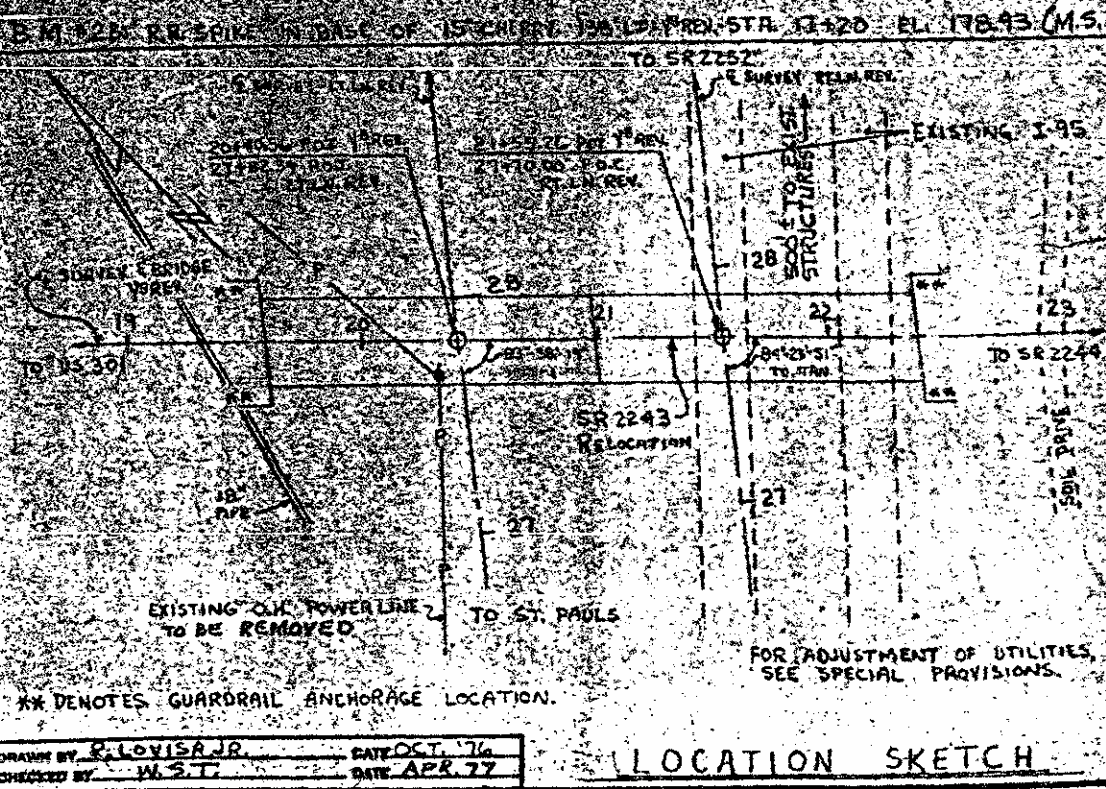


NOTES  
 ASSUMED LIVE LOAD EQUALS HS15-44.  
 FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET B-N.  
 PILES FOR END BENTS #1 & #2 AND BENT #1 TO BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 30 TONS EACH.  
 ALL STRUCTURAL STEEL SHALL BE UNPAINTED ASTH A588 WITH A MINIMUM YIELD STRENGTH OF 50,000 PSI EXCEPT:  
 (1) ANCHOR BOLTS, NUTS, AND WASHERS, WHICH SHALL BE IN ACCORDANCE WITH SPECIFICATIONS.  
 (2) ALL BEARING PLATES TO BE ASTH A-36 EXCEPT SELF-LUBRICATING PLATES.  
 FOR SURFACE PREPARATION AND PROTECTION OF UNPAINTED STEEL, SEE SPECIAL PROVISIONS.  
 FOR PROTECTION OF SUBSTRUCTURE, SEE SPECIAL PROVISIONS.  
 FOR TEXTURE REQUIREMENTS FOR BRIDGE DECKS, SEE SPECIAL PROVISIONS.  
 FOR PORTLAND CEMENT CONCRETE, SEE SPECIAL PROVISIONS.  
 WORK IS NOT TO BE STARTED ON THE INTERIOR BENT UNLESS THE PORTION OF THE ROADWAY SECTION AS NECESSARY FOR CONSTRUCTION OF THE BENT HAS BEEN EXCAVATED BY THE ROADWAY CONTRACTOR UNLESS OTHERWISE PERMITTED BY THE ENGINEER. EXCAVATION DEPTHS ARE BASED ON THE SURFACE OF THE ROADWAY CUT.  
 THE EXISTING DUAL STR. 2-2243 CONSISTING OF 28" x 10" x 10" & 28" x 7" x 4" I-BEAM AND CONCRETE SPANS ON CONCRETE END BENTS & CONCRETE POST & BEAM INTERIOR BENTS IS LOCATED NORTH OF THE PROPOSED STRUCTURE & STA. 21+82.25. SHALL BE REMOVED. SEE SPECIFICATIONS AND SPECIAL PROVISIONS.  
 FOR MAINTENANCE OF TRAFFIC, SEE SPECIAL PROVISIONS.

I HEREBY CERTIFY THAT THIS STRUCTURE WAS BUILT ACCORDING TO PLANS EXCEPT AS NOTED HEREIN.  
 R. J. Nelson  
 RESIDENT ENGINEER

PROJECT No. 8437405  
 CUMBERLAND COUNTY  
 STATION: 21+70.00 P.O.C. PLAN REV. 21+55.26 ROT. V.B. REV.



See General Note, Pay Record Book No. 1, Page 5

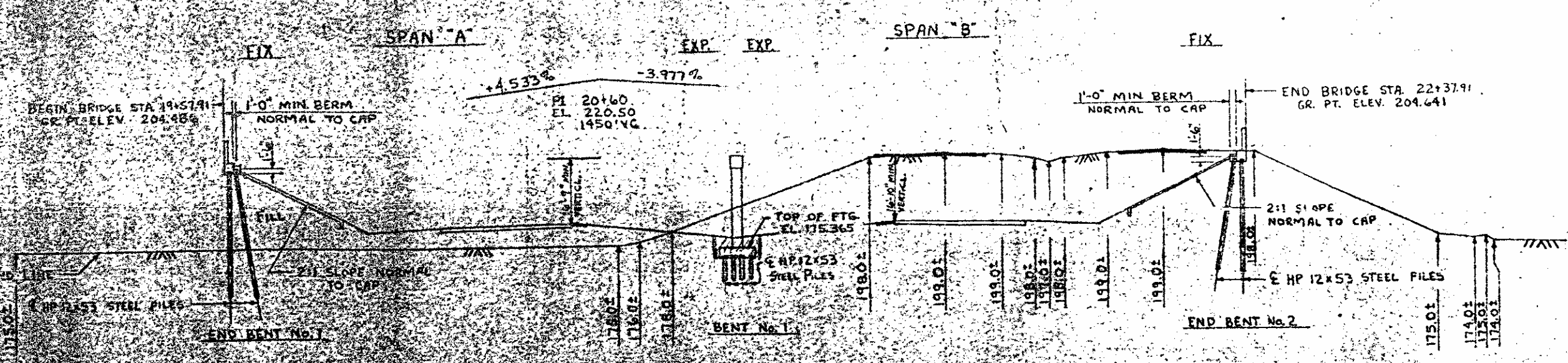
	TOTAL BILL OF MATERIAL												
	EMULSION ASPHALT PROTECTIVE COATING FOR CONCRETE SQ. FT.	REMOVAL OF EXIST. STAY CONCRETE CU. YDS.	EXCAV. CU. YDS.	CLASS "A" CONCRETE CU. YDS.	CLASS "A" CONCRETE CU. YDS.	REINFORCING STEEL LBS.	STRUCTURAL STEEL APPROX. LBS.	HP 12x53 STEEL PILES NO.	LINSEED OIL CONCRETE PROTECTION GALS.	BRIDGE APPROACH SLABS LUMP SUM	EXPANSION JOINT SEAL LUMP SUM	4" CONC. SLOPE PROTECTION SQ. YDS.	CONCRETE BARRIER RAIL LIN. FT.
SUBSTRUCTURE				314.0		27,824	401,700		27			223.30	504.00
END BENT #1					20.8	3931		19		L.S.		180.00	
BENT #1	119.07	113.50	90		65.3	11,341		36					
END BENT #2	181.23				20.8	3931		19		L.S.		180.00	
CURVED END BENT				2.9		616							
INDEPENDENT ANCHORAGE SAMPLES	121.23					169							
TOTAL	449.07	113.50	90	316.9	106.9	81,643	401,700	74	27	L.S.	367.35	563.50	504.00

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 GENERAL DRAWING FOR BRIDGE ON  
 RELOCATED SR 2243 (V.B. REV.) OVER  
 I-95 BETWEEN US 301 AND SR 2244

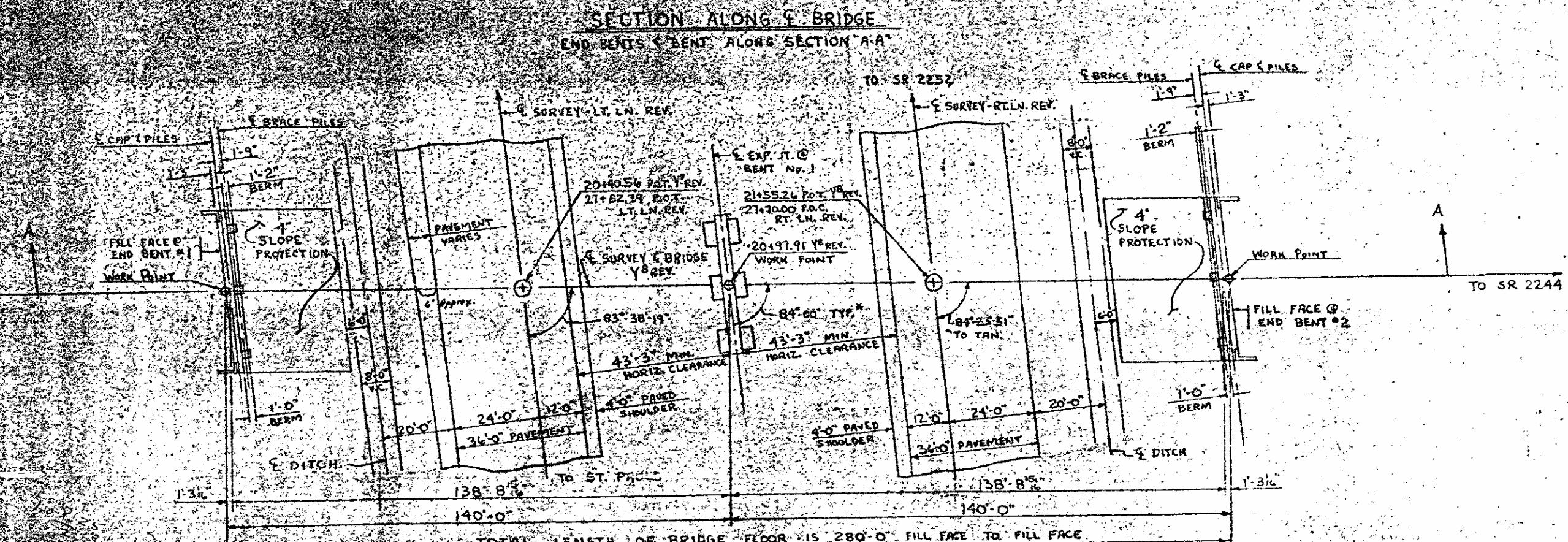
REVISIONS				SHEET	
NO.	BY	DATE	NO.	BY	DATE
1			2		
2			3		
3			4		

NO. 65 OF 65

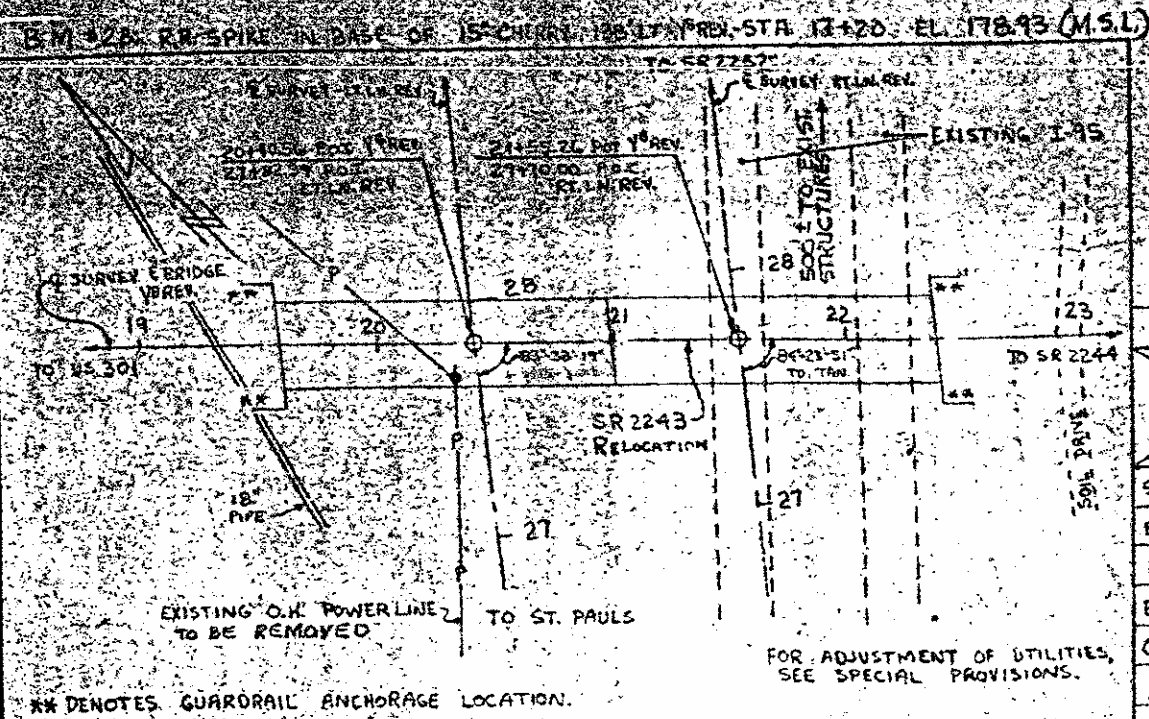
19+00 19+50 20+00 20+50 21+00 21+50 22+00 22+50 23+00



NOTES  
ASSUMED LIVE LOAD EQUALS HS13-44.  
FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET S-N.  
PILES FOR END BENTS #1 & #2 AND BENT #1 TO BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 30 TONS EACH.  
ALL STRUCTURAL STEEL SHALL BE UNPAINTED ASTM A588 WITH A MINIMUM YIELD STRENGTH OF 50,000PSI, EXCEPT (1) ANCHOR BOLTS, NUTS, AND WASHERS, WHICH SHALL BE IN ACCORDANCE WITH SPECIFICATIONS. (2) ALL BEARING PLATES TO BE ASTM A-36 EXCEPT SELF-LUBRICATING PLATES.  
FOR SURFACE PREPARATION AND PROTECTION OF UNPAINTED STEEL, SEE SPECIAL PROVISIONS.  
FOR PROTECTION OF SUBSTRUCTURE, SEE SPECIAL PROVISIONS.  
FOR TEXTURE REQUIREMENTS FOR BRIDGE DECKS, SEE SPECIAL PROVISIONS.  
FOR PORTLAND CEMENT CONCRETE, SEE SPECIAL PROVISIONS.  
WORK IS NOT TO BE STARTED ON THE INTERIOR BENT UNTIL THE PORTION OF THE ROADWAY SECTION AS NECESSARY FOR CONSTRUCTION OF THE BENT HAS BEEN EXCAVATED BY THE ROADWAY CONTRACTOR UNLESS OTHERWISE PERMITTED BY THE ENGINEER. EXCAVATION QUANTITIES ARE BASED ON THE SURFACE OF THE ROADWAY.  
THE EXISTING DUAL STR. EACH CONSISTING OF 28x8" I-BEAM & 28x8" I-BEAM AND CONCRETE SPANS ON CONCRETE END BENTS & CONCRETE POST & BEAM INTERIOR BENTS AND LOCATED NORTH OF THE PROPOSED STRUCTURE @ STA. 34+62.25. SHALL BE REMOVED PER SPECIFICATIONS AND SPECIAL PROVISIONS.  
FOR MAINTENANCE OF TRAFFIC, SEE SPECIAL PROVISIONS.



