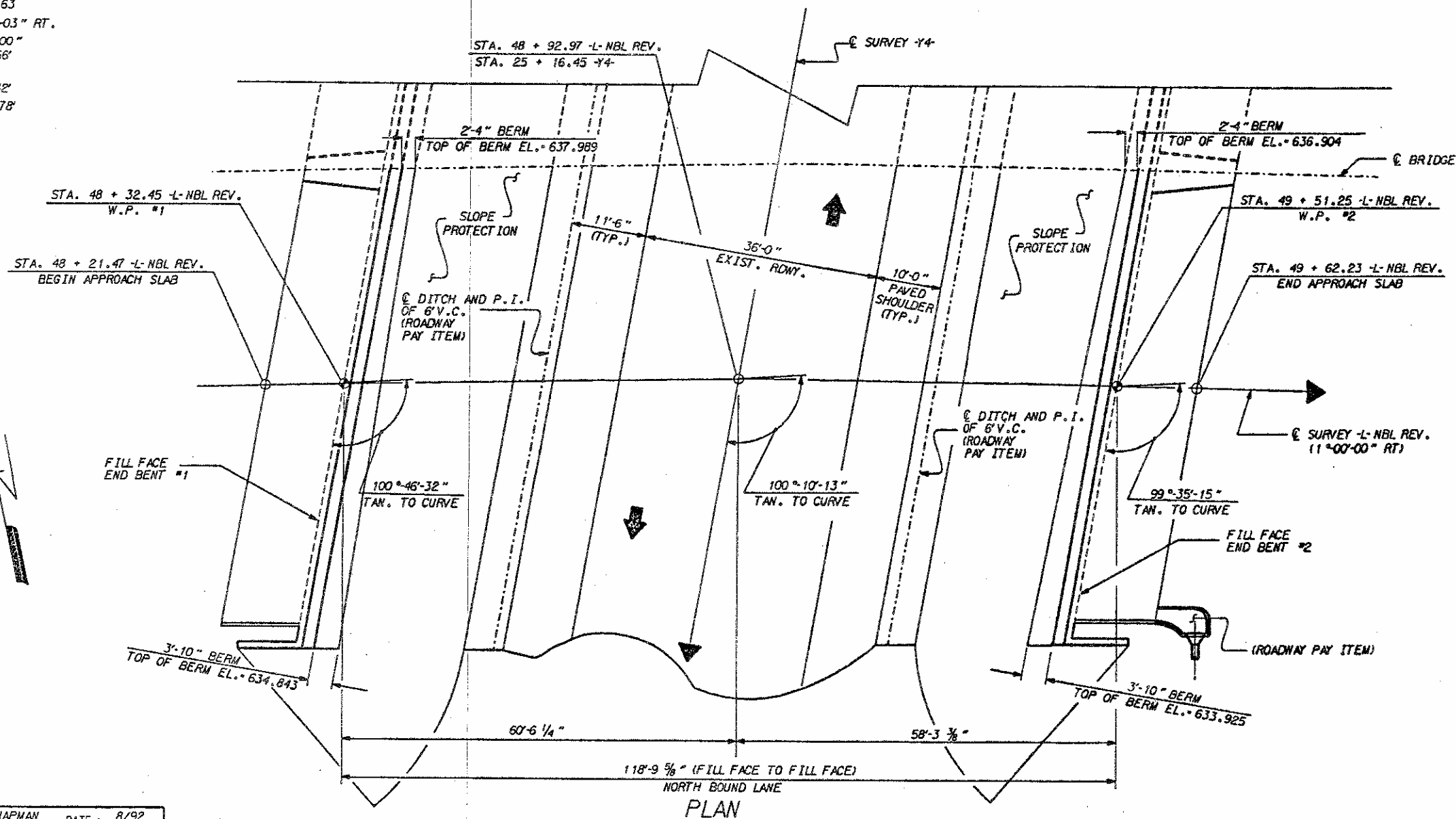
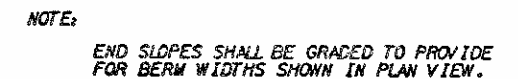




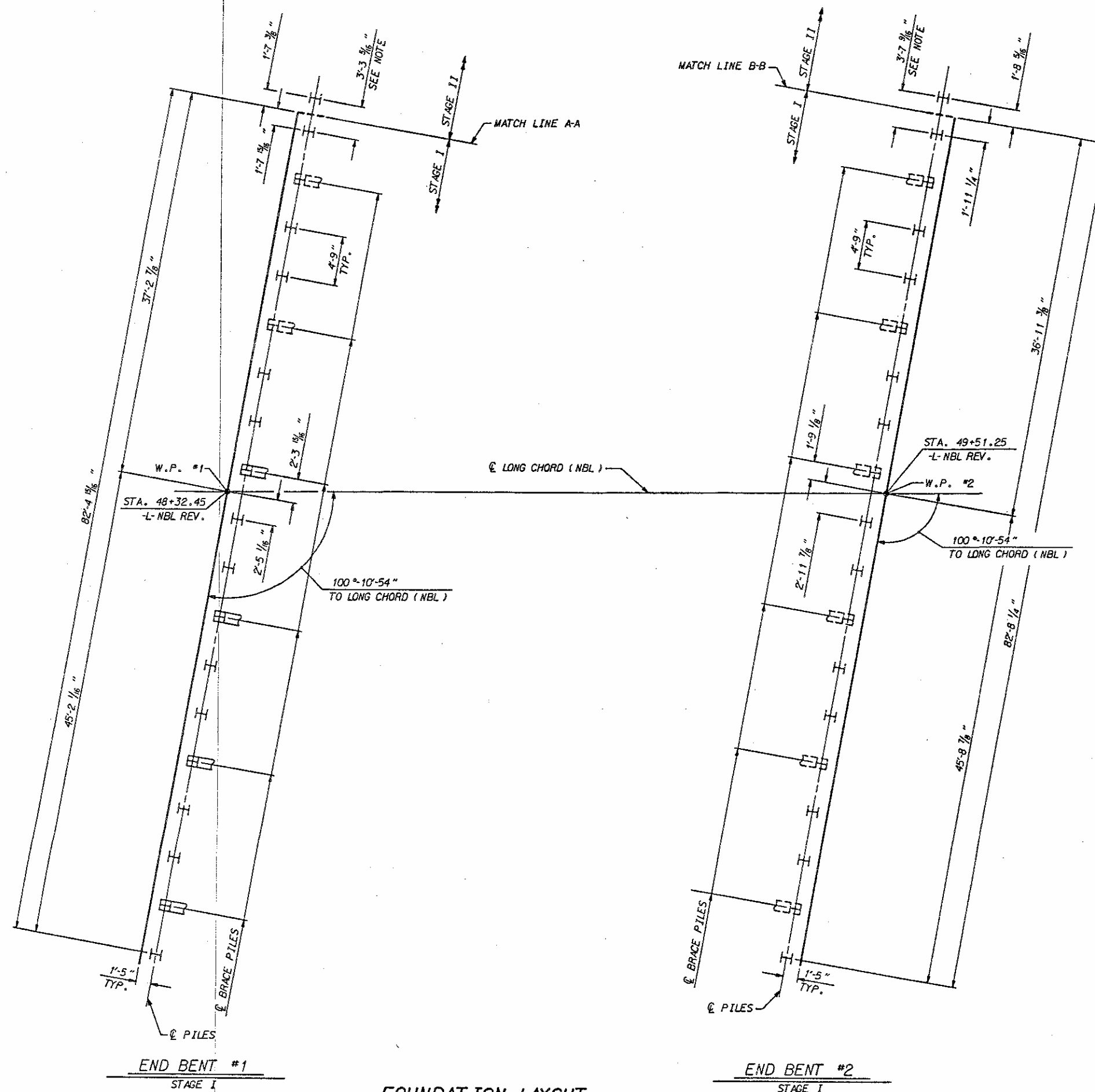
DRAWN BY : D. CHAPMAN DATE : 8/92
CHECKED BY : O. PUIGSERVER DATE : 5/93

PROJECT NO. 8.T500311
ORANGE COUNTY
 STATION: 48+92.97 -L- NBL REV.
25 + 16.45 -Y4-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
FOR BRIDGE OVER
US-70 CONNECTOR
(NBL)
STAGE I

REVISIONS						SHEET NO. 5-71
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 108
2			4			

NOTE :
PILE P17 OF END BENT #1 AND END BENT #2 STAGE II
CONSTRUCTION SHALL BE DRIVEN WITH THE PILES FOR
STAGE I CONSTRUCTION.



FOUNDATION LAYOUT

(DIMENSIONS LOCATING PILES ARE SHOWN TO THE PILE CENTERLINE)
BATTER BRACE PILES AT 3 TO 12

DRAWN BY : N.M. RUFFIN DATE : 4/26/93
CHECKED BY : O. PILGECRIVER DATE : 4/27/93

24-JUN-1993 08:17
ZCH20601130403PL.DWG
NRUFFIN

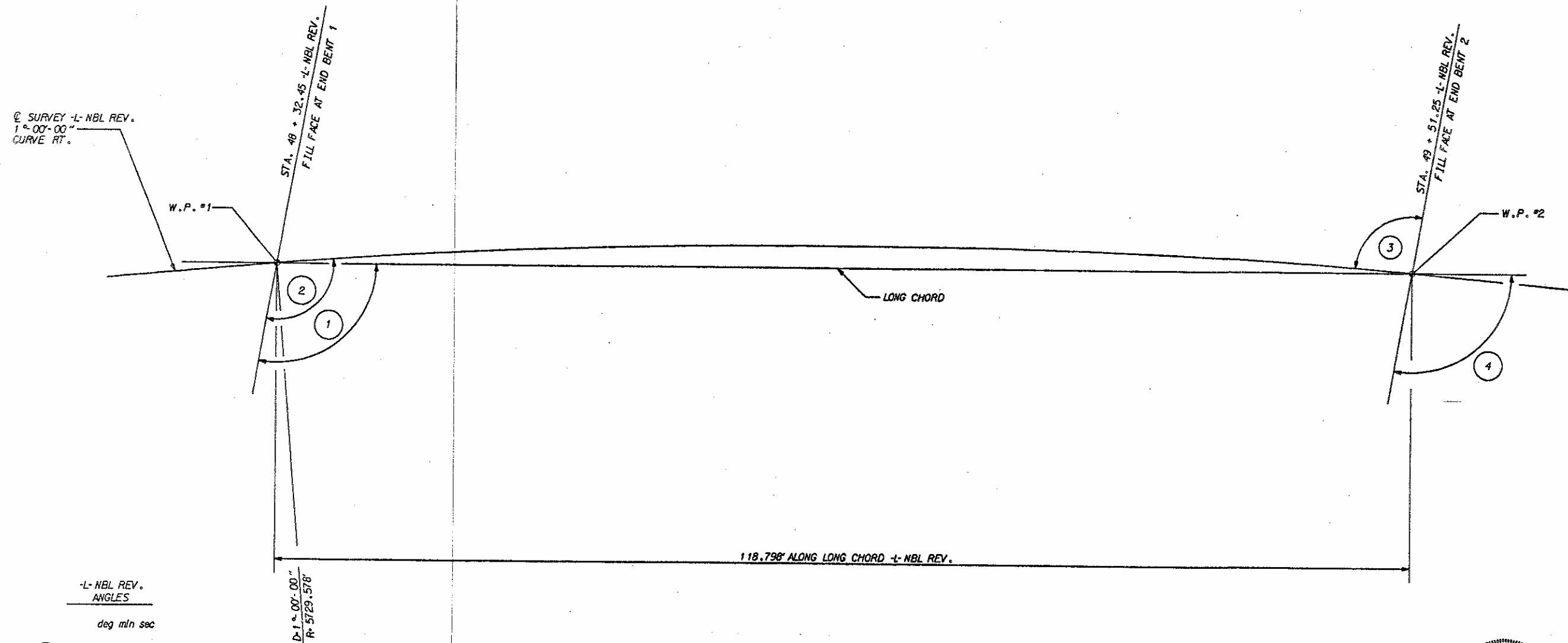


PROJECT NO. 8.T500311
ORANGE COUNTY
STATION: 48+92.97 -L- NBL REV.

SHEET 3 OF 7

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
FOUNDATION LAYOUT
NBL STAGE I

REVISIONS						SHEET NO.
NO.	BY:	DATE	NO.	BY:	DATE	
1			3			S-73 TOTAL SHEETS 108
2			4			



L-NBL REV.
ANGLES

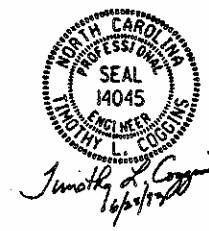
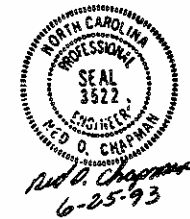
deg min sec

- 1 100-10-54
- 2 100-46-32 TAN. TO CURVE
- 3 99-35-15 TAN. TO CURVE
- 4 100-10-53

L-NBL REV.
HORIZONTAL CURVE DATA

PI = 50 + 48.63
 $\Delta = 27^\circ - 17' - 03''$ RT
 DC = 1 + 00' - 00"
 T = 1490.66'
 LS = 200.00'
 LC = 2528.42'
 R = 5729.578'

LONG CHORD LAYOUT



PROJECT NO. 8.T500311
ORANGE COUNTY
 STATION: 48 + 92.97 -L-NBL REV.

SHEET 5 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE LONG CHORD LAYOUT (NBL) STAGE I					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					S-75
TOTAL SHEETS					108

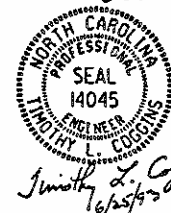
DRAWN BY: D. CHAPMAN DATE: 4/93
 CHECKED BY: O. PULGECYER DATE: 5/93
 24-JUN-1993 10:33
 Z:\01206022\1304E03LC.DGN
 DCHAPMAN

CHAPMAN
JULY 27 1964



TOTAL BILL OF MATERIAL															
	REMOVAL OF EXISTING STRUCTURE	RE INFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	STRUCTURAL STEEL	HP 12 X 53 STEEL PILES		CONCRETE BARRIER RAIL	4" SLOPE PROTECTION	T F E EXPANSION BEARING ASSEMBLIES	PREFORMED COMPRESSION JOINT SEALS	CONCRETE BARRIER RAIL AT MEDIAN	CONCRETE MEDIAN BARRIER
	LUMP SUM	SQ.FT.	SQ.FT.	CU.YDS.	LUMP SUM	LBS.	APPROX.LBS.	NO.	LIN.FT.	LIN.FT.	SQ.YDS.	LUMP SUM	LUMP SUM	LIN.FT.	LIN.FT.
SUPERSTRUCTURE		17,515	19,107		LUMP SUM		491,000			233.36		LUMP SUM	LUMP SUM	233.26	24.00
END BENT NO.1				84.0		13,604		35	1,140		710				
END BENT NO.2				84.7		13,573		35	1,045		635				
TOTAL	LUMP SUM	17,515	19,107	164.7	LUMP SUM	27,177	491,000	70	2,185	233.36	1,345	LUMP SUM	LUMP SUM	233.26	24.00

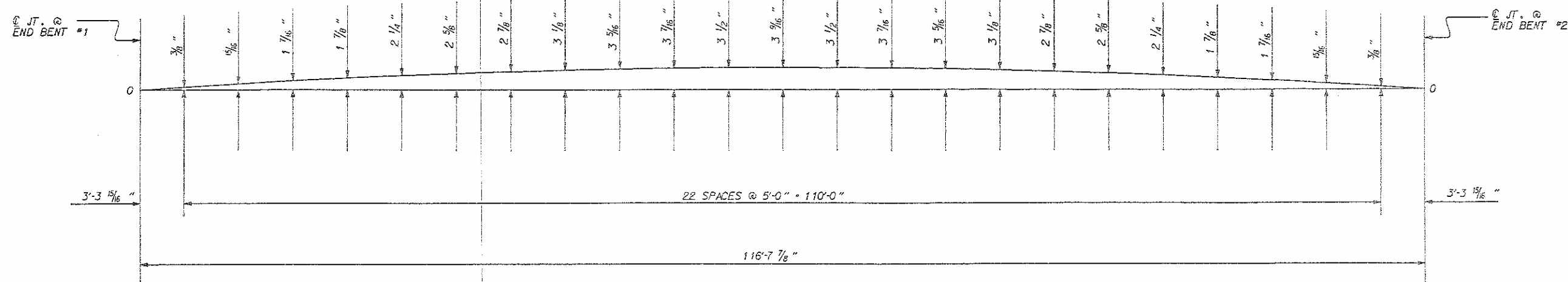
THIS BRIDGE HAS BEEN DESIGNED BY STRENGTH DESIGN METHOD AS SPECIFIED IN AASHTO SPECIFICATIONS.



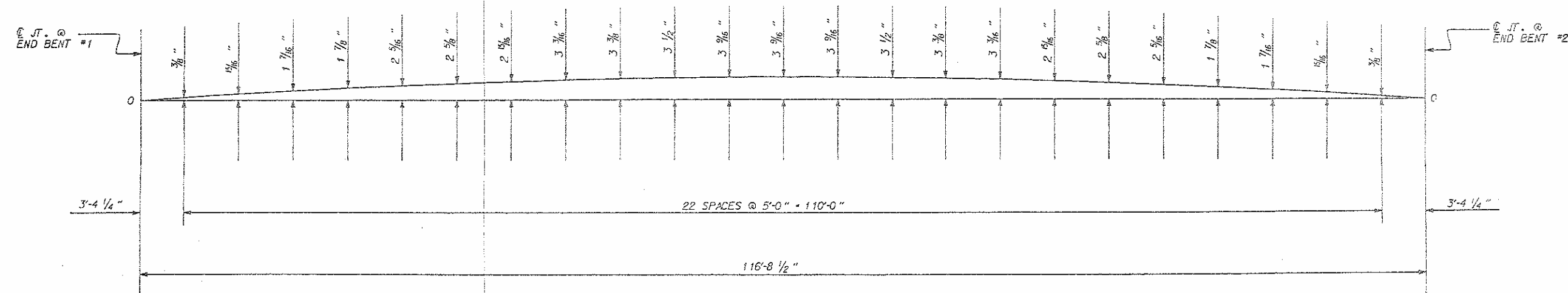
GENERAL DRAWING
FOR BRIDGE OVER
US-70 CONNECTOR

REVISIONS						SHEET NO. S-77
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 108
2			4			

DRAWN BY : D. CHAPMAN DATE : 4/93
CHECKED BY : O. PUIGSERVER DATE : 5/93



ARC OFFSETS ALONG OUTSIDE EDGE OF SUPERSTRUCTURE - LEFT SIDE



ARC OFFSETS ALONG OUTSIDE EDGE OF SUPERSTRUCTURE - RIGHT SIDE



PROJECT NO. 8.T500311
ORANGE COUNTY
STATION: 48+92.97 -L-NBL REV.

