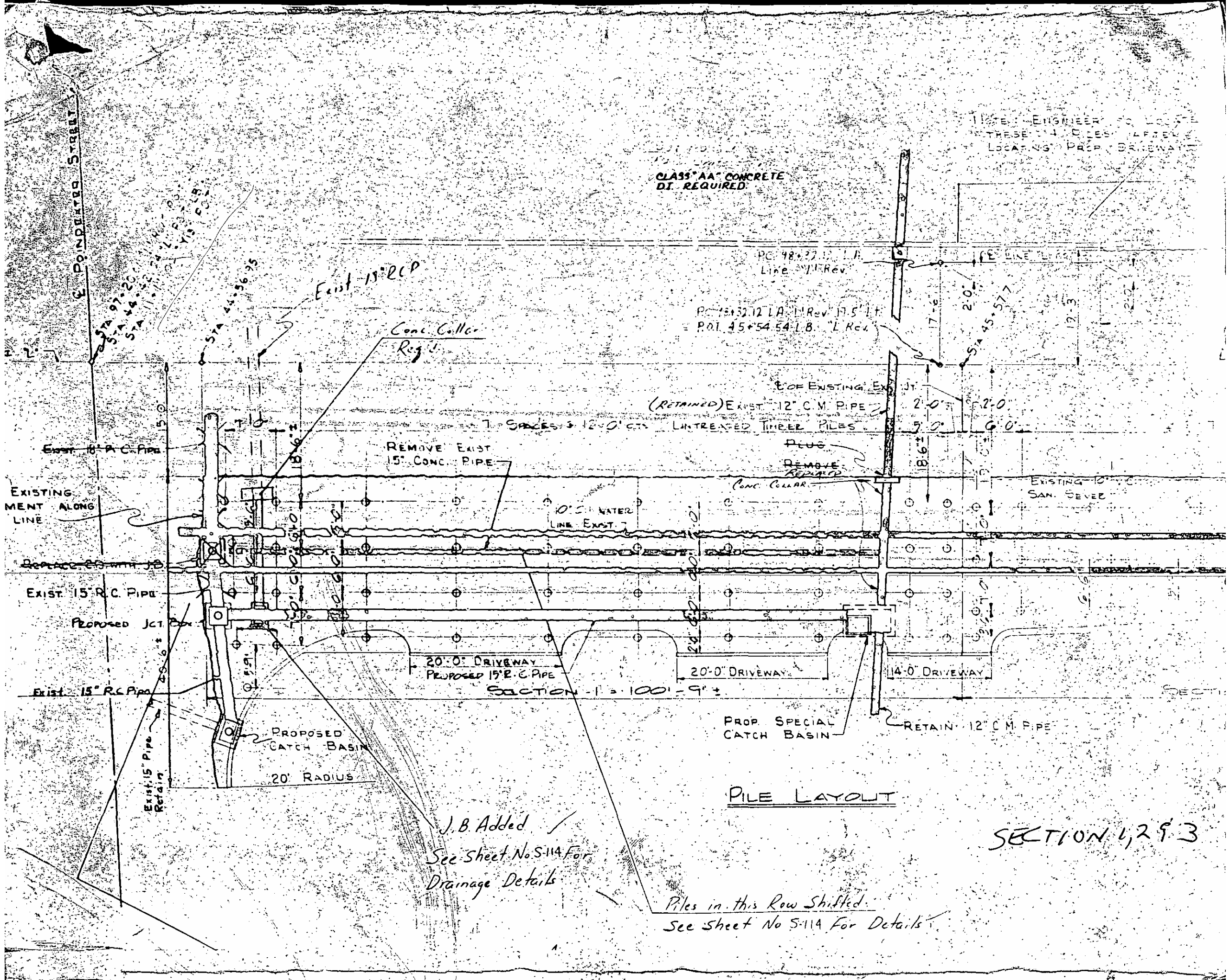
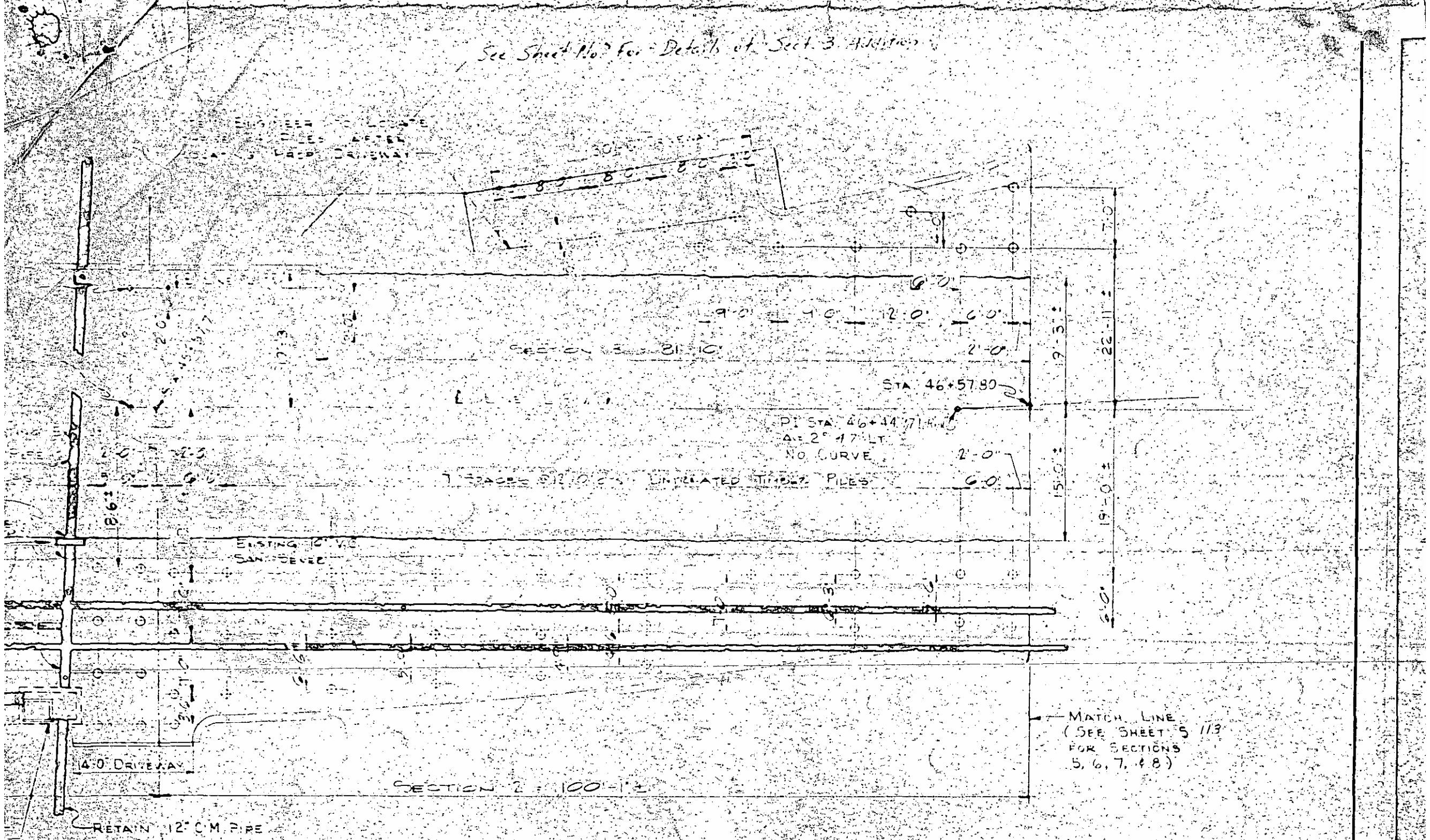


℄ POINDEXTER STREET
CLASS "AA" CONCRETE
D.I. REQUIRED
Exist 18" RCP
Conc. Collar
Req'd
STA 44+56.95
STA 45+57.7
℄ OF EXISTING EXP. JT.
(RETAINED) EXIST. 12" C.M. PIPE
7 SPACES @ 12'-0" CTS. UNTREATED TIMBER PILES
REMOVE EXIST
15" CONC. PIPE
PLUG
REMOVE
REPLACED
CONC. COLLAR
EXISTING 10" V.C.
SAN. SEWER
EXIST. 18" R.C. PIPE
EXISTING
MENT ALONG
LINE
10" C.I. WATER
LINE EXIST.
EXIST. 15" R.C. PIPE
PROPOSED JCT. BOX
20'-0" DRIVEWAY
PROPOSED 15" R.C. PIPE
20'-0" DRIVEWAY
14'-0" DRIVEWAY
SECTION 1 = 100'-9" ±
EXIST. 15" R.C. PIPE
PROPOSED
CATCH BASIN
20' RADIUS
PROP. SPECIAL
CATCH BASIN
RETAIN 12" C.M. PIPE
EXIST. 15" PIPE
RETAIN
PILE LAYOUT
J.B. Added
See Sheet No. S-114 For
Drainage Details
Piles in this Row Shifted.
See Sheet No S-114 For Details
SECTION 1, 2 & 3



SECTION 1, 2 & 3

PROJECT No. 8.1111403

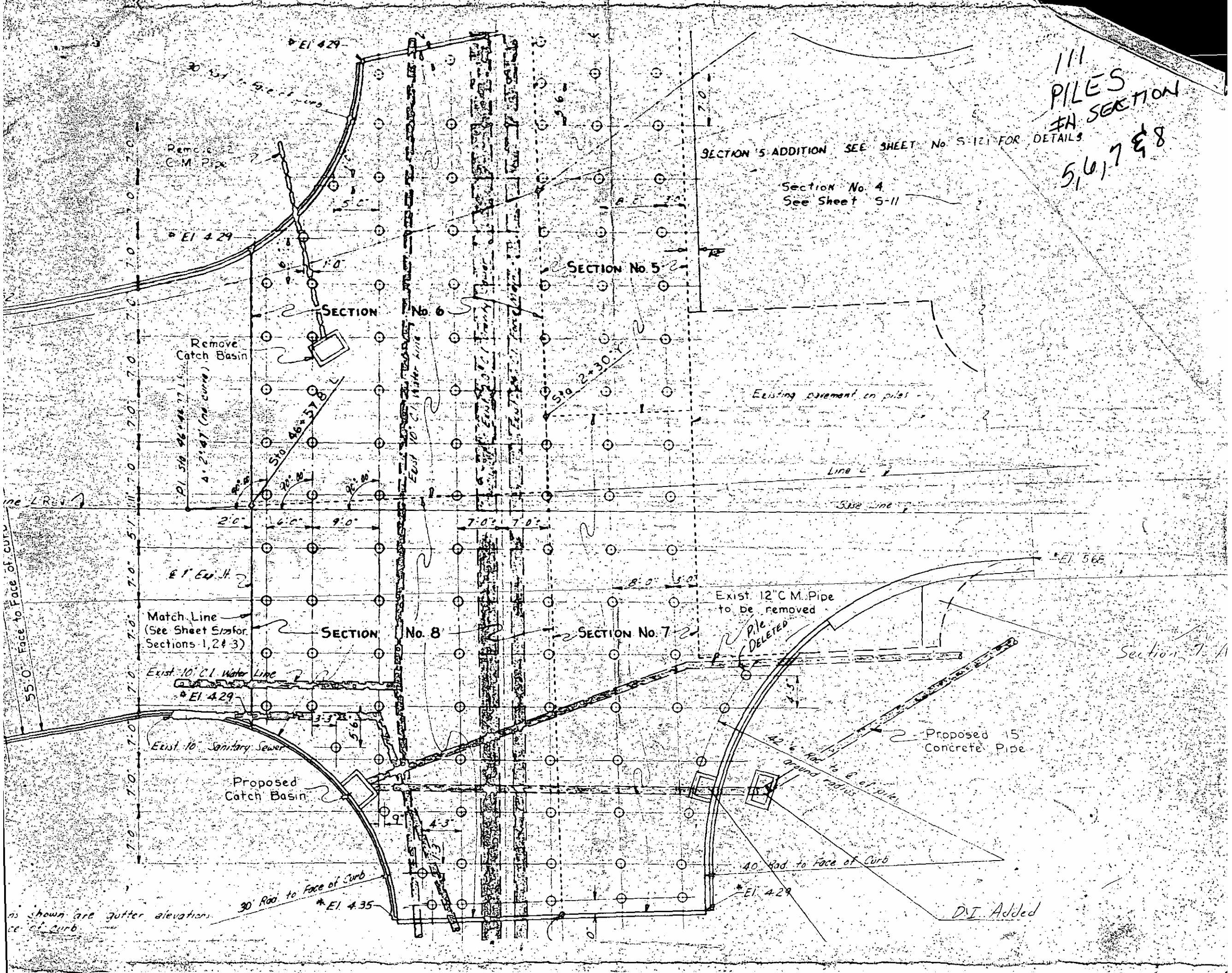
PASQUOTANK **COUNTY**

STATION: 99+76.3-L-100

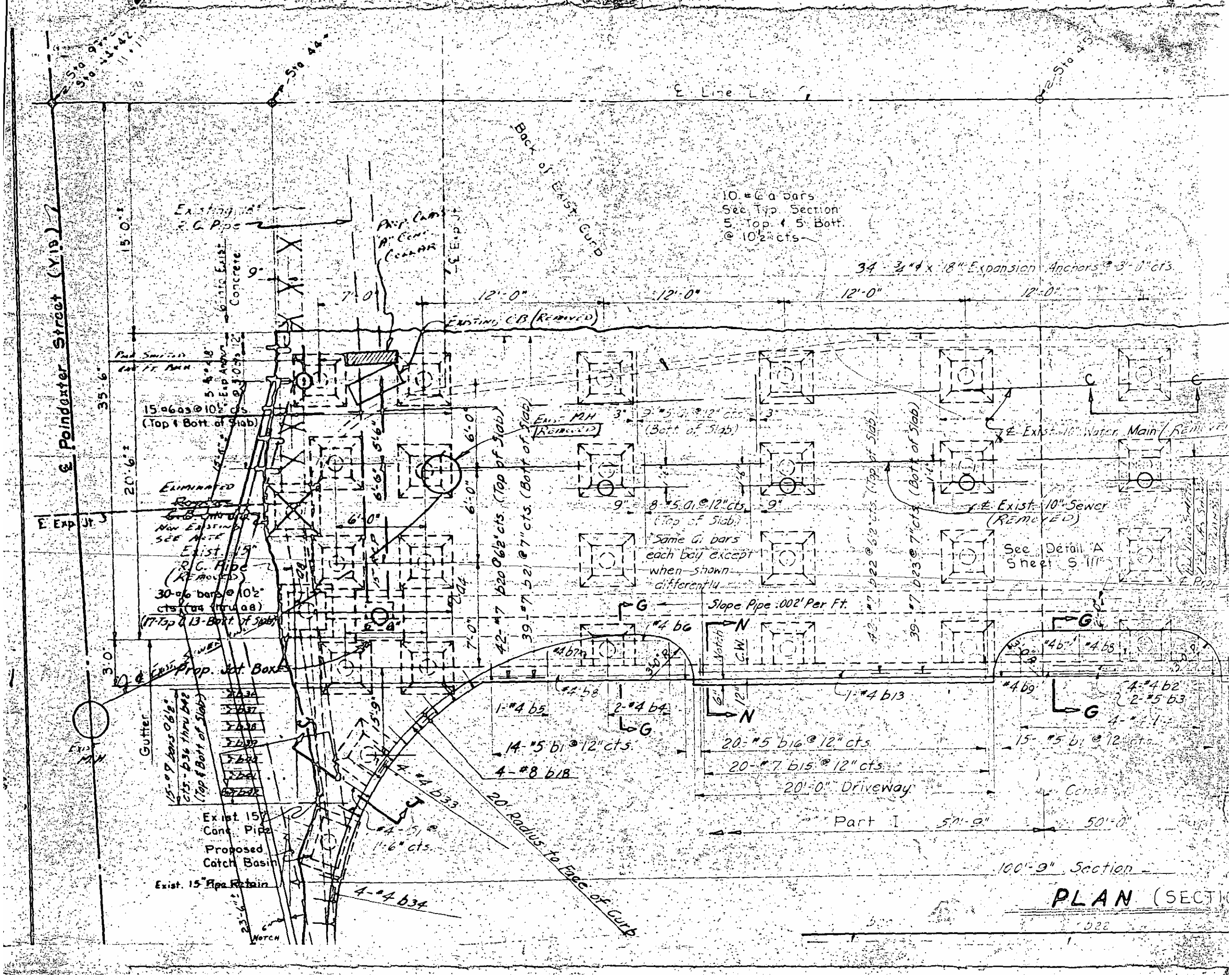
SHEET 1 OF 2 = 2+00.0 - Y = POT

STATE OF NORTH CAROLINA

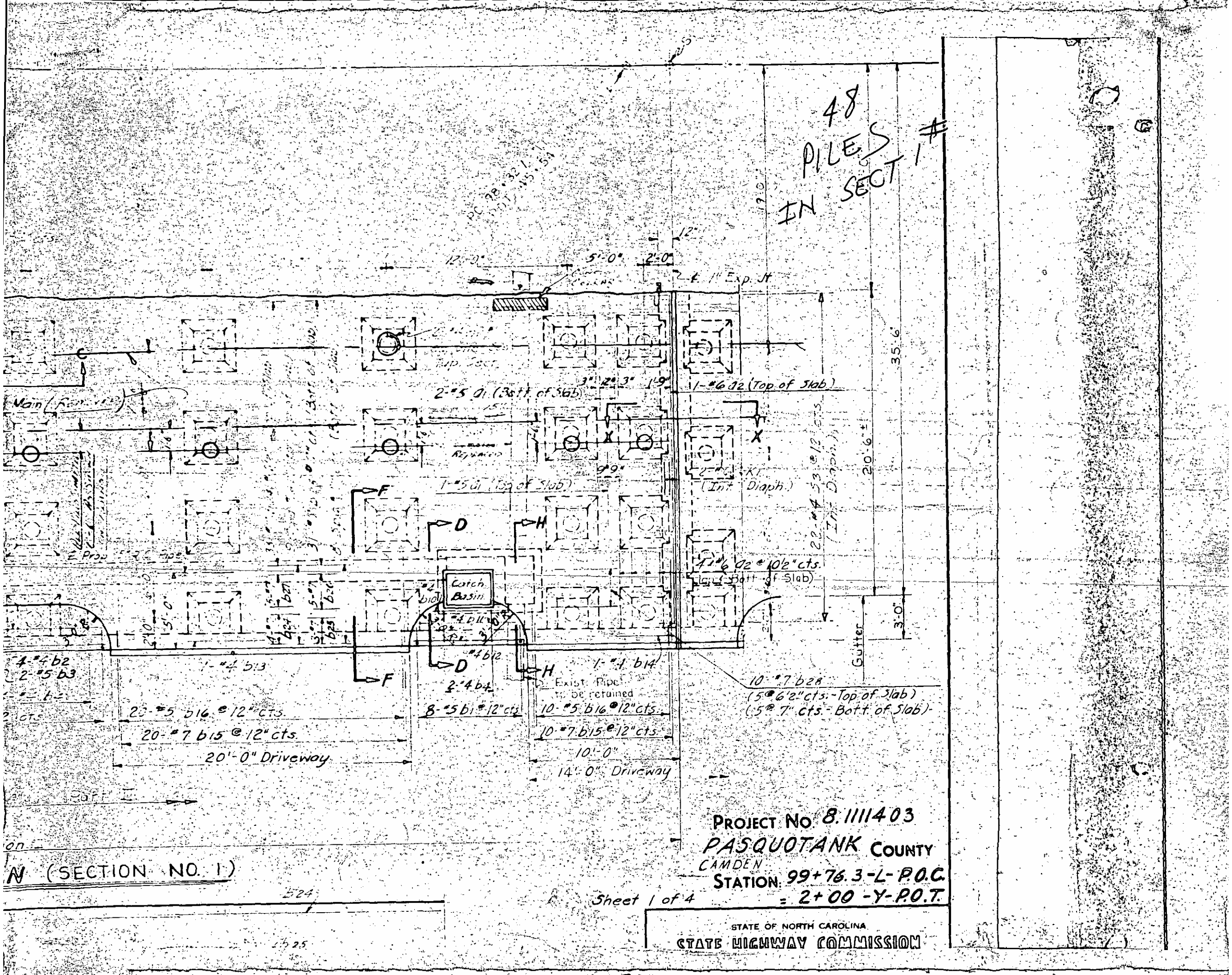
STATE HIGHWAY COMMISSION

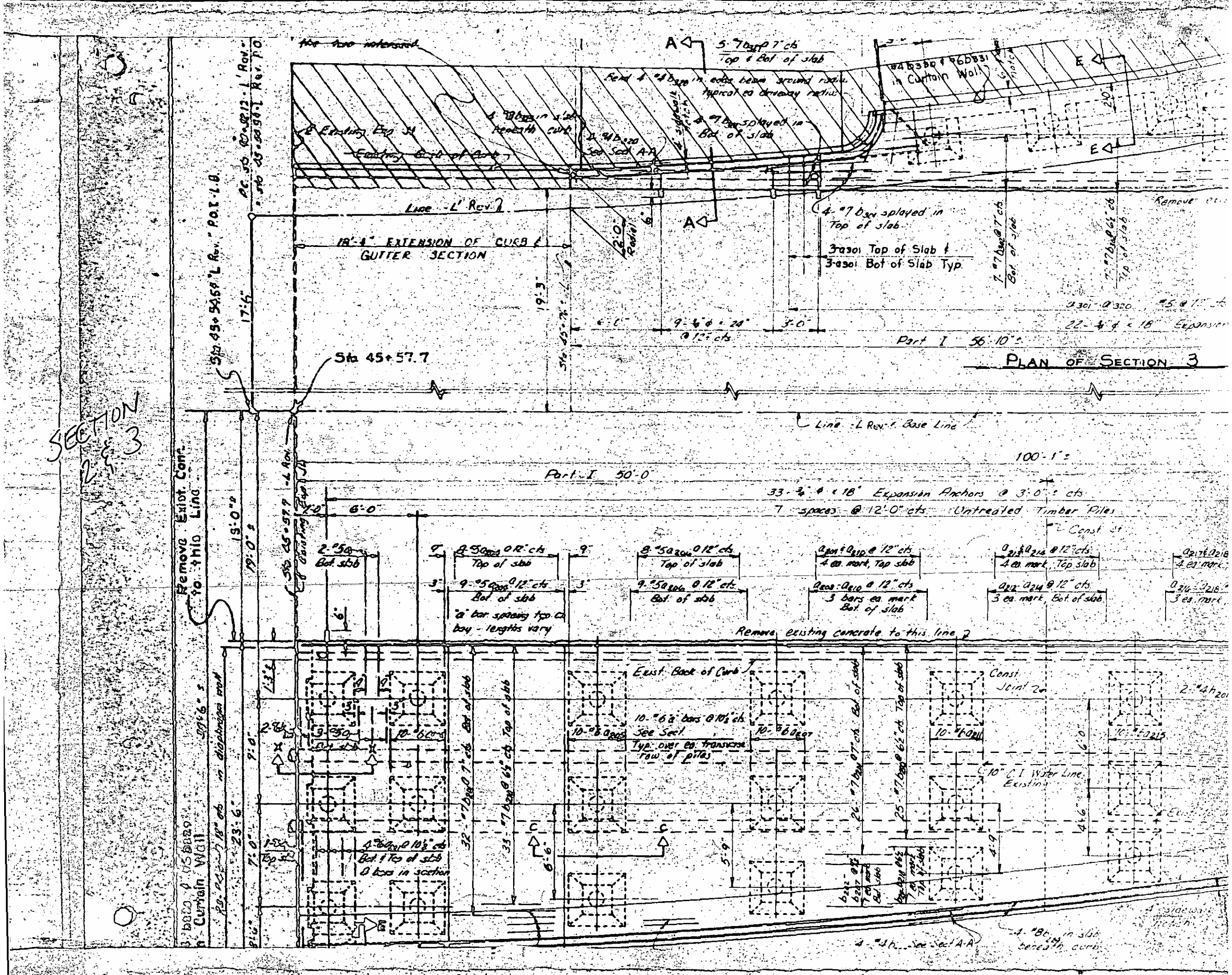


111
PILES
IN SECTION
5,6,7 & 8
SECTION 5 ADDITION SEE SHEET No. S-121 FOR DETAILS
Section No. 4
See Sheet S-11
SECTION No. 5
SECTION No. 6
SECTION No. 7
SECTION No. 8
Remove Catch Basin
Existing pavement on piles
Line L
Base Line
Exist. 12" C.M. Pipe to be removed
Pile DELETED
Match Line (See Sheet S-10 for Sections 1, 2 & 3)
Exist. 10" C.I. Water Line
Exist. 10" Sanitary Sewer
Proposed Catch Basin
Proposed 15" Concrete Pipe
42' 6" Rad. to ℄ of pile around radius
40' Rad. to Face of Curb
30' Rad. to Face of Curb
55'0" Face to Face of curb
D.I. Added
El. 4.29
El. 4.35
El. 5.68

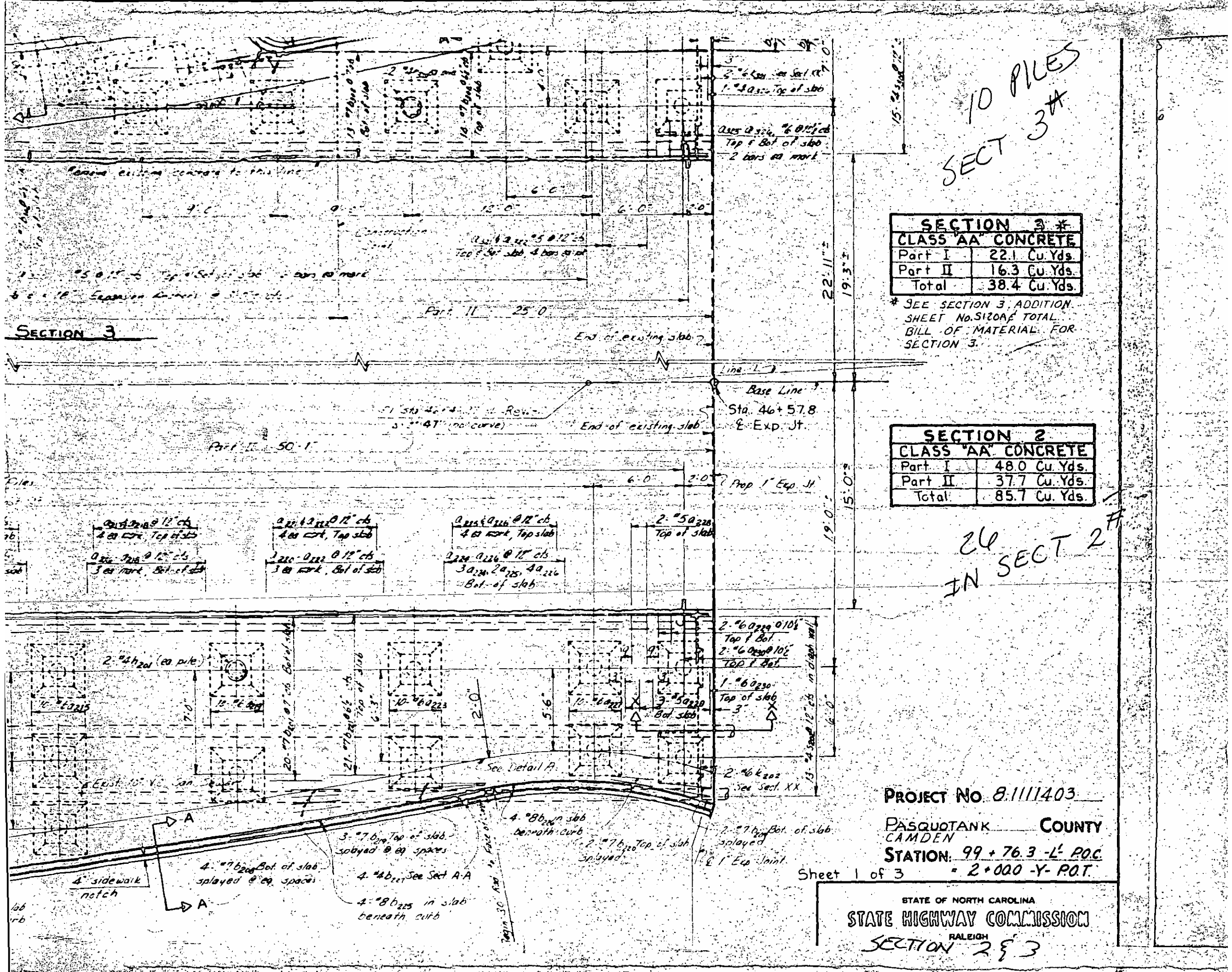


℄ Line L
Back of Exist. Curb
10 #6 a bars
See Typ. Section
5 Top & 5 Bott.
@ 10½" cts.
34 - ¾"ϕ x 18" Expansion Anchors @ 3'-0" cts.
12'-0"
12'-0"
12'-0"
12'-0"
Existing CB (Removed)
℄ Poindexter Street (Y.19)
35'-6"
20'-6"
15'-0"
Existing 18" R.C. Pipe
Prop. Cast "A" Conc. Collar
6" into Exist. Concrete
7'-0"
9"
15 #6 a3 @ 10½" cts.
(Top & Bott. of Slab)
Exist. MH (Removed)
Eliminated
Non Existing
See Note
Exist. 15" R.C. Pipe (Removed)
30-#6 bars @ 10½" cts. (a4 thru a8)
(17-Top & 13-Bott. of Slab)
℄ Exp. Jt.
6'-0"
6'-0"
7'-0"
42-#7 b20 @ 6½" cts. (Top of Slab)
39-#7 b21 @ 7" cts. (Bott. of Slab)
3"
9-#5 a1 @ 12" cts.
(Bott. of Slab)
9"
8-#5 a1 @ 12" cts.
(Top of Slab)
Same a1 bars each bay except when shown differently
℄ Exist. 10" Water Main (Removed)
℄ Exist. 10" Sewer (Removed)
See Detail "A" Sheet S-111
Slope Pipe .002' Per Ft.
#4 b6
#4 b7
#4 b8
#4 b9
1-#4 b5
2-#4 b4
1-#4 b13
4-#4 b2
2-#5 b3
14-#5 b1 @ 12" cts.
4-#8 b18
20-#5 b16 @ 12" cts.
20-#7 b15 @ 12" cts.
20'-0" Driveway
15-#5 b1 @ 12" cts.
Part I
50'-9"
50'-0"
100'-9" Section
Prop. Jct. Box
Gutter
15-#9 bars @ 6½" cts. - b36 thru b42 (Top & Bott. of Slab)
Exist. 15" Conc. Pipe
Proposed Catch Basin
Exist. 15" Pipe Retain
4-#4 b33
#4-S1 @ 1'-6" cts.
4-#4 b34
20' Radius to Face of Curb
Notch
C.W.
PLAN (SECTI


48 PILES IN SECT 1#
12'-0"
5'-0"
2'-0"
1" Exp. Jt.
35'-6"
20'-6"±
3'-0"
Gutter
2-#5 a1 (Bott. of Slab)
1-#6 a2 (Top of Slab)
1-#5 a1 (Top of Slab)
(Int. Diaph.)
4-#6 a2 @ 10½" cts. (Bott. of Slab)
Catch Basin
4-#4 b2
2-#5 b3
1-#4 b13
2-#4 b4
8-#5 b1 @ 12" cts.
1-#4 b14
Exist. Pipe to be retained
10-#5 b16 @ 12" cts.
10-#7 b15 @ 12" cts.
10'-0"
14'-0" Driveway
10-#7 b28
(5 @ 6'2" cts.-Top of Slab)
(5 @ 7" cts.-Bott. of Slab)
20-#5 b16 @ 12" cts.
20-#7 b15 @ 12" cts.
20'-0" Driveway
N (SECTION NO. 1)
Sheet 1 of 4
PROJECT NO. 8.1111403
PASQUOTANK COUNTY
CAMDEN
STATION: 99+76.3-L-P.O.C.
= 2+00-Y-P.O.T.
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION



SECTION 2 & 3
PLAN OF SECTION 3
Line -L' Rev.
18'-4" EXTENSION OF CURB & GUTTER SECTION
Sta 45+57.7
Part I 56'-10"±
Line -L Rev. & Base Line
100'-1"±
Part I 50'-0"
33-¾" ϕ x 18" Expansion Anchors @ 3'-0"± cts
7 spaces @ 12'-0" cts Untreated Timber Piles
Remove existing concrete to this line
Exist. Back of Curb
Const. Joint
10" C.I. Water Line Existing
Remove Exist. Conc. to this Line
Curtain Wall



10 PILES
SECT 3#

SECTION 3 *	
CLASS "AA" CONCRETE	
Part I	22.1 Cu. Yds.
Part II	16.3 Cu. Yds.
Total	38.4 Cu. Yds.

* SEE SECTION 3, ADDITION SHEET No. S120A & TOTAL BILL OF MATERIAL FOR SECTION 3.

SECTION 2	
CLASS "AA" CONCRETE	
Part I	48.0 Cu. Yds.
Part II	37.7 Cu. Yds.
Total	85.7 Cu. Yds.

26
IN SECT 2#

PROJECT No. 8.1111403

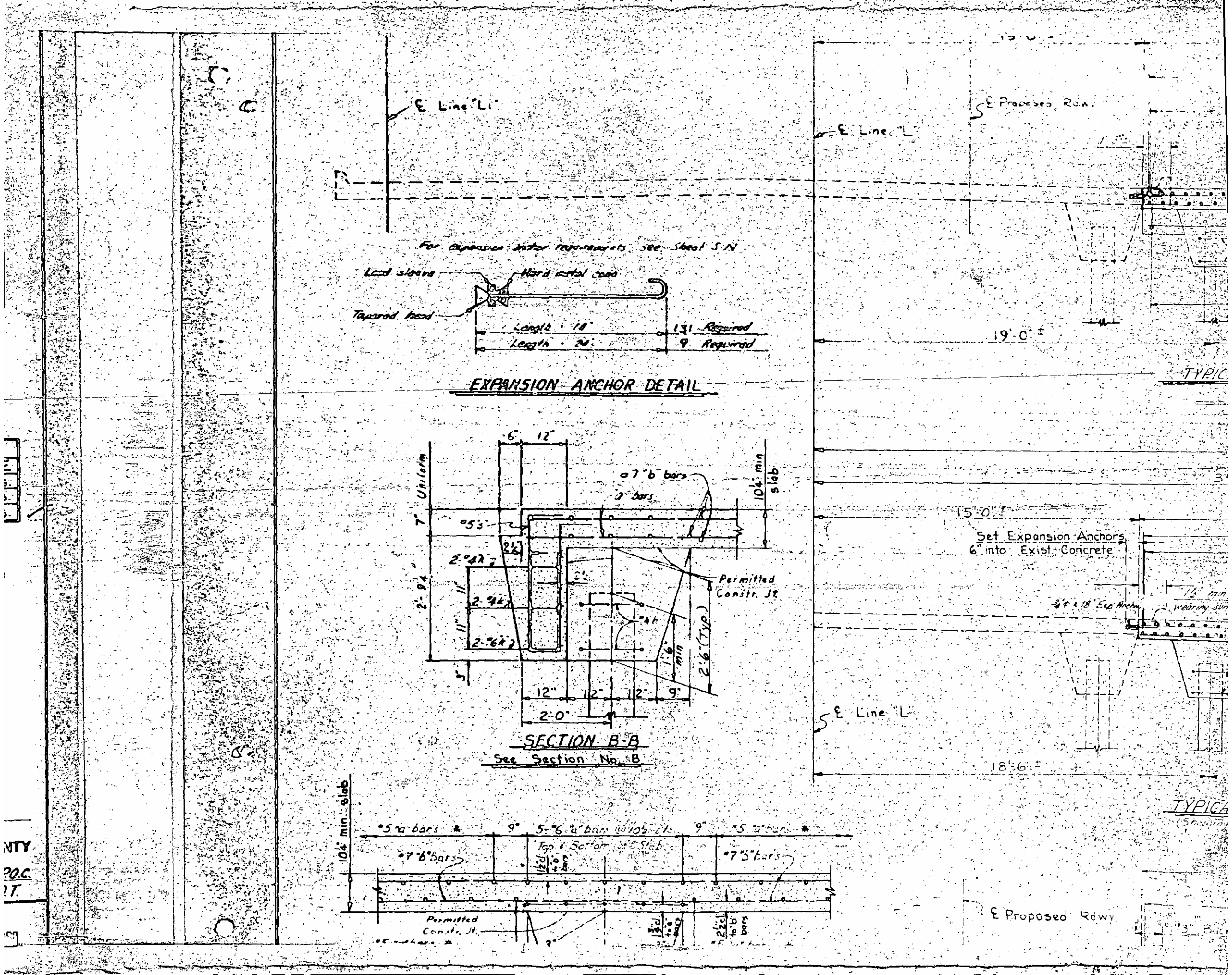
PASQUOTANK COUNTY
CAMDEN

STATION: 99 + 76.3 -L- P.O.C.
= 2+00.0 -Y- P.O.T.

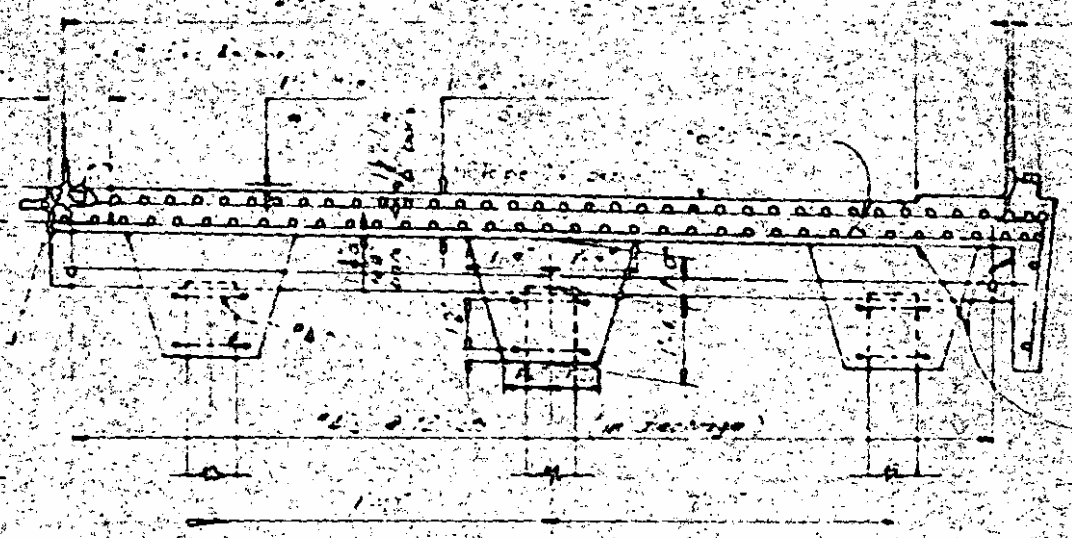
Sheet 1 of 3

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

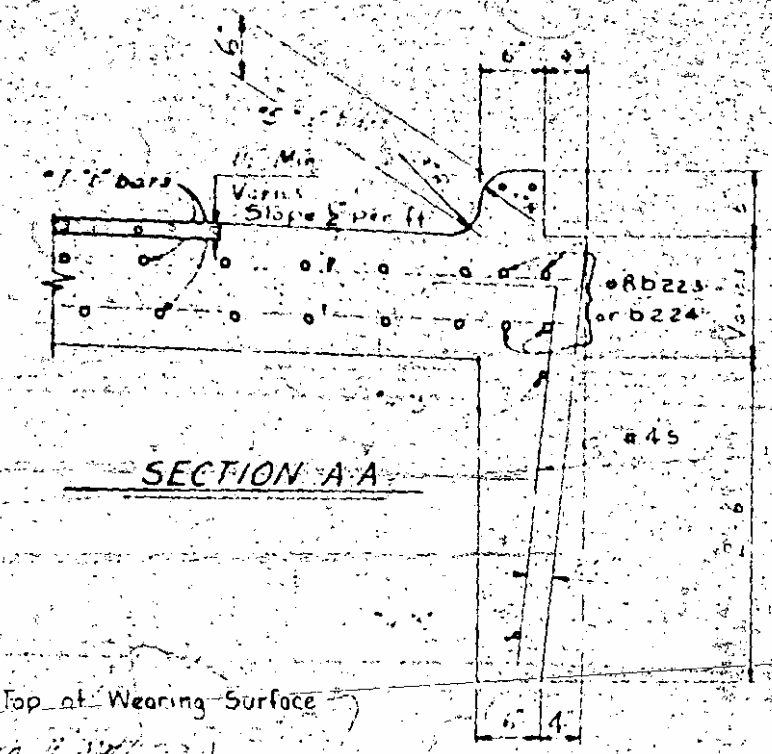
SECTION 2 & 3



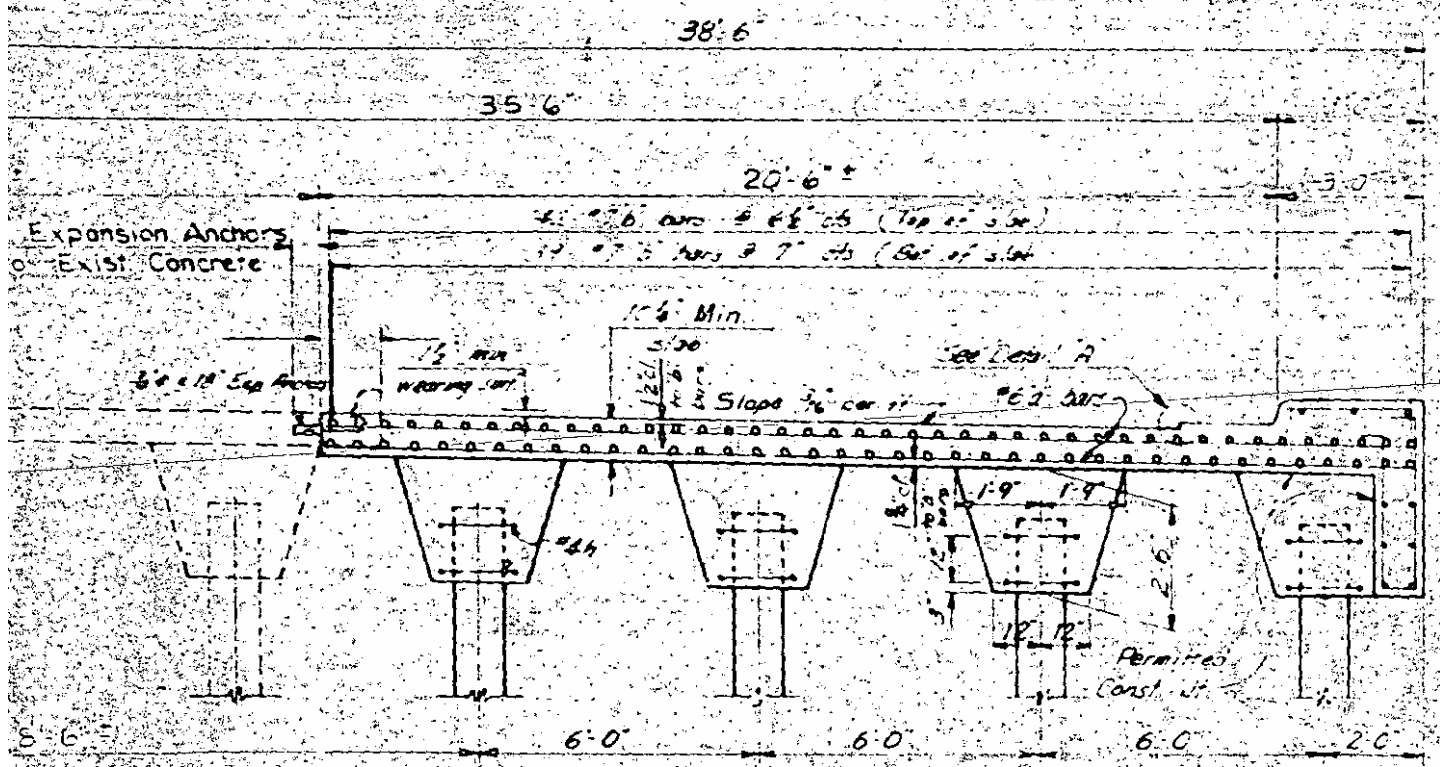
℄ Line "L1"
℄ Line "L"
℄ Proposed Rdwy
For expansion anchor requirements see Sheet S-N
Lead sleeve
Hard metal cone
Tapered head
Length - 18"
Length - 24"
131 Required
9 Required
EXPANSION ANCHOR DETAIL
19'-0" ±
TYPIC
6"
12"
7" Uniform
#7 "b" bars
"a" bars
10½" min slab
#5's
2-#4k
2-#4k
2-#6k
2'-9¼"
11"
11"
3"
Permitted Constr. Jt.
#4h
1'-6" min
2'-6" (Typ.)
12"
12"
12"
9"
2'-0"
SECTION B-B
See Section No. 8
15'-0" ±
Set Expansion Anchors 6" into Exist. Concrete
¾"ϕ x 18" Exp. Anchor
1½" min wearing sur
℄ Line "L"
18'-6" ±
TYPICA
10½" min. slab
#5 "a" bars
9"
5-#6 "a" bars @ 10½" c/c
9"
#5 "a" bars
Top & Bottom of Slab
#7 "b" bars
#7 "b" bars
Permitted Constr. Jt.
℄ Proposed Rdwy



TYPICAL SECTION FOR SECTION 2

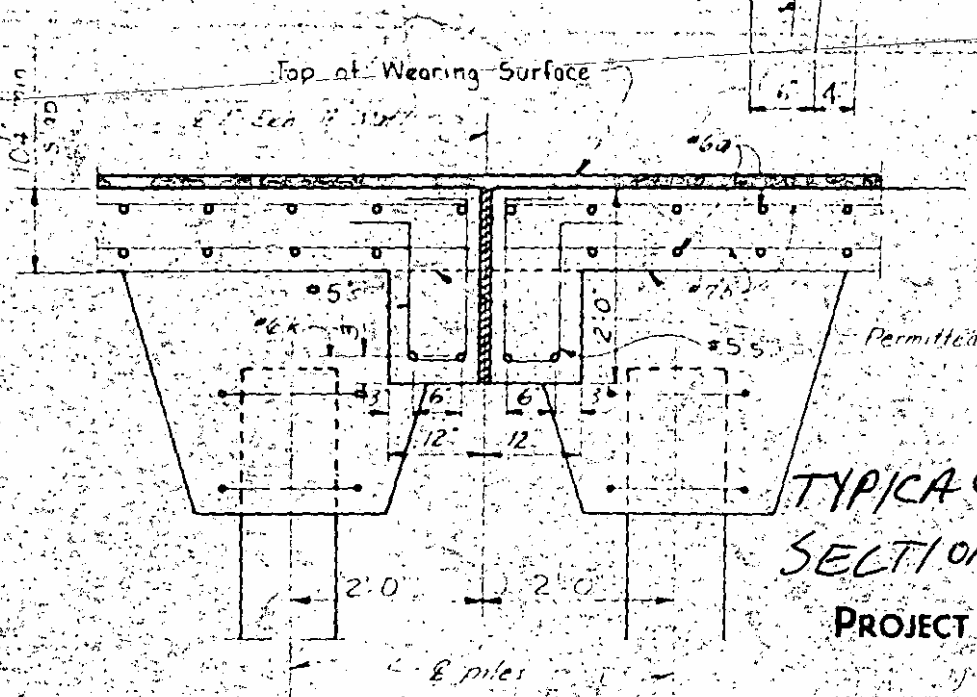


SECTION A-A



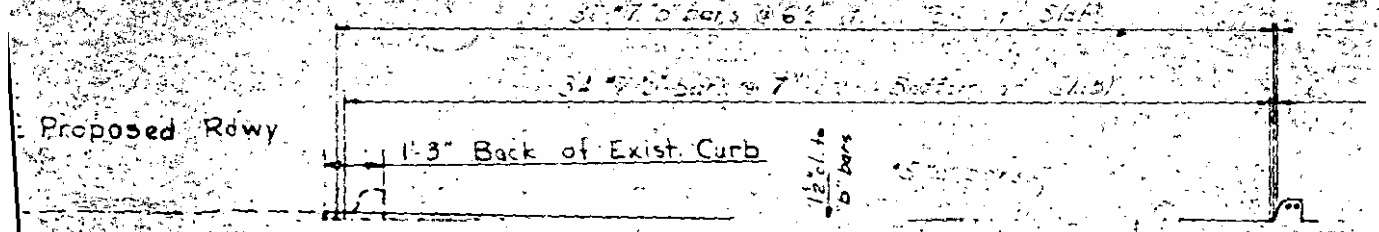
TYPICAL SECTION FOR SECTION 1

Showing location of slab steel over piles



SECTION X-X

TYPICAL SECTION



PROJECT NO. 7114

STATION: 99+76.3
2+00.0

Sheet 2 of 3

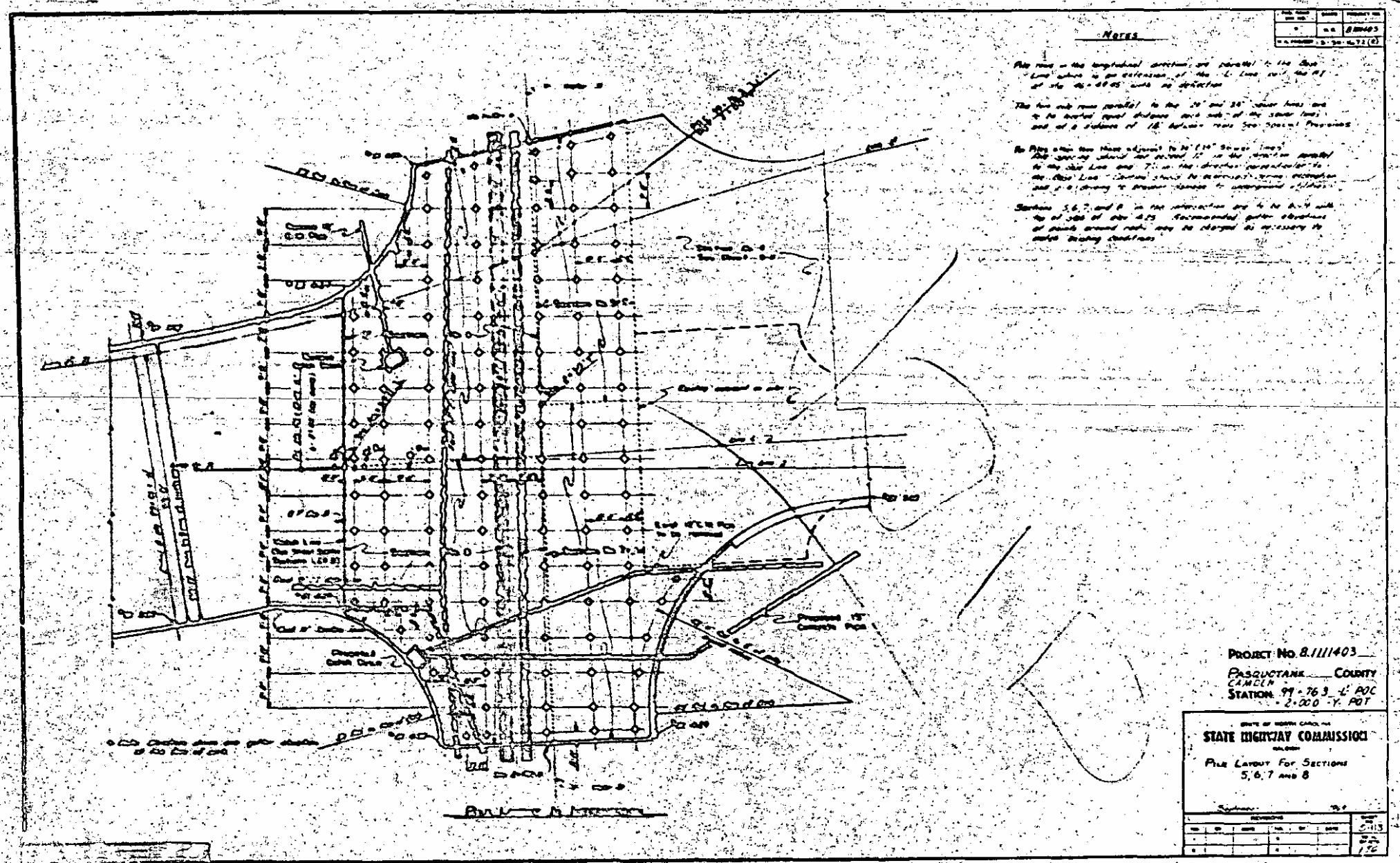
STATE OF NORTH CAROLINA

PROJECT NO. 8.1111403
PASQUOTANK COUNTY
STATION [illegible]
SHEET 1 OF 2

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

PILE LAYOUT
SECTIONS - 1, 2 & 3

REVISIONS


NOTES

Pile rows in the longitudinal direction are parallel to the Base Line which is an extension of the L Line [illegible] at the [illegible] with no deflection.

The two pile rows parallel to the 24" and 36" sewer lines are to be located equal distance each side of the sewer lines and at a distance of 18 between rows See Special Provisions.

No Piles other than those adjacent to 24" & 36" Sewer Lines. Pile spacing should not exceed 12' in the direction parallel to the Base Line and 7' in the direction perpendicular to the Base Line. Caution should be exercised during excavation and [illegible] to prevent damage to underground utilities.

Sections 5, 6, 7 and 8 in the intersection are to be built with top of slab at elev. 4.25. Recommended gutter elevations of points around radii may be changed as necessary to match existing conditions.

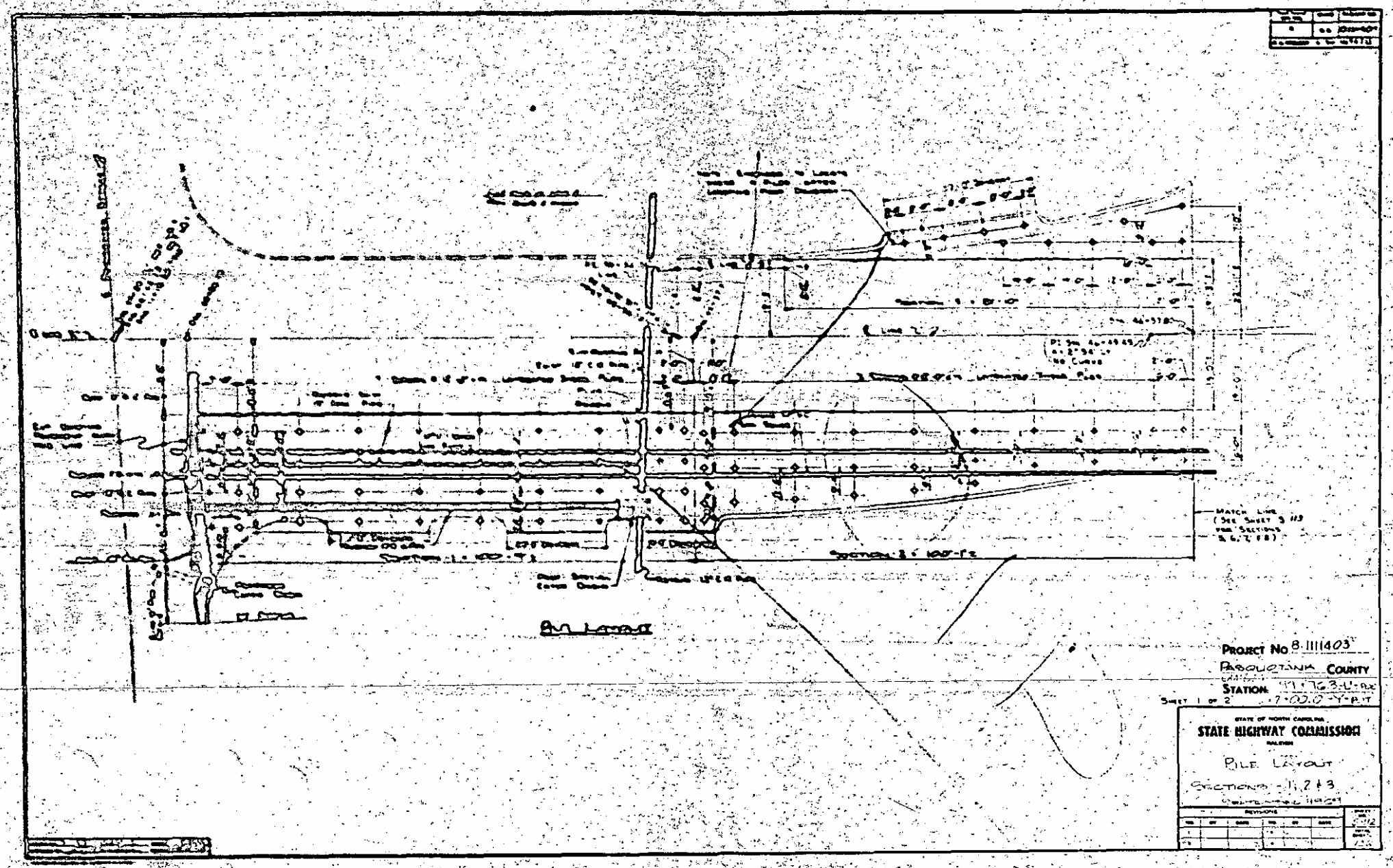
PROJECT NO. 8.1111403
PASQUOTANK COUNTY
CAMDEN
STATION 99+76.3 -L- POC
2+00.0 -Y- POT

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

PILE LAYOUT FOR SECTIONS
5, 6, 7 AND 8

REVISIONS

SHEET 5-113



PROJECT No 8-1111403

PASQUOTANK COUNTY

STATION 99+763-U-RX

SHEET 1 OF 2 7+00.0 Y-PIT

STATE OF NORTH CAROLINA

STATE HIGHWAY COMMISSION

RALEIGH

PILE LAYOUT

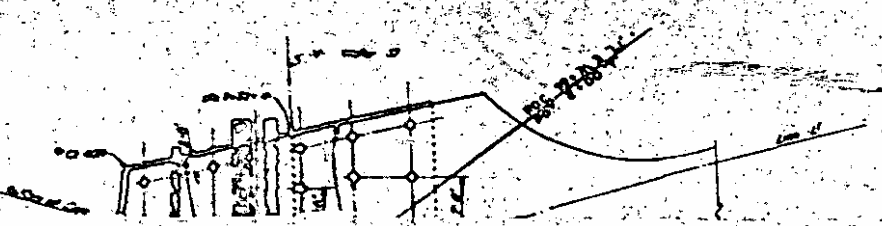
SECTIONS - 1, 2 & 3

SEPTEMBER 1963

NO.	BY	DATE	NO.	BY	DATE
1					
2					

SHEET NO. 5-112

TOTAL SHEETS 126



FED. ROAD DIV. NO.	STATE	PROJECT NO.
8	N.C.	8-1111403

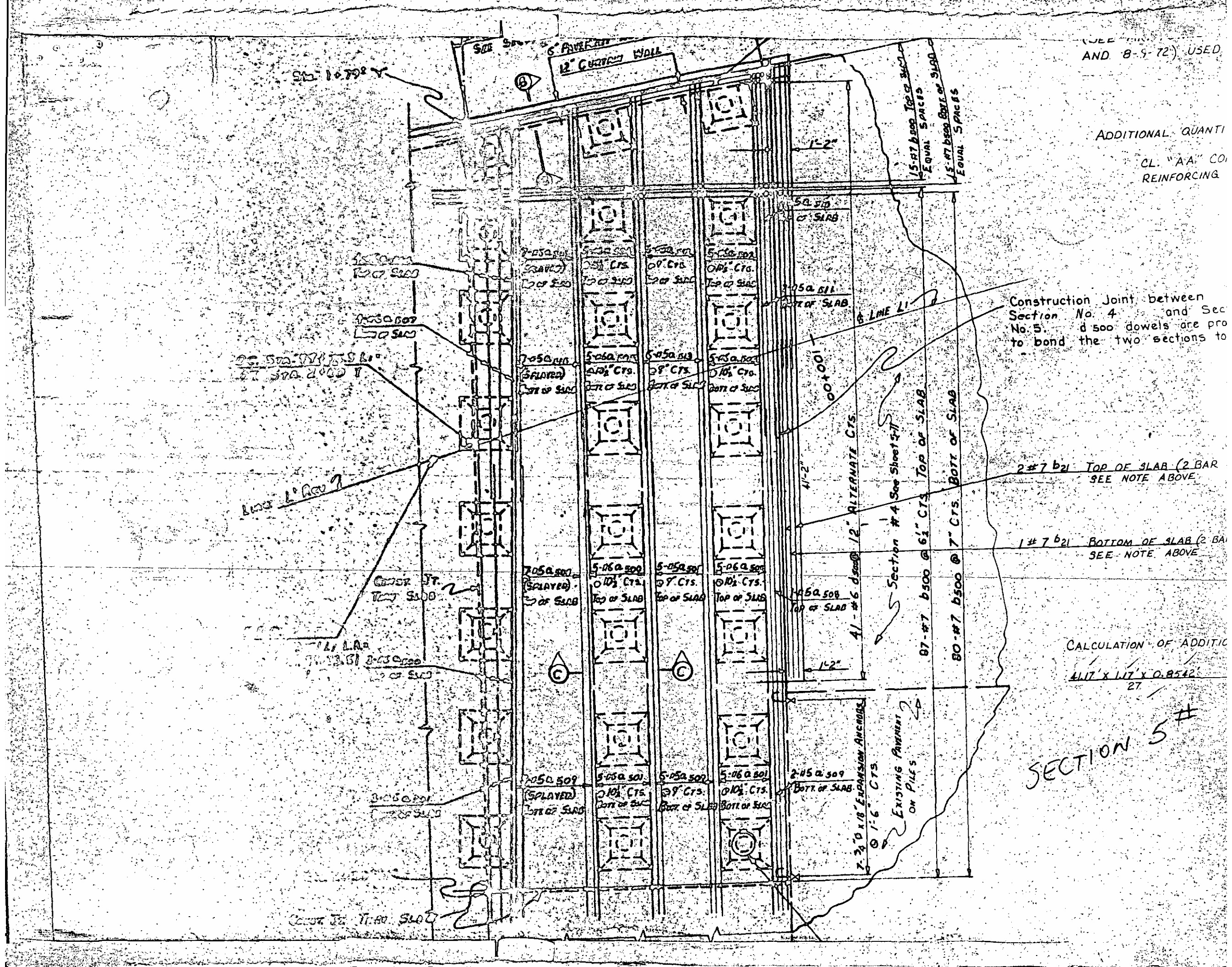
P.A. PROJECT S-50-1672(2)

NOTES

Pile rows in the longitudinal direction are parallel to the Base Line which is an extension of the L Line past the P.I. at sta 46+49.45 with no deflection.