I HEREBY CERTIFY THAT THIS STRUCTURE WAS BUILT ACCORDING TO PLANS EXCEPT AS NOTED HEREIN.  
P. J. Nelson  
RESIDENT ENGINEER



# See General Note Pay Record Book No. 1, Page 5

TOTAL BILL OF MATERIAL												
	EPoxy RESIN/REMOVAL OF PROTECTIVE COATING FOR EXIST. SPAN CONCRETE	EXCAV. CU. YDS.	CLASS "AA" CONCRETE CU. YDS.	CLASS "A" CONCRETE CU. YDS.	REINFORCING STEEL LBS.	STRUCTURAL STEEL APPROX. LBS.	HP 12x53 STEEL PILES NO. LIN. FT.	LINSEED OIL CONCRETE PROTECTION GALS.	BRIDGE APPROACH SLABS LUMP SUM	EXPANSION JOINT SEAL LUMP SUM	4" CONC. SLOPE PROTECTION SQ. YDS.	CONCRETE BARRIER RAIL LIN. FT.
SUPERSTRUCTURE			314.0		61,932	401,700		27				564.00
END BENT #1				20.8	3931		19		L.S.			
BENT #1	11,907	40		65.3	11,341		36					
END BENT #2	18,123			20.8	3931		19		L.S.			
CURVED END BENT			2.9		616							
INDEPENDENT RESURFACE SAMPLES	12,123				169							
TOTAL	11,907	113.50	316.9	106.9	84,781	401,700	74	27	L.S.	L.S.	1,827.33	563.50
	134				31,643						350	564.00
					81,920							

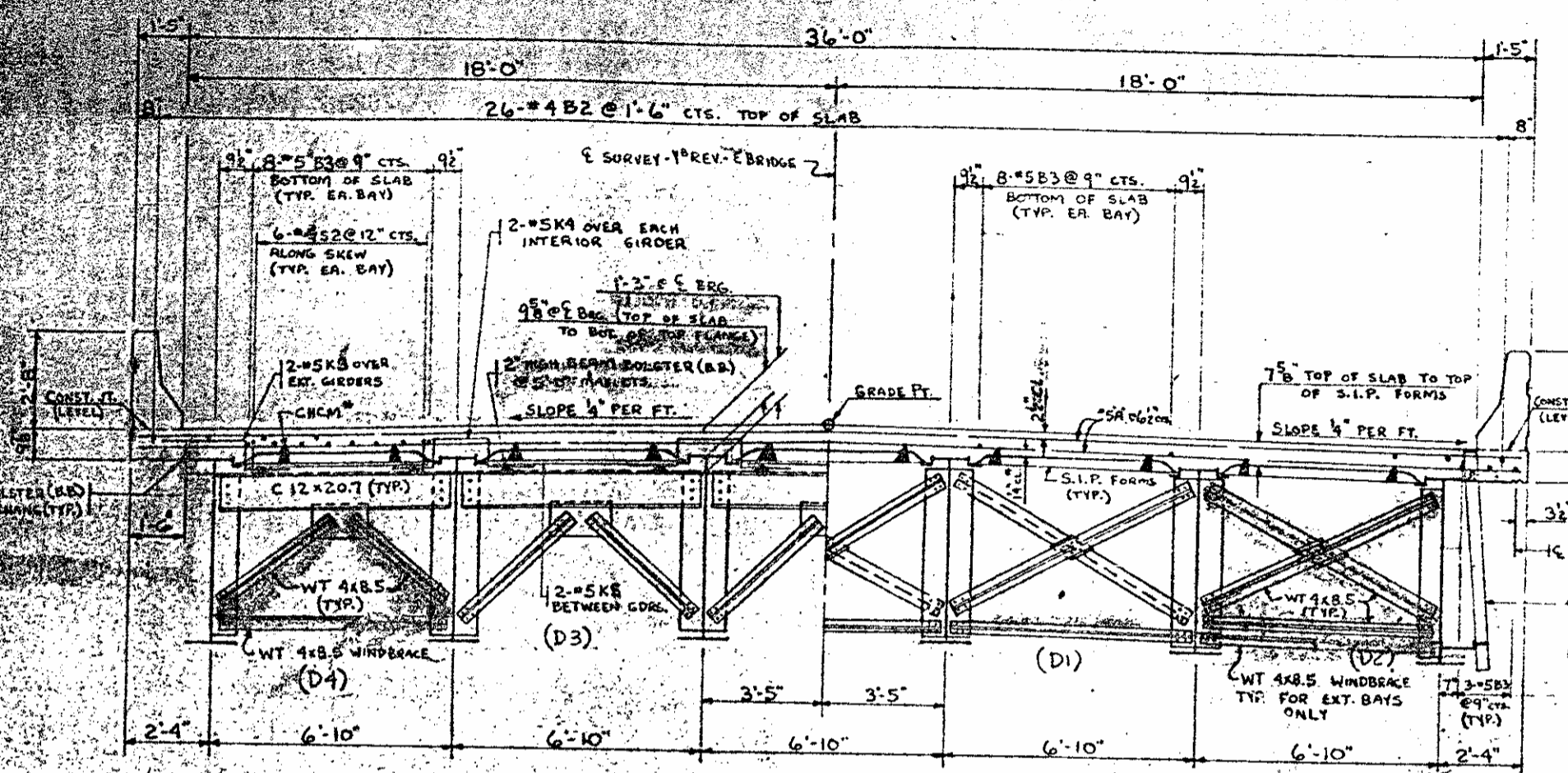
PROJECT No. 81347405  
CUMBERLAND COUNTY  
STATION: 21+70.00 P.O. RT. LN. REV.  
21+55.26 P.O.T. V8 REV.

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

GENERAL DRAWING FOR BRIDGE ON RELOCATED SR 2243 (7<sup>th</sup> REV.) OVER I-95 BETWEEN US 301 AND SR 2244.

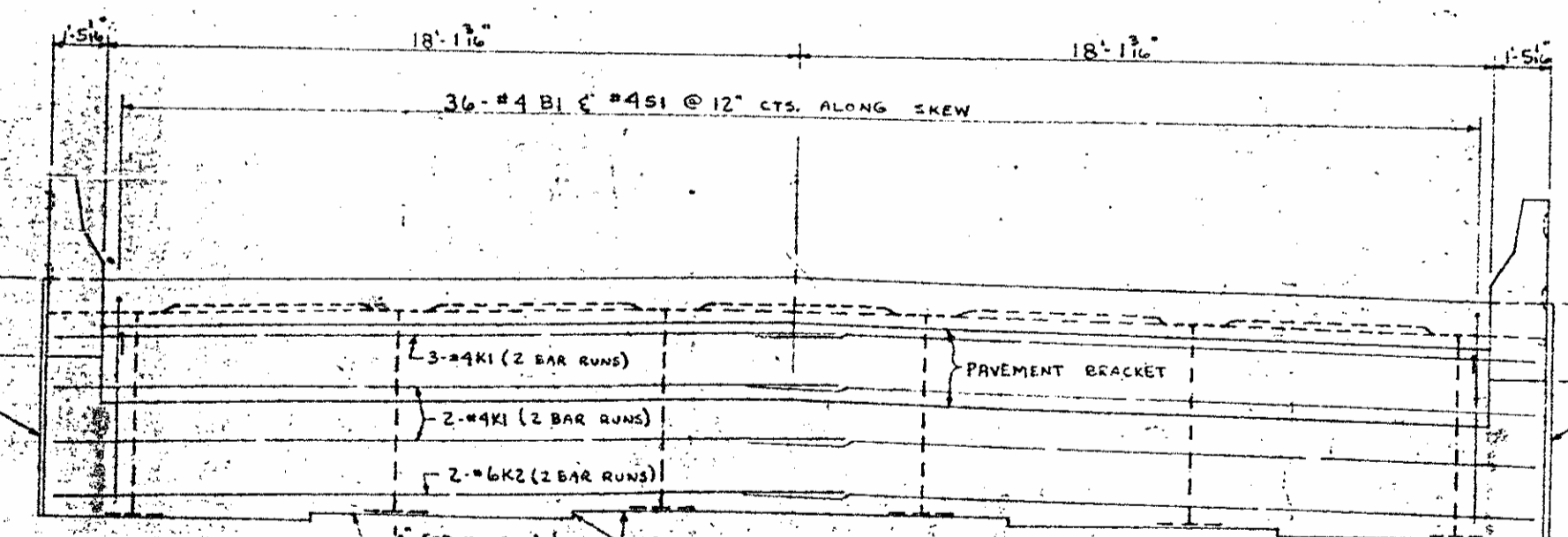
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			2		
3			4		

DRAWN BY R. LOVIE JR. DATE OCT. 76  
CHECKED BY W. S. T. DATE APR. 77

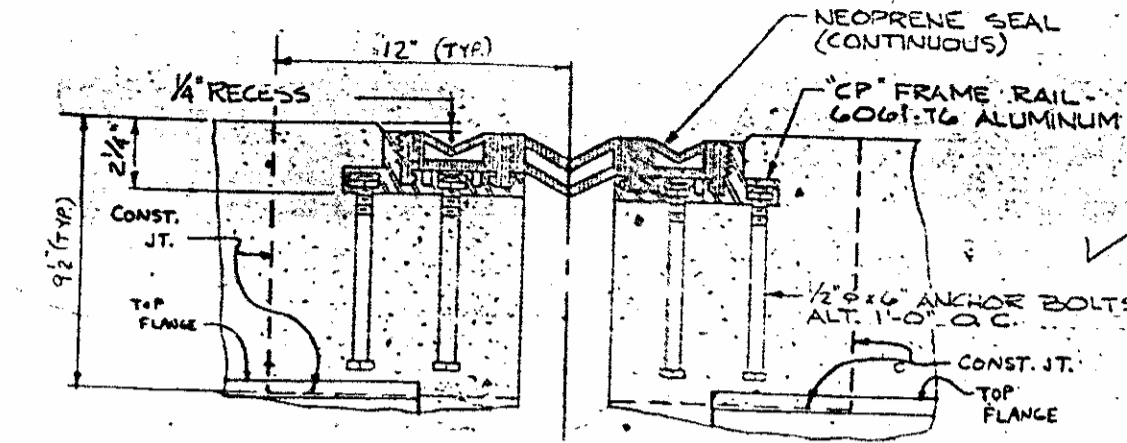


PART SECTION - SPAN "A" OR "B"  
(SHOWING BENT DIAPHRAGMS - D3 & D4)

PART SECTION - SPAN "A" OR "B"  
(SHOWING INTERMEDIATE DIAPHRAGMS - D1 & D2)

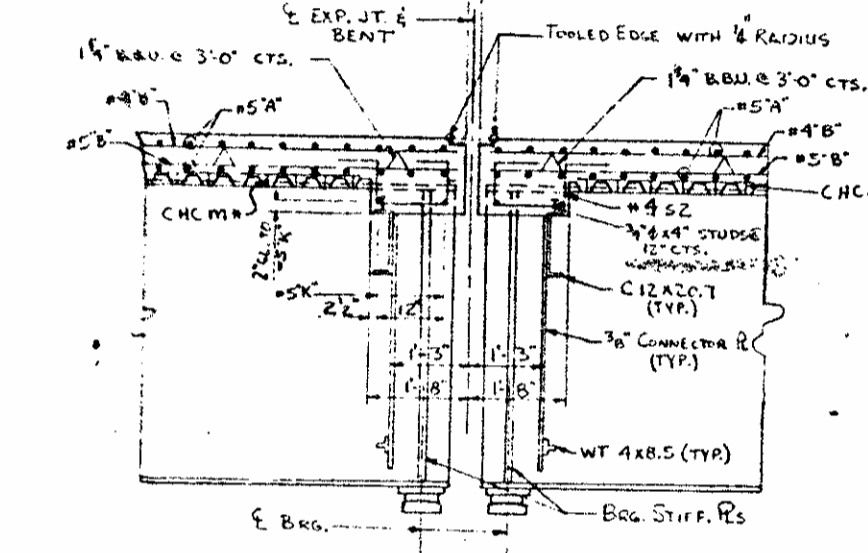


END ELEVATION



EXPANSION JOINT SEAL DETAIL

OPEN JT. @ 80°F	1"
@ 30°F	3"
@ 60°F	2 1/2"
@ 90°F	1 1/2"



SECTION THROUGH BENT DIAPHRAGM

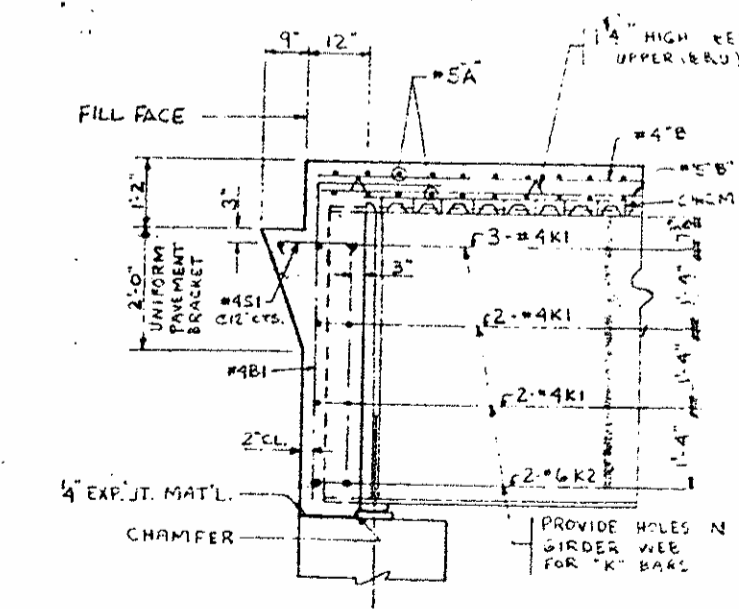
\* PROVIDE CONTINUOUS HIGH CHAIR FOR METAL DECK (CHCM) @ 4'-0" CTS. WITH LEG SPACING TO MATCH THE PITCH OF THE METAL FORM AND ADEQUATE TO SUPPORT BOTTOM LAYER OF SLAB REINFORCEMENT A CLEAR DISTANCE OF 1 1/4" ABOVE THE TOP OF THE STAY-IN-PLACE FORM. SEE SPECIAL PROVISIONS.

1. REINFORCING STEEL BAR SUPPORTS, SEE SPECIAL PROVISIONS.

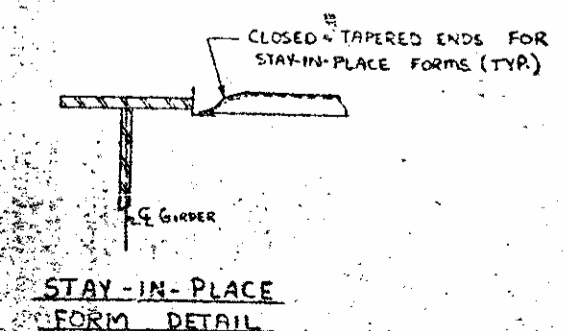
\*\* CONTRACTOR WILL BE REQUIRED TO DETERMINE THE HEIGHT OF THE BEAM BOLSTER IN THE SLAB OVERHANG AT THE LOCATION SHOWN.

NOTE: THE TOP OF EXPANSION JOINT SEAL SHALL BE SET 1/4" BELOW TOP OF CURB.

THE EXPANSION JOINT SEAL SHALL BE CAPABLE OF HANDLING A TOTAL THERMAL MOVEMENT MEASURED PARALLEL TO E ROWLY OF 2 1/2" (MIN. EXP. (1/4" CONTR. MEASURED FROM A MIDPOINT TEMP. OF 60°F.) FOR EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.

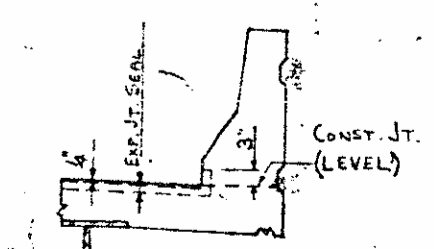


SECTION THROUGH CURTAIN WALL



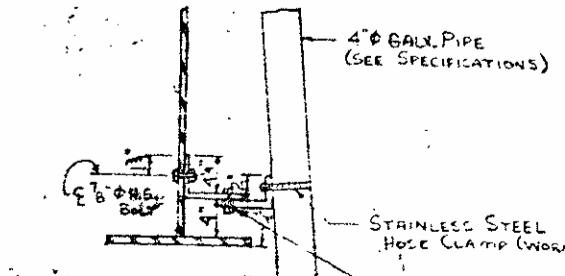
STAY-IN-PLACE FORM DETAIL

FOR FABRICATED METAL STAY-IN-PLACE FORMS, SEE SPECIAL PROVISIONS.



LIMIT OF EXPANSION JOINT SEAL

FOR PAINTING OF DRAINS, SEE SPECIAL PROVISIONS.



PIPE DRAIN DETAIL

NOTE: USE 3/8" Ø BOLTS WITH WASHER USE 3/8" X 2" CONN. R.

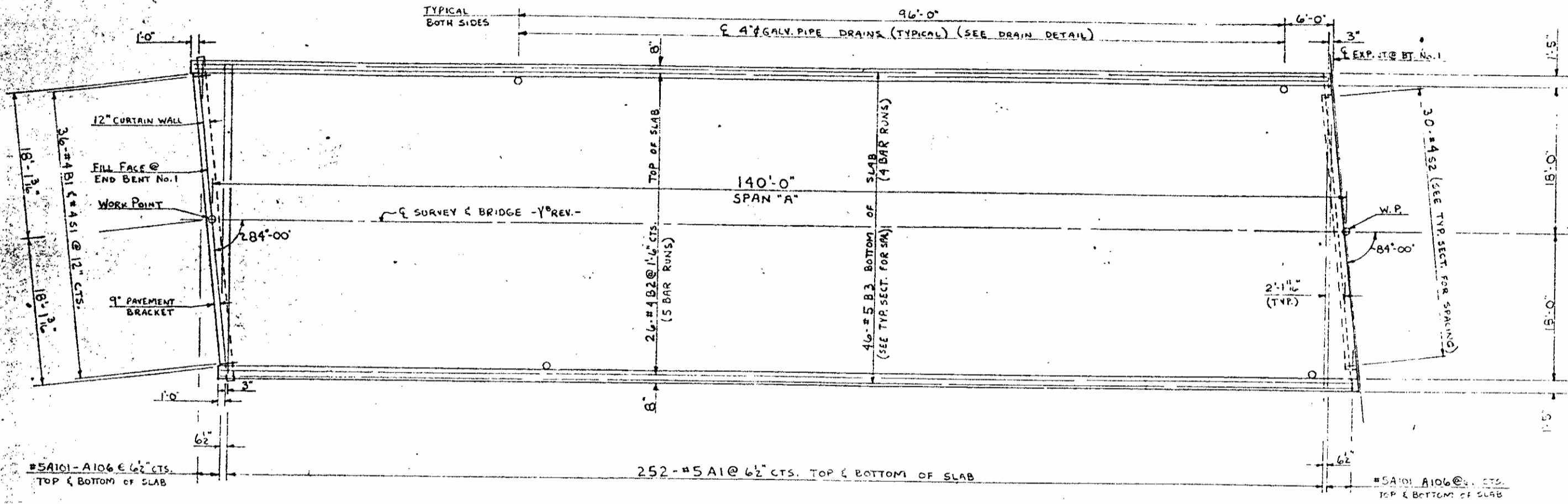
PROJECT No. 8.1347405  
CUMBERLAND COUNTY  
STATION: 27470.00 P.T. LN. REV.