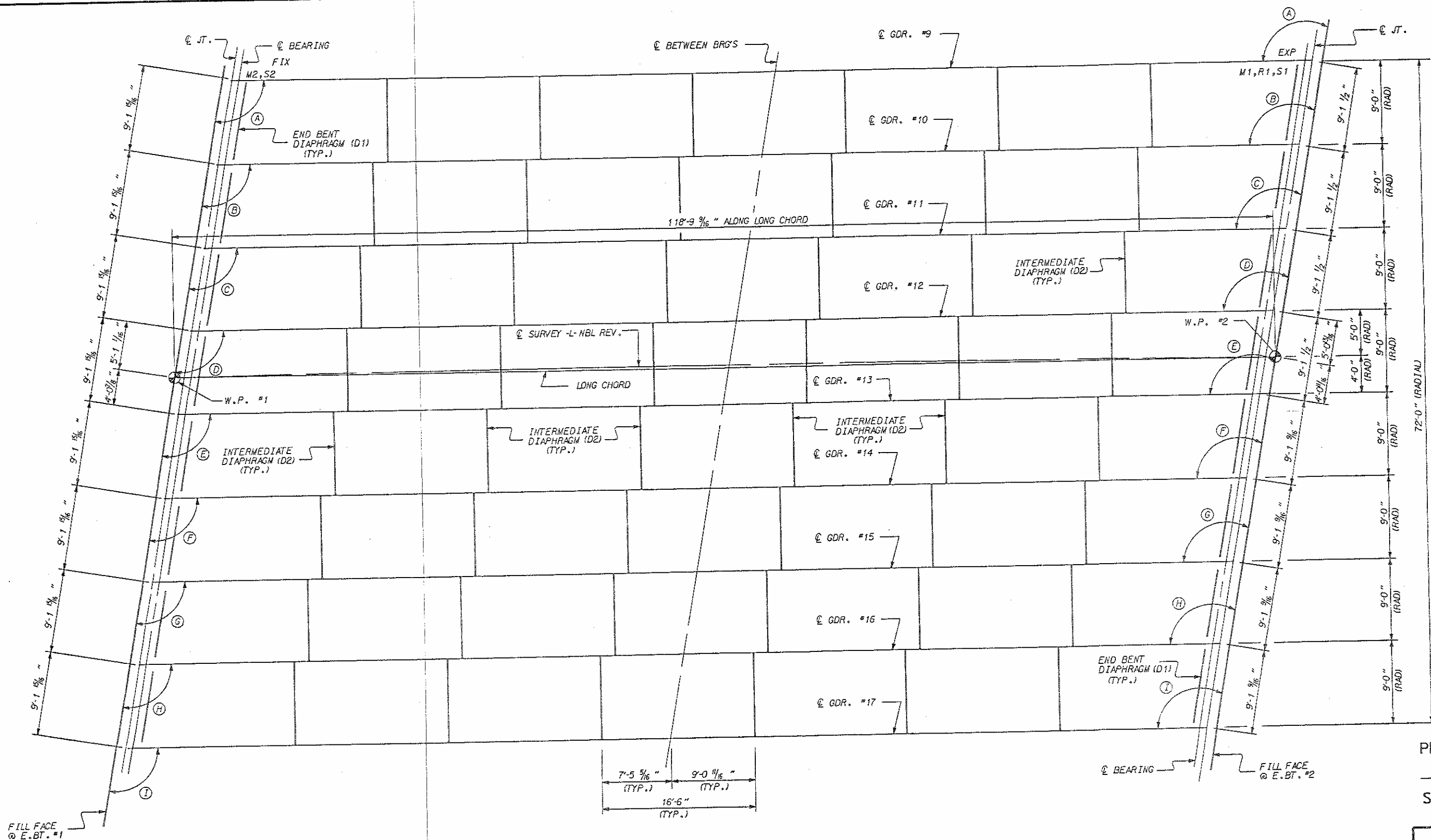
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
(NBL)
STAGE I

REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
				TOTAL SHEETS	108

DRAWN BY: D. CHAPMAN DATE: 4/93
CHECKED BY: L. E. SUTTON DATE: 5/93

28-JUN-1993 07:59
Z:\04206022\304EQ3PS.DGN
DCHAPMAN



BEAM ANGLES	
A	100°-07'-28"
B	100°-08'-25"
C	100°-09'-23"
D	100°-10'-21"
E	100°-11'-19"
F	100°-12'-18"
G	100°-13'-16"
H	100°-14'-15"
I	100°-15'-14"

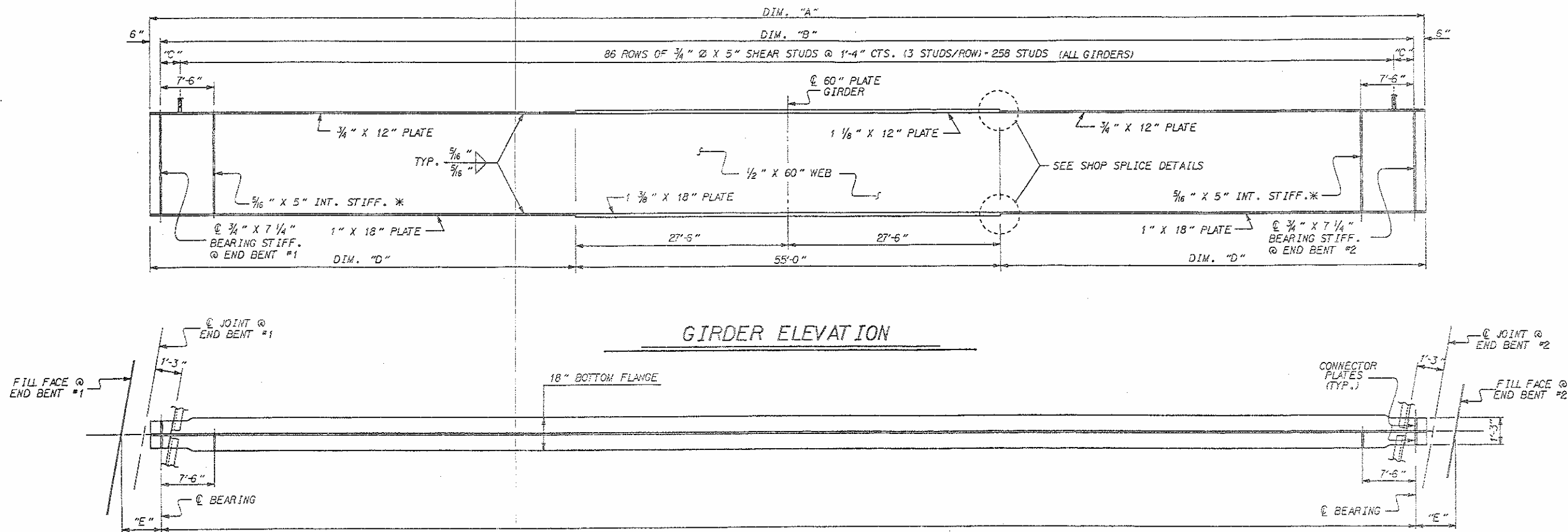
PROJECT NO. 8.T500311
ORANGE COUNTY
 STATION: 48+92.97 -L- NBL REV.



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE STRUCTURAL STEEL FRAMING PLAN (NBL) STAGE I					
REVISIONS					
NO.	BY1	DATE1	NO.	BY1	DATE2
1			3		
2			4		
					SHEET NO. S-84
					TOTAL SHEETS 108

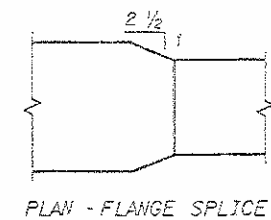
DRAWN BY: D. CHAPMAN DATE: 3/93
 CHECKED BY: L.E. SUTTON DATE: 5/93

25-JUN-1993 06:36
 712060723304E03FP.DGN

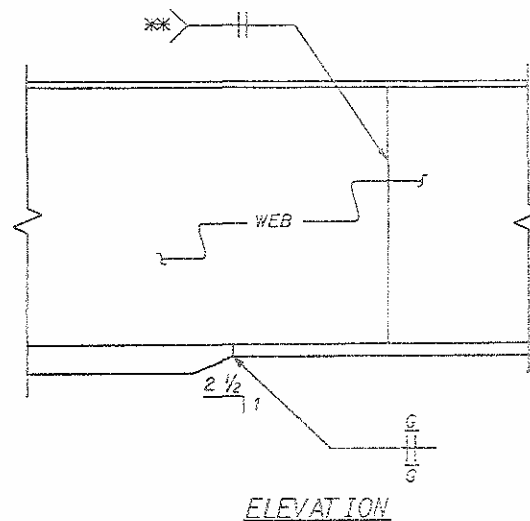


	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"	DIM. "E"
GDR. 1	116'-0 1/16"	115'-0 1/16"	10 1/16"	30'-6 1/16"	1'-10 3/16"
GDR. 2	116'-0 1/8"	115'-0 1/8"	10 1/8"	30'-6 1/8"	1'-10 3/8"
GDR. 3	116'-0 3/16"	115'-0 3/16"	10 3/16"	30'-6 3/16"	1'-10 3/16"
GDR. 4	116'-0 1/4"	115'-0 1/4"	10 1/4"	30'-6 1/4"	1'-10 3/4"
GDR. 5	116'-0 5/16"	115'-0 5/16"	10 5/16"	30'-6 5/16"	1'-10 5/16"
GDR. 6	116'-0 3/8"	115'-0 3/8"	10 3/8"	30'-6 3/8"	1'-10 3/8"
GDR. 7	116'-0 7/16"	115'-0 7/16"	10 7/16"	30'-6 7/16"	1'-10 7/16"
GDR. 8	116'-0 1/2"	115'-0 1/2"	10 1/2"	30'-6 1/2"	1'-10 1/2"

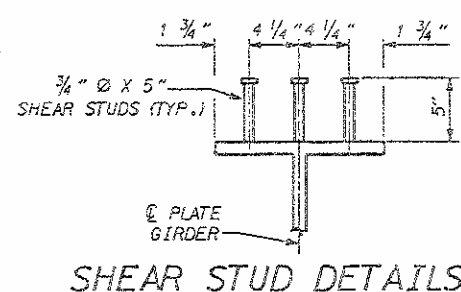
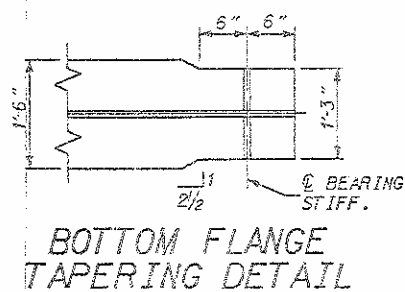
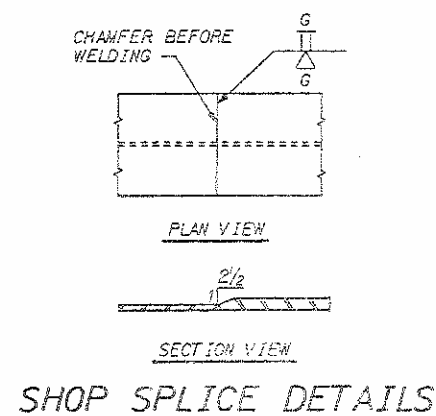
	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"	DIM. "E"
GDR. 9	116'-0 5/8"	115'-0 5/8"	10 5/8"	30'-6 5/8"	1'-10 5/8"
GDR. 10	116'-0 1/2"	115'-0 1/2"	10 1/2"	30'-6 1/2"	1'-10 1/2"
GDR. 11	116'-0 3/4"	115'-0 3/4"	10 3/4"	30'-6 3/4"	1'-10 3/4"
GDR. 12	116'-0 7/8"	115'-0 7/8"	10 7/8"	30'-6 7/8"	1'-10 7/8"
GDR. 13	116'-0 1"	115'-0 1"	10 1"	30'-6 1"	1'-10 1"
GDR. 14	116'-1"	115'-1"	10 1/2"	30'-6 1/2"	1'-10 3/8"
GDR. 15	116'-1 1/8"	115'-1 1/8"	10 1/2"	30'-6 3/8"	1'-10 3/8"
GDR. 16	116'-1 1/4"	115'-1 1/4"	10 1/2"	30'-6 1/2"	1'-10 3/8"
GDR. 17	116'-1 3/8"	115'-1 3/8"	10 5/8"	30'-6 5/8"	1'-10 3/8"



*** GRIND SMOOTH AND FLUSH ON
OUTER FACE OF EXTERIOR
BEAMS / GIRDERS



TYPICAL FLANGE AND WEB BUTT JOINT



* ON EXT. GIRDERS, INT. STIFFENERS
TO BE ON INSIDE OF GIRDER. FOR INTERIOR
GIRDERS, INT. STIFFENERS ARE TO BE ON
EITHER SIDE.

PROJECT NO. 8.T500311
ORANGE COUNTY
STATION: 48 + 92.97 -L-NBL REV.
49 + 20.51 -L-SBL

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
STRUCTURAL STEEL
GIRDER DETAILS

REVISIONS						SHEET NO. S-85
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 108
2			4			

DRAWN BY: D. CHAPMAN DATE: 4/93
CHECKED BY: L.E. SUTTON DATE: 5/93

NOTES

ALL STRUCTURAL STEEL SHALL BE ASTM A588 STEEL WITH A MINIMUM YIELD STRENGTH OF 50,000 PSI, UNLESS OTHERWISE NOTED ON THE PLANS.

ALL DIMENSIONS SHOWN ARE HORIZONTAL OR VERTICAL, UNLESS OTHERWISE NOTED.

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

STIFFENERS ARE NOT REQUIRED ON THE OUTSIDE OF EXTERIOR BEAMS.

BEARING STIFFENERS ARE TO BE PLACED NORMAL TO THE WEB OF THE GIRDER AND SHALL BE PLUMB.

A CHARPY V-NOTCH TEST IS REQUIRED FOR WEB PLATES, BOTTOM FLANGE PLATES, BOTTOM FLANGE SPLICE PLATES AND WEB SPLICE PLATES (IF USED) FOR ALL GIRDERS. SEE SPECIAL PROVISIONS.

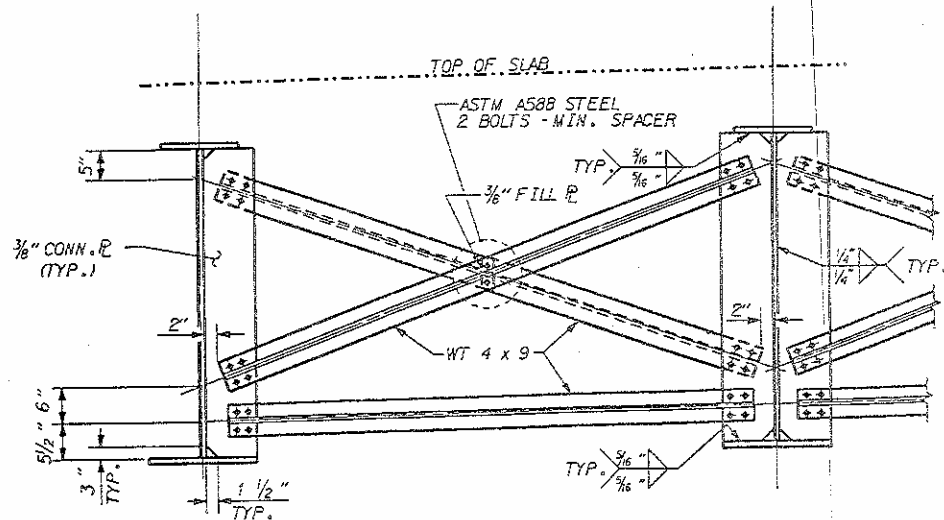
STUDS ON GIRDERS MAY BE SHIFTED UP TO 1" IF NECESSARY TO CLEAR FLANGE SPLICE WELD.

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

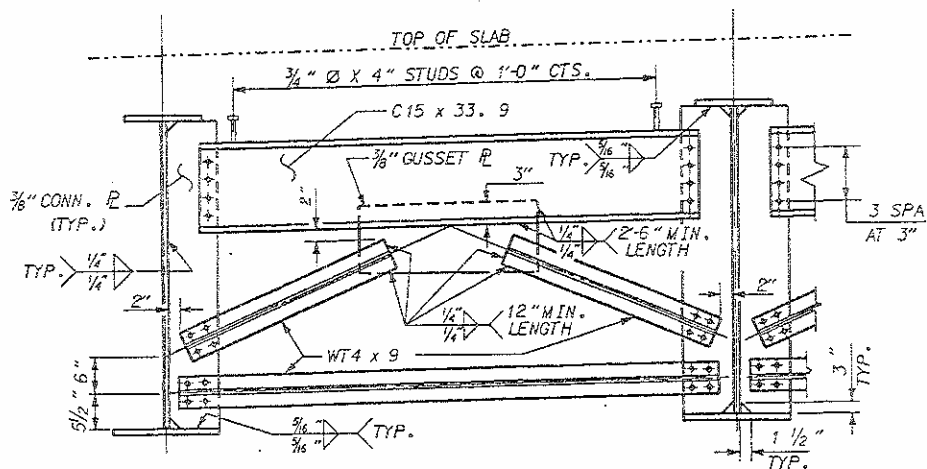
THE CONTRACTOR MAY, WHEN NECESSARY, PROPOSE A SCHEME FOR AVOIDING INTERFERENCE BETWEEN METAL STAY-IN-PLACE FORM SUPPORTS OR FORMS AND GIRDER STIFFENER OR CONNECTOR PLATES. THE PROPOSAL SHALL BE INDICATED, AS APPROPRIATE, ON EITHER THE STEEL WORKING DRAWINGS OR THE METAL STAY-IN-PLACE FORM WORKING DRAWINGS.

SHOP SPLICES ARE PERMITTED TO LIMIT THE MAXIMUM REQUIRED FLANGE PIECE LENGTHS TO 60 FEET AND WEB PIECE LENGTHS TO 45 FEET. PERMITTED FLANGE AND WEB SHOP SPLICES SHALL NOT BE LOCATED WITHIN 15 FEET OF MAXIMUM DEAD LOAD DEFLECTION. KEEP 2 FEET MINIMUM BETWEEN WEB AND FLANGE SHOP SPLICES.

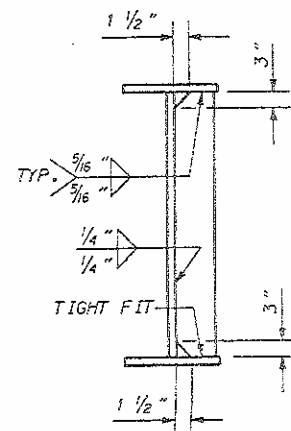
CAMBERED GIRDER LENGTHS SHALL BE ADJUSTED AND BEARINGS ARE TO BE PLACED ON THE CAMBERED GIRDER SO AS TO BE ALIGNED WITH THE ANCHORS AFTER THE DEAD LOAD DEFLECTION HAS OCCURRED. SHOP PLANS SHALL BE PREPARED ACCORDINGLY.



