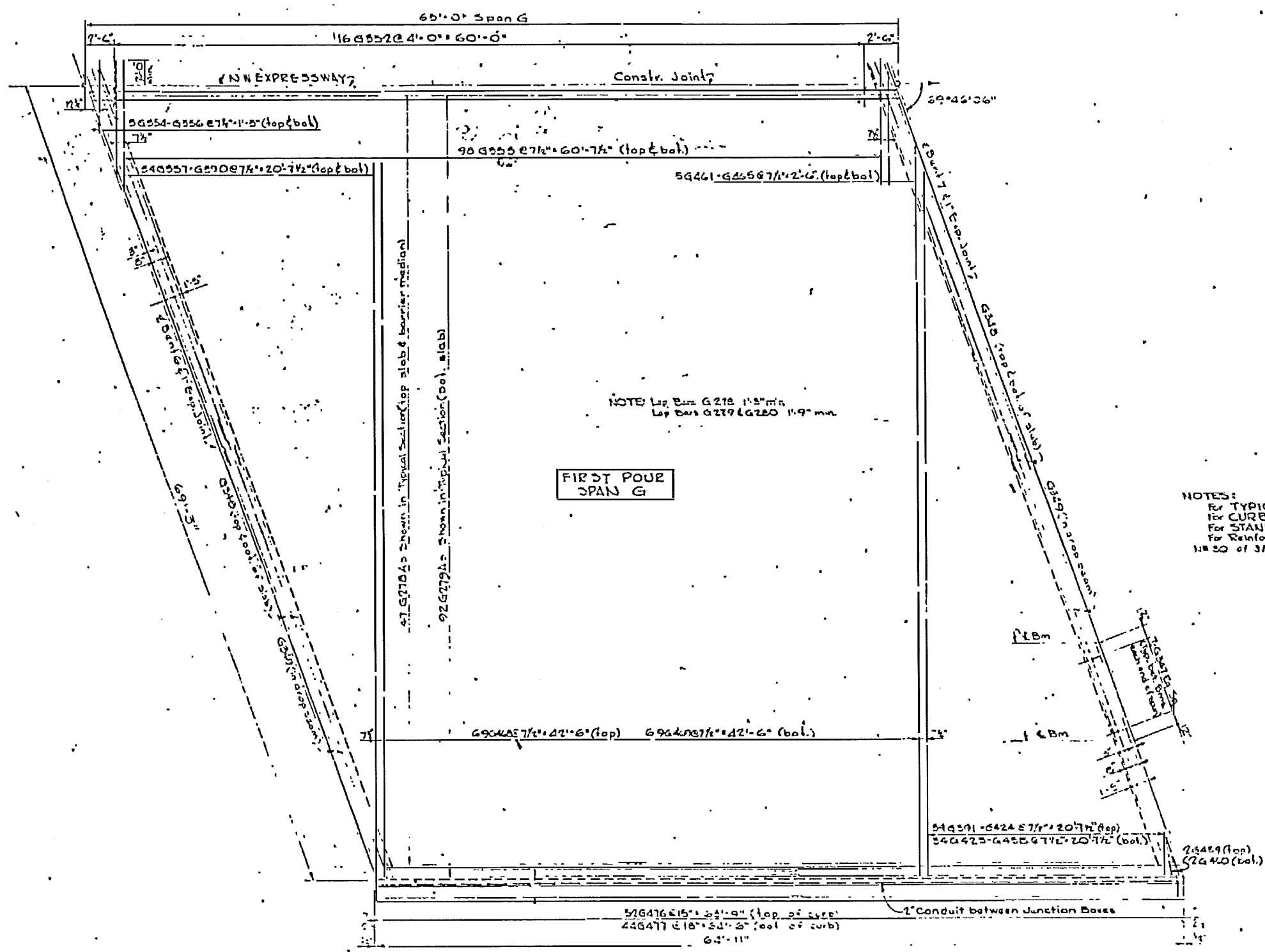
DESIGNER: SPAN F

OFFICE: W. E. G. MECKENB

ENGINEER: W. E. G. MECKENB

DATE: 1/50

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
STATE PROJECT NO.	556	150
81654811	BUF24-1(116)	



NOTE: Lap Bars G218 1'-0" min.
Lap Bars G219 G220 1'-9" min.

FIRST POUR SPAN G

NOTES:
For TYPICAL SECTION see Sheet NR 27 of B1
For CURB DETAIL see Sheet NR 28 of B1
For STANDARD DETAILS see Sheet NR 24 of B1
For Reinforcing Steel and Bending Details see sheet 1:20 of B1

Revision No. 1:
Revised Class AA Concrete Quantities for Barrier Medium due to raising height 1 1/2 in. and correct total along by: EFS 1 by: CLK April 1970

BILL OF MATERIALS	
ITEM	QUANTITY
Concrete, Class "AA"	CY. 293.8
Reinforcing Steel	Lbs. 8167
Linseed Oil Cons. Protection	Sls. 24
See PRB no. 2, page 70-57	

SHEET NO 10 OF 31

1 4-8-70

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

DECK SPAN G
RIGHT &

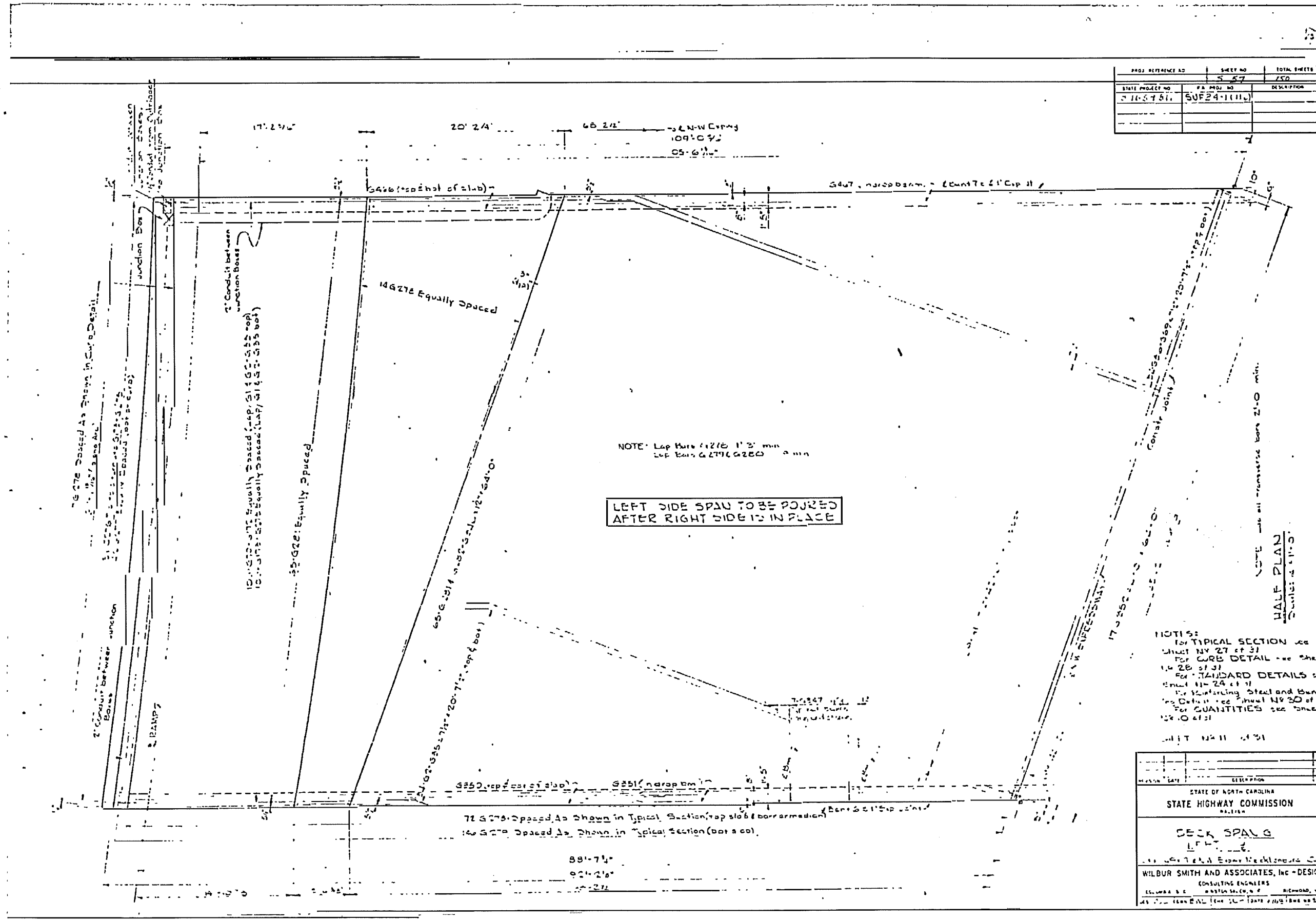
3rd L29 - I-77 Expwy. near Lenoir Co.
Willie Smith and Associates, Inc. - Lenoir
CONSULTING ENGINEERS
COLUMBIA ST. WASHINGTON, N.C. 28080
411101 000101 04 108 048 9/65 000082

HALF PLAN
Scale: 1/4" = 1'-0"

30778 As Shown in Curb Detail

NOTE: Lap transverse bars 2'-0" min.

PROJ REFERENCE NO.	SHEET NO.	TOTAL SHEETS
STATE PROJECT NO.	FA PROJ NO.	DESCRIPTION
5165451	50F24-1(10)	



LEFT SIDE SPAN TO BE POURED AFTER RIGHT SIDE IS IN PLACE

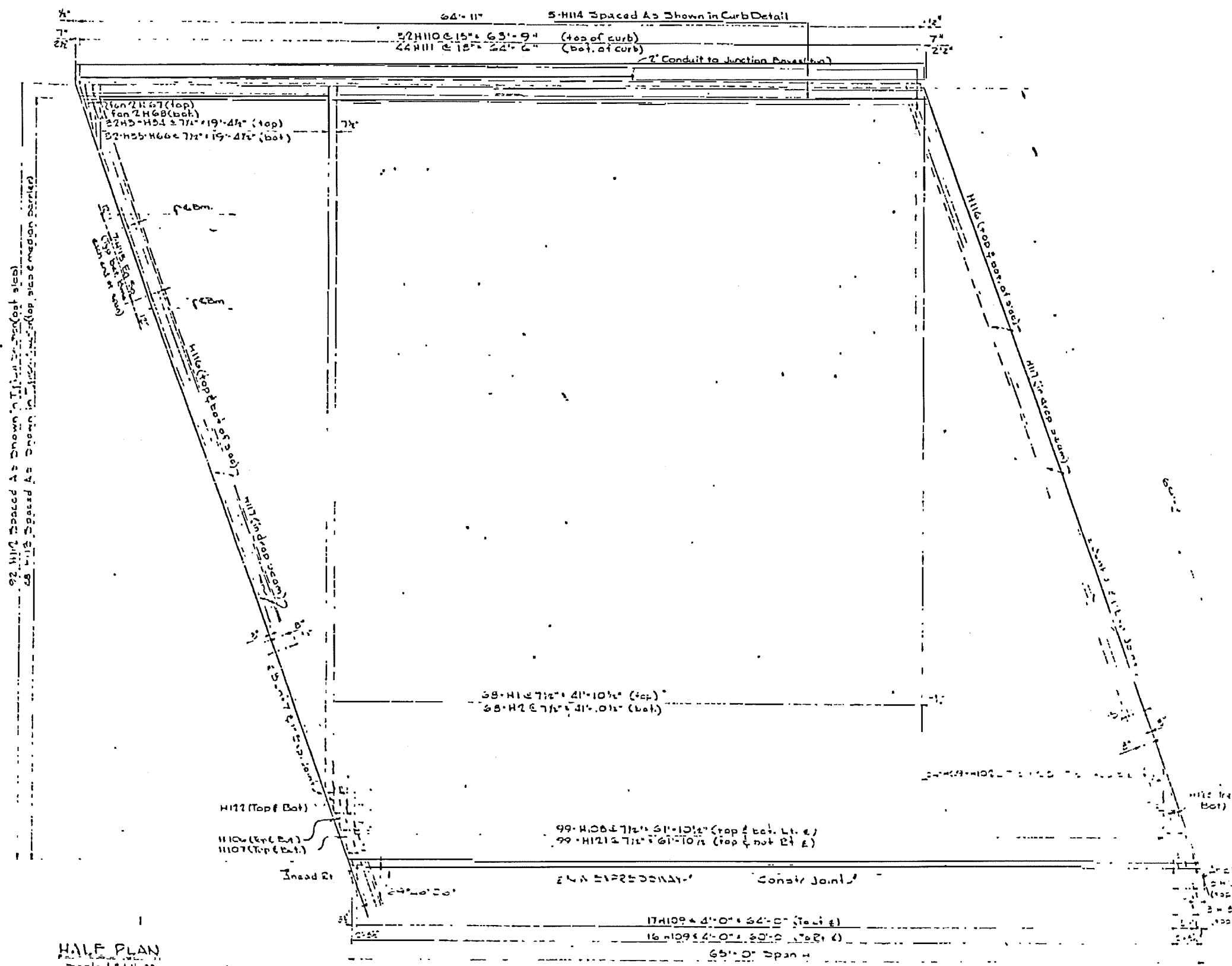
NOTE: Lap Bars (12/8 1' 3" min. / 2# 2796 6220 1' min.)

NOTES:
 For TYPICAL SECTION see sheet NY 27 of 31
 For CURB DETAIL see sheet NY 28 of 31
 For STANDARD DETAILS see sheet NY 24 of 31
 For Reinforcing Steel and Bond see Detail see sheet NY 30 of 31
 For QUANTITIES see sheet NY 30 of 31

DATE	DESCRIPTION
STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION RALEIGH	
DECK SPAN	
L.F.D.	
WILBUR SMITH AND ASSOCIATES, Inc - DESIGN CONSULTING ENGINEERS COLUMBUS BLDG. 1001 W. Hargett St. RICHMOND, VA 48-11-1968 P.L.L. (See 10-1968 P.L.L. 1001)	

HALF PLAN
 Scale: 1" = 10'

PROJ REFERENCE NO	SHEET NO	TOTAL SHEETS
	5 58	150
STATE PROJECT NO	F.A. PROJ NO	DESCRIPTION
1654811	SUP 24-11116	



NOTES:
 1. REINFORCING SECTION - see sheet no 27-181
 2. CURB DETAIL see sheet no 26 of 31
 3. TANGENTIAL DETAILS see sheet no 24-111
 for Reinforcing Steel and Bending Details see sheet no 25 of 31
 4. All transverse bars 2'-0" min

LEFT SIDE SPAN SHOWN, RIGHT SIDE SAME EXCEPT AS NOTED.

Superstructure to be rotated about 2 Span of Bridge 180° for right side.

LEFT SIDE SPAN TO BE POURED AFTER RIGHT SIDE IS IN PLACE

Extend bars #11B-#12 a minimum of 2'-0" to the left of the construction joint.

Revision No 1:
 Revised CLASS AA Concrete Quantities for Summer Medium due to raising height 1' in and correct total of conc. by c/s by 1/16 April 60

BILL OF MATERIALS	
ITEM	AMT QUANTITY
Concrete Class AA	2.39
Reinforcing Steel	Lbs of 80
Unread Oil Conc. Protection Gals	20

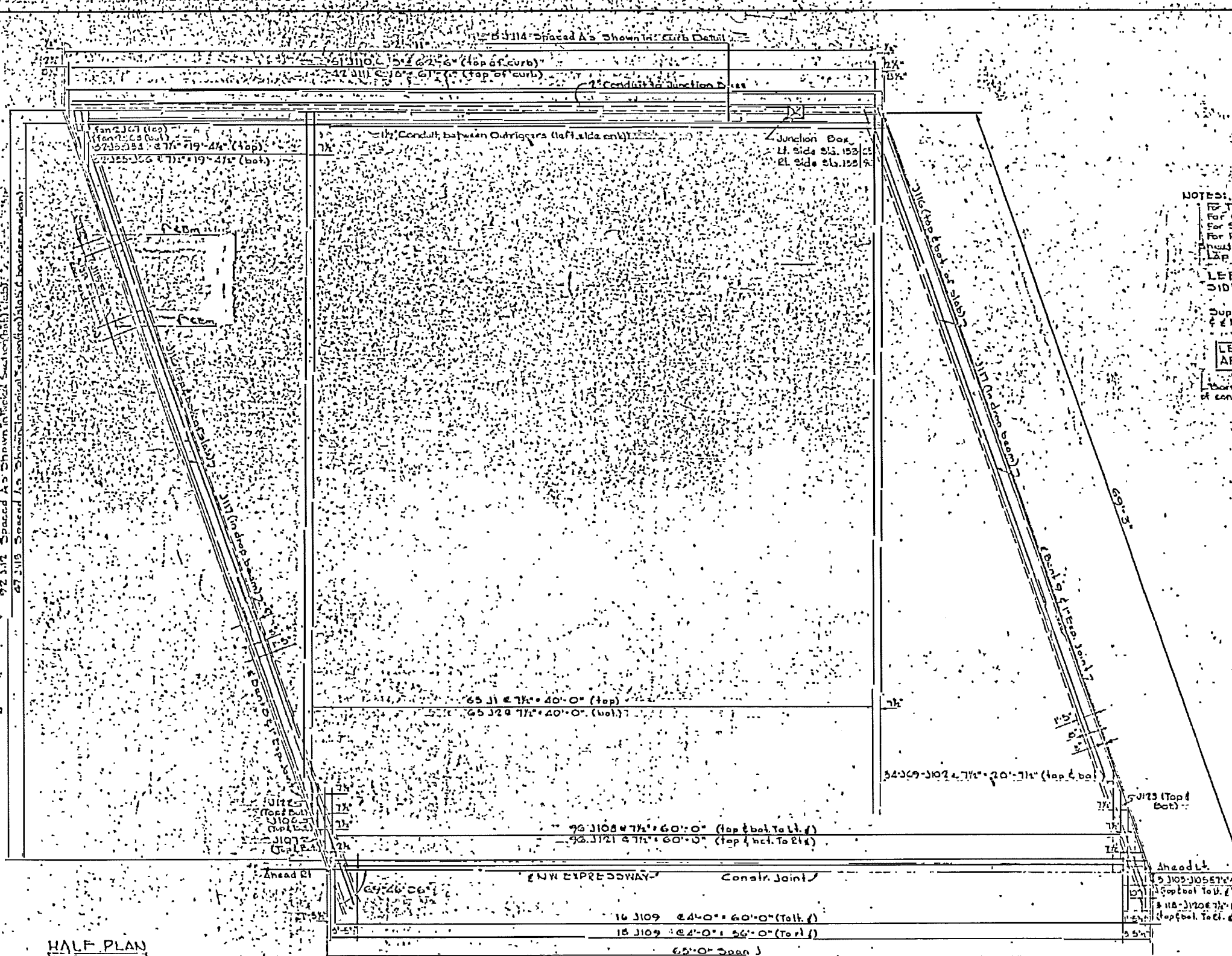
SHEET 49 12 of 21

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

DECK SPAN H

WILBUR SMITH AND ASSOCIATES, INC. - DESIGN CONSULTING ENGINEERS
 101 W. Hargett Street, Raleigh, N.C. 27601

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



PROJECT NO.	539	TOTAL SHEETS	150
SHEET NO.	80F 24-1 (116)		
DATE PROJECT NO.	8/15/78	EXPLANATION	

NOTES:
 FOR TYPICAL SECTION see Sheet No 27 of 31
 FOR CURB DETAIL see Sheet No 25 of 31
 FOR STANDARD DETAILS see Sheet No 24 of 31
 For Reinforcing Steel and Bonding Details see Sheet No 20 of 31
 Lap all transverse bars 20" min.
 LEFT SIDE SPAN SHOWN, RIGHT SIDE SAME EXCEPT AS NOTED.