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
SUPERSTRUCTURE  
TYPICAL SECTIONS

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1	RJH	D-25-78	3		
2			4		

DRAWN BY: R. LOVISE JR. DATE: NOV 11  
CHECKED BY: J. J. T. DATE: APR 77

REV. 1: REVISED FOR EXPANSION JOINT



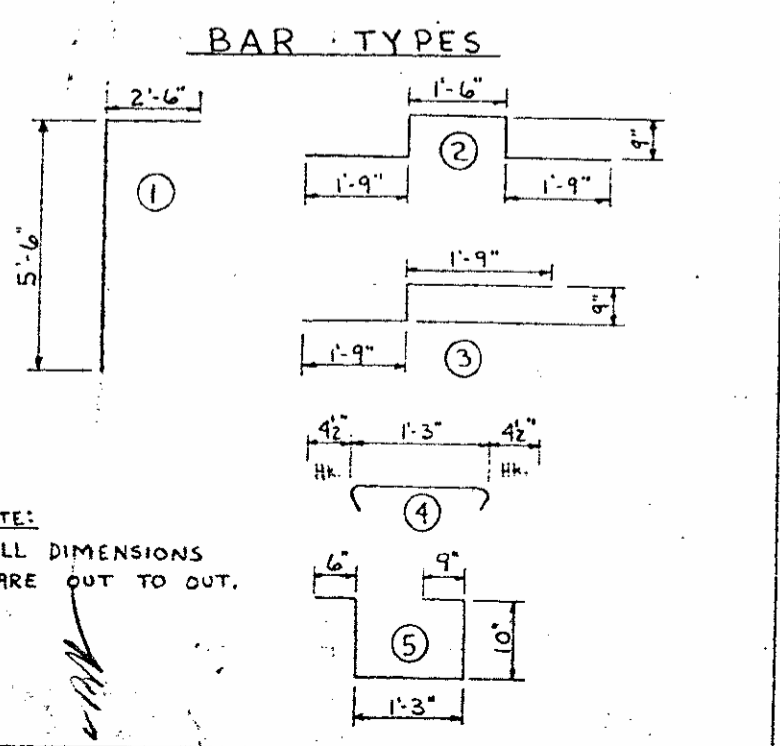
REINFORCING STEEL LENGTHS ARE BASED ON THE FOLLOWING MINIMUM SPLICE LENGTHS

BAR SIZE	SPLICE DISTANCE
# 4	1'-3"
# 5	1'-9"
# 6	2'-0"
# 7	2'-3"
# 8	2'-6"
# 9	2'-9"
# 10	3'-3"
# 11	3'-6"

PLAN OF SLAB  
SPAN "B" SIMILAR BY ROTATION.

BILL OF MATERIAL

SPAN "A"					SPAN "B"						
BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR NO.	SIZE	TYPE	LENGTH	WEIGHT		
A1	504	5	STR.	38-6	20238	A1	504	5	STR.	38-6	20238
A101	4			32-3	135	A101	4			32-3	135
A102				27-1	113	A102				27-1	113
A103				21-11	91	A103				21-11	91
A104				16-9	70	A104				16-9	70
A105				11-7	48	A105				11-7	48
A106	4	5	STR.	6-5	27	A106	4	5	STR.	6-5	27
B1	36	4	1	8-0	192	B1	36	4	1	8-0	192
B2	130	4	STR.	28-11	2511	B2	130	4	STR.	28-11	2511
B3	184	5	STR.	36-3	6957	B3	184	5	STR.	36-3	6957
K1	14	4	STR.	20-2	189	K1	14	4	STR.	20-2	189
K2	4	6	STR.	20-6	123	K2	4	6	STR.	20-6	123
K3	4	5	3	4-3	18	K3	4	5	3	4-3	18
K4	8	5	2	6-6	54	K4	8	5	2	6-6	54
K5	10	5	STR.	6-6	68	K5	10	5	STR.	6-6	68
S1	36	4	4	2-0	48	S1	36	4	4	2-0	48
S2	30	4	5	4-2	84	S2	30	4	5	4-2	84
TOTAL				30966		TOTAL				30966	

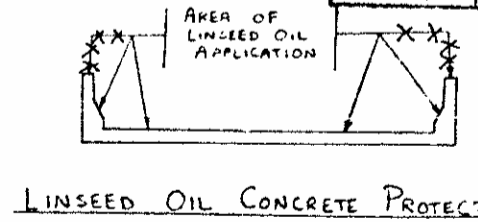


BILL OF MATERIAL FOR SUPERSTRUCTURE

REINFORCING STEEL	- LBS.	61,932
CLASS "AA" CONCRETE	- Cu. Yds.	314.0
STRUCTURAL STEEL	- Approx. Lbs.	101,700
CONCRETE BARRIER RAIL	- LIN. FT.	563.30
LINSEED OIL CONG. PROTECTION	- GAL.	27
EXPANSION JOINT SEALS	- LUMP SUM	L.S.

DIVISION OF CLASS "AA" CONCRETE (Cu. Yds.)		
SLAB	SPAN "A"	SPAN "B"
	157.0	157.0



LINSEED OIL CONCRETE PROTECTION

PROJECT No. 8.1347405  
 CUMBERLAND COUNTY  
 STATION: 27+70.00 RT. L.N. RD.

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUPERSTRUCTURE  
 PLAN OF SLAB

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1	R/L	1-25-72	2		
2			3		

REVISION: Revised spans for expansion joint.

DRAWN BY: R. LOUISA, JR. DATE: NOV 17 66  
 CHECKED BY: K.S. DATE: APR 27 77

FED. ROAD DIST. NO.	STATE	PROJECT NO.
	N.C.	
K.A. PROJECT		

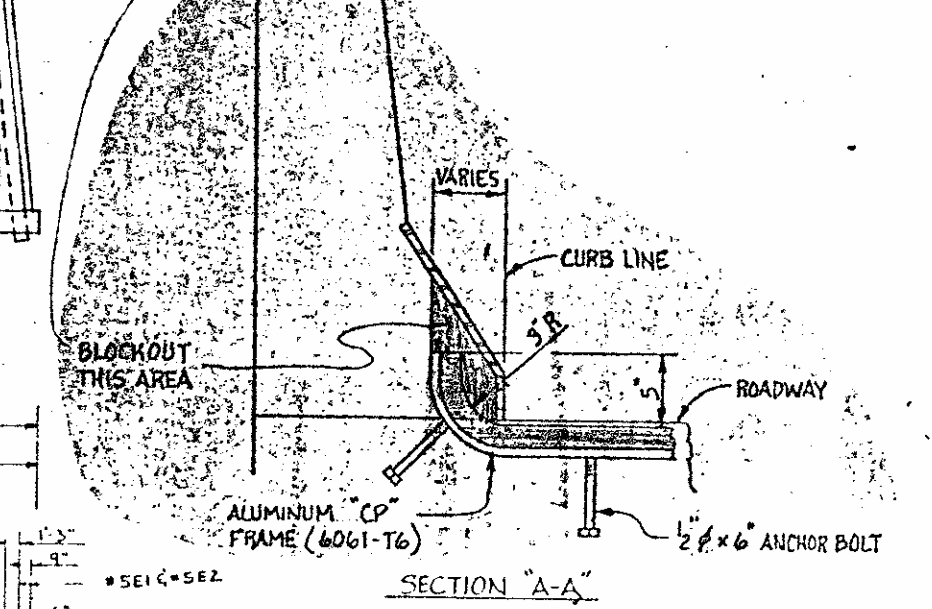
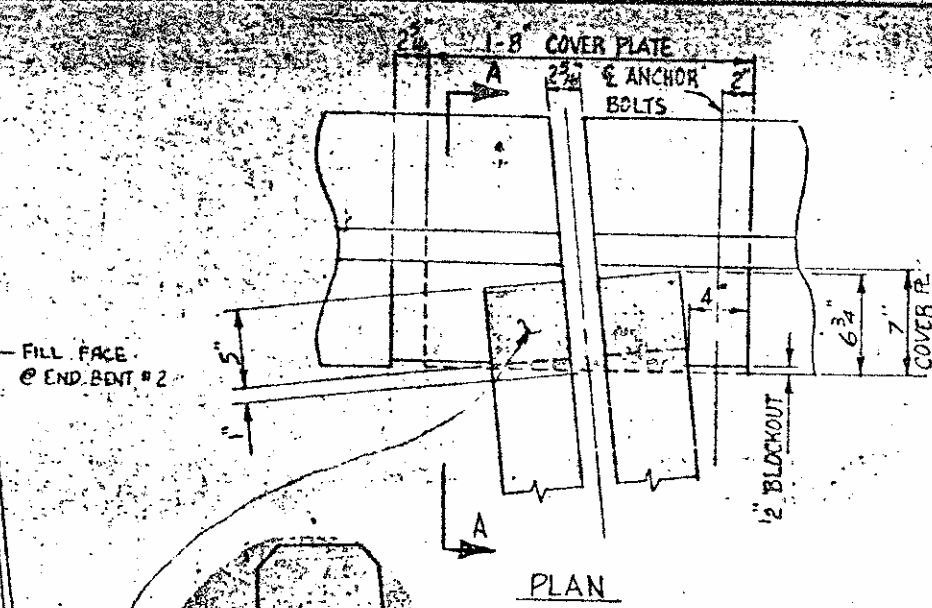
Sheet No. 69 of

**BILL OF MATERIAL**  
FOR BARRIER RAIL ONLY

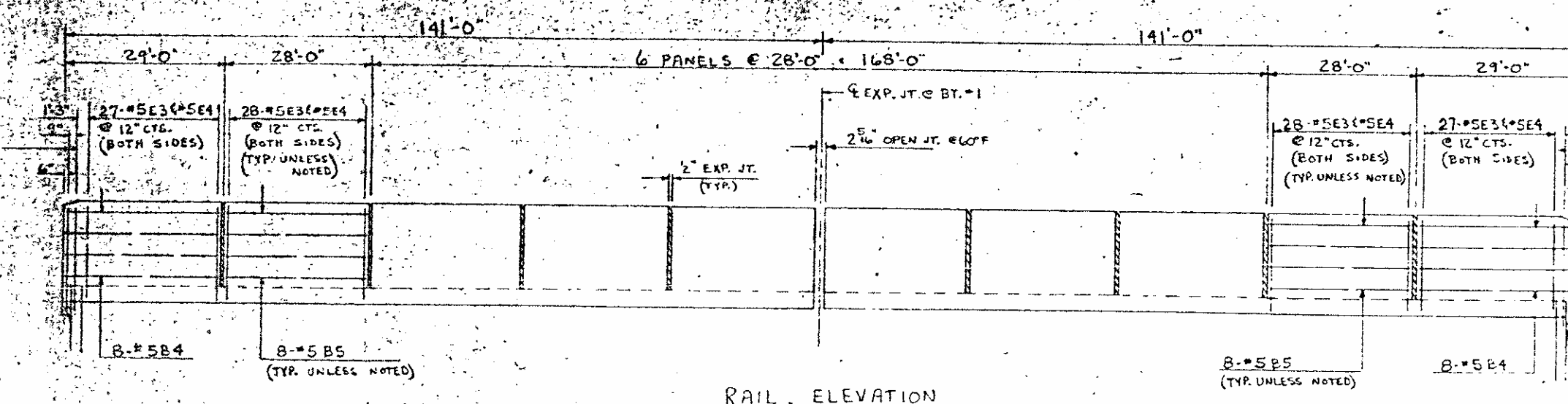
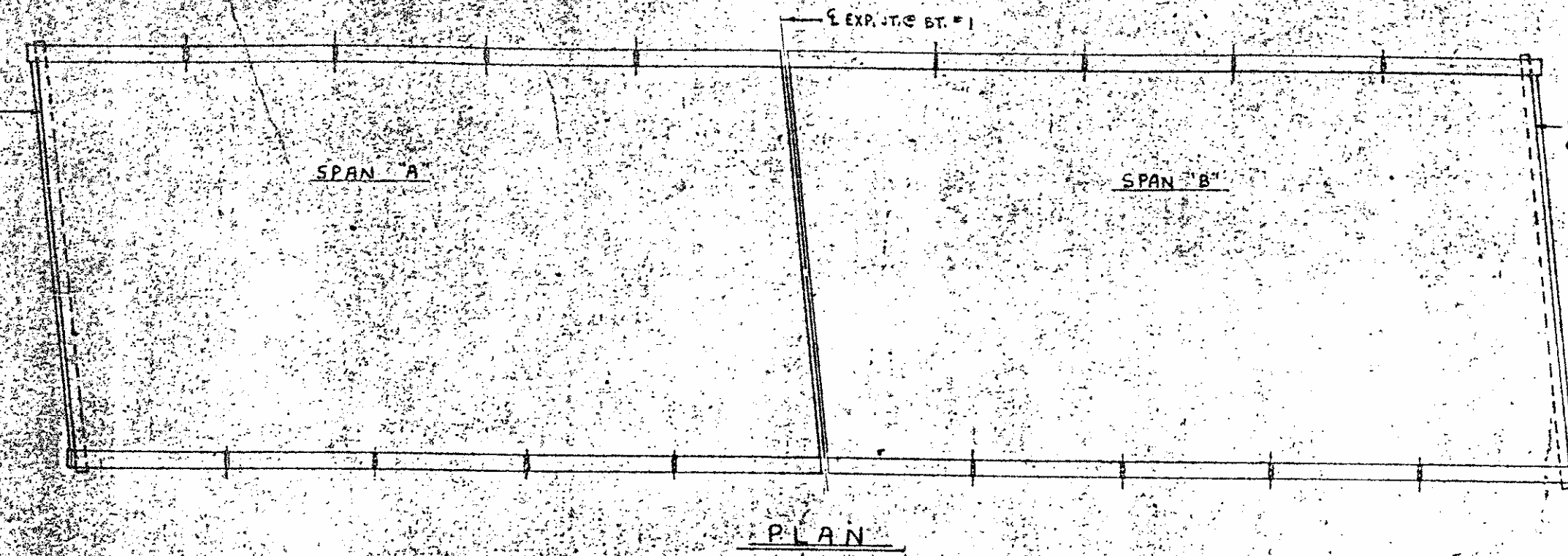
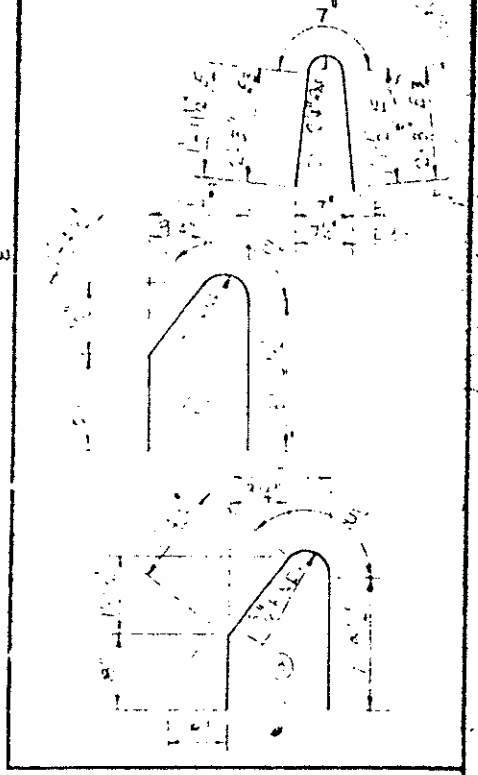
BAR NO.	SIZE	TYPE	LENGTH	WEIGHT
E1	#5	1	4'-6"	38
E2	#5	2	4'-10"	57
E3	#5	1	5'-1"	2948
E4	#5	3	4'-10"	2803
F1	#5	STR.	3'-0"	50
B4	#5	STR.	28'-7"	954
B5	#5	STR.	27'-7"	3682

REIN. STEEL - LBS. = 10532  
CLASS "AA" CONC. - CY. = 51.2

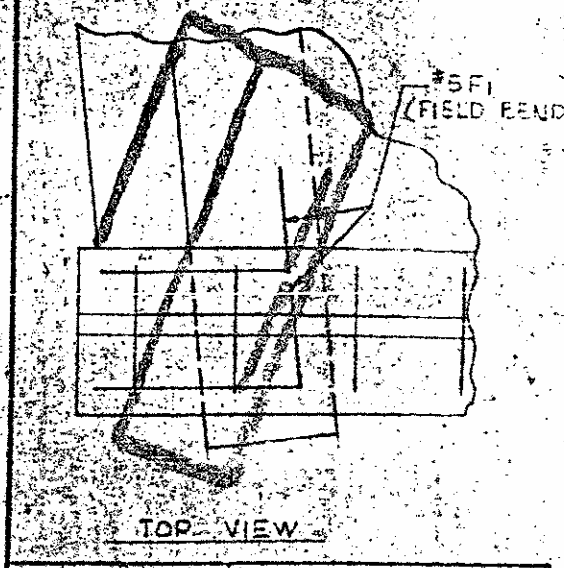
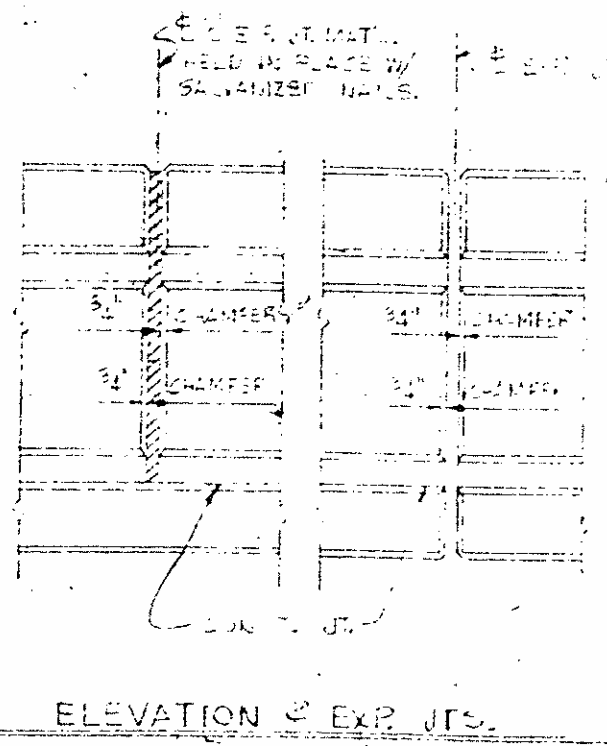
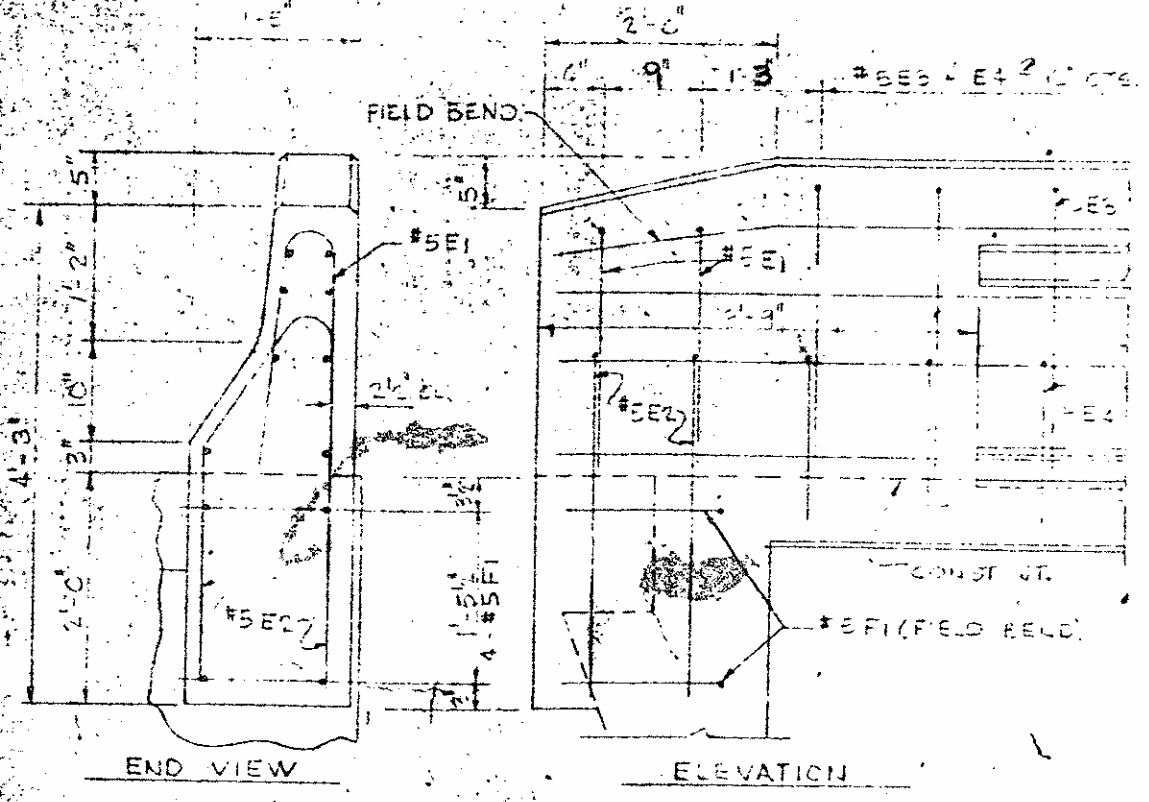
BAR TYPE  
ALL DIMENSIONS ARE OUT TO OUT



NOTE: SEE STD. GUARD RAIL ANCHORAGE SHEET FOR LOCATION OF "C" BARS FOR CURVED END BLOCKS AND GUARD RAIL ANCHORAGE ASSEMBLY. SEE LOCATION SKETCH ON GENERAL DRAWING FOR LOCATION OF GUARD RAIL ANCHORAGE ATTACHMENT.