The two pile rows parallel to the 20" and 24" sewer lines are to be located equal distance each side of the sewer lines and at a distance of 18" between rows See Special Provisions.

For Piles other than those adjacent to 20" & 24" Sewer lines. Pile spacing should not exceed 12" in the direction parallel to the Base Line and 7" in the direction perpendicular to the Base Line. Caution should be exercised during excavation and pile driving to prevent damage to underground utilities.



AND 8-9-72) USED

ADDITIONAL QUANTI

CL. "A.A." CO
REINFORCING

SECTION 5 AND WEST APPROACH BRIDGE
EXTENDING FROM NORTH SIDE OF EXISTING BRIDGE
SLAB TO NORTH SIDE OF SECTION 5, ADDED AS
PER AREA BRIDGE ENGINEER'S INSTRUCTIONS. USED
#7 REINFORCING BARS FROM EXCESS IN SECTION 1
(SEE MR. TOWNSEND'S REPORTS DATED 7-20-72
AND 8-9-72) USED 6 #7 b21 FROM SECTION 1

ADDITIONAL QUANTITIES DUE TO REVISION

CL. "AA" CONCRETE 1.5 CU YD.
REINFORCING STEEL 280 LBS.

Construction Joint between Section No. 4 and Section No. 5. d 500 dowels are provided to bond the two sections together.

BOTT. OF SLAB

90-#7 b500 @ 7" CTS.

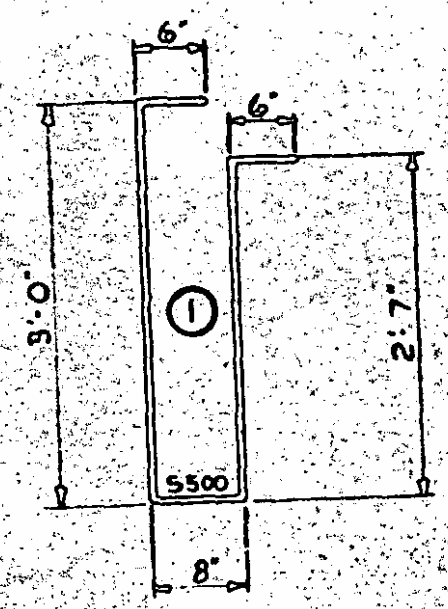
2 #7 b21 TOP OF SLAB (2 BAR RUN)
SEE NOTE ABOVE

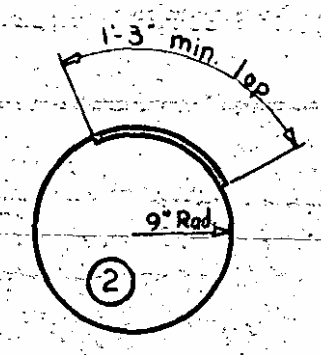
1 #7 b21 BOTTOM OF SLAB (2 BAR RUN)
SEE NOTE ABOVE

CALCULATION OF ADDITIONAL CONCRETE QUANTITIES

$$\frac{41.17' \times 1.17' \times 0.8542'}{27} = 1.5 \text{ CU. YD.}$$

BAR TYPES





ALL BAR DIMENSIONS ARE OUT TO OUT.

SECTION 5

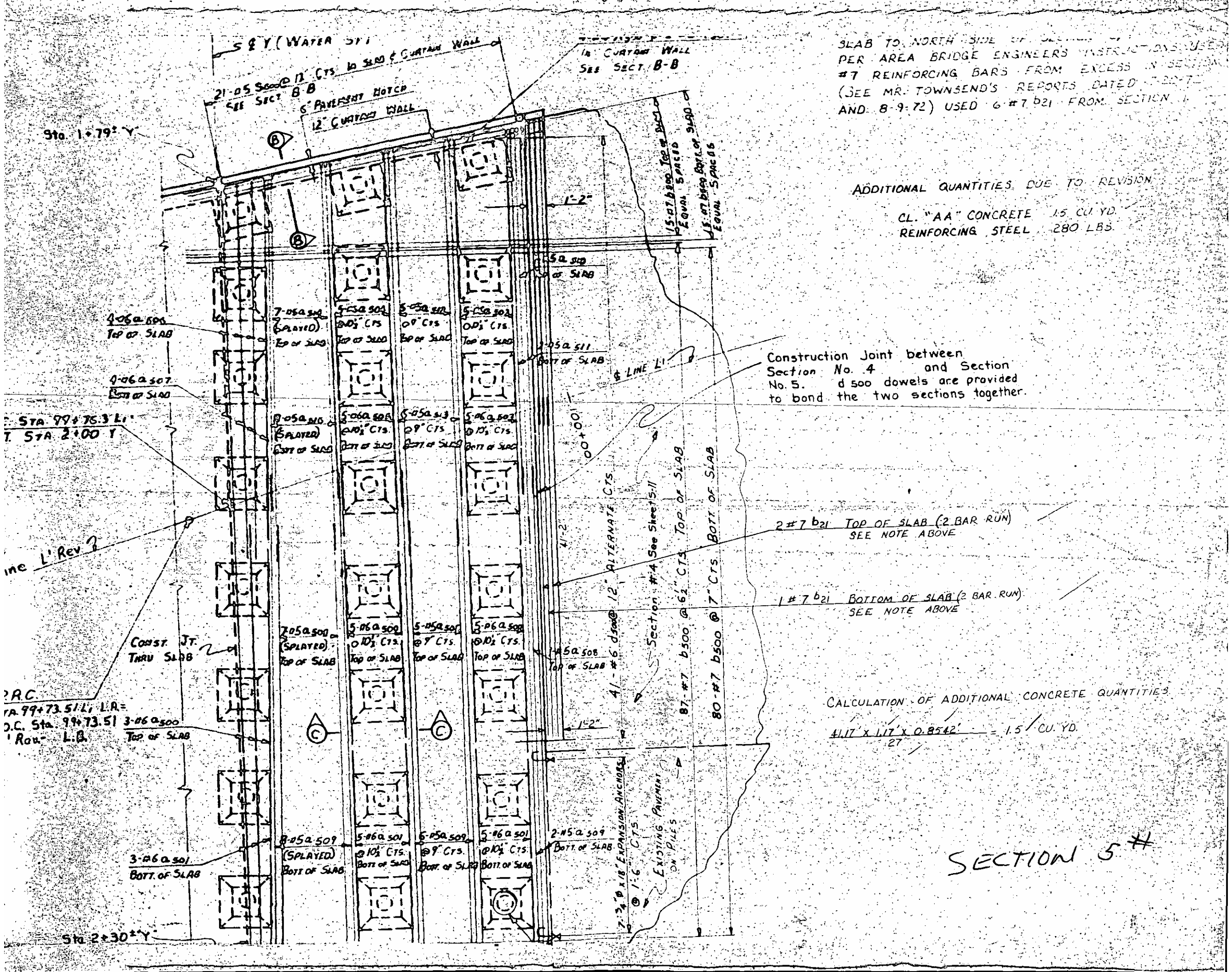
BAR	NO.	SIZE	TYPE	LENG
a 500	13	#6	Str.	30'-
a 501	13			33'-
a 502	5			28'-
a 503	5			24'
a 504	5			27'-
a 505	5			23'-
a 506	4			24'-
a 507	4	#6		20'
a 508	13	#5		30'-
a 509	16			34'-
a 510	1			27'-
a 511	2			24'
a 512	5			26'
a 513	6			23'-
a 514	7			25'-
a 515	8	#5	Str.	22'-
b 500	197	#7	Str.	22'
d 500	41	#6	Str.	4'
h 1	48	#4	2	6'
k 500	4	#4	Str.	21'-
k 501	2	#6	Str.	22
s 500	21	#5	1	7
b 21	6	#7	STR.	22

Reinforcing Steel Lbs. 13,86
Class "AA" Concrete Cu. Yds. 54
Untreated Timber Piles No.
Lin. Ft. +

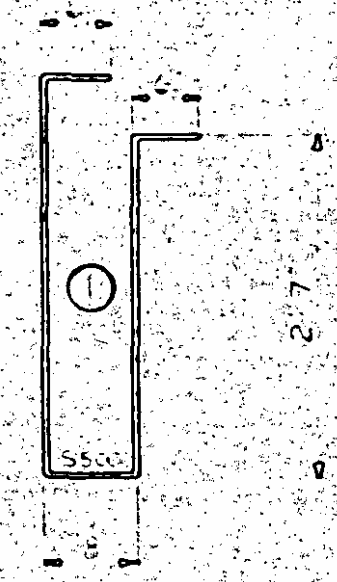
INCLUDES QUANTITIES DUE TO REVISION

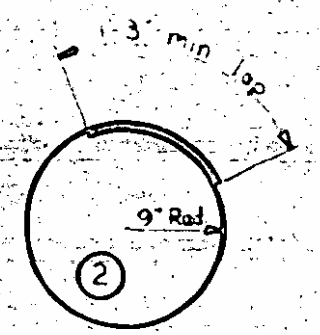
Note: Concrete in Pile heads has been deducted.

PROJECT NO. 8.11
PASQUOTANK
CAMDEN



SLAB TO NORTH SIDE OF SECTION
PER AREA BRIDGE ENGINEERS INSTRUCTIONS USED
#7 REINFORCING BARS FROM EXCESS IN SECTION
(SEE MR. TOWNSEND'S REPORTS DATED
AND 8-9-72) USED 6 #7 b21 FROM SECTION
ADDITIONAL QUANTITIES DUE TO REVISION
CL. "AA" CONCRETE 1.5 CU. YD.
REINFORCING STEEL 280 LBS.
Construction Joint between Section No. 4 and Section No. 5. d 500 dowels are provided to bond the two sections together.
2 #7 b21 TOP OF SLAB (2 BAR RUN) SEE NOTE ABOVE
1 #7 b21 BOTTOM OF SLAB (2 BAR RUN) SEE NOTE ABOVE
CALCULATION OF ADDITIONAL CONCRETE QUANTITIES
41.17' x 1.17' x 0.8542' / 27 = 1.5 CU. YD.
SECTION 5 #
Sta. 1+79± Y
Sta. 2+30± Y
Sta. 99+76.3 L1
T. STA. 2+00 Y
Line L' Rev
Const. Jt. Thru Slab
P.R.C.
Sta. 99+73.51 L1 L.A.=
O.C. Sta. 99+73.51
Rev. L.B.
3-#6 a 500 Top of Slab
3-#6 a 501 Bott. of Slab
4-#6 a 506 Top of Slab
4-#6 a 507 Bott. of Slab
7-#5 a 510 (Splayed) Top of Slab
8-#5 a 510 (Splayed) Bott. of Slab
7-#5 a 500 (Splayed) Top of Slab
8-#5 a 509 (Splayed) Bott. of Slab
5-#6 a 501 @ 10½" Cts. Bott. of Slab
5-#5 a 509 @ 9" Cts. Bott. of Slab
5-#6 a 501 @ 10½" Cts. Bott. of Slab
5-#6 a 500 @ 10½" Cts. Top of Slab
5-#5 a 501 @ 9" Cts. Top of Slab
5-#6 a 500 @ 10½" Cts. Top of Slab
5-#5 a 511 Bott. of Slab
1-#5 a 508 Top of Slab
2-#5 a 509 Bott. of Slab
5 a 510 of Slab
1'-2"
41-#6 d500 @ 12" Alternate Cts.
Section #4 See Sheet 5-11
87-#7 b500 @ 6½" Cts. Top of Slab
80-#7 b500 @ 7" Cts. Bott. of Slab
7-¾" ø x 18" Expansion Anchors @ 1'-6" Cts.
Existing Pavement on Piles
41'-2"
100+00
℄ Line L1
15-#7 b500 Top of Slab Equal Spaced
15-#7 b500 Bott. of Slab Equal Spaced
6" Pavement Notch
12" Curtain Wall
In Curtain Wall See Sect. B-B
21-#5 S500 @ 12" Cts. In Slab & Curtain Wall See Sect. B-B





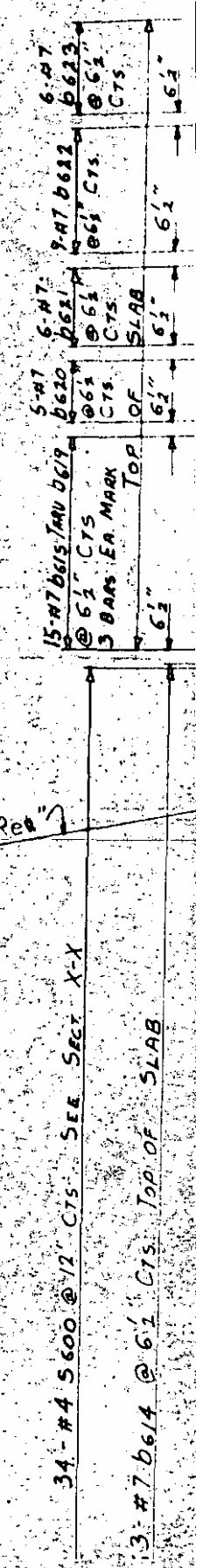
a 501	13	#6	Str.	33'-9"	659
a 502	5			28'-0"	210
a 503	5			24'-6"	184
a 504	5			27'-9"	208
a 505	5			23'-0"	173
a 506	4			24'-0"	144
a 507	4	#6		20'-9"	125
a 508	13	#5		30'-6"	414
a 509	16			34'-0"	567
a 510	1			27'-9"	29
a 511	2			24'-6"	51
a 512	5			26'-9"	140
a 513	6			23'-6"	147
a 514	7			25'-6"	186
a 515	8	#5	Str.	22'-3"	186
b 500	197	#7	Str.	22'-8"	9,127
d 500	41	#6	Str.	4'-0"	246
n 1	48	#4	2	6'-0"	192
k 500	4	#4	Str.	21'-9"	58
k 501	2	#6	Str.	22'-6"	68
s 500	21	#5	1	7'-3"	159
b 21	6	#7	STR.	22'-10"	280

Reinforcing Steel Lbs. ~~13,869~~ 14,149 #
Class "AA" Concrete Cu. Yds. ~~54.7~~ 56.2 #
Untreated Timber Piles No. 24
Lin. Ft. ~~1200~~ 1,429.7

INCLUDES QUANTITIES DUE TO REVISION

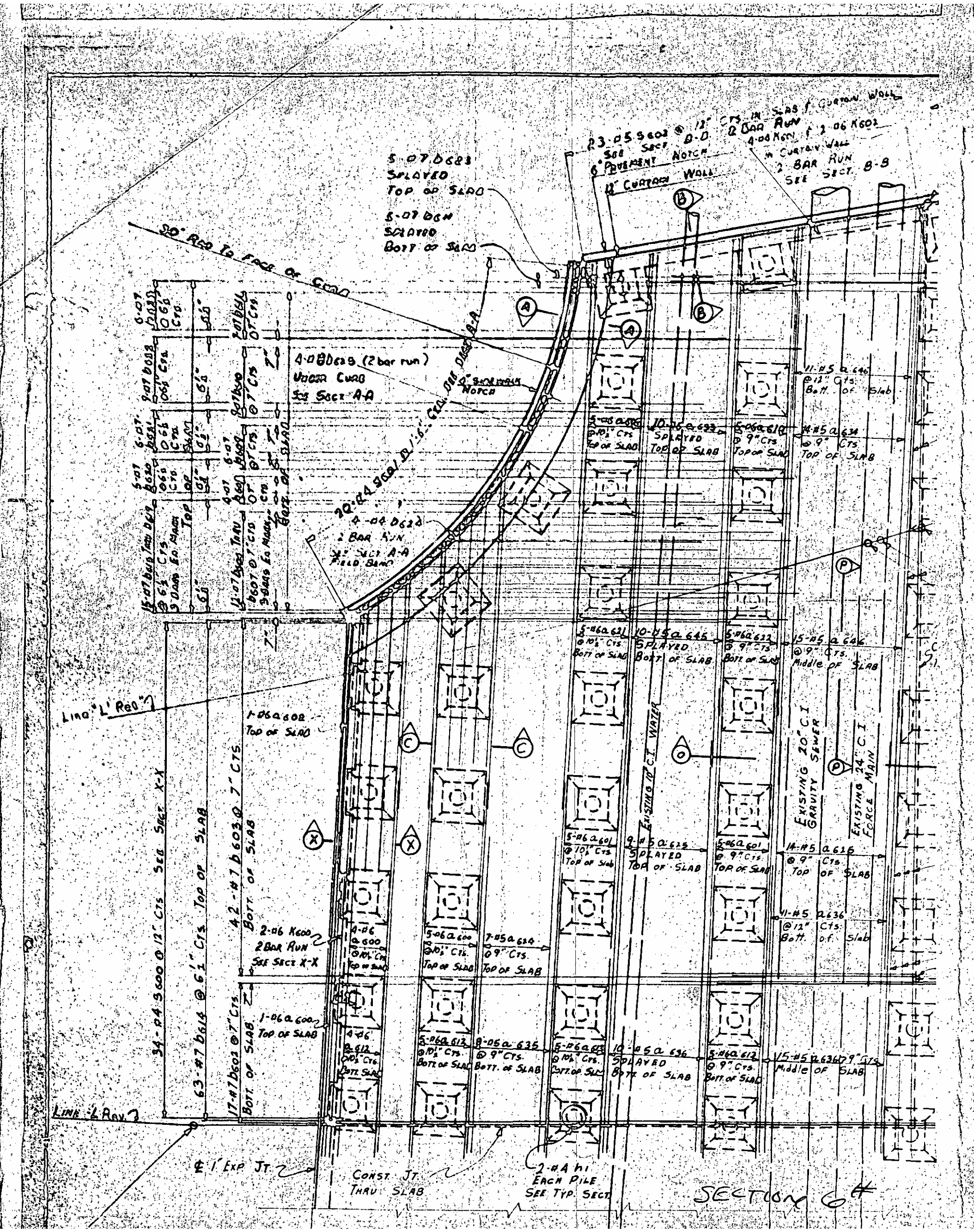
ALL BAR DIMENSIONS ARE OUT TO OUT

Note: Concrete in Pile heads has been deducted.

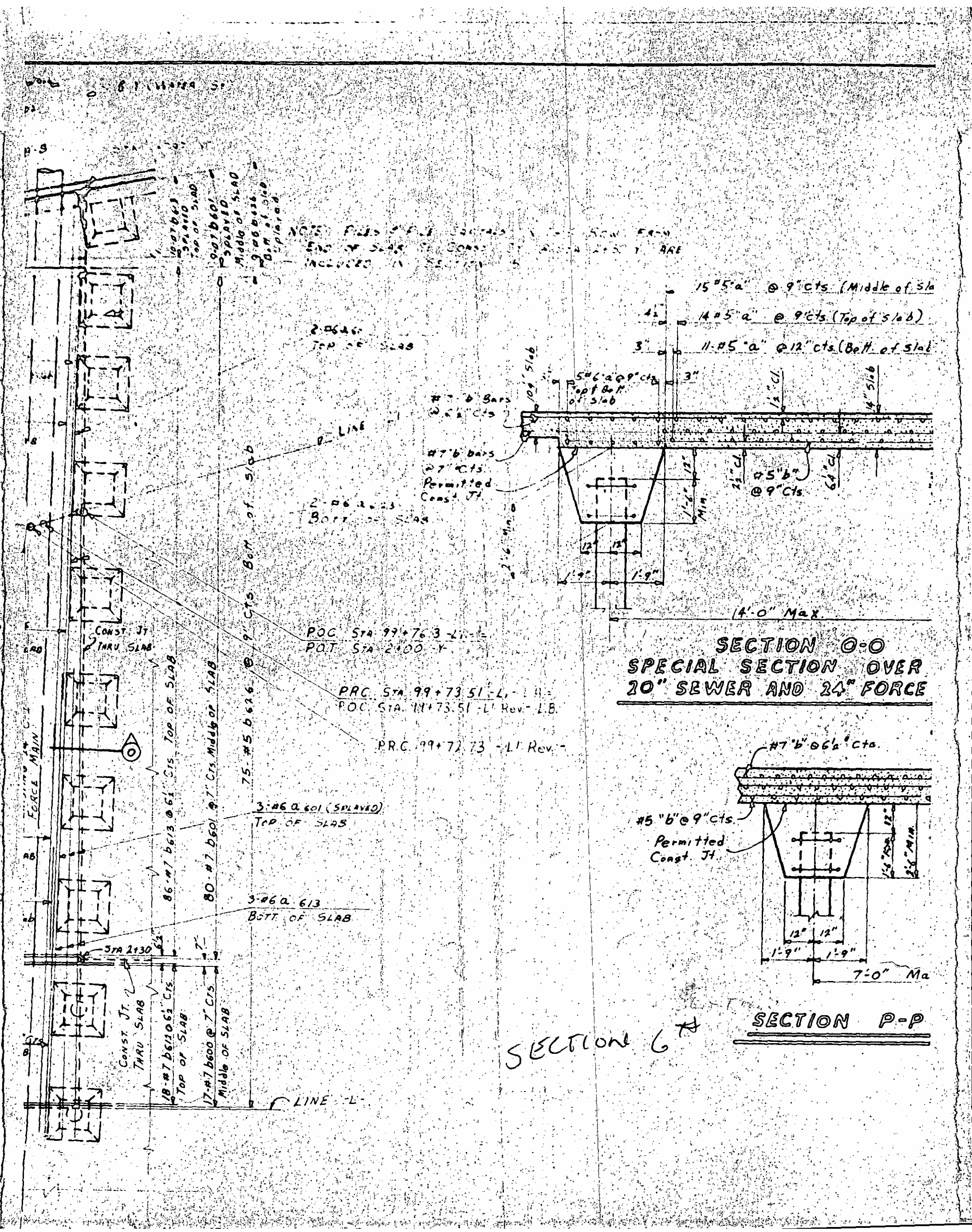


PROJECT NO. 8.1111403
PASQUOTANK COUNTY
CAMDEN
STATION: 99+76.3 -L- P.O.C.
= 2+00 -Y- P.O.T.

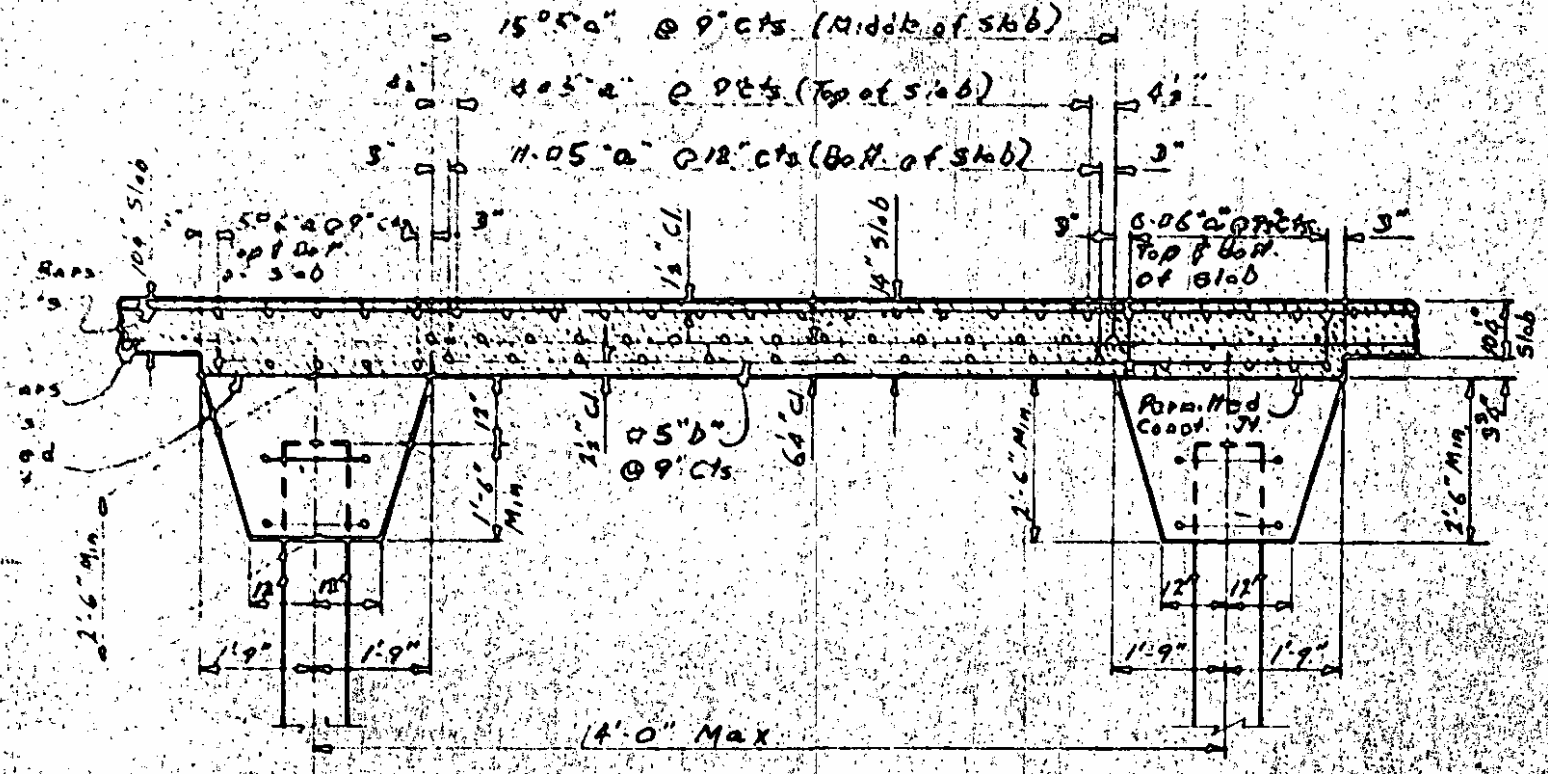
STATE OF NORTH CAROLINA



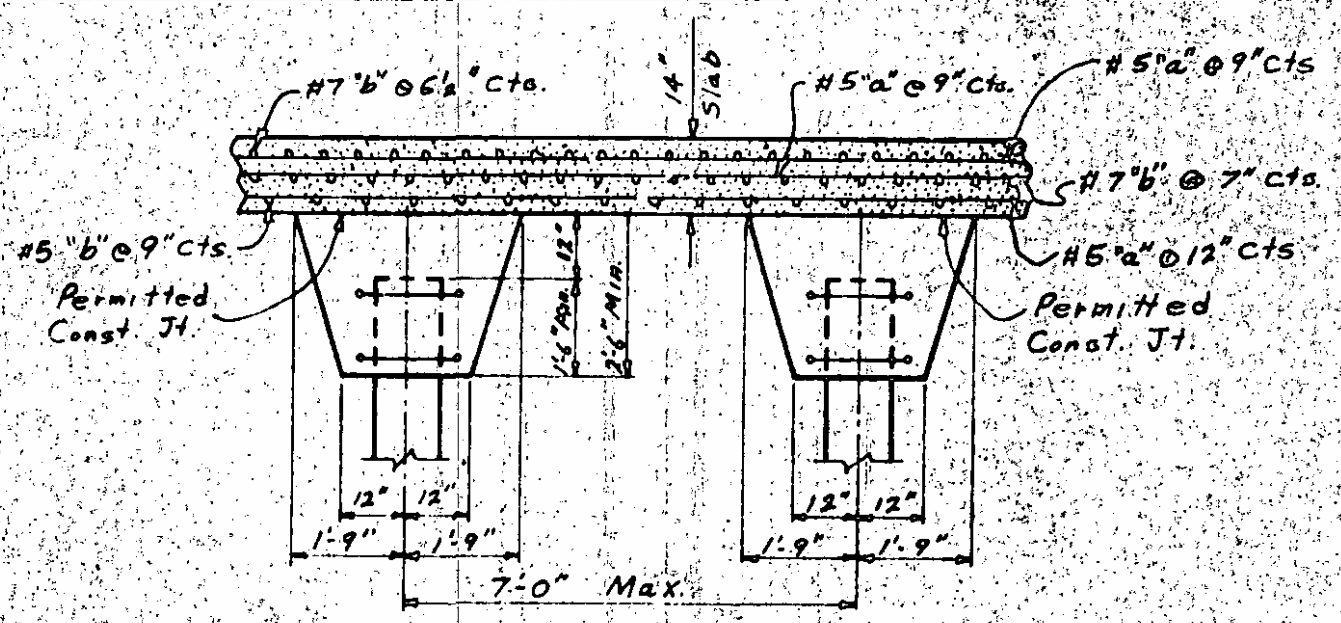
5-07 D683 SPLAYED TOP OF SLAB
5-07 D6H SPLAYED BOTT OF SLAB
30" RAD TO FACE OF CURB
4-08 D629 (2 bar run) UNDER CURB SEE SECT A-A
4-04 D624 2 BAR RUN SEE SECT A-A FIELD BEND
23-05 S602 @ 12" CTS IN SLAB & CURTAIN WALL SEE SECT B-B
6" PAVEMENT NOTCH
12" CURTAIN WALL
4-04 K601 & 2-06 K602 IN CURTAIN WALL 2 BAR RUN SEE SECT B-B
11-#5 a 646 @ 12" Cts Bott. of Slab
10-#5 a 633 SPLAYED TOP OF SLAB
14-#5 a 634 @ 9" Cts TOP OF SLAB
5-#6 a 621 @ 10½" Cts Bott of Slab
10-#5 a 645 SPLAYED Bott of SLAB
5-#6 a 622 @ 9" Cts Bott of Slab
15-#5 a 646 @ 9" Cts. Middle of SLAB
Line "L" Rev
1-#6 a 602 TOP OF SLAB
EXISTING 10" C.I. WATER
EXISTING 20" C.I. GRAVITY SEWER
EXISTING 24" C.I. FORCE MAIN
5-#6 a 601 @ 10½" Cts Top of Slab
9-#5 a 625 SPLAYED TOP OF SLAB
5-#6 a 601 @ 9" Cts TOP OF SLAB
14-#5 a 626 @ 9" Cts TOP OF SLAB
11-#5 a 636 @ 12" Cts Bott. of Slab
34-#4 S600 @ 12" Cts SEE SECT X-X
63-#7 b614 @ 6½" Cts TOP OF SLAB
42-#7 b603 @ 7" Cts BOTT. OF SLAB
2-#6 K600 2 BAR RUN SEE SECT X-X
4-#6 a 600 @ 10½" Cts TOP OF SLAB
5-#6 a 600 @ 10½" Cts. TOP OF SLAB
7-#5 a 624 @ 9" Cts. TOP OF SLAB
1-#6 a 600 TOP OF SLAB
17-#7 b602 @ 7" Cts BOTT. OF SLAB
4-#6 a 612 @ 10½" Cts BOTT. SLAB
5-#6 a 612 @ 10½" Cts. BOTT. OF SLAB
8-#5 a 635 @ 9" Cts. BOTT. OF SLAB
5-#6 a 613 @ 10½" Cts. BOTT. OF SLAB
10-#5 a 636 SPLAYED BOTT OF SLAB
5-#6 a 612 @ 9" Cts. BOTT. OF SLAB
15-#5 a 636 @ 9" Cts Middle of SLAB
Line "L" Rev
℄ 1" EXP JT.
CONST. JT. THRU SLAB
2-#4 hi EACH PILE SEE TYP. SECT
SECTION 6#


15 #5 "a" @ 9" cts (Middle of sla
14 #5 "a" @ 9" cts (Top of slab)
11 #5 "a" @ 12" cts (Bott of slab
5 #6 "a" @ 9" cts Top & Bott of slab
#7 "b" bars @ 7" cts
#7 "b" bars @ 7" cts Permitted Const Jt
#5 "b" @ 9" cts
14'-0" Max
SECTION O-O
SPECIAL SECTION OVER 20" SEWER AND 24" FORCE
POC STA 99+76.3 -L-
POT STA 2+00 -Y-
PRC STA 99+73.51 -L-
POC STA 99+73.51 -L' Rev.- L.B.
PRC 99+72.73 -L' Rev.-
3-#6 a 601 (SPLAYED) TOP OF SLAB
3-#6 a 613 BOTT OF SLAB
STA 2+30
CONST JT THRU SLAB
FORCE MAIN
LINE -L-
#7 "b" @ 6½" cts.
#5 "b" @ 9" cts.
Permitted Const Jt
7'-0" Ma
SECTION P-P
SECTION 6

		PROJECT NO.
0	R.O.	8.1111403
P.A. PROJECT 3-SU-1672 (2)		



SECTION O-O
SPECIAL SECTION OVER
20" SEWER AND 24" FORCE MAIN



SECTION P-P

PROJECT NO. 8.1111403

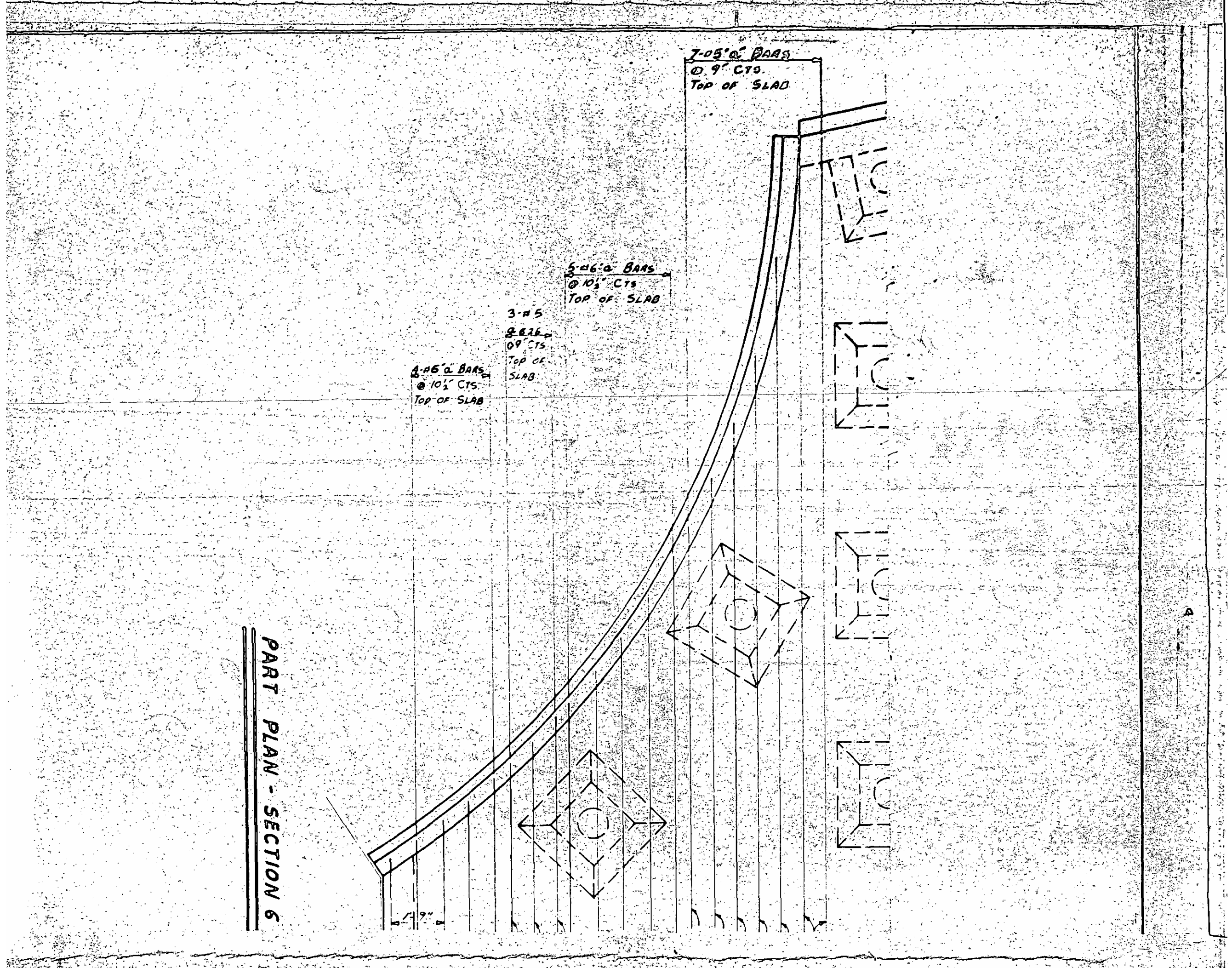
PASQUOTANK COUNTY
CAMDEN

STATION: 99+76.3 -L- P.O.C.
= 2+00 -Y- P.O.T.

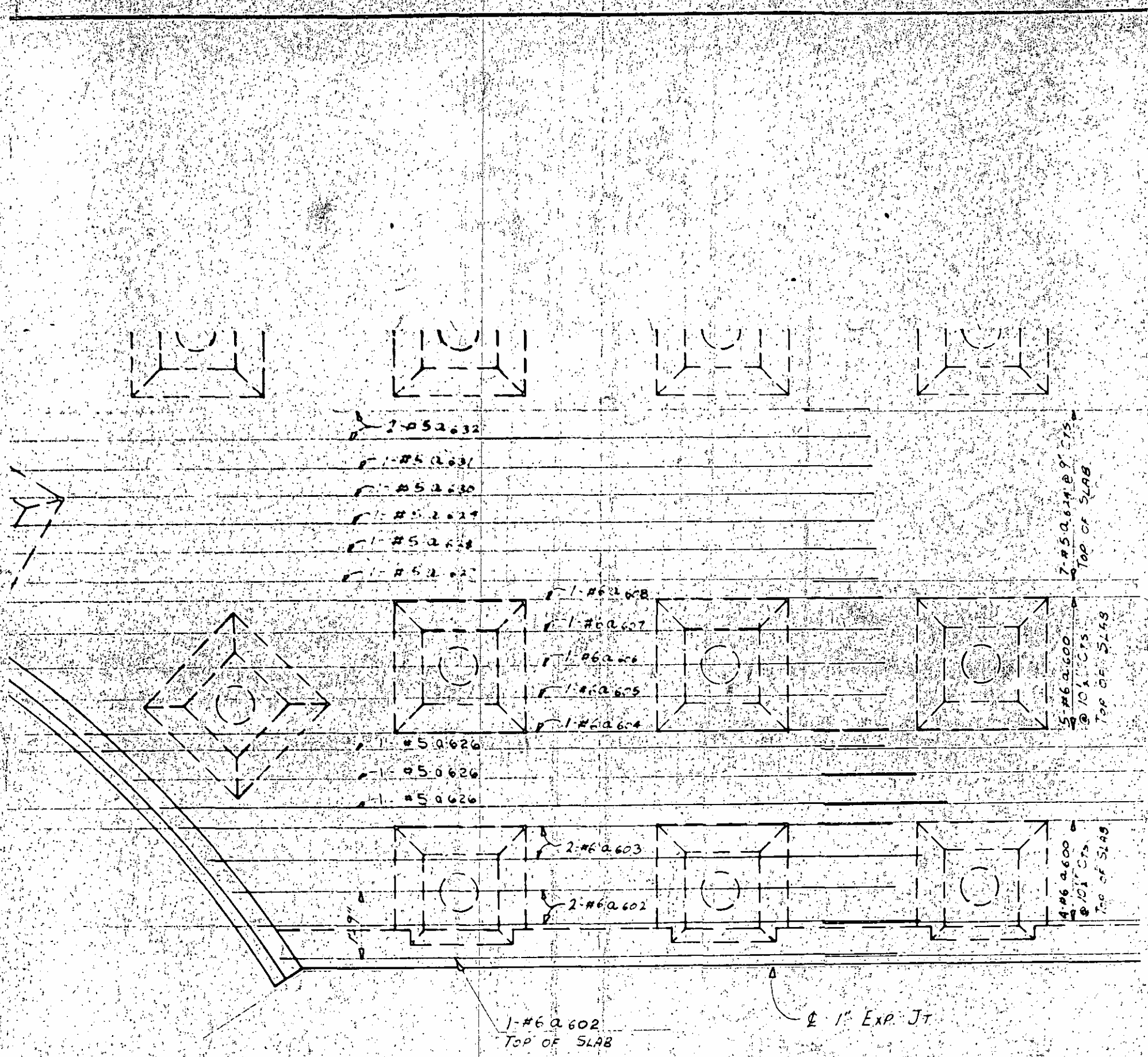
SHEET 1 OF 3

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

SECTION 6

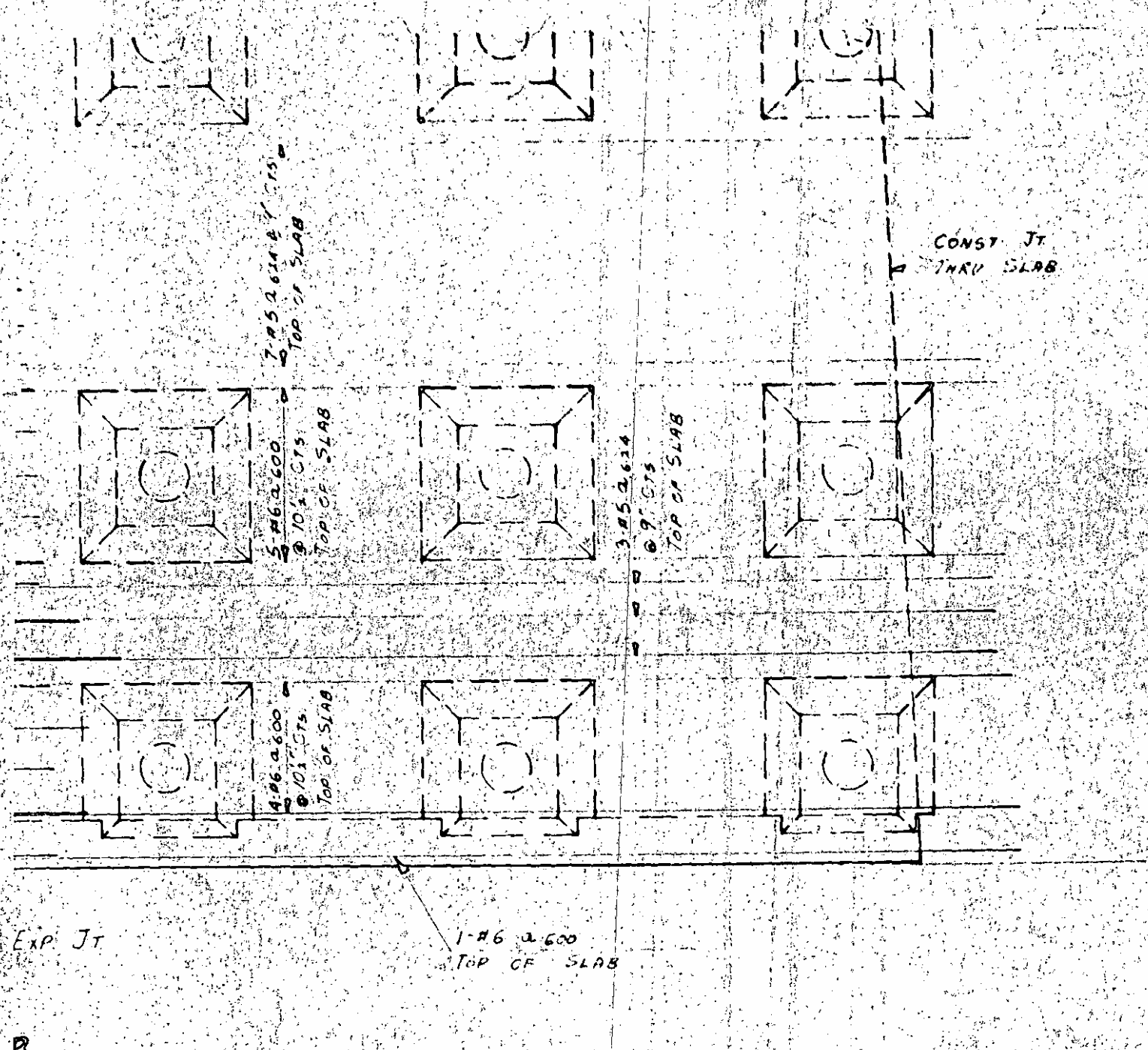


PART PLAN - SECTION 6



PART PLAN - SECTION 6 - "a" BAR LAYOUT - TOP OF SLAB

FED. ROAD DIV. NO.	STATE	PROJECT NO.
0	N.C.	8.1111403
R.A. PROJECT	5-30-1672(2)	



PROJECT NO. 8.1111403

PASQUOTANK COUNTY
CAMDEN

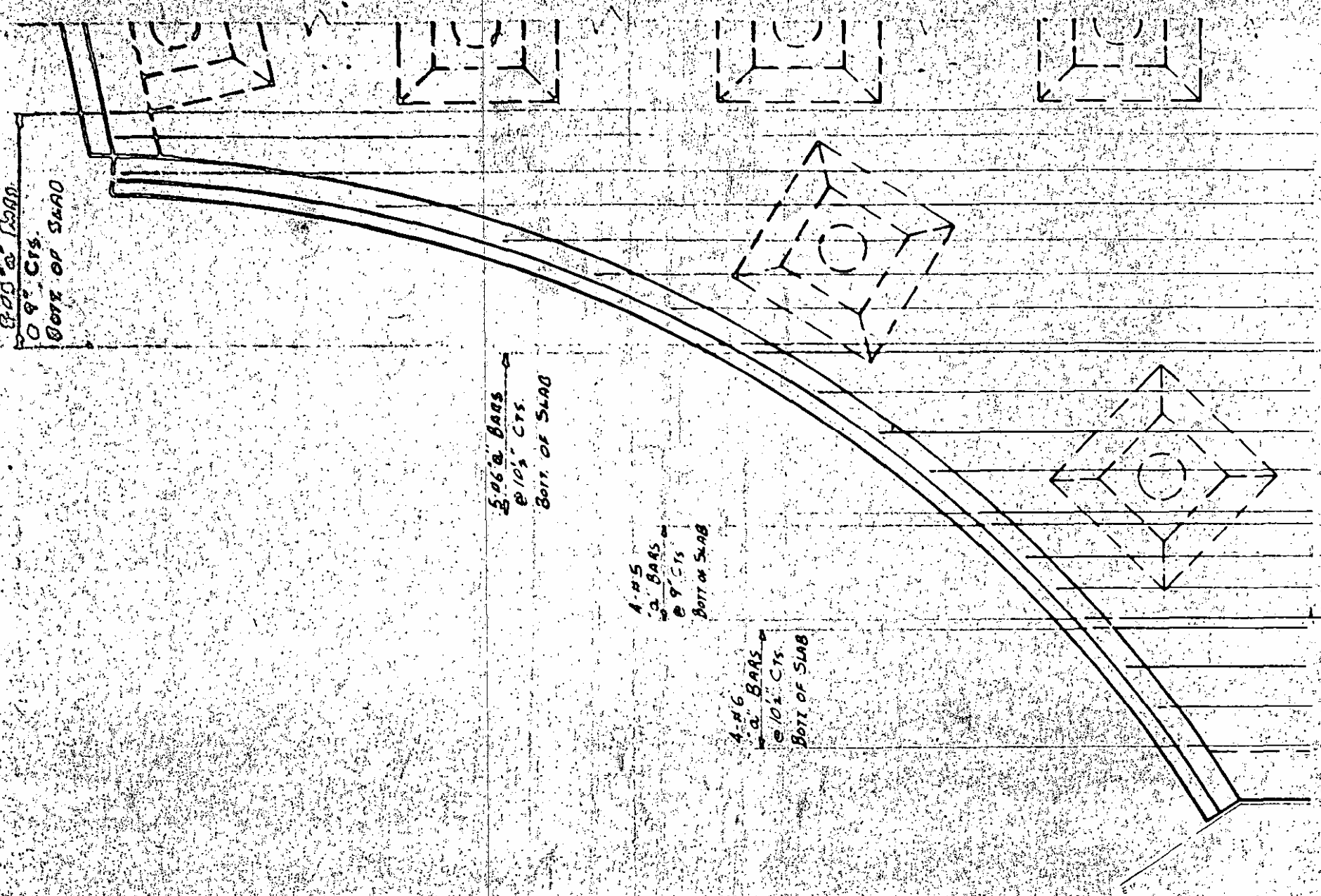
STATION: 99+76.3 -L- P.O.C.
= 2+00 -Y- P.O.T.

SHEET 2 OF 3

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

SECTION 6

1969



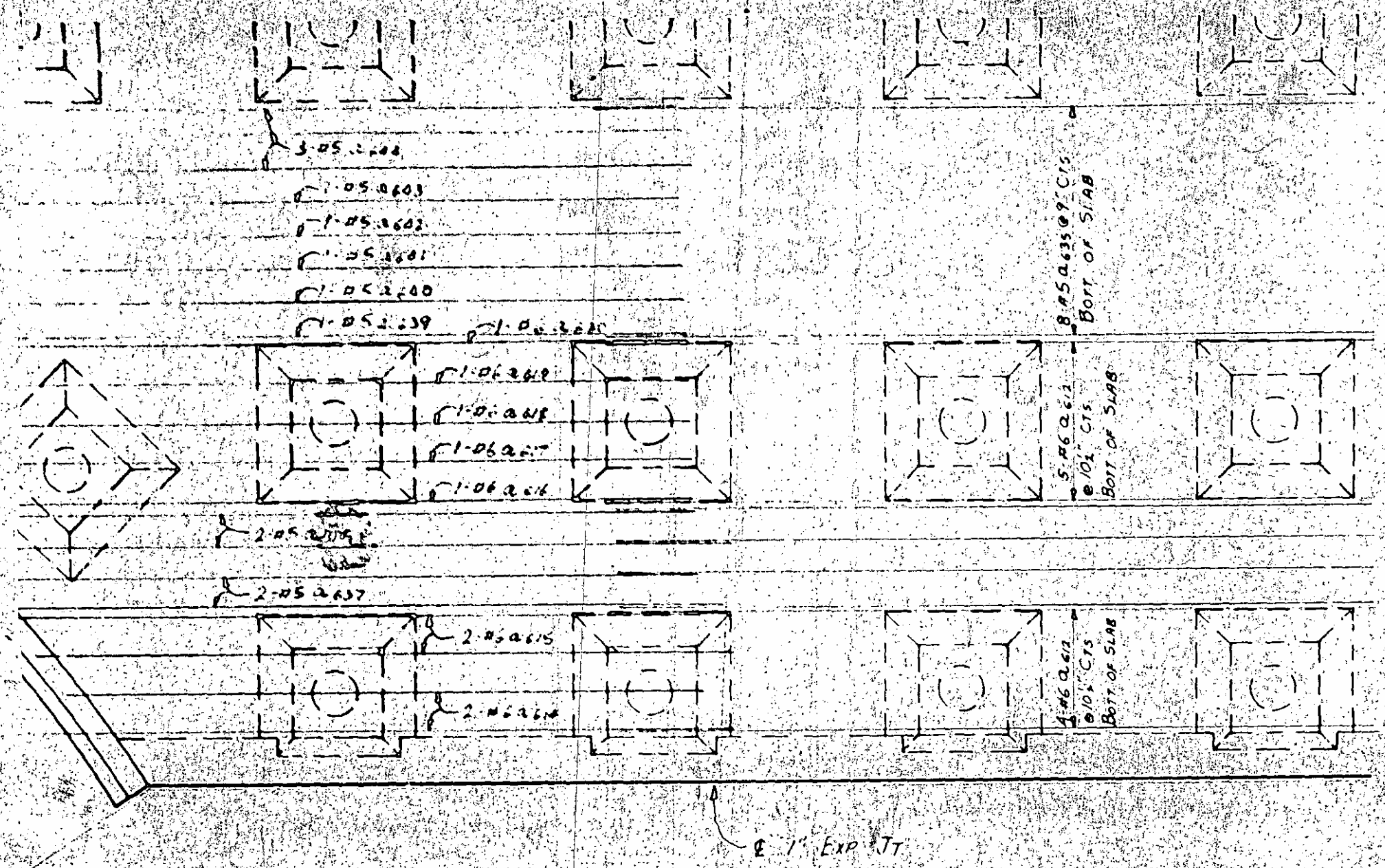
PART PLAN - SECTION 6

BILL OF MATERIAL - SECTION 6

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
a 600	10	#6	Str.	21'-9"	327
a 601	13			28'-0"	547
a 602	3			17'-9"	80
a 603	2			19'-0"	57
a 604	1			21'-6"	32
a 605	1			22'-6"	34
a 606	1			23'-6"	35
a 607	1			24'-6"	37
a 608	1			26'-3"	39
a 609	5			34'-3"	257
a 610	5			36'-0"	270
a 611	2			37'-3"	112
a 612	9			25'-3"	341
a 613	13			31'-6"	615
a 614	2			14'-3"	43
a 615	2			15'-6"	47
a 616	1			18'-0"	27
a 617	1			19'-0"	29
a 618	1			20'-3"	30
a 619	1			21'-6"	32
a 620	1			22'-9"	34
a 621	5			31'-0"	233
a 622	5			36'-0"	270
a 623	3	#6		33'-9"	101
a 624	10	#5		21'-3"	222
a 625	23			27'-6"	660
a 626	3			21'-0"	66
a 627	1			27'-3"	28

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
a 633	10	#5	Str.	35'-3"	368
a 634	14			37'-6"	548
a 635	12			24'-9"	310
a 636	36			31'-0"	1164
a 637	2			16'-3"	34
a 638	2			17'-9"	37
a 639	1			23'-0"	24
a 640	1			24'-6"	26
a 641	1			26'-3"	27
a 642	1			28'-3"	29
a 643	1			31'-3"	33
a 644	3			36'-6"	114
a 645	10			32'-0"	334
a 646	26	#5	Str.	34'-0"	922
b 600	17	#7	Str.	15'-6"	539
b 601	89			12'-3"	2,228
b 602	17			28'-9"	999
b 603	42			29'-3"	2,511
b 604	3			27'-6"	169
b 605	3			24'-9"	152
b 606	3			22'-9"	140
b 607	3			21'-0"	129
b 608	4			19'-6"	159
b 609	6			17'-9"	218
b 610	9			16'-0"	294
b 611	12			14'-0"	343

BAR	NO.	SIZE
b 619	3	#
b 620	5	
b 621	6	
b 622	9	
b 623	11	#
b 624	8	#
b 625	8	#
b 626	84	#
h 1	64	#
k 600	4	#1
k 601	8	#
k 602	4	#
s 600	34	#
s 601	20	#
s 602	23	#

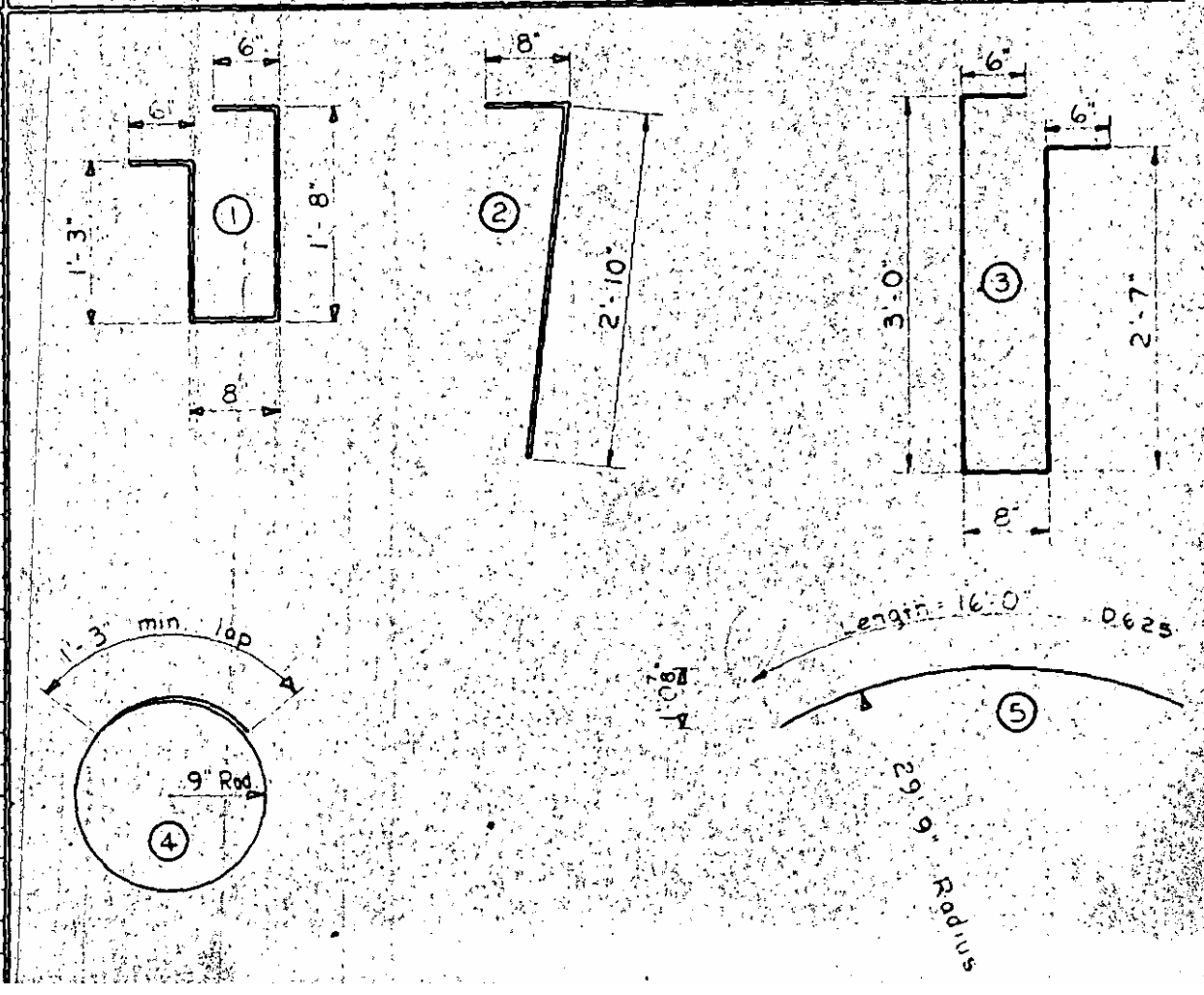


SECTION 6 - "a" BAR LAYOUT - BOTTOM OF SLAB

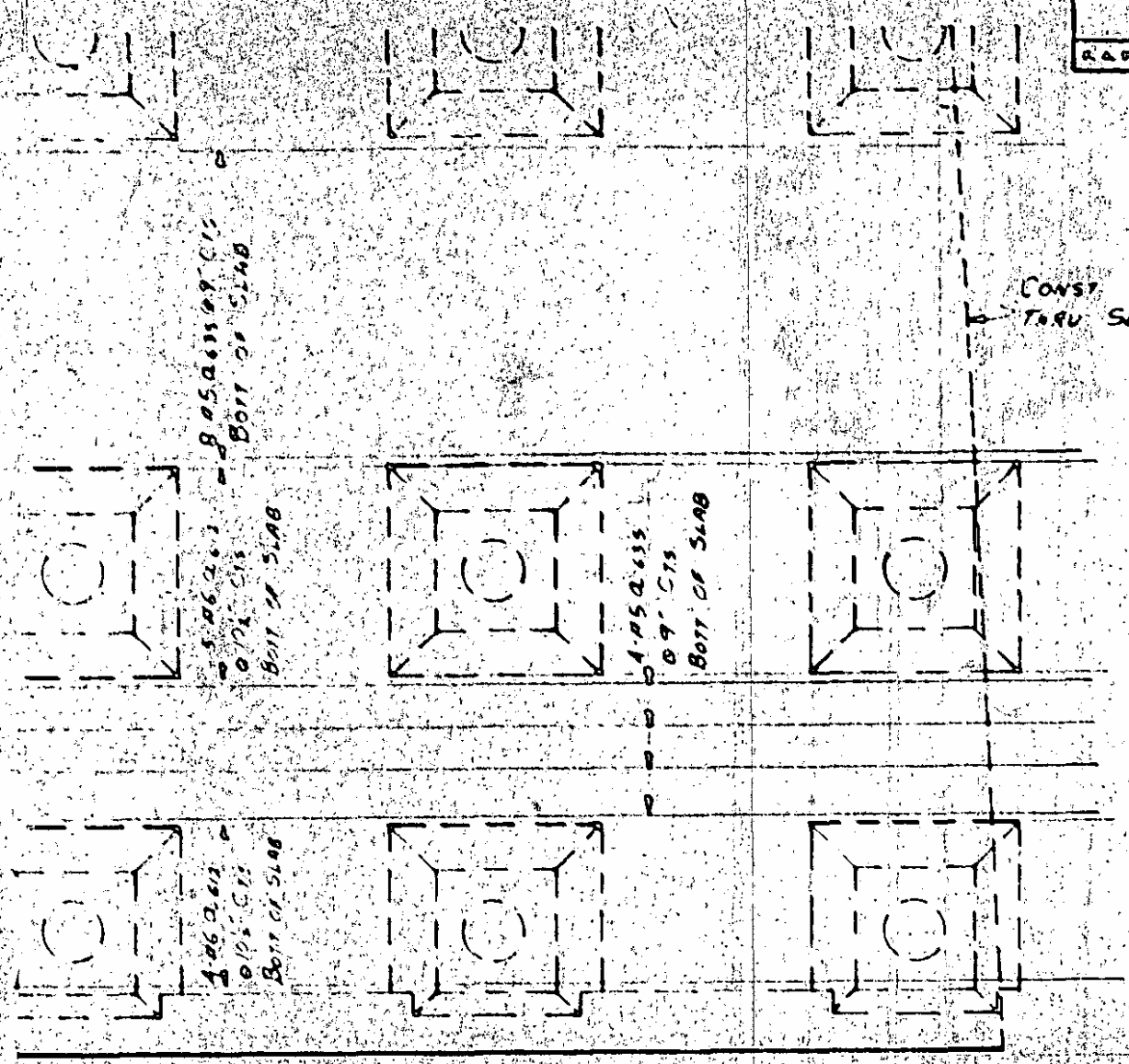
6

BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
619	3	#7	Str.	15'-6"	95
620	5	↑	↑	14'-3"	146
621	6			12'-6"	153
622	9	↓	↓	10'-9"	198
623	11	#7	↓	9'-3"	208
624	8	#4	Str.	15'-6"	83
625	8	#8	5	16'-0"	342
626	84	#5	Str.	17'-0"	1489
11	64	#4	4	6'-0"	257
600	4	#6	Str.	19'-0"	114
601	8	#4	Str.	12'-5"	66
602	4	#6	Str.	13'-0"	78
S 600	34	#4	1	4'-7"	104
S 601	20	#4	2	3'-6"	47
S 602	23	#5	3	7'-3"	174

BAR TYPES

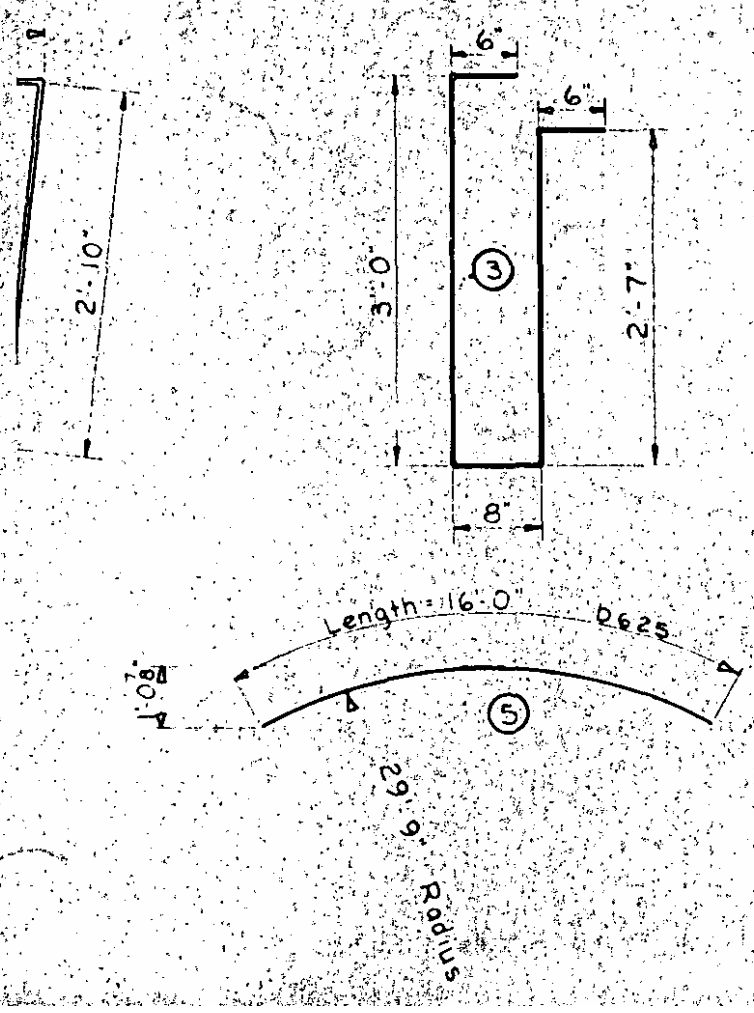


PCA ROAD DIV. NO.	COUNTY	PROJECT NO.
D	P.Q.	8.1111403
R.A. PROJECT	S-341	K-72 (2)



Note: Concrete in pile heads has been deducted.