Superstructure to be rotated about 2 span of Bridge 180° for right side.

LEFT SIDE SPAN TO BE POURED AFTER RIGHT SIDE IS IN PLACE.

There shall be a 2'-0" minimum gap of construction joint.

Revision No. 1:
 Revised Class AA Concrete Quantities for Barrier Medium due to raising height 12 in. and correct total of a.c. by: CFS - vby: CLK April 10, 1979

ITEM	UNIT	QUANTITY
Concrete, Class "AA"	CY	2200
Reinforcing Steel	lb	62318
Insulated Oil Cont. Protection	sq ft	261
See PRB no 3 page no 32.		

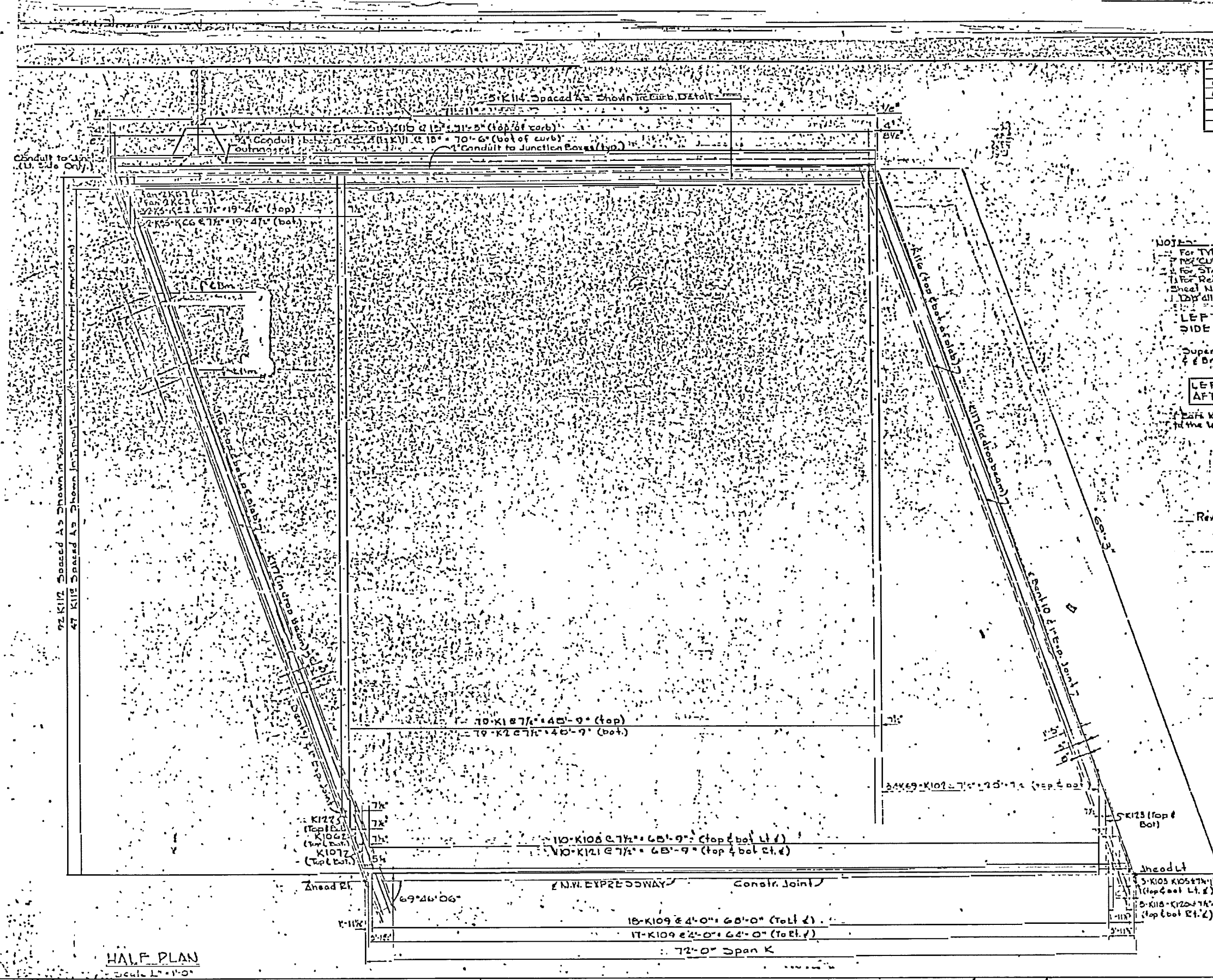
SHEET No 13 of 31

NO.	DATE	DESCRIPTION

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 BALTIMORE

DECK SPAN J:
 Sta 149+17 / NW Expy., Macklenburg Co.
 WILBUR SMITH AND ASSOCIATES, INC. - DESIGN
 CONSULTING ENGINEERS
 COLUMBIA, S.C. DARTON BAKER, N.C.
 NO. 1102 [unclear] [unclear] [unclear] [unclear]

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



HALF PLAN
Scale 1" = 1'-0"

PROJECT NUMBER	560	TOTAL SHEETS
DATE PROJECT NO.	80F 24-1(116)	REVISION
DATE PROJECT NO.	80F 24-1(116)	REVISION

NOTE:
 For TYPICAL SECTION see Sheet No. 27-5931
 For CURB DETAILS see Sheet No. 28-5931
 For STANDARD DETAILS see Sheet No. 29-5931
 For Reinforcing Steel and Bending Details see Sheet No. 30-5931
 Dip all horizontal bars 2'-0" min.
 LEFT SIDE SPAN SHOWN, RIGHT SIDE SAME EXCEPT AS NOTED.
 Superstructure to be rotated about 2 span & Bridge 180° for right side.

LEFT SIDE SPAN TO BE POURED AFTER RIGHT SIDE IS IN PLACE

Bars K110-K121 to extend a minimum of 2'-0" to the left of the construction joint.

Revision No. 1:
 Revised Class AA Concrete Quantities for Barrier Median due to raising height 1/4 in. and correct total of concrete by: CRK vby: CLK April 9, 1970

*Includes 953 lb for outrigger

ITEM	AMOUNT
Concrete, Class 'AA'	C.Y. 26.7
Reinforcing Steel	Lbs 72,549
Linear Oil Cone Protection	Gals 72

See PRA no. 3 page no. 65.

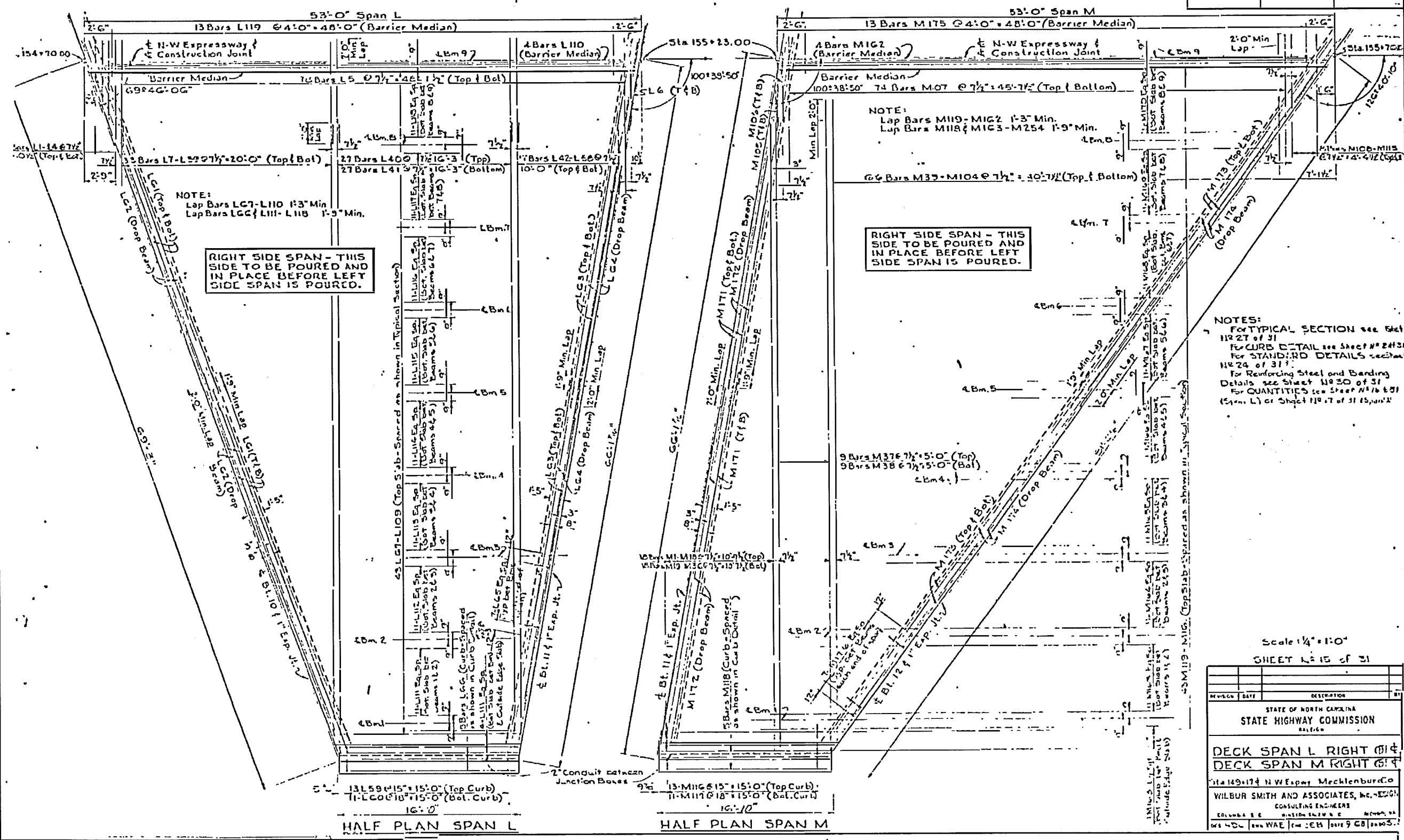
SHEET 12114 of 31

REVISION	DATE	DESCRIPTION	BY
1	8-7-70		CRK

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 RALEIGH

DECK SPAN K
 Sta 149+71 / N.W. Expy. Nacdenburg Sbr.
 WILDOR SMITH AND ASSOCIATES, INC.-ECON
 CONSULTING ENGINEERS
 COLUMBIA, S.C. DARTMOUTH, N.C. RICHMOND, VA
 WLS/LSL/MS/ENL/CRK/JCB Date 9/63/1000552

PROJ REFERENCE NO	SHEET NO	TOTAL SHEETS
STATE PROJECT NO	PA PROJ NO	DESCRIPTION
11059011	SUF 24-1(116)	



NOTE:
Lap Bars M119-MIG2 1'-3" Min.
Lap Bars M118 & M163-M254 1'-9" Min.

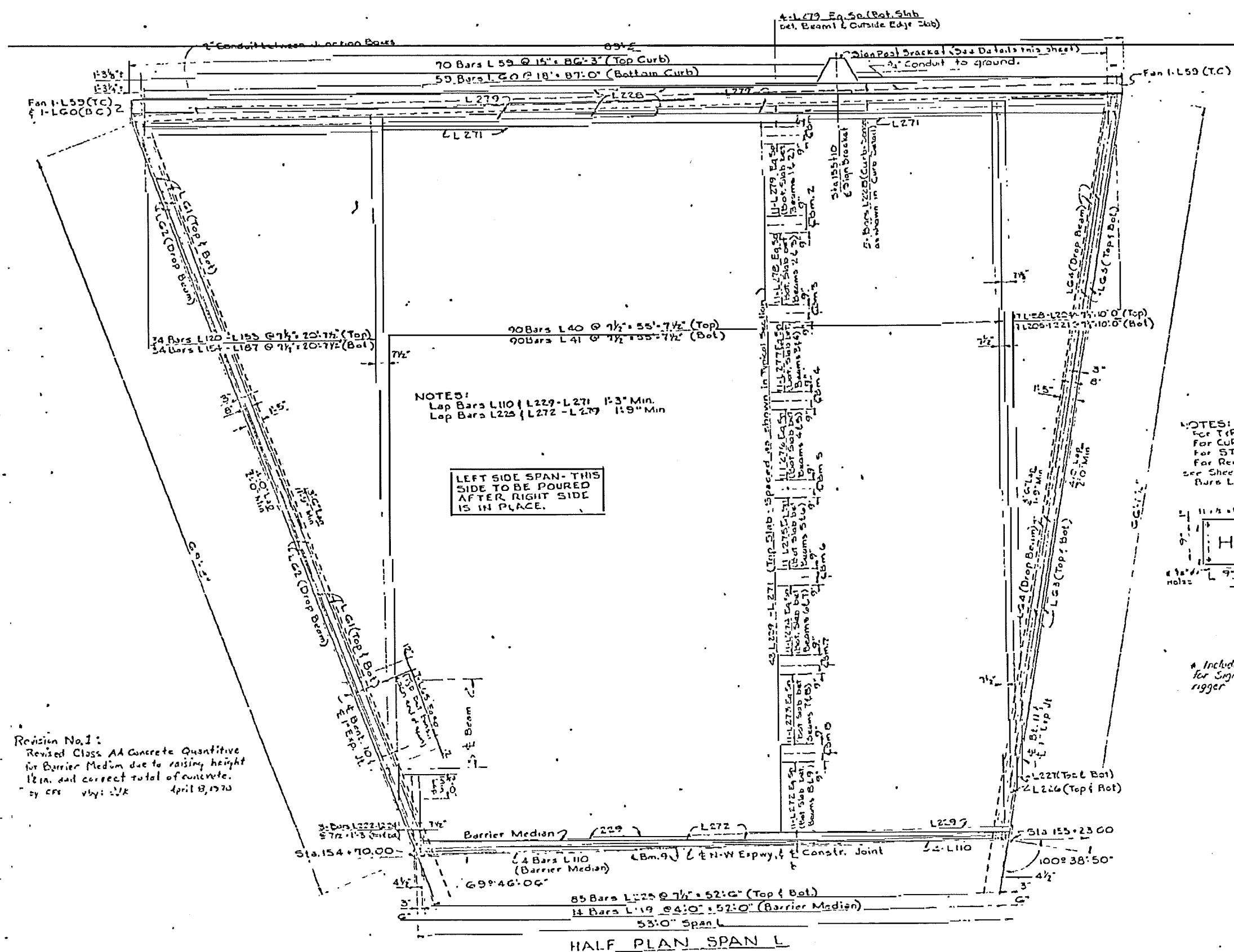
RIGHT SIDE SPAN - THIS SIDE TO BE POURED AND IN PLACE BEFORE LEFT SIDE SPAN IS POURED.

NOTES:
For TYPICAL SECTION see Sht 119-21 of 31
For CURB DETAIL see Sheet # 24-51
For STANDARD DETAILS see Sht 119-24 of 31
For Reinforcing Steel and Bending Details see Sheet 119-30 of 31
For QUANTITIES see Sheet # 116-651 (54m. L) or Sheet 119-7 of 31, part 2

Scale 1/4" = 1'-0"
SHEET NO 15 OF 31

REVISION	DATE	DESCRIPTION
STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION		
DECK SPAN L RIGHT SIDE DECK SPAN M RIGHT SIDE		
Sta 149+17.4 N.W. Expwy. Mecklenburg Co.		
WILBUR SMITH AND ASSOCIATES, INC. - ENGINEERS		
CONSULTING ENGINEERS		
COLUMBA & C. ENGINEERS & ARCHITECTS		
100 S. W. 10th St. W. Raleigh, N.C. 27603		

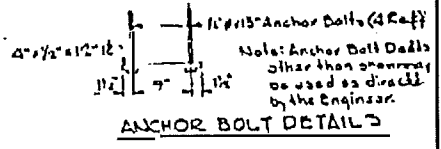
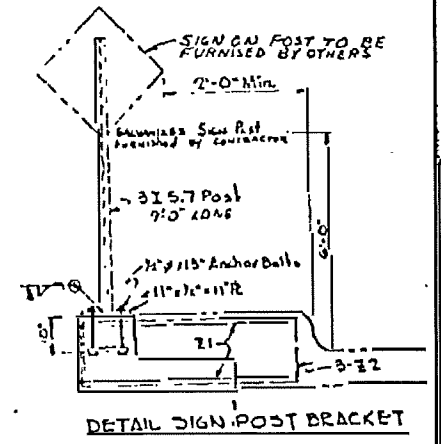
PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
STATE PROJECT NO.	DATE	DESCRIPTION
0-1654 B11	SUP2A-1(110)	



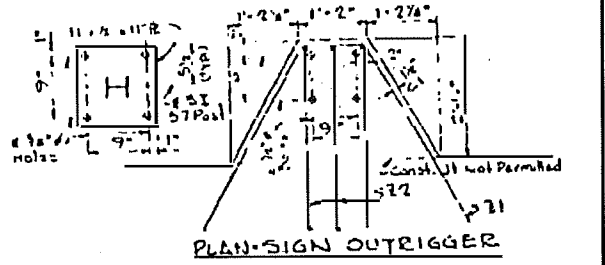
NOTES:
Lap Bars L110 & L229-L271 1'-3\"/>

LEFT SIDE SPAN- THIS SIDE TO BE POURED AFTER RIGHT SIDE IS IN PLACE.

Revision No. 1:
Revised Class AA Concrete Quantities for Barrier Median due to raising height 1/2 in. and correct total of concrete.
by crs vby: JJK April 8, 1970



NOTES:
For TYPICAL SECTION see Sheet No 27 of 31
For CURB DETAIL see Sheet No 28 of 31
For STANDARD DETAILS see Sheet No 24 of 31
For Reinforcing Steel and Bending Details see Sheet No 30 of 31
Bars L 310 to stop at the Construction Joint.