FOR CONCRETE BARRIER RAIL, SEE SPECIAL PROVISIONS.



BARRIER RAIL END DETAILS

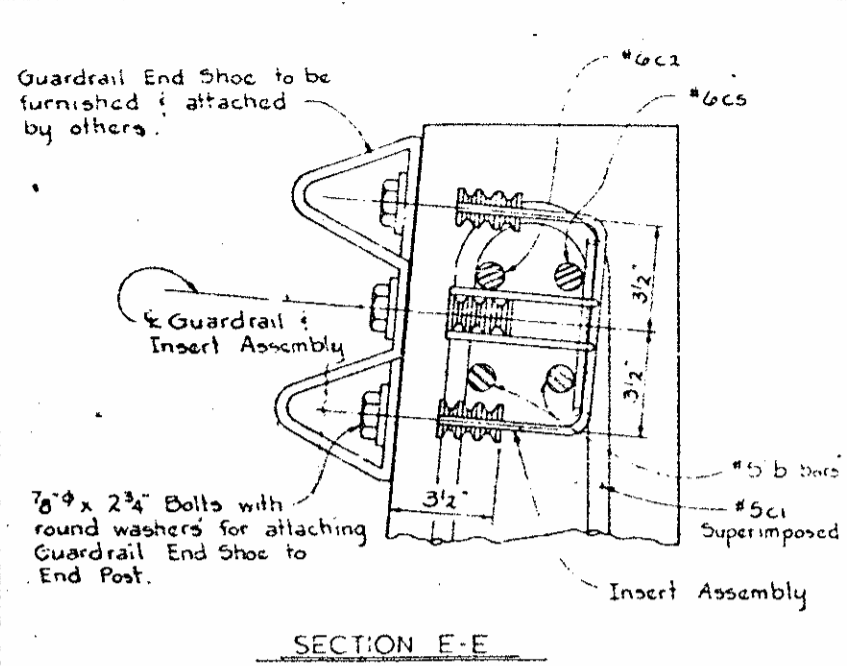
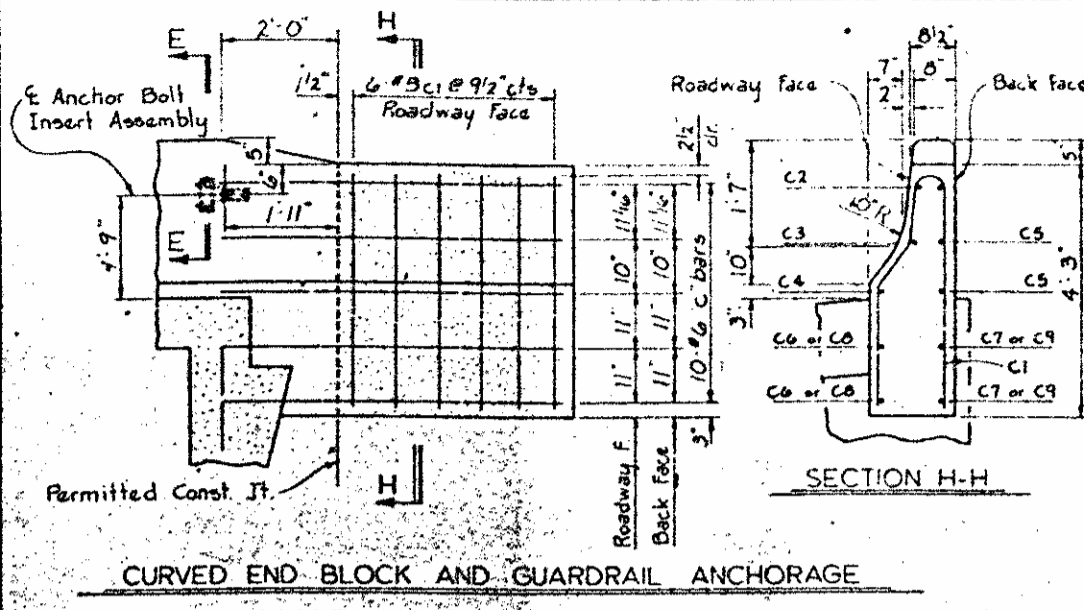
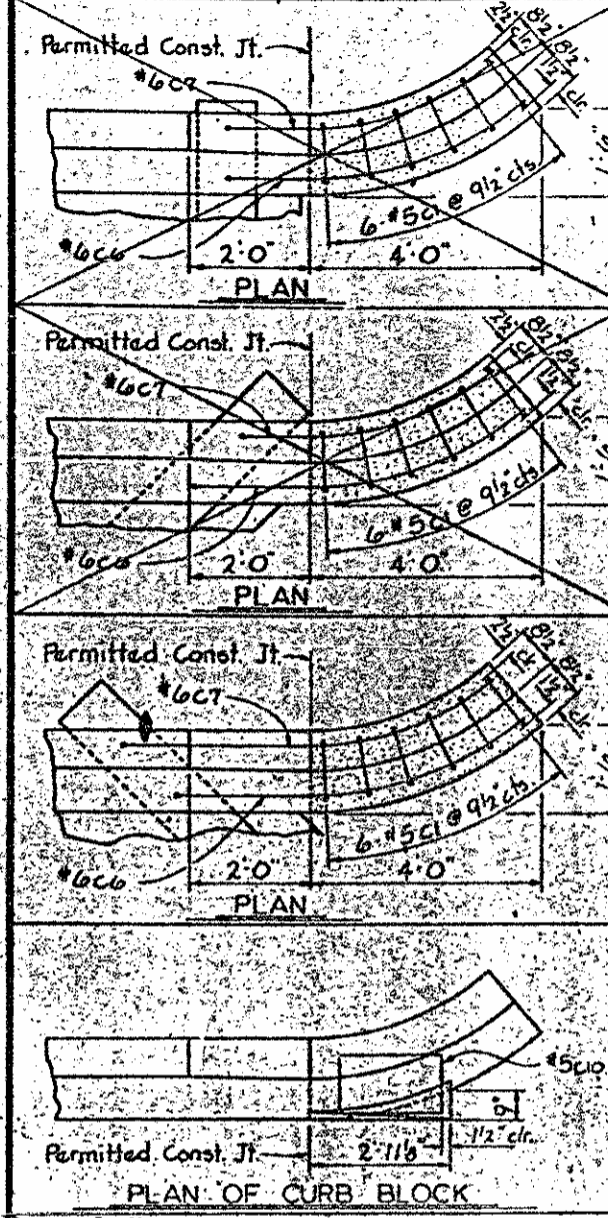
DRAWN BY: R. LOYSA JR. DATE: NOV. 76  
CHECKED BY: WBT DATE: 11/27

REV. # 1: REVISED SPANS FOR EXPANSION JOINTS, WBT

PROJECT NO. B.1347405  
CUMBERLAND COUNTY  
STATION: 27+70.00 - RT. LN. REV. -

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BARRIER RAIL					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1	GWO	7/25/76	3		
2			4		
					69 SHEET NO. 69
					TOTAL SHEETS 75

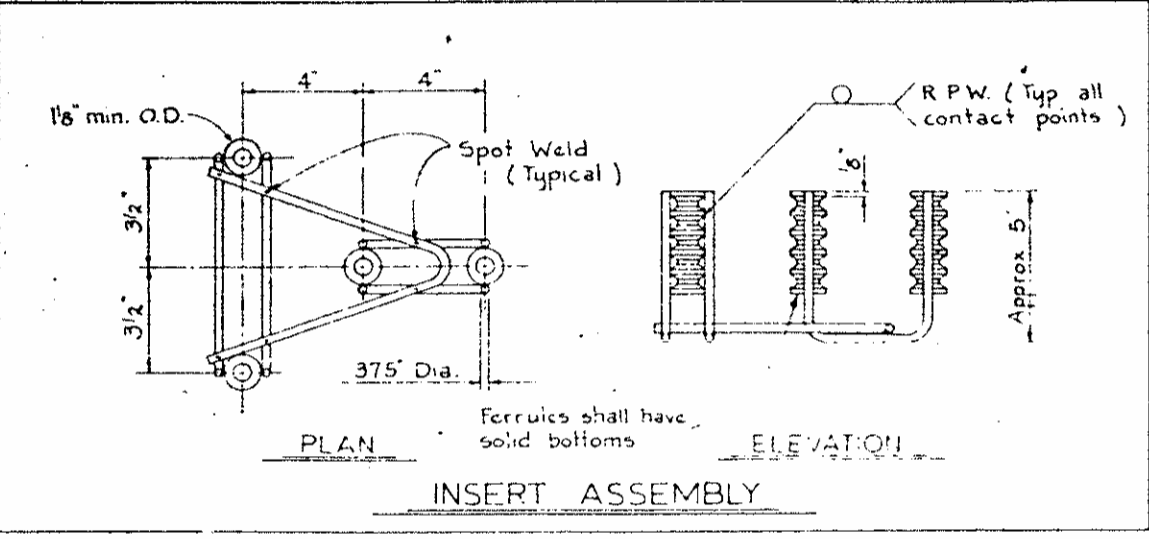
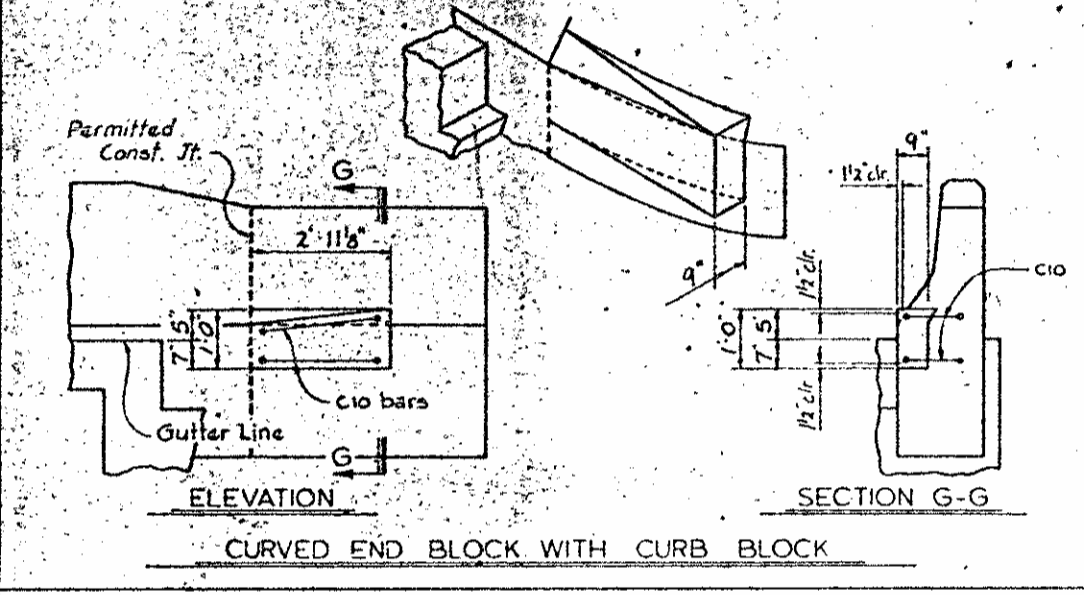
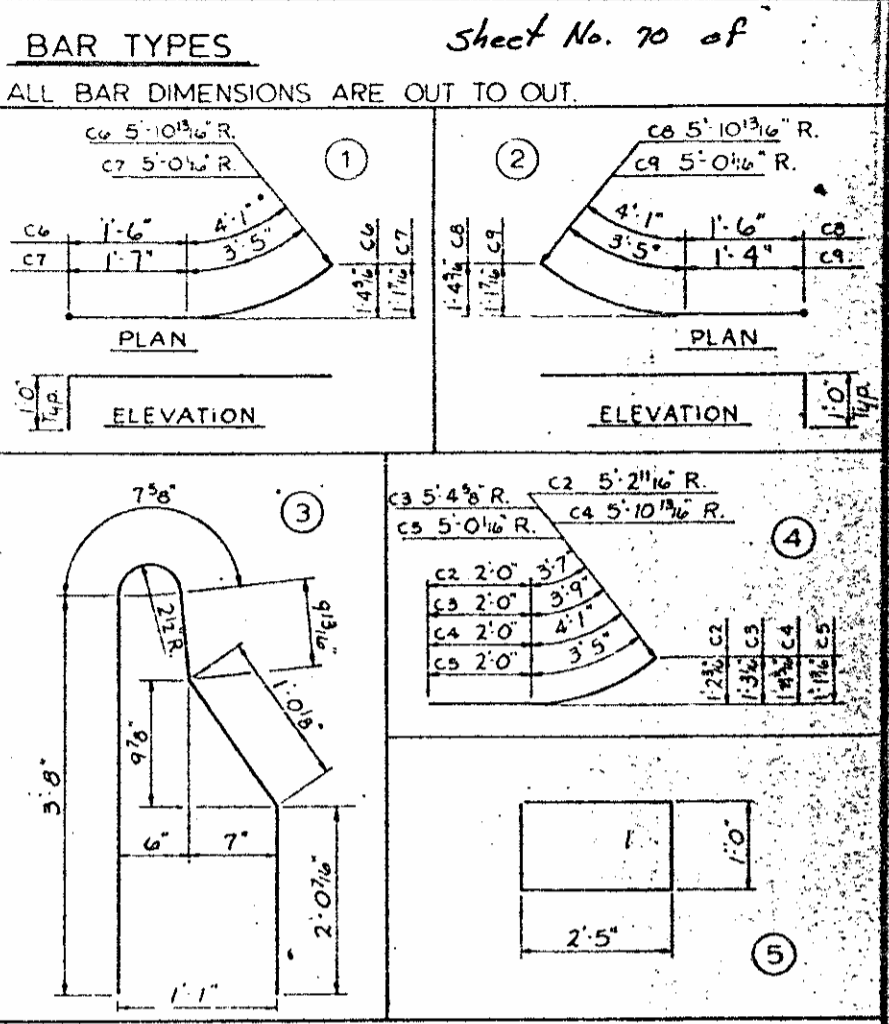
W/O L.S. SURFACE



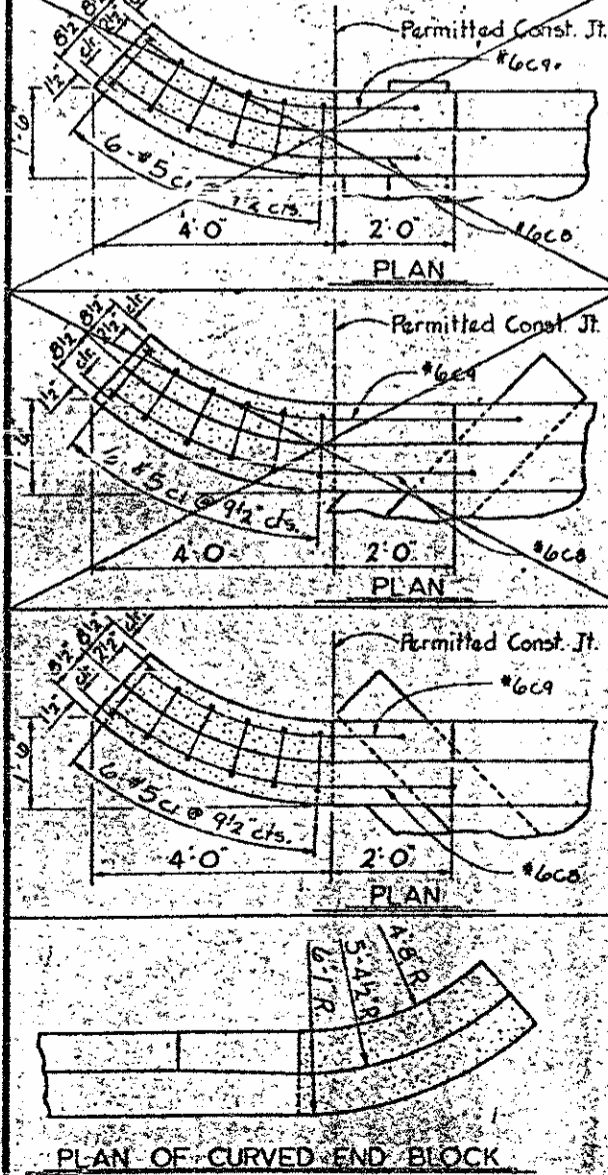
**BILL OF MATERIAL FOR FOUR CURVED END BLOCKS**

BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
c1	24	#5	3	8' 2"	204
c2	4	#6	4	5' 7"	34
c3	4	#6	4	5' 9"	35
c4	4	#6	4	6' 1"	37
c5	12	#6	4	5' 5"	48
c6	4	#6	1	6' 7"	40
c7	4	#6	1	6' 0"	36
c8	4	#6	2	6' 7"	40
c9	4	#6	2	5' 9"	35

Reinforcing Steel Lbs. 559  
Class A-A Concrete Cu Yds. 2.9



- NOTES**
- THE 4-BOLT INSERT ASSEMBLY UNIT SHALL CONSIST OF THE FOLLOWING COMPONENTS:
    - FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF A.S.T.M. A108, GRADE 2114.
    - 4 - 7/8" x 2 3/4" BOLTS WITH WASHERS, BOLTS SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. A307. BOLTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8" x 2 3/4" GALVANIZED BOLTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF A.S.T.M. A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)
    - WIRE STRUTS SHOWN IN THE INSERT ASSEMBLY DETAIL ARE MINIMUM ALLOWABLE SIZE AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 100,000 P.S.I.
  - THE INSERT ASSEMBLY WITH BOLTS SHALL BE ASSEMBLED IN THE SHOP. BOLT THREADS MAY BE RE-cut AS NECESSARY TO INSURE FIT.
  - THE COST OF THE 4-BOLT INSERT ASSEMBLY UNIT COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR CLASS "AA" CONCRETE.
  - THE 4-BOLT INSERT ASSEMBLY UNIT IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END POSTS. FOR POINTS OF ATTACHMENT, SEE PLANS.
  - CURVED END BLOCKS ARE REQUIRED AT ALL END POSTS.
  - THE COST OF THE EXCAVATION AND BACKFILL FOR THE CURVED END BLOCKS SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR CLASS "AA" CONCRETE.