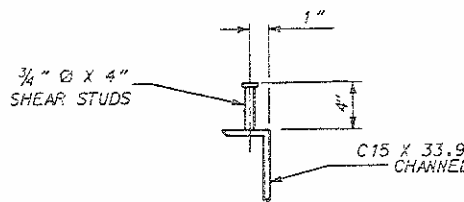
TYPICAL INTERMEDIATE DIAPHRAGM (D2)



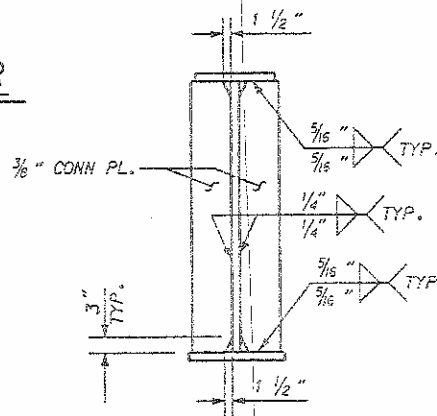
TYPICAL END BENT DIAPHRAGM (D1)



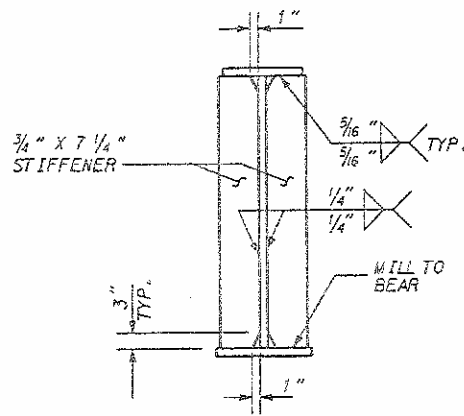
INTERMEDIATE STIFFENER



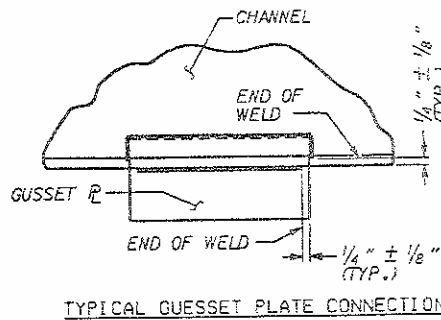
SHEAR STUD DETAILS



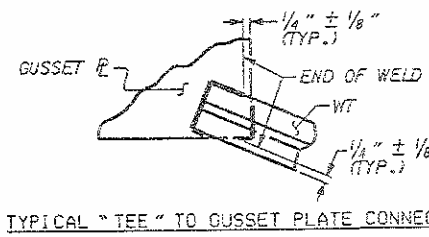
CONNECTOR PLATE DETAILS



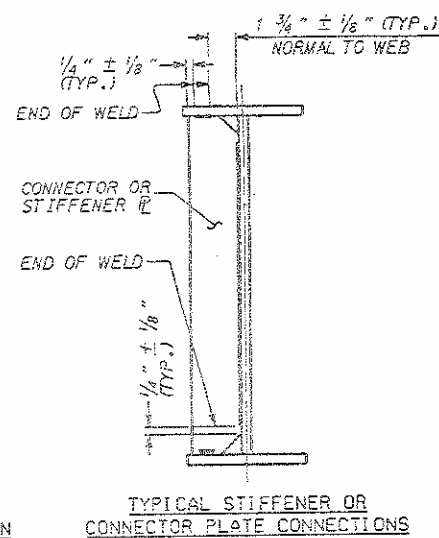
BEARING STIFFENER



TYPICAL GUSSET PLATE CONNECTION



TYPICAL "TEE" TO GUSSET PLATE CONNECTION



WELD TERMINATION DETAILS



PROJECT NO. 8.T500311
ORANGE COUNTY
STATION: 48 + 92.97 -L-NBL REV.
49 + 20.51 -L-SBL

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

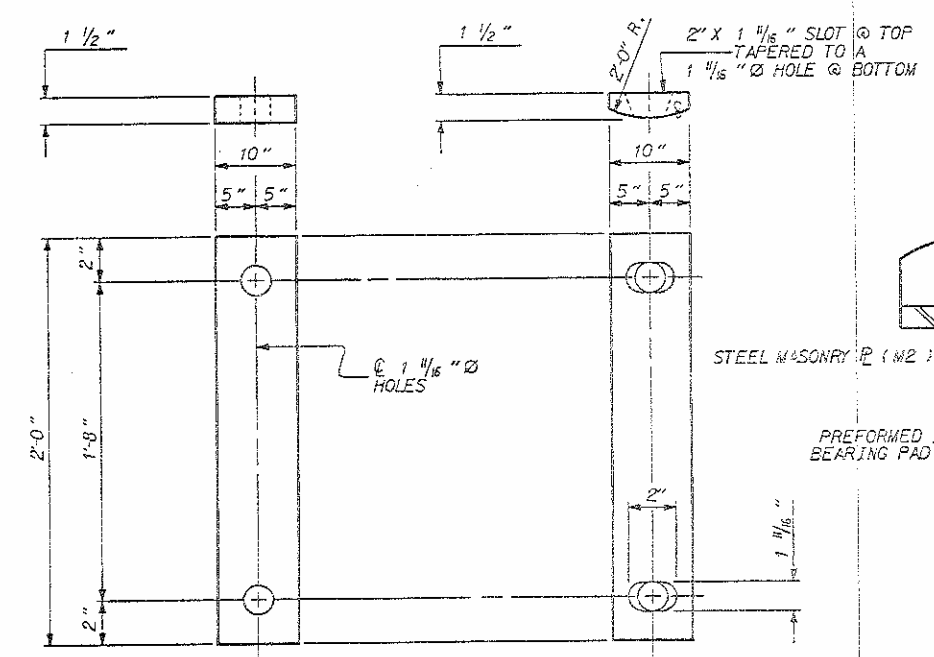
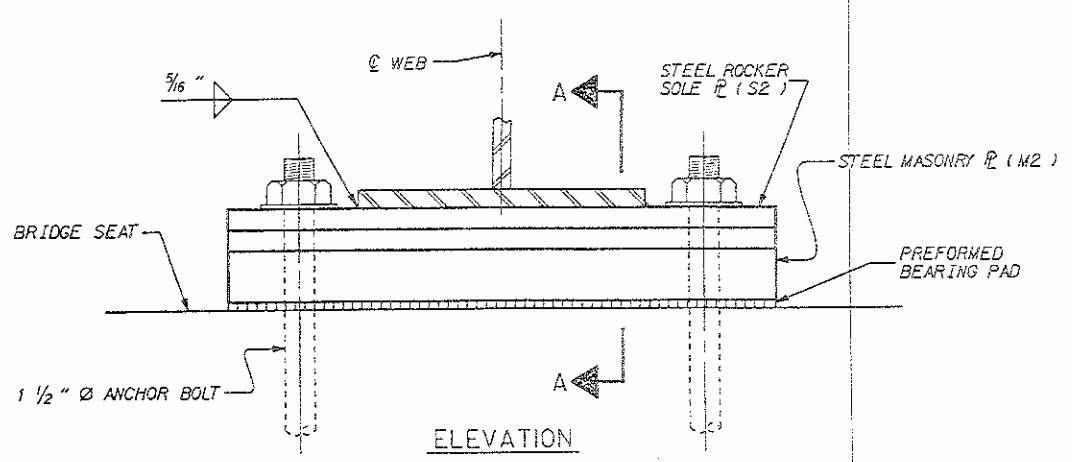
SUPERSTRUCTURE
STRUCTURAL STEEL
DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-87
2			4			
						TOTAL SHEETS
						108

DRAWN BY: D. CHAPMAN DATE: 4/93
CHECKED BY: L.E. SUTTON DATE: 5/93

25-JUN-1993 09:29
24042060223040E03SS.DGN
DCHAPMAN

7-JUN-1993 15:40
H012060221304E03BC.DGN
DCHAPMAN

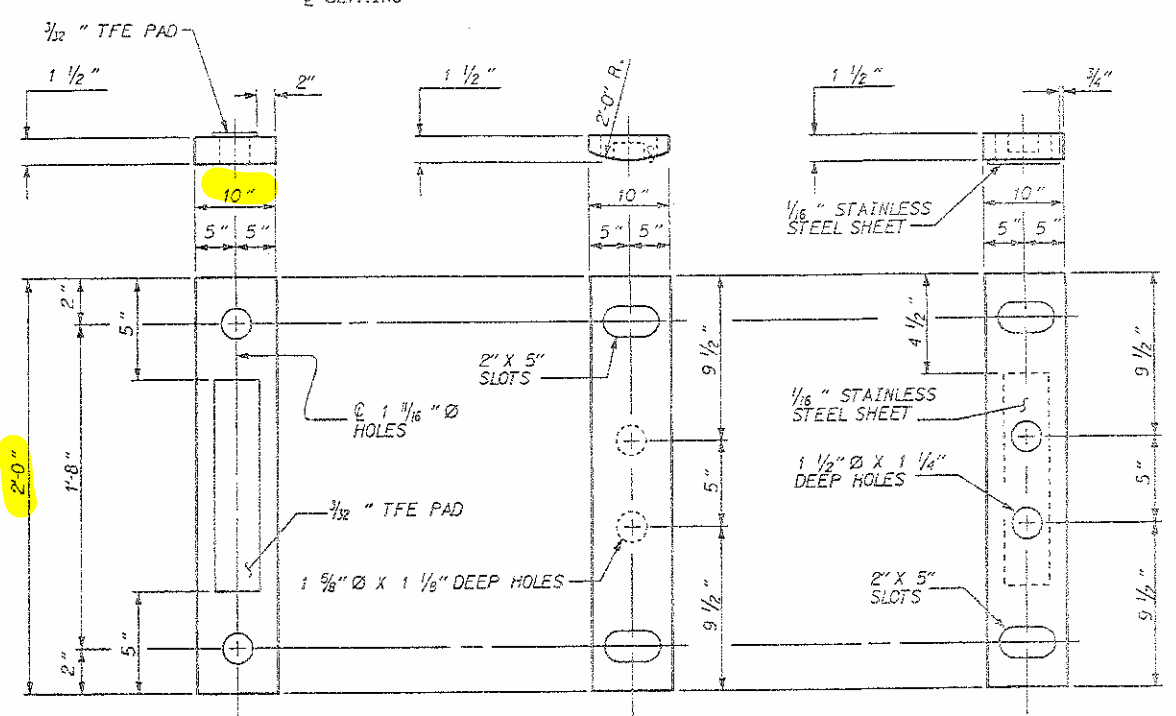
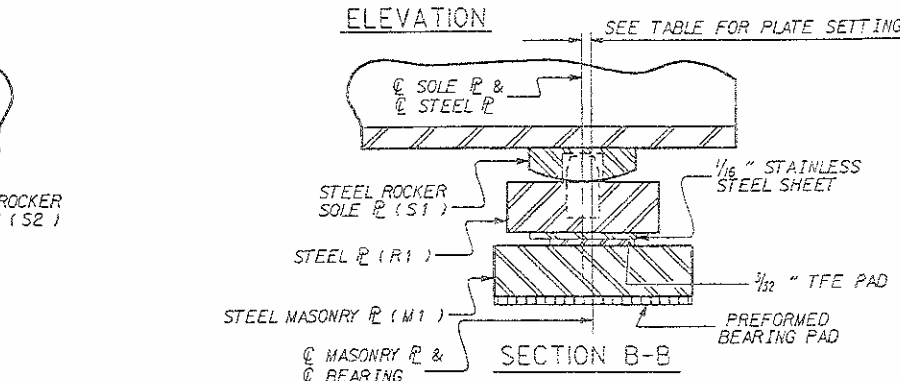
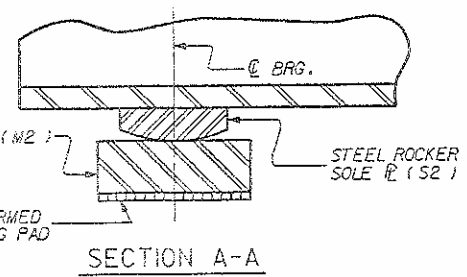
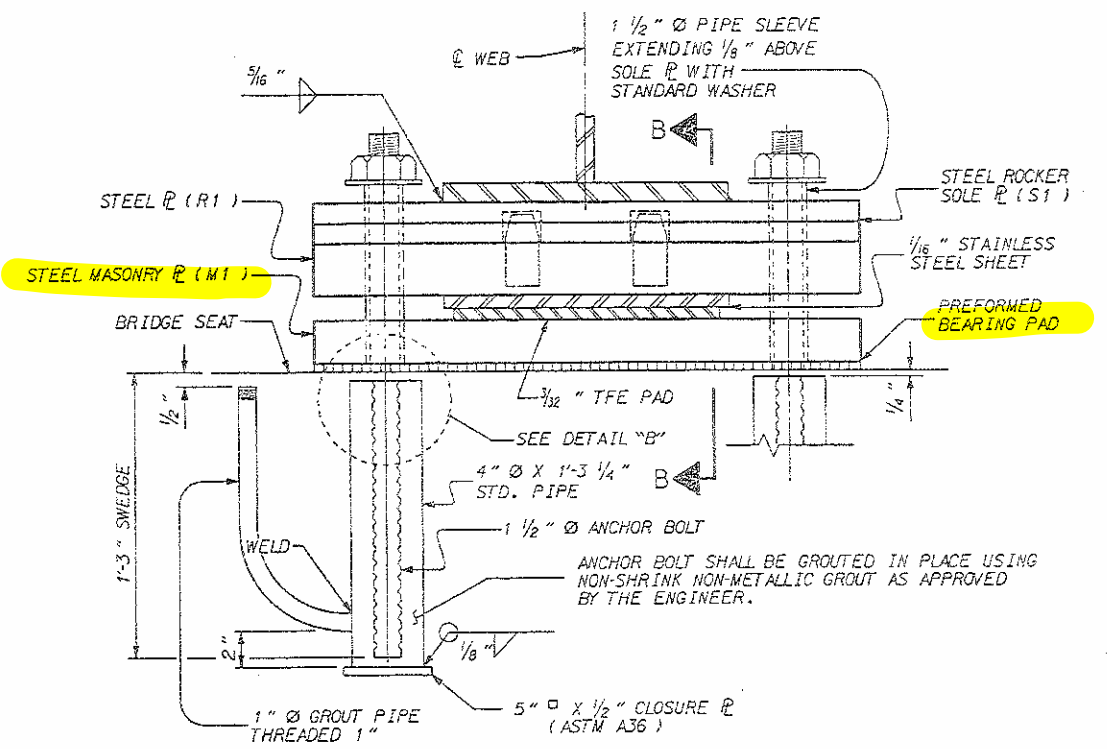


FIXED BEARING DETAILS

TABLE 1	
ITEM	NO. REQ'D
STEEL ROCKER SOLE PLATE (TYPE S1)	17
STEEL ROCKER SOLE PLATE (TYPE S2)	17
STEEL MASONRY PLATE (TYPE M1)	17
STEEL MASONRY PLATE (TYPE M2)	17
STEEL PLATE (TYPE R1)	17
1 1/2" Ø X 1'-9" ANCHOR BOLTS	34
1 1/2" Ø X 1'-10 1/2" ANCHOR BOLTS (SWEDGE TYPE)	34

TABLE FOR PLATE SETTING DATA					
TEMPERATURE AT TIME OF SETTING	30° F	60° F	90° F	*	
END BENT 2	-1/4"	0	+1/4"	1/16"	

* CORRECTION FOR END ROTATION DUE TO WEIGHT OF SLAB AND COMPOSITE DEAD LOAD.



EXPANSION BEARING DETAILS

NOTES :

AT 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 & BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

THE 1 1/2" Ø PIPE SLEEVE SHALL BE CUT FROM SCHEDULE 40 PVC PIPE. THE PVC PIPE SHALL MEET THE REQUIREMENTS OF ASTM D1785. THE PAYMENT FOR THE PIPE SLEEVES SHALL BE INCLUDED IN THE SEVERAL PAY ITEMS.

ALL BEARING PLATES SHALL BE ASTM A-588.

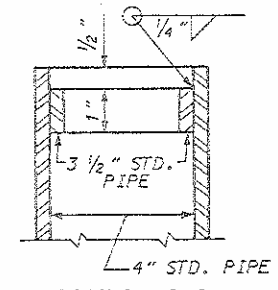
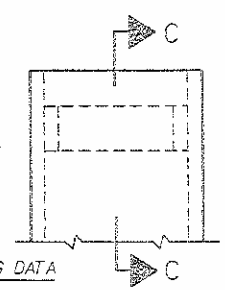
ON PLATES TO BE PAINTED, ALL SHARP EDGES AND ENDS OF PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16" OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE. THIS ROUNDED OF EDGES SHALL BE PAID FOR IN THE CONTRACT LUMP SUM PRICE FOR "TFE EXPANSION BEARING ASSEMBLIES".

THE CLOSURE PLATE & THE STANDARD PIPE FOR THIS ASSEMBLY NEED NOT BE GALVANIZED.

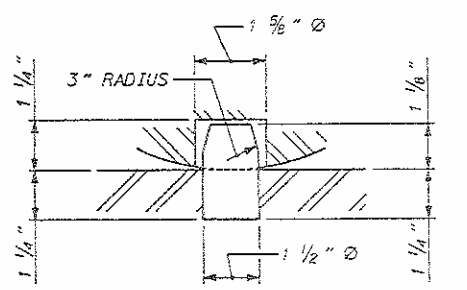
FOR TFE EXPANSION BEARING ASSEMBLIES, SEE SPECIAL PROVISIONS.

ANCHOR BOLTS SHOULD BE GROUTED BEFORE FALSEWORK IS PLACED.

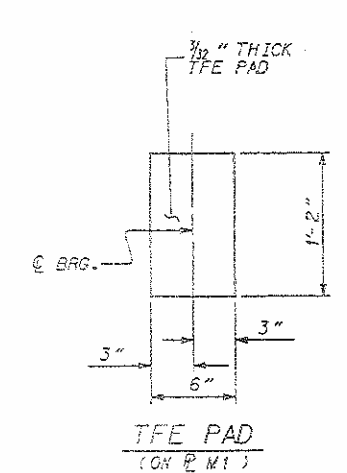
SOLE PLATES, MASONRY PLATES, BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.



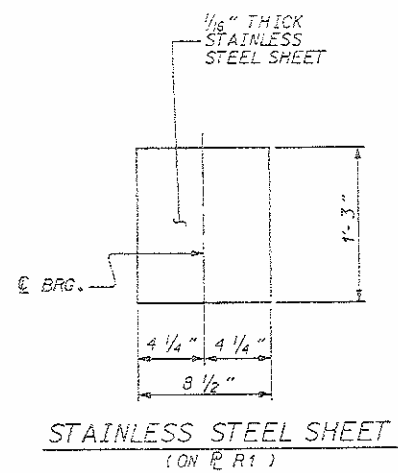
DETAIL "B"



PINTLE DETAIL



TFE PAD (ON PLATE M1)



STAINLESS STEEL SHEET (ON PLATE R1)

PROJECT NO. 8.T500311
ORANGE COUNTY
STATION: 48+92.97 -L- NBL REV.
49+20.51 -L- SBL



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE
TFE BEARING
DETAILS

DRAWN BY: D. CHAPMAN DATE: 4/93
CHECKED BY: L.E. SUTTON DATE: 5/93

REVISIONS				SHEET NO.
BY:	DATE:	NO.	DATE:	
		1		5-88
		2		TOTAL SHEETS
		3		108

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																																	
TENTH POINTS	SPAN "A" (SBL)											SPAN "A" (SBL)											SPAN "A" (SBL)										
	GIRDER 1											GIRDERS 2-7											GIRDER 8										
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0
DEFLECTION DUE TO WEIGHT OF GIRDER	0.000	0.022	0.041	0.056	0.065	0.068	0.065	0.056	0.041	0.022	0.000	0.000	0.023	0.043	0.057	0.066	0.069	0.066	0.057	0.043	0.023	0.000	0.000	0.022	0.041	0.056	0.065	0.068	0.065	0.056	0.041	0.022	0.000
DEFLECTION DUE TO WEIGHT OF SLAB *	0.000	0.118	0.221	0.297	0.345	0.361	0.345	0.297	0.221	0.118	0.000	0.000	0.114	0.214	0.288	0.334	0.350	0.334	0.288	0.214	0.114	0.000	0.000	0.103	0.193	0.259	0.301	0.315	0.301	0.259	0.193	0.103	0.000
DEFLECTION DUE TO WEIGHT OF BARRIER RAIL	0.000	0.006	0.012	0.016	0.019	0.020	0.019	0.016	0.012	0.006	0.000	0.000	0.004	0.008	0.011	0.013	0.013	0.013	0.011	0.008	0.004	0.000	0.000	0.006	0.012	0.016	0.019	0.020	0.019	0.016	0.012	0.006	0.000
TOTAL DEAD LOAD DEFLECTION	0.000	0.146	0.274	0.369	0.429	0.449	0.429	0.369	0.274	0.146	0.000	0.000	0.141	0.265	0.356	0.413	0.432	0.413	0.356	0.265	0.141	0.000	0.000	0.131	0.246	0.331	0.385	0.403	0.385	0.331	0.246	0.131	0.000
REQUIRED CAMBER	0	1 3/4"	3 5/8"	4 7/8"	5 1/8"	5 3/8"	5 1/8"	4 7/8"	3 5/8"	1 3/4"	0	0	1 1/8"	3 3/8"	4 1/4"	4 15/16"	5 3/8"	4 15/16"	4 1/4"	3 3/8"	1 1/8"	0	0	1 9/16"	2 15/16"	4"	4 5/8"	4 13/16"	4 5/8"	4"	2 15/16"	1 9/16"	0