* Includes 47 lbs for Sign Out-rigger

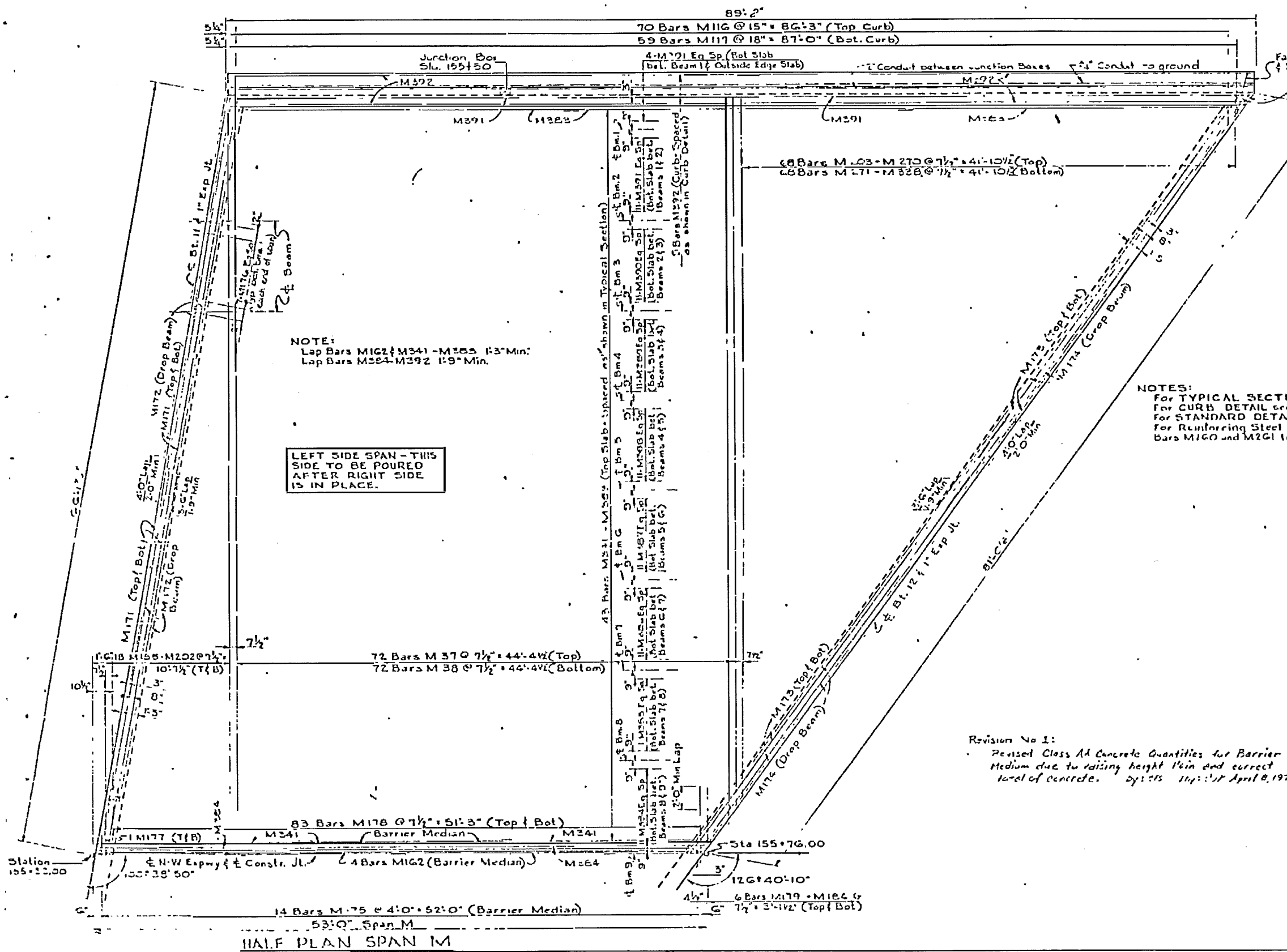
BILL OF MATERIALS	
ITEM	AMOUNT
Concrete, Class AA	CY 1.72
Reinforcing Steel	Lbs 3,322
Unseed Oil Coat Protection	gals

Scale 1/4\"/>

SHEET 119.16 of 31	
DATE	DESCRIPTION
	STATE OF NORTH CAROLINA
	STATE HIGHWAY COMMISSION
	DATE
DECK SPAN L LEFT OF E	
Sta 149+17.11 W. Espwy Mecklenburg Co.	
WILBUR SMITH AND ASSOCIATES, INC. - DESIGN CONSULTING ENGINEERS	
COLUMBIA, S. C.	WALTON SALES R. C.
MEMPHIS, TENN	WAE INC. SCS 10119-GC

HALF PLAN SPAN L

PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
STATE PROJECT NO.	PROJECT NO.	DESCRIPTION
D-1054811	5VF24-1(112)	



NOTE:
Lap Bars MIG2 & M341 - M365 1'-3" Min.
Lap Bars M364 - M392 1'-9" Min.

LEFT SIDE SPAN - THIS SIDE TO BE POURED AFTER RIGHT SIDE IS IN PLACE.

NOTES:
For TYPICAL SECTION see Sheet N^o 27 of 31
For CURB DETAIL see Sheet N^o 28 of 31
For STANDARD DETAILS see Sheet N^o 2A of 31
For Reinforcing Steel and Bending Details see Sheet N^o 30 of 31
Bars M160 and M261 to stop at the Construction Joint.

Revision No 1:
Revised Class AA Concrete Quantities for Barrier Median due to raising height 1/4" and correct total of concrete. Dated 14 April 1970

BILL OF MATERIALS	
ITEM	UNIT QUANTITY
Concrete, Class AA	CY 1281
Reinforcing Steel	Lbs 5399
Linseed Oil Conc Protection Gals.	1

See PRB no 4 page no 35.

Scale 1/4" = 1'-0"
SHEET 116 OF 117 OF 31

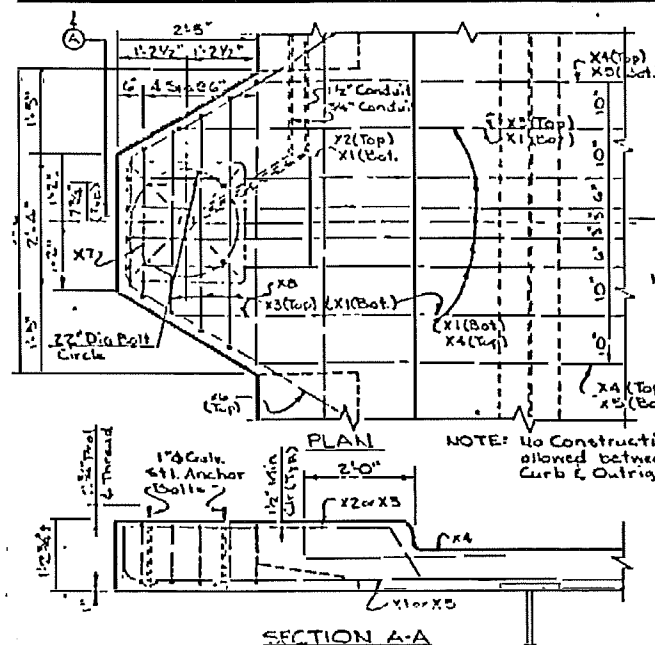
APPROVAL	DATE	DESCRIPTION	BY
STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION			

**DECK SPAN M
LEFT OF E**

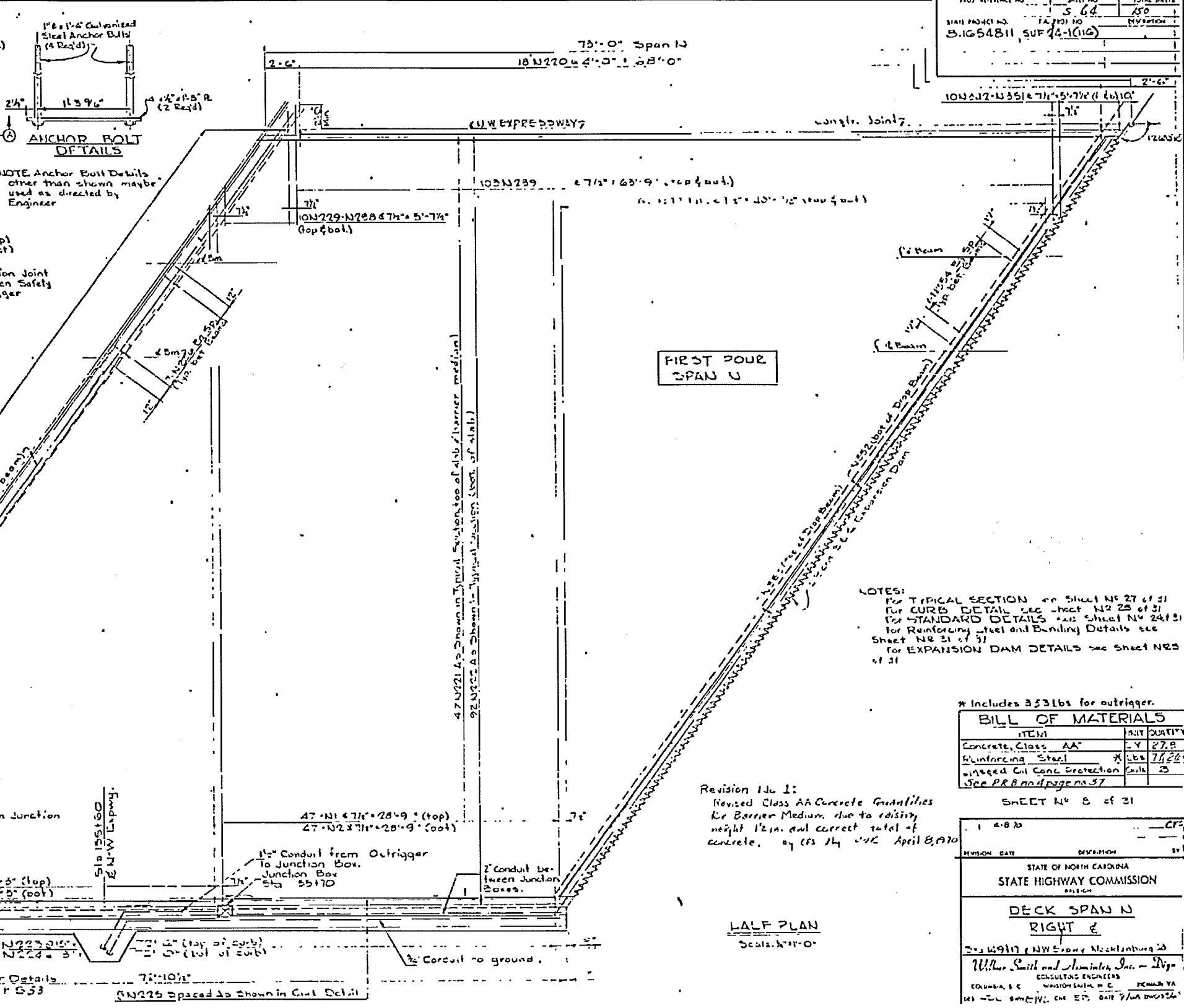
149+17.7 N.W. Expwy Mecklenburg Co
WILBUR SMITH AND ASSOCIATES, INC. - DCSN
CONSULTING ENGINEERS
COLUMBIA, S.C. WASHINGTON, D.C. BALTIMORE, MD.
MS-1001, 1000 W. W. Ave., E.C. 11119 68

HALF PLAN SPAN M

PROJ REFERENCE NO.	SHEET NO.	TOTAL SHEETS
STATE PROJECT NO.	564	150
B.I.G.54811 SUP (4-1(116))		



DETAILS OF RAMP OUTRIGGER BRACKET
 Pt. of Sta. 12+85 (Ramp 1) & Lt. of Sta. 150+25 E.N.W. Expy.
 NOTE: For Electrical Note see Dwg. No. 56.



NOTES:
 For TYPICAL SECTION see Sheet No. 27 of 31
 For CURB DETAIL see Sheet No. 28 of 31
 For STANDARD DETAILS see Sheet No. 24 of 31
 For Reinforcing steel and Bonding Details see Sheet No. 31 of 31
 For EXPANSION DAM DETAILS see Sheet No. 31 of 31

* Includes 353 lbs for outrigger.

ITEM	UNIT	QUANTITY
Concrete, Class AA	CY	27.8
Reinforcing Steel	LBS	77,224
wirecld Gal Conc Protection	Sq Ft	25

See P.R.B. no. 4 page no. 37

Revision 1 to 1:
 Revised Class AA Concrete Quantities for Barrier Medium, due to existing height 12 in. and correct total of concrete, by CES 14, 1/16 April 8, 1970

SHEET No. 8 of 31

1 A-B 20 CP

REVISION DATE DIVISION BY

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

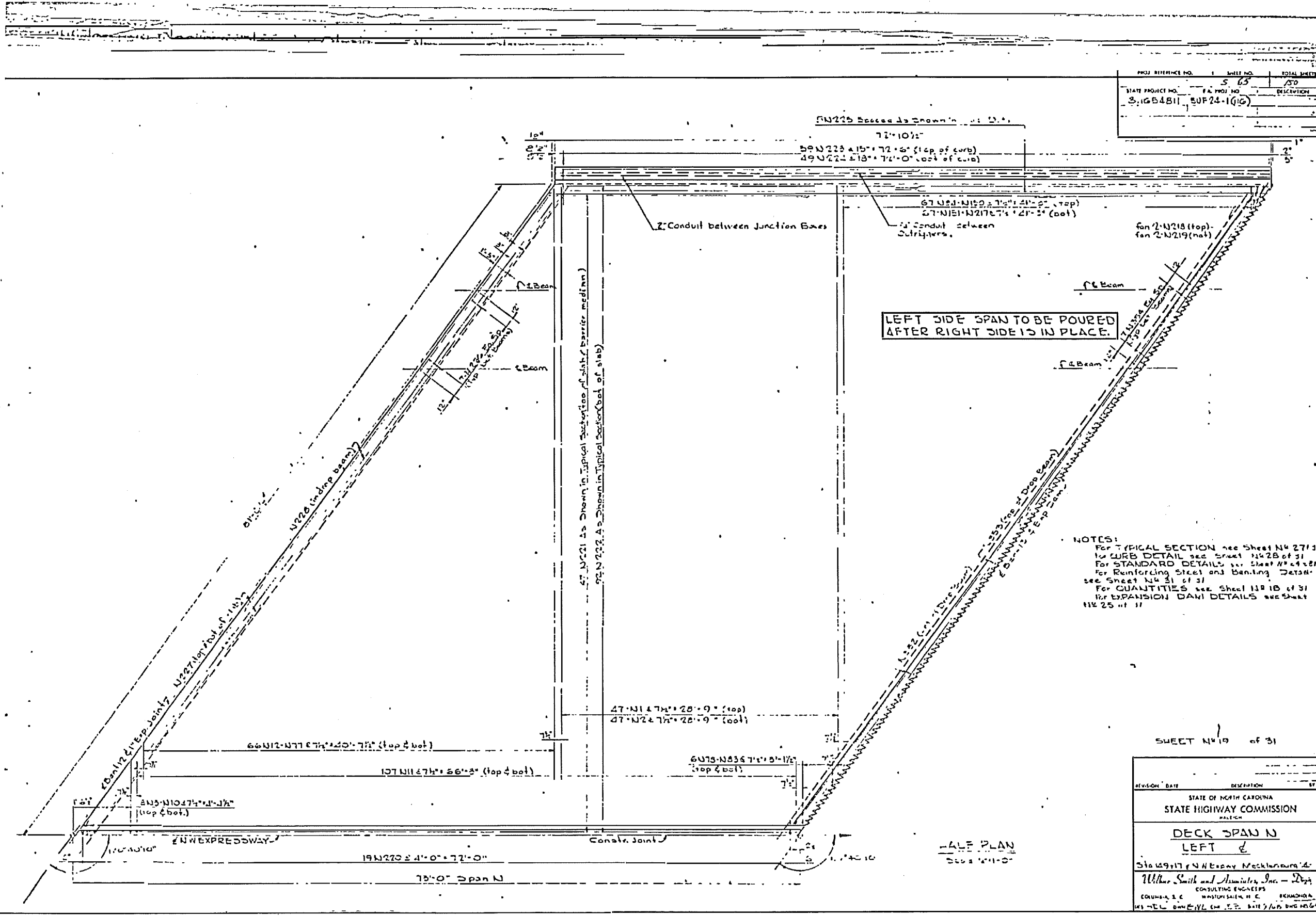
DECK SPAN N
 RIGHT &

Sta. 149+17 E.N.W. Expy. Nockleburg 20

Walter Smith and Associates, Inc. - Design
 CONSULTING ENGINEERS
 COLUMBIA S.C. WINSTON-SALEM, N.C. RICHMOND, VA

DATE 7/1/68

PROJ REFERENCE NO.	SHEET NO.	TOTAL SHEETS
STATE PROJECT NO.	FA PROJ NO.	DESCRIPTION
8,1654811	SUP 24-1(16)	

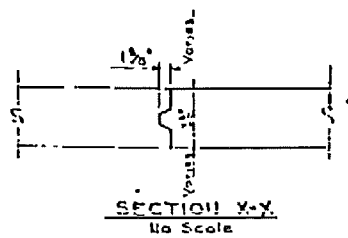
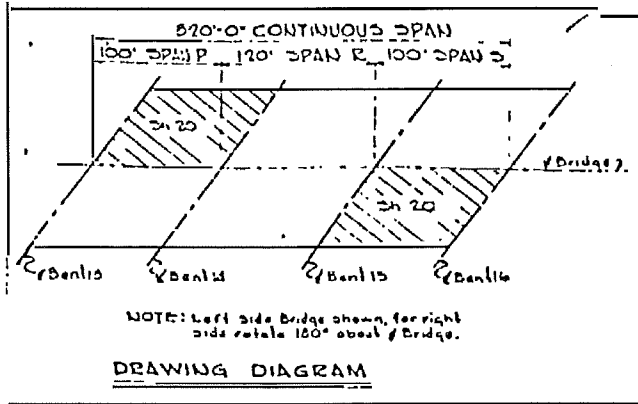


NOTES:
 For TYPICAL SECTION see Sheet N4 27 of 31
 For CURB DETAIL see Sheet N4 28 of 31
 For STANDARD DETAILS see Sheet N4 29 of 31
 For Reinforcing Steel and Bending Details see Sheet N4 31 of 31
 For QUANTITIES see Sheet N4 18 of 31
 For EXPANSION JAW DETAILS see Sheet N4 25 of 31