**BILL OF MATERIAL FOR CURB BLOCK**

BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
1 Block	c10	2	#5	5' 6" 10"	14
2 Blocks	c10	4	#5	5' 6" 10"	24
3 Blocks	c10	6	#5	5' 6" 10"	43
4 Blocks	c10	8	#5	5' 6" 10"	57

**TOTAL BILL OF MATERIAL**

Reinforcing Steel - Lbs. - 616  
Class A-A Concrete - Cu Yds. - 2.9

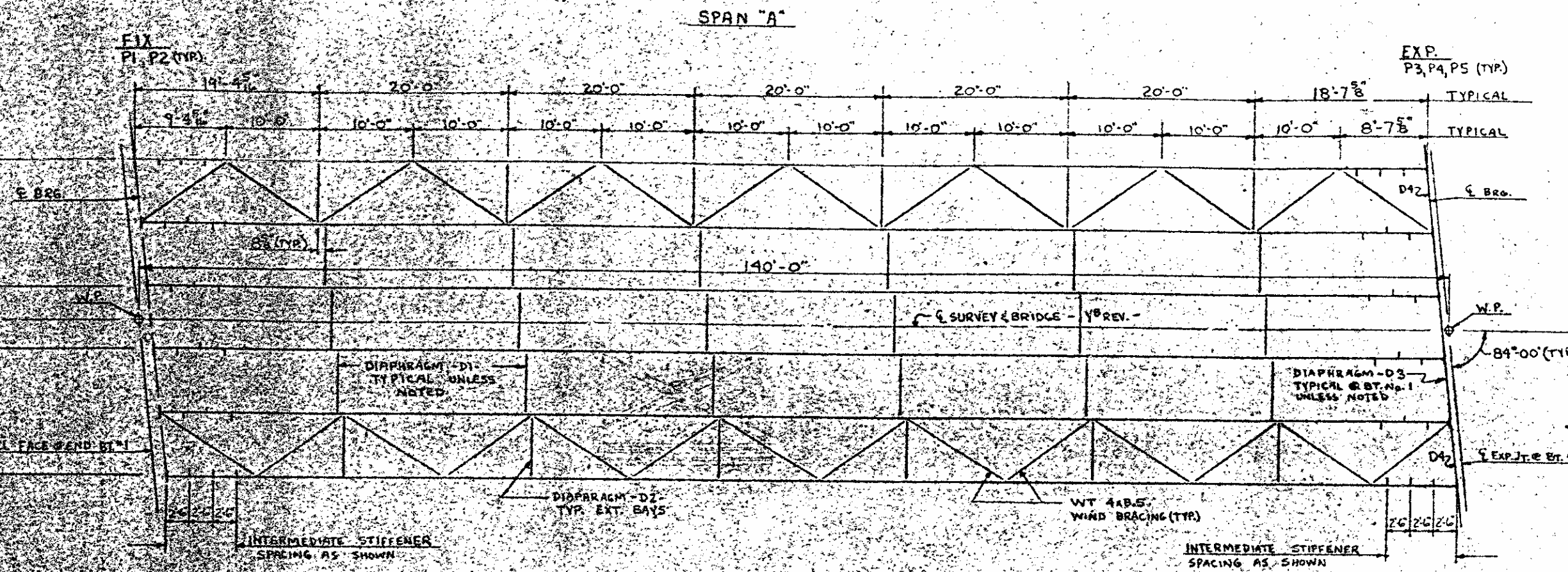
PROJECT NO. 8.1347405  
CUMBERLAND COUNTY  
STATION: 27+70.00 RT. LN. REV.

STATE OF NORTH CAROLINA  
**DEPARTMENT OF TRANSPORTATION**  
RALEIGH

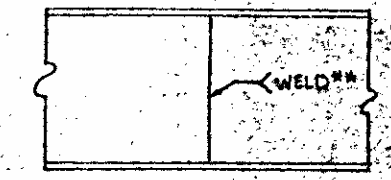
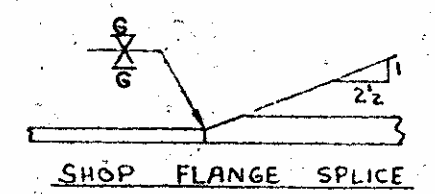
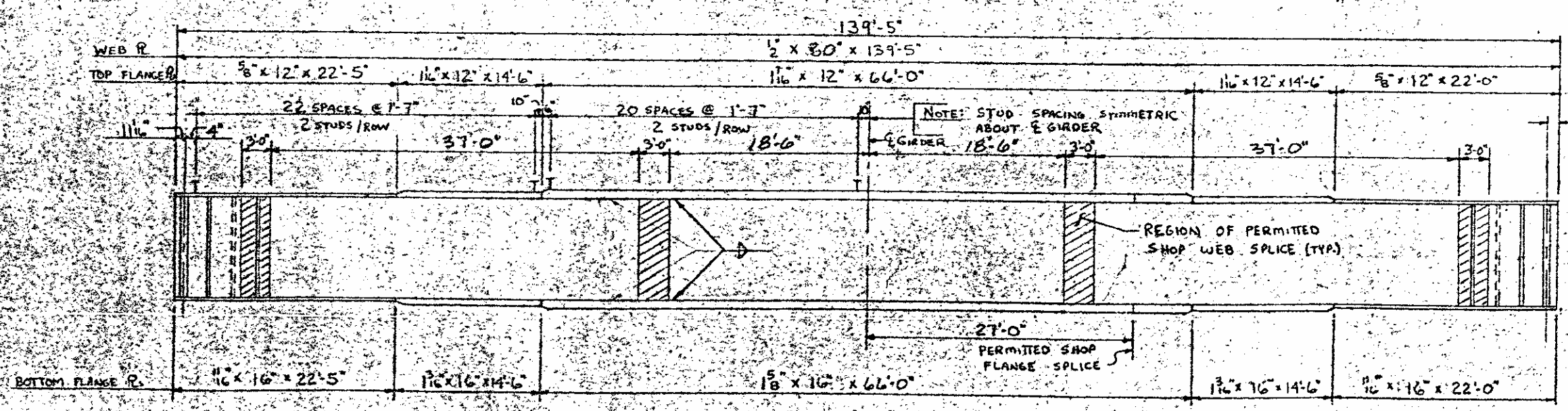
**STANDARD**  
CURVED END BLOCK, GUARDRAIL ANCHORAGE, AND CURB BLOCK  
JUNE FOR BARRIER RAIL 1976

REVISIONS			SHEET		
NO.	BY	DATE	NO.	BY	DATE
1			8		
2			4		

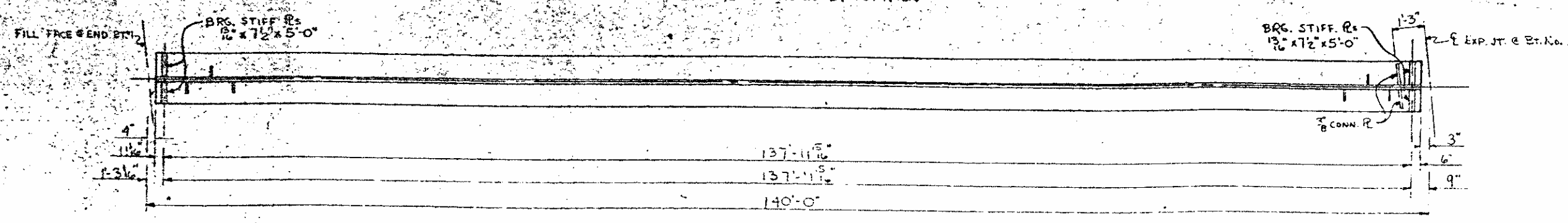
TOTAL SHEETS 75



**STRUCTURAL STEEL LAYOUT**  
SPAN "B" SIMILAR BY ROTATION



\* GRIND FLUSH ON OUTSIDE OF EXTERIOR GIRDERS



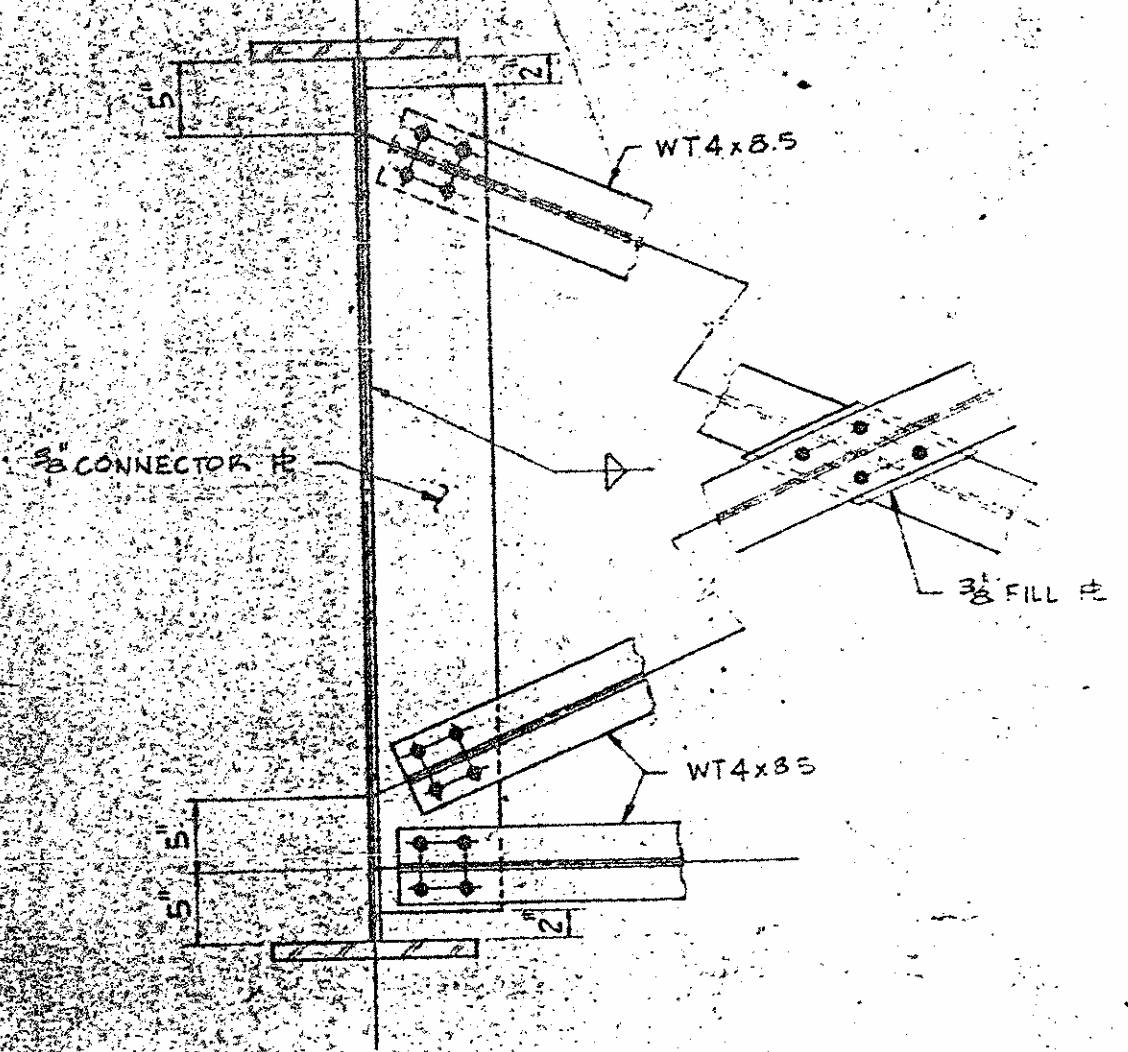
PROJECT No. 81347405  
CUMBERLAND COUNTY  
STATION: 27+70.00 R.L.N. REV.

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
SUPERSTRUCTURE  
STRUCTURAL STEEL DETAILS

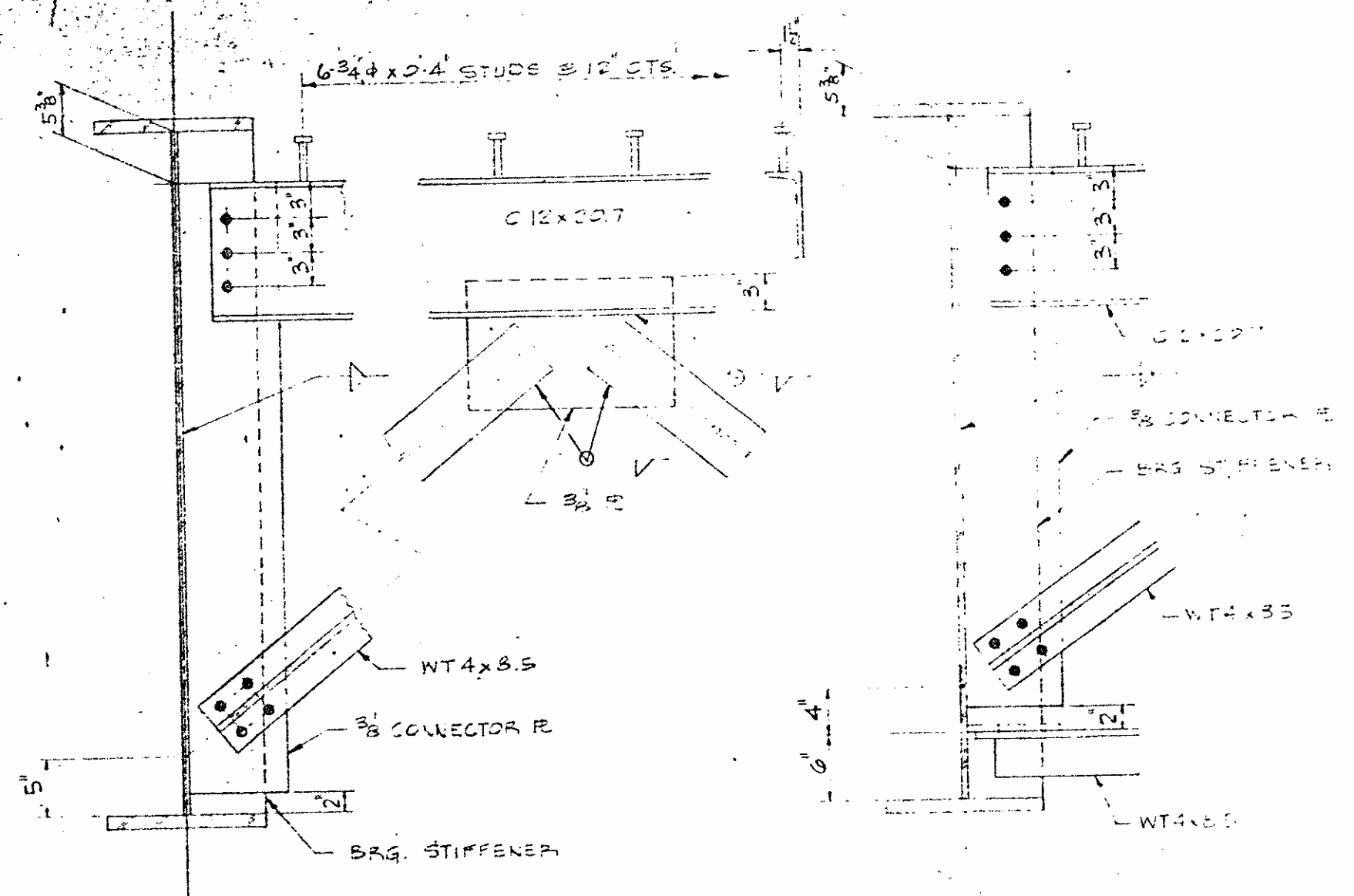
REVISIONS						SHEET NO. 71
NO.	BY	DATE	NO.	BY	DATE	
1			2			TOTAL SHEETS 75
2			3			
3			4			

FED. ROAD DIV. NO.	STATE	PROJECT NO.
4	N.C.	
F. A. PROJECT		

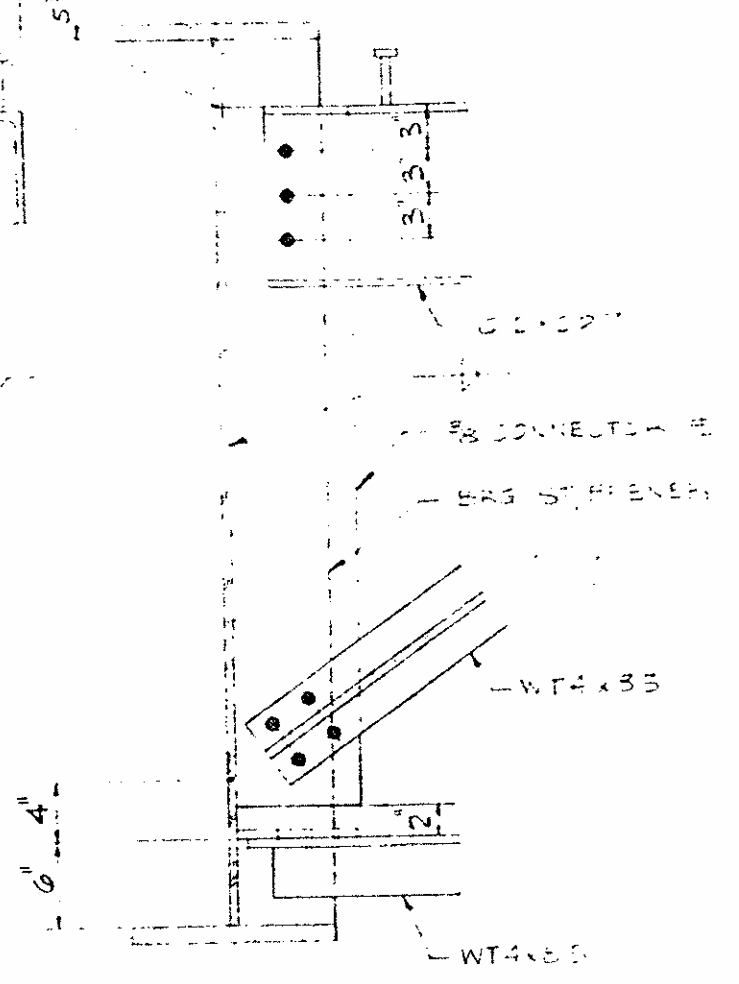
Sheet No. 72 of.