* INCLUDES SLAB, BUILDUPS & STAY-IN-PLACE FORMS.
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "REQUIRED CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																																	
TENTH POINTS	SPAN "A" (NBL)											SPAN "A" (NBL)											SPAN "A" (NBL)										
	GIRDER 9											GIRDERS 10-16											GIRDER 17										
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0
DEFLECTION DUE TO WEIGHT OF GIRDER	0.000	0.022	0.042	0.056	0.065	0.068	0.065	0.056	0.042	0.022	0.000	0.000	0.023	0.043	0.057	0.066	0.070	0.066	0.057	0.043	0.023	0.000	0.000	0.022	0.042	0.056	0.065	0.068	0.065	0.056	0.042	0.022	0.000
DEFLECTION DUE TO WEIGHT OF SLAB *	0.000	0.111	0.207	0.279	0.323	0.338	0.323	0.278	0.207	0.111	0.000	0.000	0.115	0.215	0.288	0.335	0.350	0.335	0.288	0.215	0.115	0.000	0.000	0.096	0.182	0.245	0.285	0.298	0.285	0.245	0.182	0.098	0.000
DEFLECTION DUE TO WEIGHT OF BARRIER RAIL	0.000	0.006	0.012	0.016	0.018	0.019	0.018	0.016	0.012	0.006	0.000	0.000	0.004	0.007	0.009	0.010	0.011	0.010	0.009	0.007	0.004	0.000	0.000	0.006	0.012	0.016	0.018	0.019	0.018	0.016	0.012	0.006	0.000
TOTAL DEAD LOAD DEFLECTION	0.000	0.139	0.261	0.350	0.406	0.425	0.406	0.350	0.261	0.139	0.000	0.000	0.142	0.265	0.354	0.411	0.431	0.411	0.354	0.265	0.142	0.000	0.000	0.126	0.236	0.317	0.360	0.368	0.317	0.236	0.126	0.000	
REQUIRED CAMBER	0	1 1/16"	3 1/8"	4 3/16"	4 7/8"	5 1/8"	4 7/8"	4 3/16"	3 1/8"	1 1/16"	0	0	1 1/16"	3 3/16"	4 1/4"	4 15/16"	5 3/8"	4 15/16"	4 1/4"	3 3/16"	1 1/16"	0	0	1 1/2"	2 13/16"	3 13/16"	4 7/16"	4 5/8"	4 7/16"	3 13/16"	2 13/16"	1 1/2"	0

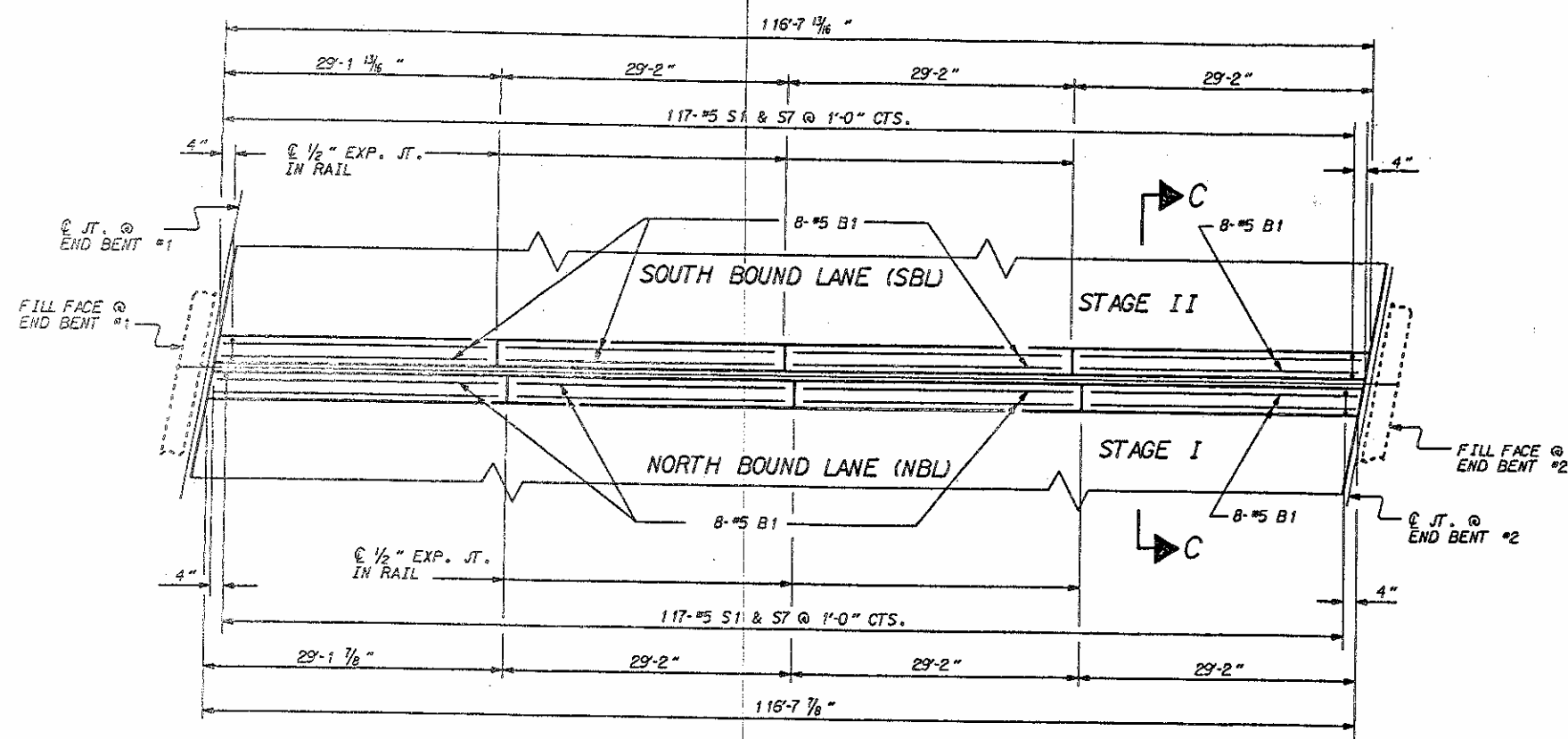
* INCLUDES SLAB, BUILDUPS & STAY-IN-PLACE FORMS.
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "REQUIRED CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

PROJECT NO. 8.T500311
ORANGE COUNTY
STATION: 48+92.97 -L- NBL REV.
49+20.51 -L- SBL

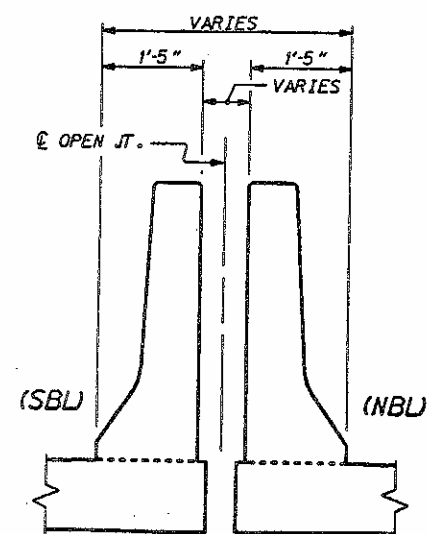


REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			5-89
2			4			TOTAL SHEETS 108

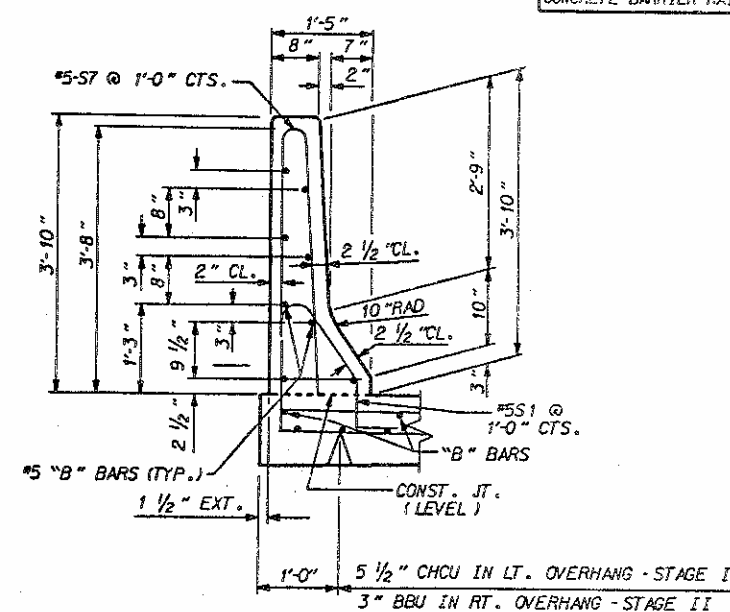
DRAWN BY: D. CHAPMAN DATE: 4/93
CHECKED BY: L.E. SUTTON DATE: 5/93
22-JUN-1993 15:10
Z:\WORK\060223\3C4E03DL.DGN



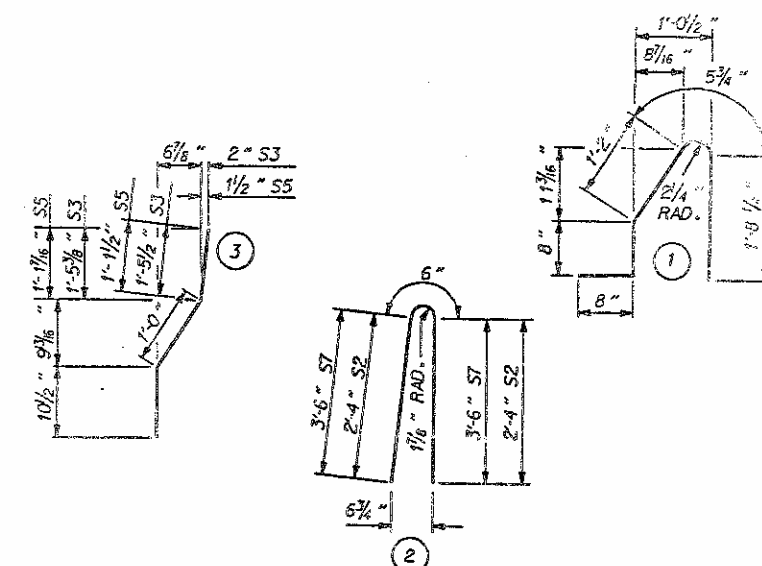
PLAN



SECTION C-C
SECTION ON BRIDGE MEDIAN



SECTION THRU RAIL MEDIAN (NBL & SBL)



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL

FOR CONCRETE BARRIER RAIL ONLY

STAGE I						STAGE II					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	228	#5	1	4'-8"	1110	S1	228	#5	1	4'-8"	1110
S2	111	#5	2	5'-2"	598	S2	111	#5	2	5'-2"	598
S3	2	#5	3	3'-4"	7	S3	2	#5	3	3'-4"	7
S4	2	#5	STR	3'-2"	7	S4	2	#5	STR	3'-2"	7
S5	4	#5	3	3'-0"	13	S5	4	#5	3	3'-0"	13
S6	4	#5	STR	2'-9"	11	S6	4	#5	STR	2'-9"	11
S7	117	#5	2	7'-6"	915	S7	117	#5	2	7'-6"	915
B1	56	#5	STR	28'-9"	1679	B1	56	#5	STR	28'-9"	1679

EPXY COATED REINFORCING STEEL	4340 LBS.	EPXY COATED REINFORCING STEEL	4340 LBS.
-------------------------------	-----------	-------------------------------	-----------

CLASS A-A CONCRETE	25.2 CU. YDS.	CLASS A-A CONCRETE	25.2 CU. YDS.
--------------------	---------------	--------------------	---------------

CONCRETE BARRIER RAIL	115.71 LIN. FT.	CONCRETE BARRIER RAIL	115.60 LIN. FT.
-----------------------	-----------------	-----------------------	-----------------

CONCRETE BARRIER RAIL @ MEDIAN 116.56 LIN. FT.	CONCRETE BARRIER RAIL @ MEDIAN 116.65 LIN. FT.
--	--

TOTAL CONCRETE BARRIER RAIL	233.36 LIN. FT
TOTAL CONCRETE BARRIER RAIL @ MEDIAN	233.36 LIN. FT

PROJECT NO. 8.7500311

ORANGE COUNTY

STATION: 48 + 92.97 -L- NBL REV.

49 + 20.51 -L- SBL

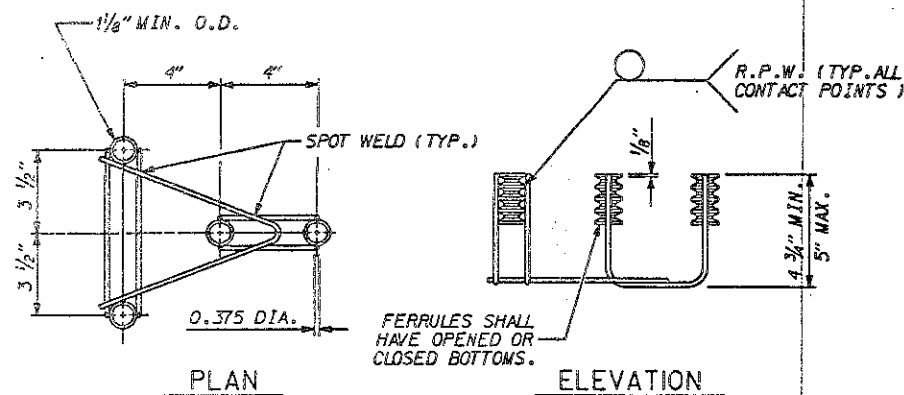
SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

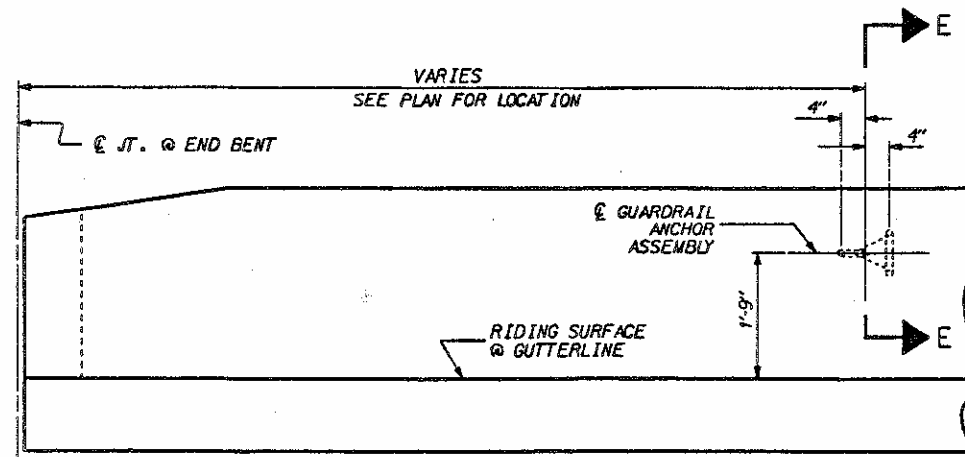
CONCRETE
BARRIER RAIL
LOCATED AT MEDIAN

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 108
2			4			

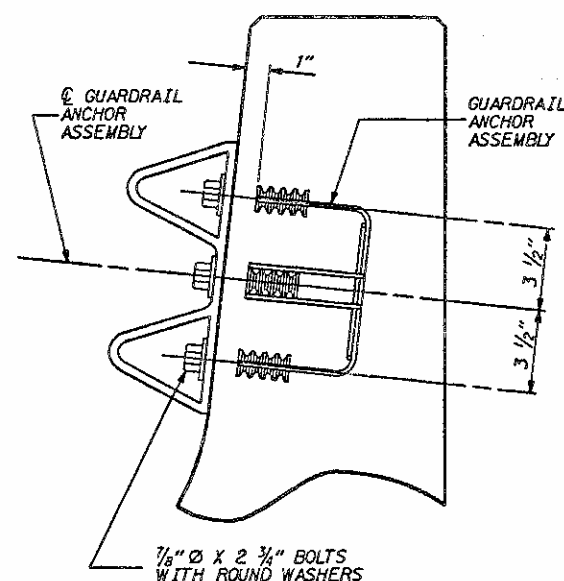
DRAWN BY : D. CHAPMAN DATE : 5/93
CHECKED BY : L.E. SUTTON DATE : 5/93



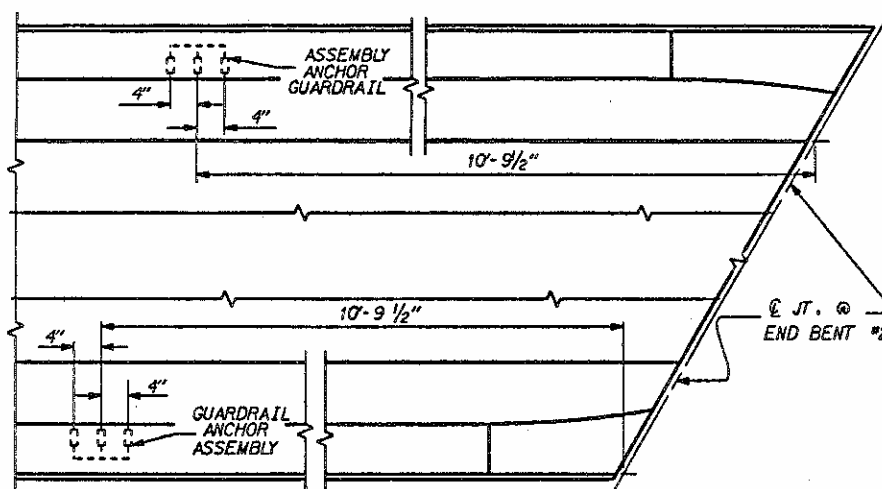
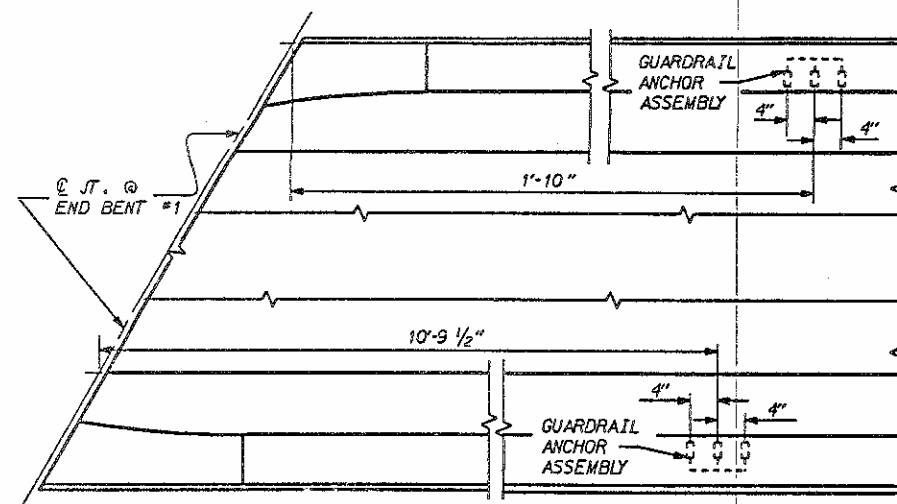
GUARDRAIL ANCHOR ASSEMBLY



ELEVATION



SECTION E-E



PLAN

LOCATION OF ANCHORS FOR GUARDRAIL

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF THE FOLLOWING COMPONENTS:

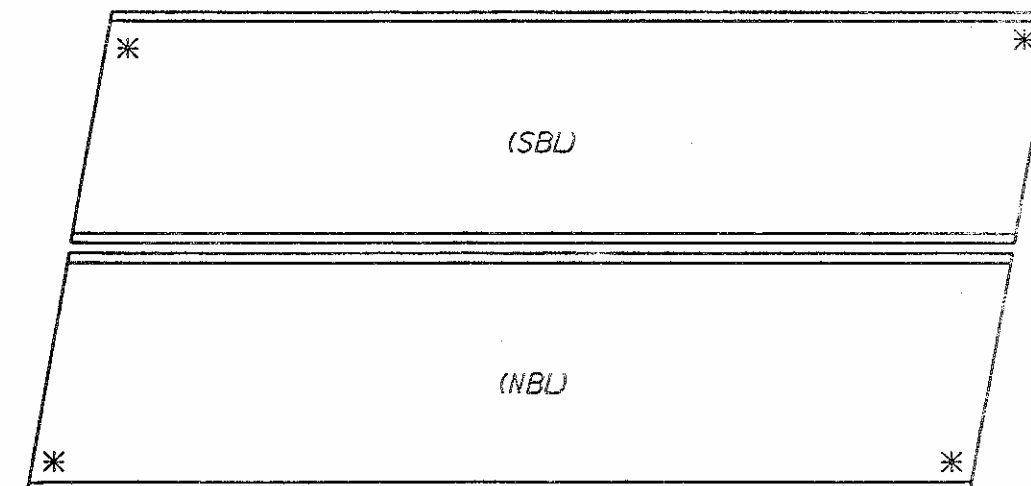
- FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF ASTM A108, GRADE 12L14 AND SHALL HAVE A MINIMUM LENGTH OF THREADS OF 1 1/2".
- 4 - 7/8" ϕ X 2 3/4" BOLTS WITH WASHERS FOR GUARDRAIL ANCHOR ASSEMBLY SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. BOLTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS WITH WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8" ϕ X 2 3/4" GALVANIZED BOLTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)
- WIRE STRUTS SHOWN IN THE ANCHOR ASSEMBLY ARE THE MINIMUM ALLOWABLE SIZE AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 100,000 PSI.