TYPES



PROJECT NO. 8.1111403

PASQUOTANK COUNTY
CAMDEN

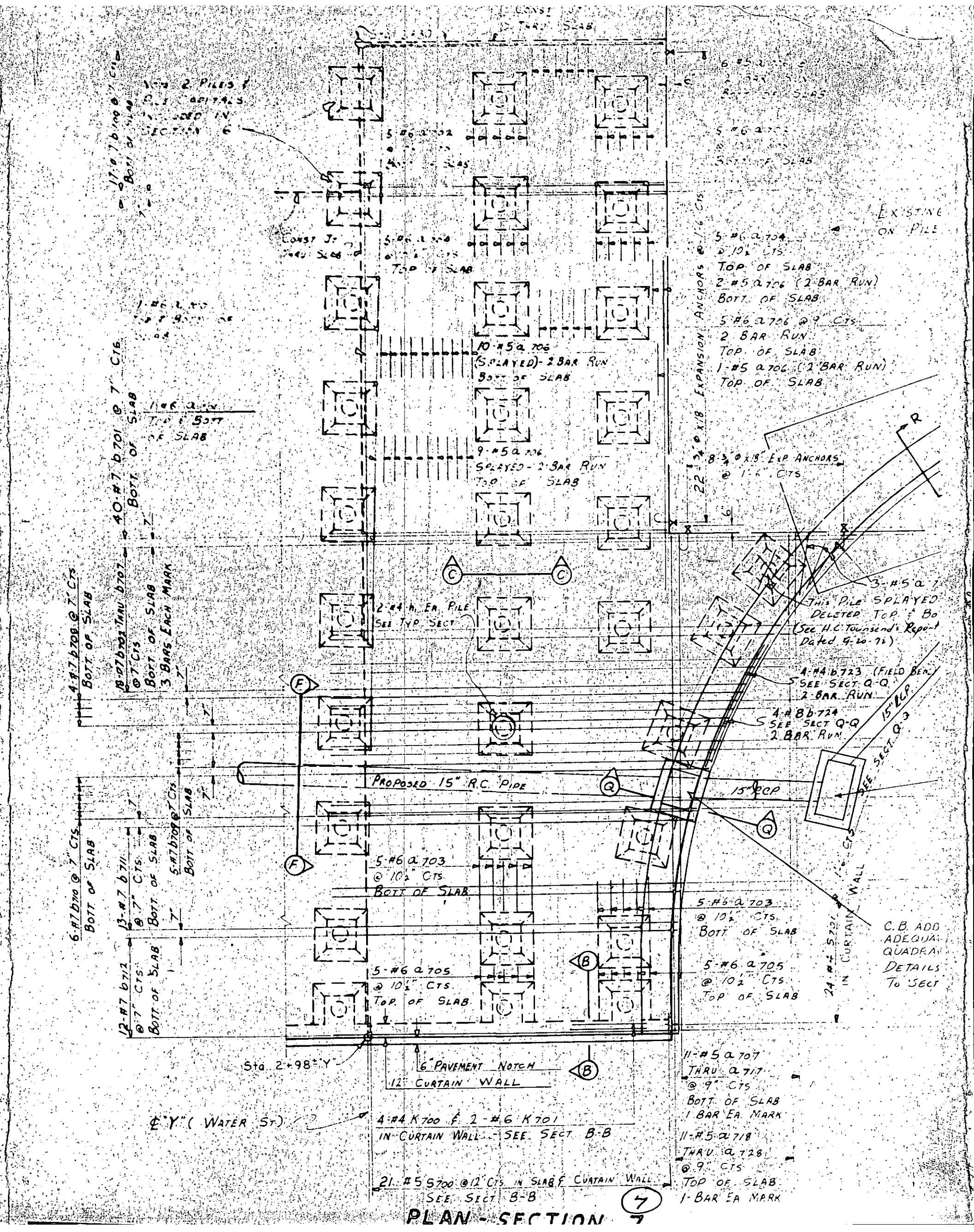
STATION: 99+76.3 -L- P.O.C.
= 2+00 -Y- P.O.T.

SHEET 3 OF 3

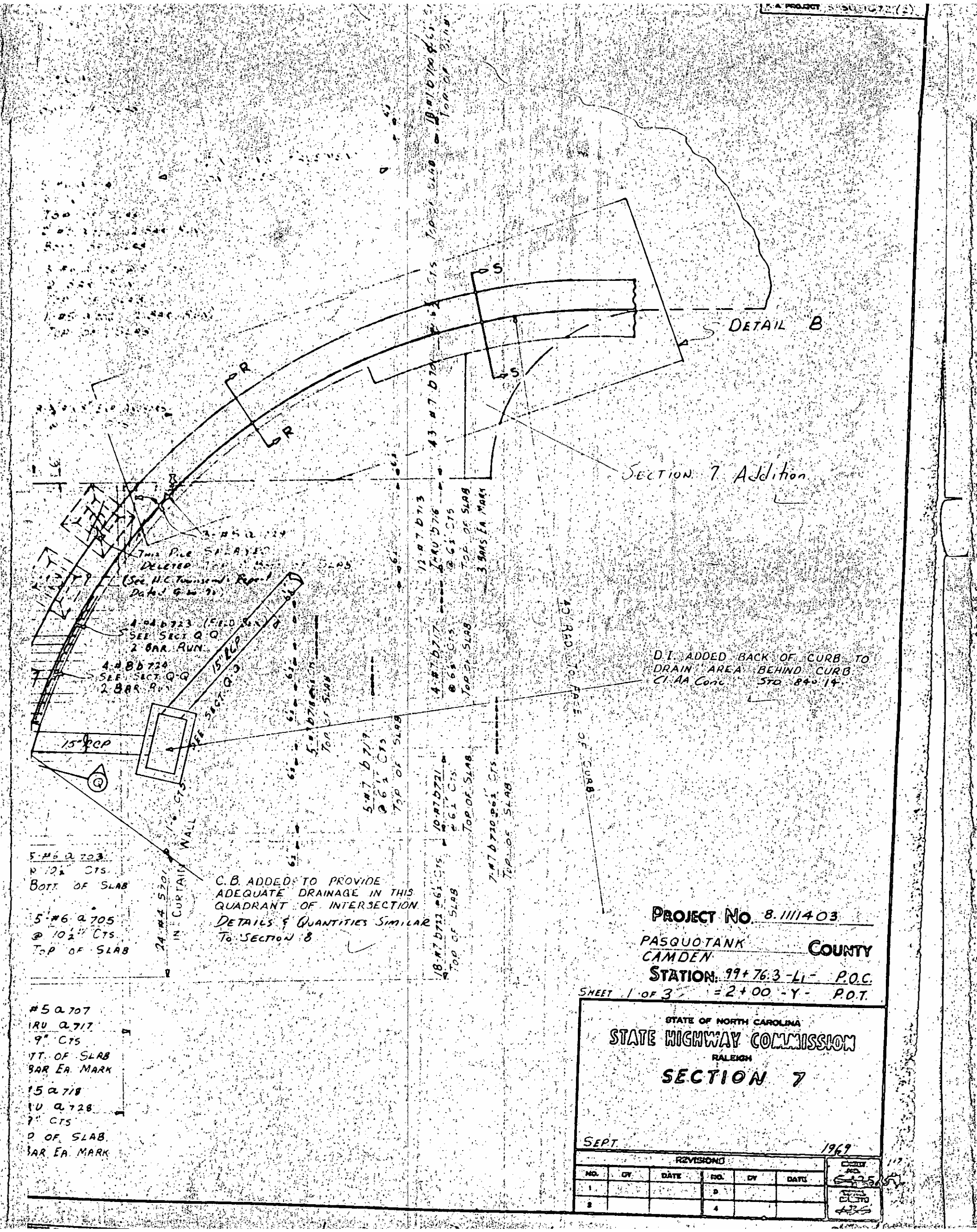
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

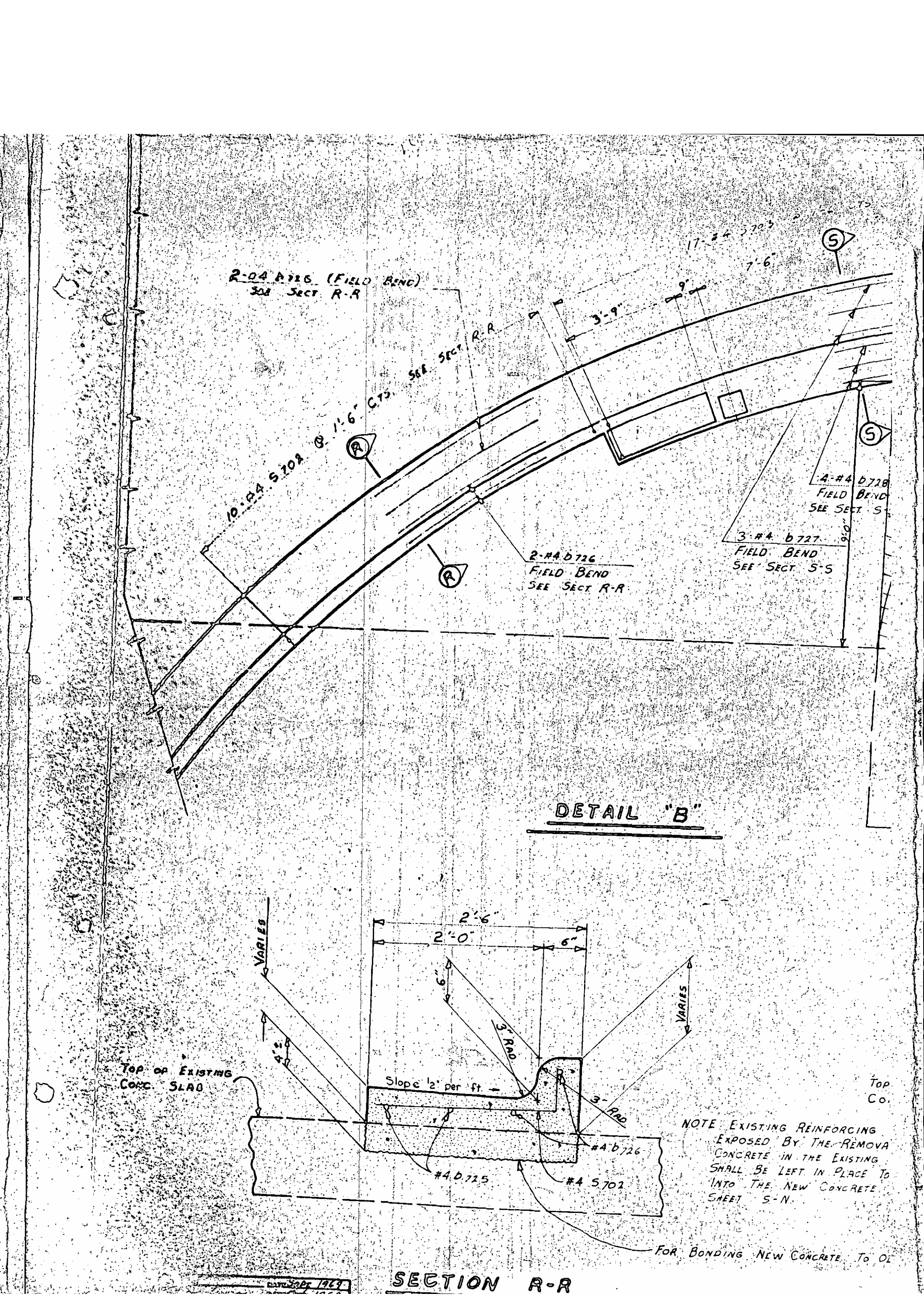
SECTION C

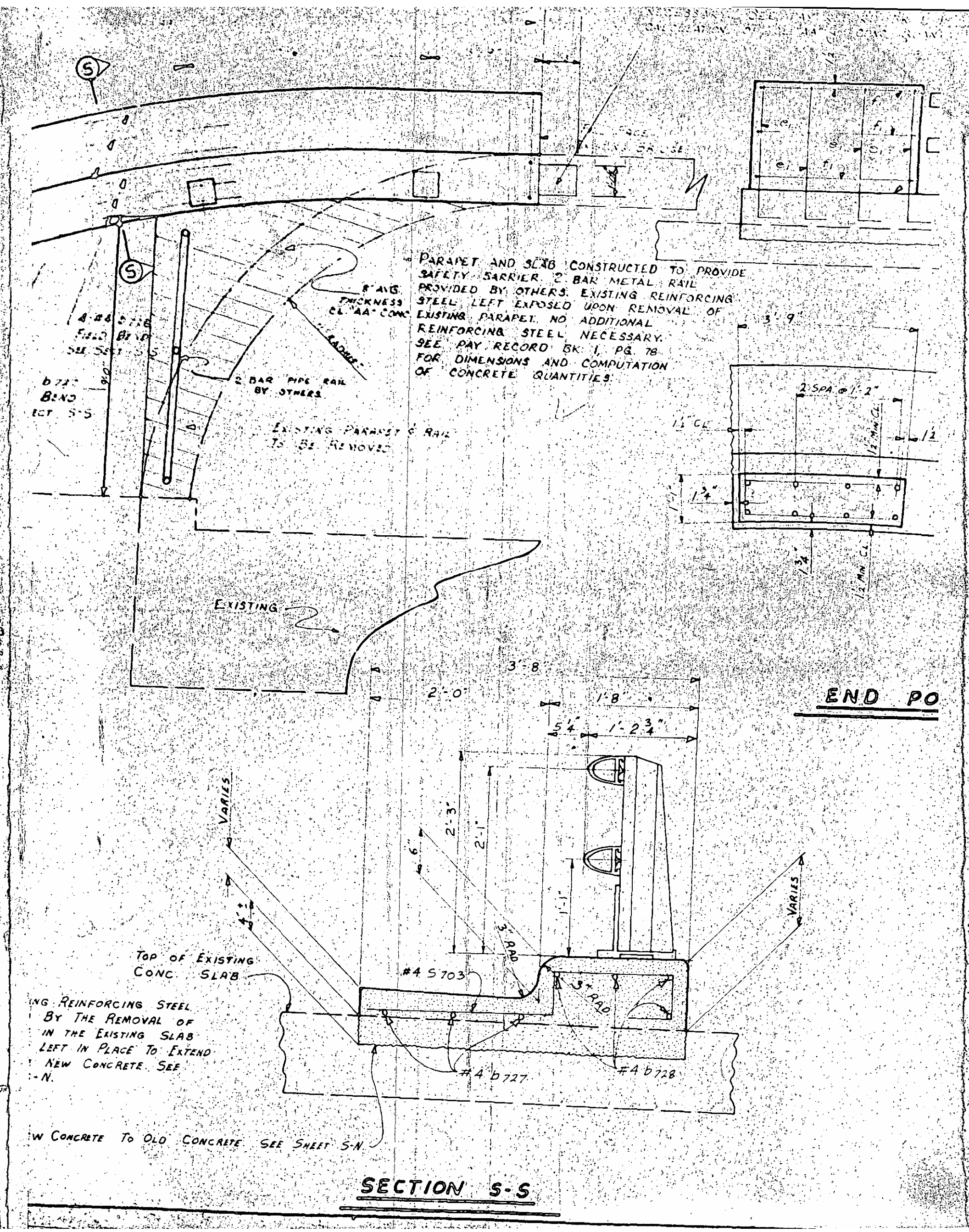
SEPT. 1969

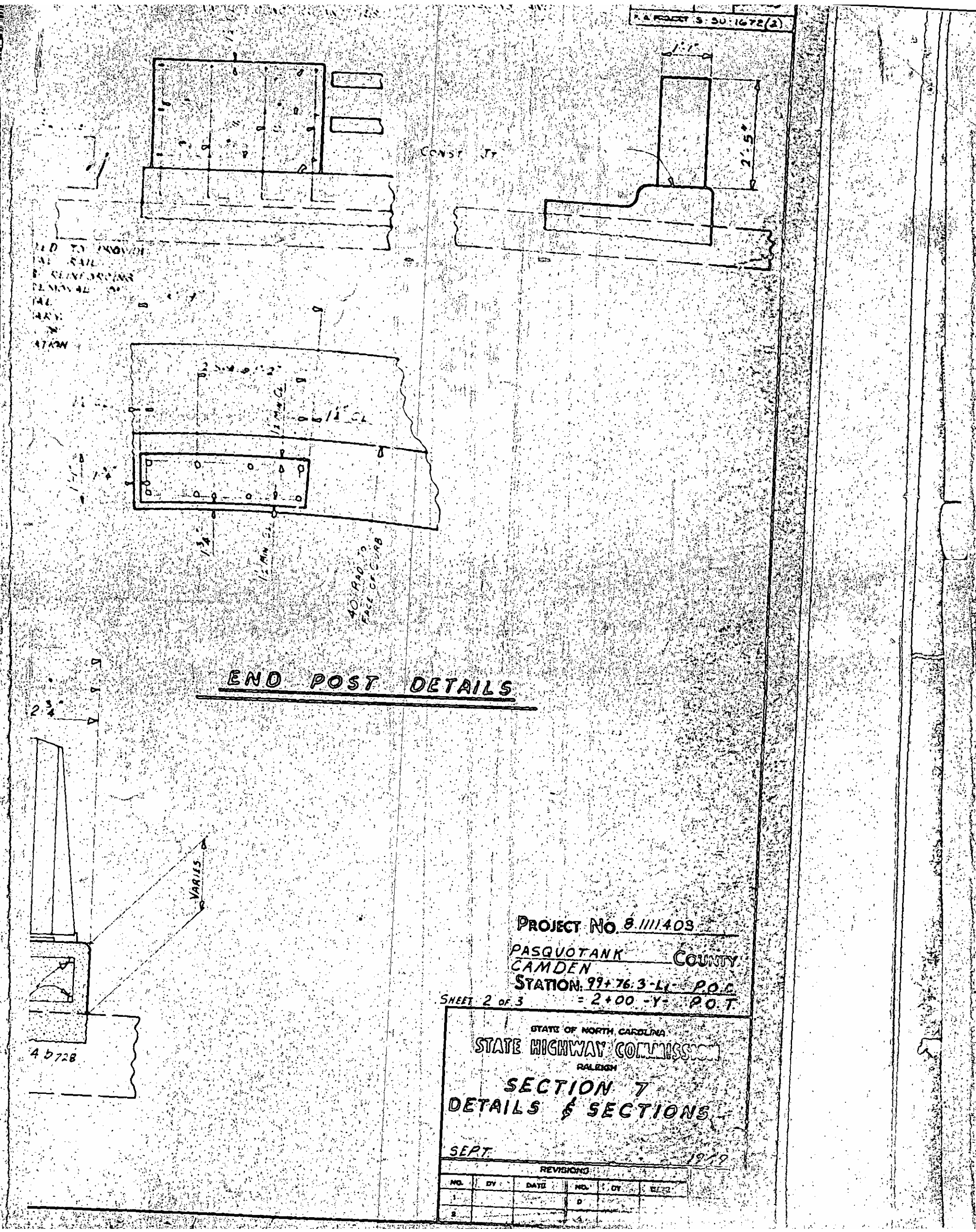


PLAN - SECTION 7


DETAIL "B"
SECTION 7 Addition
R
R
S
S
Q
15" LCP
15" RCP
SEE SECT. Q-Q
SEE SECT. Q-Q
2 BAR RUN
2 BAR RUN
4-#4 b723 (FIELD BENT)
4-#4 b724
24-#4 b701
IN CURTAIN WALL
5-#6 a703
@ 12½" CTS
BOTT. OF SLAB
5-#6 a705
@ 10½" CTS
TOP OF SLAB
#5 a707
THRU a717
9" CTS
TOP OF SLAB
3 BARS EA. MARK
15 a718
THRU a728
9" CTS
TOP OF SLAB
3 BARS EA. MARK
12-#7 b713
THRU b716
@ 6½" CTS
TOP OF SLAB
3 BARS EA. MARK
4-#7 b717
@ 6½" CTS
TOP OF SLAB
5-#7 b719
@ 6½" CTS
TOP OF SLAB
10-#7 b721
@ 6½" CTS
TOP OF SLAB
7-#7 b720
@ 6½" CTS
TOP OF SLAB
18-#7 b722
@ 6½" CTS
TOP OF SLAB
40' RAD. TO FACE OF CURB
D.I. ADDED BACK OF CURB TO DRAIN AREA BEHIND CURB
Cl. AA Conc. STO. 84+14
C.B. ADDED TO PROVIDE ADEQUATE DRAINAGE IN THIS QUADRANT OF INTERSECTION
DETAILS & QUANTITIES SIMILAR TO SECTION 8
PROJECT NO. 8.1111403
PASQUOTANK
CAMDEN
COUNTY
STATION: 99+76.3 -L1- P.O.C.
=2+00 -Y- P.O.T.
SHEET 1 OF 3
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH
SECTION 7
SEPT. 1969
REVISIONS
NO. BY DATE NO. BY DATE
1 3
2 4


2-04 b726 (FIELD BEND)
SEE SECT. R-R
17'-3 4 b703
7'-6"
9"
3'-9"
SEE SECT. R-R
10-#4 S702 @ 1'-6" CTS.
4-#4 b728
FIELD BEND
SEE SECT. S-S
3-#4 b727
FIELD BEND
SEE SECT. S-S
2'-0"
2-#4 b726
FIELD BEND
SEE SECT. R-R
DETAIL "B"
2'-6"
2'-0"
6"
VARIES
6"
3" RAD
VARIES
TOP OF EXISTING CONC. SLAB
Slope 1/2" per ft.
3" RAD
#4 b726
#4 b725
#4 S702
NOTE EXISTING REINFORCING EXPOSED BY THE REMOVA CONCRETE IN THE EXISTING SHALL BE LEFT IN PLACE TO INTO THE NEW CONCRETE SHEET S-N.
FOR BONDING NEW CONCRETE TO OL
SECTION R-R


PARAPET AND SLAB CONSTRUCTED TO PROVIDE SAFETY BARRIER. 2 BAR METAL RAIL PROVIDED BY OTHERS. EXISTING REINFORCING STEEL LEFT EXPOSED UPON REMOVAL OF EXISTING PARAPET. NO ADDITIONAL REINFORCING STEEL NECESSARY. SEE PAY RECORD BK. 1, PG. 78 FOR DIMENSIONS AND COMPUTATION OF CONCRETE QUANTITIES.
8" AVG. THICKNESS CL. "AA" CONC.
2 BAR PIPE RAIL BY OTHERS
EXISTING PARAPET & RAIL TO BE REMOVED
EXISTING
3'-9"
2 SPA. @ 1'-2"
1½ CL.
1½ MIN. CL.
1¾"
3'-8"
2'-0"
1'-8"
5¼"
1'-2¾"
END PO
VARIES
2'-3"
2'-1"
6"
1'-1"
3" RAD.
#4 S703
#4 b727
#4 b728
TOP OF EXISTING CONC. SLAB
NG REINFORCING STEEL BY THE REMOVAL OF IN THE EXISTING SLAB LEFT IN PLACE TO EXTEND NEW CONCRETE. SEE -N.
W CONCRETE TO OLD CONCRETE SEE SHEET S-N.
SECTION S-S



PROJECT NO. 8.1111403

PASQUOTANK COUNTY
CAMDEN

STATION: 99+76.3 -L- P.O.C.
= 2+00 -Y- P.O.T.

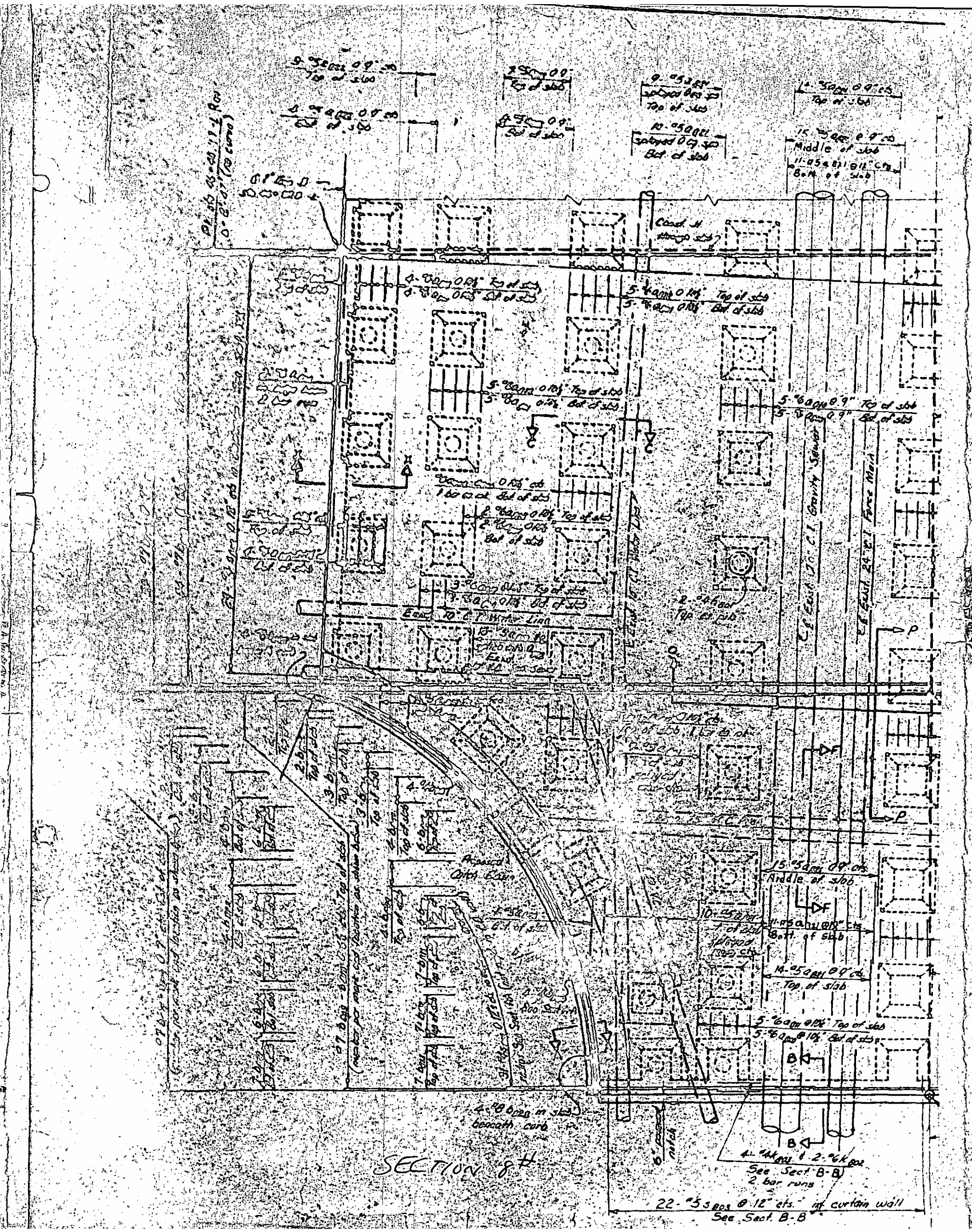
SHEET 2 OF 3

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

SECTION 7
DETAILS & SECTIONS

SEPT. 1919

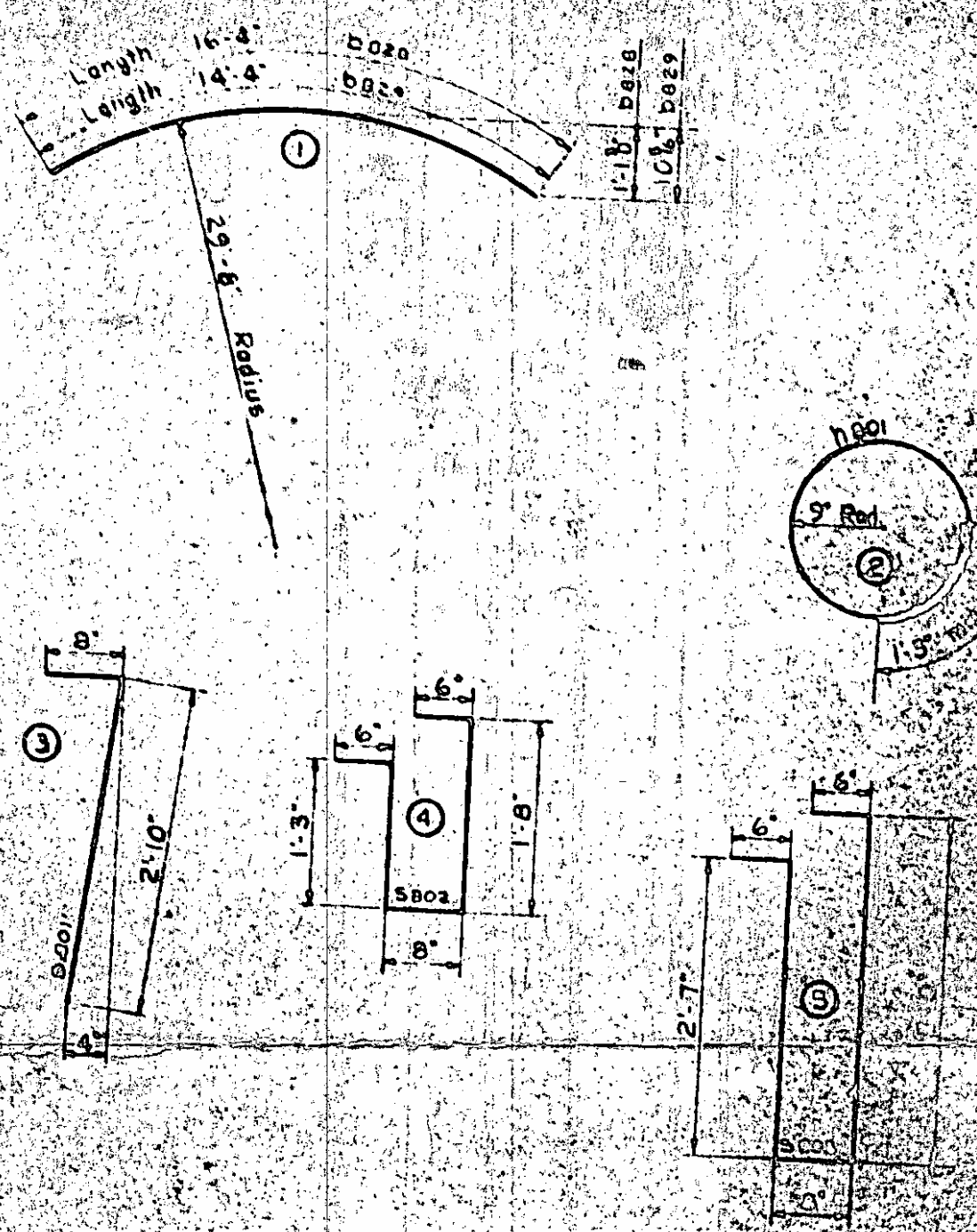
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		



Top of slab
Bot. of slab
Middle of slab
Proposed Catch Basin
See Sect. B-B
2 bar runs
22-#5 s @ 12" cts. in curtain wall
See Sect. B-B
SECTION 8#

BAR DETAILS

All bar dimensions are out to out.



29'-0"	9
14'-0"	24
38'-0"	5
35'-11"	24
33'-6"	7
[illegible]	4
[illegible]	46
[illegible]	71
22'-0"	99
19'-1"	15
32'-9"	394
26'-0"	430
17'-6"	394
34'-6"	52
32'-0"	48
29'-9"	45
28'-0"	42
26'-6"	40
19'-9"	59
18'-3"	82
15'-6"	116
29'-0"	3,569
17'-6"	402
23'-0"	24
21'-9"	340
16'-1"	117
18'-9"	2,070
10'-0"	1,022
24'-3"	2,677
32'-6"	133
30'-3"	124
28'-3"	174
26'-0"	159
24'-3"	193
19'-0"	299
19'-6"	159
18'-3"	187
17'-0"	243
15'-9"	225
15'-0"	819
14'-3"	1,455
14'-6"	1,993
28'-3"	2,887
28'-0"	114
25'-9"	105
23'-9"	97
22'-0"	135
19'-9"	161
14'-0"	172
14'-10"	121
13'-6"	138
12'-3"	150
11'-0"	135
10'-4"	148
16'-4"	174
14'-4"	153
16'-4"	44
14'-4"	38
7'-0"	1330
6'-0"	200
5'-8"	94
2'-2"	73
1'-10"	63
3'-6"	72
4'-7"	89
7'-3"	166
s.	25,519
Yds.	94.5
No.	25
Ft.	~~1250~~ 1250

NOTES

For sections and details of catch basin and pipe supports see sheet S-115.

Pile heads not drawn are included in the bill of material of adjoining sections.

For pile spacing, see Pile Layout for the complete intersection, sheet S-113.

Concrete in pile heads has been deducted.

Revision #1 Revised To S
-L Rev. - SRB 1-17-7
INSP. 1-18-72

PROJECT No 8.1111403

PASQUOTANK COUNTY
CAMDEN
STATION: 99+76.3 -L- PRC
= 2+00.0 -Y- PUL

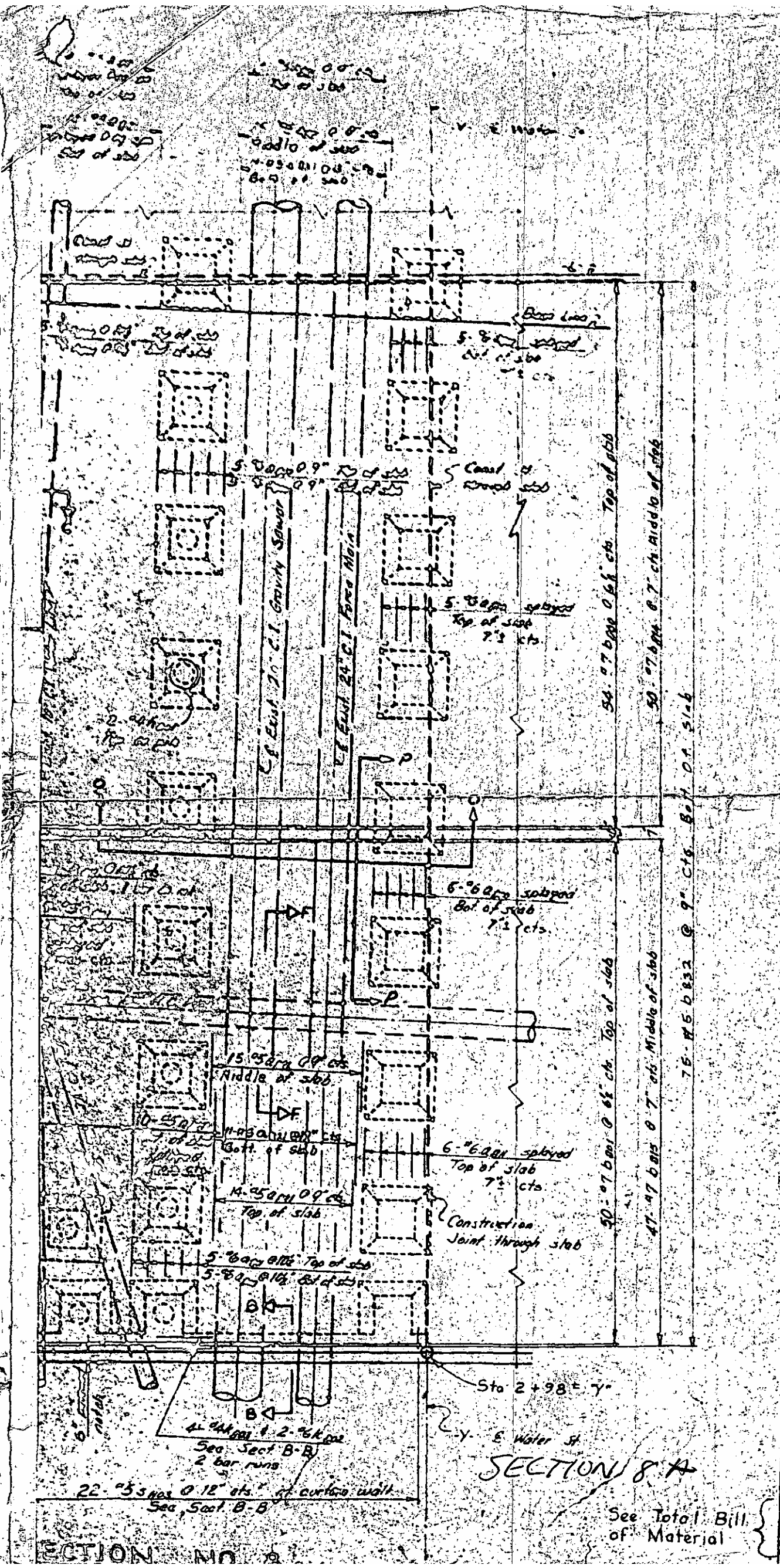
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

SECTION B

August

TOTAL BILL OF MATERIAL FOR SEC. NO. 8

	Sec. No. 8 Slab & Ftg.	Std. Catch Basin	Total
Class AA Conc. Cu. Yds.	94.5	0.8	95.3
Reinforcing Steel Lbs.	25,519	60	25,579
Untreated Timber Piles No.	25		25
Lin. Ft.	1250		1250



BILL OF MATERIAL

SECTION 8 (SLAB)

Bar	No	Size	Type	Length	Weight
a800	21	#6	Str	29'-0"	915
a801	14			14'-0"	294
a802	1			38'-0"	57
a803	1			35'-11"	54
a804	1			33'-6"	50
a805	1			31'-6"	47
a806	1			30'-5"	46
a807	2			23'-6"	71
a808	3			22'-0"	99
a809	4			19'-1"	115
a810	10			32'-3"	484
a811	17			26'-0"	430
a812	15			17'-6"	394
a813	1			34'-6"	52
a814	1			32'-0"	48
a815	1			29'-9"	45
a816	1			28'-0"	42
a817	1			26'-6"	40
a818	2			19'-9"	59
a819	3			18'-3"	82
a820	5	#6		15'-6"	116
a821	118	#5		29'-0"	3,569
a822	22			17'-6"	402
a823	1			23'-0"	24
a824	15			21'-9"	340
a825	7	#5	Str.	16'-1"	117
b800	54	#7	Str.	18'-9"	2,070
b801	50			10'-0"	1,022
b802	54			24'-3"	2,677
b803	2			32'-6"	133
b804	2			30'-3"	124
b805	3			28'-5"	174
b806	3			26'-0"	159
b807	4			24'-3"	198
b808	6			19'-0"	233
b809	4			19'-6"	159
b810	5			18'-3"	187
b811	7			17'-0"	243
b812	7			15'-9"	225
b813	7			15'-0"	215
b814	50			14'-3"	1,456
b815	47			14'-6"	1,393
b816	50			28'-3"	2,887
b817	2			28'-0"	114
b818	2			25'-9"	105
b819	2			23'-9"	97
b820	3			22'-0"	135
b821	4			19'-9"	161
b822	6			14'-0"	172
b823	4			14'-10"	121
b824	5			13'-6"	138
b825	6			12'-3"	150
b826	6			11'-0"	135
b827	7	#7	Str.	10'-4"	148
b828	4	#8	1	16'-4"	174
b829	4	#8	1	14'-4"	153
b830	4	#4	Str.	16'-4"	44
b831	4	#4	Str.	14'-4"	38
b832	75	#5	Str.	17'-0"	1330
h801	50	#4	2	6'-0"	200
k801	4	#6	Str.	15'-8"	94
k802	4	#6	Str.	12'-2"	73
k803	8	#4	Str.	11'-10"	63
s801	31	#4	3	3'-6"	72
s802	29	#4	4	4'-7"	89
s803	22	#5	5	7'-3"	166

Reinforcing Steel Lbs.	25,519
Class "AA" Concrete Cu. Yds.	94.5
Untreated Timber Piles No.	25

For 6
basin
sheet

Pile hi
in the
sectio

For pil
for th
sheet

Concrete

TOTAL BI

Class "AA" Con
Reinforcin
Untreated

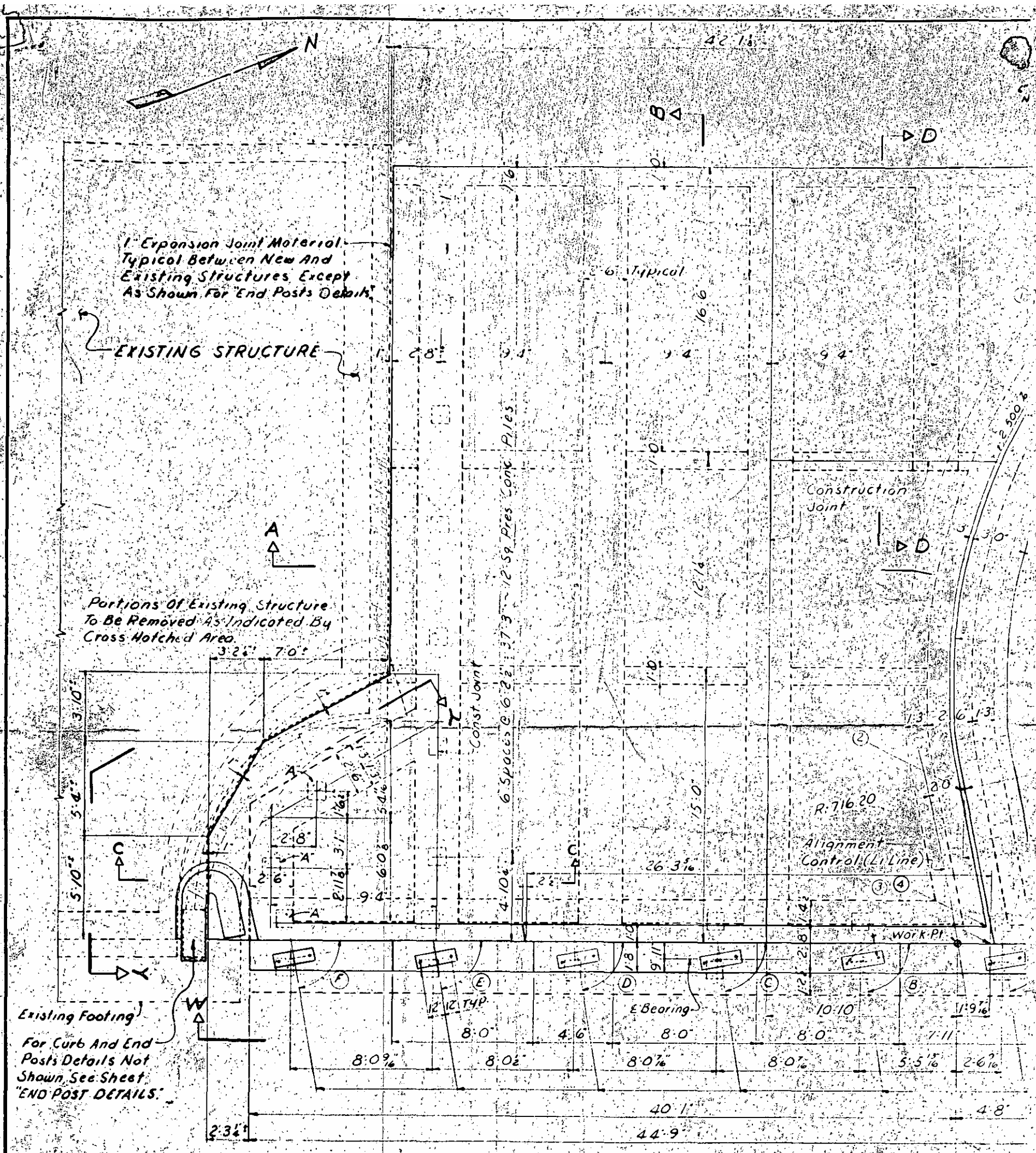
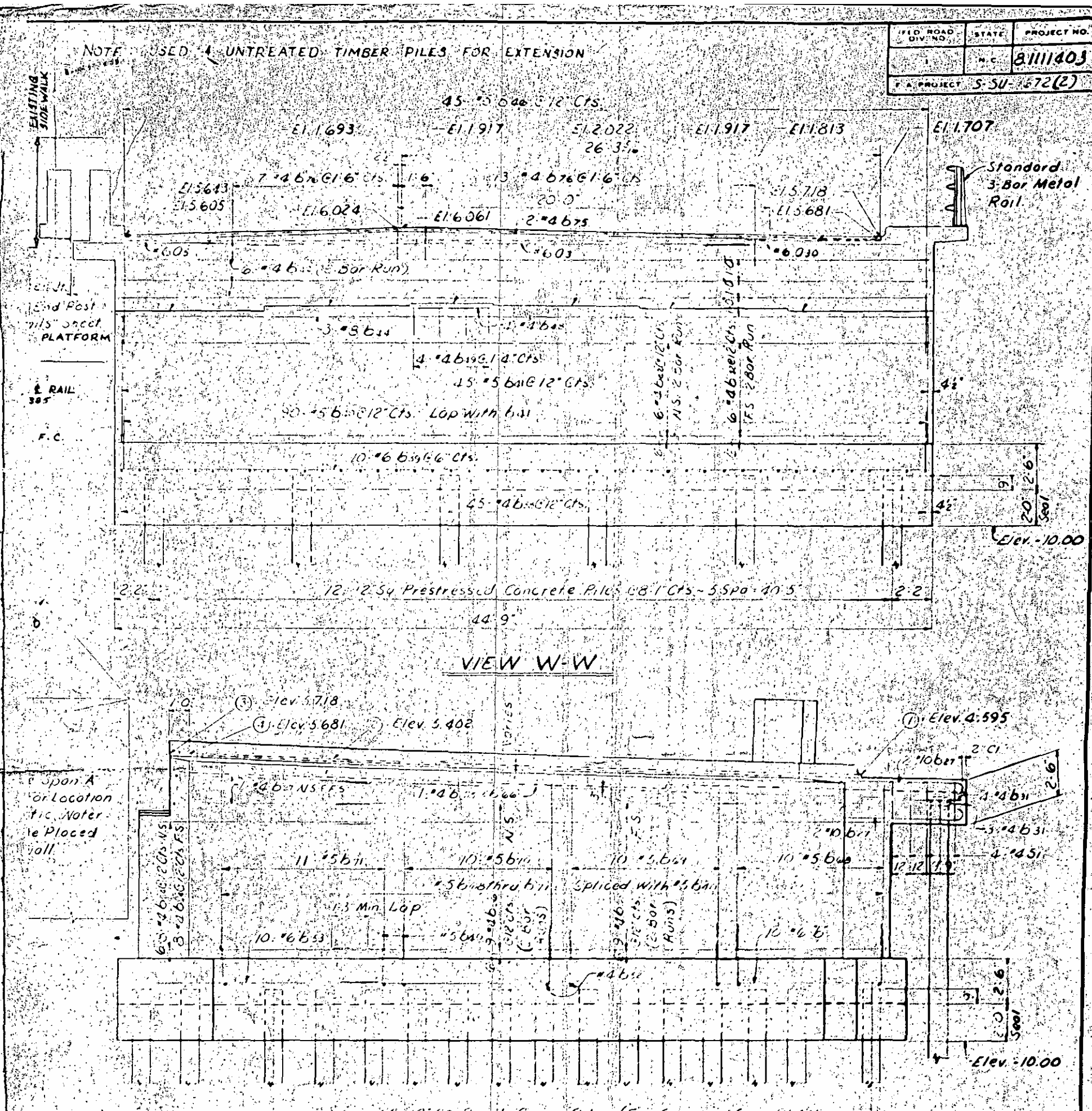


TABLE OF ANGLES	
A	80°-13'-53"
B	80°-07'-19"
C	80°-00'-37"
D	79°-53'-45"
E	79°-46'-43"
F	79°-39'-31"

PILES
SECT. 1123-1 & 2
1965

FED. ROAD DIV. NO.	STATE	PROJECT NO.
1	N.C.	8.1111403
F.A. PROJECT	S-SU-1672(2)	



Live Loading HS20-44 or All Loading
cing Steel In Tension 20,000 Lbs. Per Sq. In.
e In Compression (Deck Slab) 1,100 Lbs. Per Sq. In.
e In Compression (Except Deck Slab) 1,200 Lbs. Per Sq. In.
r Design Data And General Notes See Sheet S-N
Indicated And No Bar Mark Shown See Slab Reinforcing Plan.
ed Surface Finish Will Be Required On Any Part Of The Structure
Finish.

PROACH SLAB EXTENDED 8'-0" ALONG FACE AT 3-BAR RAIL.
SSARY IN ORDER TO MAKE PROPER TIE-IN WITH EXISTING
SEE AREA BRIDGE CONST. ENGR'S REPORT DATED 6-28-72.
AS BUILT PLANS FOR ADDITIONAL QUANTITIES & DIMENSIONS.