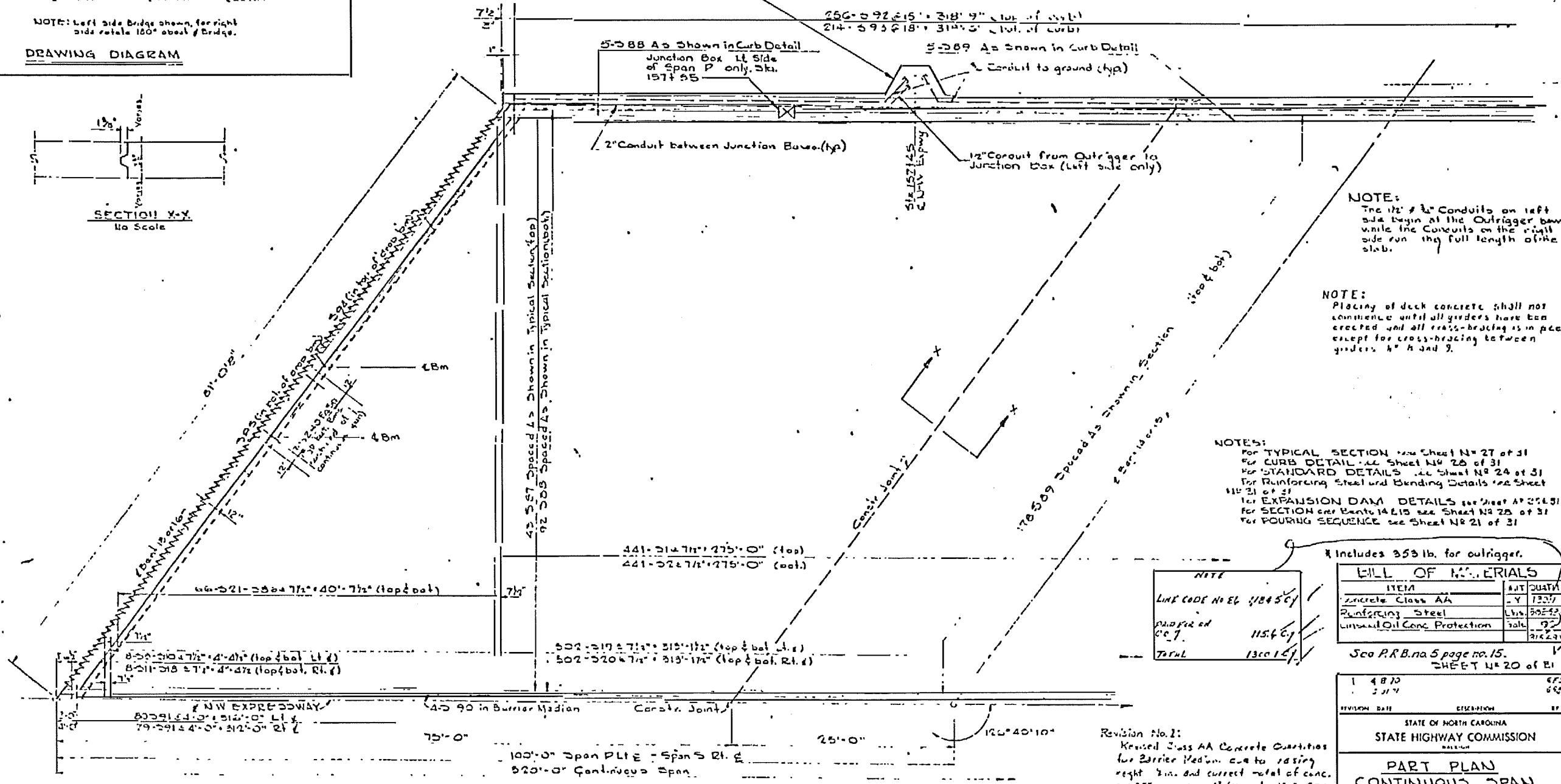
SHEET N4 19 of 31

REVISION	DATE	DESCRIPTION	BY
STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION			
DECK SPAN N LEFT			
31049171 NHEasy Mecklenburg Rd Wilbur Smith and Associates, Inc. - Dept CONSULTING ENGINEERS COLUMBIA S.C. WASHINGTON D.C. RICHMOND VA DATE 5/16/64			

SCALE PLAN
 1/8" = 1'-0"



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
	566	158
STATE PROJECT NO.	F.A. PROJ. NO.	MARKING
B-552811	SUF 22-1(G)	



NOTES:
For TYPICAL SECTION see Sheet No 27 of 31
For CURB DETAIL see Sheet No 28 of 31
For STANDARD DETAILS see Sheet No 24 of 31
For Reinforcing Steel and Bending Details see Sheet No 21 of 31
For EXPANSION DAM DETAILS see Sheet No 29 of 31
For SECTION and Bents 14 L15 see Sheet No 25 of 31
For POURING SEQUENCE see Sheet No 21 of 31

NOTE

LINE CODE NO 66	18456
QUANTITY	11546
TOTAL	13001

Includes 353 lb. for outrigger.

BILL OF MATERIALS		
ITEM	UNIT	QUANTITY
Concrete Class AA	- Y	13001
Reinforcing Steel	Lbs	30252
Linseed Oil Concrete Protection	gals.	92
		21623

See P.R.B. on 5 page no. 15.
SHEET No 20 of 31

1	4870	673
	3117	662
REVISION DATE	DESCRIPTION	BY

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

PART PLAN
CONTINUOUS SPAN

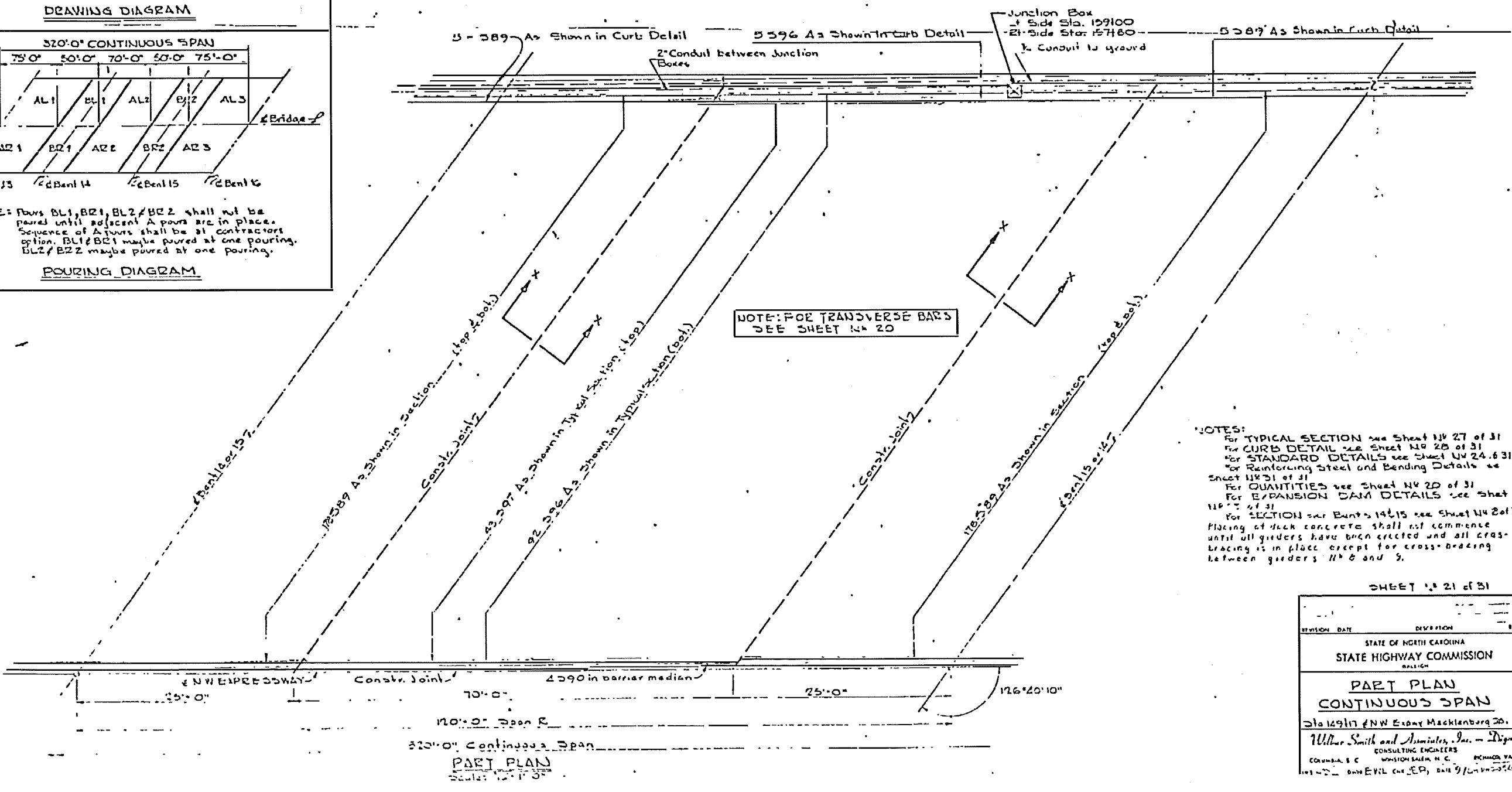
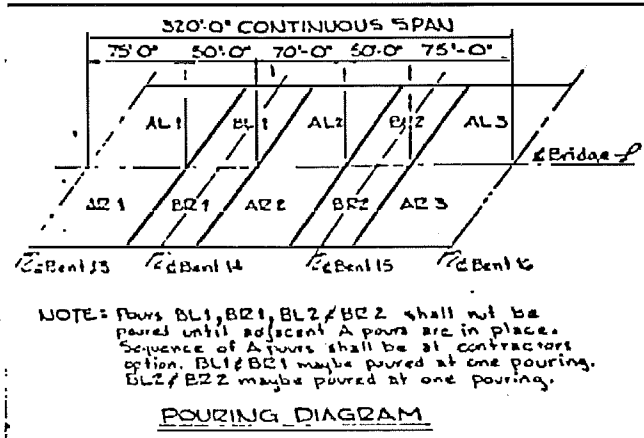
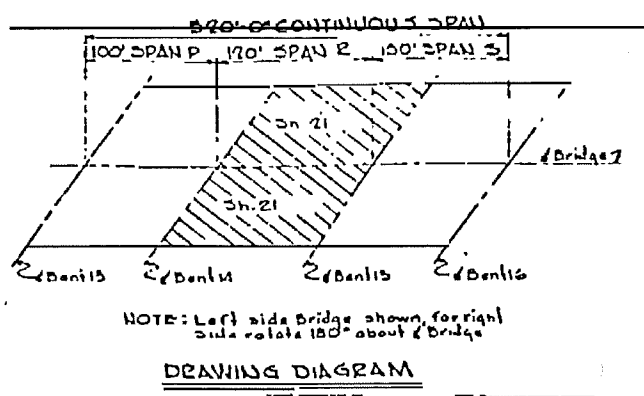
1491704 Hwy. Mockenburg Co.
Ulmer Smith and Associates, Inc. - Div.
CONSULTING ENGINEERS
RICHMOND, VA

Revision No. 2:
Revised Class AA Concrete Quantities for Barrier Median due to raising right 2" and correct total of conc. of 255 by CLK April 8, 1970

Revision #2:
Correct "correct Class AA" concrete quantities by CLK 10/1/70

PART PLAN
Scale: 3/8" = 1'-0"

PROJ REFERENCE NO.	SHEET NO.	TOTAL SHEETS
	567	150
STATE PROJECT NO.	FA PROJ NO.	DESCRIPTION
81654811	SUP24-1(116)	



NOTES:
 For TYPICAL SECTION see Sheet N° 27 of 31
 For CURB DETAIL see Sheet N° 28 of 31
 For STANDARD DETAILS see Sheet UV 24.631
 For Reinforcing Steel and Bending Details see Sheet UV 31 of 31
 For QUANTITIES see Sheet N° 20 of 31
 For EXPANSION DAM DETAILS see Sheet UV 24.631
 For SECTION over Bents 14 & 15 see Sheet N° 28 of 31
 Placing of deck concrete shall not commence until all girders have been erected and all cross-bracing is in place except for cross-bracing between girders N° 6 and 9.

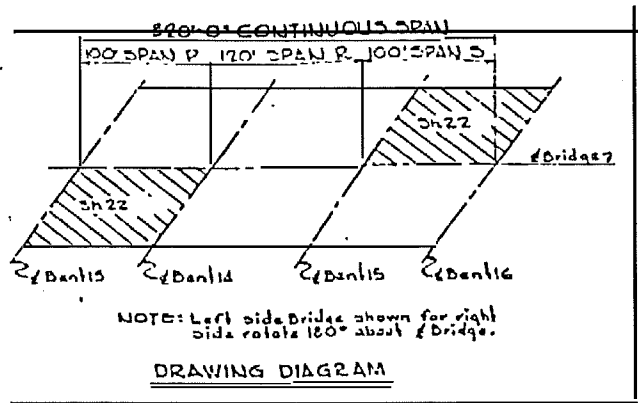
SHEET N° 21 of 31

REVISION DATE	DESCRIPTION

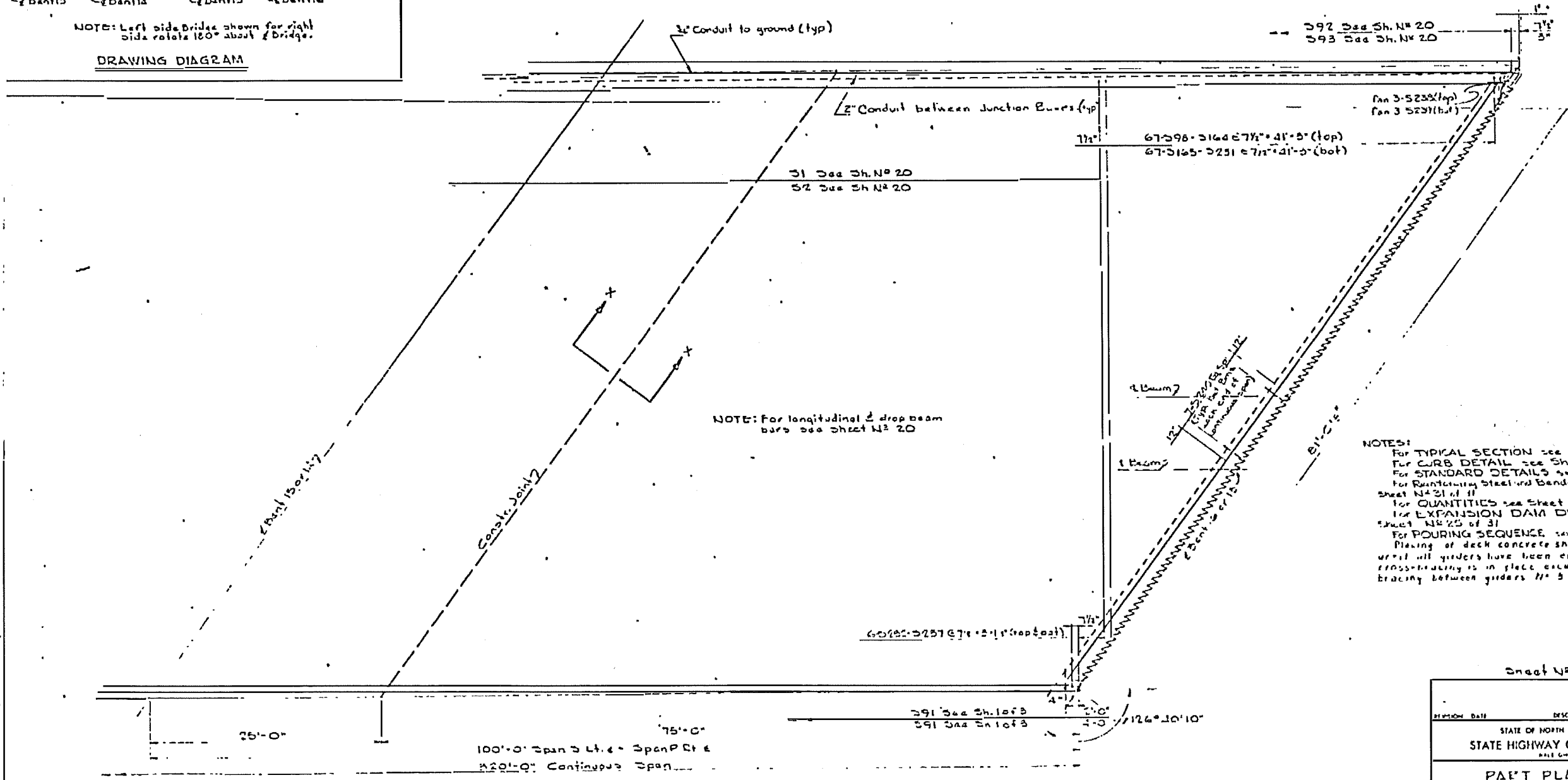
STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 DESIGN

PART PLAN
CONTINUOUS SPAN

Sta 129117 to NW Expy Macklenburg Rd.
 Wilbur Smith and Associates, Inc. - Design
 CONSULTING ENGINEERS
 COLUMBIA S C WASHINGTON SALEM N C MEMPHIS TN
 101-102 DOW EVIL CUL DEP. DATE 9/10/55



PROJ. DISTRICT NO.	SHEET NO.	TOTAL SHEETS
	560	150
STATE PROJECT NO.		
S.1654B(1) SUR 24-1(116)		



NOTES:

- For TYPICAL SECTION see Sheet N4 27 of 31
- For CURB DETAIL see Sheet N4 28 of 31
- For STANDARD DETAILS see Sheet N4 29 of 31
- For Reinforcing Steel and Bonding Details see Sheet N4 31 of 31
- For QUANTITIES see Sheet N4 20 of 31
- For EXPANSION DAM DETAILS see Sheet N4 25 of 31
- For POURING SEQUENCE see Sheet N4 26 of 31
- Placing of deck concrete shall not commence until all girders have been erected and all cross-bracing is in place except for cross-bracing between girders N4 3 and 9