THE GUARDRAIL ANCHOR ASSEMBLIES WITH BOLTS SHALL BE ASSEMBLED IN THE SHOP. BOLT THREADS MAY BE RE-cut AS NECESSARY.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLIES WITH BOLTS AND WASHERS COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR CONCRETE BARRIER RAIL.

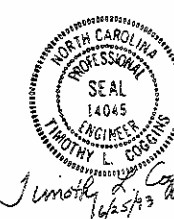
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

THE CONTRACTOR MAY, AT HIS OPTION, USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF GUARDRAIL ANCHOR ASSEMBLY. SEE SPECIAL PROVISIONS FOR "ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS". THE REQUIRED DESIGN LOAD OF THE 7/8" ϕ BOLT IS 12 KIPS. THE ANCHOR BOLTS SHALL BE COATED WITH A DEBONDING AGENT SO THAT THE ANCHOR BOLTS CAN BE EASILY REMOVED IF NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE DEBONDING AGENT DOES NOT REDUCE THE STRENGTH OF THE ANCHOR SYSTEM. TESTING OF THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.



SKETCH SHOWING POINTS OF ATTACHMENTS

PROJECT NO. 8.T500311
ORANGE COUNTY
STATION: 48+92.97 -L- NBL REV.
49+20.51 -L- SBL



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
GUARDRAIL ANCHORAGE
FOR BARRIER RAIL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-92
2			4			
						TOTAL SHEETS 108

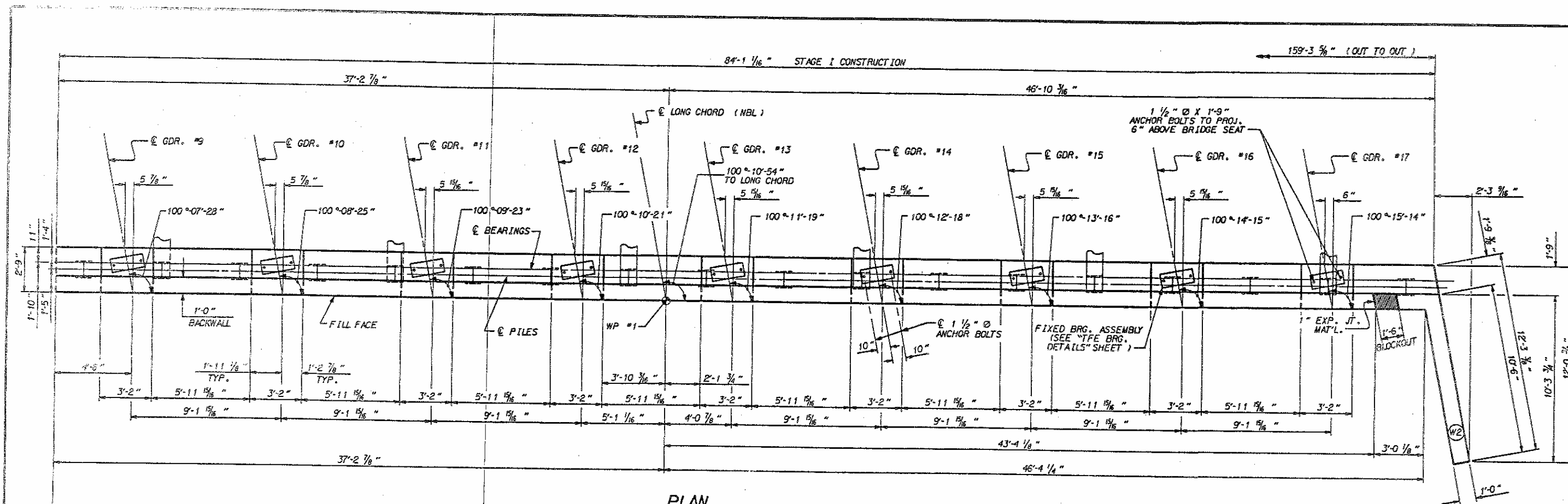
STD.No. GRA1

REVISED BY E.L.H. DESIGNED BY G.A.P. 11-1-91
REVISED BY K.L.H. CHECKED BY G.H.P. 10-1-90
REDRAWN 2/29/88

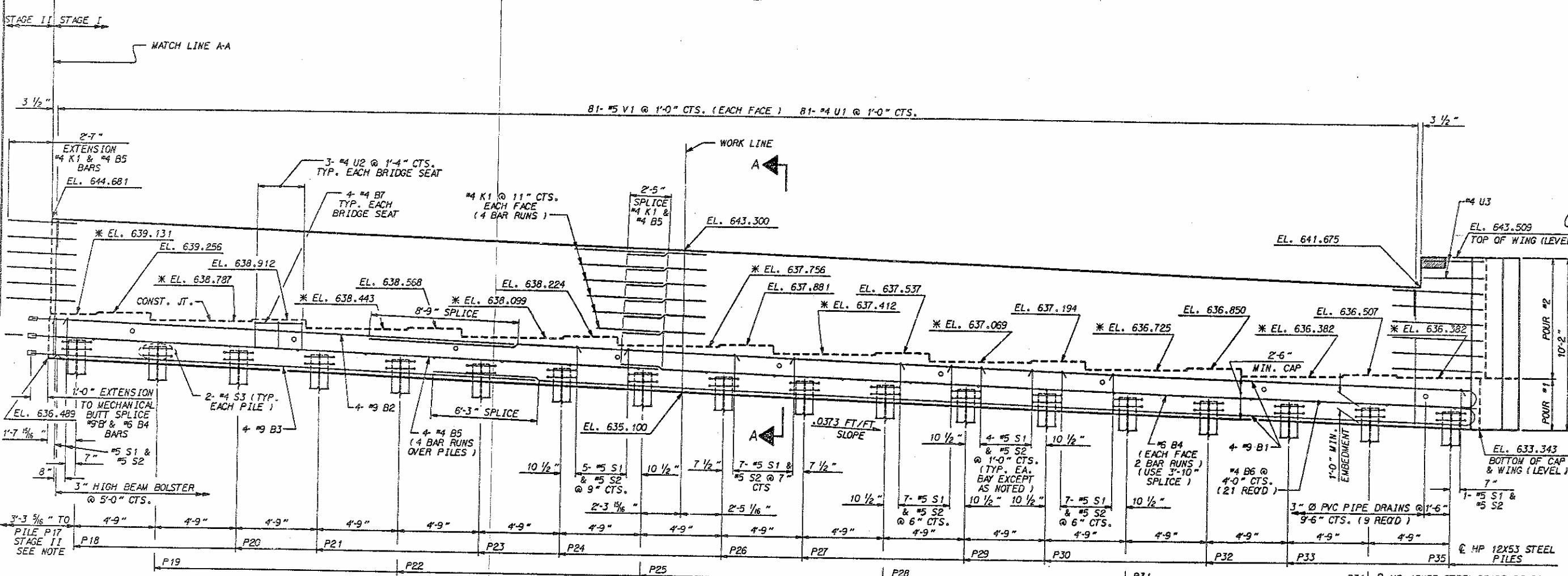
ASSEMBLED BY: D. CHAPMAN	DATE: 4/93	SPECIAL
CHECKED BY: L.E. SUTTON	DATE: 5/93	
DRAWN BY: MIKE BRITT	DATE: DEC. 1987	STANDARD
CHECKED BY: RANDY BISSETTE	DATE: DEC. 1987	

25-JUN-1993 10:03
ZHO:\206022\304E03GR.DGN
DCHAPMAN

DRAWN BY : D. CHAPMAN DATE : 4/93
CHECKED BY : L.E. SUTTON DATE : 5/93



PLAN



ELEVATION

PILE	ELEVATION
P18	637.446
P19	637.269
P20	637.091
P21	636.914
P22	636.737
P23	636.560
P24	636.383
P25	636.205
P26	636.029
P27	635.851
P28	635.674
P29	635.497
P30	635.320
P31	635.142
P32	634.965
P33	634.788
P34	634.611
P35	634.434

PROJECT NO. 8.T500311
 ORANGE COUNTY
 STATION: 48 + 92.97 - L-NBL REV.

SHEET 1 OF 4

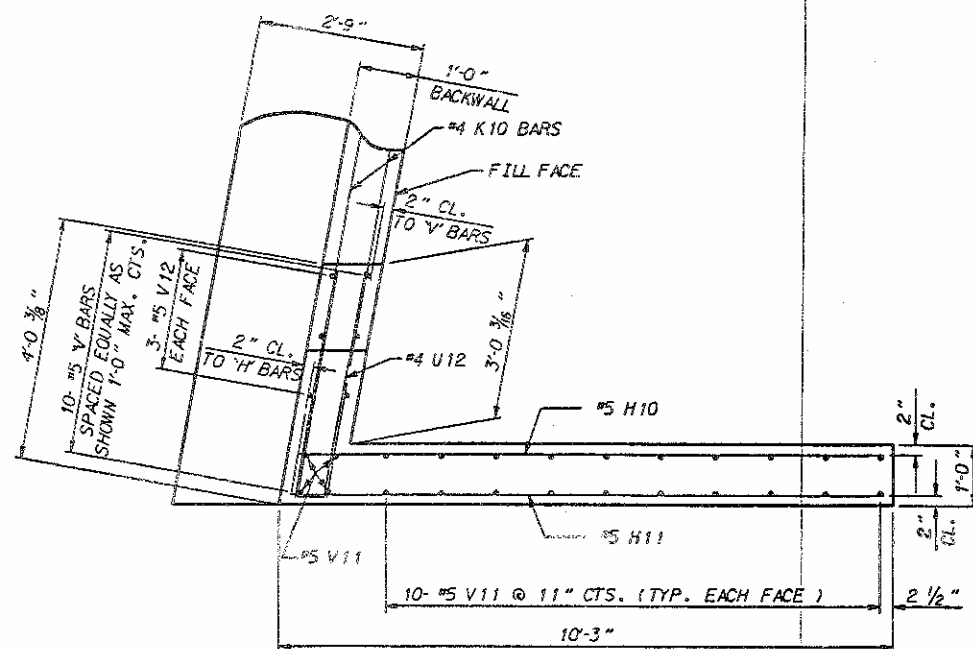
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 END BENT #1
 NBL STAGE I**

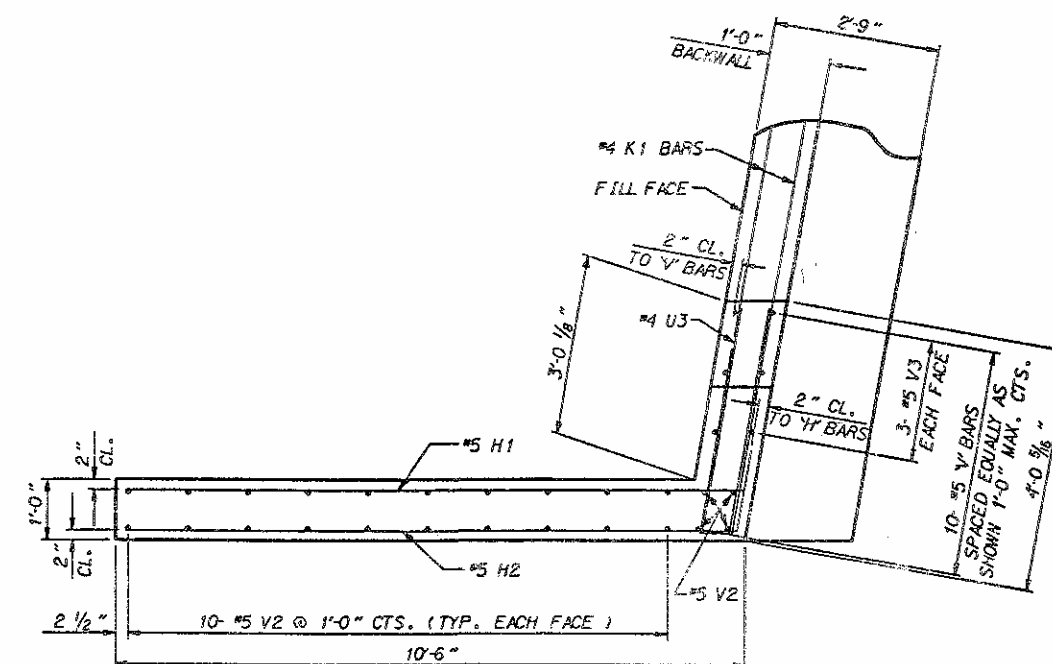
REVISIONS				SHEET NO.
NO.	BY:	DATE:	NO.	DATE:
1			3	
2			4	

DRAWN BY: N.M. RUFFIN DATE: 4/2/93
 CHECKED BY: J.R. DUBOIS DATE: 4/12/93
 24-JUN-1993 10:48
 Z0420601130403EL.DGN
 NRUFFIN

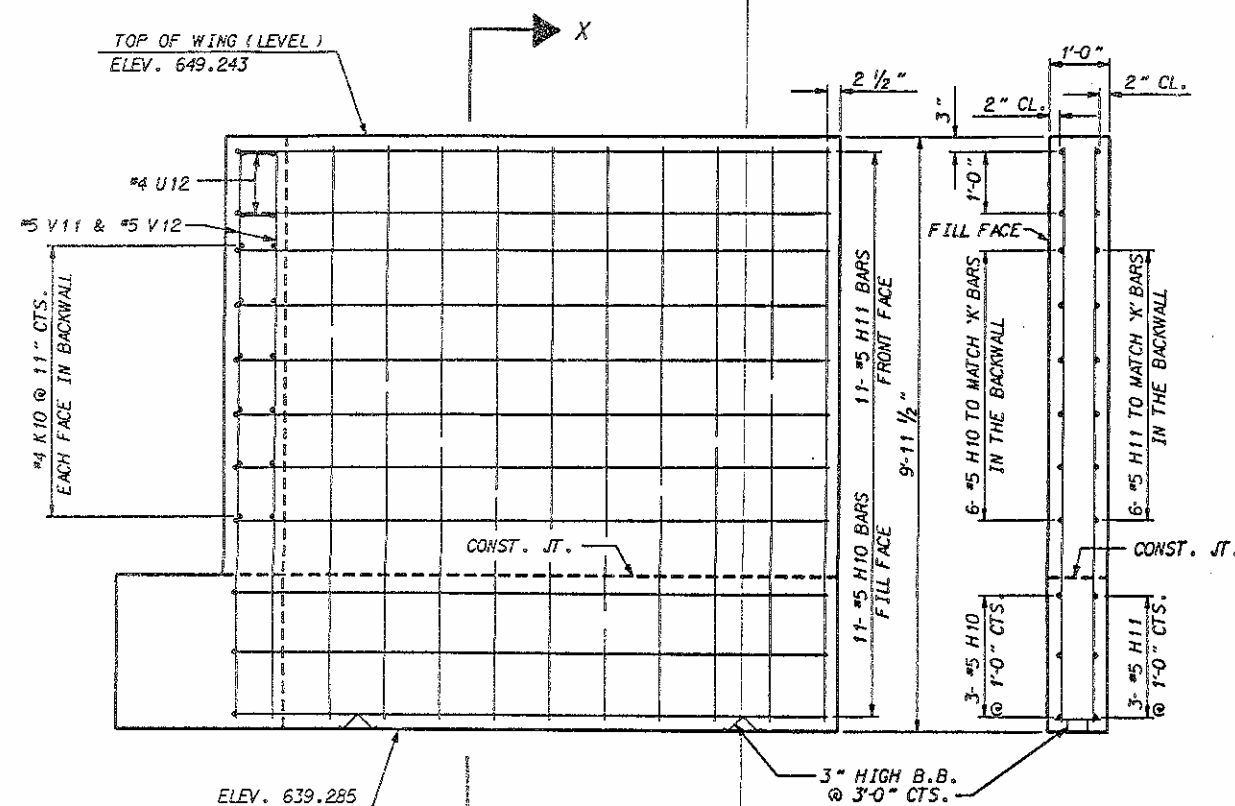
NOTE: PILE P17 OF STAGE II CONSTRUCTION WILL BE
 DRIVEN WITH THE PILES FOR STAGE I.



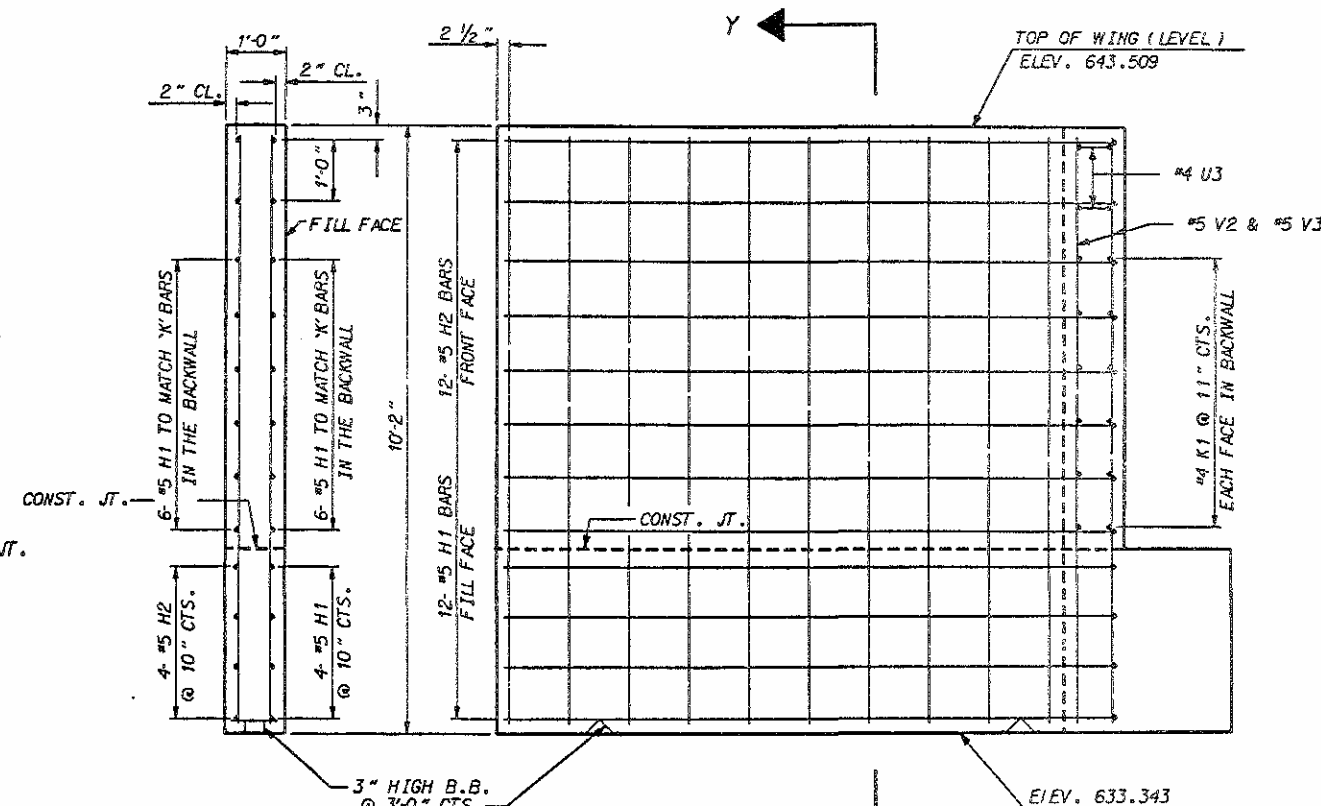
PLAN OF LEFT WING - W1
STAGE II CONSTRUCTION