PROJECT NO. 8.1111403
PASQUOTANK
CAMDEN COUNTY
STATION 103+68

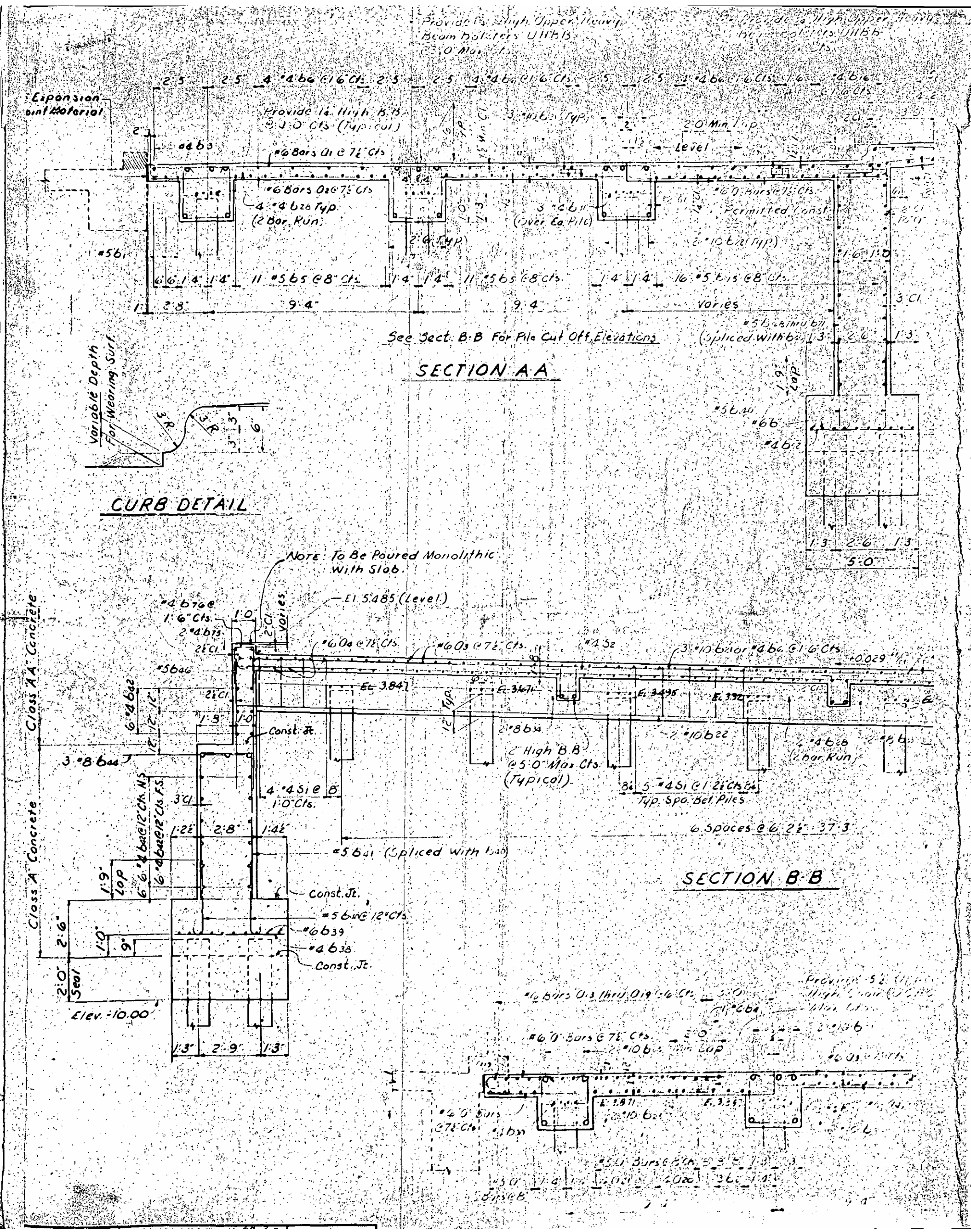
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

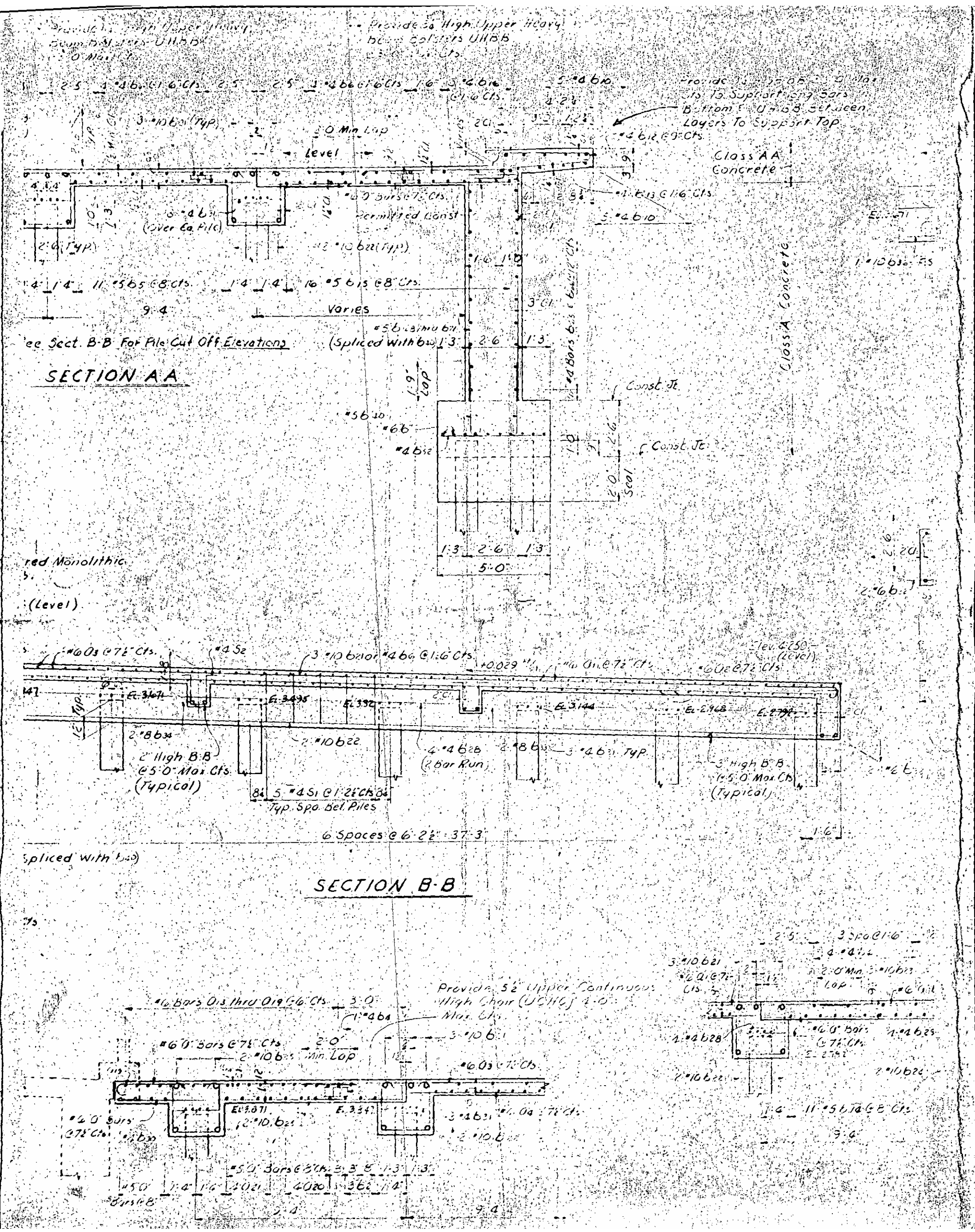
WEST APPROACH SLAB GENERAL PLAN AND VIEWS

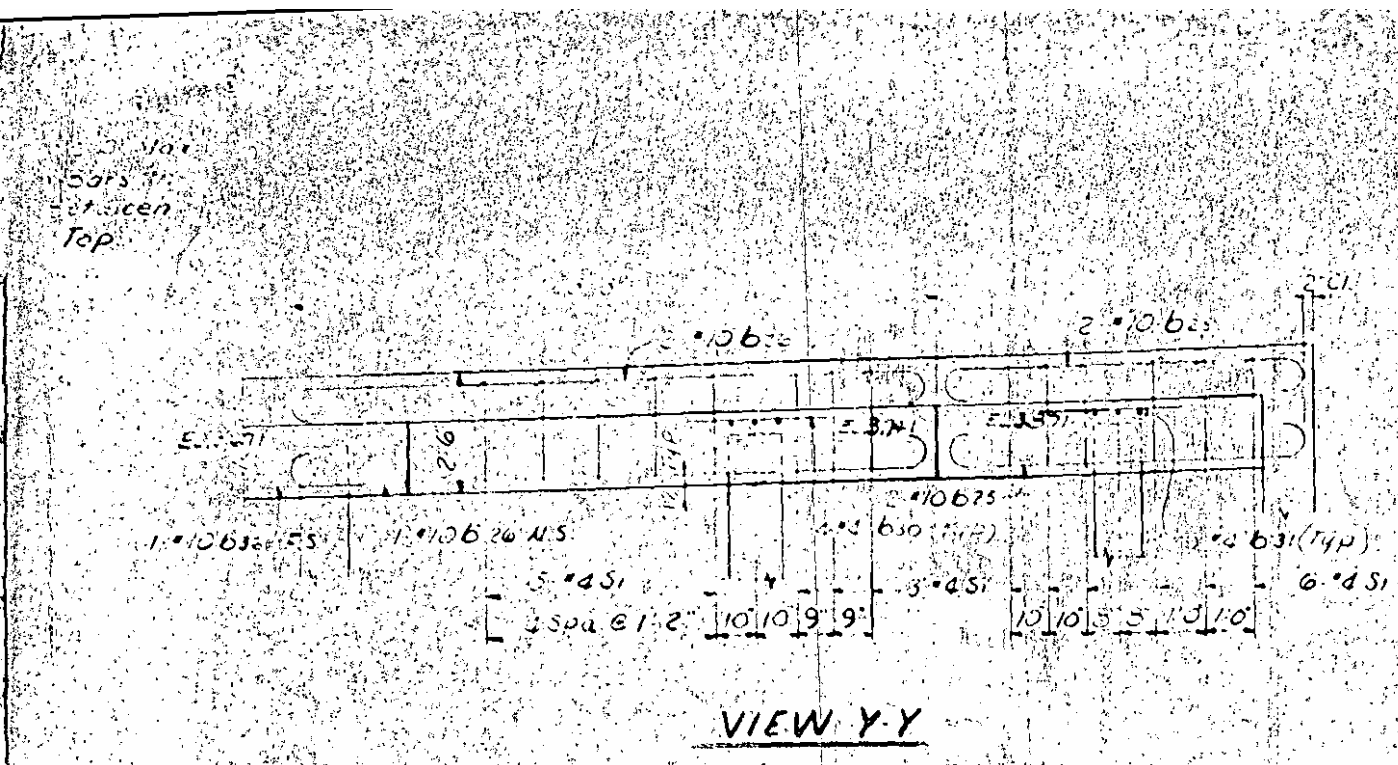
L. O. HOPKINS & SONS, INC.
CONSULTING ENGINEERS NASHVILLE, TENN.

REVISIONS

SHEET NO. 10

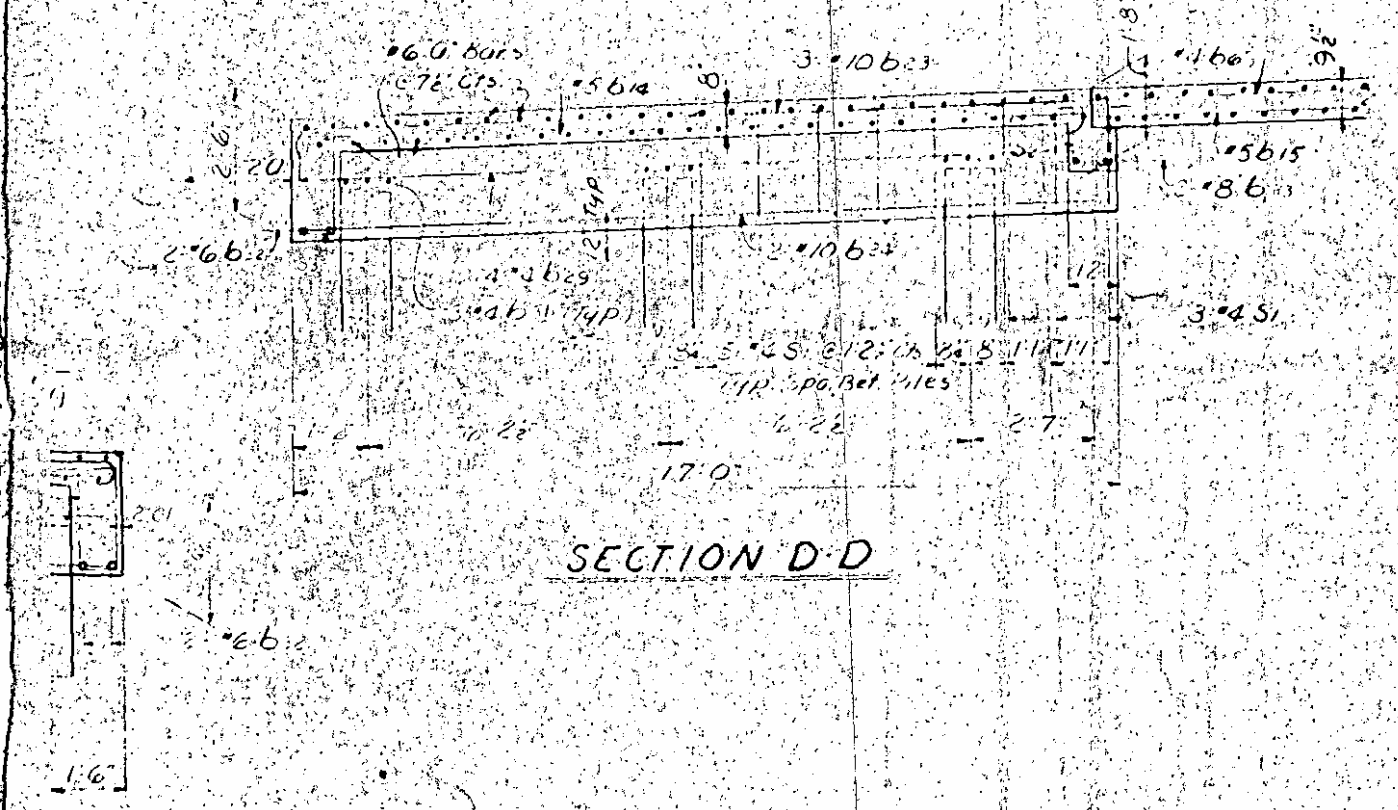

Expansion Joint Material
Provide 14" High Upper Heavy Beam Bolsters UHBB @ 5'-0" Max. Cts.
Provide 14" High B.B. @ 5'-0" Cts. (Typical)
#6 Bars @ 7½" Cts.
Level
Permitted Const.
See Sect. B-B For Pile Cut Off Elevations
SECTION A-A
Variable Depth For Wearing Surf.
CURB DETAIL
Note: To Be Poured Monolithic With Slab.
El. 5.485 (Level)
Class "A" Concrete
Const. Jt.
Seal
Elev. -10.00'
Typ. Spa. Bet. Piles
6 Spaces @ 6'-2½" = 37'-3"
SECTION B-B


Provide 5" High Upper Heavy Bar Colsters UHBB
Provide 5" High Upper Heavy Bar Colsters UHBB
Provide 5" Upper Continuous High Chair (UCHC) 4'-0" Max. Cts.
Bottom 5" U #6 Between Layers To Support Top
Class AA Concrete
Level
Varies
See Sect. B-B For Pile Cut Off Elevations
SECTION A-A
Const. Jt.
Seal
Spliced With
Typ. Spc. Bet. Piles
6 Spaces @ 6'-2½" = 37'-3"
High B.B @ 5'-0" Max. Cts. (Typical)
(2 Bar Run)
SECTION B-B

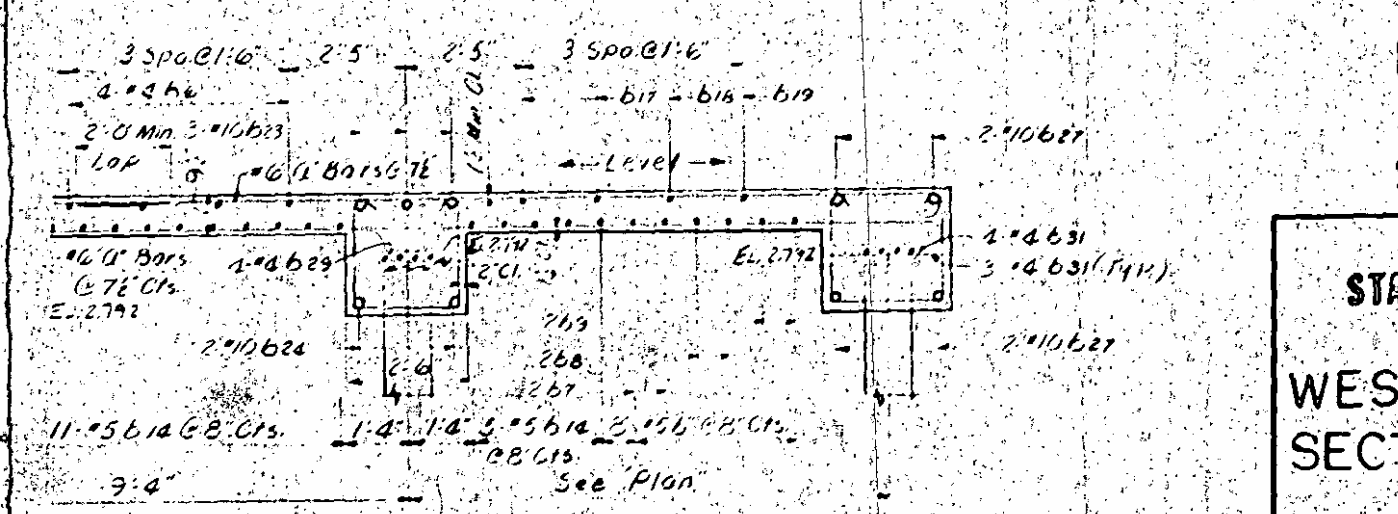


VIEW Y-Y

Existing Structure, Slab Reinforcing, Curb and End Posts Not Shown.



SECTION D-D



SECTION E-E

PROJECT NO. 8.1111403
PASQUOTANK
CAMDEN COUNTY
STATION 103+68

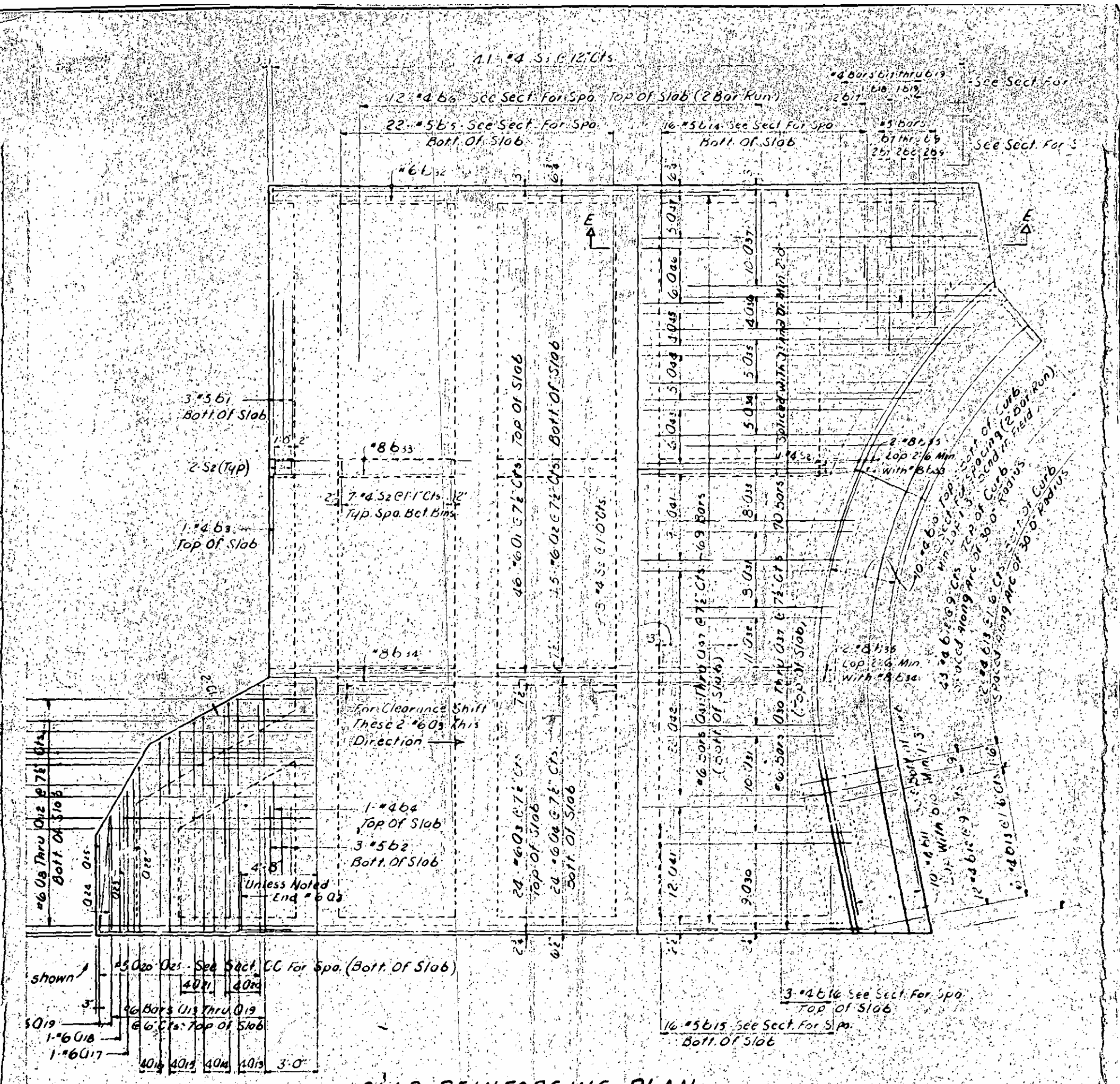
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

WEST APPROACH SLAB SECTIONS AND DETAILS

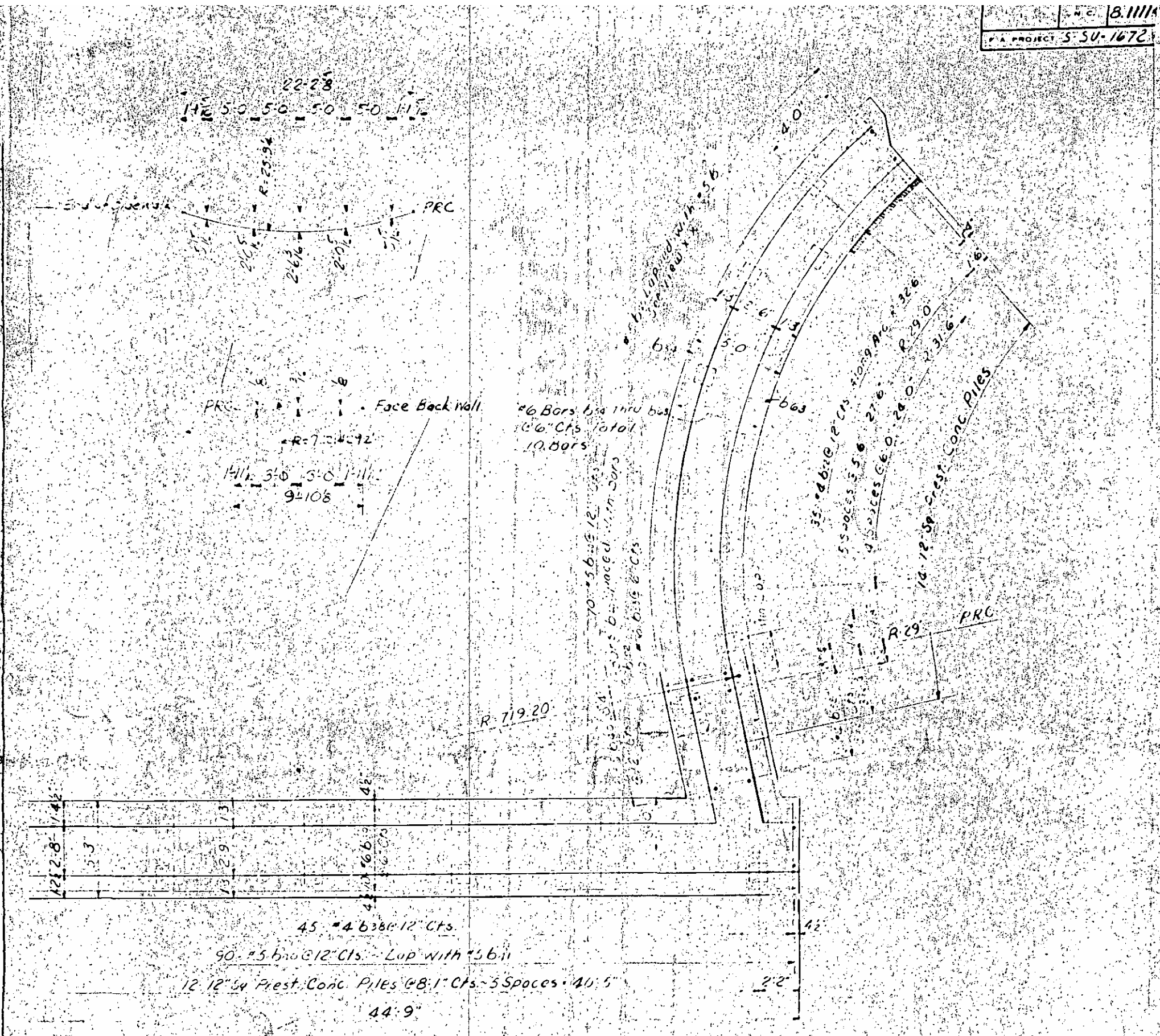
L. O. HOPKINS & SONS, INC.
CONSULTING ENGINEERS NASHVILLE, TENN.

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE

SHEET NO. 11
TOTAL SHEETS 35



SLAB REINFORCING PLAN



FOOTING PLAN

PROJECT NO. 8.1111403
PASQUOTANK
CAMDEN COUNTY
STATION 103 - 68

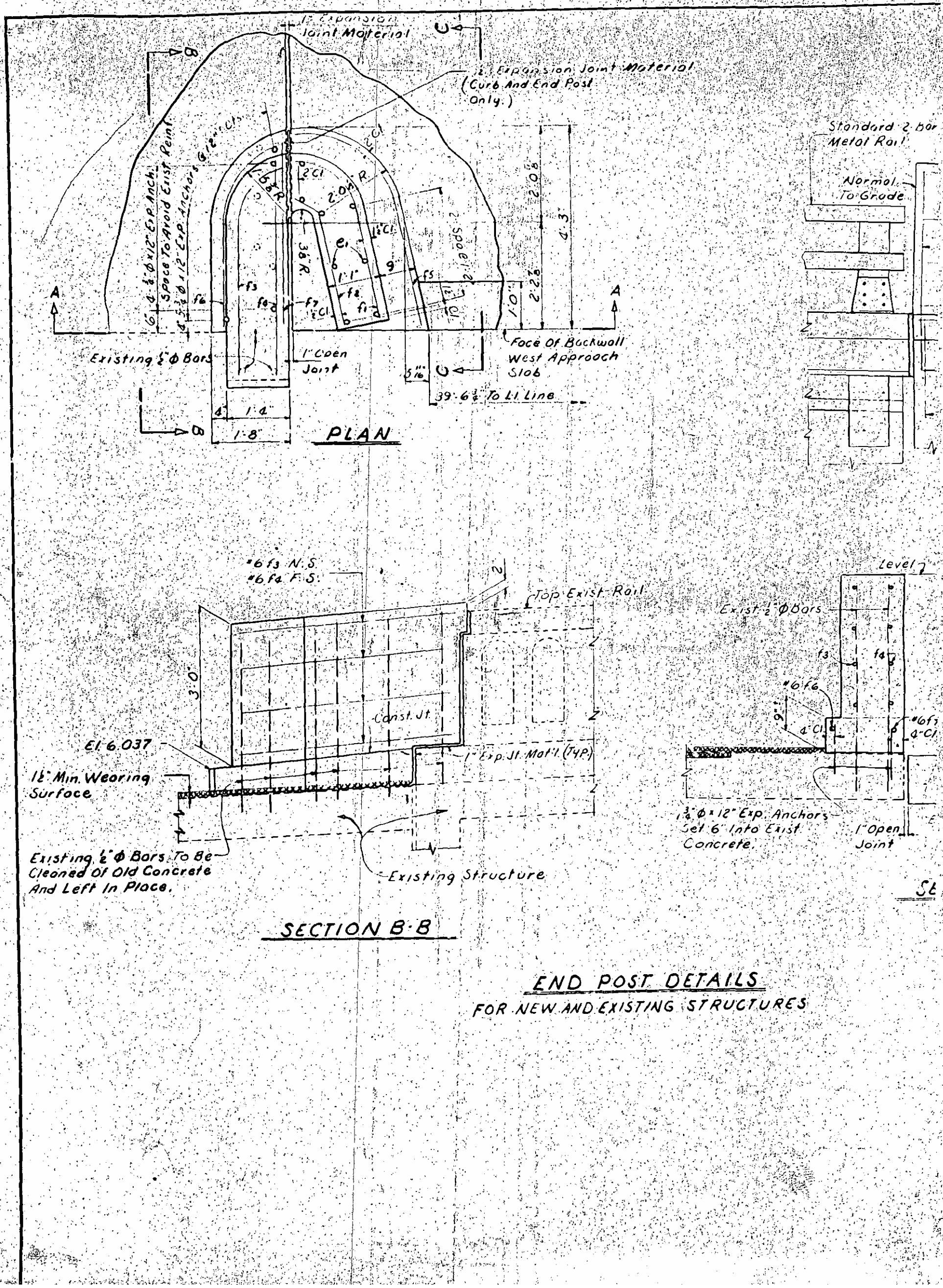
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

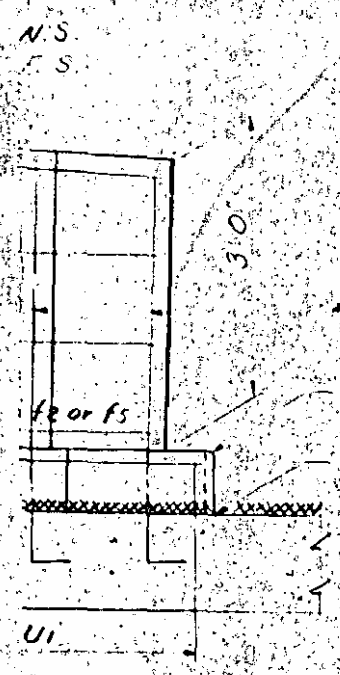
WEST APPROACH SLA
SLAB REINFORCING AN
FOOTING PLAN

L. O. HOPKINS & SONS, INC.
CONSULTING ENGINEERS NASHVILLE, TE

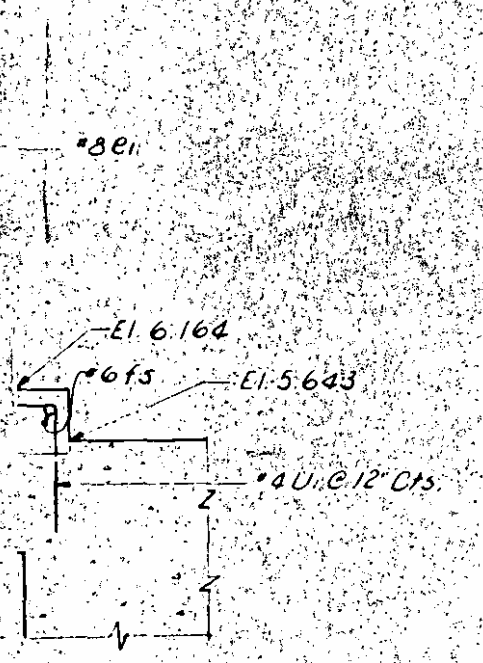
NO.	BY	DATE	NO.	BY	DATE

SHEET


1" Expansion Joint Material
2" Expansion Joint Material (Curb And End Post Only.)
Standard 2 bar Metal Rail
Normal To Grade
Space To Avoid Exist. Reinf.
4 - 3/4" Φ x 12" Exp. Anch.
4 - 3/4" Φ x 12" Exp. Anchors
Existing 1/2" Φ Bars
1" Open Joint
Face Of Backwall West Approach Slab
39'-6 3/4" To L.1. Line
PLAN
#6 f3 N.S.
#6 f4 F.S.
Top Exist. Rail
Const. Jt.
El. 6.037
1" Exp. Jt. Mat'l. (Typ.)
1/2" Min. Wearing Surface
Existing 1/2" Φ Bars To Be Cleaned Of Old Concrete And Left In Place.
Existing Structure
SECTION B-B
Level
Exist. 1/2" Φ Bars
#6 f6
4" Cl.
1 3/4" Φ x 12" Exp. Anchors Set 6" Into Exist. Concrete.
1" Open Joint
END POST DETAILS
FOR NEW AND EXISTING STRUCTURES



10N C.C.



A-A

END POST DETAILS

WEST END NEW APPROACH SLAB

PROJEC
PASS
CAMD
STAT 101
STATE O
STATE HIGH
WEST APP
END PO
L. O. HOPP
CONSULTING ENGI

QUAN

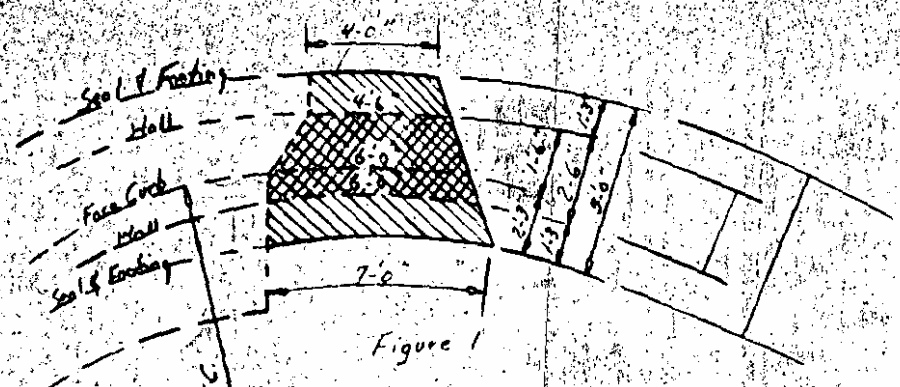


Figure 1

Seal Concrete Qve. To Extension

$\frac{4.0+4.5}{2} \times 1.25 \times 2.0 = 10.625$ Cu. Ft.

$\frac{4.5+6.0}{2} \times 1.50 \times 2.0 = 15.750$ "

$\frac{6.0+7.0}{2} \times 2.25 \times 2.0 = 29.250$ "

55.625 "

Less 3 @ 12" Φ x 2.0' pile heads = − 4.712

50.913 C.F. / 27 = 1.89 C.Y. Seal Conc.

Class "A" Conc. (Footing & Wall):

Footing $\frac{4.0+4.5}{2} \times 1.25 \times 2.50 = 13.281$ Cu. Ft.

$\frac{4.5+6.0}{2} \times 1.50 \times 2.50 = 19.688$ "

$\frac{6.0+7.0}{2} \times 2.25 \times 2.50 = 36.562$ "

69.531 "

Less 3 @ 12 Φ x 0.75' pile heads 1.767 "

67.764 ÷ 27 = 2.51 C.Y. Footing

Wall - Vert. Height @ Pt. ①

@ Pt. ②

See Fig. 1

$\frac{4.5+6.0}{2} \times 1.50 = 7$

$\frac{6.0+6.50}{2} \times 1.01 = 6.2$

14.1

Total Cl. "A" Conc:

Footing

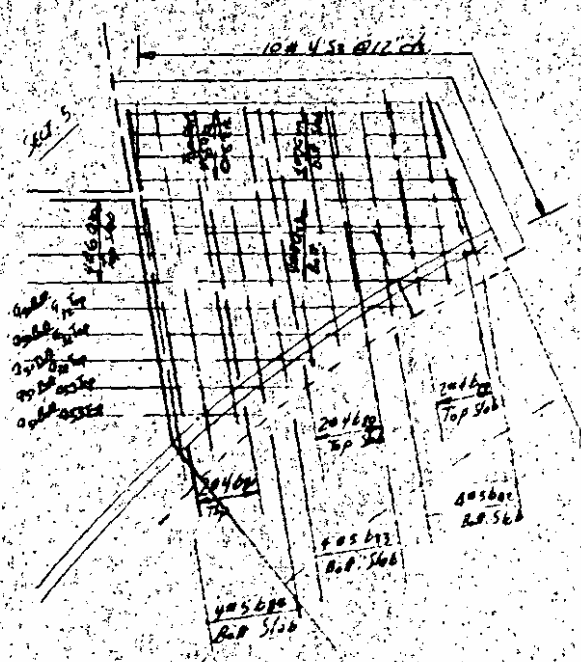
Wall

Total

Section 4 Reinforcing Steel (Additional)

Bar	No.	Size	Type	Length	Weight
b_{52}	9	#4	Str.	4'-6"	27
b_{79}	10	#6	Str.	11'-3"	169
b_{40}	18	#5	1	3'-10"	72
b_{68}	9	#5	4	21'-4"	200
b_{78}	28	#4	Str.	10'-6"	196
b_{13}	6	#4	Str.	3'-3"	13
b_{12}	12	#4	2	6'-8"	53
S_3	10	#4	9	5'-4"	36
a_{30}	4	#6	1	11'-8"	70
a_{32}	6	#6	1	9'-6"	86
a_{38}	3	#7	1	6'-10"	42 *
a_{48}	4	#7	Str.	8'-0"	65 *
a_{49}	4	#7	Str.	11'-0"	90 *
a_{50}	2	#7	Str.	8'-6"	35 *
a_{51}	3	#7	Str.	6'-0"	37 *
b_{79}	2	#4	Str.	4'-0"	5
b_{80}	2	#4	Str.	6'-0"	8
b_{81}	2	#4	Str.	8'-0"	11
b_{82}	4	#5	Str.	4'-6"	19
b_{83}	4	#5	Str.	6'-0"	25
b_{84}	4	#5	Str.	8'-0"	33
b_{85}	5	#7	Str.	11'-5"	117 *
b_{31}	8	#4	Str.	2'-2"	12

* Denotes #7 bars Used From Excess in Sect. 1 (Total 386 lbs.) (188'-7" LF)



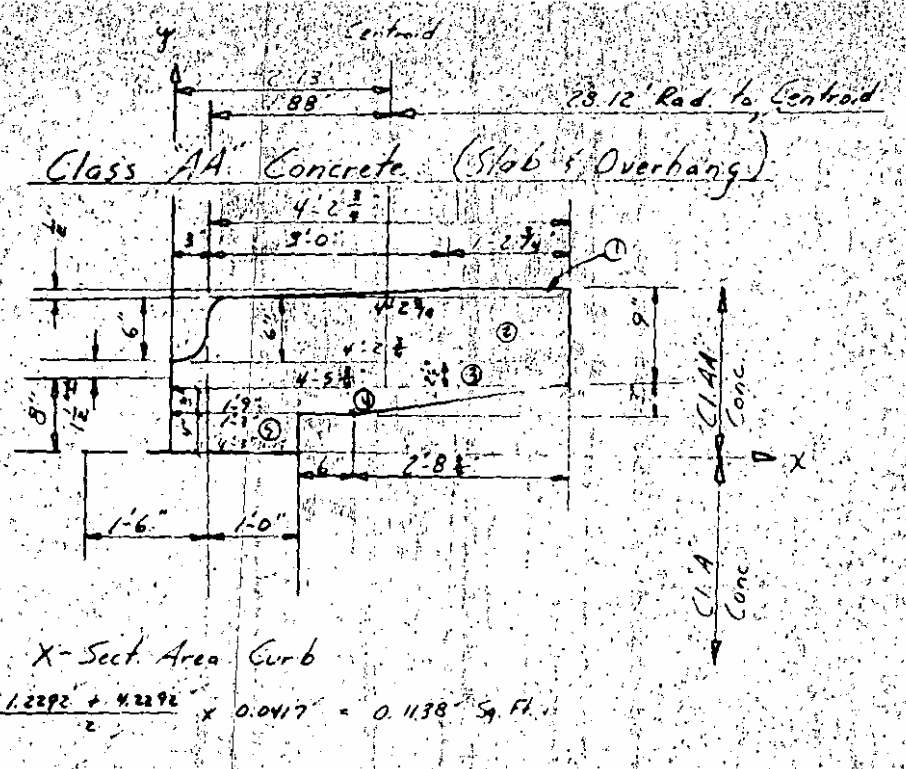
Note: 5 #7 b_{85} in Cap & Wall - locate 3" Cl. from Bottom 11'-5" (Field to as necessary).

9.30' (El. -5.50 to El. +3.803)
9.15' (El. -5.50 to El. +3.653)
18.45 ÷ 2 = 9.225 Avg. Height Wall

75 Sq. Ft.

$\frac{0'}{5'} \times 9.225' \times \frac{1}{27} = \underline{4.826}$ C.Y. In Wall

2.51 C.Y.
4.83
7.34 C.Y.



X-Sect. Area Curb

① $\frac{1.2292 + 4.2292}{2} \times 0.0417 = 0.1138$ Sq. Ft.

② 4.2292 × 0.5000 = 2.1146

③ 4.4792 × 0.2083 = 0.9330

④ $\frac{4.4792 + 1.7500}{2} \times 0.2500 = 0.7787$

⑤ 1.2500 × 0.3333 = 0.4166

4.3567 × $\frac{*8.53}{27}$ = **1.38 C.Y. Cl. "AA"**

* Curb Extended 9.096 along F.C. (R = 30.0')
Radius of Center of Area of Curb Sect. = 28.12'

$\frac{28.12}{30.00} \times 9.096 = \underline{8.53}$ Length to be Used to Compute Vol. of Conc. in Curb & O.H. Sect.

℄ Sect. 5 & 2

8 Slab Caps Part Notch

① $\frac{7.50 + 8.33}{2} \times 3.00$

② $\frac{8.33 + 3.25}{2} \times 2.50$

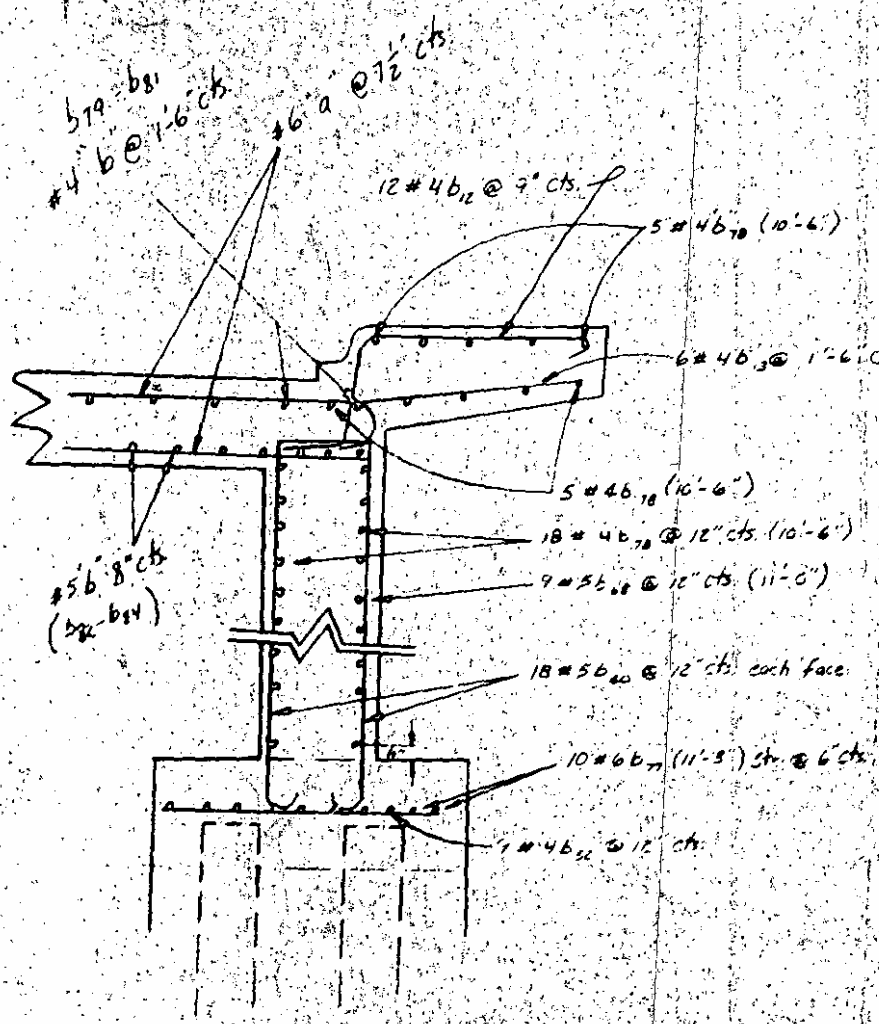
③ $\frac{5.25 + 2.17}{2}$

$\frac{7.50 + 8.33}{2} \times 3.00$

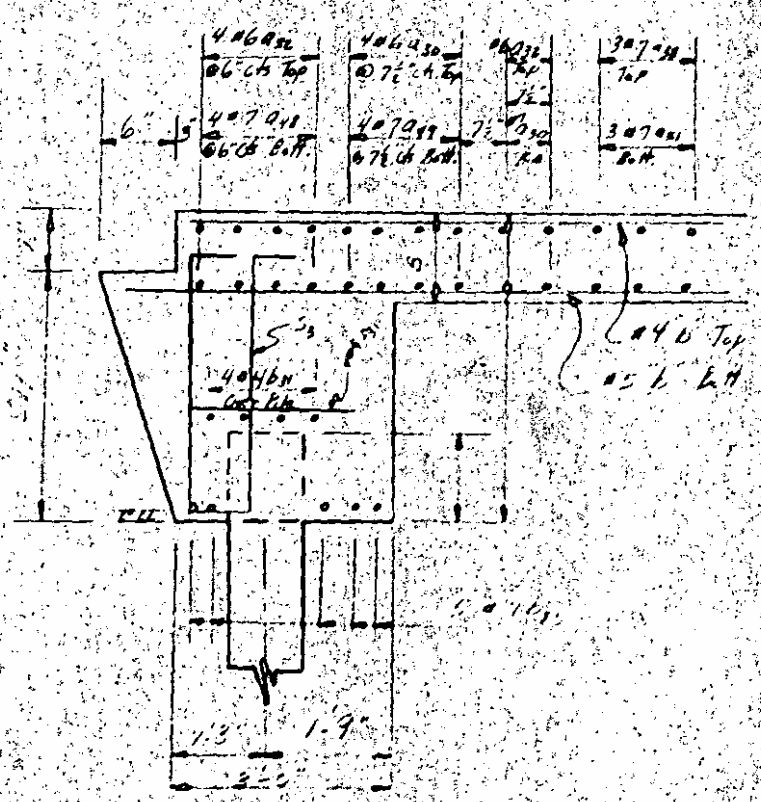
$\frac{1.25 + 2.42}{2} \times 2.50$

$\frac{1.9167 \times 0.50}{2} \times 12.0$

Total



SECTION K-K



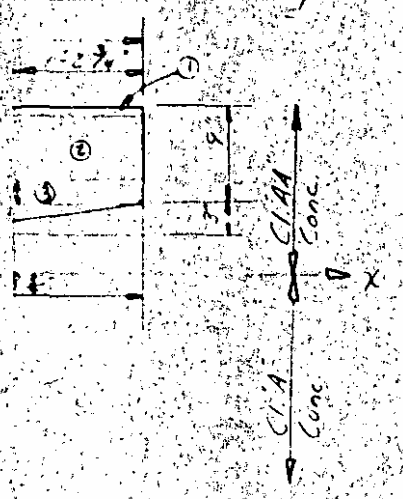
SECTION THRU CAP & SLAB

4		8.1111403

R.A. PROJECT S-SU-1672(2)

28.12' Rad. to Centerline

(Slab & Overhang)



3 Sq. Ft.

1 x 8.5 / 27 = 1.38 C.Y. Cl. AA

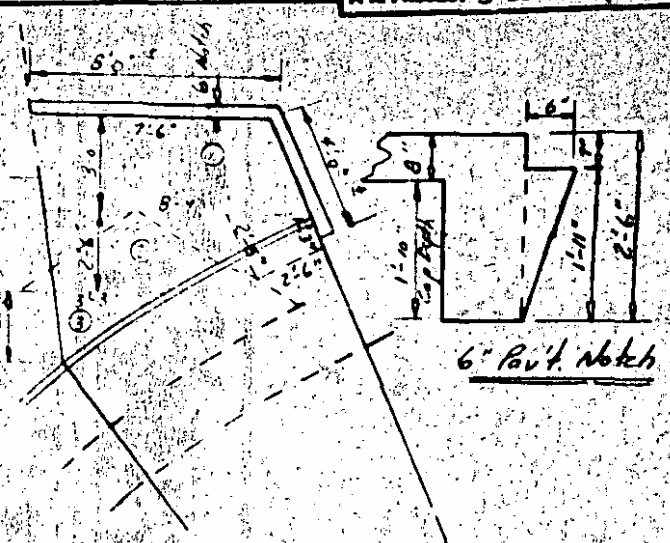
F.C. (R = 30.0')

L Curb Sect. = 28.12'

Lngth. to be used to compute
Vol. of Conc. in Curb & O.H. Sect.

Sect. 5 Ca

8" Slab
Caps
Pavt. Notch



① $\frac{7.50 + 8.33}{2} \times 3.00 \times 0.6667 = 15.931$ Cu. Ft. (8" Slab)

② $\frac{8.33 + 3.25}{2} \times 2.50 \times 0.6667 = 9.650$ " (")

③ $\frac{3.25 \times 2.17}{2} \times 0.6667 = 2.351$ " (")

$\frac{7.50 + 8.33}{2} \times 3.00 \times 1.8333 = 43.532$ " (Cap Joining Sect. 5)

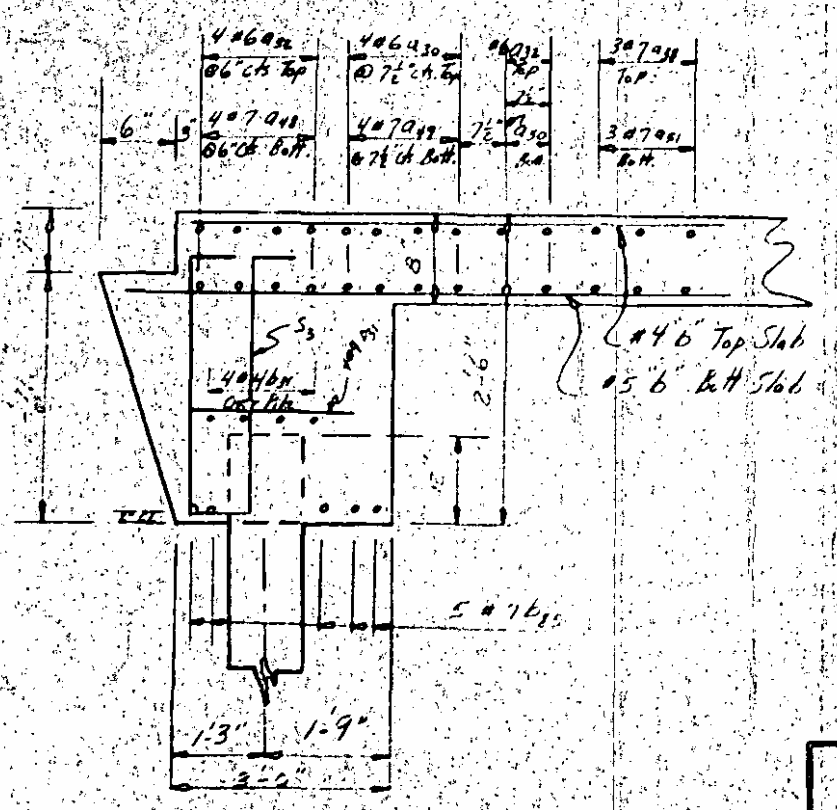
$\frac{1.25 + 2.42}{2} \times 2.50 \times 1.8333 = 8.410$ " (Cap Along End)

$\frac{1.9167 \times 0.50}{2} \times 12.0 = 5.750$ " (6" Pavt. Notch)

85.524 Cu. Ft. ÷ 27 = 3.17 C.Y.

1.38 Cl. AA

Total Cl. AA Conc. 4.55 or 4.6 C.Y.



SECTION THRU CAP & SLAB

PROJECT NO. 8.1111403

PASQUOTANK COUNTY

CAMDEN

STATION: 103 + 68

STATE OF NORTH CAROLINA

STATE HIGHWAY COMMISSION

RALEIGH

West Approach Slab

(Sect. 4) Revision

REVISIONS						SHEET
NO.	BY	DATE	NO.	BY	DATE	

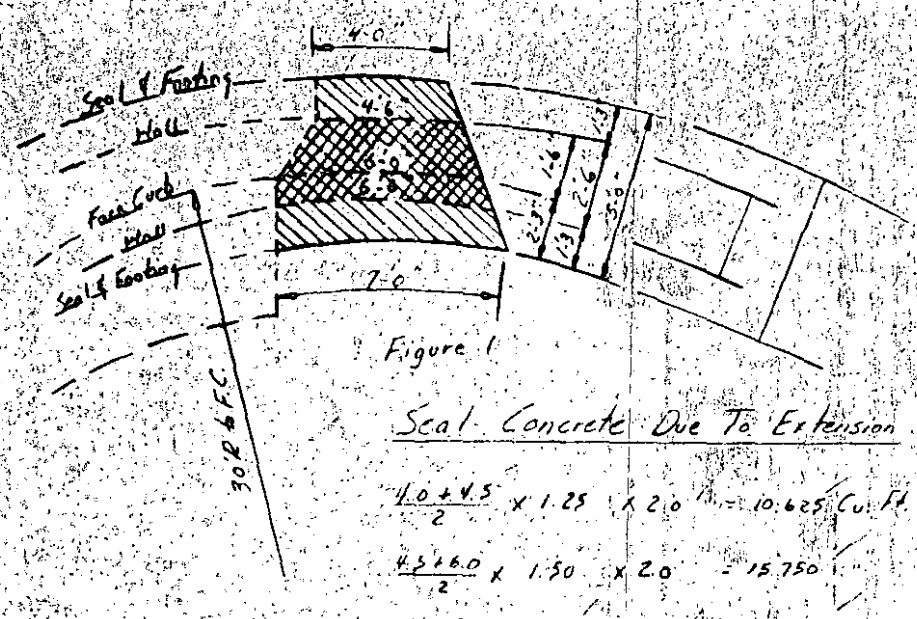


Figure 1

Seal Concrete Due To Extension

$\frac{4.0+4.5}{2} \times 1.25 \times 2.0 = 10.625$ Cu. Ft.

$\frac{4.5+6.0}{2} \times 1.50 \times 2.0 = 15.750$

$\frac{6.0+7.0}{2} \times 2.25 \times 2.0 = 29.250$

55.625

Less 3 @ 12" Ø x 2.0' pile heads = − 4.712

50.913 C.F./27 = 1.89 C.Y. Seal Conc.

Class "A" Conc. (Footing & Wall):

Footing $\frac{4.0+4.5}{2} \times 1.25 \times 2.50 = 13.281$ Cu. Ft.

$\frac{4.5+6.0}{2} \times 1.50 \times 2.50 = 19.688$

$\frac{6.0+7.0}{2} \times 2.25 \times 2.50 = 36.562$

69.531

Less 3 @ 12 Ø x 0.75' pile heads 1.767

67.764 ÷ 27 = 2.51 C.Y. Footing

Wall – Vert. Height @ Pt. ① = 9.30

@ Pt. ② = 9.15

18.45

See Fig. 1

$\frac{4.5+6.0}{2} \times 1.50 = 7.875$ Sq.

$\frac{6.0+6.50}{2} \times 1.0 = 6.250$

14.125 x 9

Total Cl. "A" Conc.

Footing

Wall

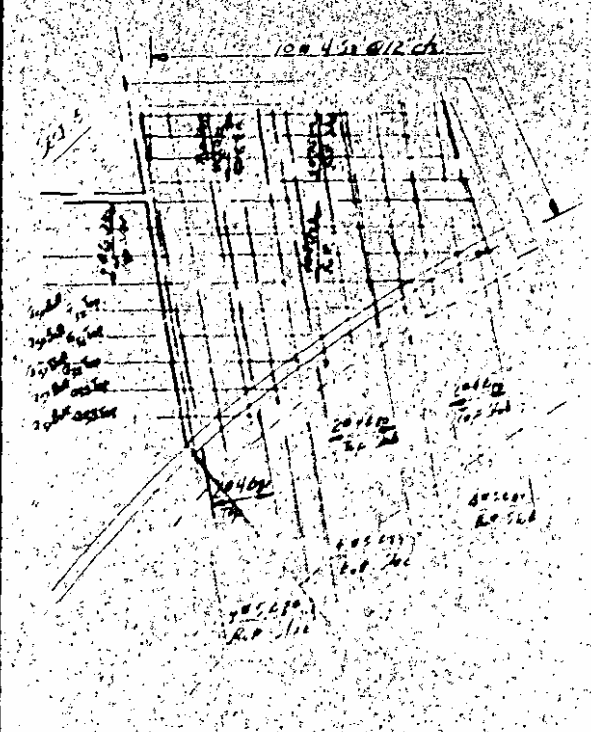
Total

Section 4 Reinforcing Steel (Additional)

Bar	No.	Size	Type	Length	Weight
b_{52}	9	#4	Str.	4'-6"	27
b_{77}	10	#6	Str.	11'-3"	169
b_{40}	18	#5	1	3'-10"	72
b_{68}	9	#5	4	21'-4"	200
b_{78}	28	#4	Str.	10'-6"	196
b_{13}	6	#4	Str.	3'-3"	13
b_{12}	12	#4	2	6'-8"	53
S_3	10	#4	9	5'-4"	36
G_{30}	4	#6	1	11'-8"	70
G_{32}	6	#6	1	9'-6"	86
G_{38}	3	#7	1	6'-10"	42 *
G_{48}	4	#7	Str.	8'-0"	65 *
G_{49}	4	#7	Str.	11'-0"	90 *
G_{50}	2	#7	Str.	3'-6"	35 *
G_{51}	3	#7	Str.	6'-0"	37 *
b_{79}	2	#4	Str.	4'-0"	5
b_{80}	2	#4	Str.	6'-0"	8
b_{81}	2	#4	Str.	8'-0"	11
b_{82}	4	#5	Str.	4'-6"	19
b_{83}	4	#5	Str.	6'-0"	25
b_{84}	4	#5	Str.	8'-0"	33
b_{85}	5	#7	Str.	11'-5"	117 *
b_{91}	2	#4	Str.	2'-2"	12

* Denotes #7 bars Used From Excess in Section 1 (Total 386 lbs.) (188.7' L.F.)

Total Sect. 4 Additional 1,421 #



Note: 5 #7's b_{15} in Cap & Wall – location 3" Cl. from bottom 11'-5" (field bend as necessary)

DRAWN BY _____ DATE _____

Wall — Vert. Height @ Pt ① = 9.30' (El. 5.50 to El. +3.803)
@ Pt ② = 9.15' (El. 5.50 to El. +3.653)
18.45 ÷ 2 = 9.225 Avg. Height Wall

See Fig. 1

$\frac{4.5 + 6.0}{2} \times 1.50 = 7.875$ Sq. ft.

$\frac{6.0 + 6.50}{2} \times 1.0 = 6.250$

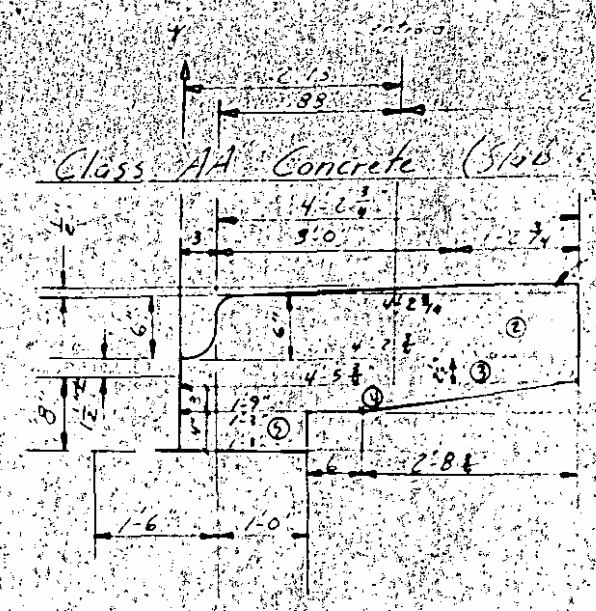
14.125 ' × 9.225 / 27 = 4.226 C.Y.

Total Cl. A. Conc:

Footing	2.51 C.Y.
Wall	4.83
Total	7.34 C.Y.

Seal Conc
= 1.89 C.Y.

2.51 C.Y. Footing



X-Sect. Area Curb

① $\frac{1.2292 + 1.2292}{2} \times 0.0417 = 0.1138$ Sq. Ft.

② 1.2292 × 0.5000 = 2.1146

③ 1.4792 × 0.2083 = 0.9330

④ $\frac{1.4792 + 1.7500}{2} \times 0.2500 = 0.7987$

⑤ 1.2500 × 0.3333 = 0.4166

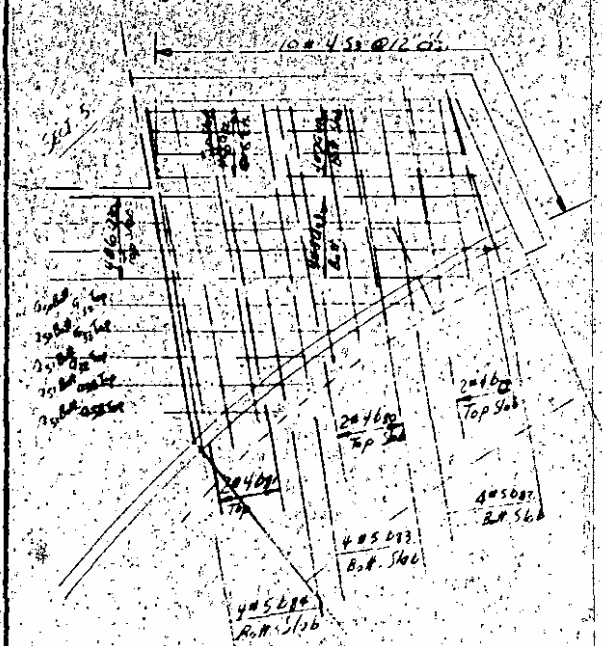
4.3567 × * 8.53

* Curb Extended 9.096 along F.C. (L.P.)
Radius of Center of Area of Curb
$\frac{28.12}{30.00} \times 9.096 = 8.53$ Length to Vol. of Cur.