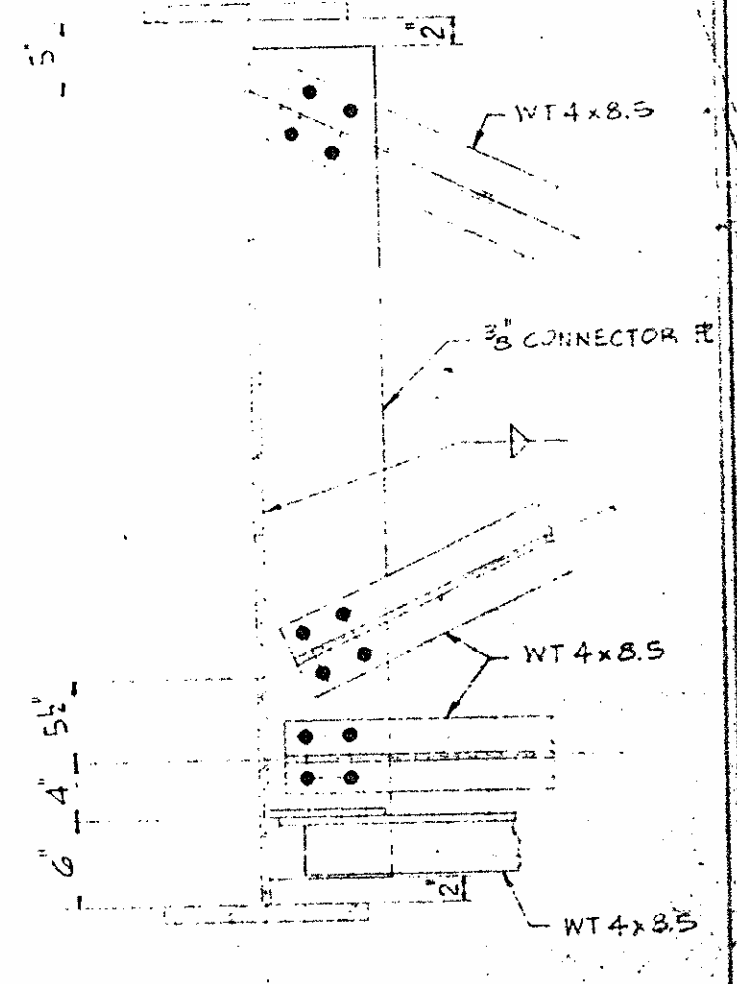
INTERMEDIATE DIAPHRAGM (D1)  
WITHOUT WIND-BRACE



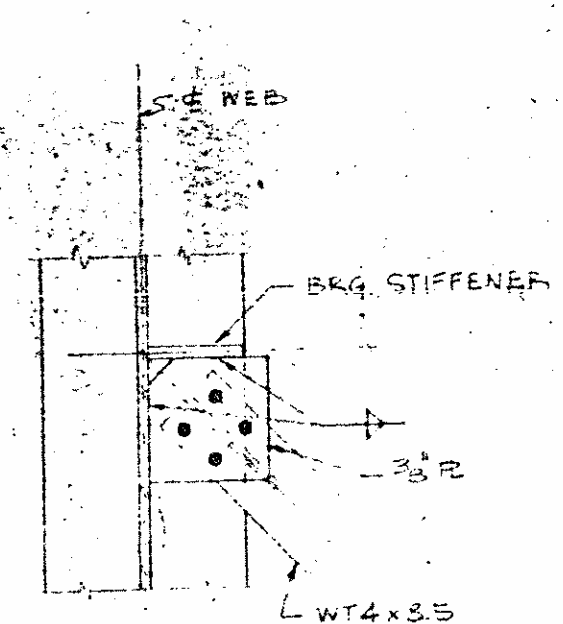
BENT DIAPHRAGM (D3)  
WITHOUT WIND-BRACE



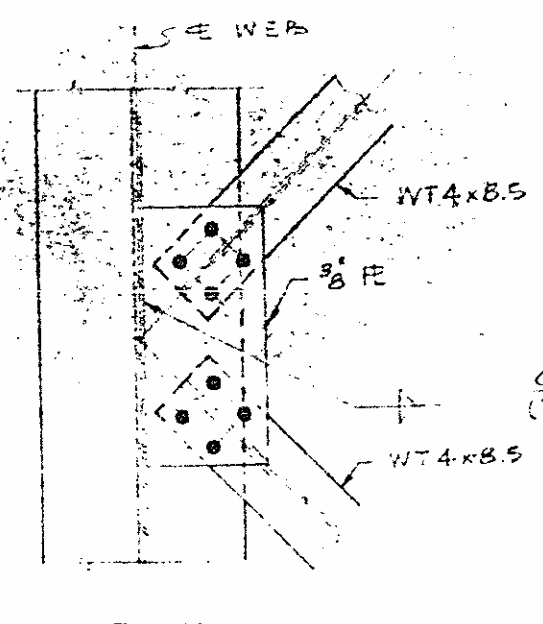
BENT DIAPHRAGM (D4)  
WITH WIND-BRACE



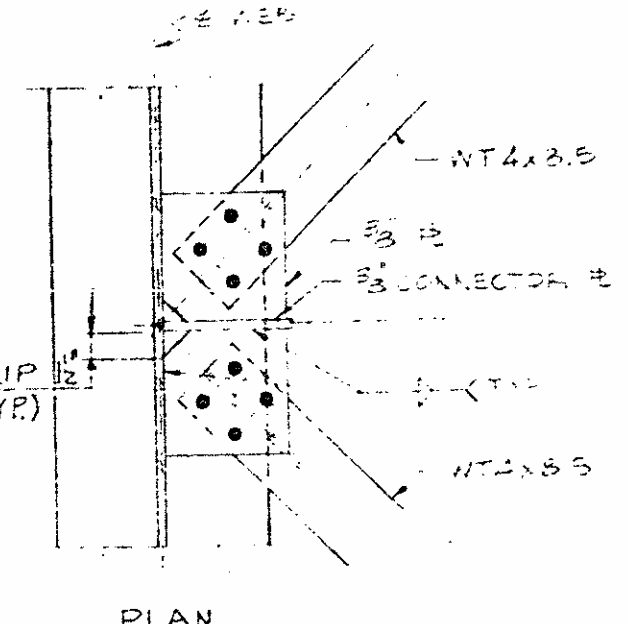
INTERMEDIATE DIAPHRAGM (D2)  
WITH WIND-BRACE



PLAN  
@ BEARING



PLAN  
@ INTERMEDIATE CONN.



PLAN  
@ DIAPHRAGM

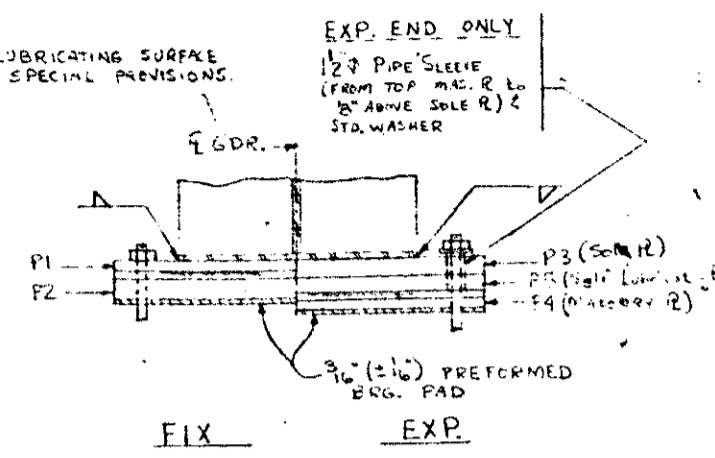
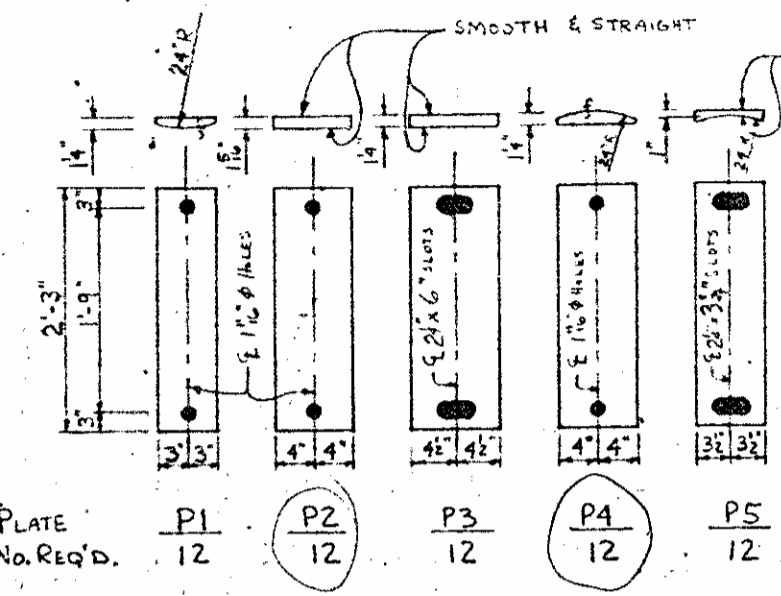
DETAILS OF WIND-BRACE CONNECTIONS

PROJECT No. 8.13474.05  
CUMBERLAND COUNTY  
STATION: 27+70.00 - RT. LN. REV.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION AND HIGHWAY SAFETY RALEIGH					
- SUPERSTRUCTURE - STRUCTURAL STEEL DETAILS					
AUG 1974					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			2		
2			4		
					SHEET NO. 72
					TOTAL SHEETS 75



DEAD LOAD DEFLECTION TABLE FOR BEAMS	SPAN A		SPAN D	
	EXT	INT	EXT	INT
DEFLECTION DUE TO WEIGHT OF BEAM				
DEFLECTION DUE TO WEIGHT OF SLAB				
DEFLECTION DUE TO WEIGHT OF PARAPET, RAIL, AND FUTURE WEARING SURFACE				
TOTAL DEAD LOAD DEFLECTION				
VERTICAL CURVE ORDINATE				
ORDINATE DUE TO SUPERELEVATION				
REQUIRED BEAM CAMBER				



NOTES

ALL STRUCTURAL STEEL SHALL BE UNPAINTED ASTM A-588 WITH A MINIMUM YIELD STRENGTH OF 50,000 PSI, EXCEPT:

- (1) ANCHOR BOLTS, NUTS, AND WASHERS WHICH SHALL BE IN ACCORDANCE WITH SPECIFICATIONS.
- (2) ALL BEARING PLATES TO BE ASTM A-36 EXCEPT SELF-LUBRICATING PLATES.

THE ATMOSPHERIC CORROSION RESISTANCE AND COLORING CHARACTERISTICS OF ASTM A-588 STEEL ARE REQUIRED FOR THE WELD METAL.

ALL BEARING ASSEMBLIES SHALL BE GALVANIZED EXCEPT THE SELF-LUBRICATING PLATES.

HIGH STRENGTH BOLTS, NUTS, AND WASHERS SHALL MEET THE REQUIREMENTS FOR ASTM A-325 FOR TYPE 3 BOLTS.

ALL FIELD CONNECTIONS TO BE 7/8" HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.

A CHARPY V-NOTCH TEST IS REQUIRED ON ALL GIRDER WEB AND BOTTOM FLANGE PLATES - SEE SPECIAL PROVISIONS.

ALL SHOP SPLICES IN FLANGE AND WEB PLATES SHALL BE MADE PRIOR TO WELDING FLANGE PLATES TO WEB PLATES.

NO SPLICE OTHER THAN THOSE SHOWN ON THE PLANS WILL BE PERMITTED IN THE FLANGE PLATES.

CAMBERED GIRDER LENGTHS SHALL BE ADJUSTED AND BEARINGS ARE TO BE PLACED ON THE CAMBERED GIRDER SO AS TO BE ALIGNED WITH THE ANCHORS AFTER THE DEAD LOAD DEFLECTION HAS OCCURRED. SHOP PLANS SHALL BE PREPARED ACCORDINGLY.

AT ALL FIXED POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1/2 TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

FOR LOCATION OF HOLES IN BEAMS TO ACCOMMODATE "M" BARS, SEE SUPERSTRUCTURE SECTIONS AND DETAILS.

ALL BEARING SURFACES THAT ARE NOT REQUIRED TO BE FINISHED SHALL BE SMOOTH AND STRAIGHT.

CLIP THE CORNERS OF BEARING STIFFENERS 1" AT THE JUNCTIONS OF WEB AND FLANGES.

IN REGARD TO ELECTRO-SLAG WELDING, SEE SPECIAL PROVISIONS.

SHIPPING NOTES

GIRDERS SHALL BE SUBMITTED FOR APPROVAL, INDICATING THE TOP FLANGE LOCATION DURING SHIPMENT, AND IN ALL CASES SHOWING THE WEB VERTICAL. THE METHOD OF SHIPMENT, POSITION ON THE VEHICLE, AND ATTACHMENTS TO THE GIRDERS OF ANY SHIPPING RESTRAINTS SHALL BE CLEARLY DETAILED.

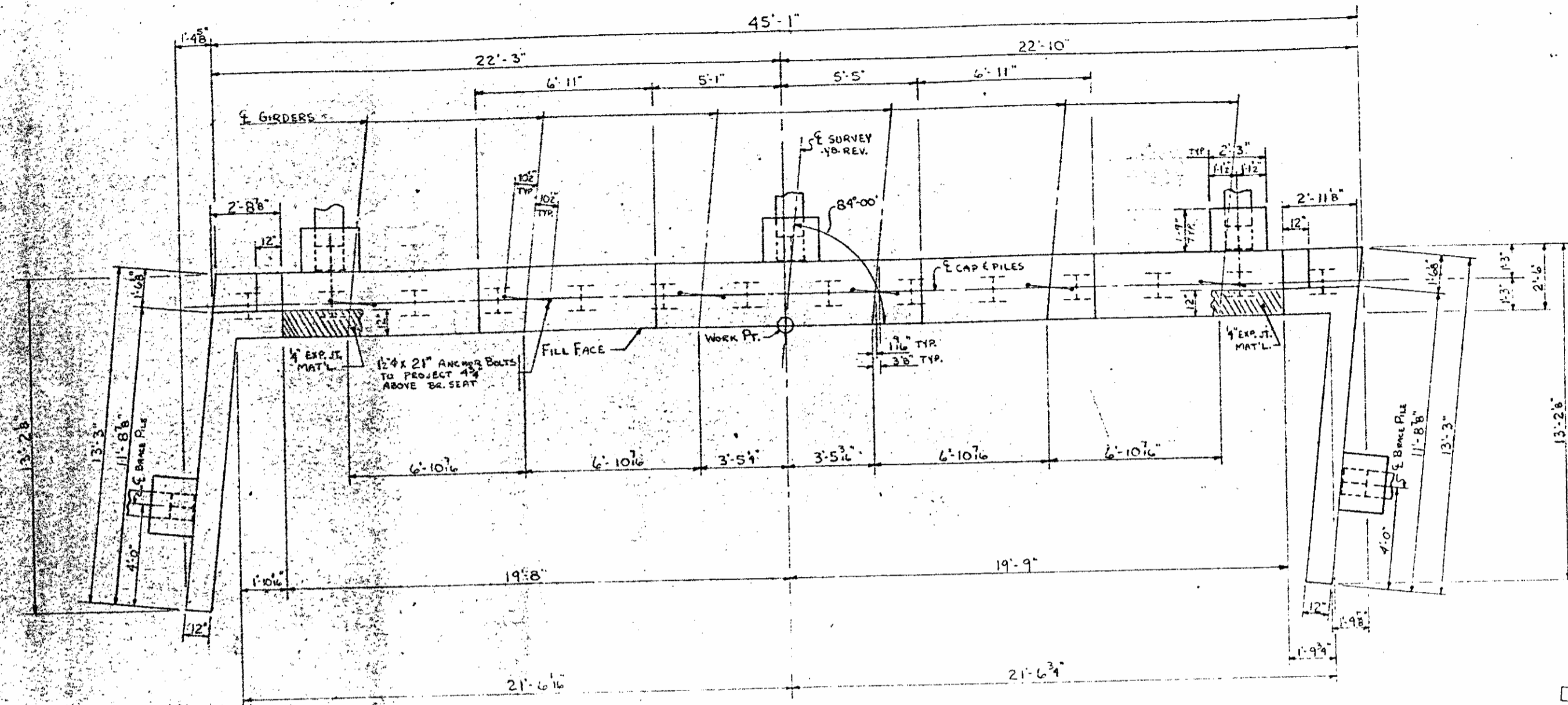
DEAD LOAD DEFLECTION TABLE FOR GIRDERS	SPAN A OR B																	
	EXTERIOR									INTERIOR								
	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
DEFLECTION DUE TO WEIGHT OF GIRDER	0.045	0.083	0.110	0.128	0.133	0.128	0.110	0.083	0.045	0.091	0.086	0.114	0.132	0.138	0.132	0.114	0.086	0.047
DEFLECTION DUE TO WEIGHT OF SLAB	0.114	0.208	0.278	0.321	0.336	0.321	0.278	0.208	0.114	0.134	0.245	0.327	0.378	0.396	0.378	0.327	0.245	0.134
DEFLECTION DUE TO WEIGHT OF BARRIER RAIL, AND FUTURE WEARING SURFACE	0.035	0.065	0.087	0.101	0.106	0.101	0.087	0.065	0.035	0.027	0.050	0.067	0.078	0.081	0.078	0.067	0.050	0.027
TOTAL DEAD LOAD DEFLECTION	0.194	0.356	0.475	0.550	0.575	0.550	0.475	0.356	0.194	0.208	0.381	0.508	0.588	0.615	0.588	0.508	0.381	0.208
VERTICAL CURVE ORDINATE	0.050	0.089	0.117	0.134	0.140	0.134	0.117	0.089	0.050	0.069	0.117	0.134	0.140	0.134	0.117	0.089	0.069	0.050
ORDINATE DUE TO SUPERELEVATION	0.244	0.445	0.592	0.684	0.715	0.684	0.592	0.445	0.244	0.258	0.470	0.625	0.722	0.755	0.722	0.625	0.470	0.258
REQUIRED BEAM CAMBER																		