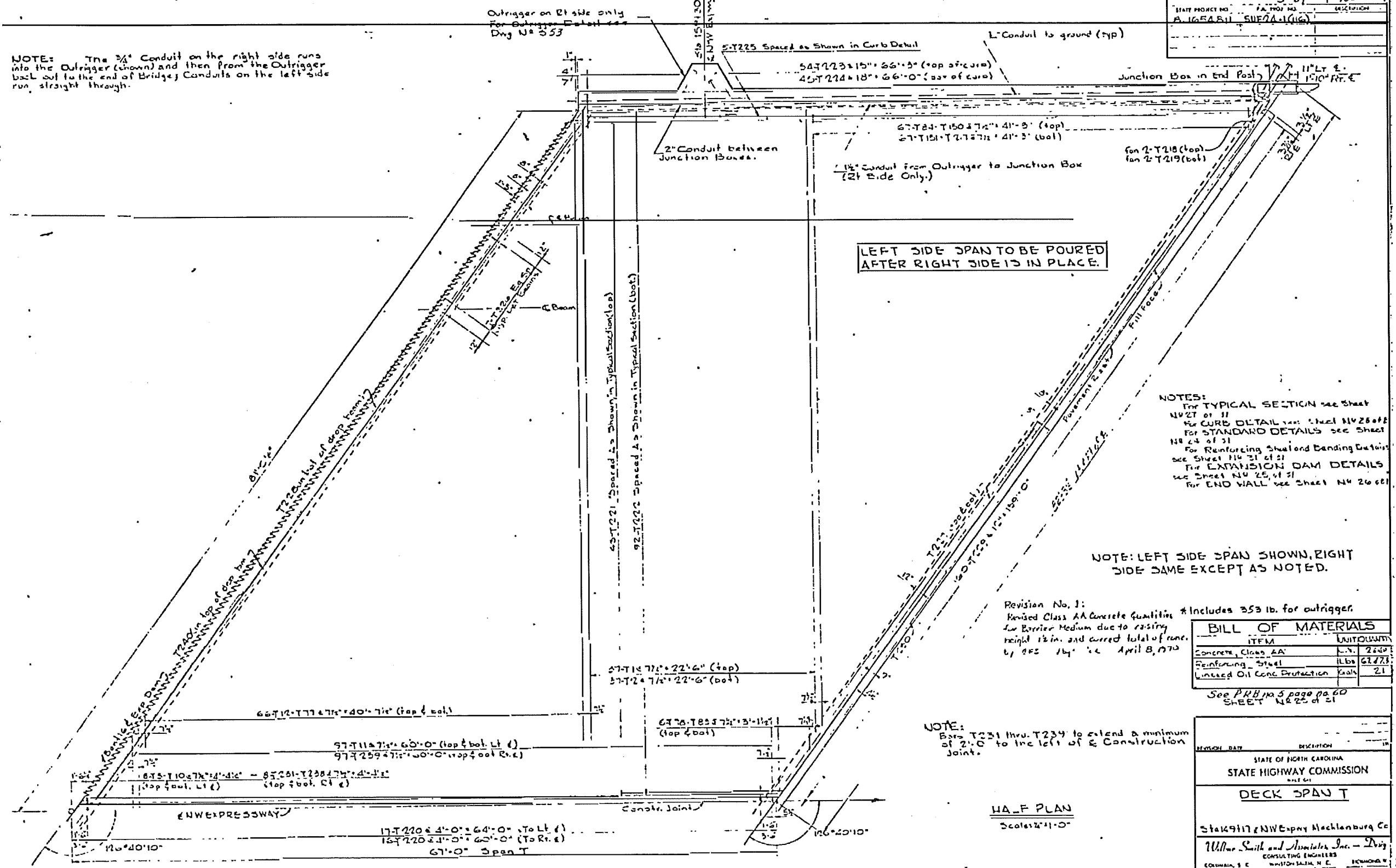
PART PLAN
Scale: 3/8" = 1'-0"

Sheet N2 22 of 31

REVISION	DATE	DESCRIPTION	BY
STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION			
PART PLAN CONTINUOUS SPAN			
Sta 49+17.11 N. Espy, Mecklenburg Co.			
Walter Smith and Associates, Inc. - Design CONSULTING ENGINEERS			
EDWARD E. C.	WALTER SMITH, P.E.	EDWARD E. C.	EDWARD E. C.
DATE 7/10/67			

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
STATE PROJECT NO.	569	150
A 165A B 11	SUB E 2 A 1 (16)	

NOTE: The 3/4" Conduit on the right side runs into the Outrigger (shown) and then from the Outrigger back out to the end of Bridge; Conduits on the left side run straight through.



LEFT SIDE SPAN TO BE POURED AFTER RIGHT SIDE IS IN PLACE.

NOTES:
 For TYPICAL SECTION see Sheet NO 27 of 31
 For CURB DETAIL see Sheet NO 28 of 31
 For STANDARD DETAILS see Sheet NO 24 of 31
 For Reinforcing Steel and Bending Details see Sheet NO 31 of 31
 For EXPANSION DAM DETAILS see Sheet NO 25 of 31
 For END WALL see Sheet NO 26 of 31

NOTE: LEFT SIDE SPAN SHOWN, RIGHT SIDE SAME EXCEPT AS NOTED.

Revision No. 1:
 Revised Class AA Concrete Quantities *Includes 353 lb. for outrigger
 for Barrier Medium due to raising height 1 1/2 in. and correct total of conc. by DES 14. 12 April 8, 1970

ITEM	QUANTITY
Concrete, Class AA	2620
Reinforcing Steel	67273
Linked Oil Conc. Protection	21

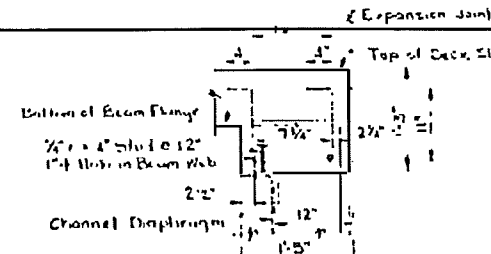
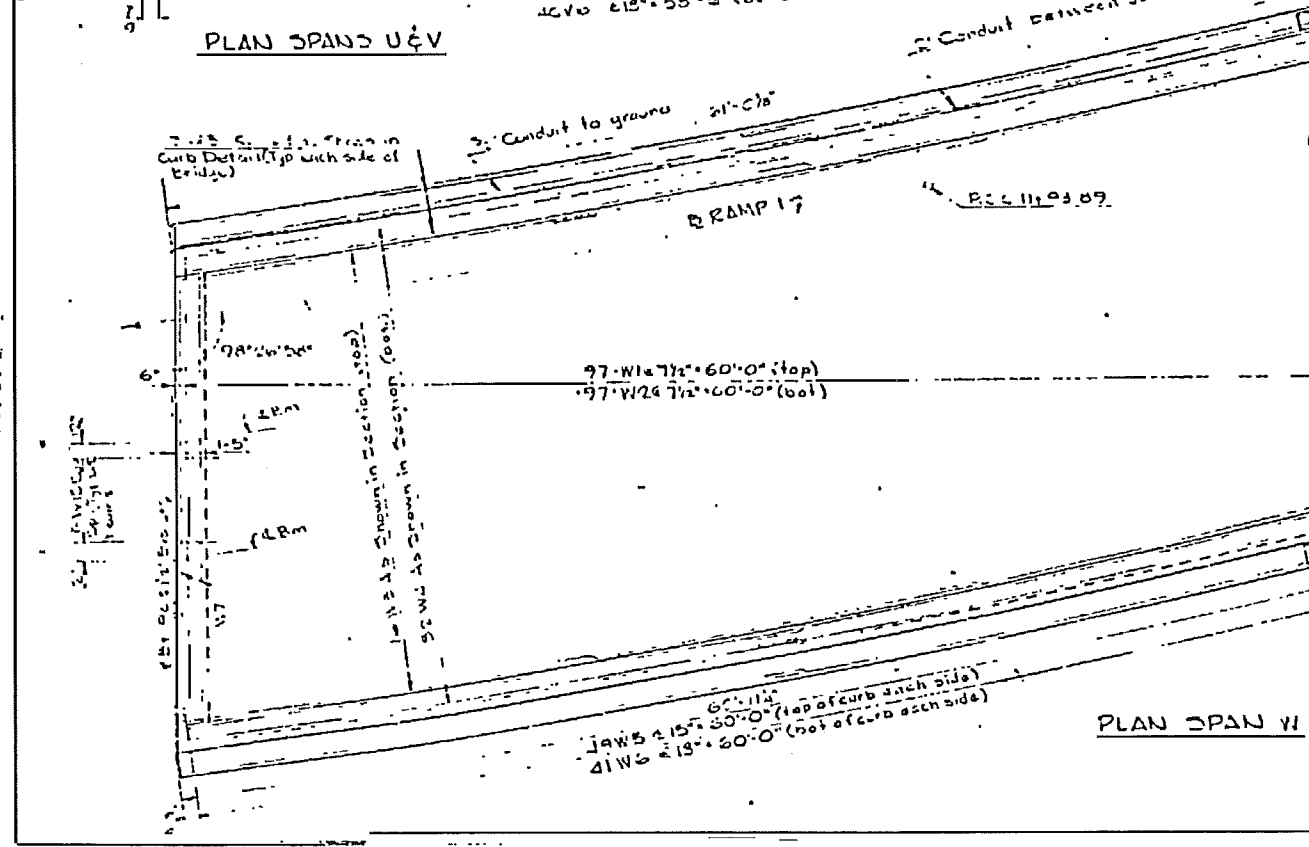
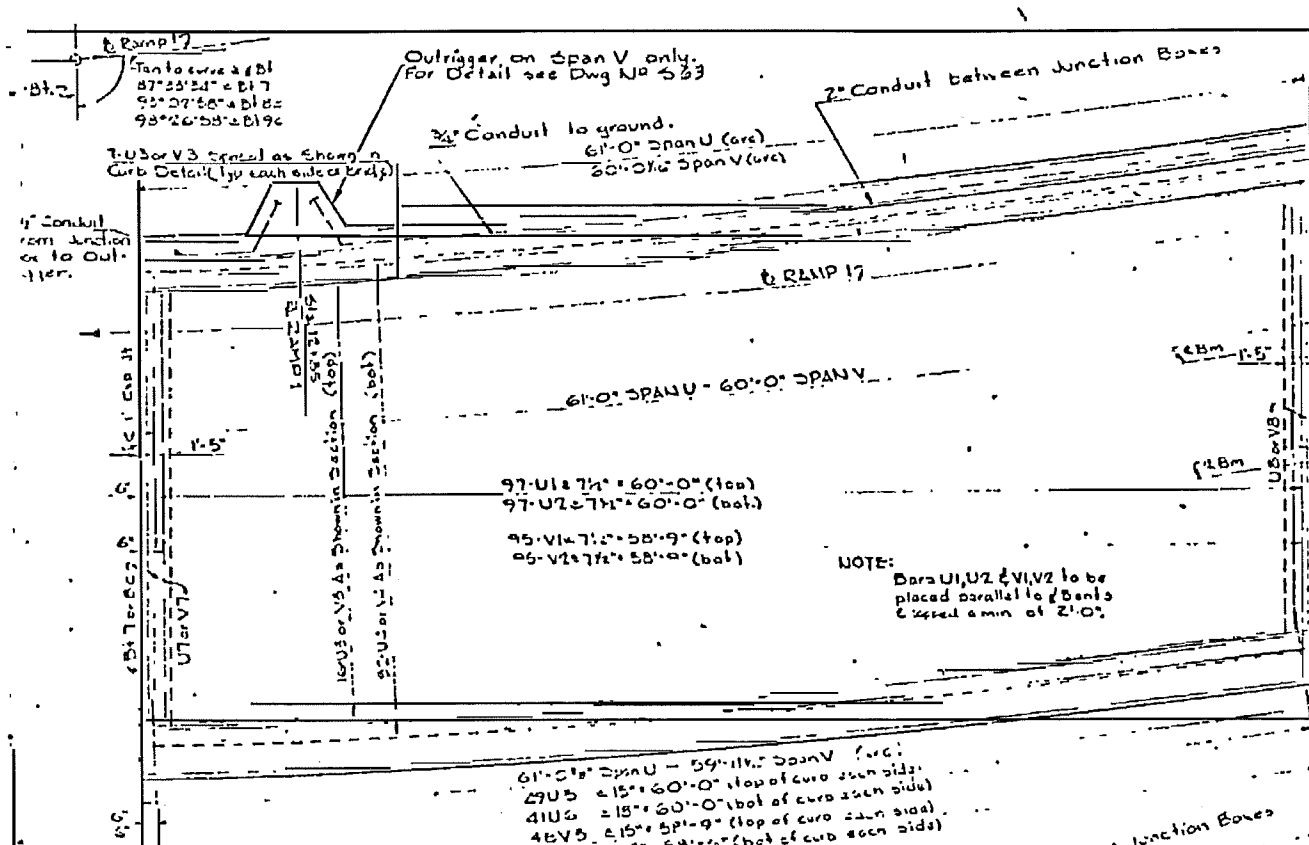
See PRB No 5 page no 60 SHEET No 25 of 31

NOTE:
 Bars T231 thru T234 to extend a minimum of 2'-0" to the left of Construction Joint.

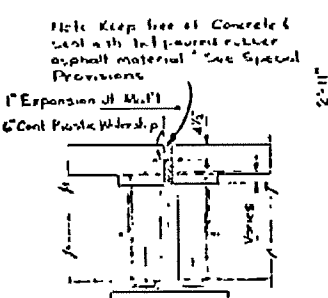
HALF PLAN
 Scale 1/4" = 1'-0"

APPROX. DATE	DESCRIPTION
	STATE OF NORTH CAROLINA
	STATE HIGHWAY COMMISSION
	DATE 01
DECK SPAN T	
Sta 49+17.2 NWE Expy Mecklenburg Co	
W. L. Smith and Associates, Inc. - Engrs	
CONSULTING ENGINEERS	
COLUMBIA, S. C.	WILMINGTON, N. C.
MEMPHIS, TENN.	MEMPHIS, TENN.
MEMPHIS, TENN.	MEMPHIS, TENN.

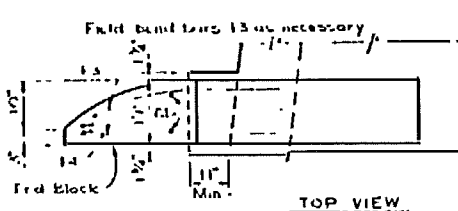
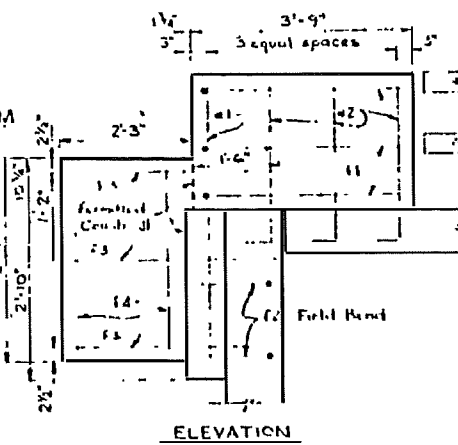
PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
STATE PROJECT NO.	DATE	REVISION
B.1654B11	1570	150
DATE	BY	CHKD



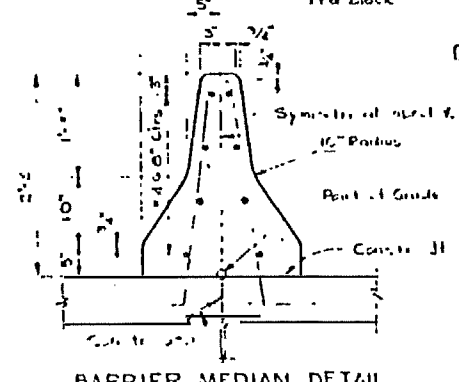
DETAIL AT DROP BEAM



DETAIL OF EXPANSION JOINT



DETAIL OF END POST



NOTES:
For RAMP DECK SECTION see Sheet No 28 of 31
For CURB DETAIL see Sheet No 28 of 31
For REINFORCING DETAIL see Sheet No 28 of 31
For DETAILS OF ORDER WALLS (attachment of guardrail, see sheet "Standard Guardrail Exchange".

See PRB no. 3 page nos. 21 & 53 and PRB no 6 page 36
* Includes 363 lb. for outrigger

BILL OF MATERIALS			
ITEM	QTY	UNIT	AMOUNT
Concrete Class AA	2.7	cu yd	19.1
Reinforcing Steel	2.3	tons	1.2
Expanded Oil Cons. Prestresser	2.2	tons	1.2

SHEET NO 24 of 31

DATE	REVISION
12-11	

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

DECK SPANS U, V, W
& STANDARD DETAILS

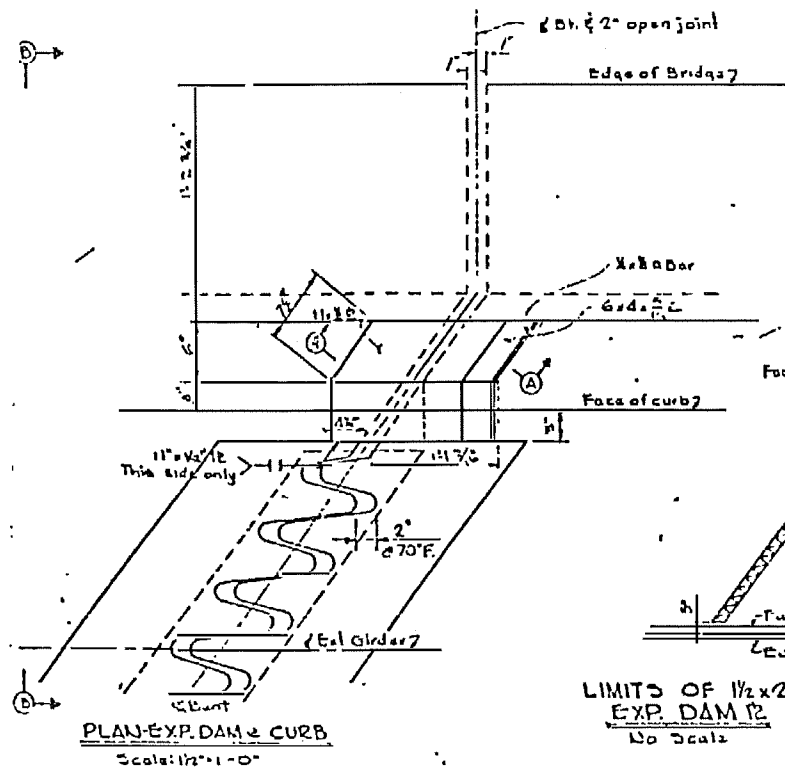
Site 14-17 of Hwy 280, Markham, N.C.