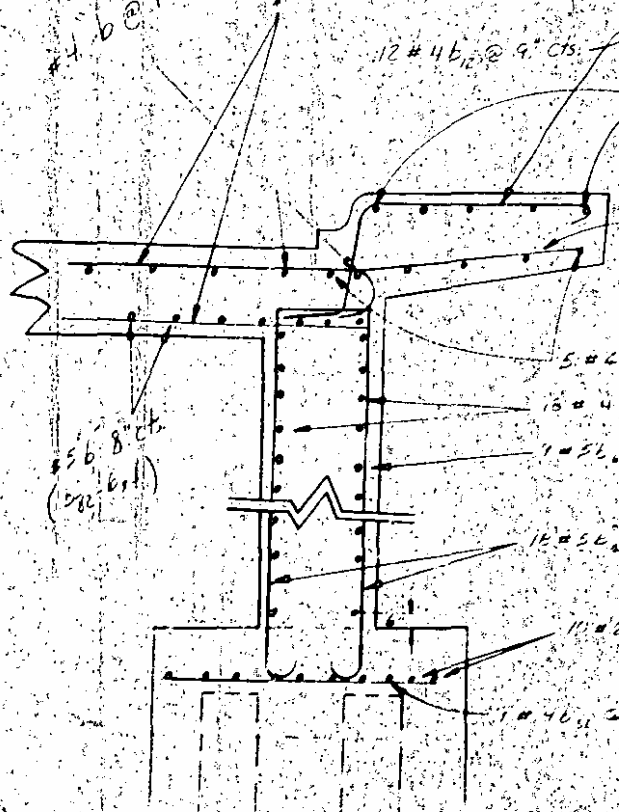
(Additional)

Weight

27 #
169
72
200
196
13
53
36
70
86
42 *
65 *
90 *
35 *
37 *
5
8
11
19
25
33
17 *
2
/

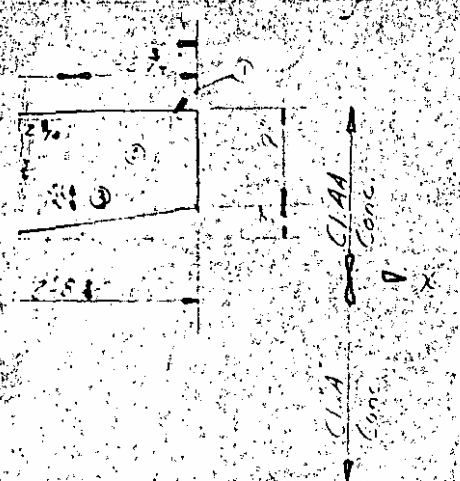


Note: 5 # 7 b15 in Cap & Wall - located 3" Cl. from Bottom 11'-5" (Field Bend as necessary)



SECTION X-X

(Slab Overhang)



1138 Sq. Ft.

1146

9330

7787

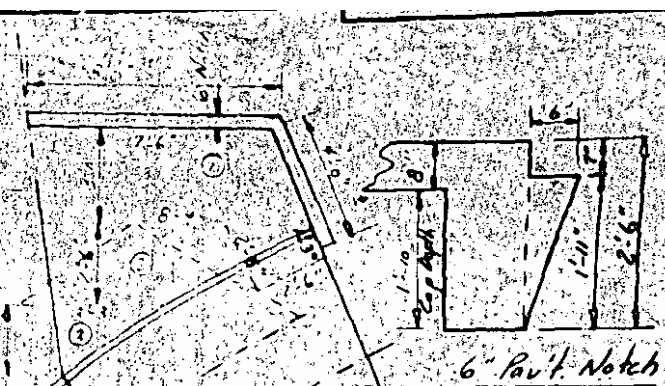
4166

3567 × 8.53/27 = 1.38 C.Y. Cl. AA

Reg. F.C. (R=30.0')
of Curb Sec. 1 = 28.12'

Length to be used to Compute
Vol. of Conc. in Curb & D.H. Sect.

Cap Section
Pav't Notch



① 8.33 + 3.25 / 2 × 2.50 × 0.6667 = 15.831 Cu. Ft. (8" Slab)

② 8.33 + 3.25 / 2 × 2.50 × 0.6667 = 7.650 (")

③ 5.25 + 2.17 × 0.6667 = 2.351 (")

7.50 + 8.33 / 2 × 3.00 × 1.8333 = 43.532 (Cap Joining Sect. 5)

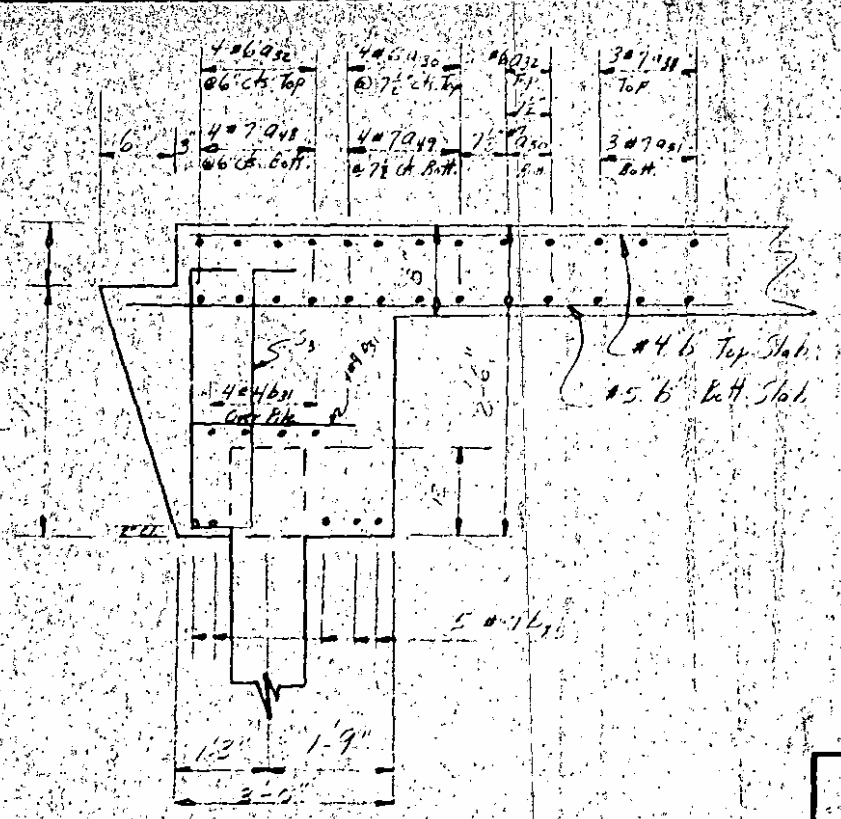
1.25 + 2.42 / 2 × 2.50 × 1.8333 = 4.410 " (Cap Along End)

4.167 / 2 × 0.50 × 12.0 = 5.250 (6" Pav't Notch)

85.524 Cu. Ft. ÷ 27 = 3.17 C.Y.

1.38 "

Total Cl. AA Conc. = 4.55 or 4.6 C.Y.



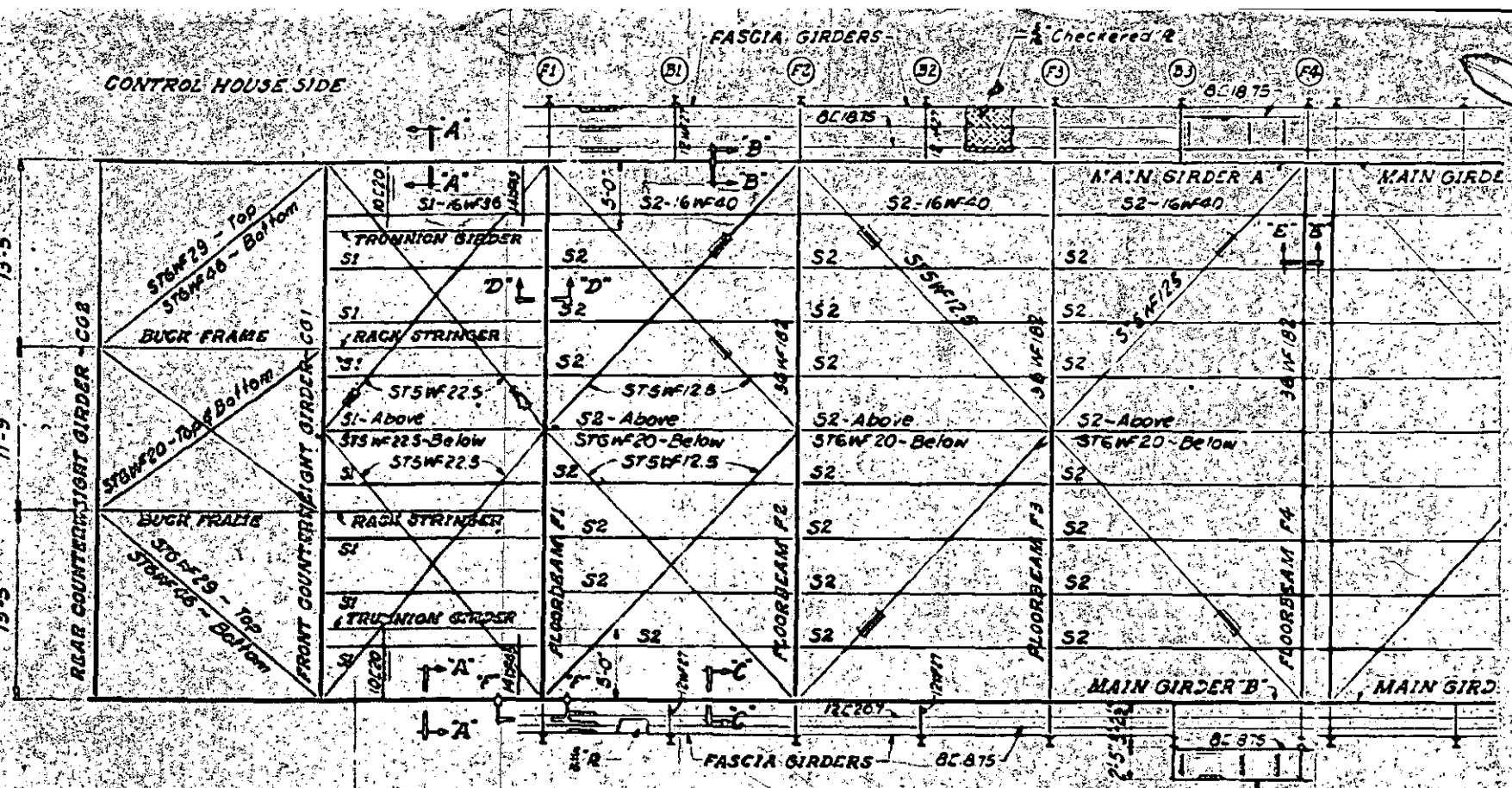
SECTION THRU CAP & SLAB

PROJECT NO. 8.1111403
PASQUOTANK COUNTY
CAMDEN
STATION: 103+68

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

West Approach Slab
(Sect. 4) Revision

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



FRAMING PLAN

ELEVATION

TRUNNION REACTION

MOVING		STATIC		
DL = 603.4"	DL = 489.0"		DL = +459.4"	
I = 0.1"	LL = 89.1"		LL = -235.9"	
SWLL = 15.1"	I = 24.9"		I = -64.9"	
TOTAL = 961.8"	SWLL = 0		SWLL = -24.9"	
	TOTAL = 603.9"		TOTAL = +12.9" Min.	

L.L.S. REACTION

LL = 260.8"
I = 86.9"
SWLL = 33.3"
TOTAL = 412.0"

BRIDGE FLOORING NOTES

NOTE "A" — 5" Steel Open Grid Floor 5 I-B. See Special Provisions.

NOTE "B" — 3/8 Armored Grid Floor 3" I-B (with trim Rs). Galvanized. See S

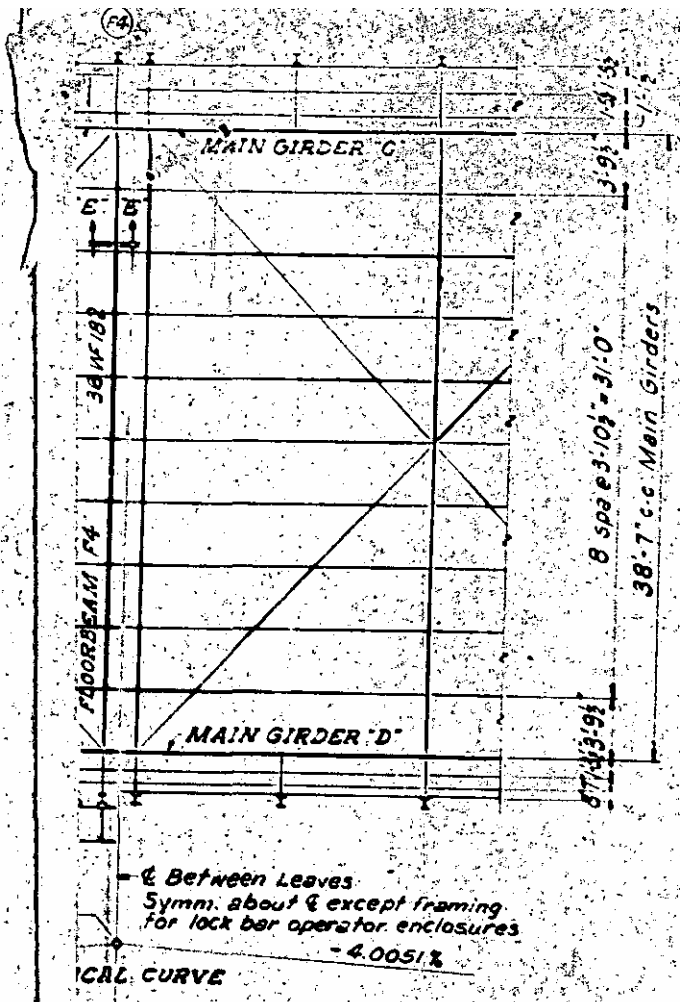
NOTE "C" — Cost of concrete in armored in contract price for Steel Grid Floorin

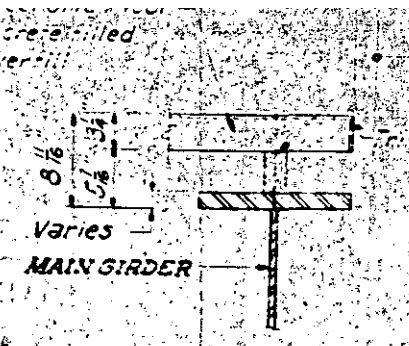
NOTE "D" — Steel Grid Flooring shall be riser bars in accordance with manufac except that 5/16" welds shall be used inste

Br. NO. 158-11-35
County Pasquotank (Bascule Span Section)

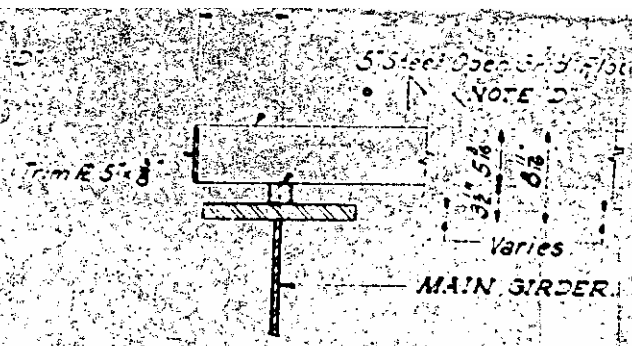
MAIN GIRDER STRESS TABLE

Point	Shear (kips) DL	LL	I	SWLL	DL+20%	DL+LL+I+SWLL	Max.	Shear Stress	Moment (ft-kips) DL	LL	I	SWLL	DL+20%	DL+LL+I+SWLL	Max.	S.M. Reqd.	Section Provided	Inertia in.⁴	S.M. in.³	Stress k.s.i.
F4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Web PL 36 x 7/16 Flg. PLs 14 x 1	11284	593.9	—
B3	16.9	53.1	15.9	3.1	20.3	89.0	89.0	5.34	190.7	401.0	120.3	22.9	156.8	674.9	674.9	480.1	Web PL 38.08 x 7/16 Flg. PLs 14 x 1	12104	633.9	12.78
F3	35.9	65.7	19.7	4.3	44.3	126.6	126.6	6.51	291.4	761.9	228.6	49.8	349.7	1331.7	1331.7	877.3	Web PL 44.44 x 7/16 Flg. PLs 14 x 1½	25357	1069.0	14.95
B2	40.1	77.1	23.1	5.5	48.1	145.9	145.9	6.05	634.4	1175.6	352.7	85.7	761.3	2248.4	2248.4	1481.2	Web PL 55.11 x 7/16 Flg. PLs 14 x 2	51764	1751.4	15.41
F2	61.2	87.1	26.1	7.1	73.4	181.5	181.5	5.91	1006.7	1608.2	482.4	135.2	1208.0	3232.5	3232.5	2129.6	Web PL 70.16 x 7/16 Flg. PLs 14 x 2	85490	2305.5	16.82
B1	65.5	95.0	28.7	9.0	78.4	198.8	198.8	3.55	1572.5	2141.0	625.2	209.3	1887.0	4548.0	4548.0	2996.2	Web PL 89.69 x 3/8 Flg. PLs 14 x 2	155277	3314.7	16.46
F1	181.[illegible]	[illegible]	50.2	10.3	145.7	262.7	262.7	3.39	2117.9	2728.6	758.6	283.9	2541.5	5889.0	5889.0	3879.7	Web PL 103.22 x 3/4 Flg. PLs 14 x 2	223,731	4173.3	16.93
[illegible]	[illegible]	[illegible]	[illegible]	10.5	147.8	265.5	265.5	3.44	2360.6	2830.6	778.4	297.1	2832.7	6267.3	6267.3	4128.9	Web PL 102.79 x 3/4 Flg. PLs 14 x 2	221612	4150.4	18.12
[illegible]	[illegible]	133.0	28.1	—	332.2	618.1	618.1	4.14	3873.2	3309	993	—	4653.8	4308.4	4653.8	3723.0	Web PL 99 x 1½ Flg. PLs 14 x 1½	226,182	4435.0	12.59
[illegible]	[illegible]	—	—	—	219.2	—	219.2	5.04	1606.4	—	—	—	1927.7	—	1927.7	1542.2	Web PL 58 x 3/4 Flg. PLs 14 x 1½	49368	1618.6	14.29

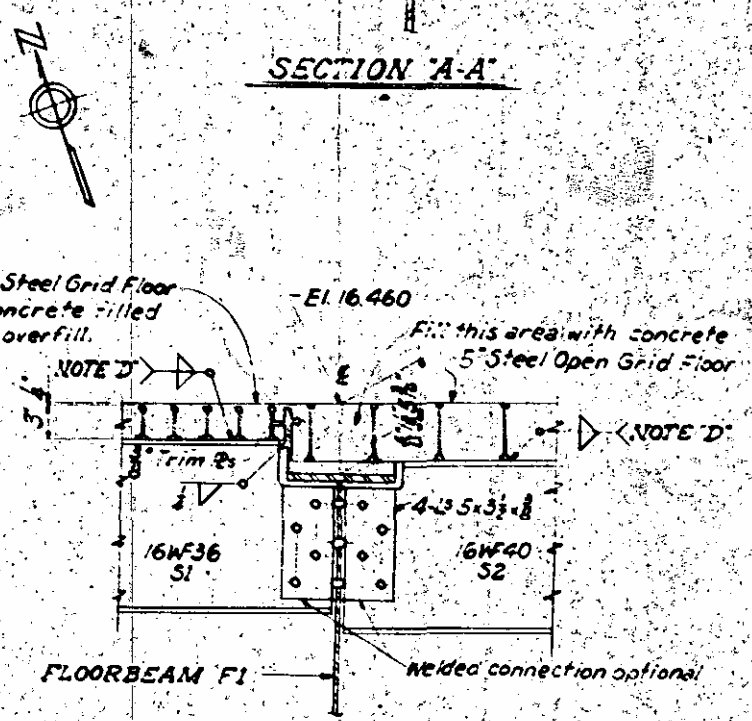




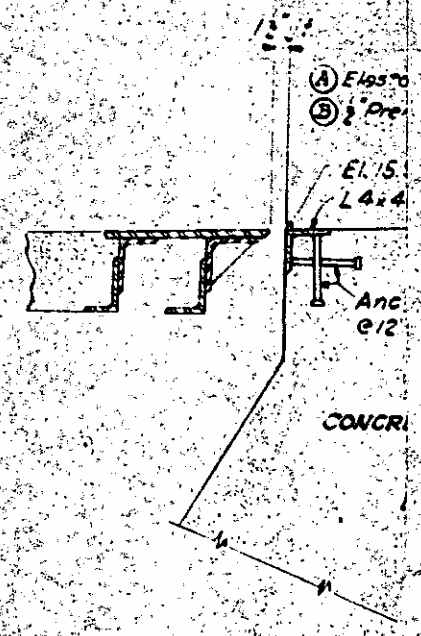
SECTION "A-A"

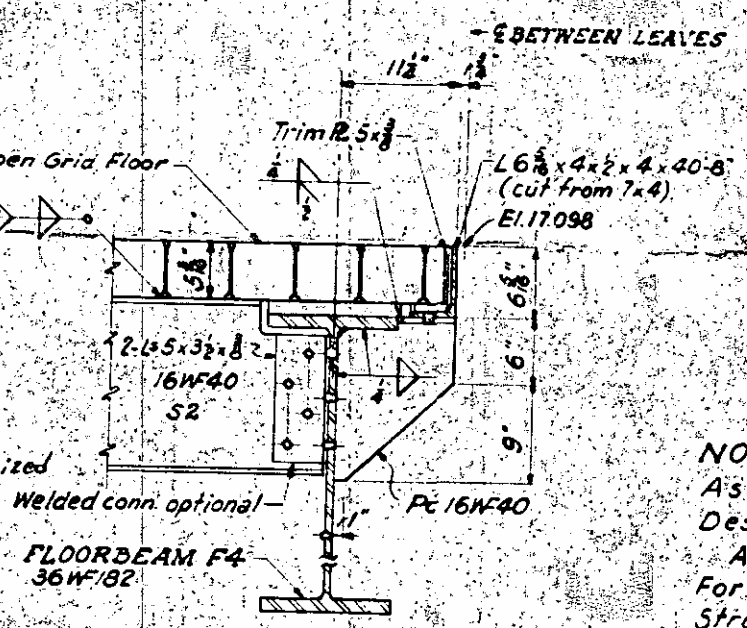


SECTION "B-B"

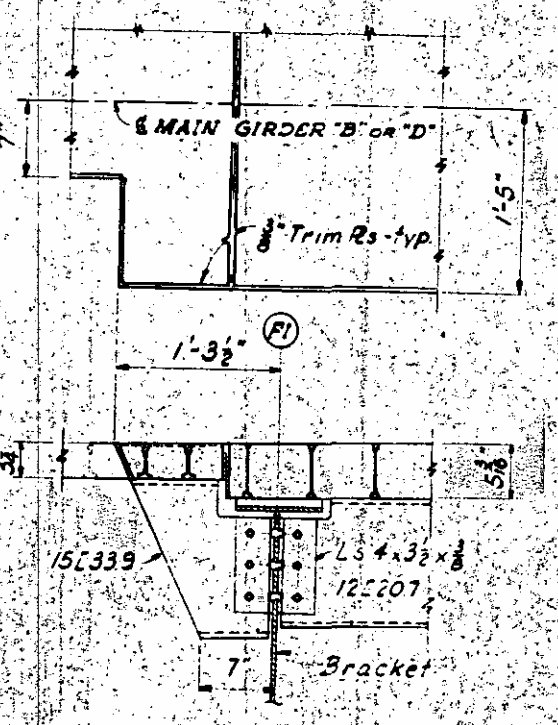


SECTION "D-D"





SECTION "E-E"



SECTION "F-F"

NOTES

Open Grid Floor 5" I-Beam Lok (with Trim ℞s). Galvanized
13 10 ns.
d Grid Floor 3" I-Beam Lok with ¼" over fill
lvanized. See Special Provisions.
oncrete in armored floor shall be included
Steel Grid Flooring.
Flooring shall be welded to stringers and
nce with manufacturer's specifications
shall be used instead of ¼"

M.	Stress k.s.i.
93.9	—
33.9	12.78
19.0	14.95
51.4	15.41
25.5	16.82
14.7	16.46
3.3	16.93
0.4	18.12
5.0	12.59
6	14.29

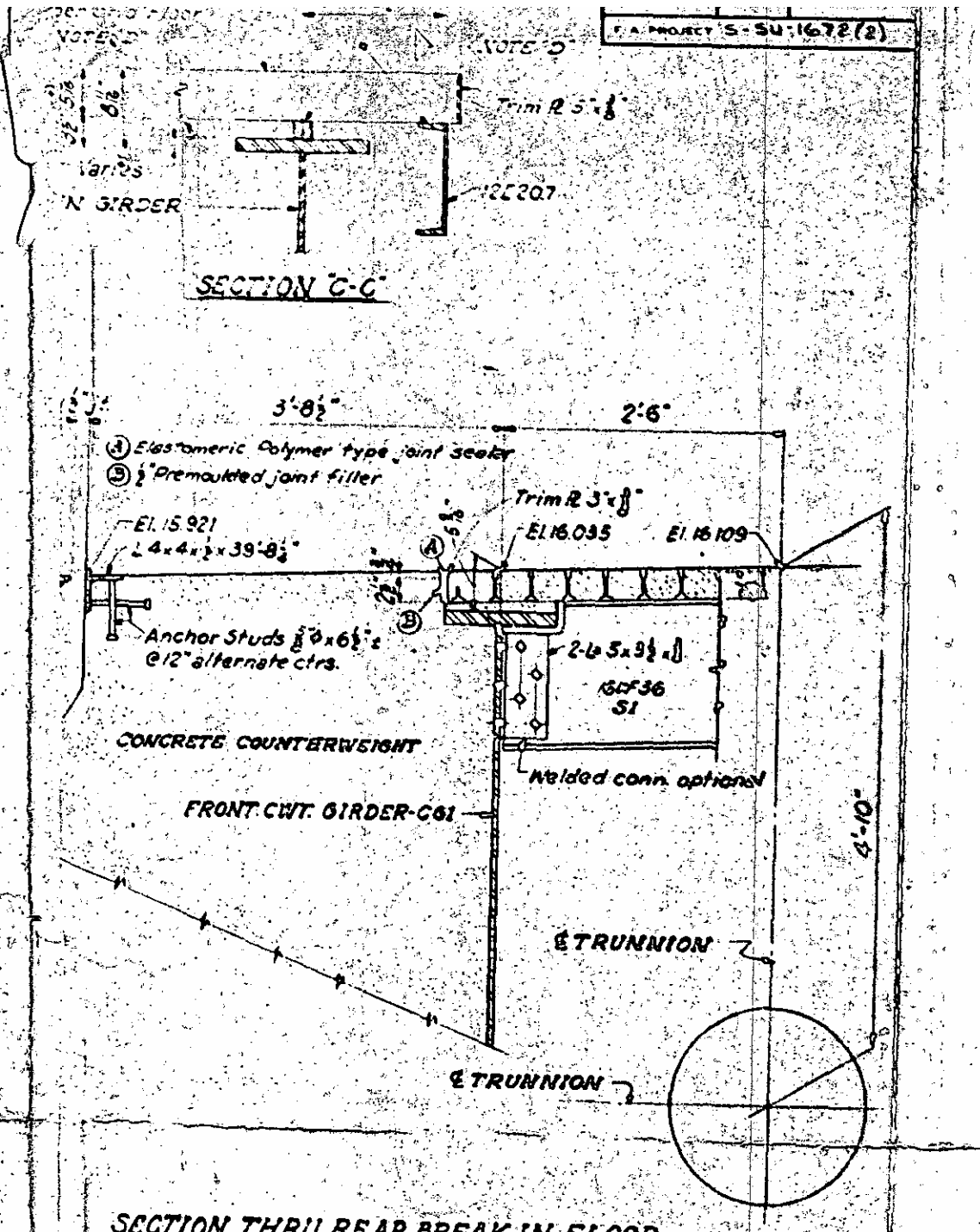
NOTES

Assumed Live Loading - HS20-44 or A
Design Specifications - AASHO Standa
AASHO Standard Specifications for M
For other design data and general note
Structural Steel - ASTM A36
Connections: (A) Bolts - ⅞" ϕ High Strength
(B) Welding - In accordance w
Welding Society for Welded
Open Holes - 15/16" ϕ unless noted otherwise
General Reaming will be required. See S
Complete shop assembly of the bascule
and handrail posts need not be include
All shop splices in flange and web pla
plates to web plates. No splice other
shown on the plans will be permitted.
Submission of shop plans for approval shal
required. See Special Provisions.

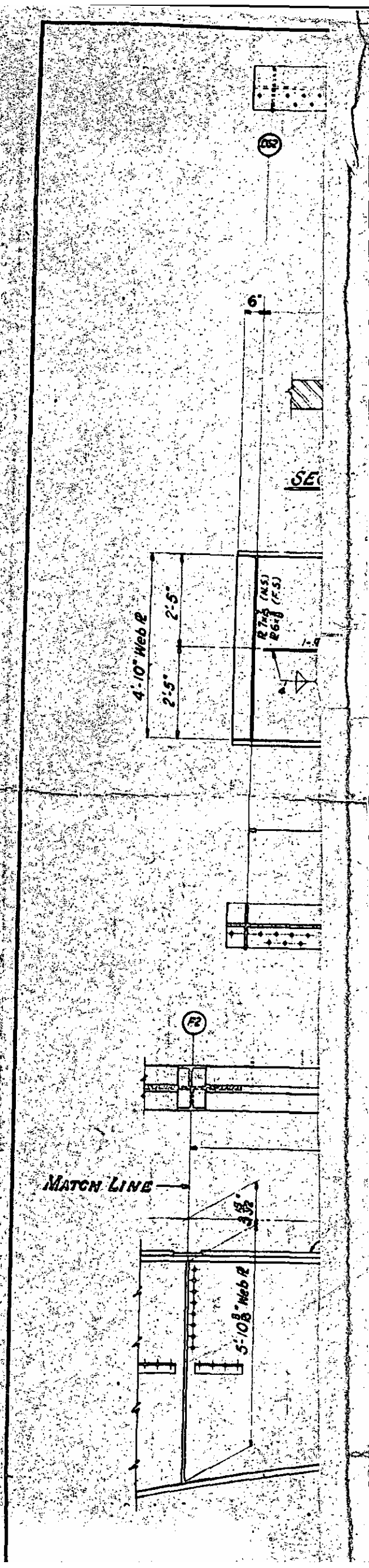
BILL OF MATERIAL	
Structural Steel, Lbs.	434
5" Steel Open Grid Floor, Sq. Ft.	[illegible]
3¼" Armored Grid Floor, Sq. Ft.	[illegible]
1" Steel Grating, Sq. Ft.	[illegible]

HOPKINS TRUNNION BASCULE SPAN, PAT. NO. 2,724,135
DESIGNED BY L.O. HOPKINS & SONS, NASHVILLE, TENN.

F.A. PROJECT S-SU-1672(2)



SECTION THRU REAR BREAK IN FLOOR



0-44 or Alternate Loading
10 Standard Specifications for Highway Bridges (1969) and
tions for Movable Highway Bridges (1953)
neral notes, see Sheet S-N.

Strength Bolts (friction type) ASTM A325 unless noted otherwise.
ordance with current Standard Specifications of the American
for Welded Highway and Railway Bridges.
otherwise
red. See Special Provisions.
bascule leaves shall be required except that the handrails
be included in the shop assembly. See Special Provisions.
d web plates shall be made prior to welding flange
ice other than those
ermitted.
oroval shall be
s.

PROJECT NO. 8.1111403
PASQUOTANK
CAMDEN COUNTY
STATION 103+68

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

BASCULE SPAN
GENERAL FRAMING PLAN
MISCELLANEOUS SECTIONS
MAIN GIRDER STRESS TABLE

L. O. HOPKINS & SONS, INC.
CONSULTING ENGINEERS NASHVILLE, TENN.

REVISIONS

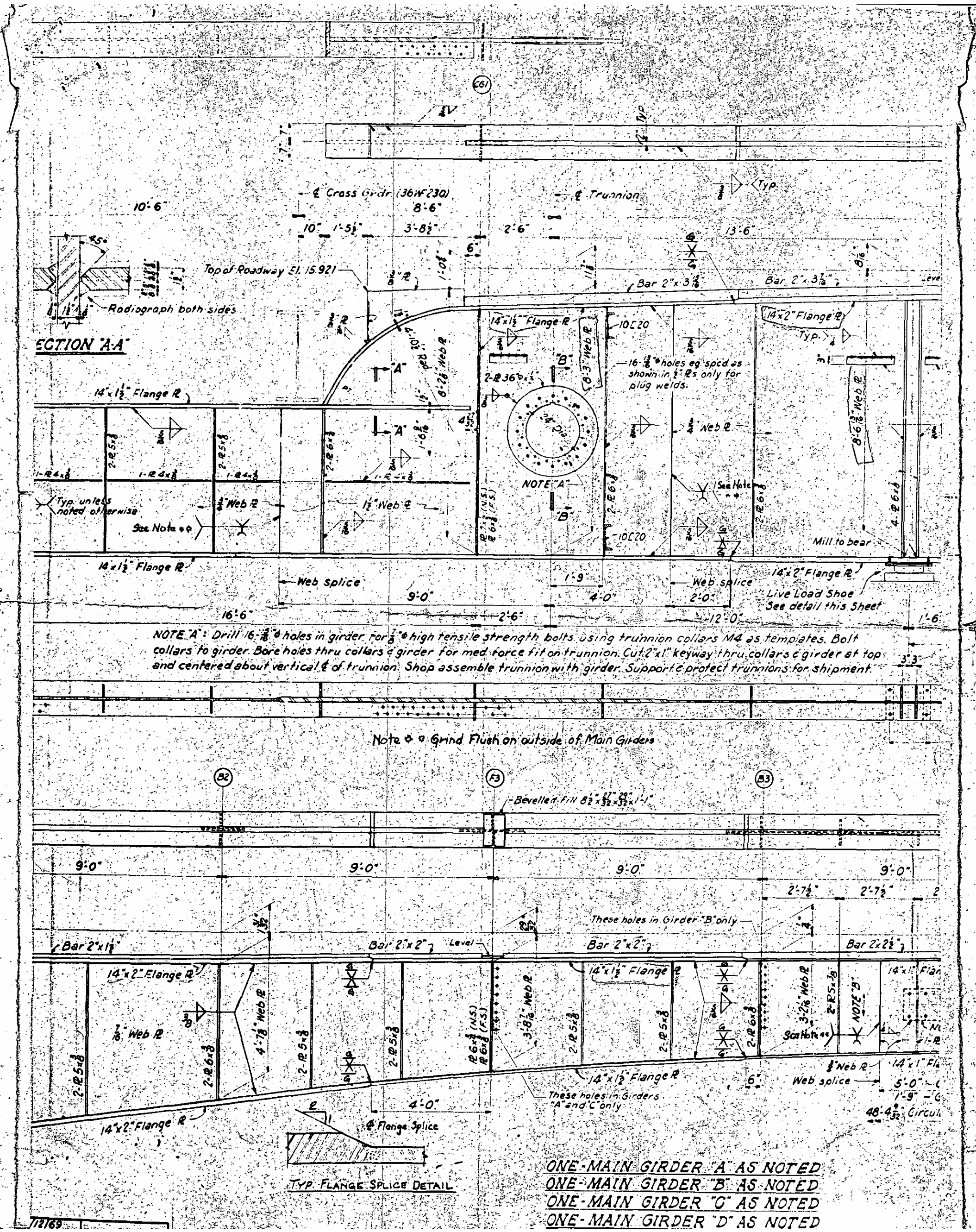
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

AL

	434,099
	3,045
	2,724,135
	797

2,724,135
E, TENN.

S1


SECTION "A-A"
℄ Cross Grdr (36WF230)
℄ Trunnion
Top of Roadway El. 15.921
Radiograph both sides
Bar 2"x 3 7/16"
14"x1½" Flange PL
14"x2" Flange PL
Web splice
Live Load Shoe
See detail this Sheet
Mill to bear
See Note
Typ. unless noted otherwise
NOTE "A": Drill 16-7/8"ϕ holes in girder for 7/8"ϕ high tensile strength bolts using trunnion collars M4 as templates. Bolt collars to girder. Bore holes thru collars & girder for med. force fit on trunnion. Cut 2"x1" keyway thru collars & girder at top and centered about vertical ℄ of trunnion. Shop assemble trunnion with girder. Support & protect trunnions for shipment.
Note ϕϕ Grind Flush on outside of Main Girders
Bevelled fill 8½"x 27/32"x 29/32"x 1'-1"
These holes in Girder "B" only
These holes in Girders "A" and "C" only
℄ Flange Splice
TYP. FLANGE SPLICE DETAIL
ONE-MAIN GIRDER "A" AS NOTED
ONE-MAIN GIRDER "B" AS NOTED
ONE-MAIN GIRDER "C" AS NOTED
ONE-MAIN GIRDER "D" AS NOTED

	N.C.	8.1111403
F.A. PROJECT	S-SU-1672(2)	

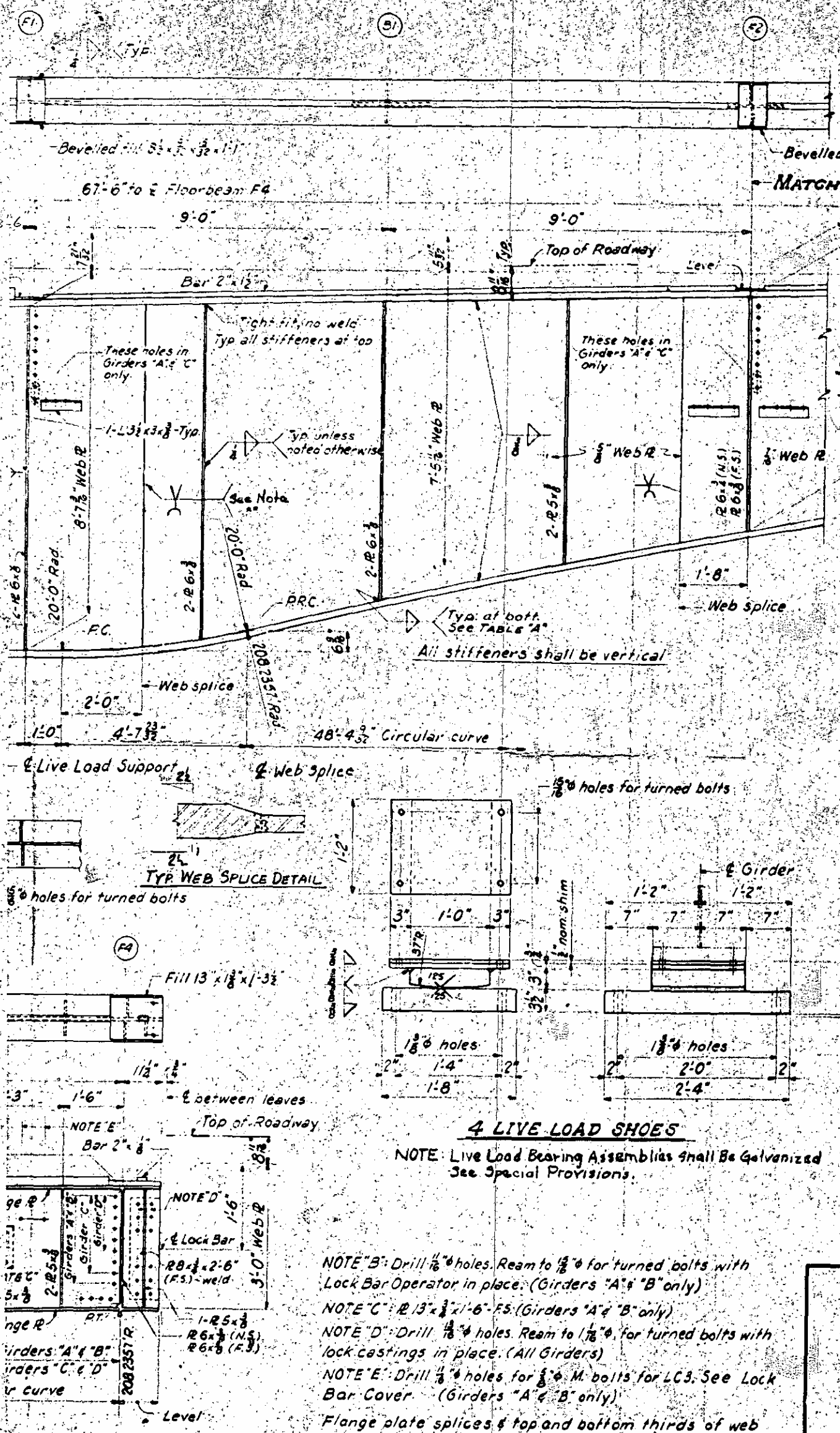


TABLE "A" – STIFFENER TO FLANGE FILLET WELD	
FLANGE THICKNESS	FILLET WELD SIZE
2"	5/8"
1½"	5/8"
1"	11/16"

4 LIVE LOAD SHOES

NOTE: Live Load Bearing Assemblies Shall Be Galvanized See Special Provisions.

NOTE "B": Drill 11/16" ϕ holes. Ream to 15/16" ϕ for turned bolts with Lock Bar Operator in place. (Girders "A" & "B" only)

NOTE "C": ℞13"×3/4"×1'-6"-F.S. (Girders "A" & "B" only)

NOTE "D": Drill 11/16" ϕ holes. Ream to 1 1/16" ϕ for turned bolts with lock castings in place. (All Girders)

NOTE "E": Drill 11/16" ϕ holes for 5/8" ϕ M. bolts for LC3. See Lock Bar Cover. (Girders "A" & "B" only)

Flange plate splices & top and bottom thirds of web plate splices shall be radiographically inspected.

PROJECT NO. 8.1111403
PASQUOTANK
CAMDEN COUNTY
STATION 103+68

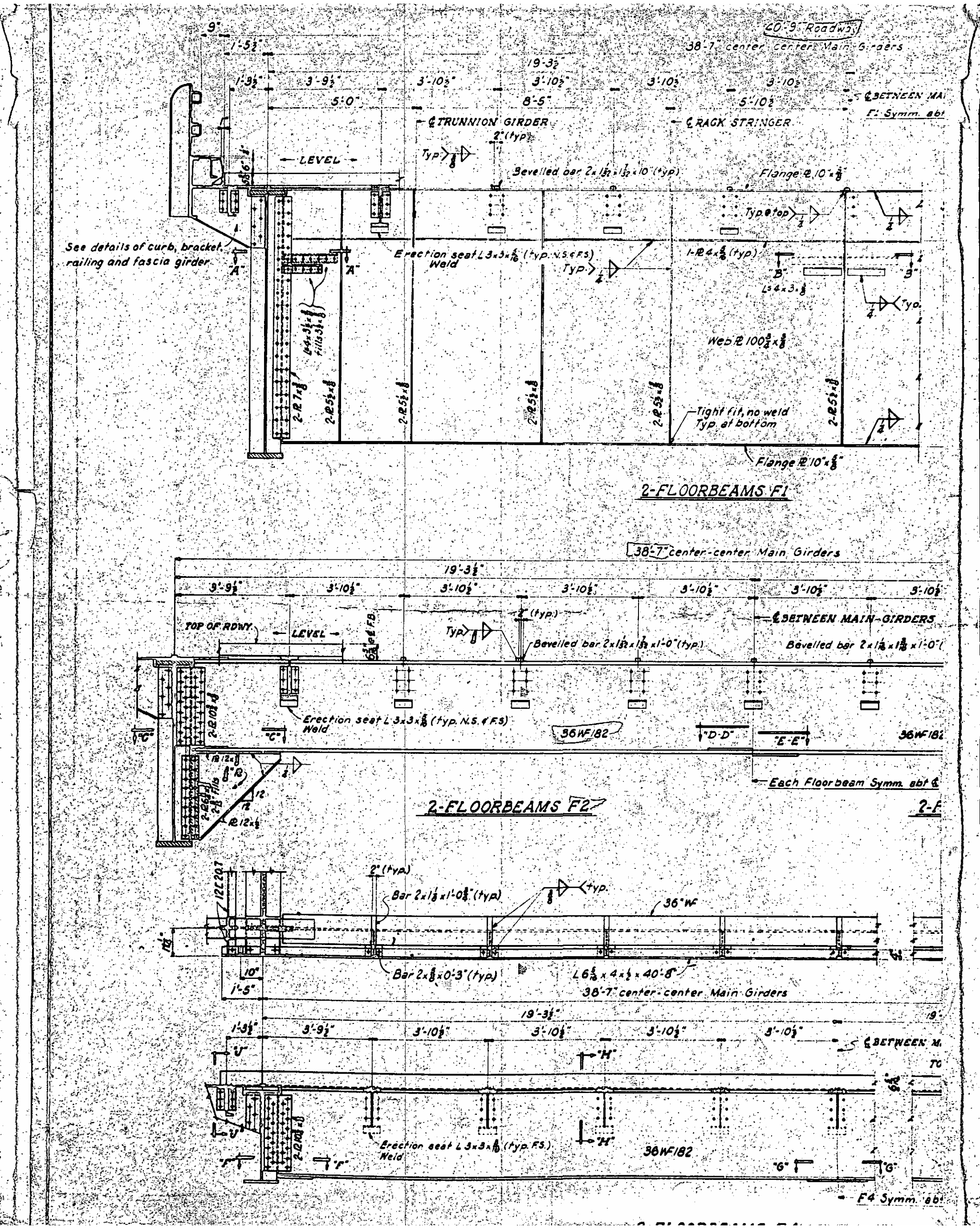
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

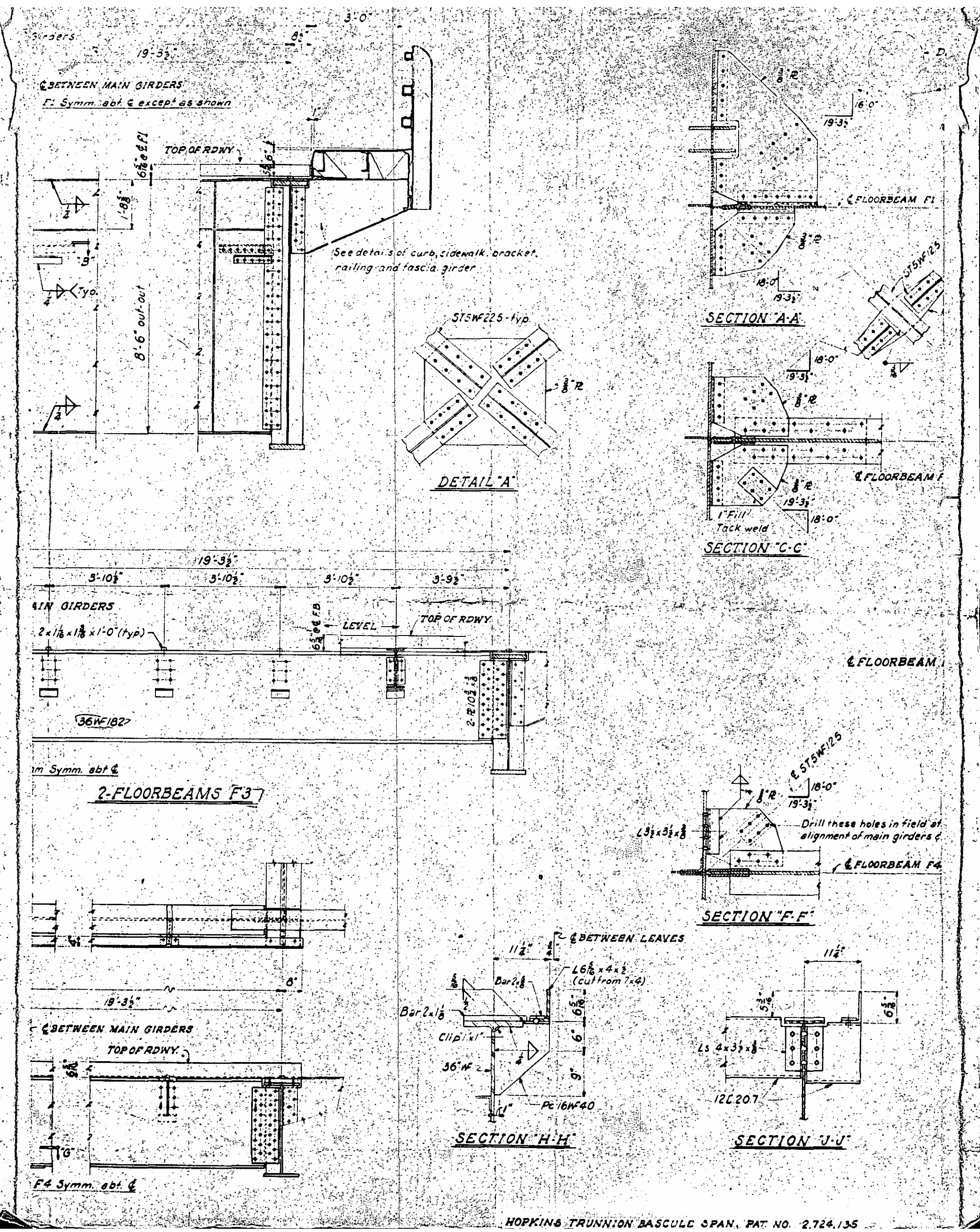
BASCULE SPAN
MAIN GIRDERS

L. O. HOPKINS & SONS, INC.
CONSULTING ENGINEERS NASHVILLE, TENN.

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		

HOPKINS TRUNNION BASCULE SPAN, PAT. NO. 2,724,135
DESIGNED BY L.O. HOPKINS & SONS, NASHVILLE, TENN.


60'-9" Roadway
38'-7" center-center Main Girders
19'-3½"
9"
1'-5½"
1'-9½"
3'-9½"
3'-10½"
5'-0"
8'-5"
5'-10½"
℄ BETWEEN MAIN
F1 Symm. abt
℄ TRUNNION GIRDER
℄ RACK STRINGER
2" (typ)
Typ
LEVEL
Bevelled bar 2x1 1/32x1 1/32x10" (typ)
Flange PL 10"x⅜"
Typ. at top
See details of curb, bracket, railing and fascia girder
"A"
Erection seat L 3x3x5/16 (typ. N.S. & F.S.) Weld
1-PL 4x⅜ (typ)
"B"
Ls 4x3x⅜
Typ.
Web PL 100¾x⅜
2-PL 7x⅜
2-PL 5½x⅜
Fills 3½x⅜
Tight fit, no weld Typ. at bottom
Flange PL 10"x⅜"
2-FLOORBEAMS F1
38'-7" center-center Main Girders
19'-3½"
3'-9½"
3'-10½"
℄ BETWEEN MAIN-GIRDERS
TOP OF RDWY.
LEVEL
Bevelled bar 2x1 1/32x1 1/32x1'-0" (typ)
Bevelled bar 2x1 1/16x1 1/16x1'-0"
Erection seat L 3x3x⅜ (typ. N.S. & F.S.) Weld
36WF182
"C"
"D-D"
"E-E"
Each Floorbeam Symm. abt ℄
2-PL 10½x⅜
PL 12x⅜
PL 12x½
2-PL 6½x⅜ Fills
2-F
2-FLOORBEAMS F2
12C20.7
2" (typ)
Bar 2x1⅛x1'-0¾" (typ)
36"WF
Bar 2x⅜x0'-3" (typ)
L 6⅝x4x½x40'-8"
38'-7" center-center Main Girders
19'-3½"
1'-3½"
3'-9½"
3'-10½"
℄ BETWEEN M
"U"
"H"
Erection seat L 3x3x⅜ (typ. F.S.) Weld
36WF182
"F"
"G"
F4 Symm. abt



HOPKINS TRUNNION BASCULE SPAN, PAT. NO. 2,724,135

B.111400D

F.A. PROJECT D-6U-6672(B)

DETAIL "A"

See Rock Stringer & Trunnion Girder for Bracing connections

℄ ST5WF25

6'-0"

19'-3½"

⅜"R

FLOORBEAM F1

⅜"R

ST5WF25

19'-0"

19'-3½"

PL 9"x⅜"

SECTION "B-B"

℄ ST6WF20

18'-0"

19'-3½"

⅜"R

FLOORBEAM F2

⅜"R

1" Pin

Fillet weld

SECTION "D-D"

ST5WF25

℄ ST6WF20

18'-0"

19'-3½"

⅜"R

19'-0"

19'-3½"

FLOORBEAM F3

SECTION "E-E"

℄ ST6WF20

in field after exact girders & locks

⅜"R

FLOORBEAM F4

SECTION "G-G"

PROJECT NO. B.111400D

PASQUOTANK

CAMDEN COUNTY

STATION 103+68

STATE OF NORTH CAROLINA

STATE HIGHWAY COMMISSION

RALEIGH

BASCULE SPAN FLOORBEAMS LATERAL BRACING

L. O. HOPKINS & SONS, INC.

CONSULTING ENGINEERS NASHVILLE, TEN.

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		

Cut web, bend flange and weld (typ.)