PLAN OF RIGHT WING - W2
STAGE I CONSTRUCTION



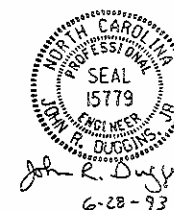
ELEVATION OF LEFT WING - W1
STAGE II CONSTRUCTION



ELEVATION OF RIGHT WING - W2
STAGE I CONSTRUCTION

SECTION X-X

SECTION Y-Y



PROJECT NO. 8.T500311
ORANGE COUNTY
STATION: 48 + 92.97 -L-NBL REV.
49 + 20.51 -L-SBL
SHEET 3 OF 4

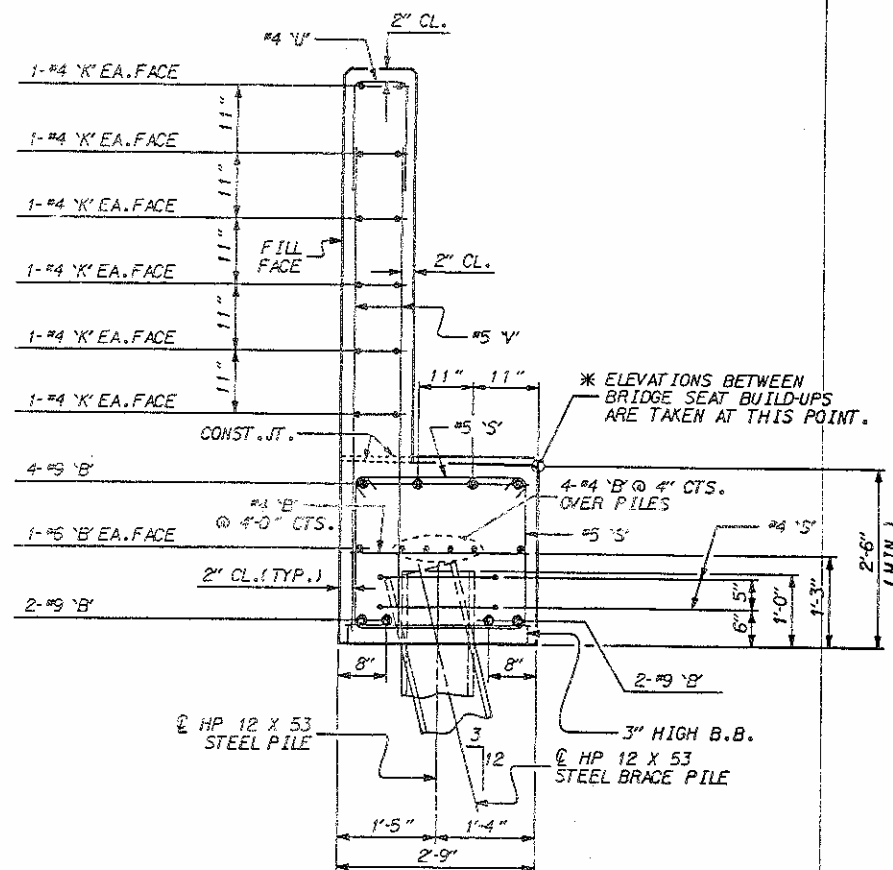
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT #1

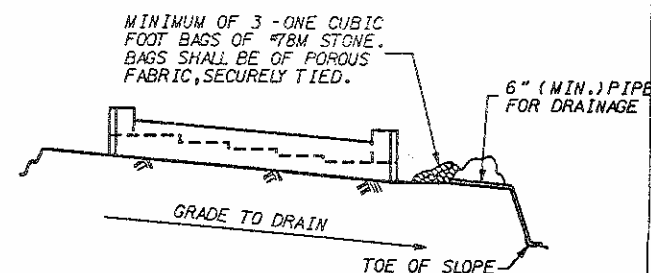
DRAWN BY: N.M. RUFFIN DATE: 4/2/93
CHECKED BY: J.R. DUGGINS DATE: 4/13/93

24-JUN-1993 10:50
Z01(20601)30403EL.DGN
JMR/PR

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			5-97
2			4			108



SECTION A-A



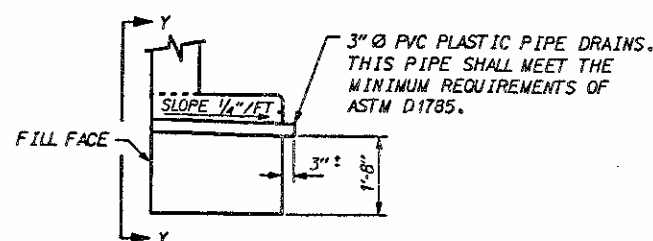
BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

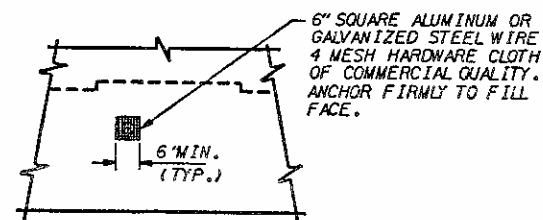
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT

DRAWN BY : N.M. RUFFIN DATE : 4/16/93
CHECKED BY : J.R. DUGGINS DATE : 4/21/93



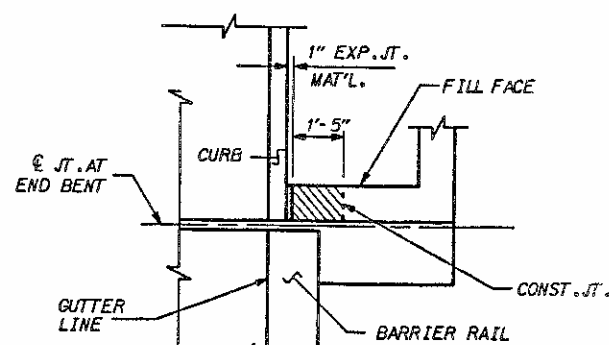
SECTION THRU CAP



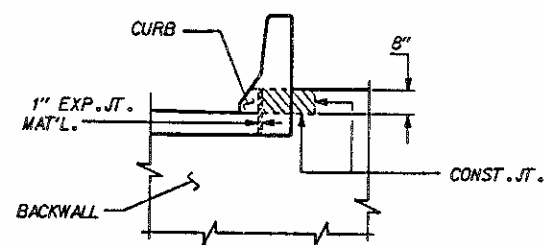
VIEW Y-Y

NOTE: NO SEPARATE PAYMENT WILL BE MADE FOR FURNISHING AND INSTALLING THE PVC PLASTIC PIPE DRAINS, HARDWARE CLOTH AND FASTENERS. THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

PIPE DRAIN DETAILS



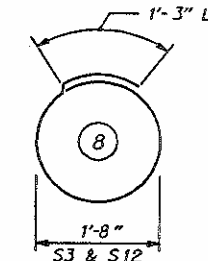
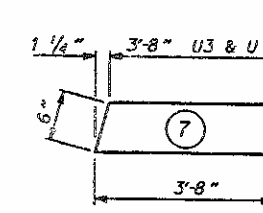
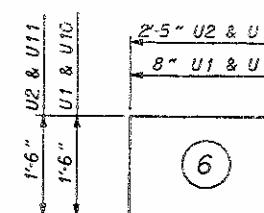
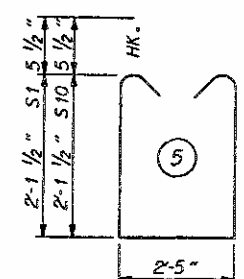
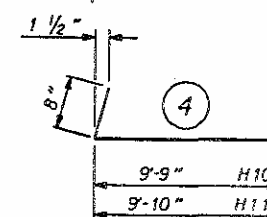
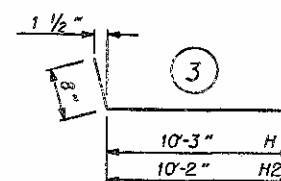
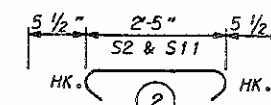
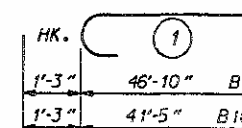
PLAN



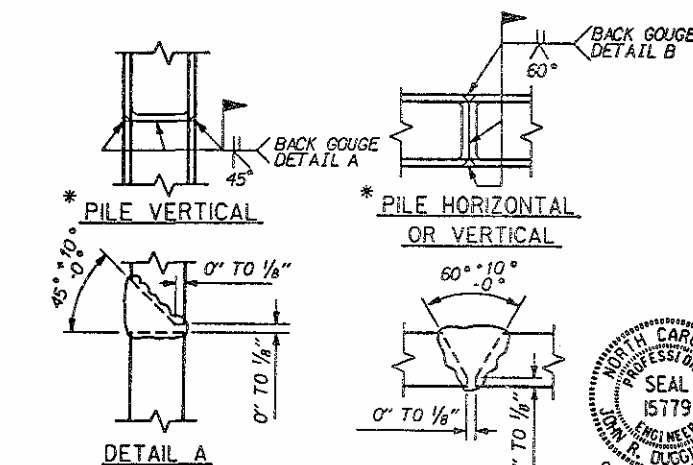
ELEVATION

BLOCKOUT IN WING WALL FOR FITTING COMPRESSION JOINT SEAL

NOTE: THE CONCRETE IN THE CROSS-HATCHED AREA OF THE WING SHALL BE
POURED AFTER THE JOINT BETWEEN THE DECK AND APPROACH SLAB
HAS BEEN SAWED AND THE BARRIER RAIL IS CAST IF SLIP FORMING
IS USED.



ALL BAR DIMENSIONS ARE OUT TO OUT



* POSITION OF PILE DURING WELDING. DETAIL B

PILE SPLICE DETAILS

BILL OF MATERIAL													
END BENT NO. 1 STAGE I						END BENT NO. 1 STAGE II							
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT		
B1	8	9	1	48- 1	1,308	B10	8	9	1	42- 8	1,151		
B2	4	9	STR	46-10	637	B11	4	9	STR	41- 5	583		
B3	4	9	STR	44- 4	603	B12	4	9	STR	38-11	529		
B4	4	6	STR	44- 5	267	B13	4	6	STR	39- 0	233		
B5	16	4	STR	23- 6	251	B14	12	4	STR	26- 8	214		
B6	21	4	STR	2- 5	34	B15	18	4	STR	2- 5	24		
B7	36	4	STR	2-10	68	B16	32	4	STR	2-10	120		
H1	12	5	3	10-11	137	H10	11	5	4	10- 5	127		
H2	12	5	3	10-10	136	H11	11	5	4	10- 5	127		
K1	48	4	STR	23- 6	754	K10	36	4	STR	26- 8	641		
S1	81	5	5	7- 7	641	S10	74	5	5	7- 7	555		
S2	81	5	2	3- 4	282	S11	74	5	2	3- 4	257		
S3	36	4	8	6- 6	156	S12	34	4	8	6- 6	148		
U1	81	4	6	3- 8	198	U10	71	4	6	3- 8	174		
U2	27	4	6	5- 5	98	U11	24	4	6	5- 5	87		
U3	2	4	7	7-10	10	U12	2	4	7	7-10	10		
V1	162	5	STR	7-10	1,324	V10	142	5	STR	7-10	1,160		
V2	24	5	STR	9-10	246	V11	24	5	STR	9- 7	240		
V3	6	5	STR	9- 8	60	V12	6	5	STR	9- 9	61		
REINFORCING STEEL					LBS.	7,210	REINFORCING STEEL					LBS.	6,344
CLASS "A" CONC. BREAKDOWN							CLASS "A" CONC. BREAKDOWN						
POUR #1					C.Y.	24.7	POUR #3					C.Y.	21.7
POUR #2					C.Y.	19.8	POUR #4					C.Y.	17.6
CLASS "A" CONCRETE					C.Y.	44.5	CLASS "A" CONCRETE					C.Y.	39.5
HP 12X53 STEEL PILES							HP 12X53 STEEL PILES						
NO. 18					LIN. FT.	630	NO. 17					LIN. FT.	510

PROJECT NO. 8.T500311

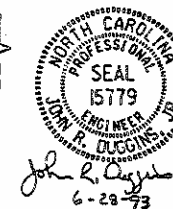
ORANGE COUNTY

STATION: $\frac{48 + 92.97 \text{ -L- NBL REV.}}{49 + 20.51 \text{ -I- SBI}}$

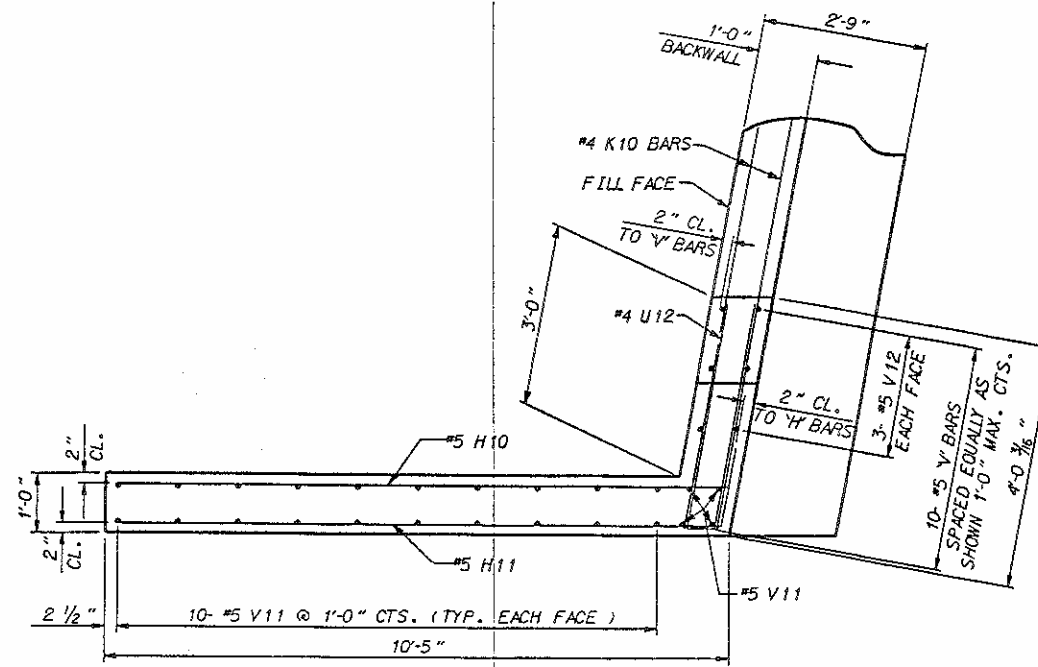
SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

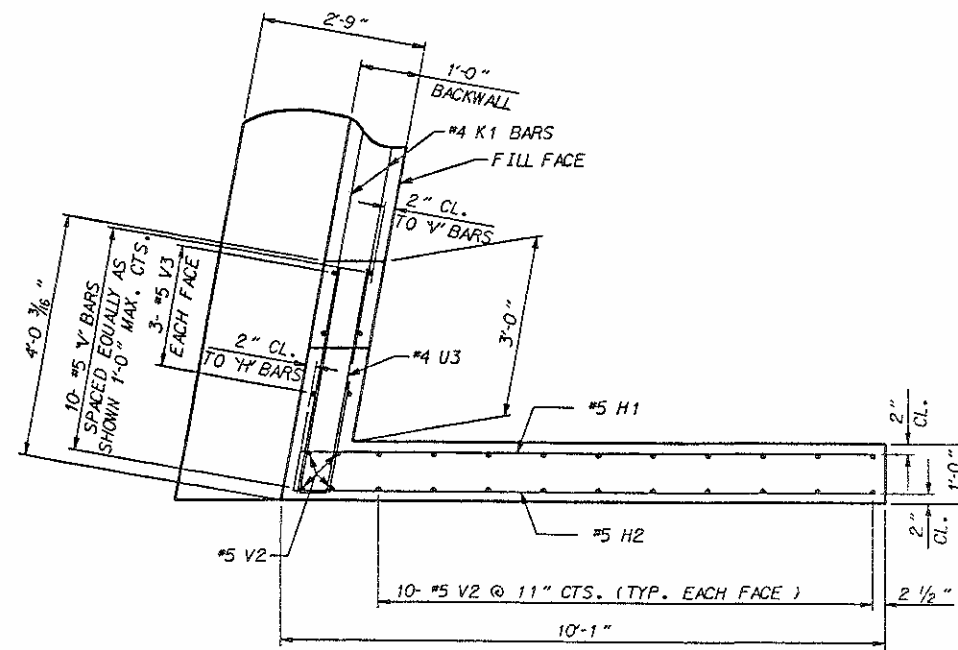
SUBSTRUCTURE
END BENT #1



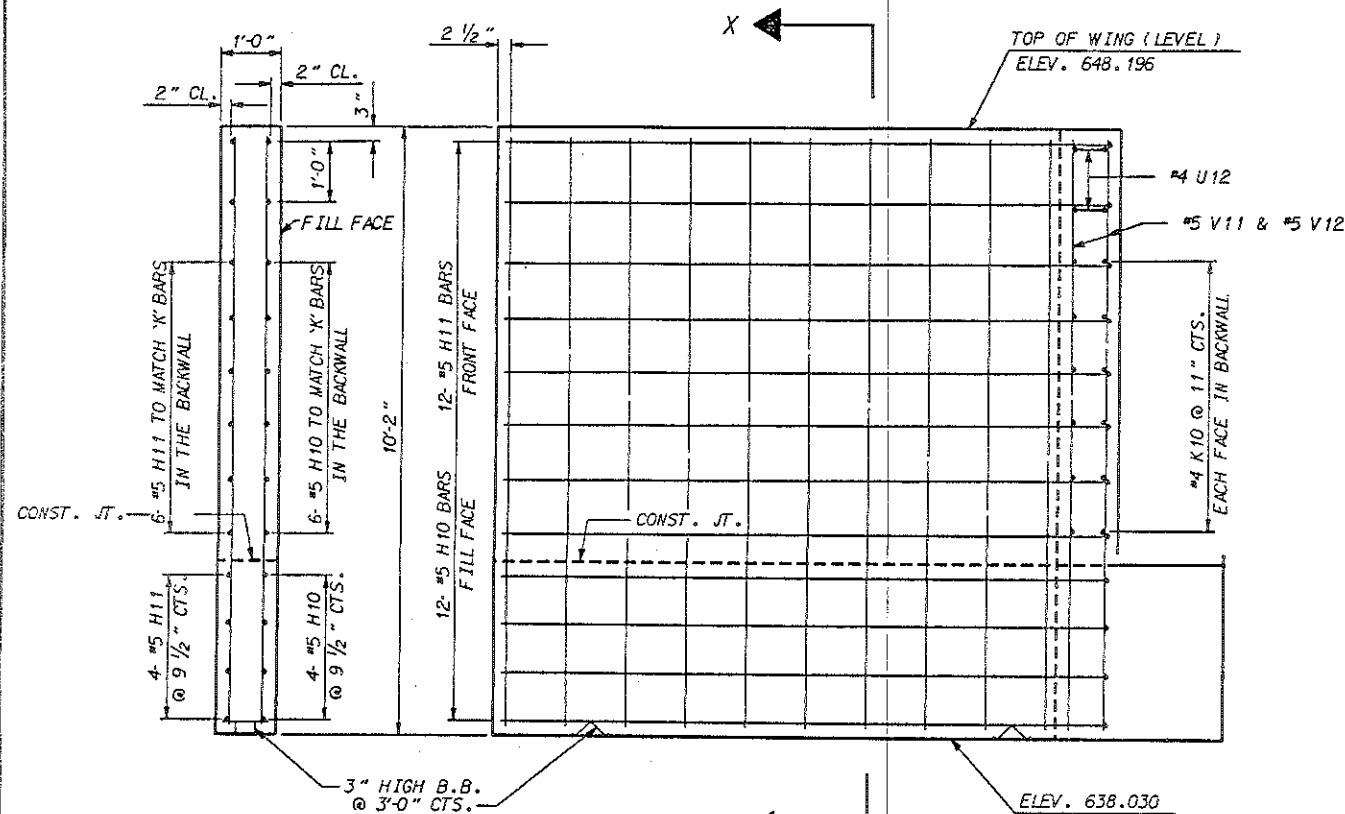
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-98 TOTAL SHEETS 103
1			3			
2			4			