Miller Smith and Associates, Inc. - Design
CONSULTING ENGINEERS

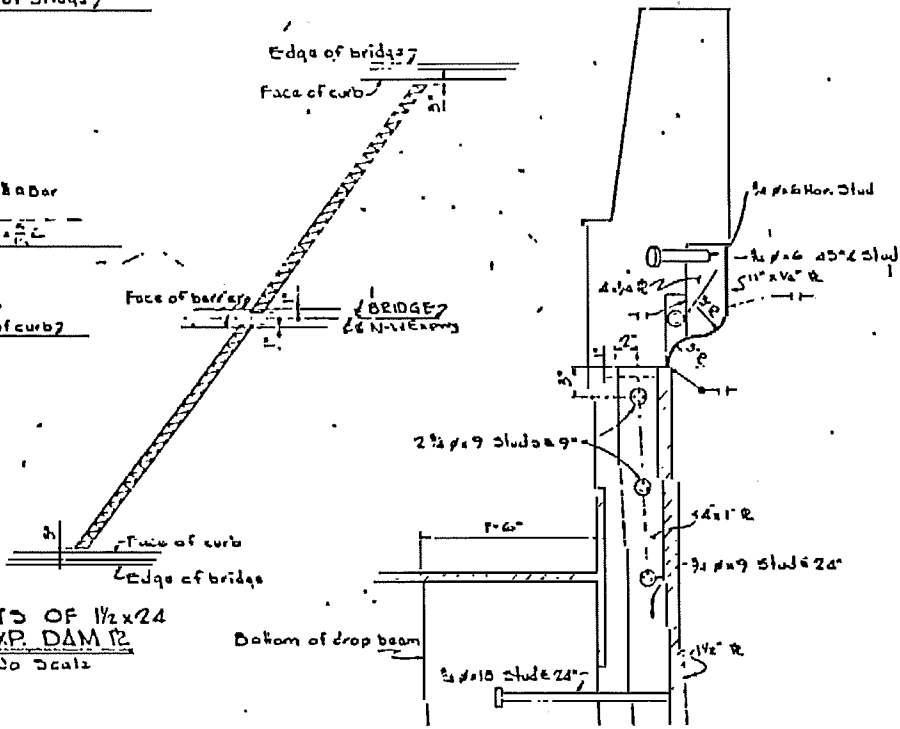
CAVANA & C. - CONSULTING ENGINEERS

145 W. DL CAMPBELL BLVD. DATE 9/15/70

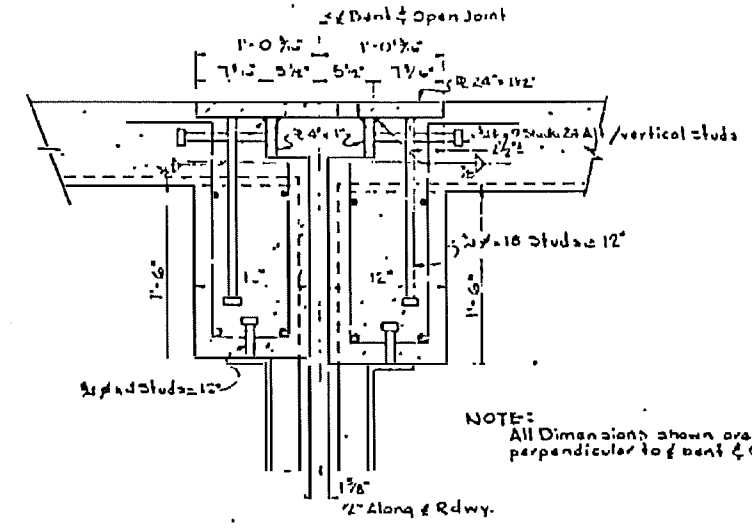
PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
STATE PROJECT NO.	PA. PROJ. NO.	DESCRIPTION
B.654811	SUP 24-1(116)	



LIMITS OF 1 1/2 x 24 EXP. DAM
No Scale

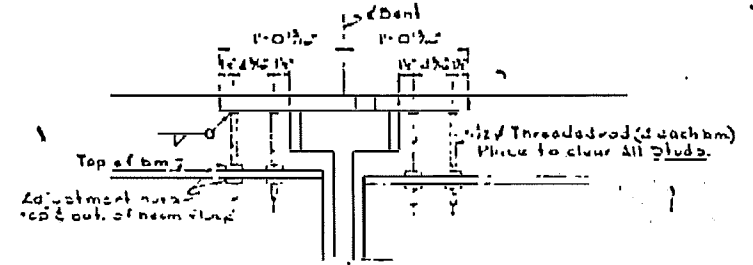


VIEW D-B
Scale: 1/2" = 1'-0"

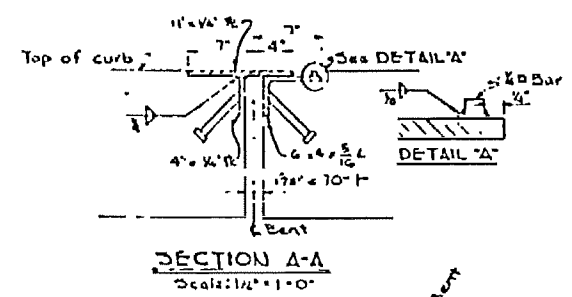


SECTION THRU EXPANSION DAM
Scale: 1/2" = 1'-0"

NOTE: All Dimensions shown are perpendicular to face of bent @ 70° F.

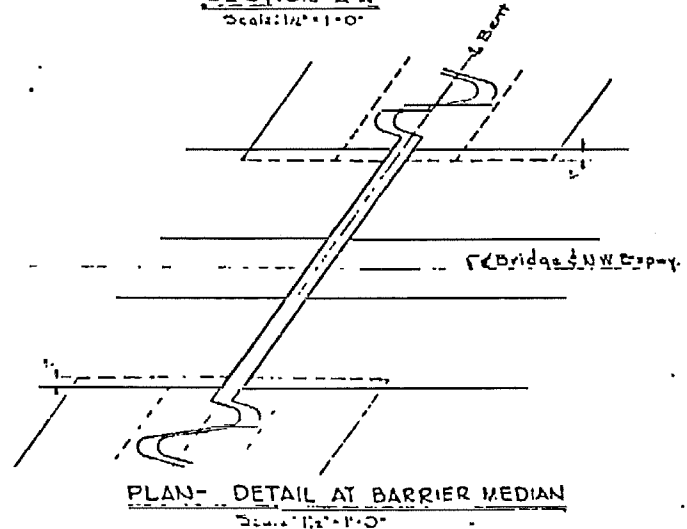


DETAIL OF ADJUSTMENT BOLTS FOR EXP. DAM
Scale: 1/2" = 1'-0"

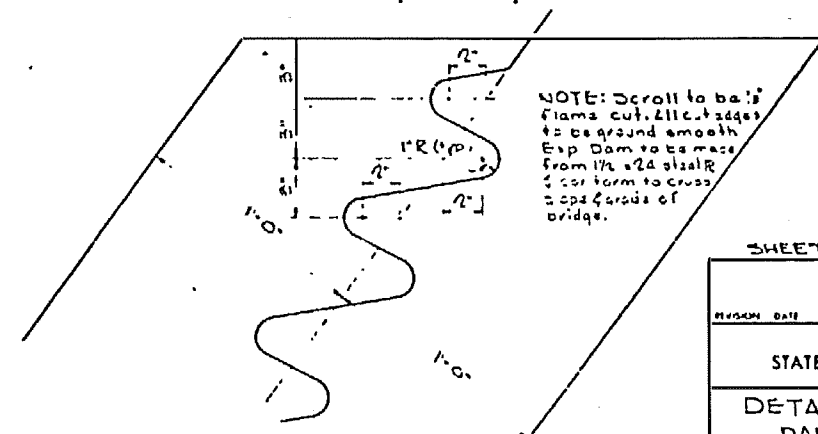


SECTION A-A
Scale: 1/2" = 1'-0"

1/2" Knock-off studs shot on top of expansion dam at 3' centers by contractor to form skid resistant surface.



PLAN-DETAIL AT BARRIER MEDIAN
Scale: 1/2" = 1'-0"

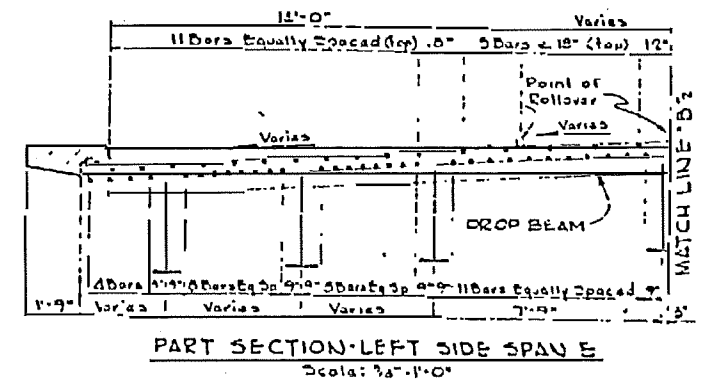
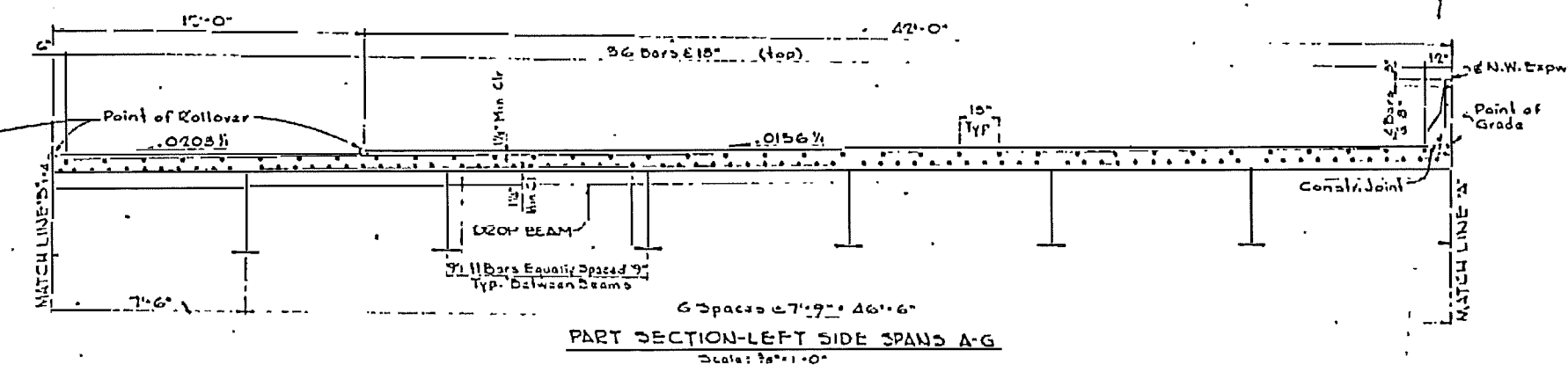
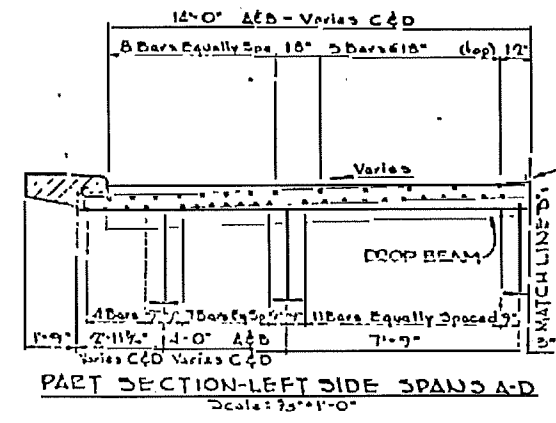
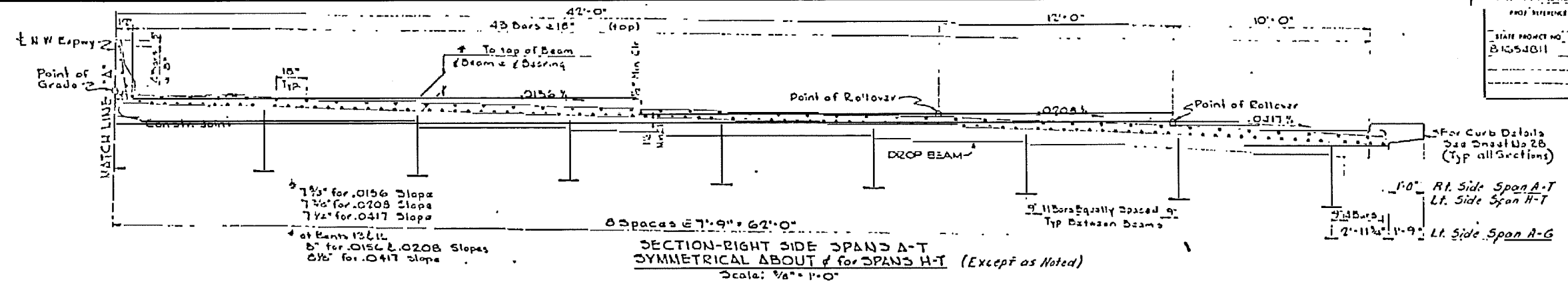


SCROLL DETAIL
Scale: 5" = 1'-0"

SHEET NO. 25 of 31

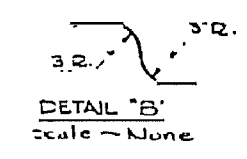
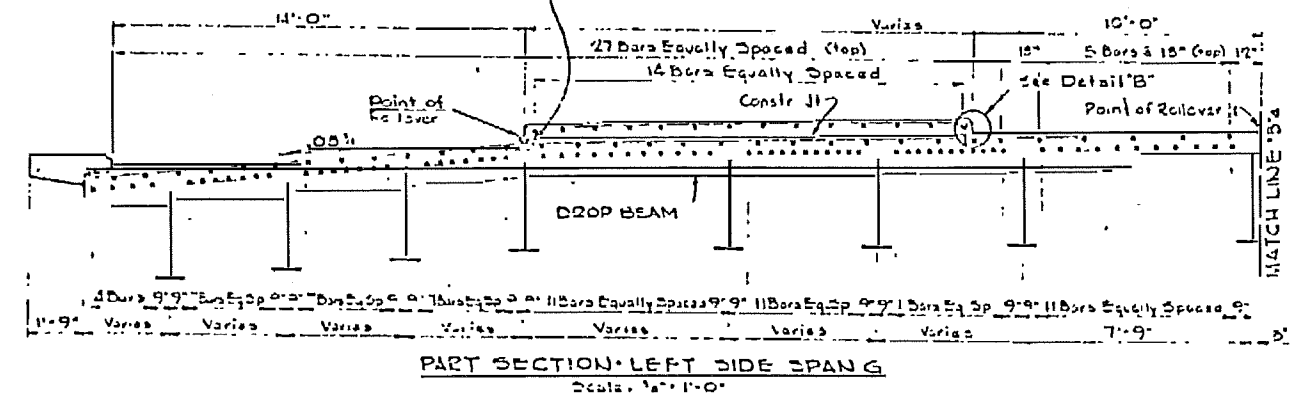
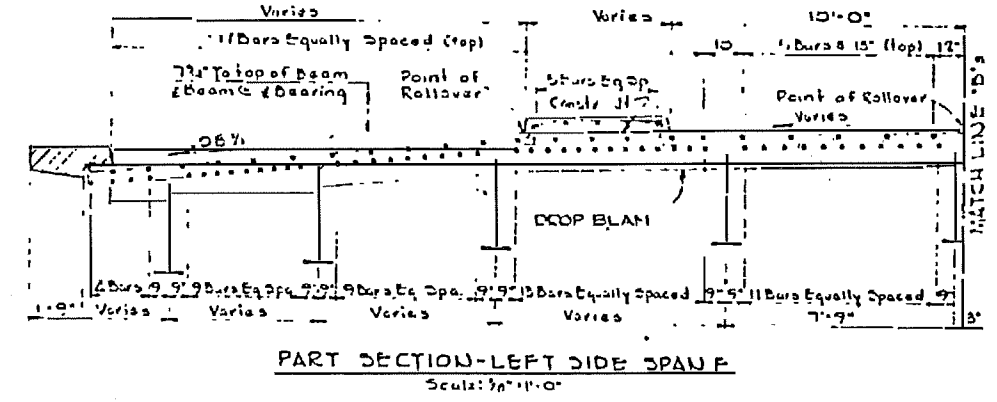
REVISION	DATE	DESCRIPTION
STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION		
DETAILS OF EXPANSION DAM AT BENTS 13 & 16		
Sta 14917 (N.V. Expwy) Maclennan Co		
Ulmer Smith and Associates, Inc. - Dept. CONSULTING ENGINEERS		
COLUMBUS, N.C.	WYOMING SALES, N.C.	MEMPHIS, TENN.
DRS - D.L. BURNETT, INC. (SCL)	DATE 10/28/50	DWG NO. 20

PROJECT NO.	15-73	TOTAL SHEETS	150
STATE PROJECT NO.	B1654011	DATE	1/50
SHEET NO.	SUP 21-1(11G)	DESCRIPTION	



LINSEED OIL APPLICATION

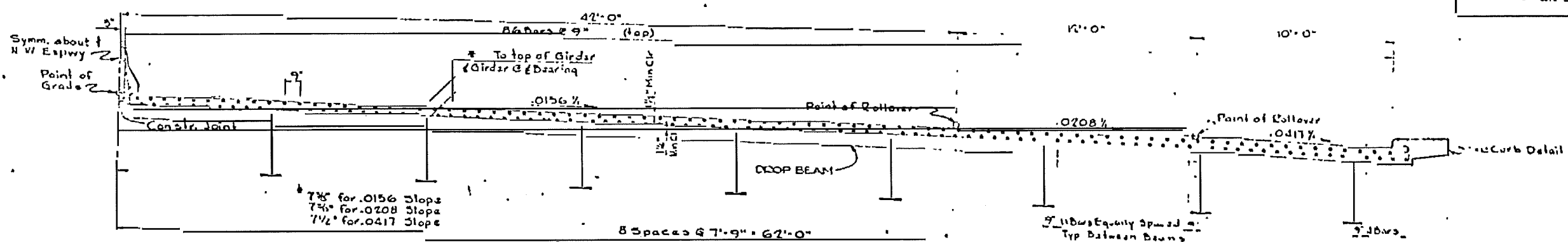
Notes: Linseed Oil Concrete Protection is to also be applied to top & sides of concrete nose and to decks on Ramp 1, similar to above detail.