2'-6"

4" 9"

B 3"x3"x⅜"

⅜"R

ma

typ.

typ.

ma

2'-5½"

8WF28

4" 1"

⅜"R

pb

pc

bc

1'-0⅛"

1'-0"

1'-0"

pa

⅜"R

FASCIA GIRDER

Nom. shims ¼"

PL 8"x⅜"

TYPICAL CURB, BR

AT F1, F2, F3 & F4 FOR

For details at F4

2'-6"

4" 9"

4" 1"

⅜"R

pf

⅜"R

bc

pe

bc

pd

FASCIA GIRDER

12WF27

Nom. shims ½"

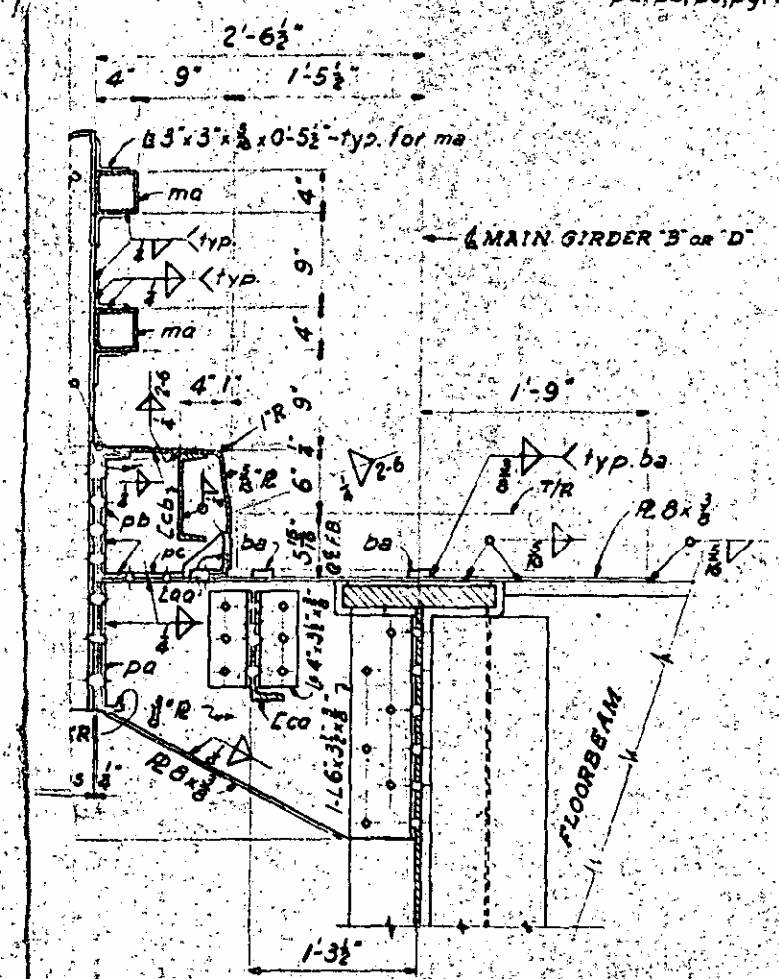
Dimensions, material or d

TYPICAL CURB, BE

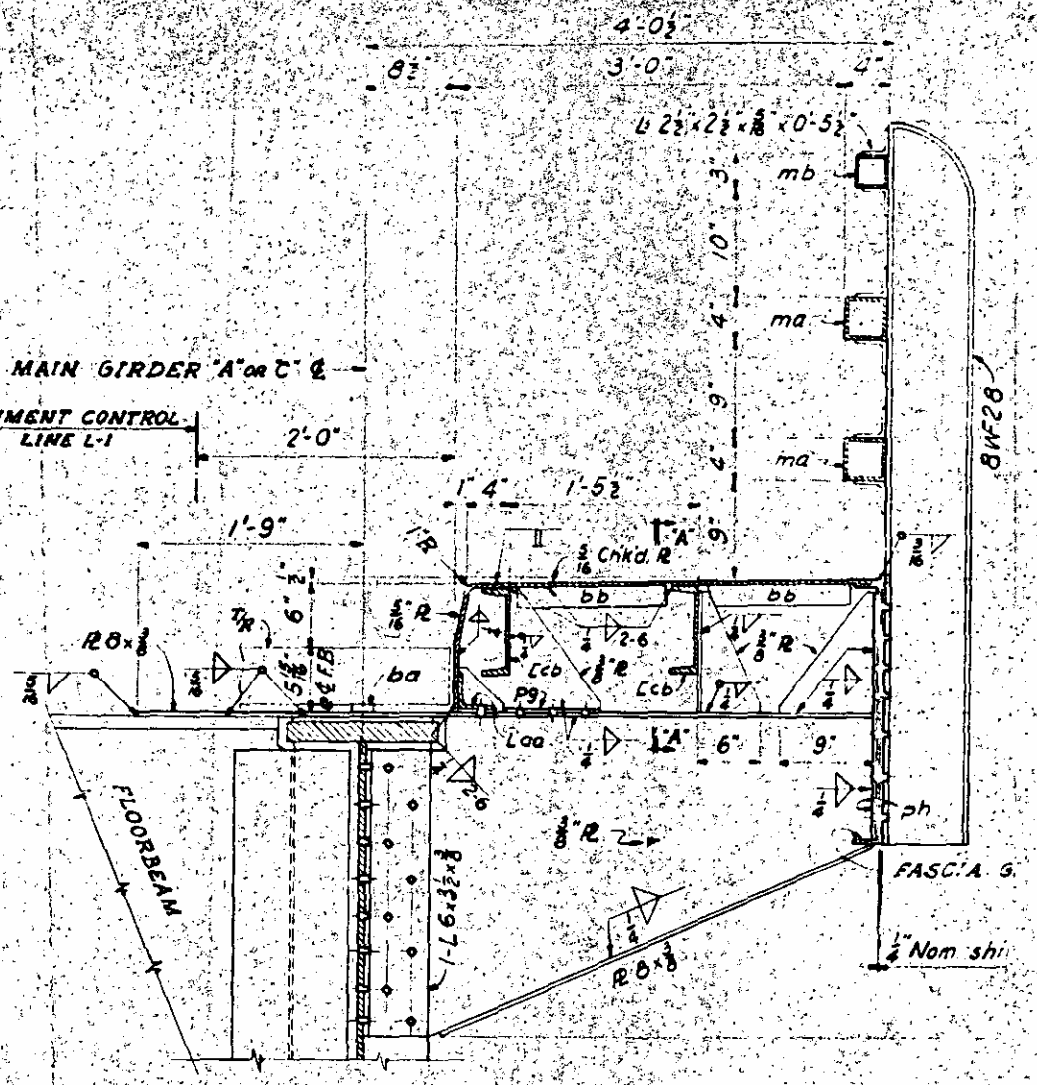
AT B1, B2 & B3 FOR

For details at B3 for

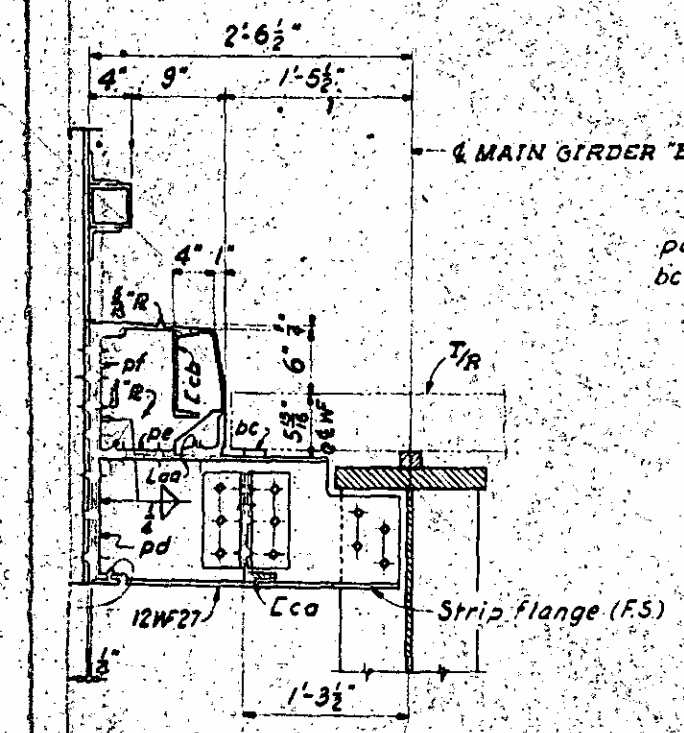
aa - L 3½ x 3½ x ⅜ with fill-bevelled as req'd
ba - Bevelled bar 2" x ⅜" avg. x 0'-8"
bb - Bar 2" x ⅝" @ 13½" centers
ca - 12 - 20.7
cb - 8 [18.75
ma - Structural tubing 4" x 4" x ⅝"
mb - Structural tubing 3" x 3" x ¼"
pa, pb, pc, pg, ph - PL 8" x ⅜"



AL CURB, BRACKET & RAILING DETAILS
F3 & F4 FOR MAIN GIRDERS "B" OR "D"
or details at F4 for Girder "B" see Enclosure Details

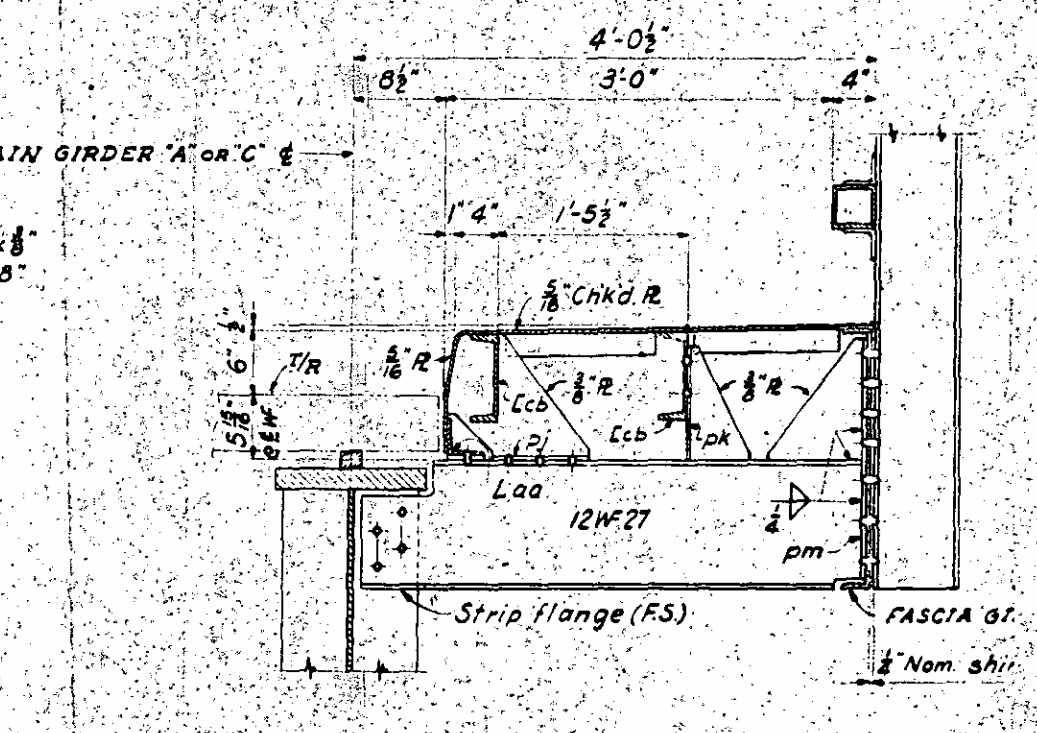


TYPICAL CURB, BRACKET, SIDEWALK & RAILING DETAILS
AT F1, F2, F3 & F4 FOR MAIN GIRDERS "A" OR "C"
For details at F4 for Girder "A" see Enclosure Details



s, material or details not shown same as above

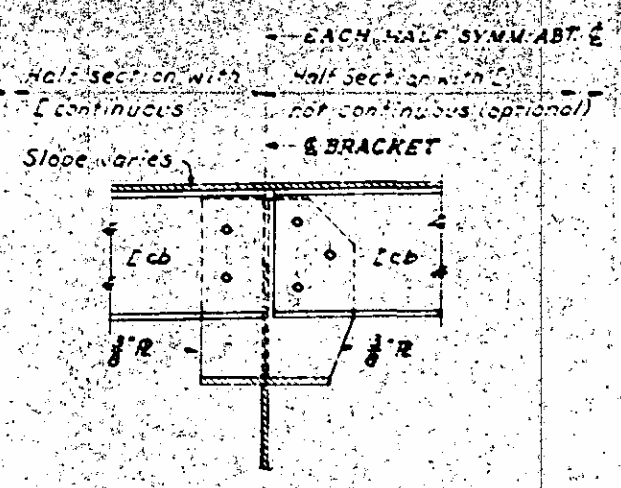
CA - CURB, BEAM & RAILING DETAILS
B2 & B3 FOR MAIN GIRDERS "B" OR "D"
details at B3 for Girder "B" see Enclosure Details



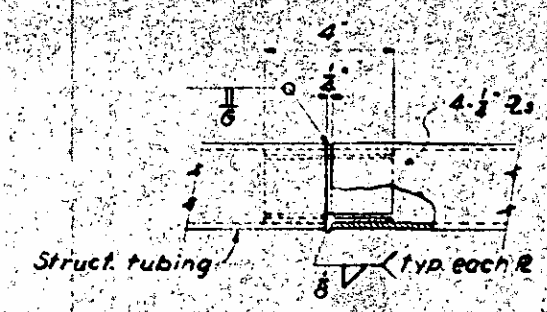
Dimensions, material or details not shown same as above

TYPICAL CURB, BEAM, SIDEWALK & RAILING DETAILS
AT B1, B2 & B3 FOR MAIN GIRDERS "A" OR "C"
For details at B3 for Girder "A" see Enclosure Details

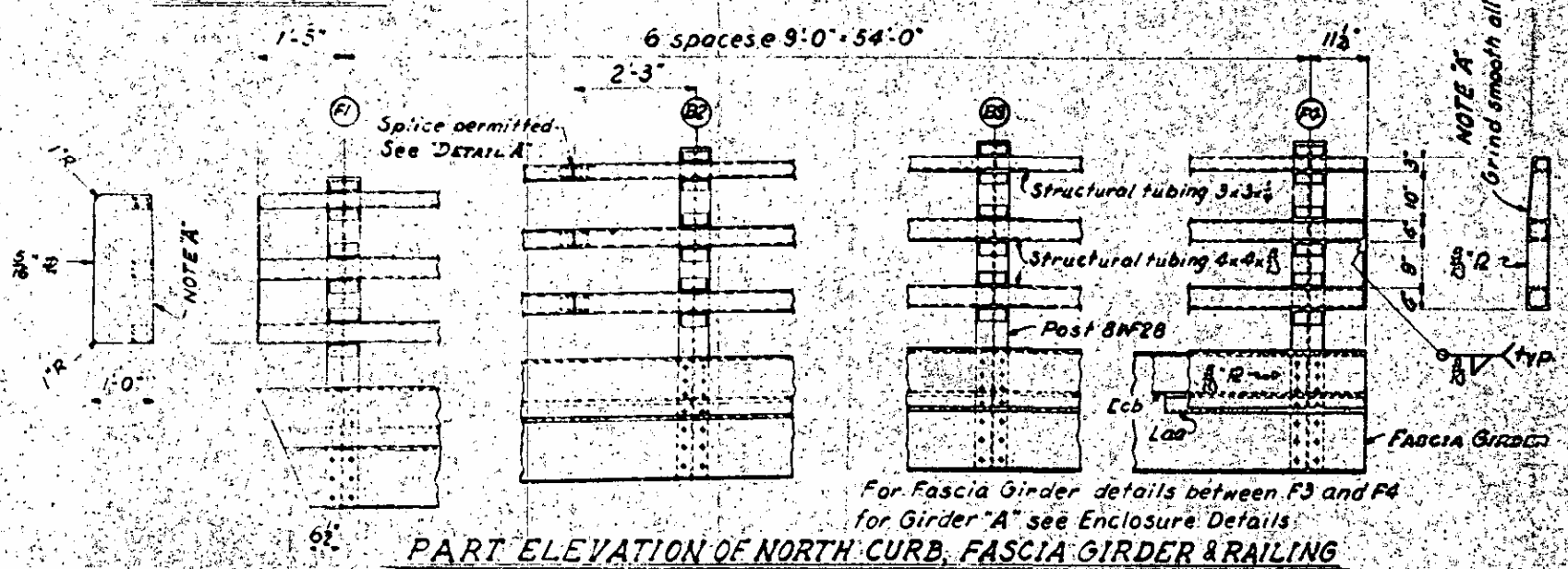
F. A. PROJECT S-SU-1672(2)



SECTION "A-A"

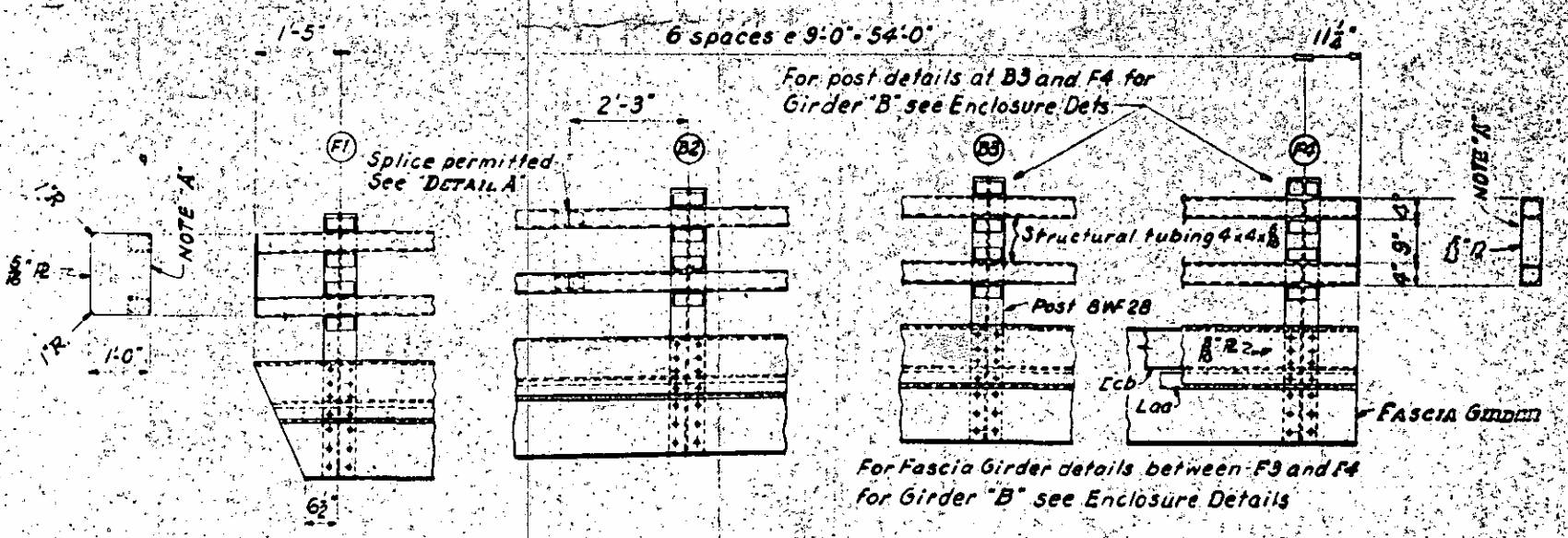


DETAIL "A"



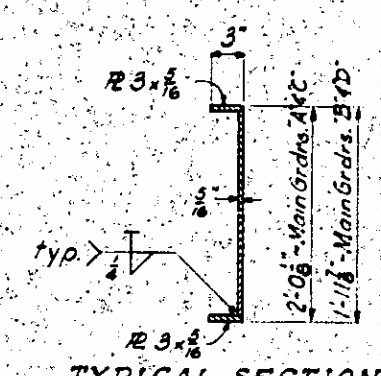
For Fascia Girder details between F3 and F4 for Girder "A" see Enclosure Details

PART ELEVATION OF NORTH CURB, FASCIA GIRDER & RAILING



For Fascia Girder details between F3 and F4 for Girder "B" see Enclosure Details

PART ELEVATION OF SOUTH CURB, FASCIA GIRDER & RAILING



TYPICAL SECTION
FASCIA GIRDER

PROJECT NO. 8.1111401
PASQUOTANK
CAMDEN COUNTY
STATION 103+68

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

BASCULE SPAN
TYPICAL DETAILS
CURBS, SIDEWALK, BRACKETS, RAILING, FASCIA GIRDERS

L. O. HOPKINS & SONS, INC.
CONSULTING ENGINEERS NASHVILLE, TENN.

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

HOPKINS TRUNNION BASCULE SPAN, PAT. NO. 2724135
DESIGNED BY L. O. HOPKINS & SONS, NASHVILLE, TENN.

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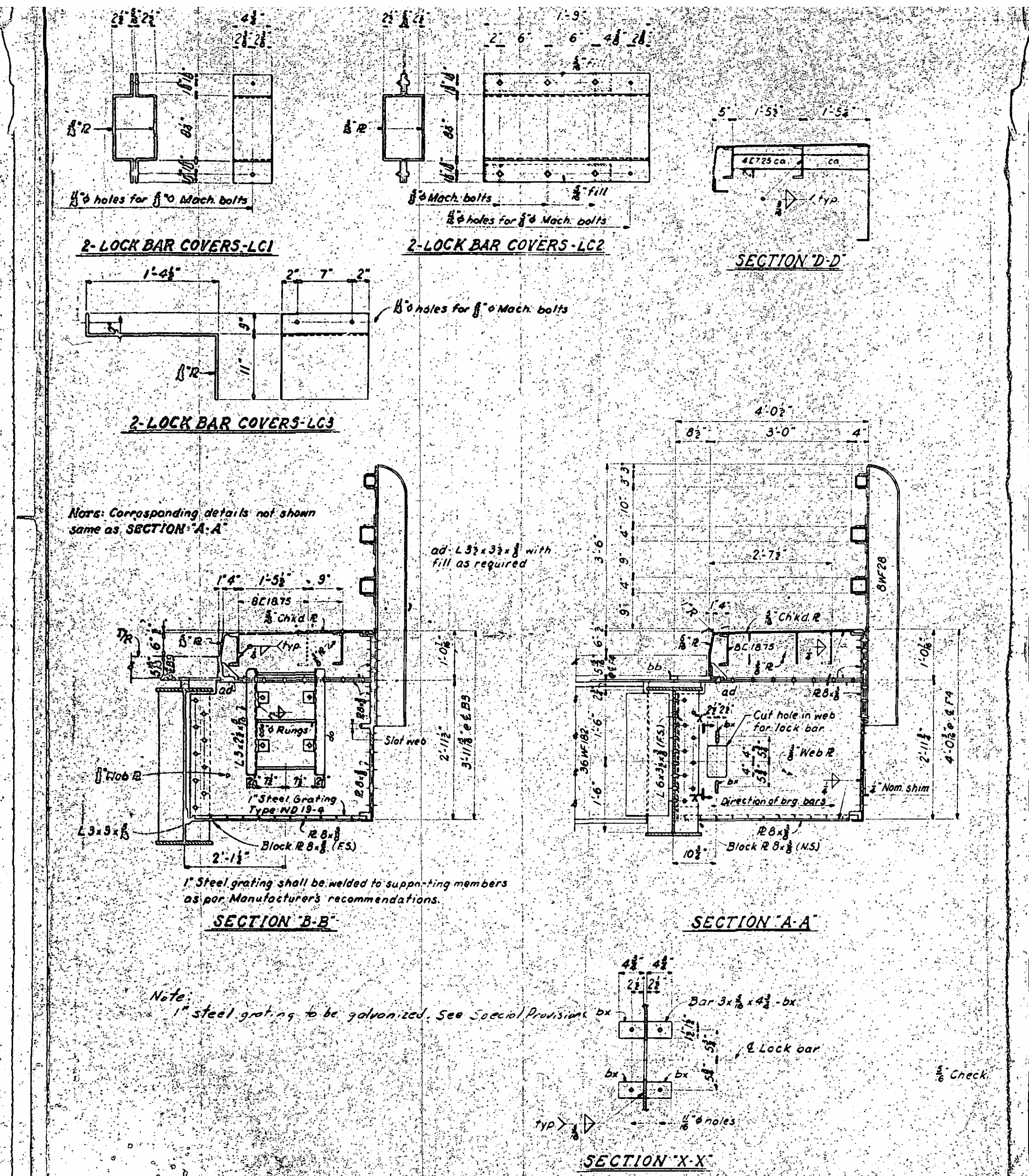
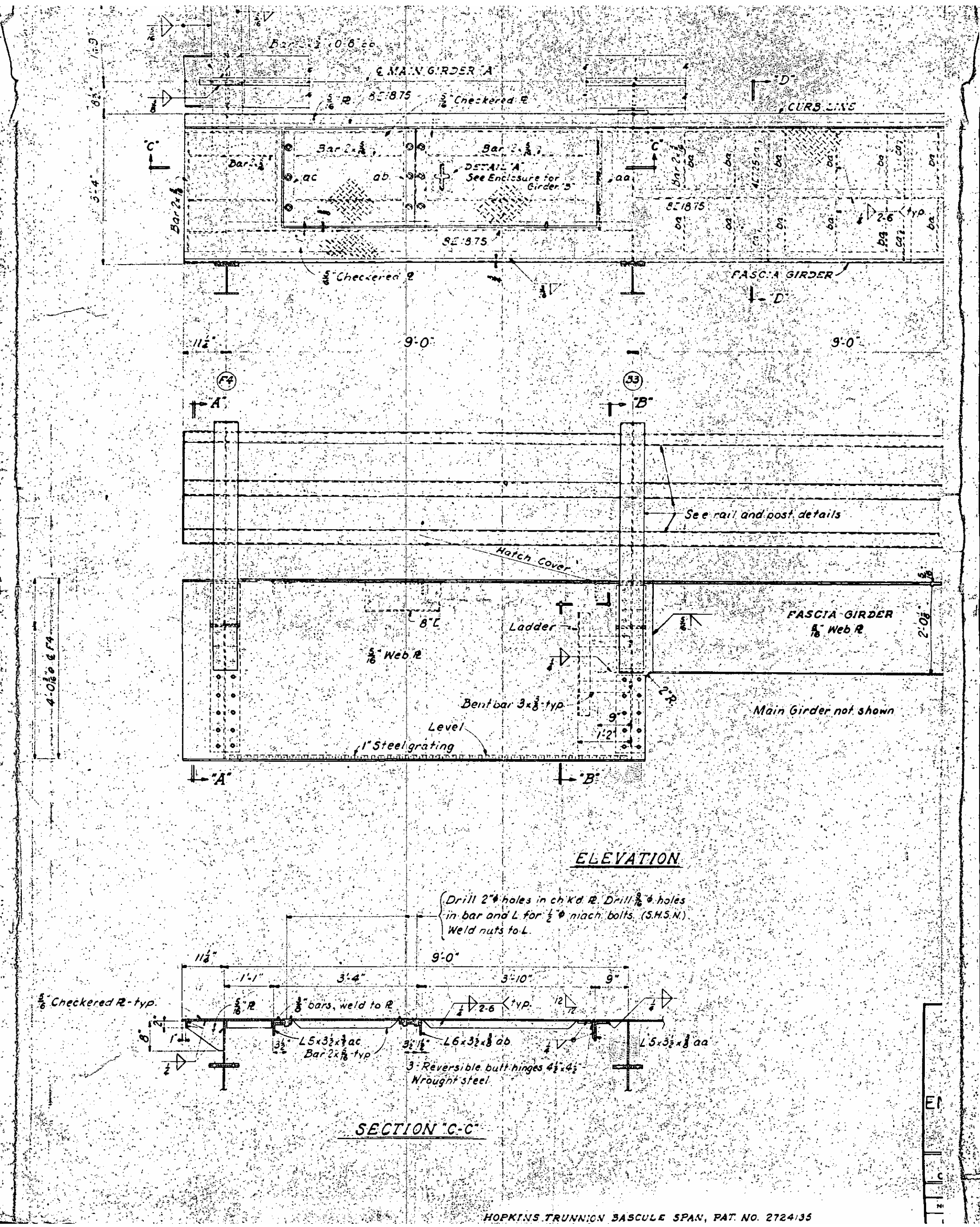
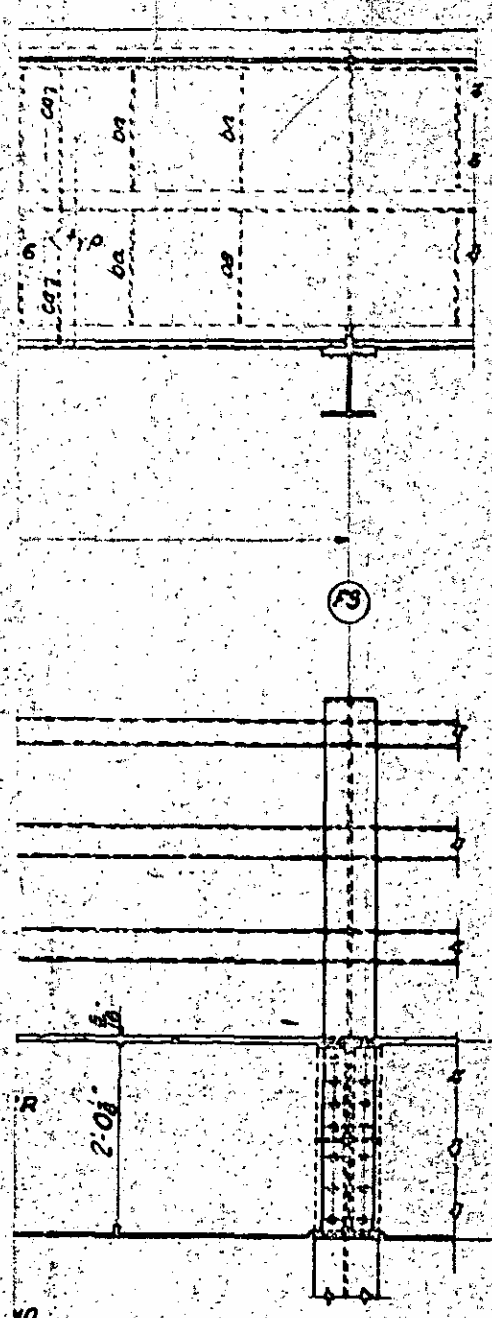
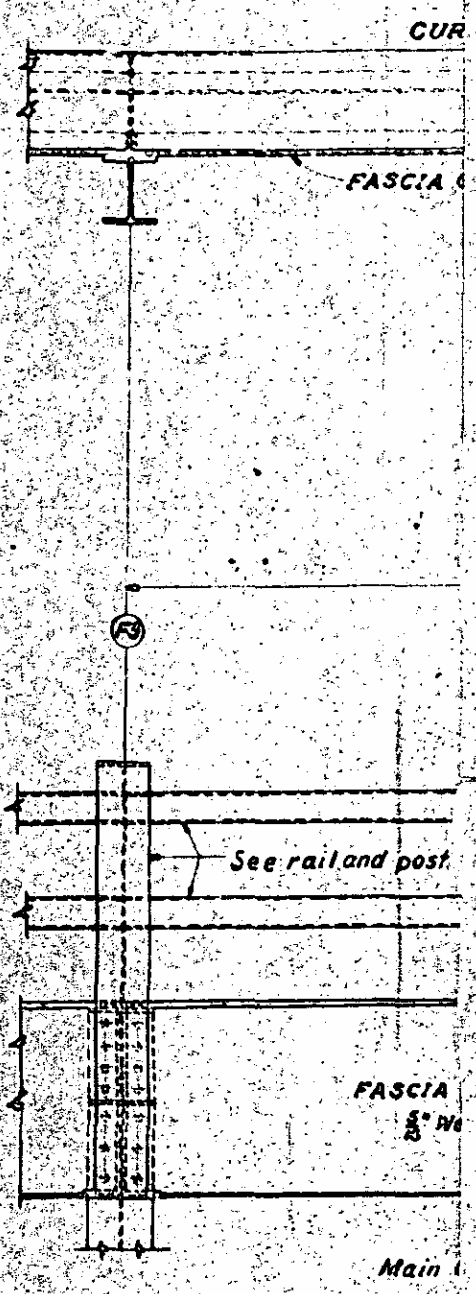

2-LOCK BAR COVERS-LC1
2-LOCK BAR COVERS-LC2
SECTION "D-D"
2-LOCK BAR COVERS-LC3
Note: Corresponding details not shown same as SECTION "A-A"
ad-L 3½x3½x⅜ with fill as required
Slot web
1" Steel Grating Type ND 19-4
Block PL 8x⅜ (F.S.)
1" Steel grating shall be welded to supporting members as per Manufacturer's recommendations.
SECTION "B-B"
Cut hole in web for lock bar
Direction of brg. bars
Block PL 8x⅜ (N.S.)
SECTION "A-A"
Note: 1" steel grating to be galvanized. See Special Provisions
Bar 3x5/16x4¾-bx
℄ Lock bar
5/16" Check
11/16" ϕ holes
SECTION "X-X"

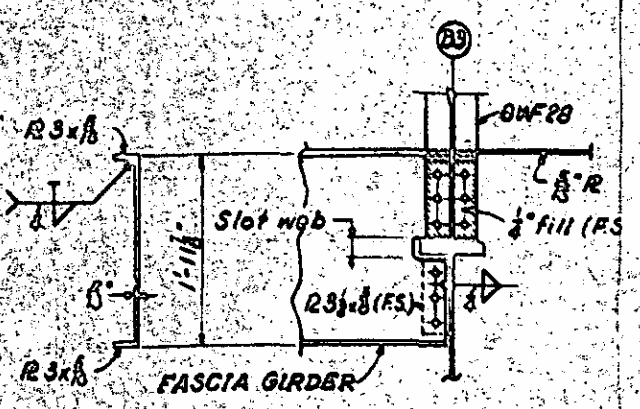


HOPKINS TRUNNION BASCULE SPAN, PAT. NO. 2724135

F.A. PROJECT S-SU-1678(2)







SECTION "D-D"

PROJECT NO. 8.1111403
PASQUOTANK
CAMDEN COUNTY
STATION 103+68

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

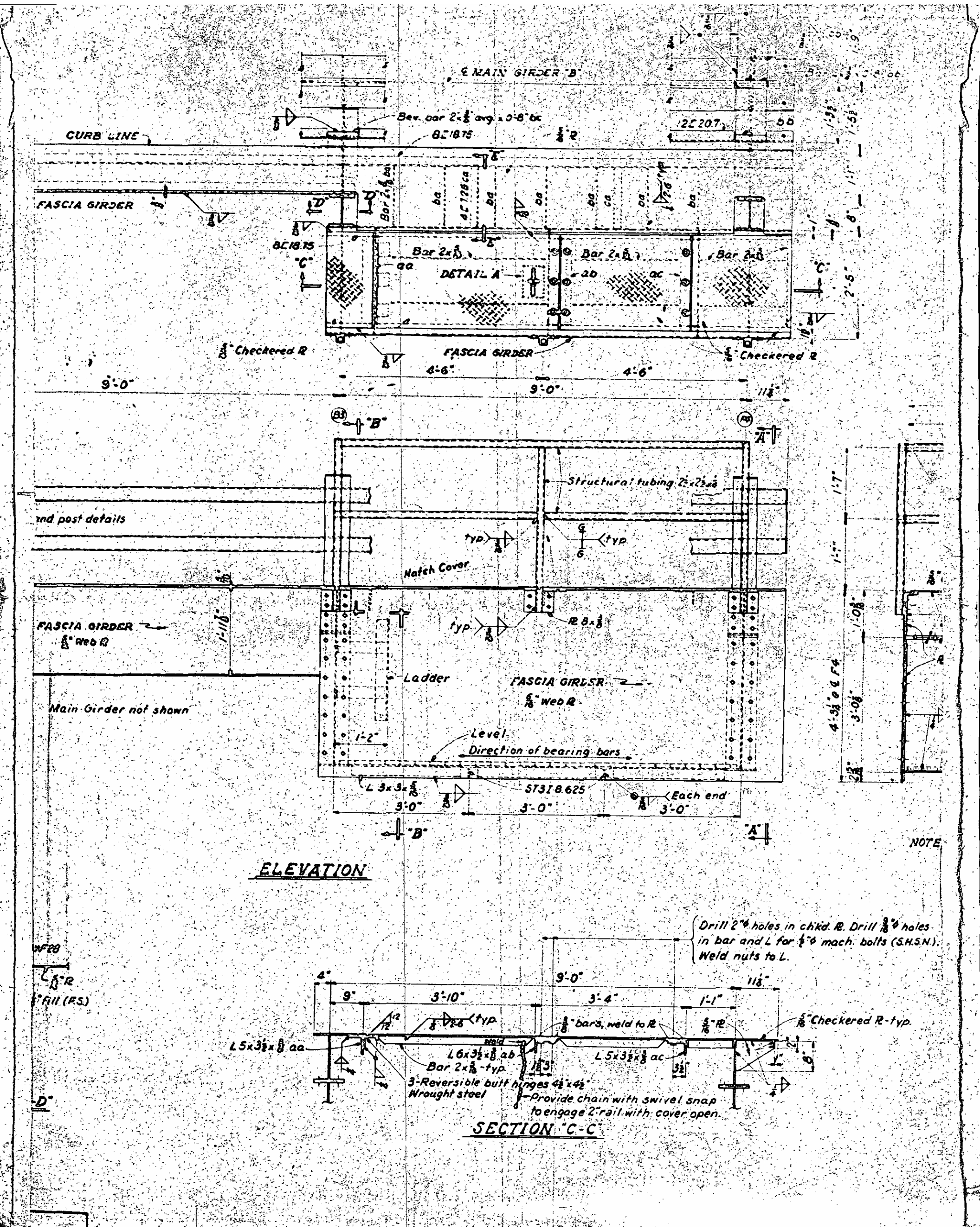
BASCULE SPAN
ENCLOSURE DETAILS-GIRDER "A"
LOCK BAR COVERS

L. O. HOPKINS & SONS, INC.
CONSULTING ENGINEERS NASHVILLE, TENN.

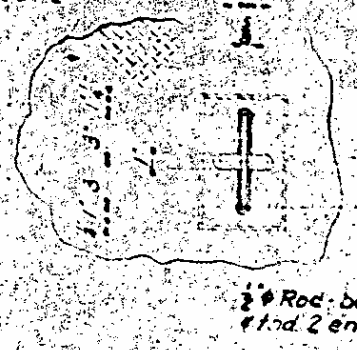
REVISIONS

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

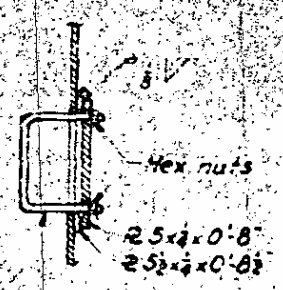
S5

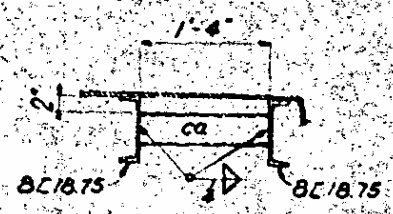

℄ MAIN GIRDER "B"
CURB LINE
FASCIA GIRDER
Bev. bar 2×⅝" avg. 0'-8" bc
8C18.75
12C20.7
Bar 2×⅝
DETAIL A
⅝" Checkered PL
9'-0"
4'-6"
"B"
"A"
Structural tubing 2"×2"×⅛"
end post details
typ.
Hatch Cover
FASCIA GIRDER
⅝" Web PL
1'-11⅛"
PL 8×⅜
Ladder
Main Girder not shown
1'-2"
Level
Direction of bearing bars
L 3×3×⅜
3'-0"
ST3I 8.625
Each end
ELEVATION
NOTE
Drill 2"ϕ holes in chkd. PL. Drill ⅜"ϕ holes in bar and L for ½"ϕ mach. bolts (S.H.S.N.). Weld nuts to L.
4"
9"
3'-10"
3'-4"
1'-1"
11⅛"
⅝" bars, weld to PL
⅝" PL
⅝" Checkered PL-typ.
L 5×3½×⅜ aa
L 6×3½×⅜ ab
L 5×3½×⅜ ac
Bar 2×⅝-typ.
weld
3-Reversible butt hinges 4½"×4½"
Wrought steel
Provide chain with swivel snap to engage 2" rail with cover open.
SECTION "C-C"

F.A. PROJECT S-SU-1672(2)

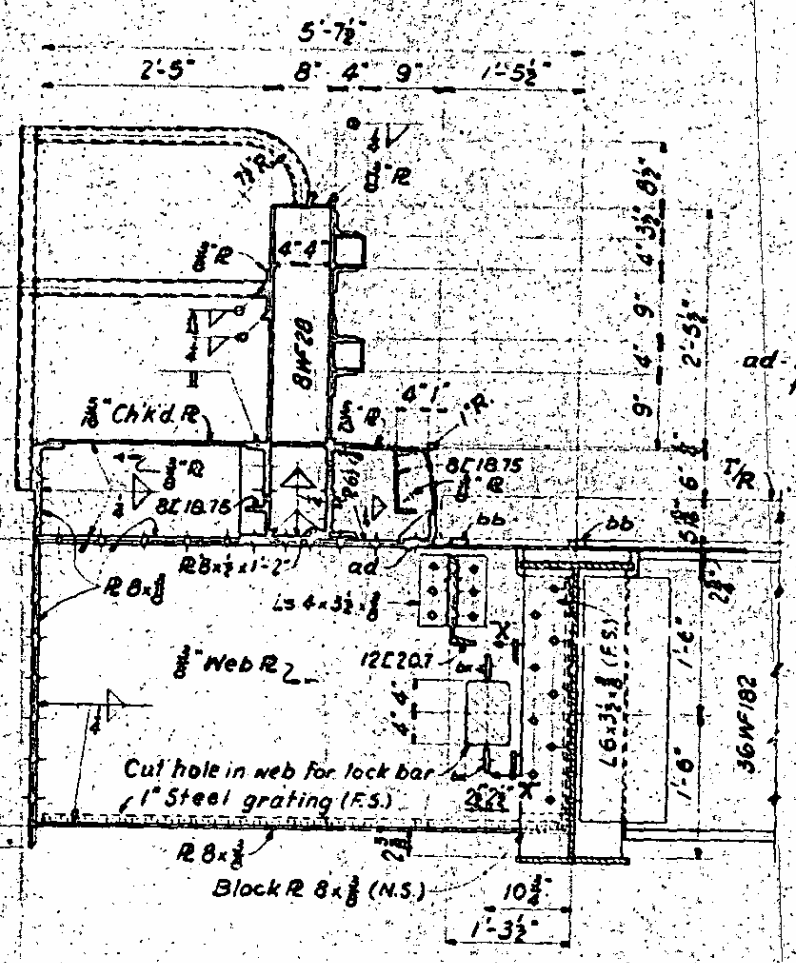


DETAIL "A"



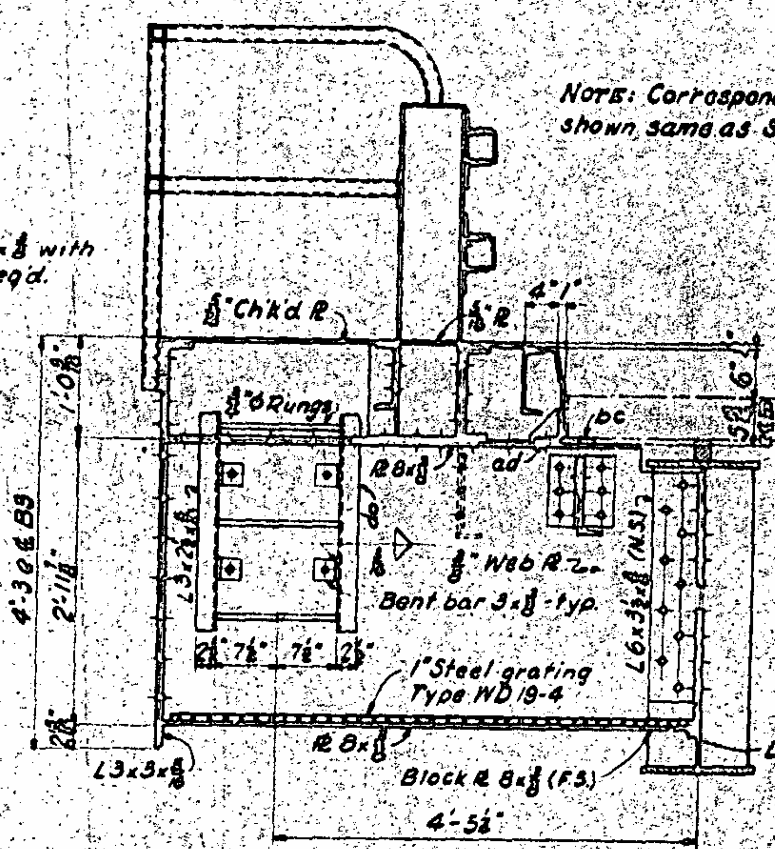


SECTION "E-E"



NOTE: For SECTION "X-X" see Enclosure for Girder "A"

SECTION "A-A"



1" Steel grating shall be welded to supporting members as per Manufacturer's recommendations.

SECTION "B-B"

3/8" ø holes
(S.H.S.N.).

1-typ.

Note:
1" Steel grating to be galvanized.
See Special Provisions.

PROJECT NO. B.111403
PASQUOTANK
CAMDEN COUNTY
STATION 103+68

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

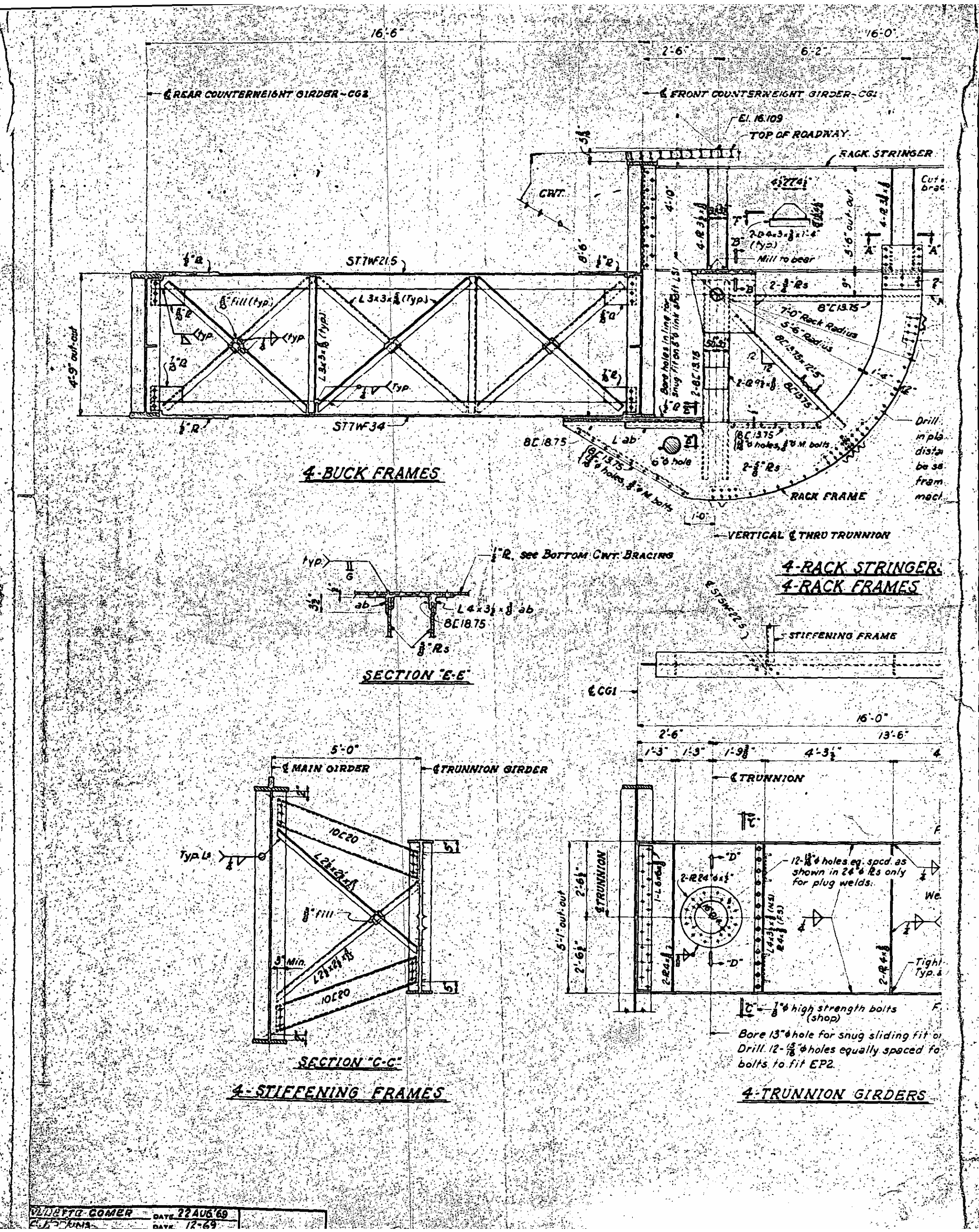
BASCULE SPAN

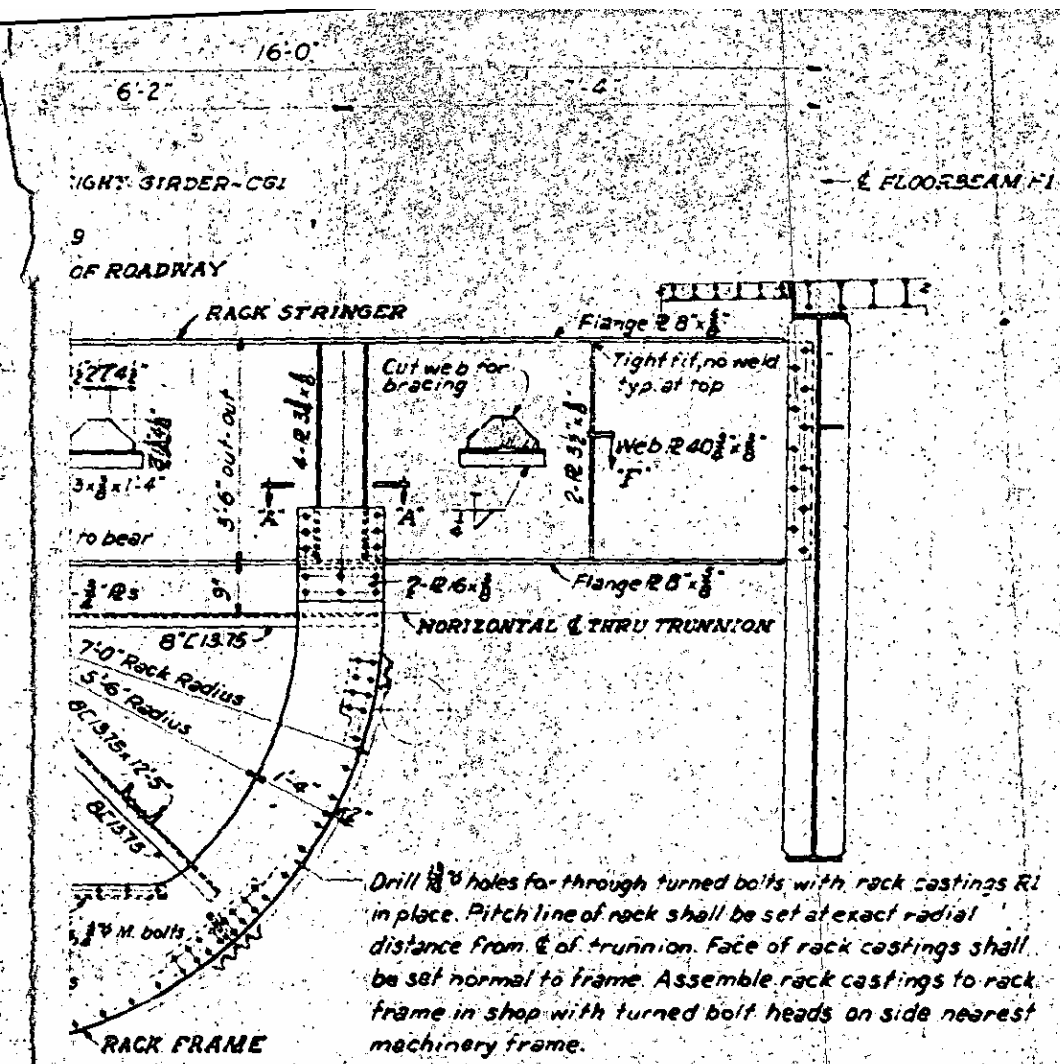
ENCLOSURE DETAILS-GIRDER "B"

L. O. HOPKINS & SONS, INC.
CONSULTING ENGINEERS NASHVILLE, TENN.

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

HOPKINS TRUNNION BASCULE SPAN, PAT. NO. 2724138
DESIGNED BY L.O. HOPKINS & SONS, NASHVILLE, TENN.

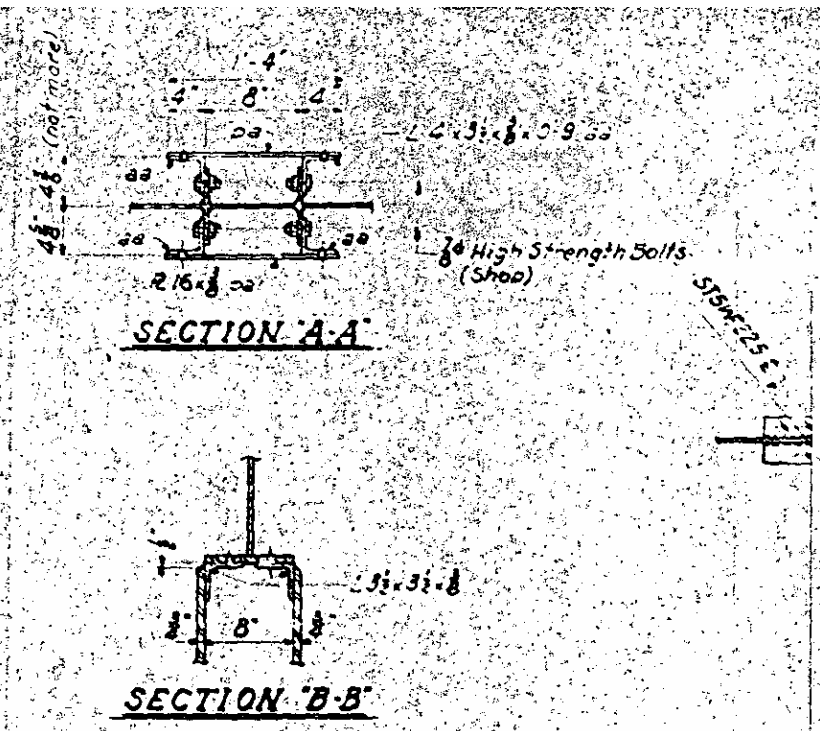

16'-6"
16'-0"
2'-6"
6'-2"
℄ REAR COUNTERWEIGHT GIRDER - CG2
℄ FRONT COUNTERWEIGHT GIRDER - CG1
El. 16.109
TOP OF ROADWAY
RACK STRINGER
CWT.
ST7WF21.5
ST7WF34
L 3x3x⅜ (Typ.)
⅜" Fill (Typ.)
4'-9" out-out
4-BUCK FRAMES
8C18.75
L ab
6" ϕ hole
2-⅝" Rs
RACK FRAME
VERTICAL ℄ THRU TRUNNION
Mill to bear
7'-0" Rack Radius
5'-6" Radius
8C13.75
Bore holes in line for snug fit on 8" ϕ int. of 8C11.5
Drill in pla dista be sa fram mach
½" R. see Bottom Cwt. Bracing
L 4x3½x⅜ ab
SECTION "E-E"
4-RACK STRINGERS
4-RACK FRAMES
ST5WF22.5
STIFFENING FRAME
℄ CG1
16'-0"
2'-6"
13'-6"
1'-3"
1'-3"
1'-9⅜"
4'-3½"
℄ TRUNNION
5'-0"
℄ MAIN GIRDER
℄ TRUNNION GIRDER
10C20
L 2½x2½x¼
⅜" Fill
3" Min.
Typ. L's
SECTION "C-C"
4-STIFFENING FRAMES
5'-1" out-out
2'-6½"
2'-6½"
℄ TRUNNION
2-R24"ϕ x ⅜"
"D"
12-15/16"ϕ holes eq. spcd. as shown in 24"ϕ Rs only for plug welds.
1⅛"ϕ high strength bolts (shop)
Bore 13"ϕ hole for snug sliding fit o
Drill 12-15/16"ϕ holes equally spaced fo bolts to fit EP2.
4-TRUNNION GIRDERS
DATE 22 AUG '69
DATE 12-69

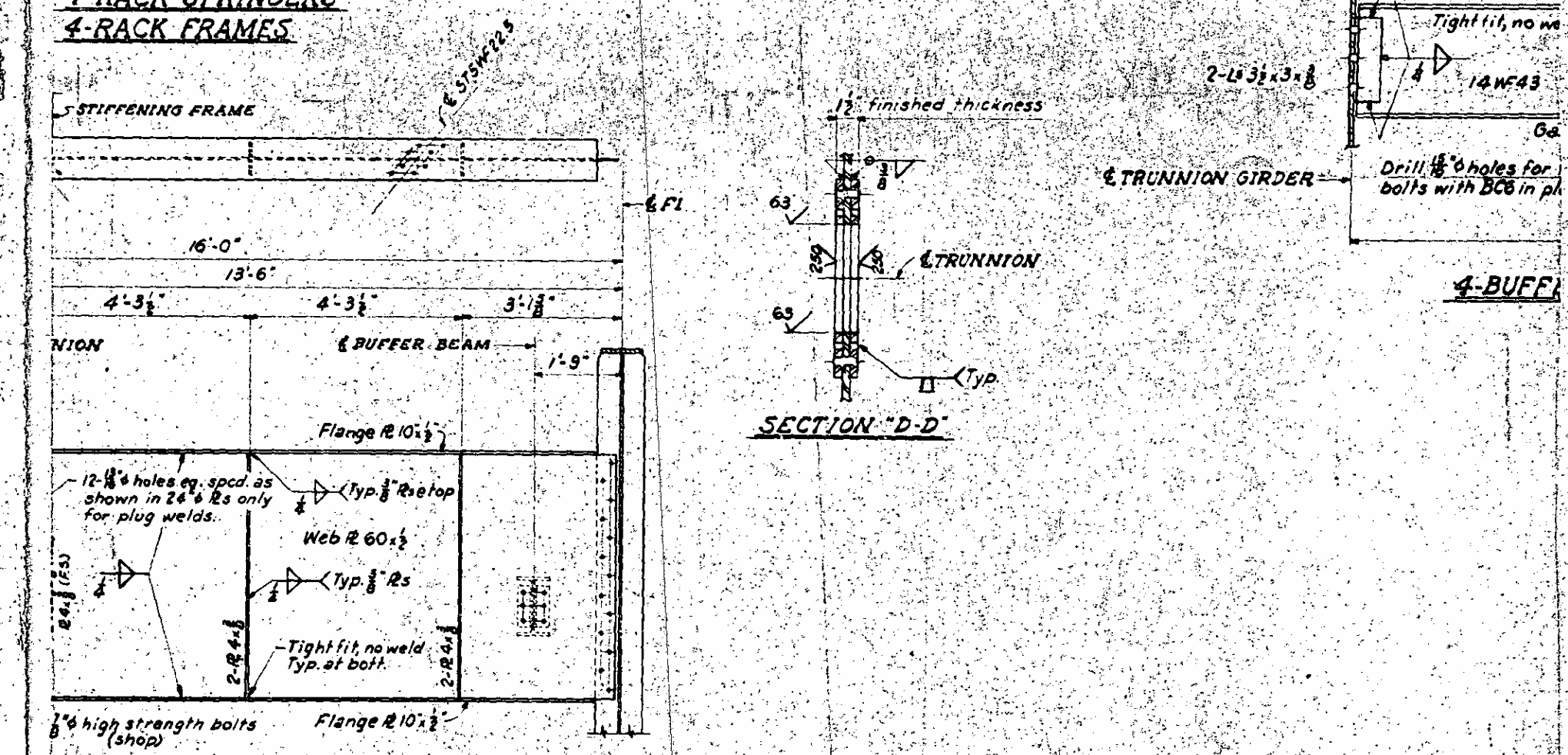


Drill ⅝"ϕ holes for through turned bolts with rack castings R1 in place. Pitch line of rack shall be set at exact radial distance from ℄ of trunnion. Face of rack castings shall be set normal to frame. Assemble rack castings to rack frame in shop with turned bolt heads on side nearest machinery frame.

RACK STRINGER - Weld complete with continuous ⅜" fillet welds except as noted.
RACK FRAME - Weld complete with continuous 5/16" fillet welds except as noted.

4-RACK STRINGERS
4-RACK FRAMES



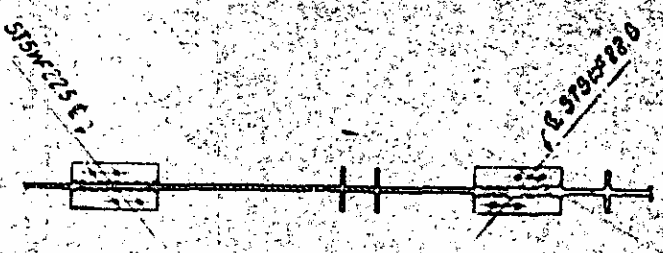


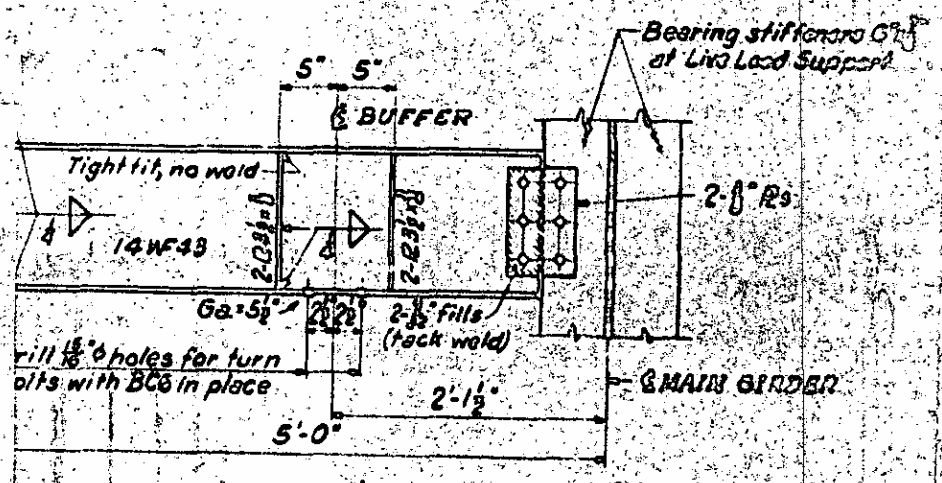
3"ϕ hole for snug sliding fit on Eccentric Piece EP2.
2-15/16"ϕ holes equally spaced for ⅞"ϕ high strength to fit EP2.

TRUNNION GIRDERS

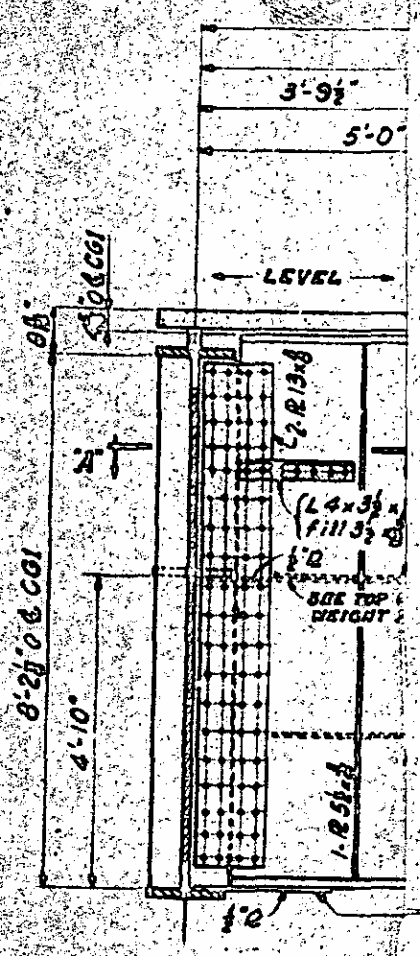
HOPKINS TRUNNION BASCULE SPAN, PAT. NO. 2,724,135
DESIGNED BY L.O. HOPKINS & SONS, NASHVILLE, TENN.

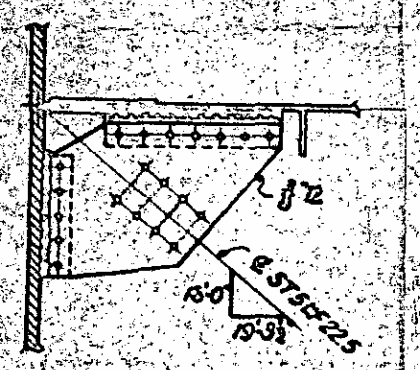
F.A. PROJECT S-SU-1672(2)





4-BUFFER BEAMS





SECTION "A-A"

PROJECT NO. 8.1111403
PASQUOTANK
CAMDEN COUNTY
STATION 103+68

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

BASCULE SPAN
RACK STRINGER, RACK FRAME,
BUCK FRAME, TRUNNION GIRDER
STIFFENING FRAME, BUFFER BEAMS

L. O. HOPKINS & SONS, INC.
CONSULTING ENGINEERS NASHVILLE, TENN.

REVISIONS

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

24,135
E. TENN.