DEAD LOAD DEFLECTION TABLE FOR GIRDERS	SPAN C																	
	EXTERIOR									INTERIOR								
	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
DEFLECTION DUE TO WEIGHT OF BEAM																		
DEFLECTION DUE TO WEIGHT OF SLAB																		
DEFLECTION DUE TO WEIGHT OF PARAPET, RAIL, AND FUTURE WEARING SURFACE																		
TOTAL DEAD LOAD DEFLECTION																		
VERTICAL CURVE ORDINATE																		
ORDINATE DUE TO SUPERELEVATION																		
REQUIRED BEAM CAMBER																		

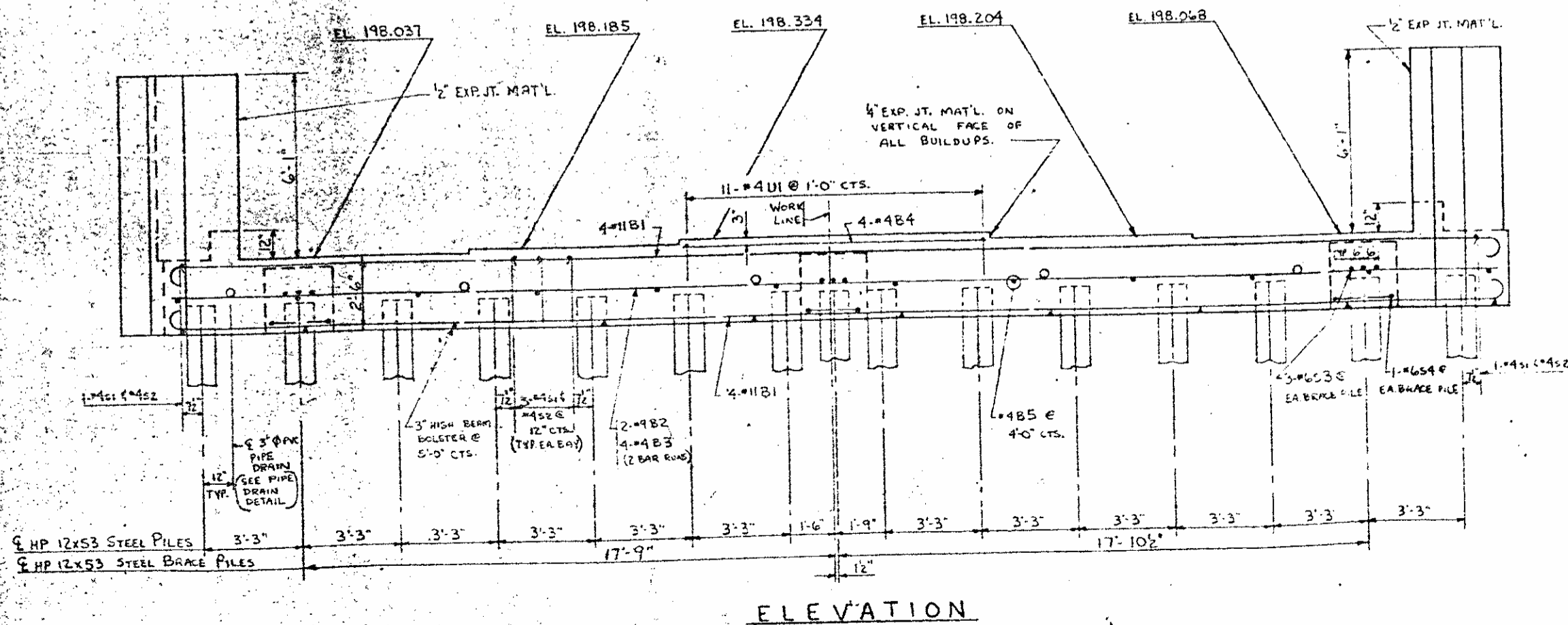
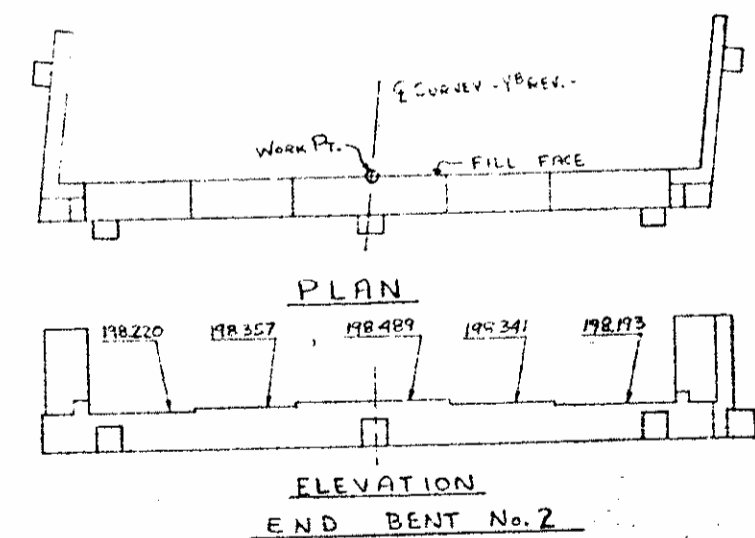
PROJECT No. 8.1347405  
 CUMBERLAND COUNTY  
 STATION: 27+70.00-RT.L.N. REV.

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUPERSTRUCTURE  
 GIRDER CAMBER

REVISIONS					SHEET 73 NO. 5
NO.	BY	DATE	NO.	BY	
1			2		TOTAL SHEETS 10
2			4		



PLAN  
NOTE: END BENT No. 1 SHOWN  
END BENT No. 2 SIMILAR BY 180° ROTATION



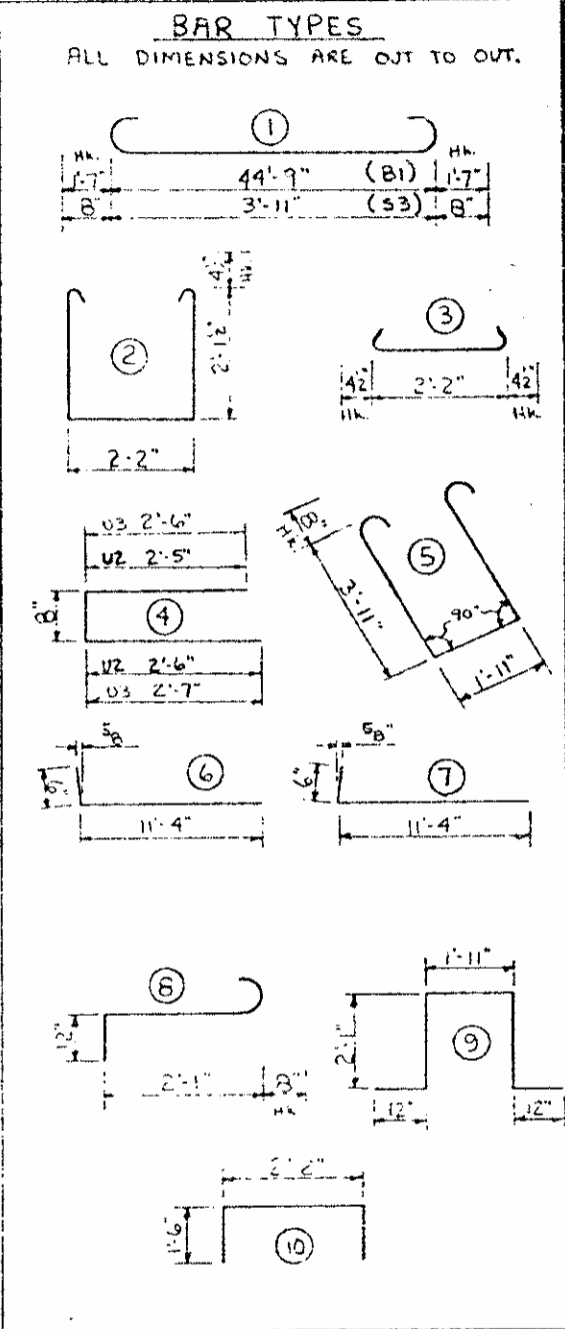
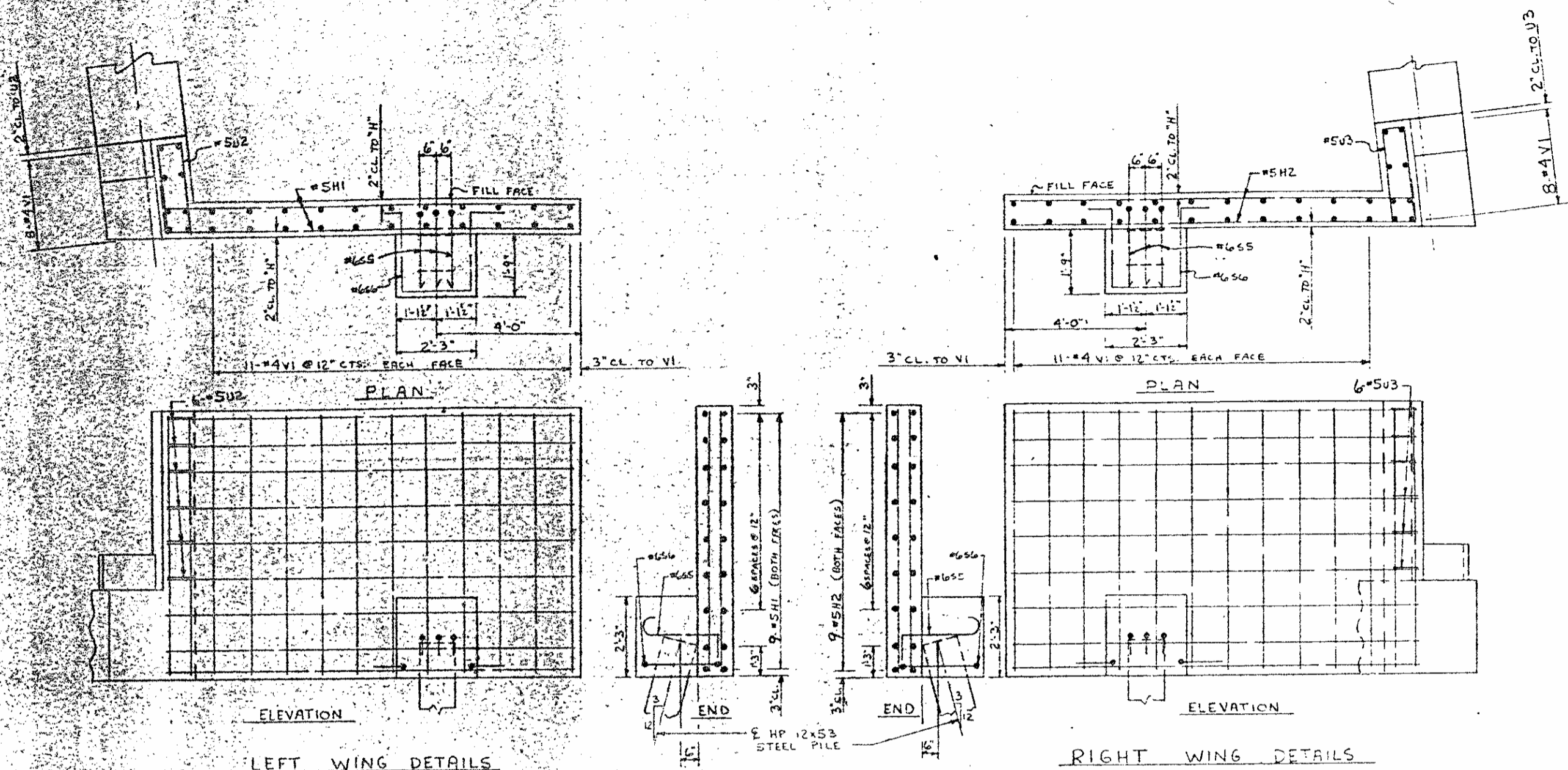
PROJECT No. B.1347405  
CUMBERLAND COUNTY  
STATION: 27+70.00 - RT. LH. REV.

SHEET 1 OF 2

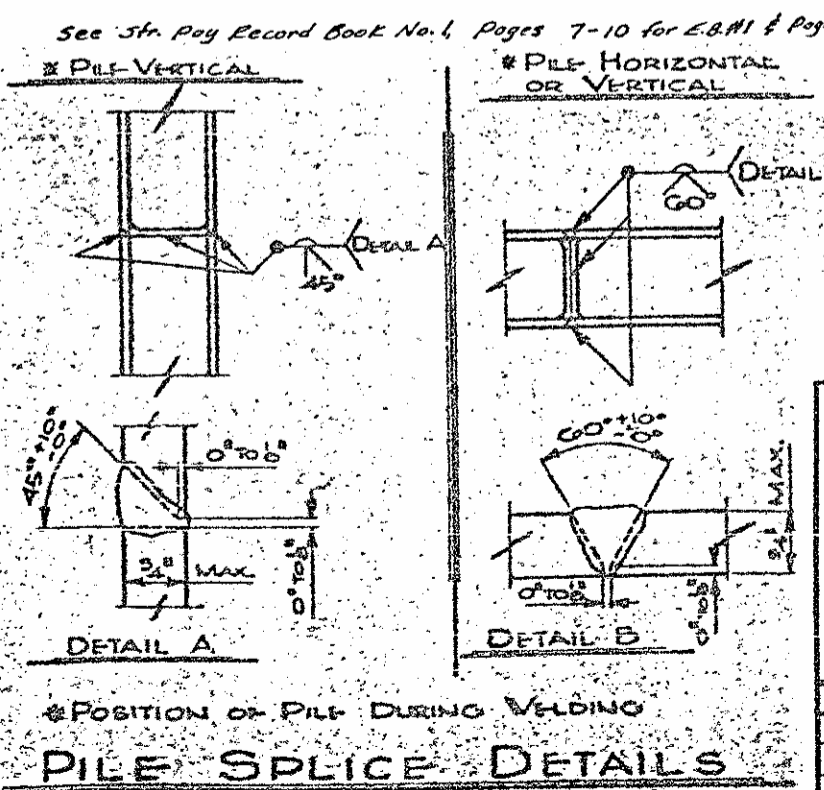
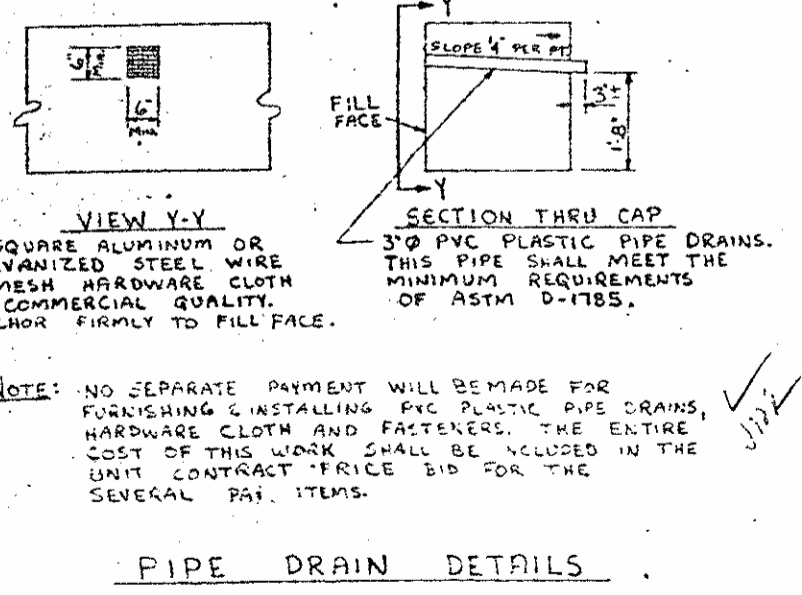
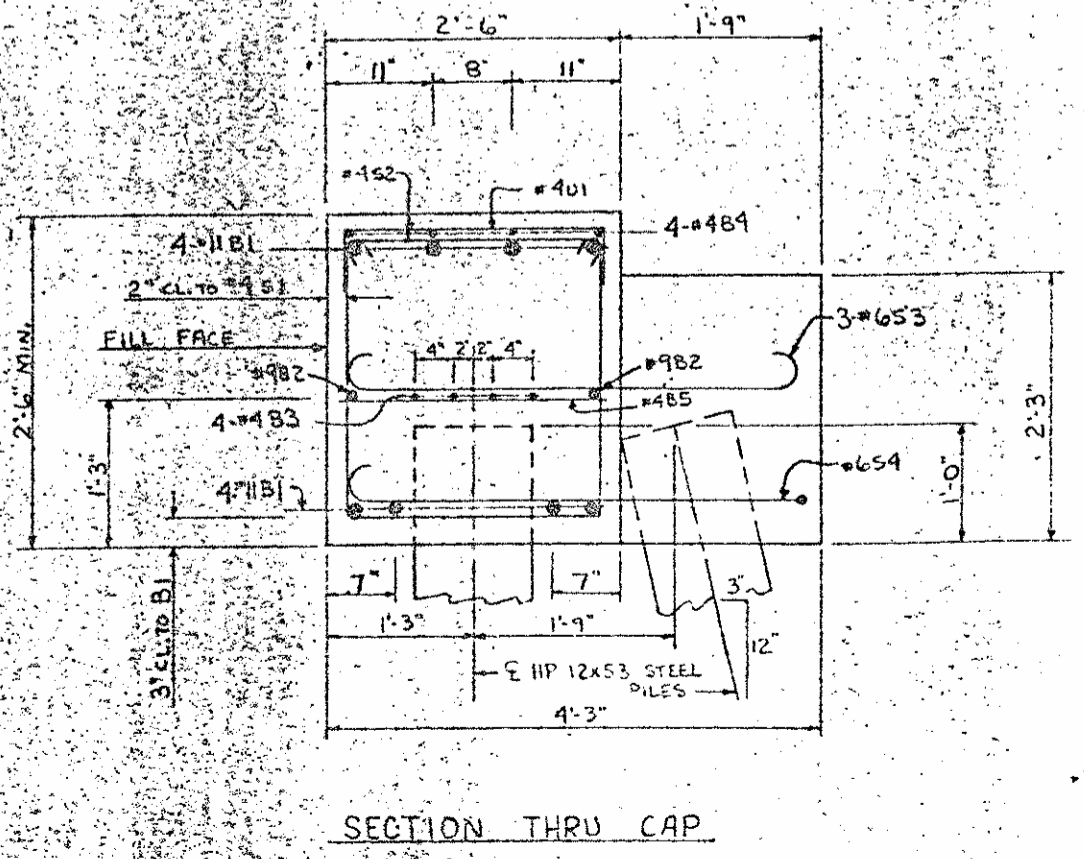
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			2		
2			4		