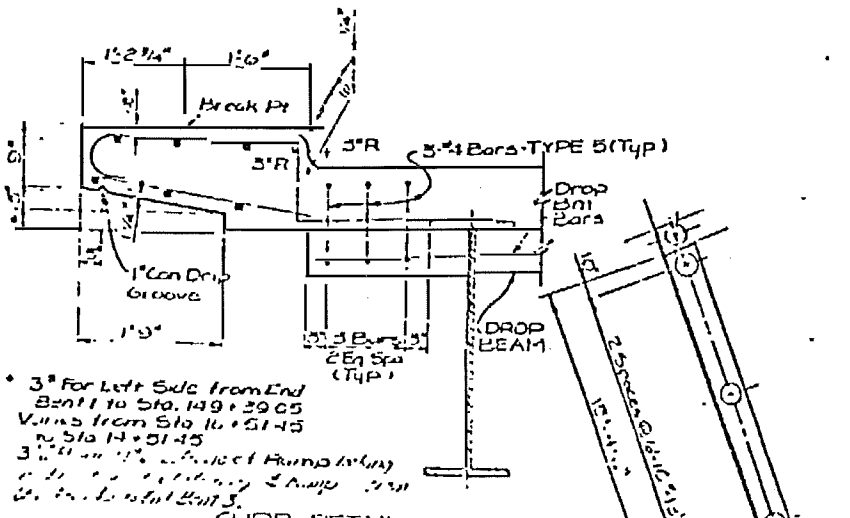
SHEET NO 21 of 31

REVISION DATE	DESCRIPTION
	STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION
	TYPICAL SECTIONS
	Sta 149117 & N.W. Espwy, Mecklenburg Co.
	Willbar Smith and Associates, Inc. - Design CONSULTING ENGINEERS COLUMBA & C WASHINGTON, D.C. MEMPHIS, TN

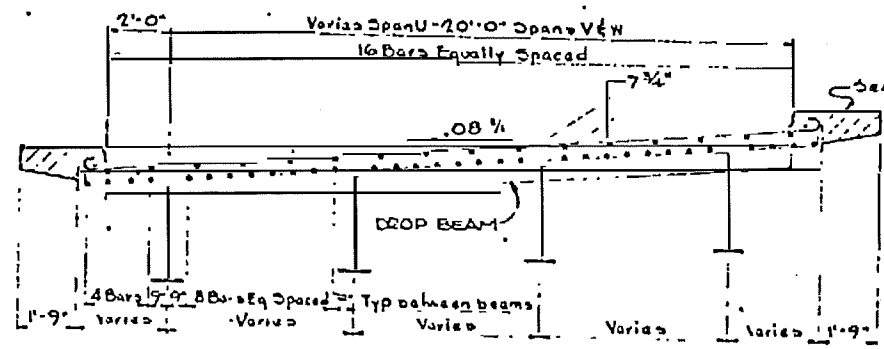
PROJ. REFERENCE NO.	DATE	BY
STATE PROJECT NO.	150	74
SECTION NO.	50	116
SHEET 24 OF 116		



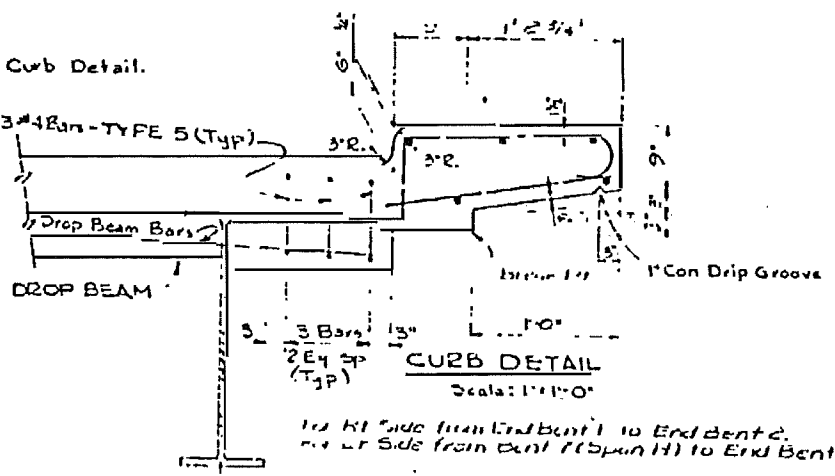
SECTION SHOWING EXTRA BARS IN TOP OF SLAB AT BENTS 14 & 15
Scale: 3/8" = 1'-0"



CURB DETAIL
Scale: 1" = 1'-0"

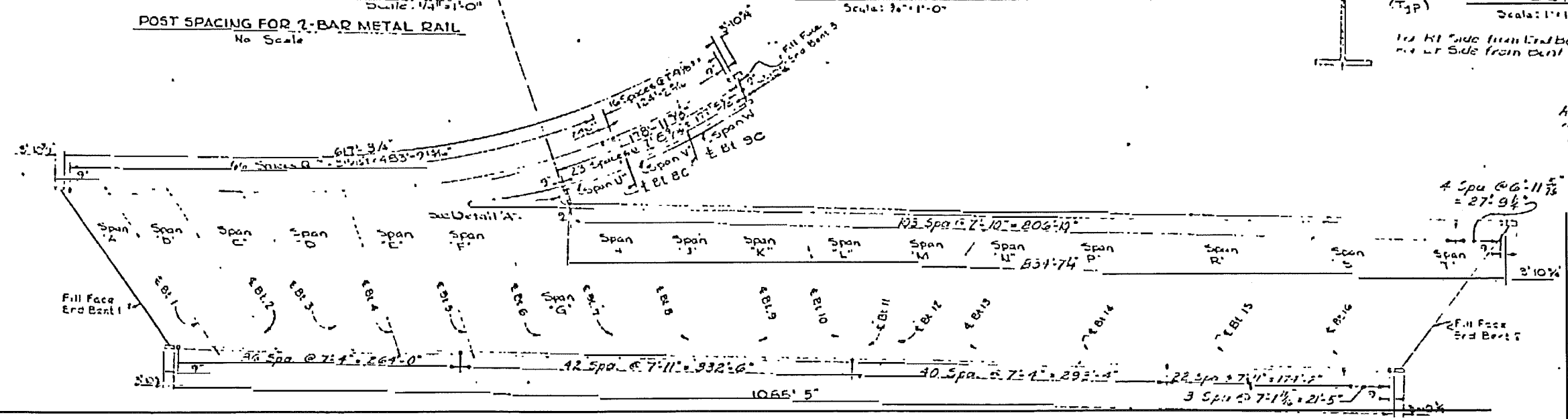


SECTION THRU RAMP 1
Scale: 3/8" = 1'-0"



CURB DETAIL
Scale: 1" = 1'-0"

POST SPACING FOR 2-BAR METAL RAIL
No Scale



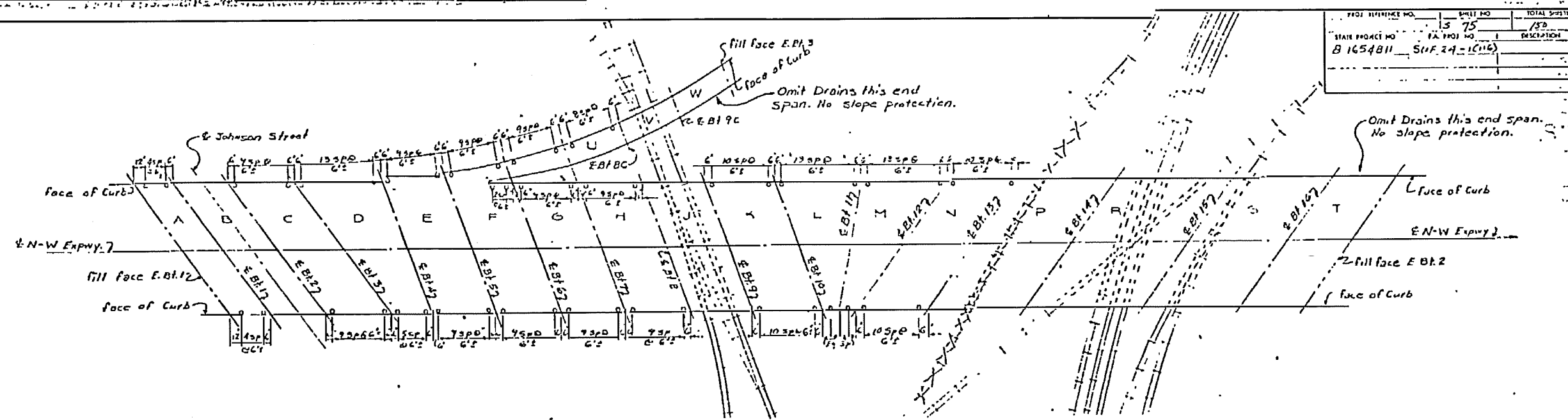
Review #1: Check curb overhang dimensions per section with the by and with by A-11-11-11

SHEET No 28 of 31

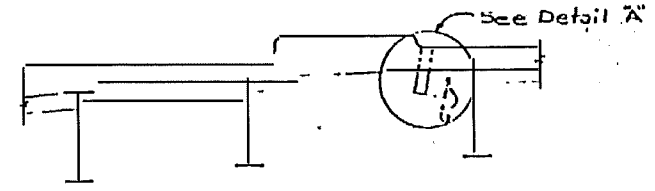
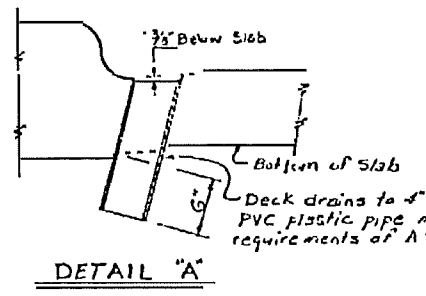
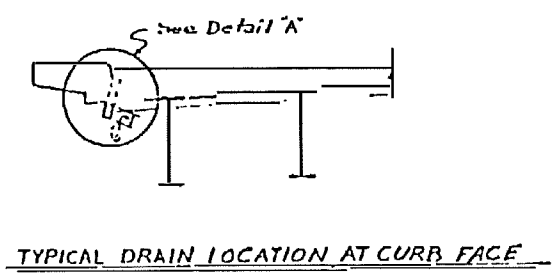
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

TYPICAL SECTIONS
POST SPACING

502 149+1750 N.W. Edna Vecklenburg Co.
Willie Smith and Associates, Inc. - Design
CONSULTING ENGINEERS
COLUMBA & C. WASHINGTON, N.C. RICHMOND, VA



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
STATE PROJECT NO.	15 75	150
B 1654811	SUP. 24-1(116)	



see Supplemental Agreement No. 2
 See P.R.B. no 6 page no. 45.

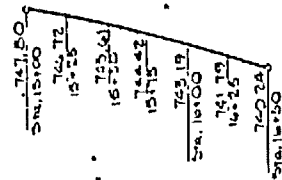
REVISION DATE	DESCRIPTION	BY
STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION		
DRAIN LAYOUT		
Sta 149+17.00 N.W. Expwy. McLenah		
Ulmer Smith and Associates, Inc. - Design		
CONSULTING ENGINEERS		
COLUMBIA, S.C.	WRESTON, SALEM, N.C.	PERCHMONK, VA.
AS HDL	DRW HDL	DATE 11/69

RAMP 1 GRAHAM

Vertical Curve
 PI 10150
 Elev. 706.70
 450' V.C.

+3.04% -4.20%

SPLINE RAMP 1 GRAHAM

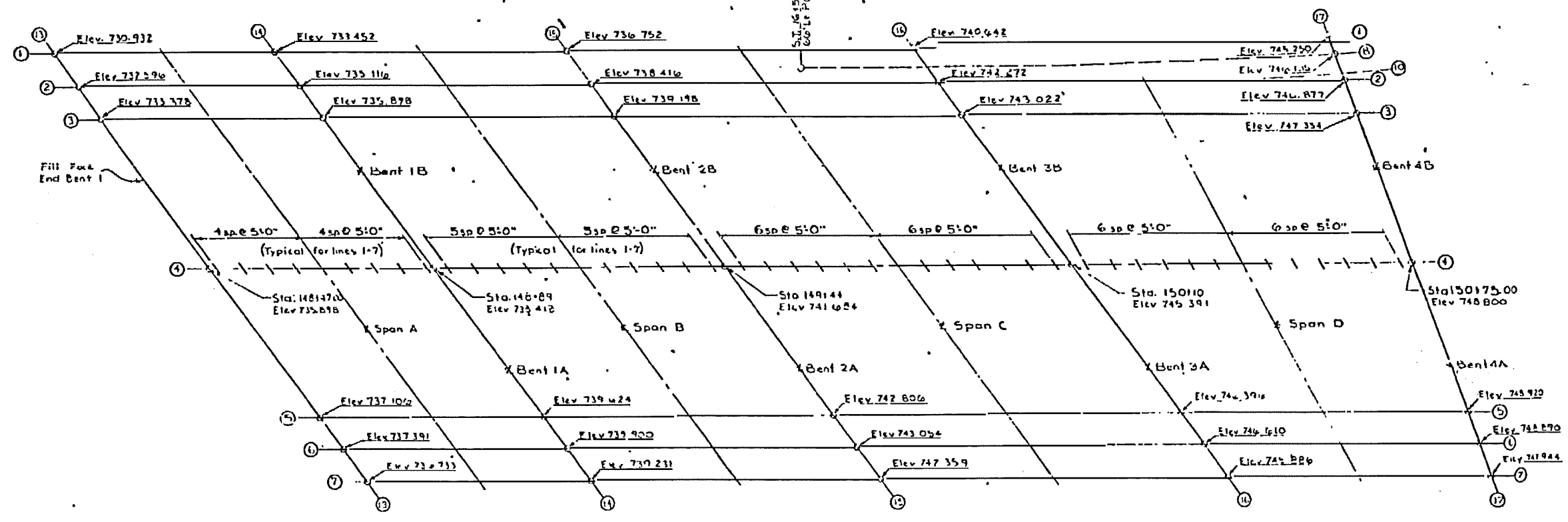


NORTHWEST EXPRESSWAY

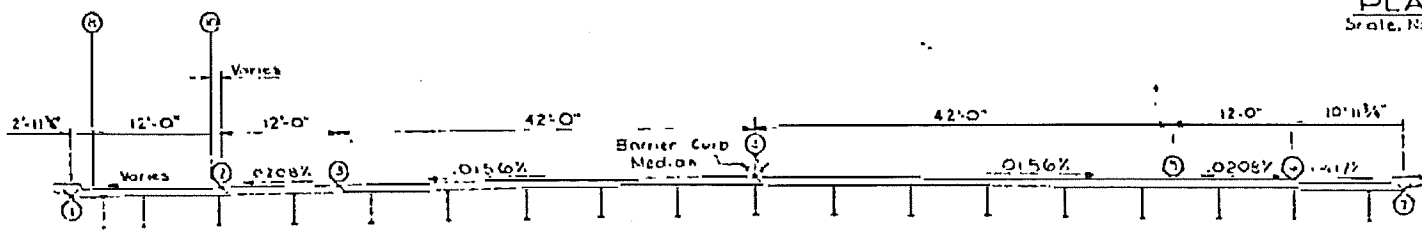
PI 15748720
 Elev. 792.81
 1755' V.C.

+6.00% -4.00%

PROJECT NO.	5-77	SHEET NO.	150
CONTRACT NO.	8-1054B(1)	SECTION	
DATE	SEP 24 - 1966	BY	



PLAN
 Scale: None



TYPICAL SECTION
 SPANS A-D
 Looking Forward

NOTE:
 Elevations shown in Columns 1-10 & 12 are final required elevations of the completed structure. In setting up the form and screed elevations provisions must be made for deflections where required.
 For Columns 3 & 4 given elevations are at 2'-0" intervals, normal to 4' of roadway from the left gutter line to the right gutter line.

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

CONSTRUCTION ELEVATIONS

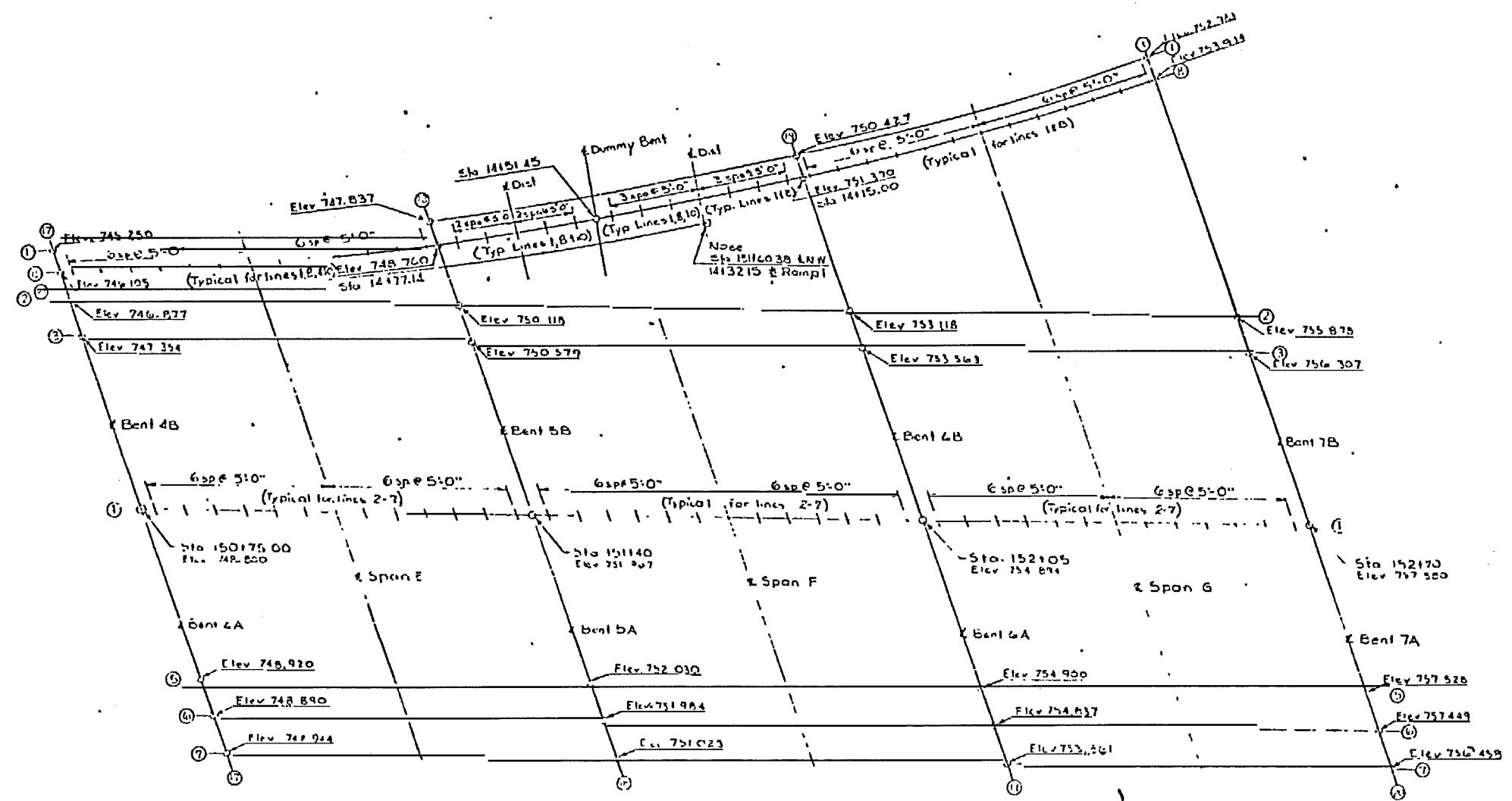
Station 1491700 N.W. Expressway Interchange

Miller Smith and Associates, Inc. - Design
 CONSULTING ENGINEERS

COMPILED BY: [Signature]
 DRAWN BY: [Signature]

Work this sheet with Page 119 5835 587.