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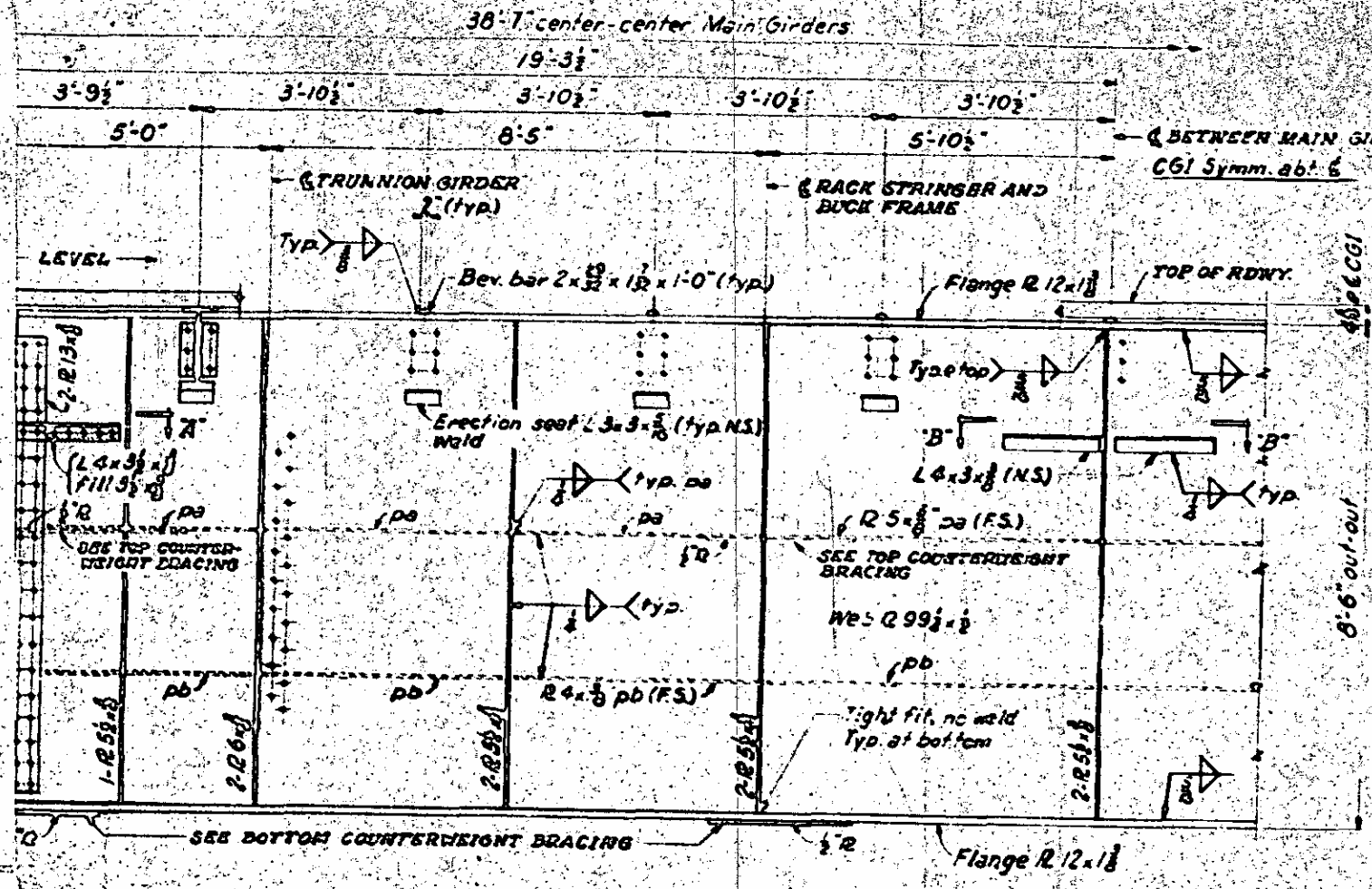
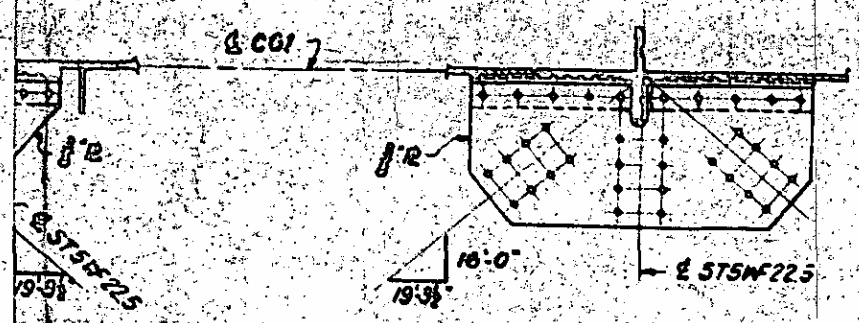
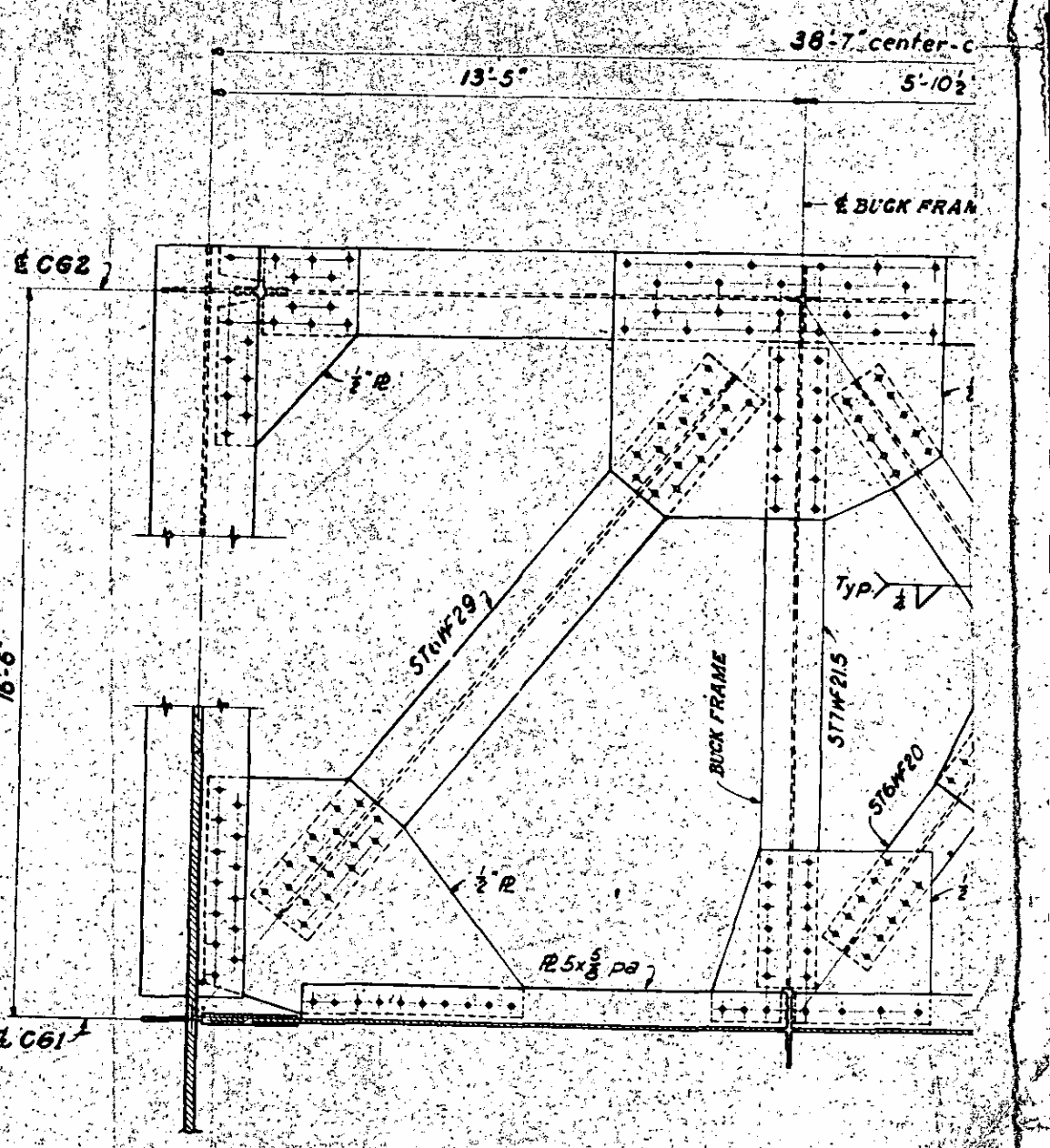


ONE-FRONT COUNTERWEIGHT GIRDER CG1
ONE-FRONT COUNTERWEIGHT GIRDER CG1A
(LOOKING TO REAR)

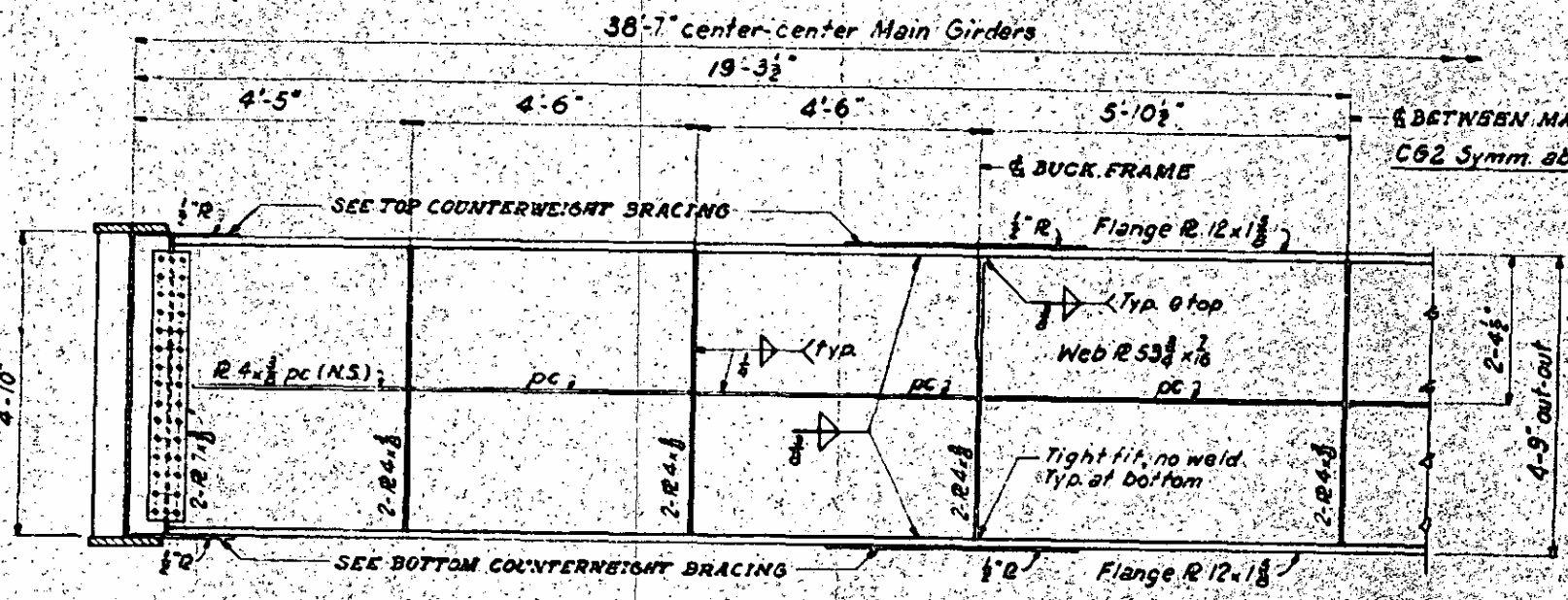


SECTION "B-B"



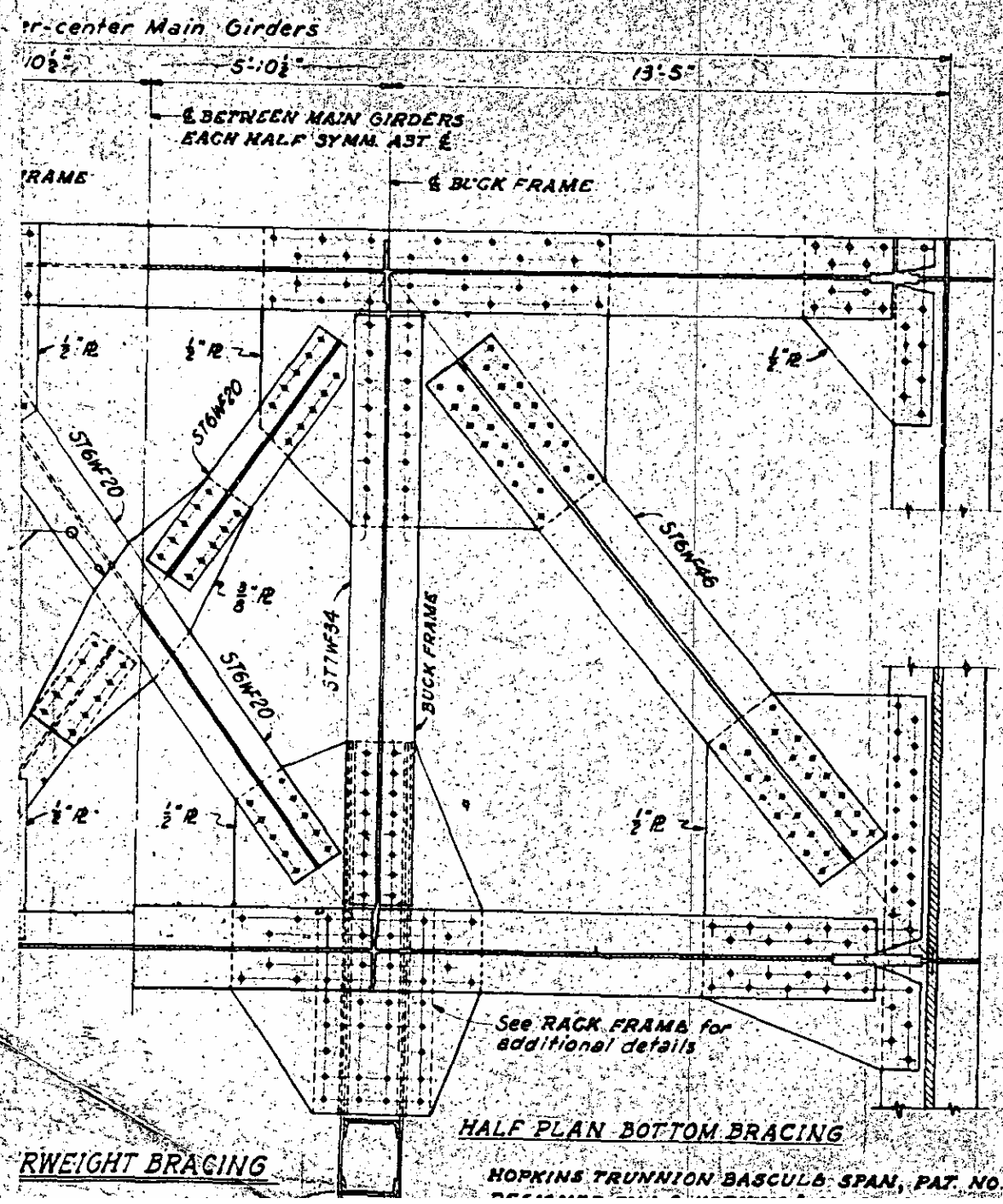
HALF PLAN TOP BRACING

12 SEPT. 69



2-REAR COUNTERWEIGHT GIRDERS CG2

(LOOKING TO REAR)



HALF PLAN BOTTOM BRACING

RWEIGHT BRACING

HOPKINS TRUNNION BASCULE SPAN, PAT. NO. 2,724,135

PROJECT NO. 8.1114
PASQUOTANK
CAMDEN COU
STATION 103+68

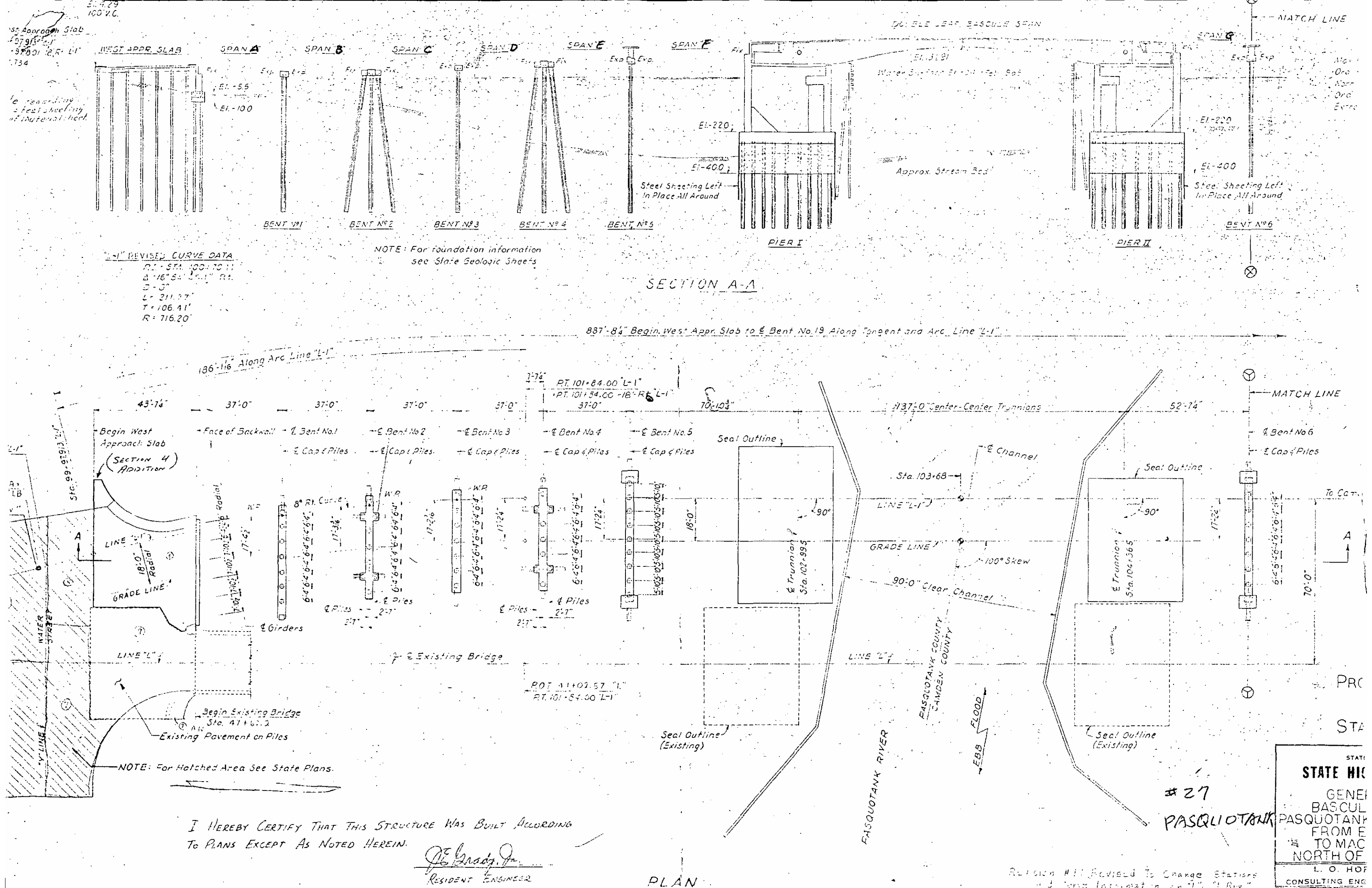
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSI
RALEIGH

BASCULE SPAN
COUNTERWEIGHT GIRDE
COUNTERWEIGHT BRACI

L. O. HOPKINS & SONS, INC
CONSULTING ENGINEERS NASHVILLE

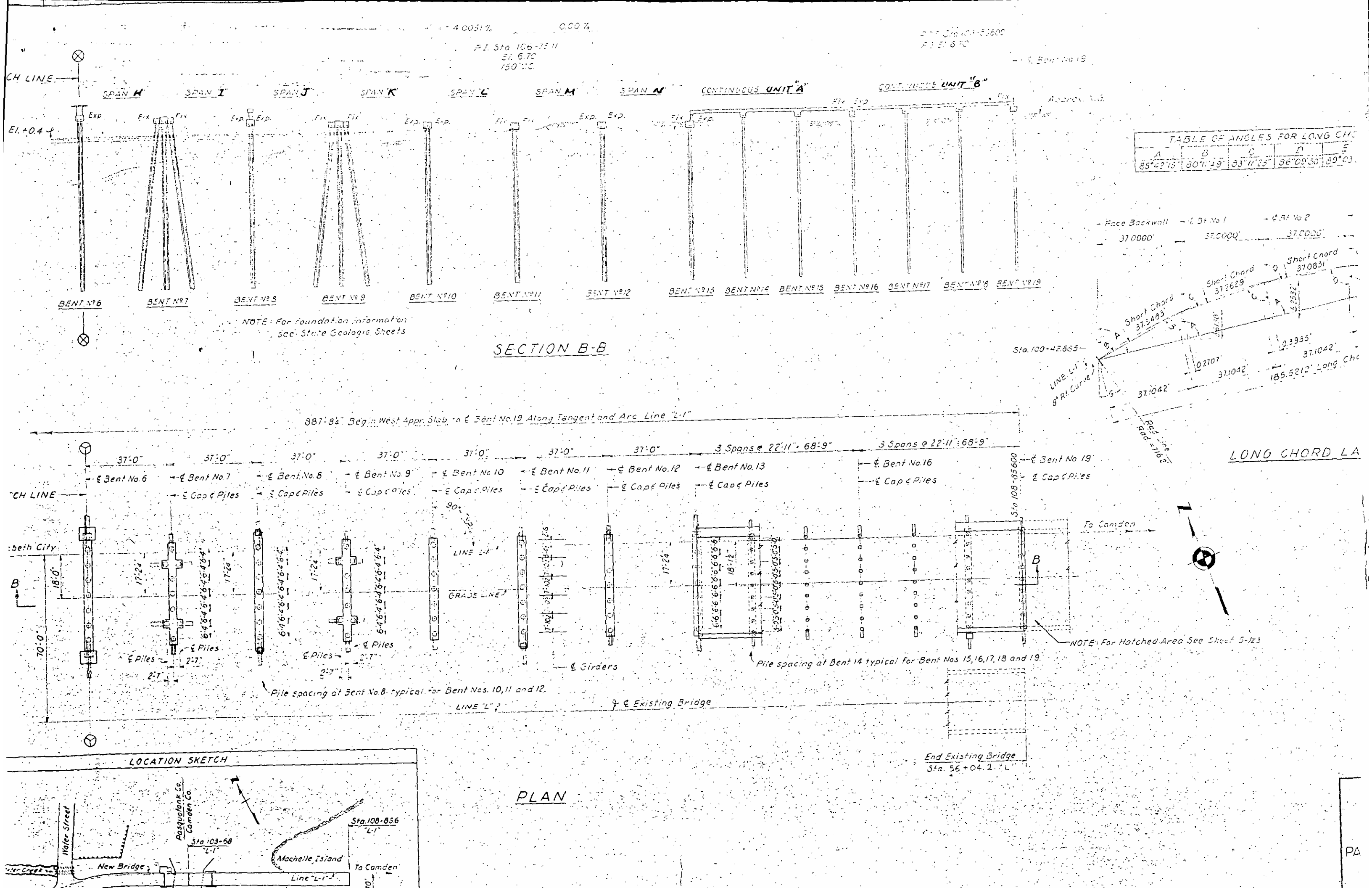
REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1					

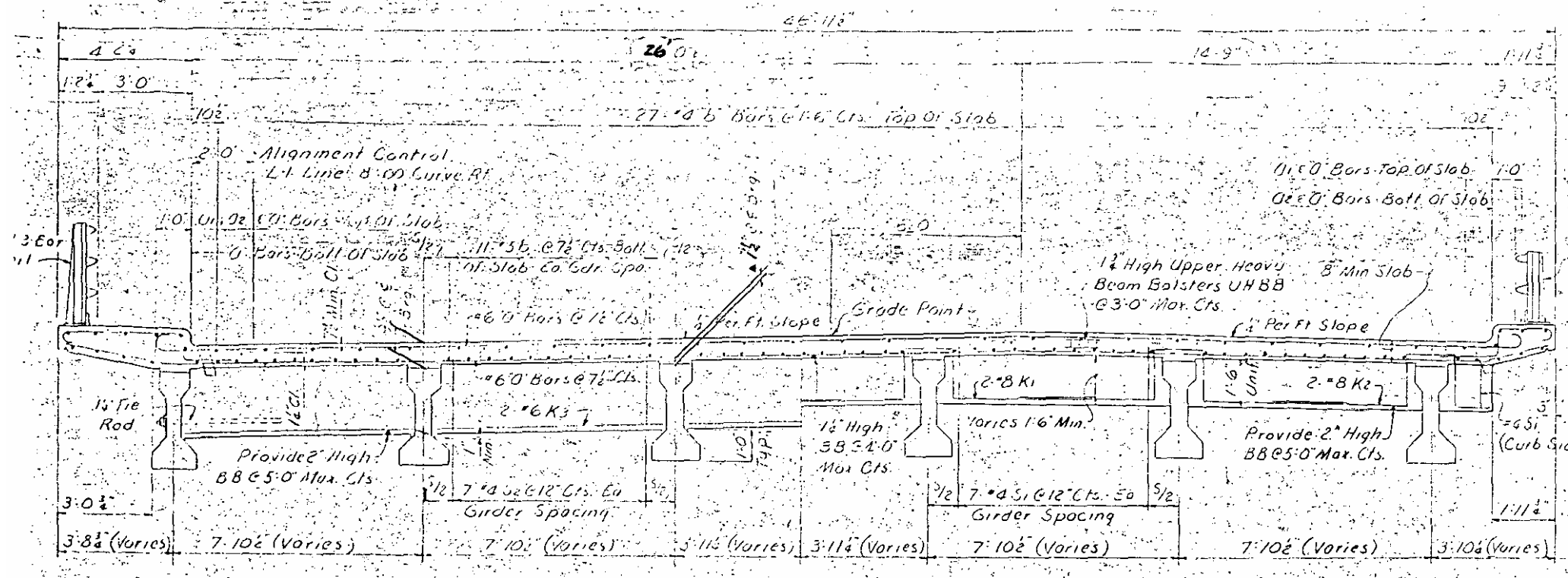


I HEREBY CERTIFY THAT THIS STRUCTURE WAS BUILT ACCORDING TO PLANS EXCEPT AS NOTED HEREIN.

J. E. Grady, Jr.
RESIDENT ENGINEER



SPAN H
SPAN I
SPAN J
SPAN K
SPAN L
SPAN M
SPAN N
CONTINUOUS UNIT "A"
CONTINUOUS UNIT "B"
BENT No 6
BENT No 7
BENT No 8
BENT No 9
BENT No 10
BENT No 11
BENT No 12
BENT No 13
BENT No 14
BENT No 15
BENT No 16
BENT No 17
BENT No 18
BENT No 19
NOTE: For foundation information see State Geologic Sheets
SECTION B-B
TABLE OF ANGLES FOR LONG CHO
Face Backwall
37.0000'
Short Chord
37.0831'
Sta. 100+42.665
LINE L-1
185.5212' Long Cho
LONG CHORD LA
887'-8¼" Begin West Appr. Slab to ℄ Bent No. 19 Along Tangent and Arc Line "L-1"
3 Spans @ 22'-11" = 68'-9"
℄ Bent No. 6
℄ Bent No. 7
℄ Bent No. 8
℄ Bent No. 9
℄ Bent No. 10
℄ Bent No. 11
℄ Bent No. 12
℄ Bent No. 13
℄ Bent No. 16
℄ Bent No. 19
℄ Cap & Piles
LINE L-1
GRADE LINE
To Camden
NOTE: For Hatched Area See Sheet S-123
℄ Girders
Pile spacing at Bent No. 8 typical for Bent Nos. 10, 11 and 12.
Pile spacing at Bent 14 typical for Bent Nos 15, 16, 17, 18 and 19.
LINE "L"
℄ Existing Bridge
End Existing Bridge
Sta. 56+04.2 "L"
PLAN
LOCATION SKETCH
Water Street
New Bridge
Pasquotank Co.
Camden Co.
Sta. 103+68 "L-1"
Sta. 108+85.6 "L-1"
Machelle Island
To Camden
Line "L-1"

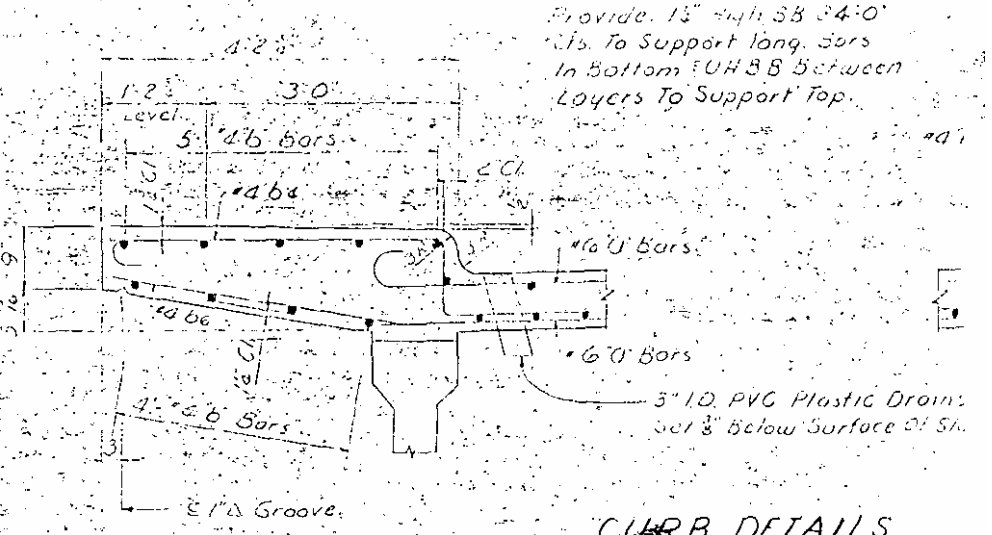


HALF SECTION - INTERMEDIATE DIAPHRAGM

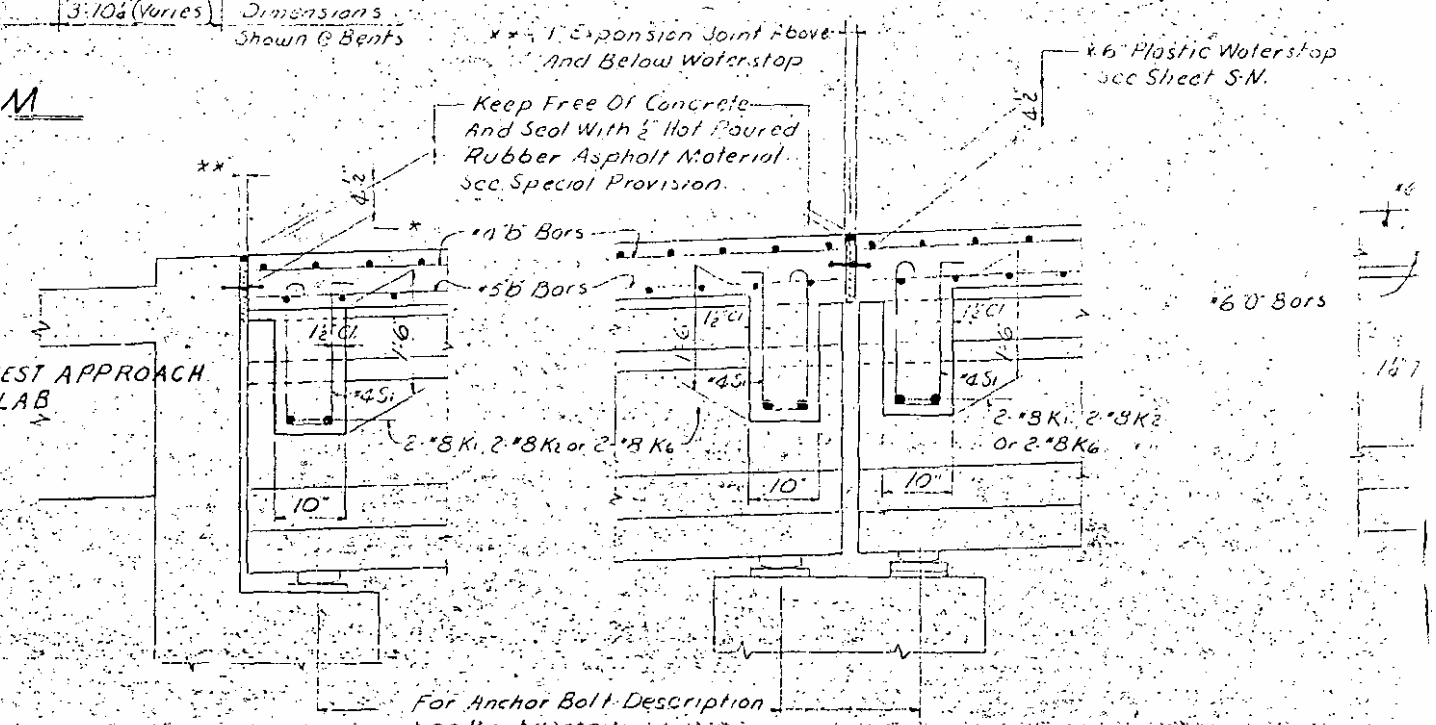
HALF SECTION - BENT DIAPHRAGM

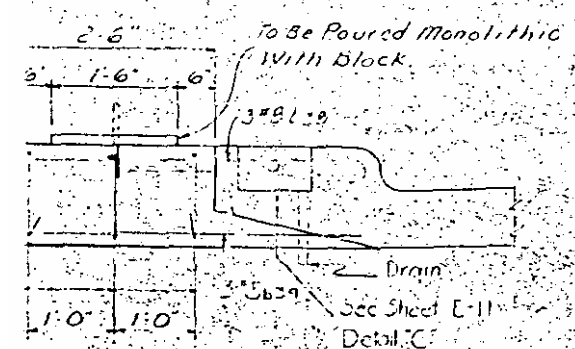
TYPICAL SECTION SPANS A, B, C AND D

NOTE: All Horizontal Dimensions Are Radial Except As Noted.

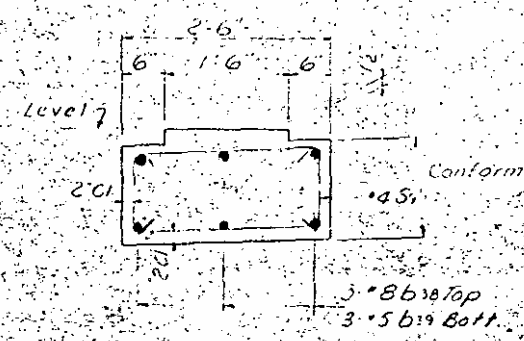


CURB DETAILS

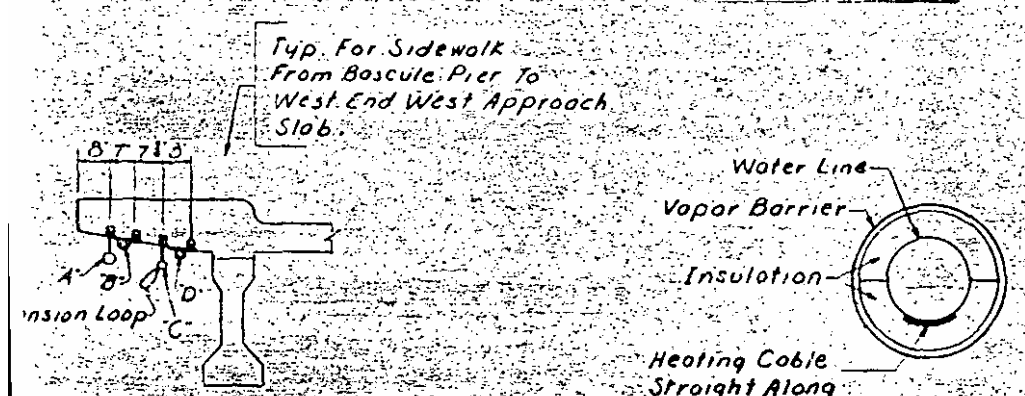




SECTION S-S



SECTION T-T



UTILITY CONDUIT DETAILS

Detail Show For 36" Prest. Girder Span.

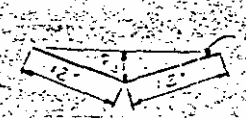
Waste Line Complete With Galv. Adjustable Clevis, Concrete Insert, #5 Reinf. Bar, Hanger Rod And Nut @ Cts.

Rigid Conduit For Heat Cable Circuits, Complete With One Hole Clamp, ½" Concrete Insert, #5 Reinf. Bar, Bolt Nut @ 8'-0" Cts.

WATER PIPE ASSEMBLY

NOTES

1. Assume Live Loading — HS 20-44 or Alt. Loading
2. Reinforcing Steel In Tension — 20,000 Lbs. per Sq. In.
3. Concrete In Compression — 1100 Lbs. Per Sq. In.
4. For Other Design Data And General Notes, See Sheet S-N.
5. For Bars Indicated And No Bar Mark Shown, See Concrete Plan For The Different Spans.
6. No Rubbed Surface Finish Will Be Required On Any Part Of The Structure Except Operators House.
7. Drains Shall Be Of PVC Plastic Pipe. See Sheet S-N.
8. Expansion Joints To Be Kept Free Of Concrete And Sealed With Hot Poured Rubber Asphalt Material. See Special Provisions.
9. ▲ This Dimension Will Vary Along The Girder Toward ℄ Span.

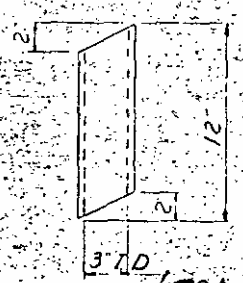


DETAIL of #5 BAR

Note: Concrete inserts and #5 bars to be furnished with the

SECTION J-J

JOINT DETAIL



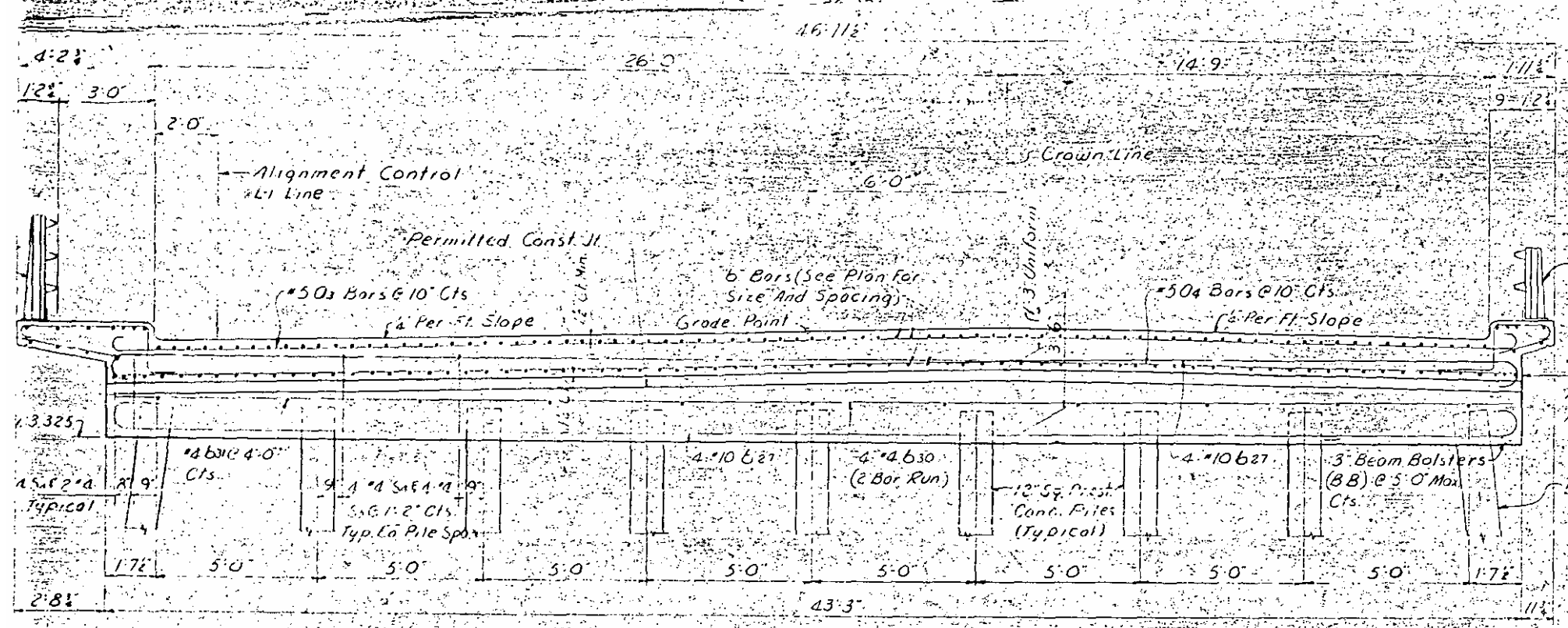
SECTION K-K

SPAN A, B, C & D.
(SPAN E, G, H, I, J, K, L, M & N.)
(SPAN F.)

DRAIN DETAIL

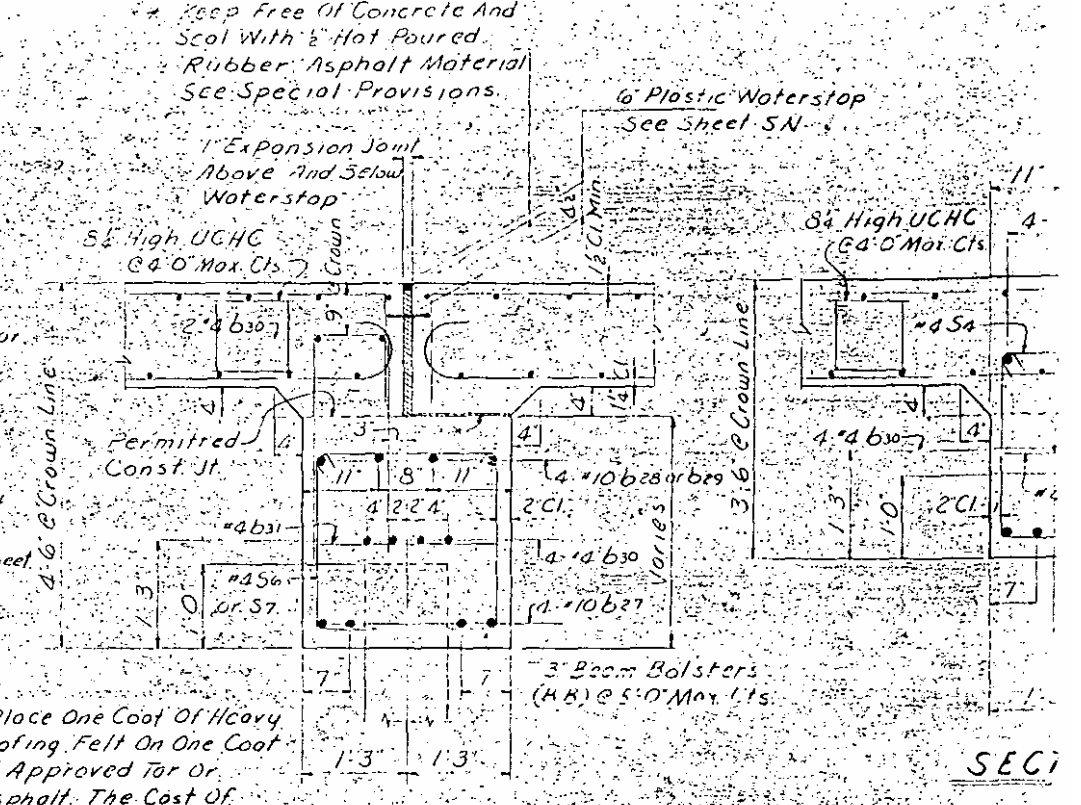
Drains Shall Be PVC Plastic Pipe. See Sheet S-N

STAT

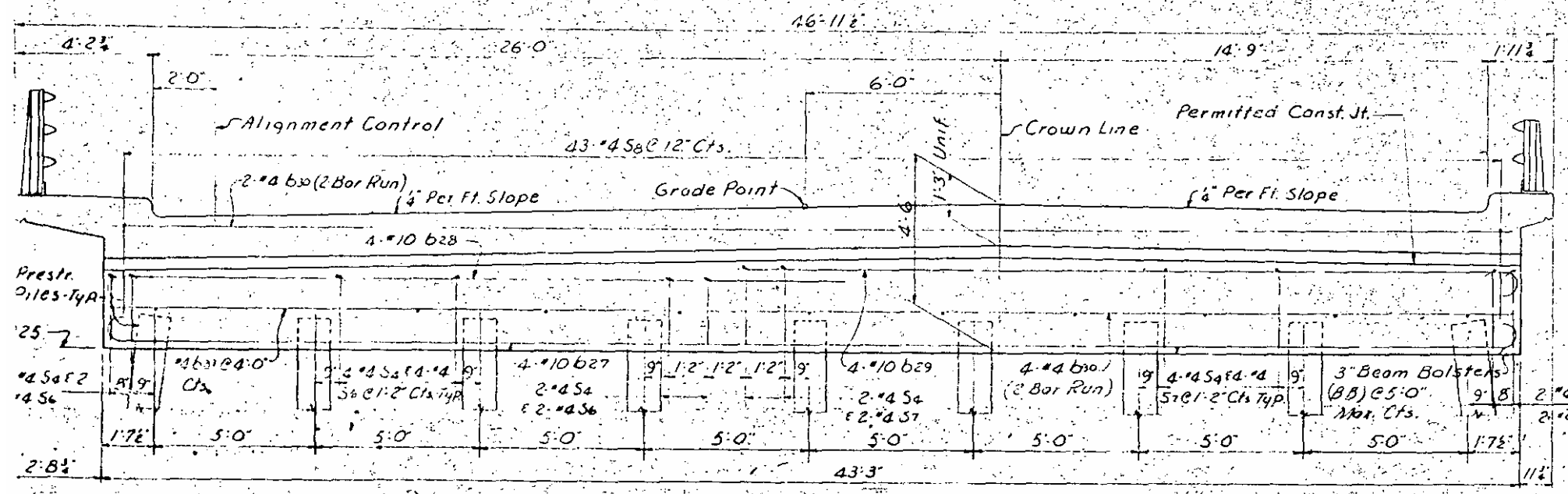


TYPICAL SECTION AT BENTS NO. 14, 15, 17 & 18

NOTE: See Details This Sheet For Details At Bent No. 18 Not Shown This Section.

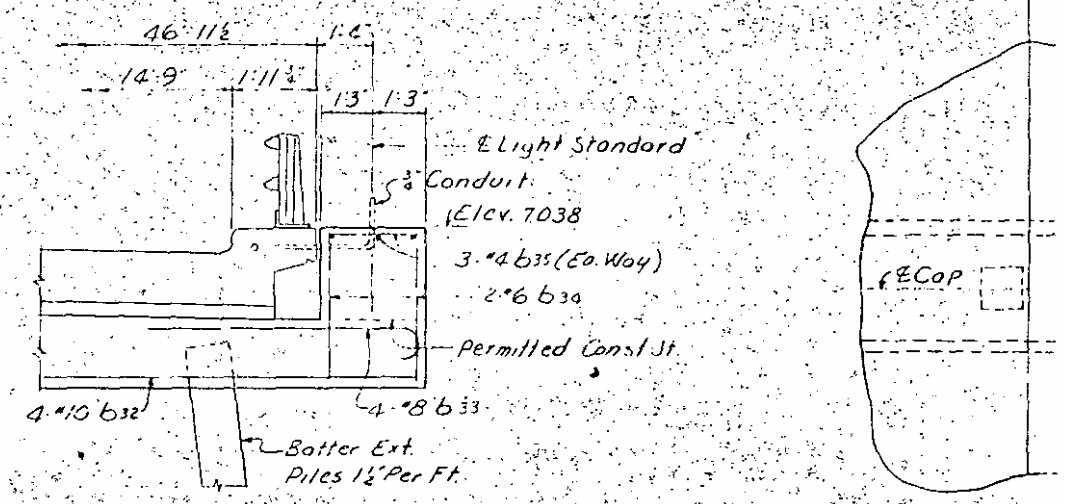


SECTION G-G

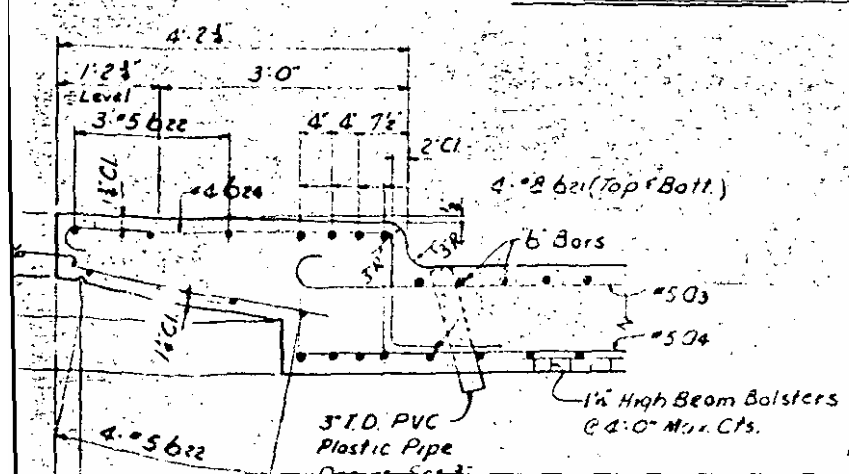


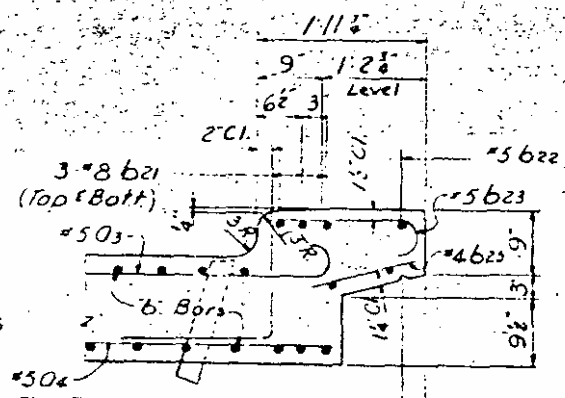
TYPICAL SECTION AT BENTS NO. 16 & 19

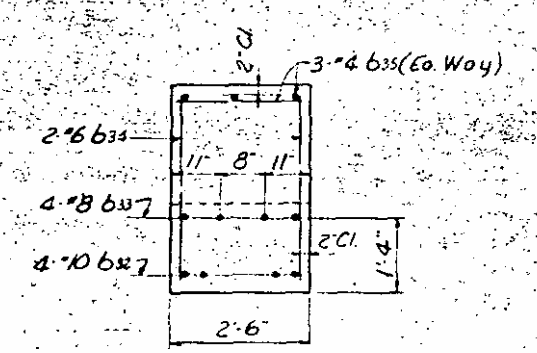
(Slab Steel Not Shown)



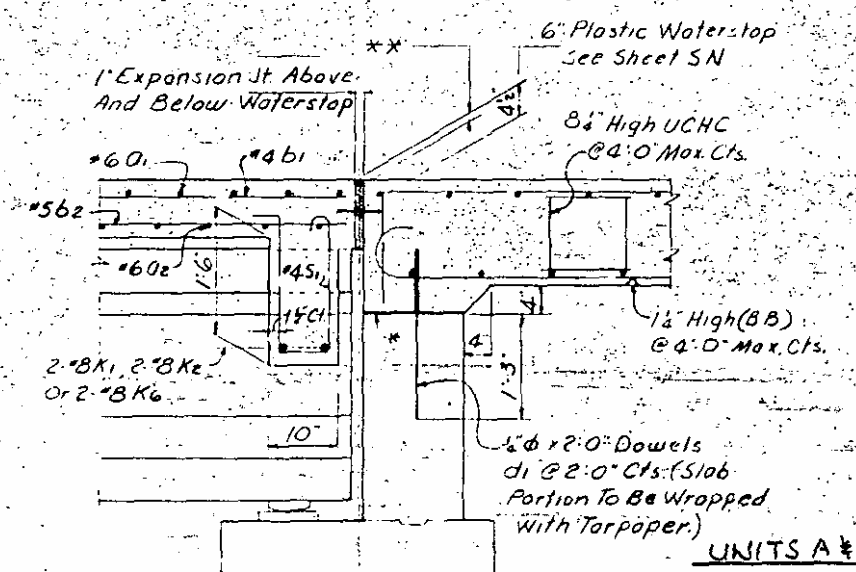
PART SECTION AT BENT NO. 18







SECTION X-X



UNITS A & C

PART PL

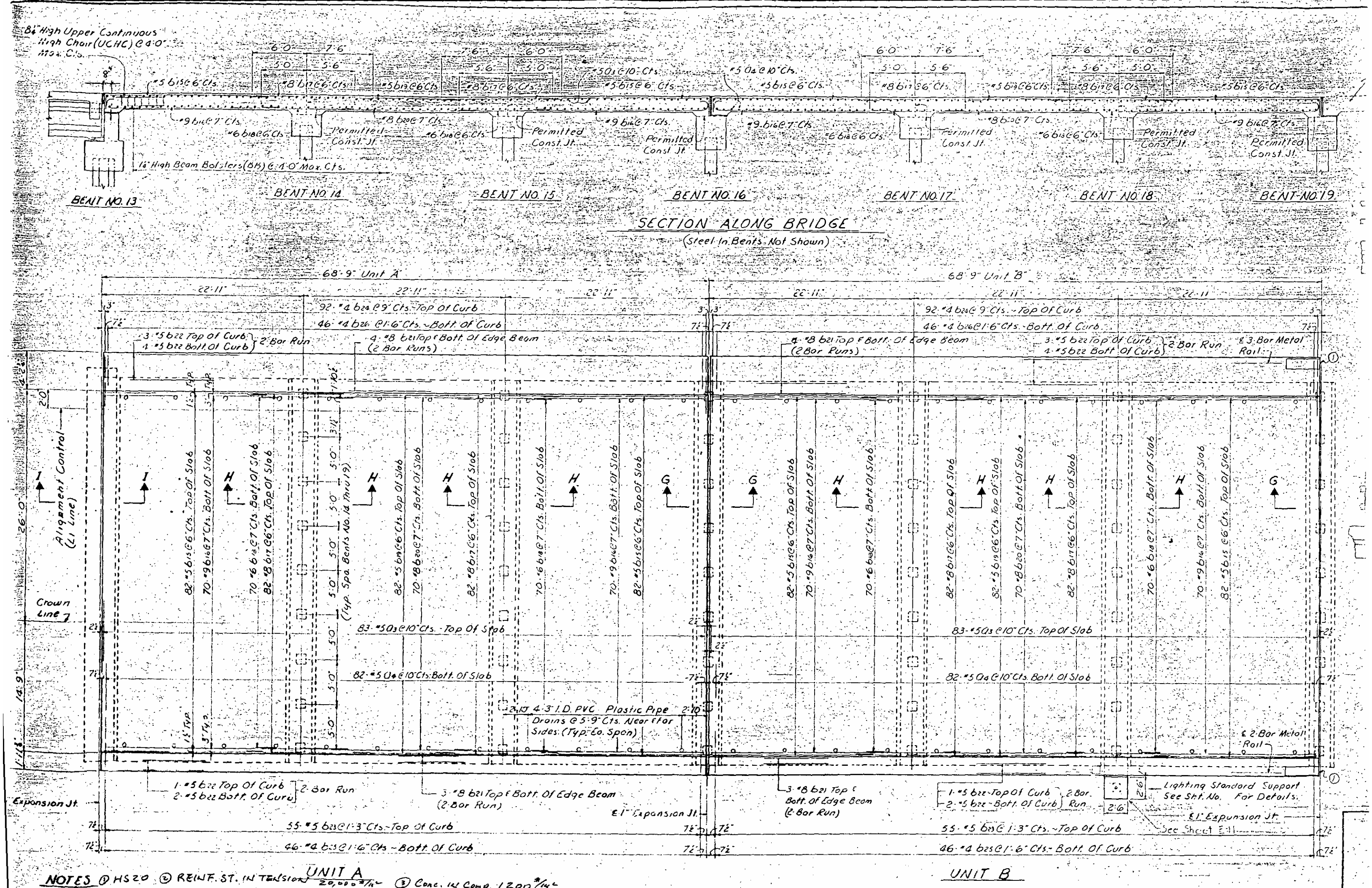
PR

ST

STATE HI

CONTI

UNITS



NOTES ① HS20 ② REINF. ST. IN TENSION 20,000 #/□" ③ Conc. IN Comp. 1200 #/□"

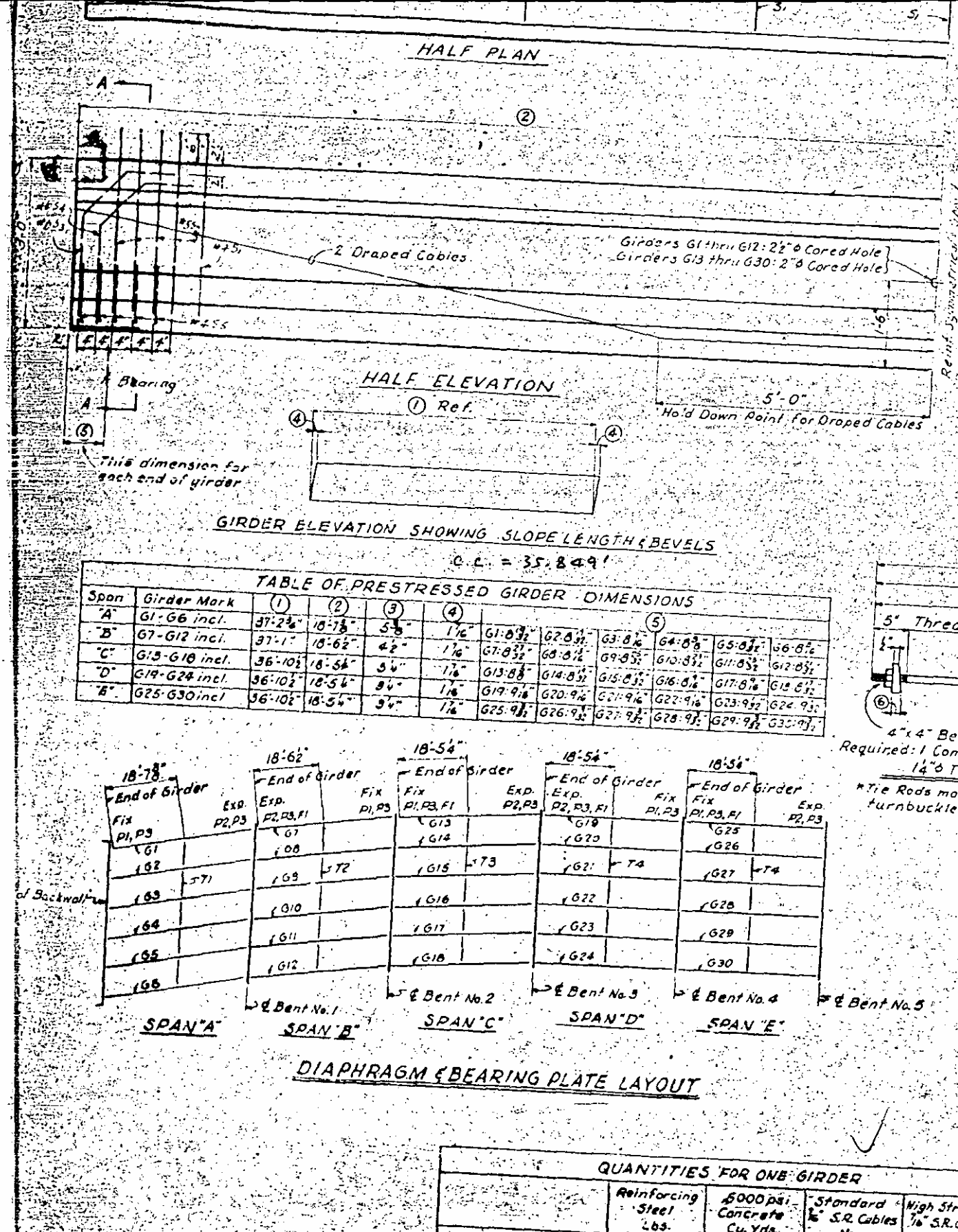
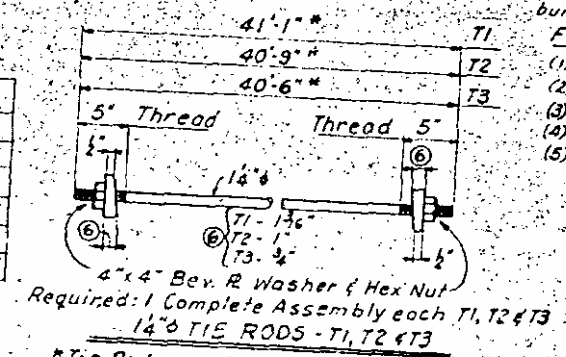
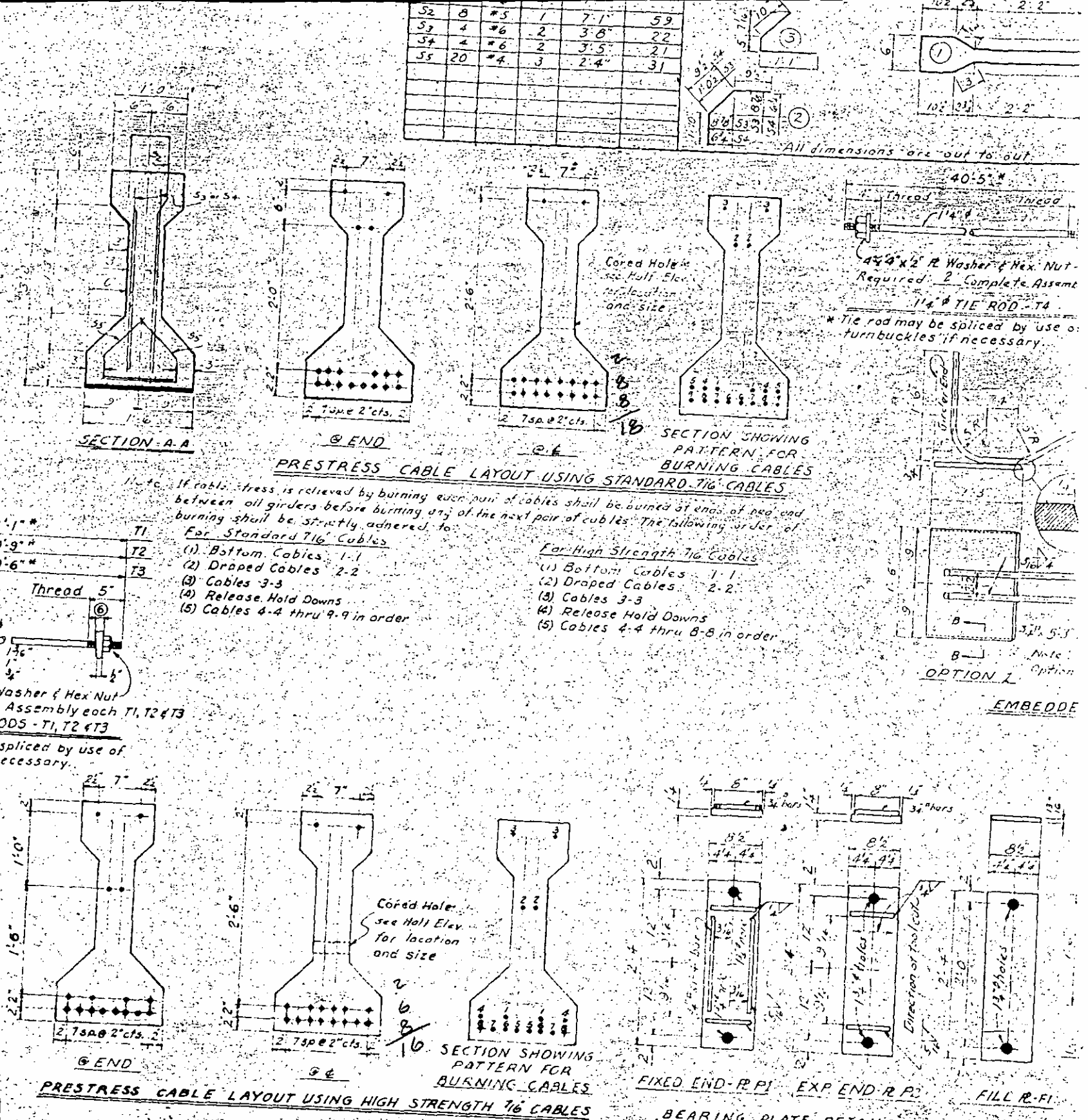


TABLE OF PRESTRESSED GIRDER DIMENSIONS												
Span	Girder Mark	①	②	③	④	⑤						
"A"	G1-G6 incl.	37'-2¾"	18'-7⅛"	5'-5"	1 7/16"	G1: 8 9/32"	G2: 8 5/32"	G3: 8 1/16"	G4: 8 3/8"	G5: 8 3/32"	G6: 8 1/16"	
"B"	G7-G12 incl.	37'-1"	18'-6½"	4½"	1 7/16"	G7: 8 3/32"	G8: 8 1/16"	G9: 8 3/32"	G10: 8 3/32"	G11: 8 3/32"	G12: 8 3/32"	
"C"	G13-G18 incl.	36'-10½"	18'-5¼"	5¼"	1 7/16"	G13: 8 8/32"	G14: 8 3/32"	G15: 8 3/32"	G16: 8 1/16"	G17: 8 1/16"	G18: 8 3/32"	
"D"	G19-G24 incl.	36'-10½"	18'-5¼"	5¼"	1 7/16"	G19: 9 1/16"	G20: 9 1/16"	G21: 9 1/16"	G22: 9 1/16"	G23: 9 3/32"	G24: 9 3/32"	
"E"	G25-G30 incl.	36'-10½"	18'-5¼"	5¼"	1 7/16"	G25: 9 3/32"	G26: 9 3/32"	G27: 9 3/32"	G28: 9 3/32"	G29: 9 3/32"	G30: 9 3/32"	





DIAPHRAGM & BEARING PLATE LAYOUT

BEARING PLATE DETAILS

Each Girder Requires: 1 - Fixed End ℞ P1
1 - Exp. End ℞ P2
2 - Sets ℞ F3
4 - 1½"ø x 18" Anchor Bolts with Hex Nuts.
1 - Fill ℞ F1 except Girders G1 thru G6 which require none.