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
SUBSTRUCTURE  
END BENT No. 1 & No. 2

198.037  
- 2.500  
195.857  
- 1.000  
194.857



BILL OF MATERIAL					
FOR ONE END BENT - TWO REQ'D.					
BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	
B1	8	11	7	47'-11"	2037
B2	2	9	STR.	44'-9"	304
B3	9	4	STR.	23'-0"	123
B4	4	4	STR.	10'-2"	27
B5	12	4	STR.	2'-2"	17
H1	18	5	6	11'-10"	222
H2	18	5	7	11'-10"	222
S1	41	4	2	7'-2"	196
S2	41	4	3	2'-11"	80
S3	9	6	1	5'-3"	71
S4	3	6	5	11'-1"	50
S5	6	6	8	3'-9"	34
S6	2	6	9	8'-1"	24
U1	11	4	10	5'-2"	38
U2	6	5	4	5'-7"	35
U3	6	5	4	5'-9"	36
V1	76	4	STR.	8'-2"	415
TOTAL REINFORCING STEEL (LBS.)					3931
CLASS "A" CONCRETE (CU. YDS.)					20.8
HP 12x53 STEEL PILES No.					19
LIN. FT.					1330
E.B.#2					1,153.80
E.B.#2					842.70

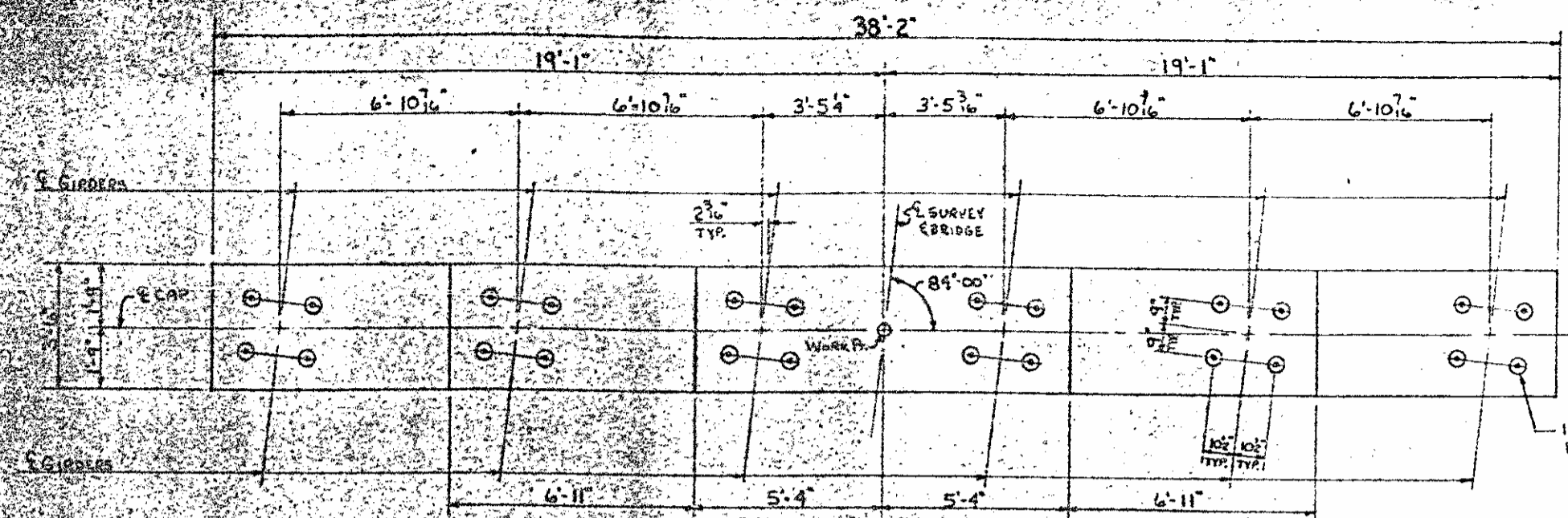


PROJECT No. 8:1347405  
CUMBERLAND COUNTY  
STATION: 27+70.00 - RT. LN. REV.  
SHEET 2 OF 2

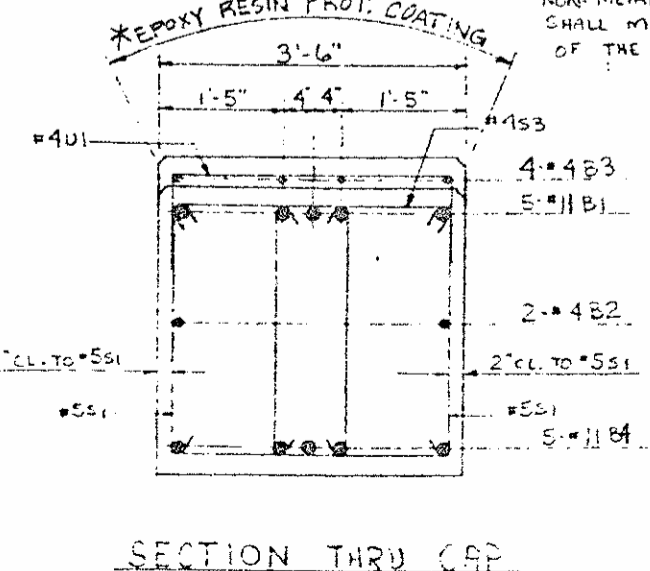
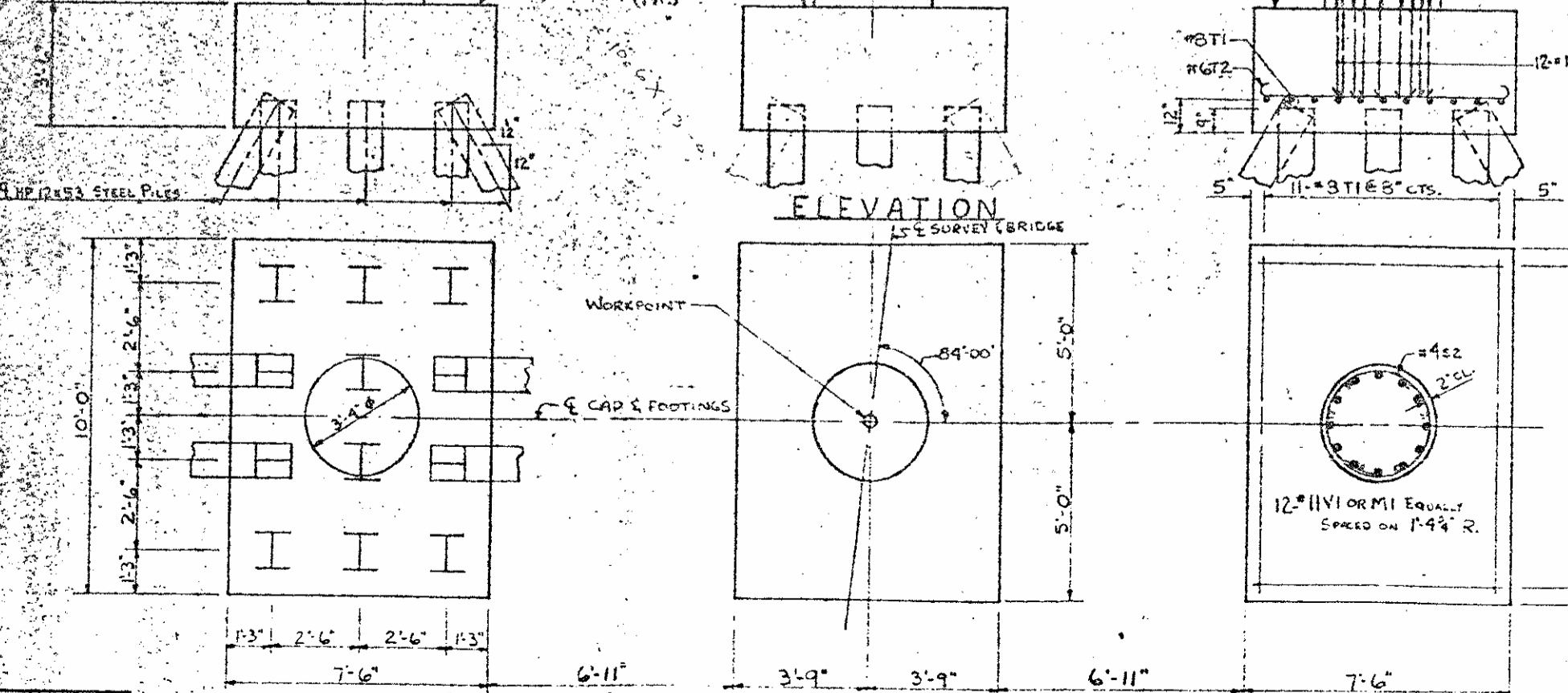
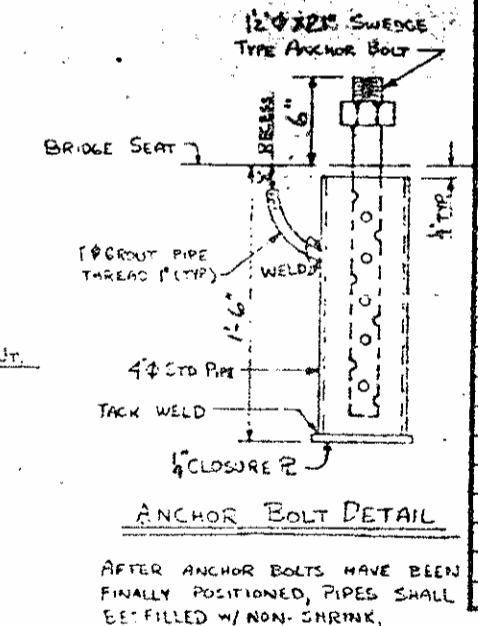
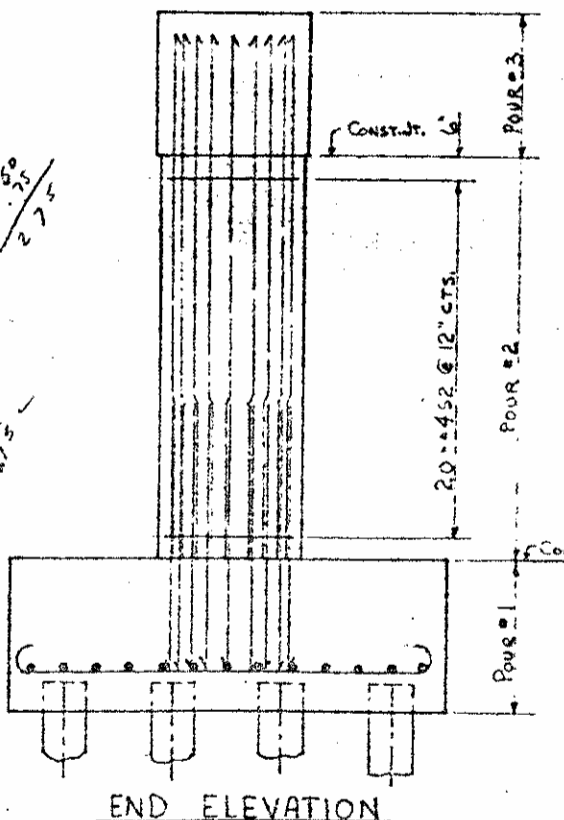
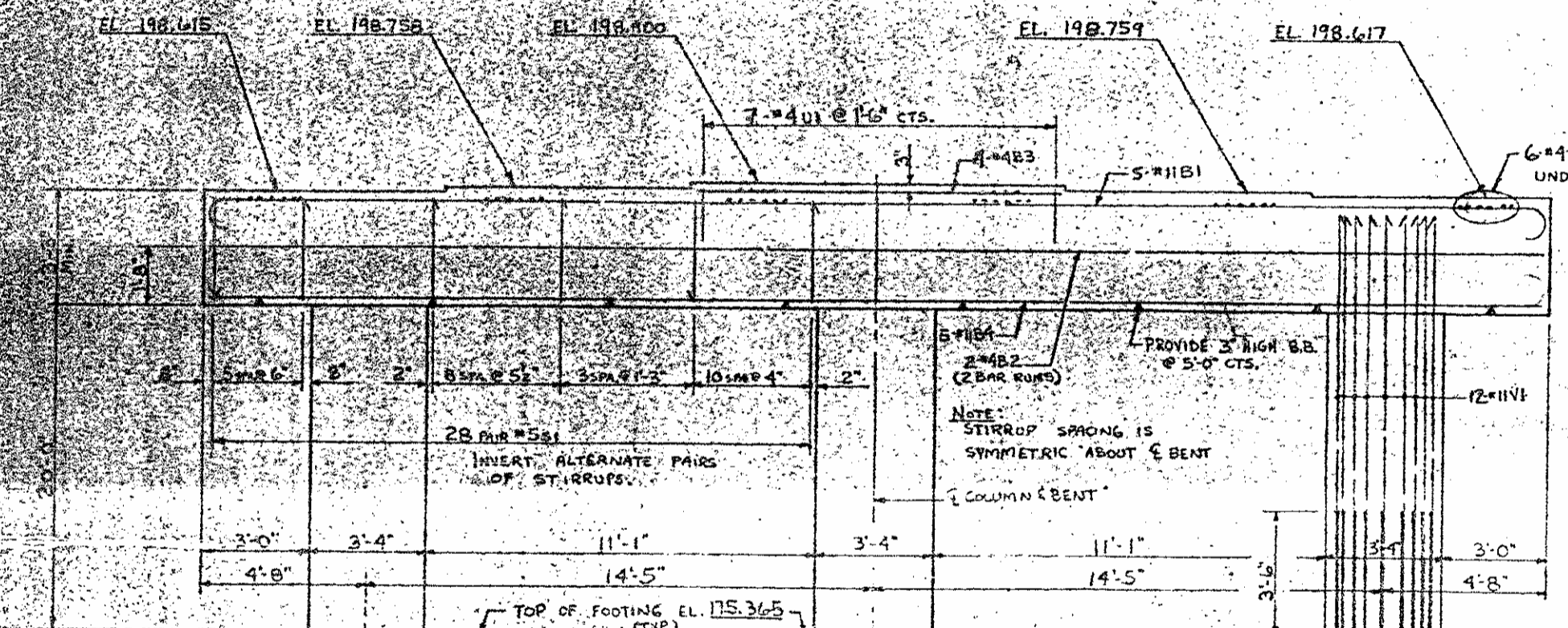
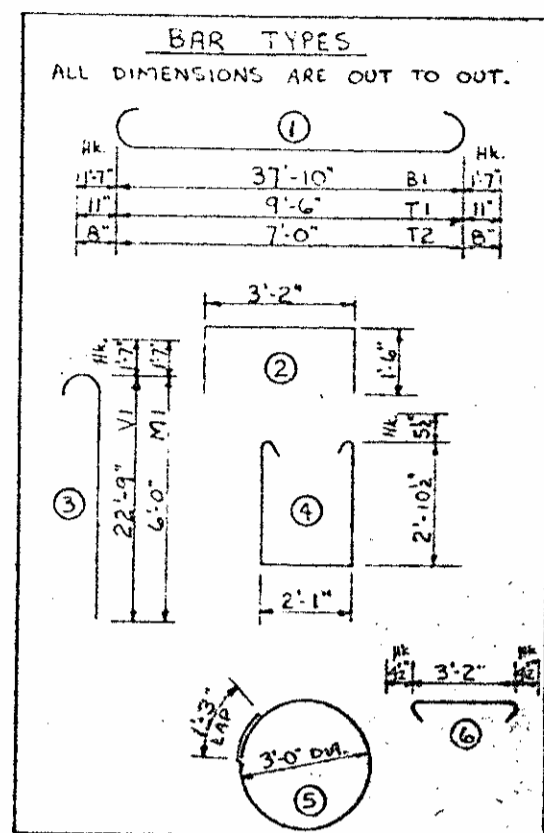
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
SUBSTRUCTURE  
END BENT No. 1 & No. 2

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

75 NO. 577  
TOTAL SHEETS 75



\* THE TOP SURFACE AREAS OF THE BENT SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.  
FOR EPOXY RESIN PROTECTIVE COATING FOR CONCRETE, SEE SPECIAL PROVISIONS.



REINFORCING STEEL - LBS.	11241
CLASS "A" CONCRETE - Cu. Yds.	65.3
HP 12S3 STEEL PILES - No.	36
HP 12S3 STEEL PILES - Lin. Ft.	1300
EPOXY RESIN PROT. COATING FOR CONG. SQ. FT.	13411.07
CONCRETE BREAKDOWN (Cu. Yds.)	
Pour #1 FOOTINGS	29.2
Pour #2 COLUMNS	19.4
Pour #3 CAP	16.7

PROJECT No. B.1347405  
CUMBERLAND COUNTY  
STATION: 27+70.00 - RTLN. REV.  
See Str. Pay Record Book No. 1, Pages 25 - 29

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
SUBSTRUCTURE  
BENT No. 1

REVISIONS						SHEET NO. 76
NO.	BY	DATE	NO.	BY	DATE	
1			2			TOTAL SHEETS 75
2			4			