PLAN OF LEFT WING - W1
STAGE II CONSTRUCTION

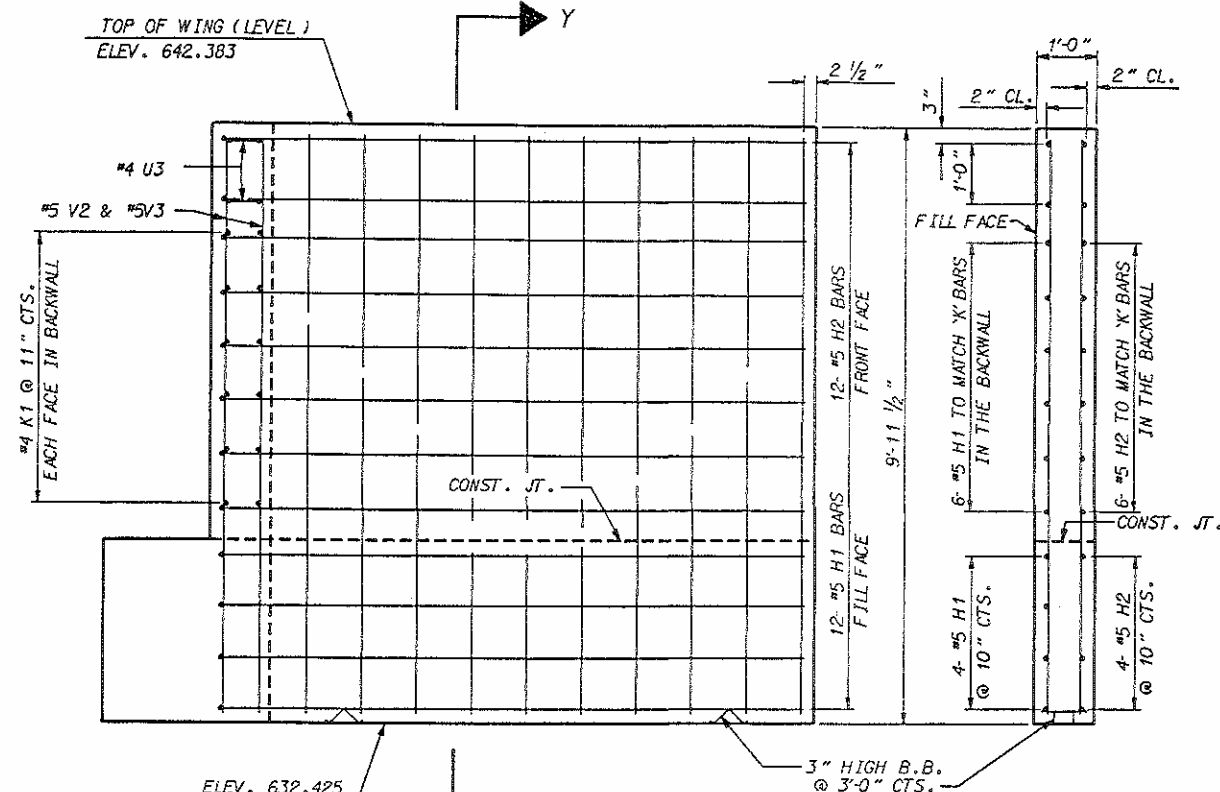


PLAN OF RIGHT WING - W2
STAGE I CONSTRUCTION



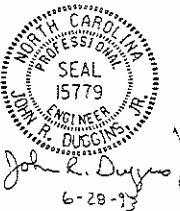
SECTION X-X

ELEVATION OF LEFT WING - W1
STAGE II CONSTRUCTION



ELEVATION OF RIGHT WING - W2
STAGE I CONSTRUCTION

SECTION Y-Y



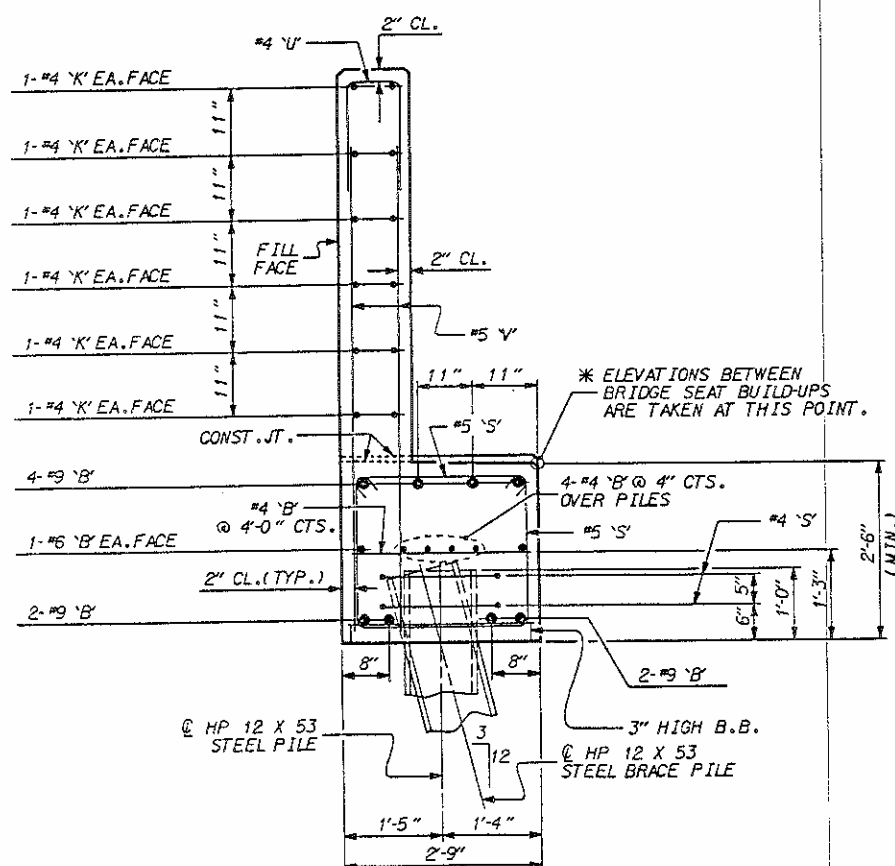
PROJECT NO. 8.T500311
ORANGE COUNTY
STATION 48 + 92.97 -L- NBL REV.
49 + 20.51 -L- SBL
SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

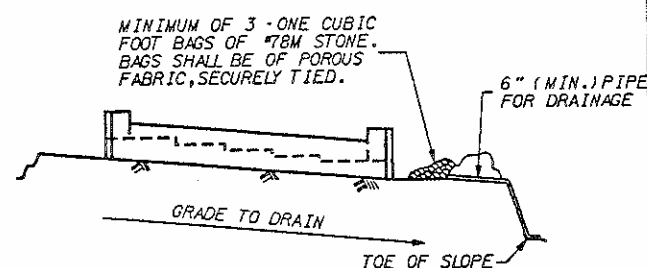
SUBSTRUCTURE
END BENT #2

DRAWN BY: N.M. RUFFIN DATE: 4/20/93
CHECKED BY: L.B. DUGGINS DATE: 4/23/93

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-101
2			4			TOTALS 108



SECTION A-A



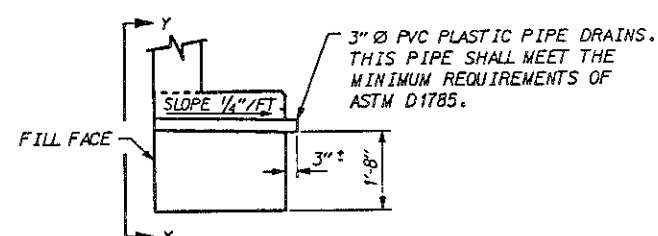
BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

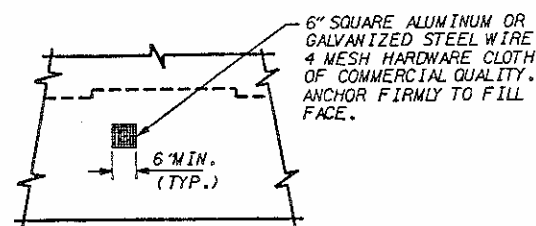
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT

DRAWN BY : N.M. RUFFIN DATE : 4/22/93
CHECKED BY : J.R. DUGGINS DATE : 4/27/93



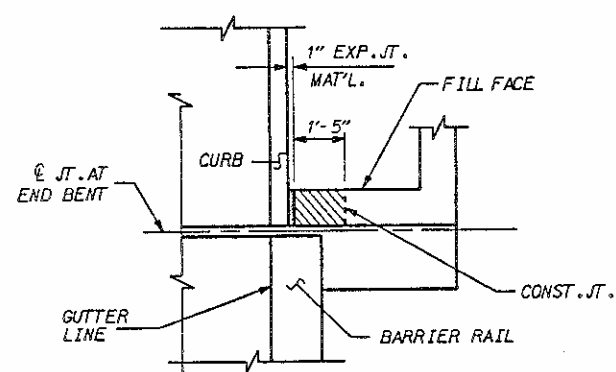
SECTION THRU CAP



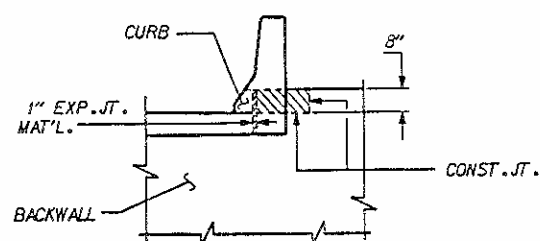
VIEW Y-Y

NOTE: NO SEPARATE PAYMENT WILL BE MADE FOR FURNISHING AND INSTALLING THE PVC PLASTIC PIPE DRAINS, HARDWARE CLOTH AND FASTENERS. THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

PIPE DRAIN DETAILS

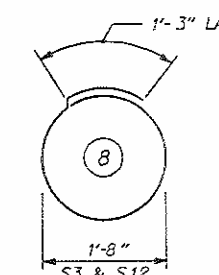
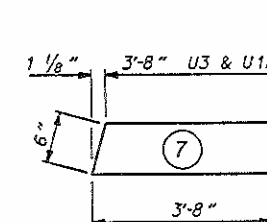
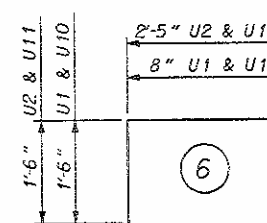
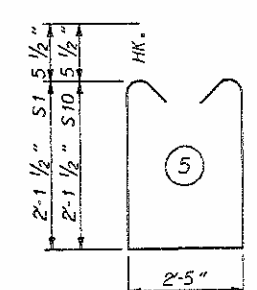
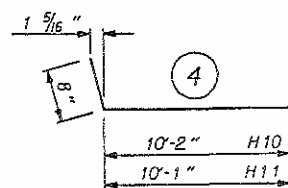
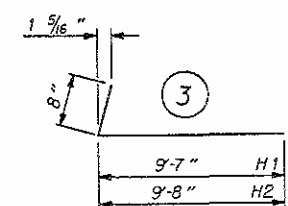
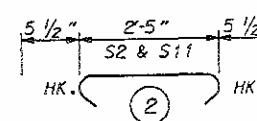
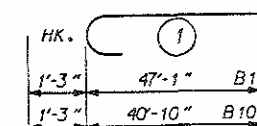


PLAN

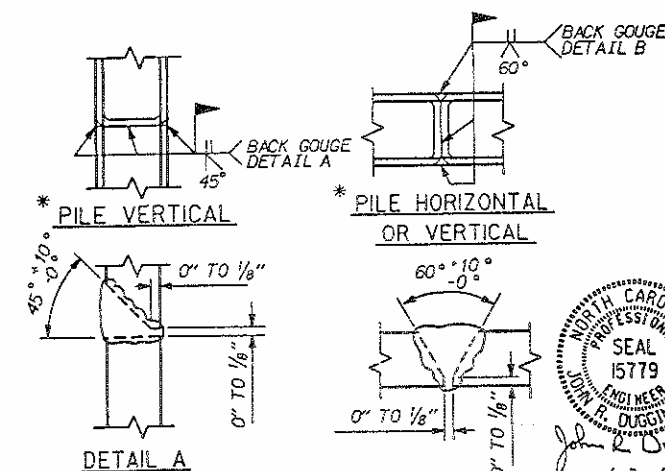
ELEVATION

BLOCKOUT IN WING WALL FOR FITTING
COMPRESSION JOINT SEAL

NOTE: THE CONCRETE IN THE CROSS-HATCHED AREA OF THE WING SHALL BE
POURED AFTER THE JOINT BETWEEN THE DECK AND APPROACH SLAB
HAS BEEN SAWED AND THE BARRIER RAIL IS CAST IF SLIP FORMING
IS USED.



ALL BAR DIMENSIONS ARE OUT TO OUT.



DETAIL A

DETAIL B

PILE SPLICE DETAILS

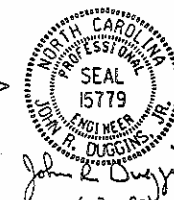
BILL OF MATERIAL													
END BENT NO. 2 STAGE I						END BENT NO. 2 STAGE II							
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT		
B1	8	9	1	48- 4	1,315	B10	8	9	1	42- 1	1,145		
B2	4	9	STR	47- 1	640	B11	4	9	STR	40-10	555		
B3	4	9	STR	44- 7	606	B12	4	9	STR	38- 4	521		
B4	4	6	STR	44- 8	268	B13	4	6	STR	38- 5	231		
B5	16	4	STR	23- 7	252	B14	12	4	STR	26- 3	210		
B6	21	4	STR	2- 5	34	B15	18	4	STR	2- 5	29		
B7	36	4	STR	2-10	68	B16	32	4	STR	2-10	61		
H1	12	5	3	10- 3	128	H10	12	5	4	10-10	136		
H2	12	5	3	10- 4	129	H11	12	5	4	10- 9	135		
K1	48	4	STR	23- 7	756	K10	36	4	STR	26- 3	631		
S1	83	5	5	7- 7	656	S10	76	5	5	7- 7	601		
S2	83	5	2	3- 4	289	S11	76	5	2	3- 4	264		
S3	36	4	8	6- 6	156	S12	34	4	8	6- 6	148		
U1	80	4	6	3- 8	196	U10	71	4	6	3- 8	174		
U2	27	4	6	5- 5	98	U11	24	4	6	5- 5	87		
U3	2	4	7	7-10	10	U12	2	4	7	7-10	10		
V1	160	5	STR	7- 8	1,279	V10	142	5	STR	7- 9	1,148		
V2	24	5	STR	9- 7	240	V11	24	5	STR	9-10	246		
V3	6	5	STR	9- 5	59	V12	6	5	STR	9-11	62		
REINFORCING STEEL					LBS.	7,179	REINFORCING STEEL					LBS.	6,394
CLASS "A" CONC. BREAKDOWN						CLASS "A" CONC. BREAKDOWN							
POUR #1					C. Y.	25.0	POUR #3					C. Y.	23.4
POUR #2					C. Y.	19.0	POUR #4					C. Y.	17.3
CLASS "A" CONCRETE					C. Y.	44.0	CLASS "A" CONCRETE					C. Y.	40.7
HP 12X53 STEEL PILES						HP 12X53 STEEL PILES							
NO. 18					LIN. FT.	450	NO. 17					LIN. FT.	595

PROJECT NO. 8.T500311
ORANGE COUNTY
 STATION: 48 + 92.97 -L- NBL REV
49 + 20.51 -L- SBL

SHEET 4 OF 4

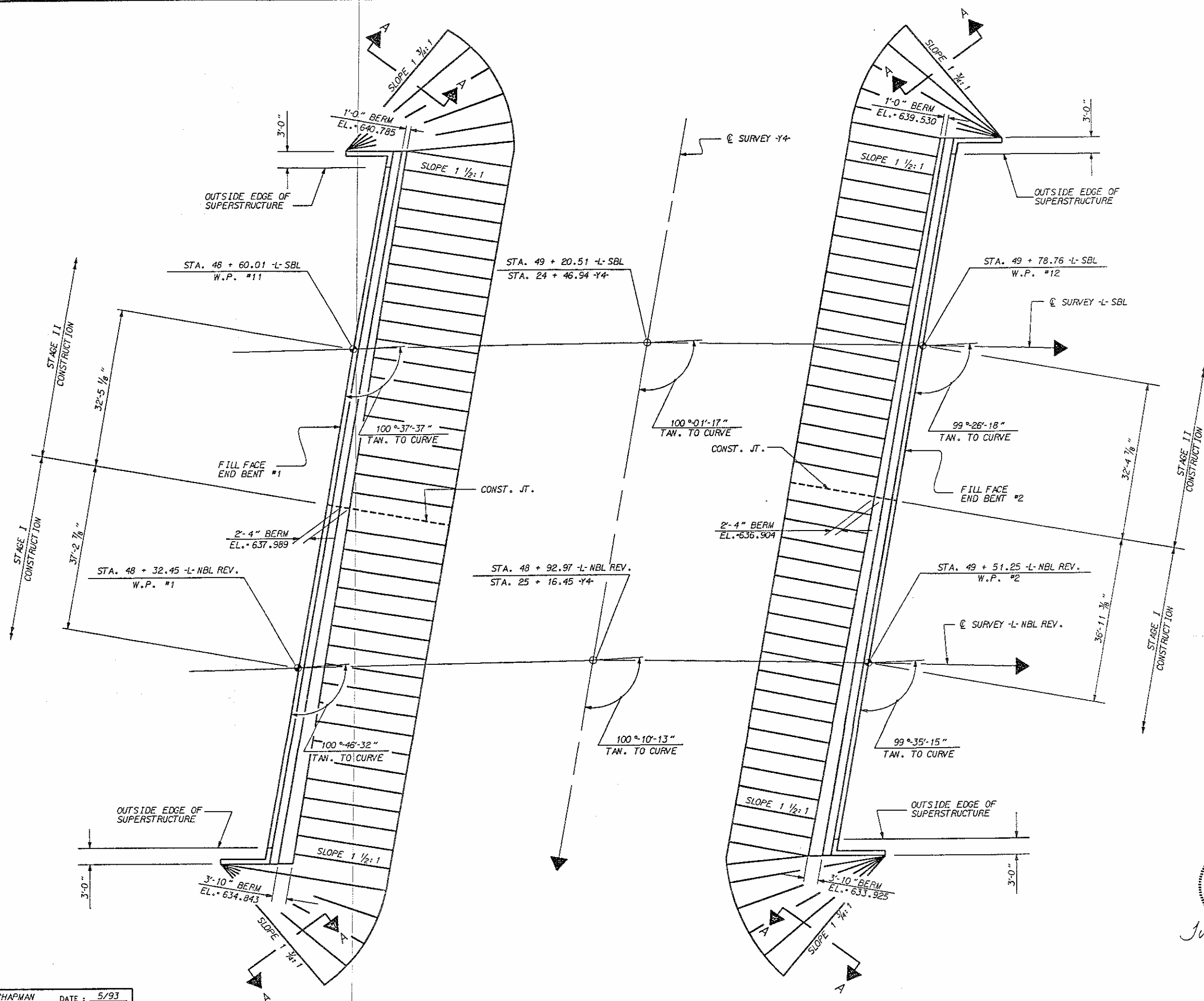
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT #2

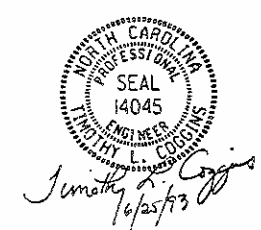


John L. Duggin
6-28-93

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-102
2			4			TOTAL SHEETS 108



PROJECT NO. 8.T500311
ORANGE COUNTY
 STATION: 48+92.97 -L- NBL REV.
49+20.51 -L- SBL



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SLOPE PROTECTION PLAN					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-103
					TOTAL SHEETS 108

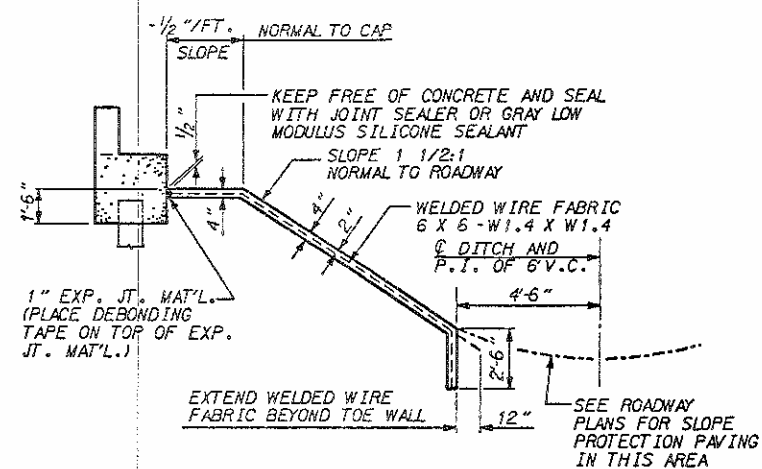
DRAWN BY: D. CHAPMAN DATE: 5/93
 CHECKED BY: L.E. SUTTON DATE: 5/93

24-JUN-1993 08:09
 1045035P.DWG

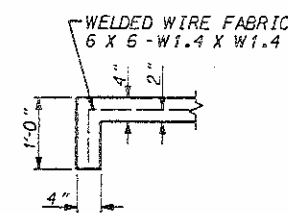
SLOPE PROTECTION SHALL BE PLACED UNDER THE ENDS OF THE BRIDGE AS SHOWN IN THE DETAILS. STRAIGHT EDGING WILL NOT BE REQUIRED UNLESS, IN THE OPINION OF THE ENGINEER, VISUAL INSPECTION INDICATES A NEED FOR IT. METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE AS PRESCRIBED IN SECTION 462 OF THE STANDARD SPECIFICATIONS. FOR BERM WIDTH, SEE GENERAL DRAWING.