SPAN A, B, C, D & E 36" PPC GDR.

QUANTITIES FOR ONE GIRDER				
	Reinforcing Steel Lbs.	5,000 psi Concrete Cu. Yds.	Standard 7/16" S.R. Cables No.	High Strength 7/16" S.R. Cables No.
Span "A"	346	3.53	18	16
Span "B"	346	3.52	18	16
Spans "C", "D", "E"	346	3.50	18	16

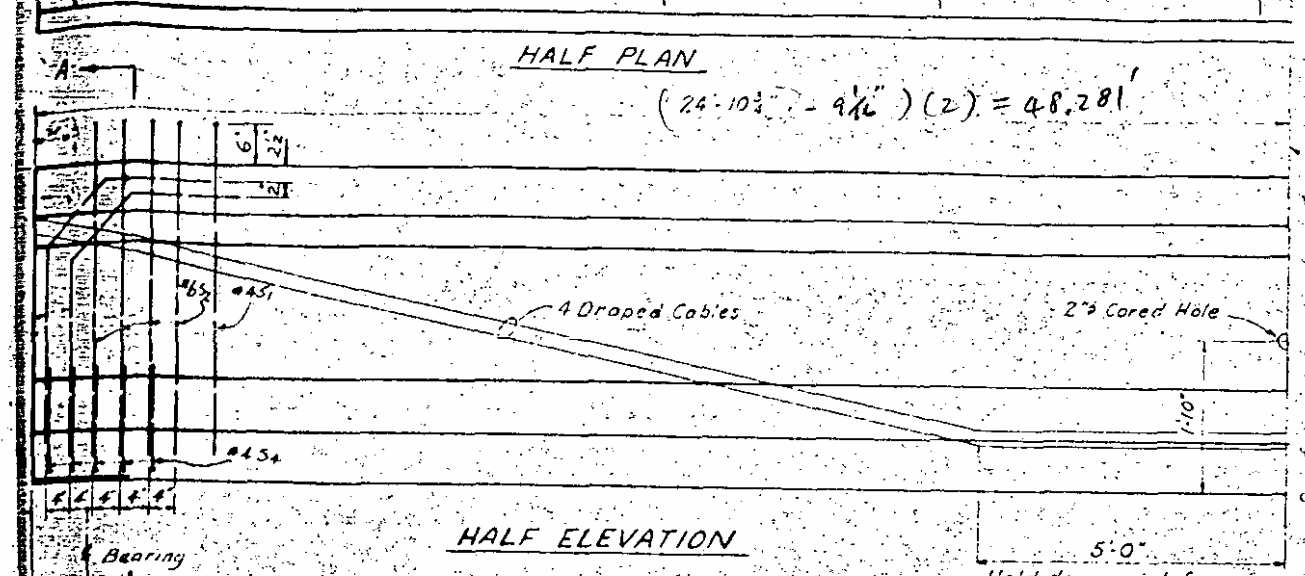
GIRDERS REQUIRED		
No.	Length	Total Length
6	37'-2¾"	223'-4½"
6	37'-1"	222'-6"
18	36'-10½"	663'-9"

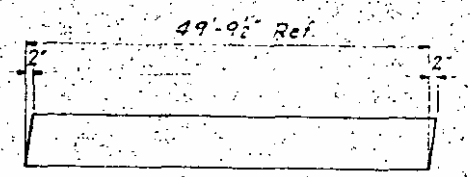
QUANTITIES FOR ONE GIRDER				
	Reinforcing Steel Lbs.	5,000 psi Concrete Cu. Yds.	Standard 7/16" S.R. Cables No.	High Strength 7/16" S.R. Cables No.

NOTES

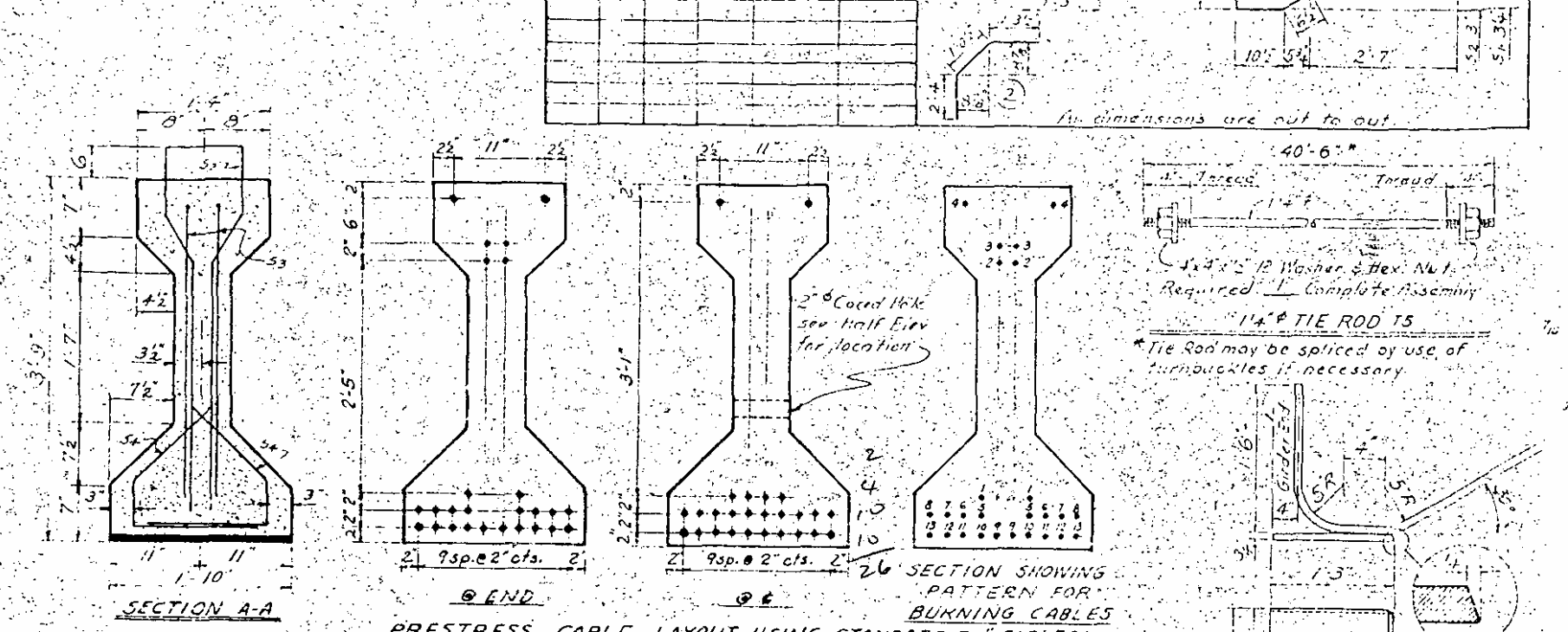
1. All cables must be cut off flush with end of girder and painted as noted below.
2. Ends of cables and field welds on prestressed girder bearings shall be painted with zinc rich paint conforming to federal specifications, M.L.-P26915 (U.S.A.F.) Type I.
3. All bearing Rs and embeded Rs are to be hot dipped galvanized after fabrication. See Special Provisions.
4. The cost of bearing assemblies, 1¼"ø tie rod assemblies, galvanizing of bearing assemblies and painting of cable ends and field welds on bearing assemblies shall be included in the unit price bid for linear of Prestressed Concrete.

SPECIAL
Checked by Eugene Coker Date 20 NOV 69
By Perry Buckner Date 14 JAN. 70





GIRDER ELEVATION SHOWING SLOPE LENGTH & BEVELS.

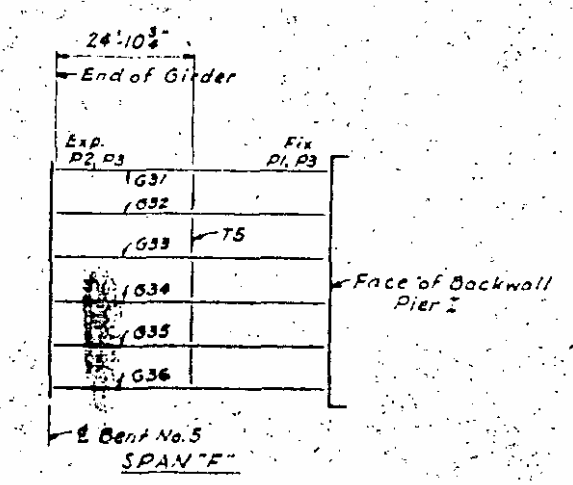


PRESTRESS CABLE LAYOUT USING STANDARD 7/16" CABLES

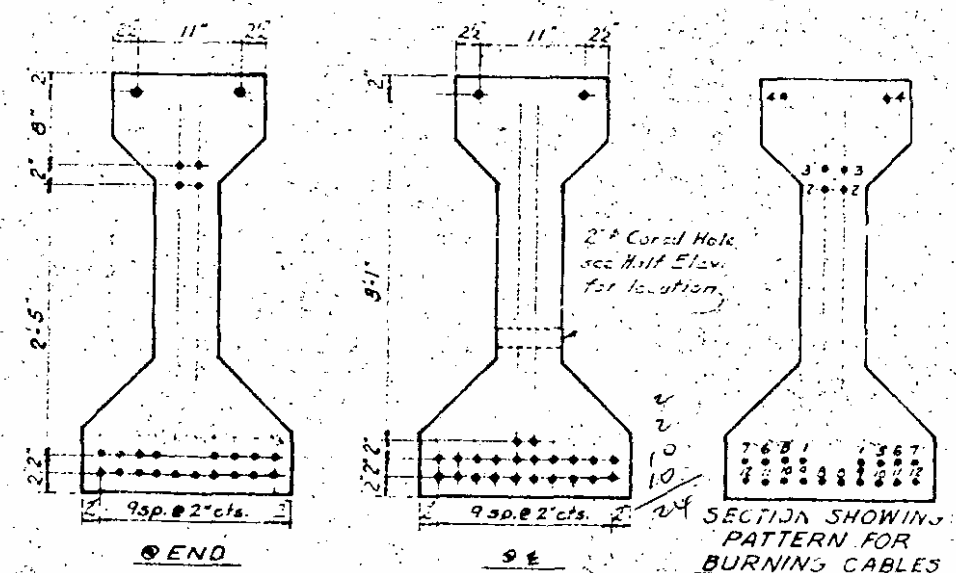
Note: If cable stress is relieved by burning each pair of cables shall be burned at ends of rod and between all girders before burning any of the next pair of cables. The following order of burning shall be strictly adhered to.

For Standard 7/16" Cables
(1) Bottom Cables 1-1
(2) Draped Cables 2-2
(3) Draped Cables 3-3
(4) Cables 4-4
(5) Release Hold Downs
(6) Cables 5-5 thru 13-13 in order

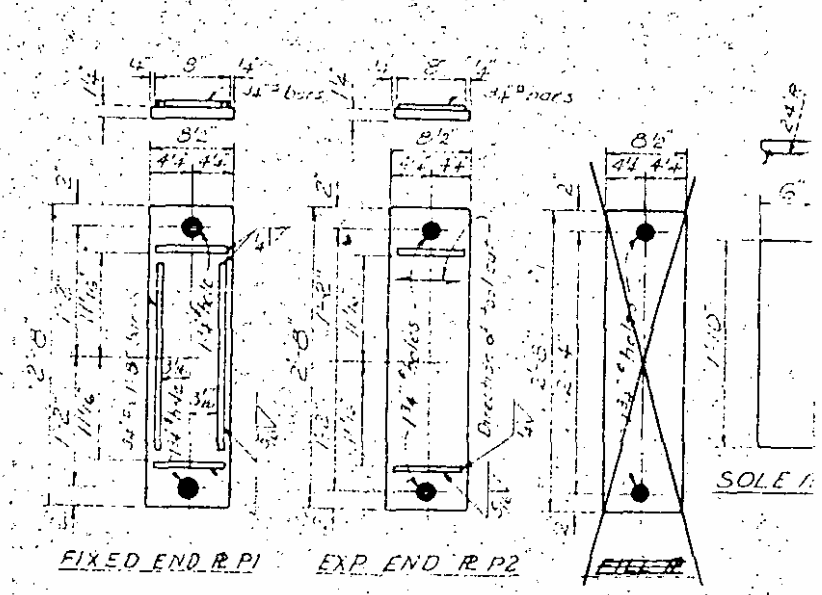
For High Strength 7/16" Cables
(1) Bottom Cables 1-1
(2) Draped Cables 2-2
(3) Draped Cables 3-3
(4) Cables 4-4
(5) Release Hold Downs
(6) Cables 5-5 thru 12-12 in order



DIAPHRAGM & BEARING PLATE LAYOUT



PRESTRESS CABLE LAYOUT USING HIGH STRENGTH 7/16" CABLES



For NOTES 1, 2, 3 & 4 see Girders for Spans A, B, C, D & E

SPECIAL
EVERETT B. COMER Date 21 NOV '69
ROBERT BRAGHAM Date 16 JAN '70
STANDARD

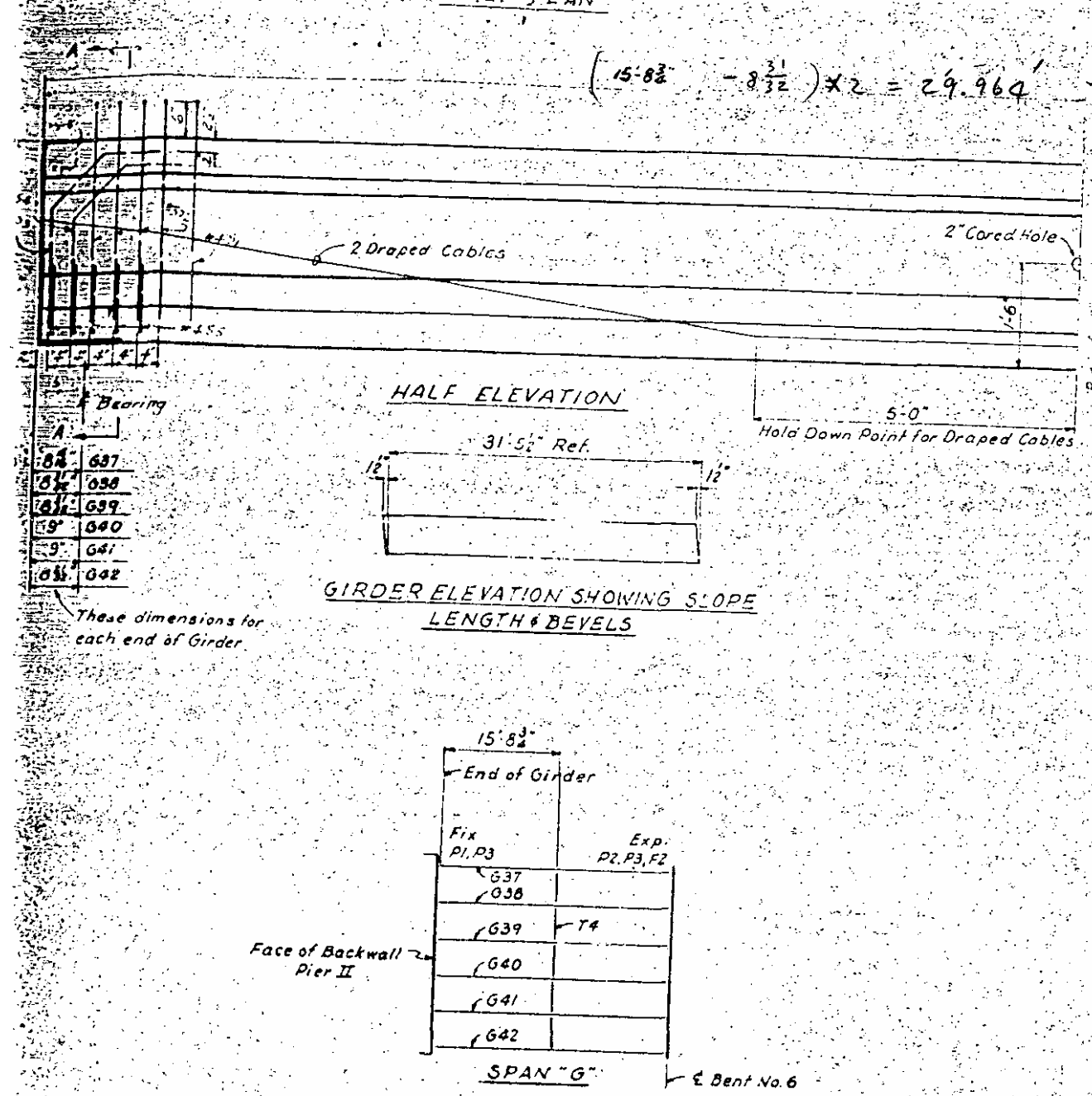
QUANTITIES FOR ONE GIRDER

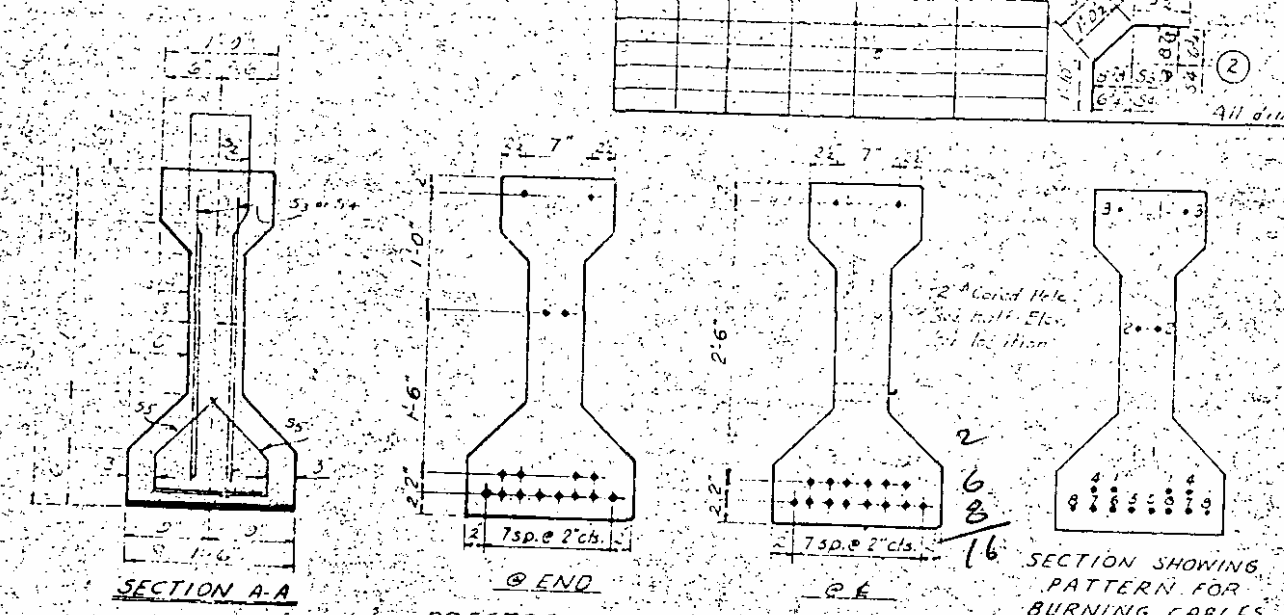
	Reinforcing Steel Lbs.	5,000 psi Concrete Cu. Yds.	Standard High Strength 7/16" ϕ R Cables No.	5 Cables No.
For SPAN "F"	518	7.17	26	24

GIRDERS REQUIRED

No.	Length	Total Length
6	49'-9½"	298'-9"

SPAN F 45" PC GDR

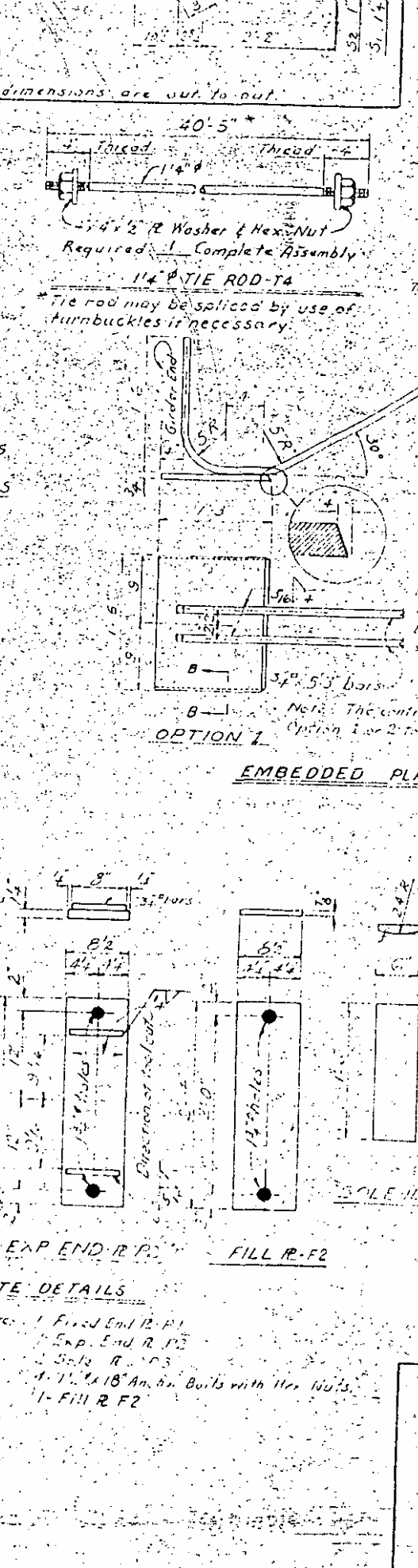


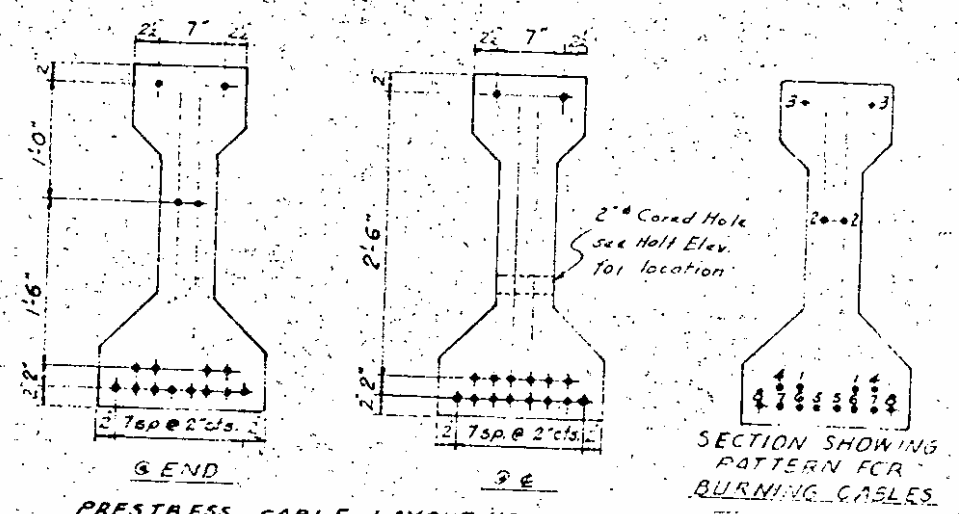


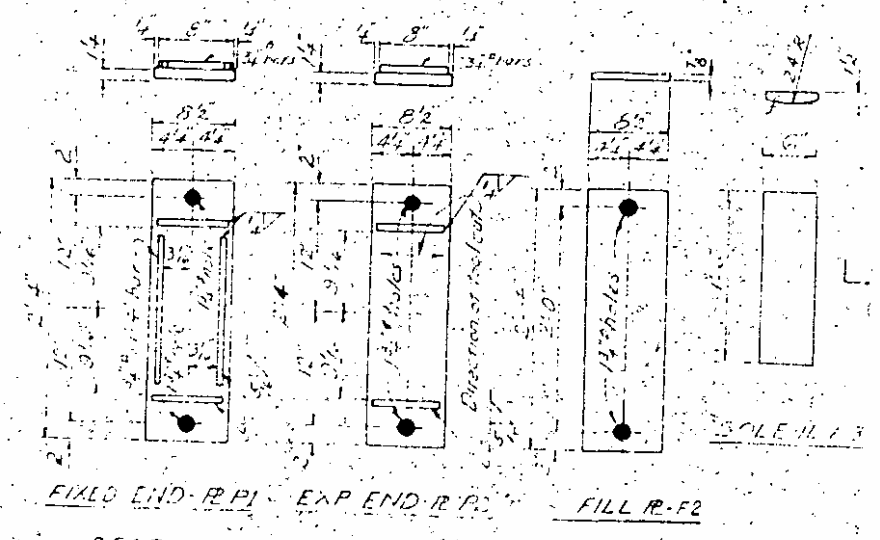
Note: If cable stress is relieved by burning each pair of cables shall be burned at ends of bed and between all girders before burning any of the next pair of cables. The following order of burning shall be strictly adhered to:

For Standard 7/16" Cables
(1) Bottom Cables 1-1
(2) Draped Cables 2-2
(3) Cables 3-3
(4) Release Hold Downs
(5) Cables 4-4
(6) Cables 5-5 thru 8-8 in order

For High Strength 7/16" Cables
(1) Bottom Cables 1-1
(2) Draped Cables 2-2
(3) Cables 3-3
(4) Release Hold Downs
(5) Cables 4-4
(6) Cables 5-5 thru 8-8 in order







Each Girder Requires: 1 Fixed End PL P1
1 Exp. End PL P2
2 Sole PL P3
4 1¼" x 18" Anchor Bolts with Hex Nuts
1 Fill PL F2

For NOTES 1, 2, 3 & 4 see Girders for Spans A, B, C, D & E

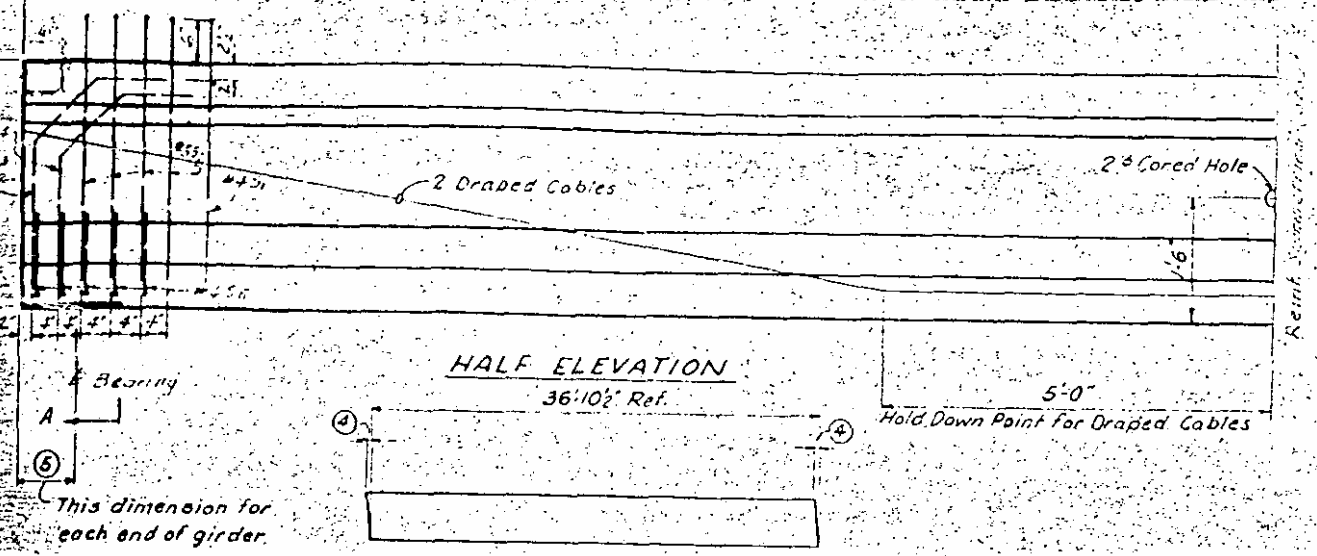
QUANTITIES FOR ONE GIRDER				
	Reinforcing Steel Lbs.	5,000 psi Concrete Cu. Yds.	Standard 7/16" S.R. Cables No.	High Strength 7/16" S.R. Cables No.
Span "G"	289	2.99	16	16

GIRDERS REQUIRED		
No.	Length	Total Length
6	31'-5½"	189'-9"

SPECIAL
By EVERETTE COMER Date 24 NOV '69
By ROBERT BINGHAM Date 15 Nov '70

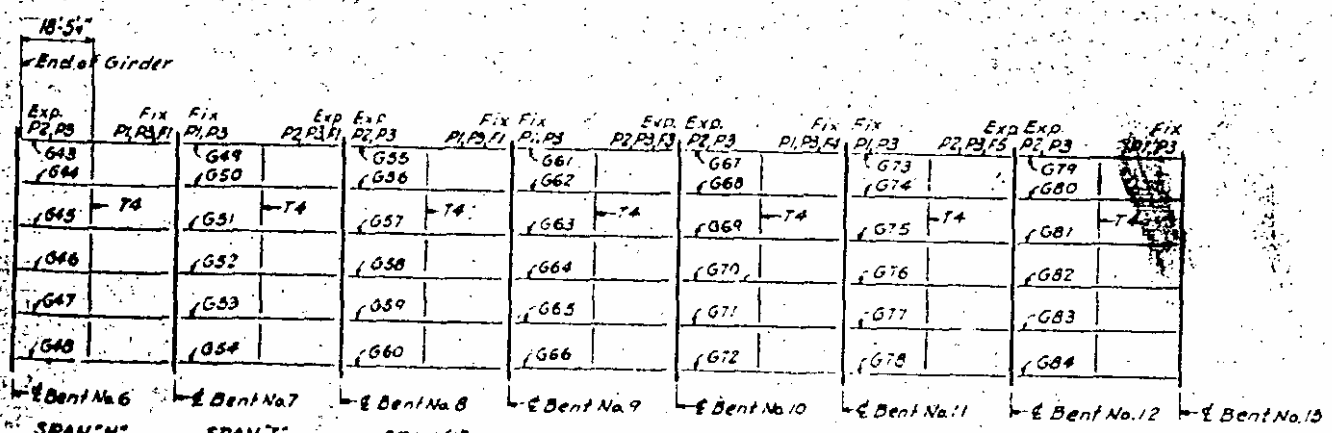
SPAN G 36" PC GDR

(18'-5¼") - 9 1/32" = 17.685 (2) = 35.370' < SP. A



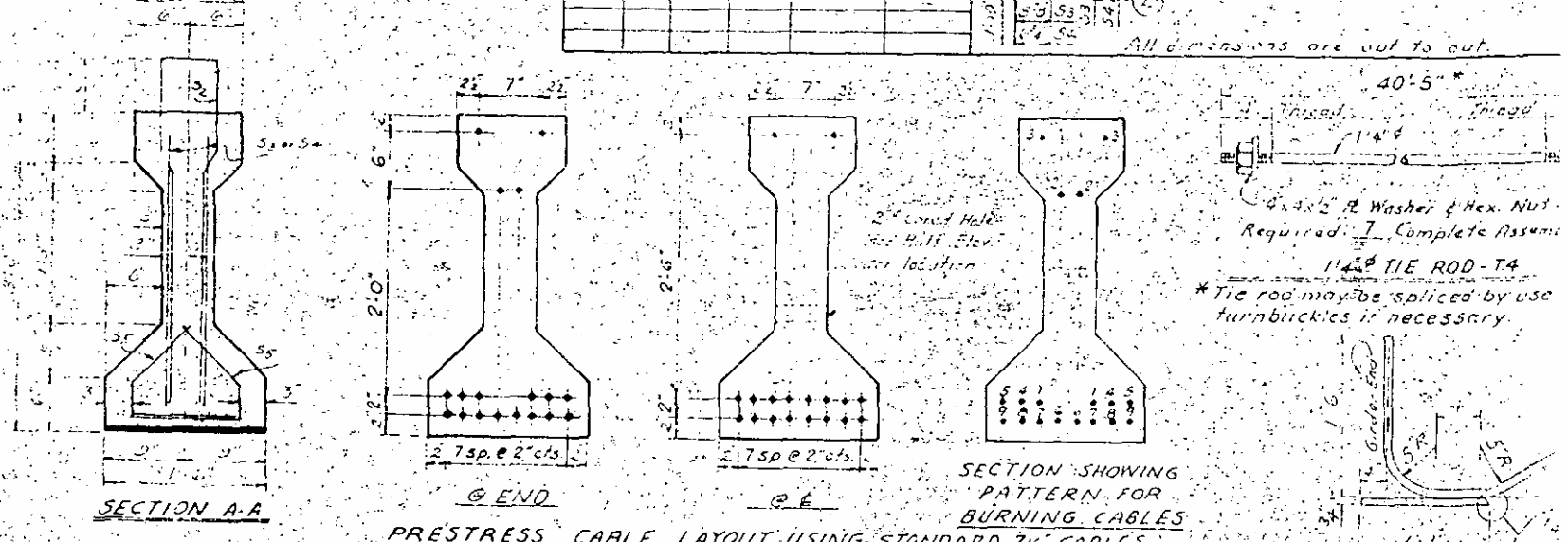
GIRDER ELEVATION SHOWING SLOPE LENGTH & BEVELS

TABLE OF PRESTRESSED GIRDER DIMENSIONS									
Span	Girder Mark	(4)	(5)						
"H"	G43-G48 incl.	1½"	G43: 9 5/32"	G44: 9 5/32"	G45: 9 1/16"	G46: 9 3/32"	G47: 9 3/32"	G48: 9 1/4"	
"I"	G49-G54 incl.	1 1/16"	G49: 9 3/32"	G50: 9 3/32"	G51: 9 1/32"	G52: 9 1/32"	G53: 9 1/32"	G54: 9 3/32"	
"J"	G55-G60 incl.	1 1/16"	G55: 9 3/32"	G56: 9 3/32"	G57: 9 1/32"	G58: 9 1/32"	G59: 9 3/32"	G60: 9 3/32"	
"K"	G61-G66 incl.	1¼"	G61: 9 1/8"	G62: 9 1/8"	G63: 9 1/8"	G64: 9 1/8"	G65: 9 1/8"	G66: 9 1/8"	
"L"	G67-G72 incl.	15/16"	G67: 9 1/4"	G68: 9 3/16"	G69: 9 1/4"	G70: 9 1/16"	G71: 9 3/16"	G72: 9 3/16"	
"M"	G73-G78 incl.	9/16"	G73: 9 7/32"	G74: 9 3/32"	G75: 9 7/32"	G76: 9 7/32"	G77: 9 7/32"	G78: 9 3/32"	
"N"	G79-G84 incl.	0"	G79: 9 1/4"	G80: 9 1/4"	G81: 9 1/4"	G82: 9 1/4"	G83: 9 1/4"	G84: 9 1/4"	



DIAPHRAGM & BEARING PLATE LAYOUT

(Diaphragm spacing shown typical for Spans "H", "I", "J", "K", "L", "M" & "N")

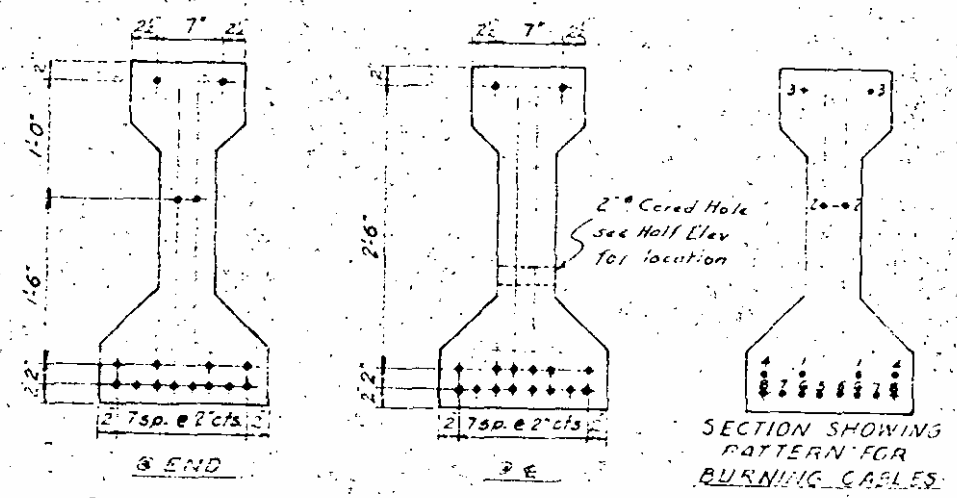


PRESTRESS CABLE LAYOUT USING STANDARD 7/16" CABLES

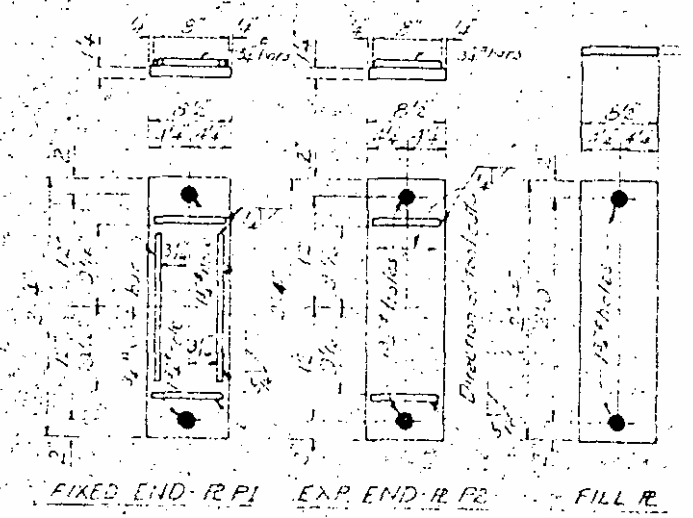
Note: If cable stress is relieved by burning, each pair of cables shall be burned at ends of beds and between all girders before burning any of the next pair of cables. The following order of burning shall be strictly adhered to:

For Standard 7/16" Cables
(1) Bottom Cables 1-1
(2) Draped Cables 2-2
(3) Cables 3-3
(4) Release Hold Downs
(5) Cables 4-4 thru 9-9 in order

For High Strength 7/16" Cables
(1) Bottom Cables 1-1
(2) Draped Cables 2-2
(3) Cables 3-3
(4) Release Hold Downs
(5) Cables 4-4 thru 8-8 in order



PRESTRESS CABLE LAYOUT USING HIGH STRENGTH 7/16" CABLES



BEARING PLATE DETAILS

Each Girder Requires: 1 Fixed End ℞ F1
1 Exp. End ℞ P2
2 Solid ℞ P3
4 1½"x18" Anchor Bolts with Hex. Nuts
1 - FILL ℞ as shown on "DIAPHRAGM BEARING PLATE LAYOUT"

For NOTES 1, 2, 3 & 4 see Girders for Spans "A", "B", "C", "D" & "E"

QUANTITIES FOR ONE GIRDER				
	Reinforcing Steel Lbs	5,000 psi Concrete Cu. Yds.	Standard 7/16" S.R. Cables No.	High Strength 7/16" S.R. Cables No.
Spans "H", "I", "J", "K", "L", "M" & "N"	346	3.50	18	16

GIRDERS REQUIRED		
No.	Length	Total Length
42	36'-10½"	1548'-9"

SPECIAL

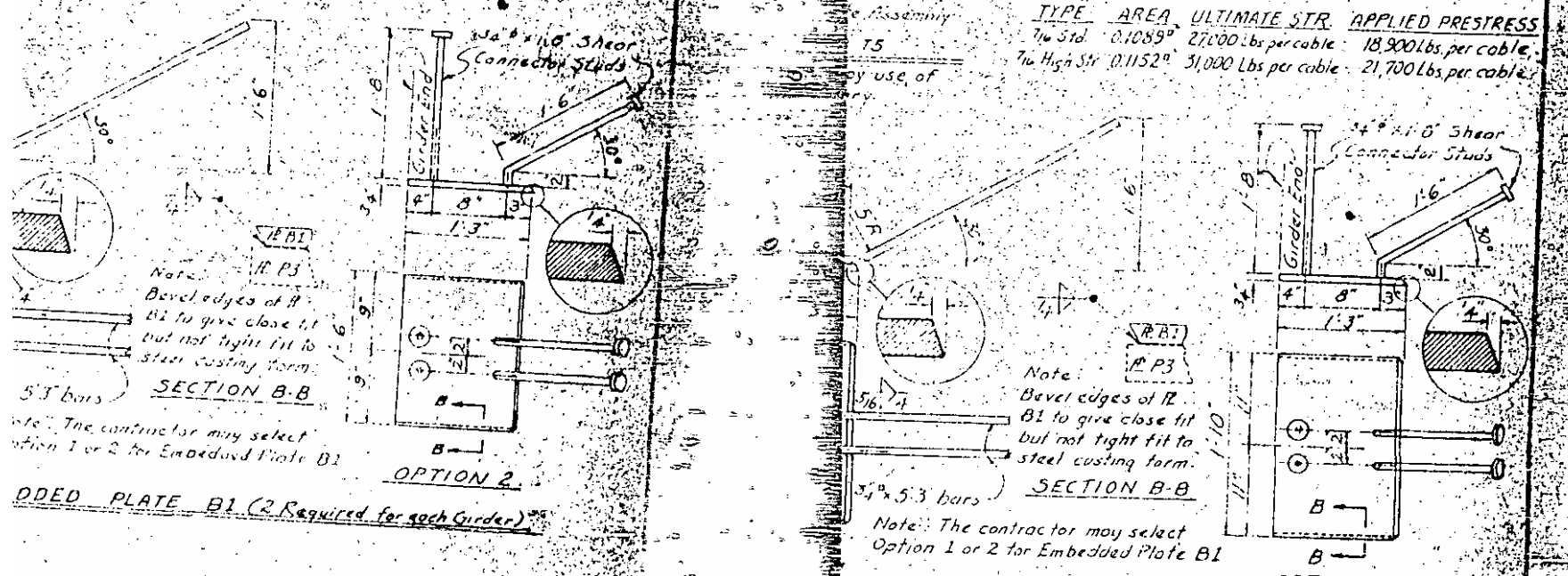
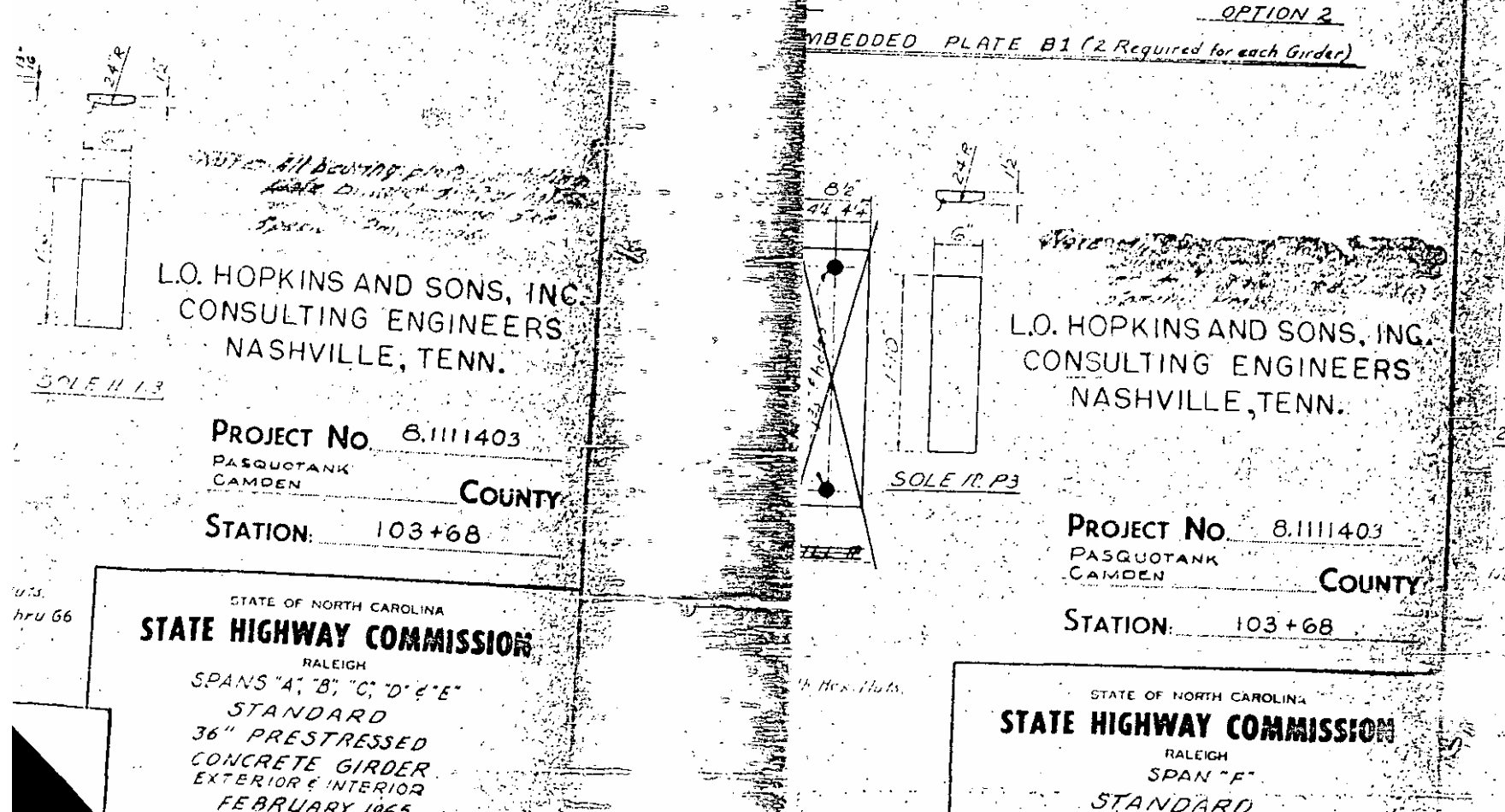
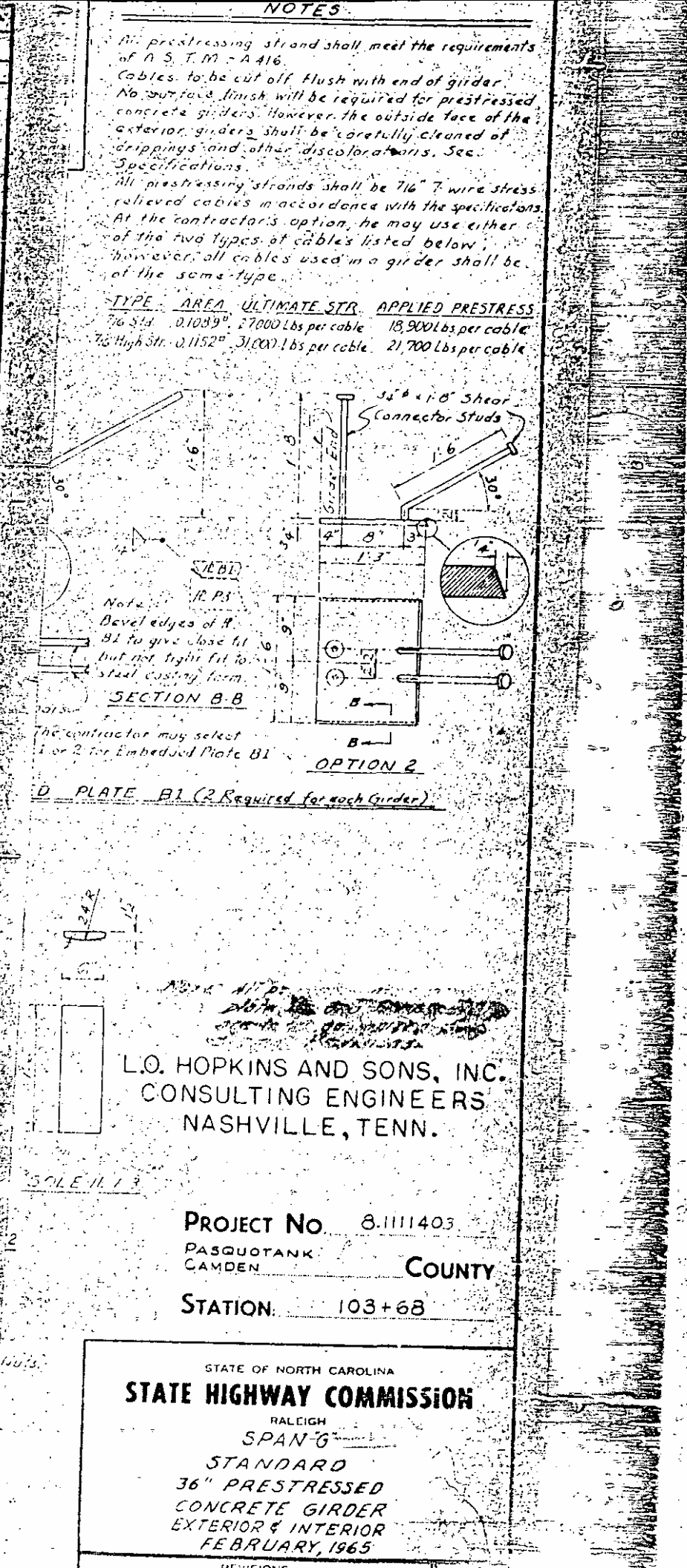
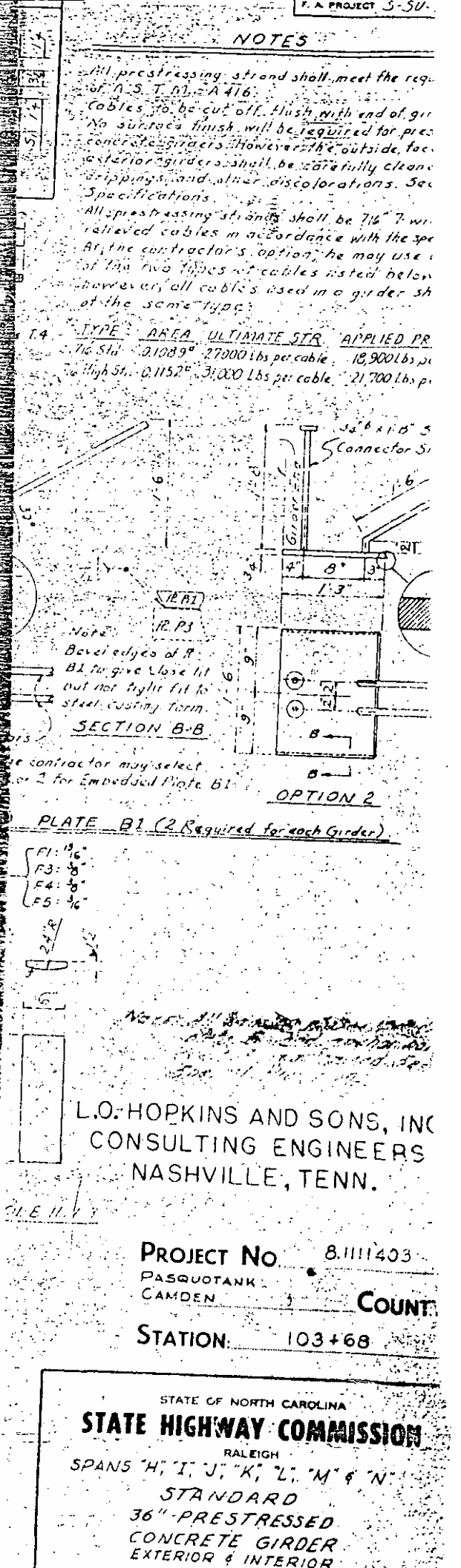
Checked By: EVERETTE COMER Date: 24 NOV '69

Approved By: FRANCIS BINKHAM Date: 19 JAN. 70

SPAN H, I, J, K, L, M & N - 36" PC GDR.

FED. ROAD DIV. NO.	STATE	PROJECT NO.
3	N. C.	8.1111403
F. A. PROJECT	S-SU-1672(2)	

NOTES

All prestressing strand shall meet the requirements of A.S.T.M - A416.
Cables to be cut off flush with end of girder.
No surface finish will be required for prestressed concrete girders. However the outside face of the exterior girders shall be carefully cleaned of drippings and other discolorations. See Specifications.
All prestressing strands shall be 7/16" 7-wire stress relieved cables in accordance with the specifications.
At the contractor's option, he may use either of the two types of cables listed below; however, all cables used in a girder shall be of the same type.

TYPE	AREA	ULTIMATE STR.	APPLIED PRESTRESS
7/16 Std.	0.1089"	27,000 Lbs per cable	18,900 Lbs per cable
7/16 High Str.	0.1152"	31,000 Lbs per cable	21,700 Lbs per cable