PROJECT NO.	DATE	TOTAL SHEETS
STATE PROJECT NO. 8.1654811	DATE 10/16/66	100
PA. PROJ. NO.	DATE	



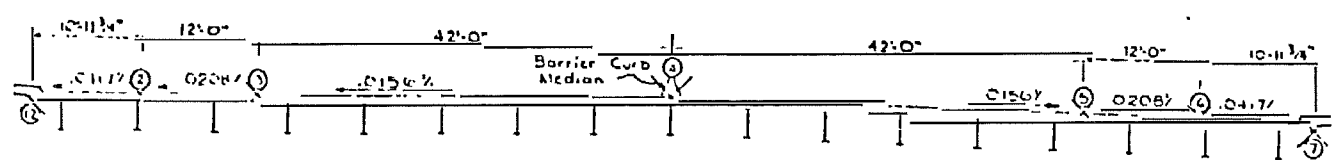
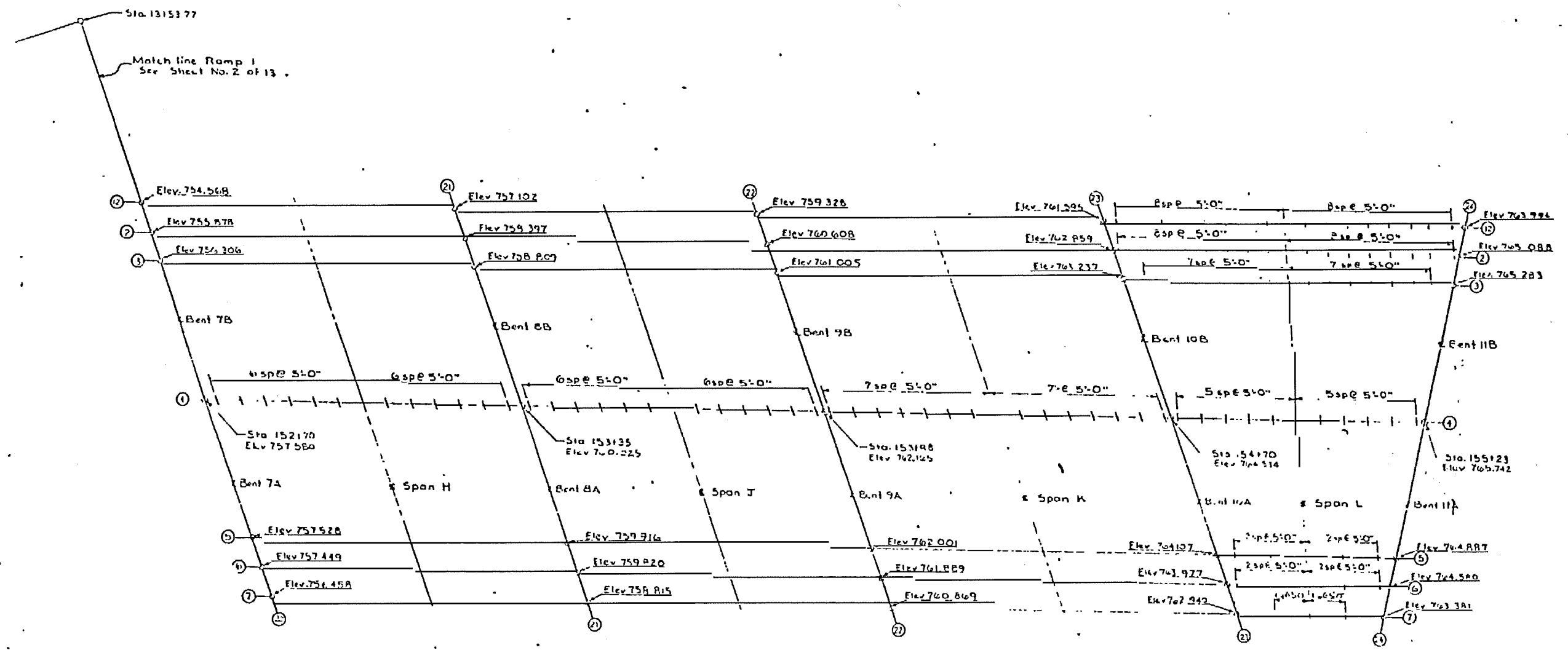
PLAN
Scale: None

Sheet 2 of 3

REVISION DATE	DESCRIPTION
STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION	
CONSTRUCTION ELEVATIONS	
Station: 149117.00 NW Espy Weathersco	
Walter Smith and Associates, Inc. - Design	
CONTRACT NO.	CONTRACT DATE
CONTRACT NO. 83-284-567	CONTRACT DATE 10/16/66

ADDITIONAL SHEETS ON DRAWING 83-284-567.

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
SITE FORCE NO.	591	150
B.1654.811	SUPPL-1(116)	



For 1/2" to 1/4" scale, see sheet 1 of this set
and for 1/4" to 1/8" scale, see sheet 2 of this set

Mark this sheet with Depts. 16564, 267.

Sheet 3 of 13

1 700

REVISION DATE DESCRIPTION

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

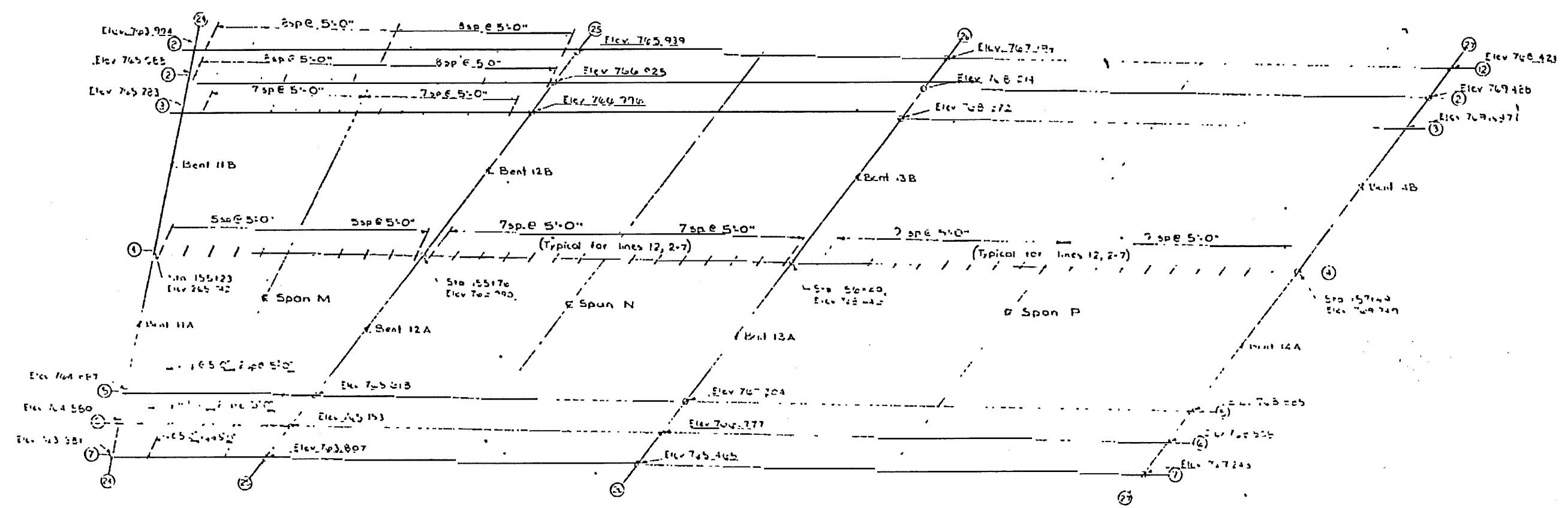
CONSTRUCTION ELEVATIONS

Station: 149+17.05 N.W. Expwy. Millbrook

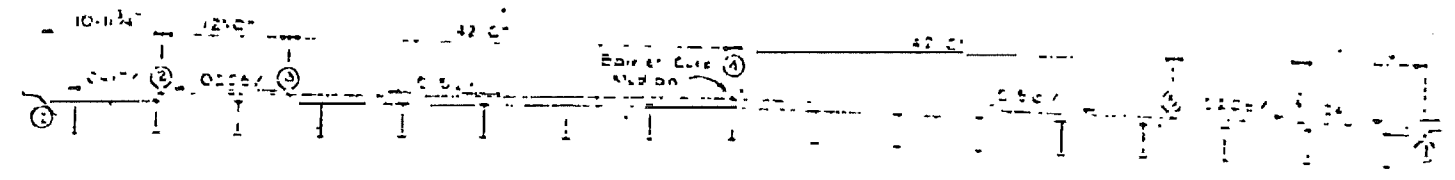
Wilbur Smith and Associates, Inc. - Design
CONSULTING ENGINEERS

CONTRACT NO. 149-17.05 N.W. Expwy. Millbrook

PROJ REFERENCE NO	SHEET NO	TOTAL SHEETS
STATE PROJECT NO	5 02	150
B. 654B11 SUP 22-1 (116)	F.A. PROJ NO	DESCRIPTION



PLAN

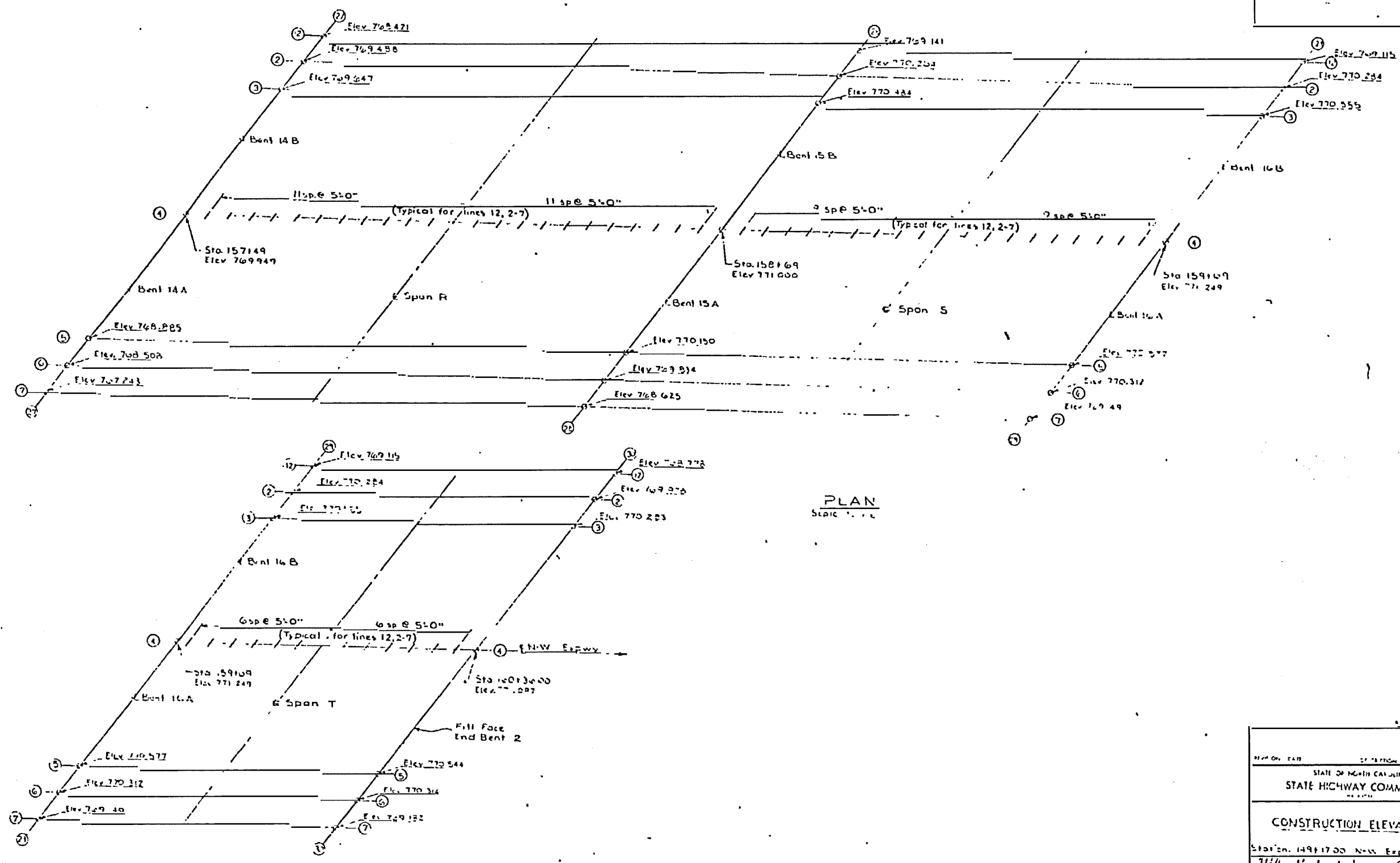


TYPICAL SECTION
SPAN 5'-0"

Sheet 4 of 3

DATE	DESCRIPTION
	STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION
CONSTRUCTION ELEVATION	
Station 12+17.00 to 12+42.00, W. of Sta. 12+17.00	
Willie Smith and Associates, Inc. - Design	

STATE PROJECT NO. 583
 B 1054811 SUP 24-1(116)



Sheet 5 of 10

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

CONSTRUCTION ELEVATION

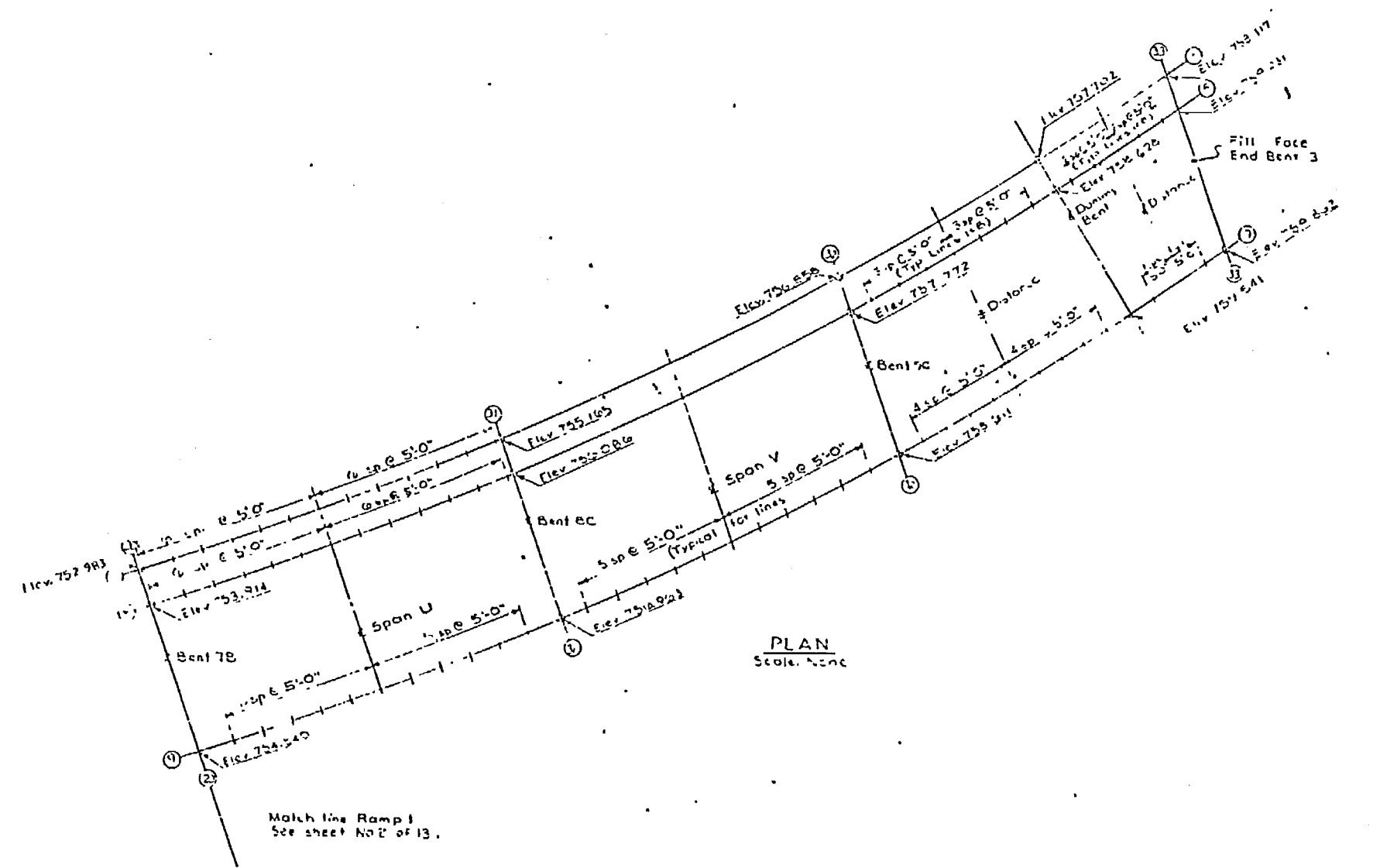
Station: 149+17.00 N.W. Edge Viaduct

Willie Smith and Associates, Inc. - Design
 CONSULTING ENGINEERS

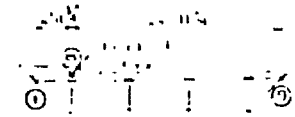
WORK FOR STATE OF NORTH CAROLINA

COLUMN 13 COLUMN 14 COLUMN 15 COLUMN 16

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHTS.
STATE PROJECT NO.	PA. PROJ. NO.	DESCRIPTION
8.1654811	20F24-1(16)	



PLAN
Scale: None



WILLIAM SMITH AND ASSOCIATES, INC. - DAY
CONSULTING ENGINEERS
COLUMBIA, S. C.

Vertical Curve Data: 100' Length, 0.5% Grade

Sheet 2 of 13

REVISION DATE	DESCRIPTION	BY
STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION		
CONSTRUCTION ELEVATIONS		
Location: 153+17.00 N.W. Exp. N. 200' E. of		
William Smith and Associates, Inc. - Day CONSULTING ENGINEERS COLUMBIA, S. C.		