ALTERNATE "A" SHALL CONSIST OF 4 INCH POURED -IN -PLACE CONCRETE PAVING AS SHOWN IN THE DETAILS ON THIS SHEET. CONCRETE SHALL BE CLASS "B". THE CONCRETE SURFACE SHALL BE FLOATED WITH A WOODEN FLOAT AND FINISHED. WELDED WIRE FABRIC REINFORCING SHALL BE 6 X 6 -W1.4 X W1.4, 60 INCHES WIDE. ADJACENT RUNS OF WELDED WIRE FABRIC SHALL LAP AT LEAST SIX INCHES. SLOPE PROTECTION SHALL BE POURED IN ALTERNATE FOUR AND FIVE FOOT STRIPS AS SHOWN IN THE POURING DETAIL. THE COST OF THE WELDED WIRE FABRIC SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID PER SQUARE YARD FOR SLOPE PROTECTION.

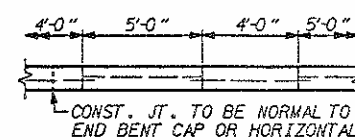
ESTIMATED QUANTITIES							
4" SLOPE PROTECTION SQ. YDS.				WELDED WIRE FABRIC 60"WIDE APPROX. LIN. FT.			
STAGE I		STAGE II		STAGE I		STAGE II	
E.BT NO. 1	E.BT NO. 2	E.BT. NO. 1	E.BT. NO. 2	E.BT. NO. 1	E.BT. NO. 2	E.BT NO. 1	E.BT NO. 2
365	330	345	305	730	660	690	610



SECTION ALONG @ ROADWAY WHEN FILL CATCHES IN DITCH



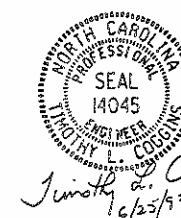
SECTION A-A



POUR A 4'-0" STRIP FIRST. STRIP WIDTHS MAY VARY IN CURVED PORTION.

POURING DETAIL

PROJECT NO. 8.7500311
ORANGE COUNTY
 STATION: 48+92.97 -L- NBL REV.
49+20.51 -L- SBL



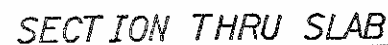
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
SLOPE PROTECTION
DETAILS

REVISIONS						SHEET NO. S-104
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 108
2			4			

DRAWN BY : D. CHAPMAN DATE : 5/93
CHECKED BY : L. E. SUTTON DATE : 5/93

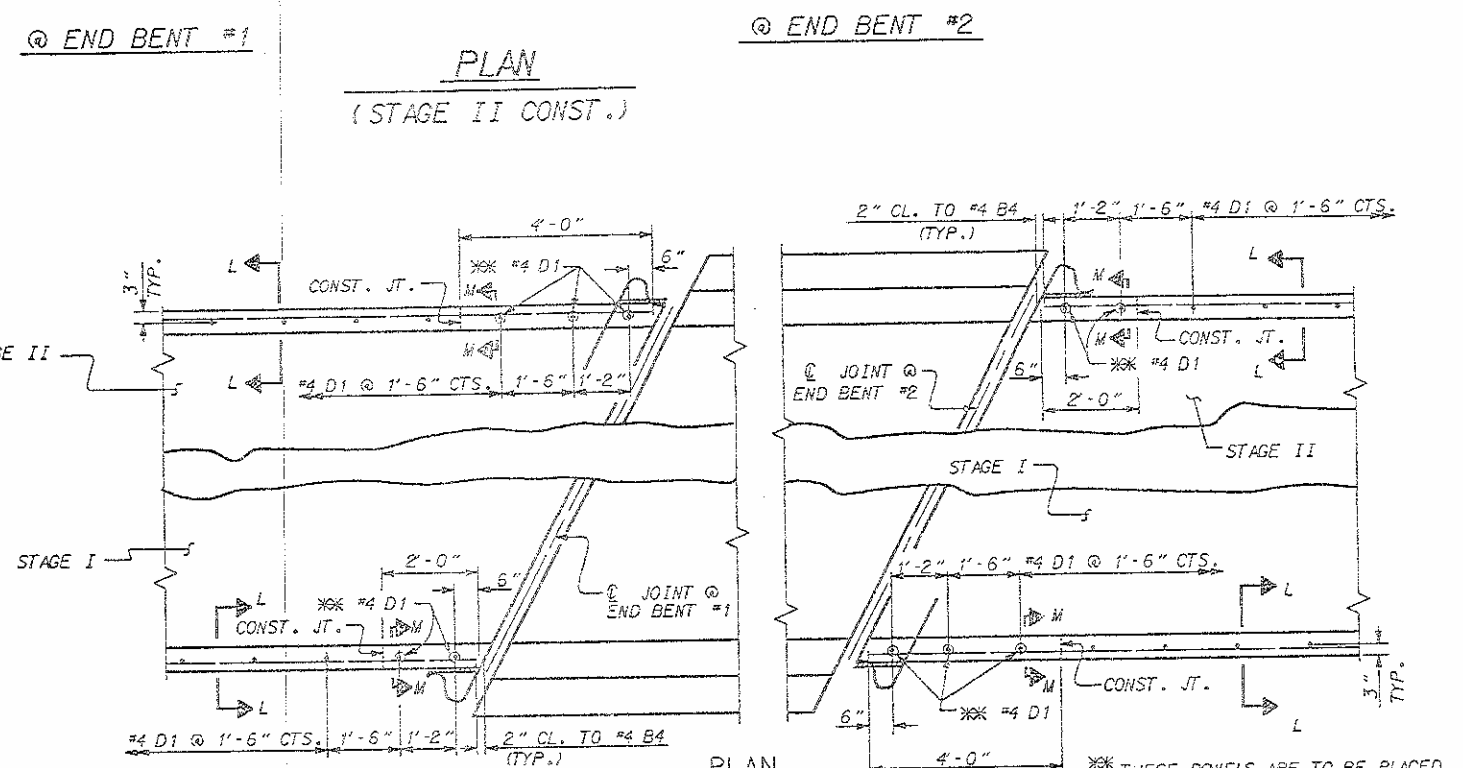
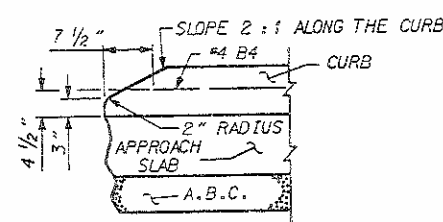
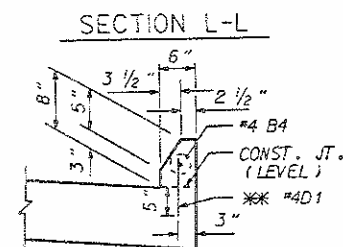
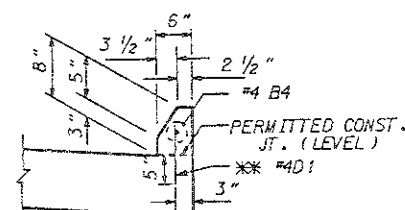
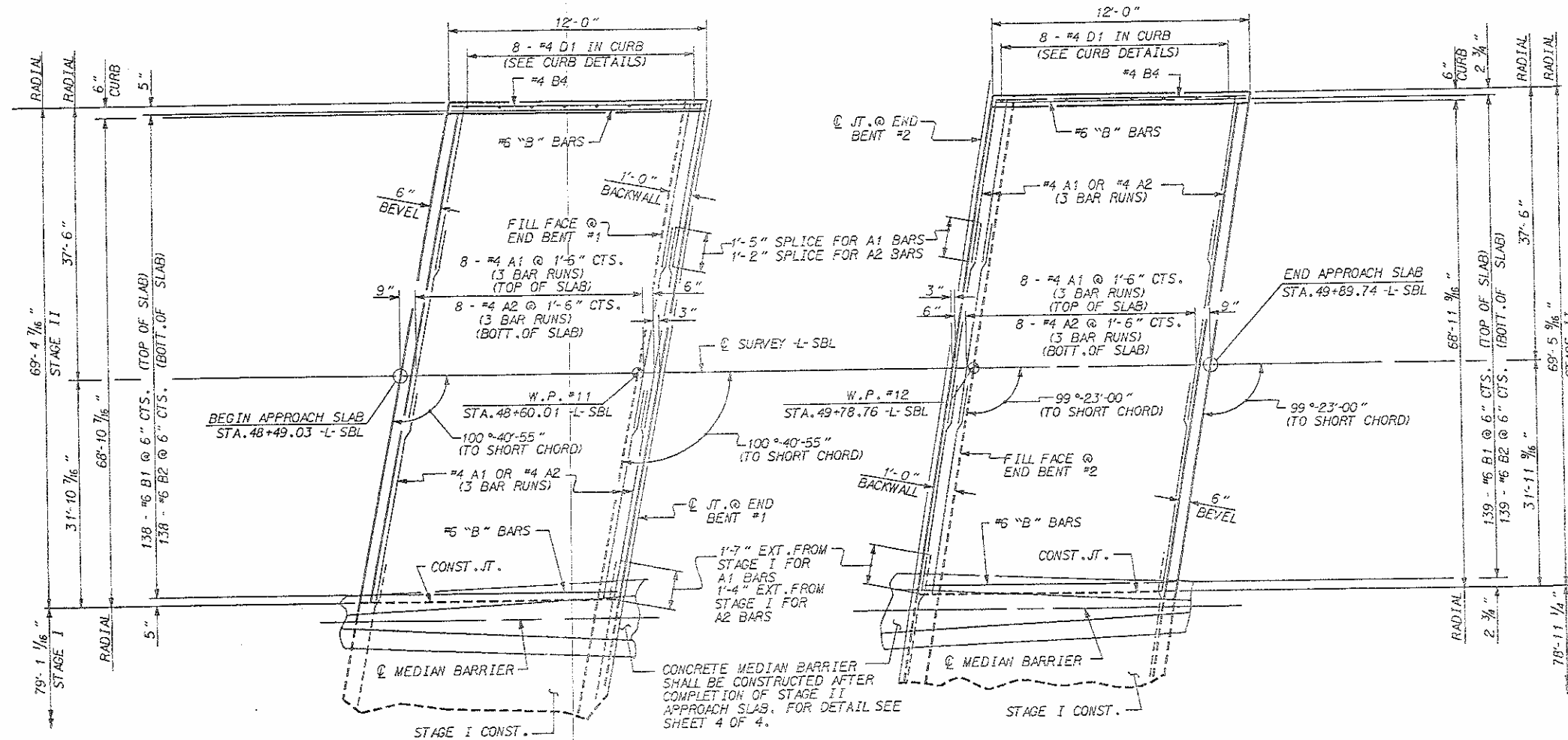
24-JUN-1993 08:14
...060223304EQ3SP.DCH:1



THE OPENING SHOWN @ END BT.#2 IS BASED ON A NOMINAL UNCOMPRESSED SEAL WIDTH OF 4".



23-JUN-1993 11:5
ZHO:12020N1304E03ASJ.DCN
BTIDC



BILL OF MATERIAL

STAGE I

Q END BENT #1

Q END BENT #2

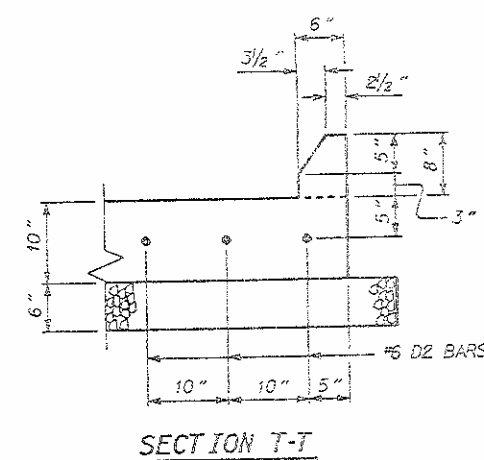
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
XA1	27	4	STR.	28'-4"	511	XA1	27	4	STR.	28'-2"	508
A2	27	4	STR.	28'-1"	507	A2	27	4	STR.	27'-11"	504
XB1	158	6	STR.	11'-1"	2630	XB1	158	6	STR.	11'-1"	2630
B2	158	6	STR.	11'-7"	2749	B2	158	6	STR.	11'-7"	2749
XB4	1	4	STR.	10'-8"	7	XB4	1	4	STR.	10'-8"	7
XD1	8	4	STR.	0'-10"	5	XD1	8	4	STR.	0'-10"	5
						XD2	3	6	STR.	1'-6"	7
REINFORCING STEEL - 3,256 LBS.						REINFORCING STEEL - 3,253 LBS.					
EPOXY COATED						EPOXY COATED					
REINFORCING STEEL - 3,153 LBS.						REINFORCING STEEL - 3,157 LBS.					
CLASS "AA" CONCRETE - 30.4 C.Y.						CLASS "AA" CONCRETE - 30.3 C.Y.					
* THESE BARS ARE EPOXY COATED						* THESE BARS ARE EPOXY COATED					

STAGE II

Q END BENT #1

Q END BENT #2

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
XA1	27	4	STR.	24'-4"	439	XA1	27	4	STR.	24'-4"	439
A2	27	4	STR.	24'-2"	436	A2	27	4	STR.	24'-2"	436
XB1	138	6	STR.	11'-1"	2297	XB1	138	6	STR.	11'-1"	2314
B2	138	6	STR.	11'-7"	2401	B2	138	6	STR.	11'-7"	2418
XB4	1	4	STR.	10'-8"	7	XB4	1	4	STR.	10'-8"	7
XD1	8	4	STR.	0'-10"	5	XD1	8	4	STR.	0'-10"	5
REINFORCING STEEL - 2,837 LBS.						REINFORCING STEEL - 2,854 LBS.					
EPOXY COATED						EPOXY COATED					
REINFORCING STEEL - 2,746 LBS.						REINFORCING STEEL - 2,765 LBS.					
CLASS "AA" CONCRETE - 26.6 C.Y.						CLASS "AA" CONCRETE - 26.7 C.Y.					
* THESE BARS ARE EPOXY COATED						* THESE BARS ARE EPOXY COATED					



PROJECT NO. 8.7500311
ORANGE COUNTY
 STATION: 48+92.97 -L- NBL REV.
49+20.51 -L- SBL

SHEET 2 OF 4

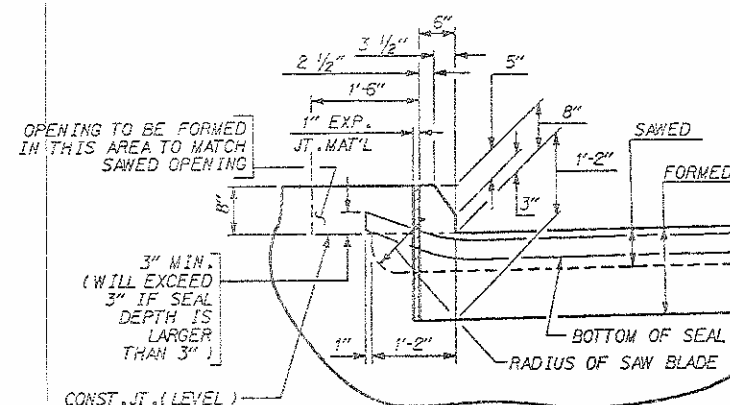
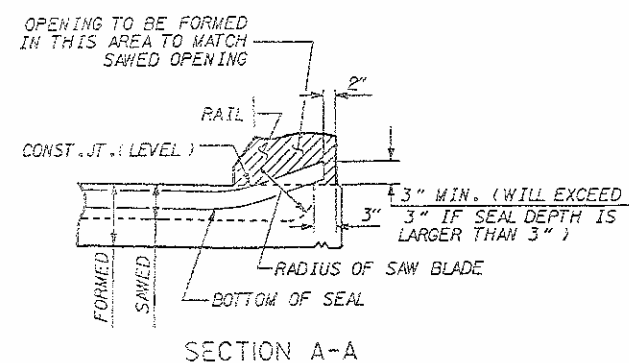
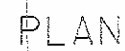
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
BRIDGE APPROACH SLAB
FOR FLEXIBLE PAVEMENT

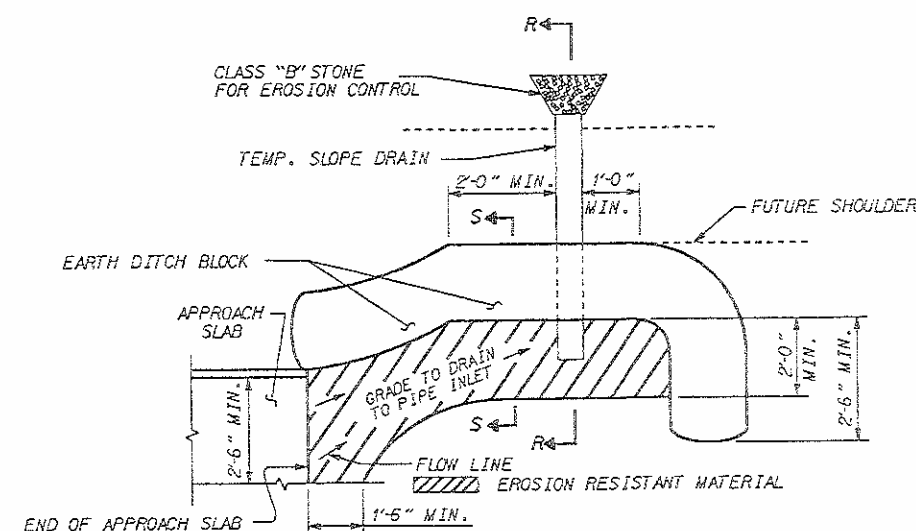
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS 108
1			3			
2			4			

DRAWN BY : R. TUNG DATE : 4-26-93
CHECKED BY : J. R. DUGGINS DATE : 4-29-93

STP. 33

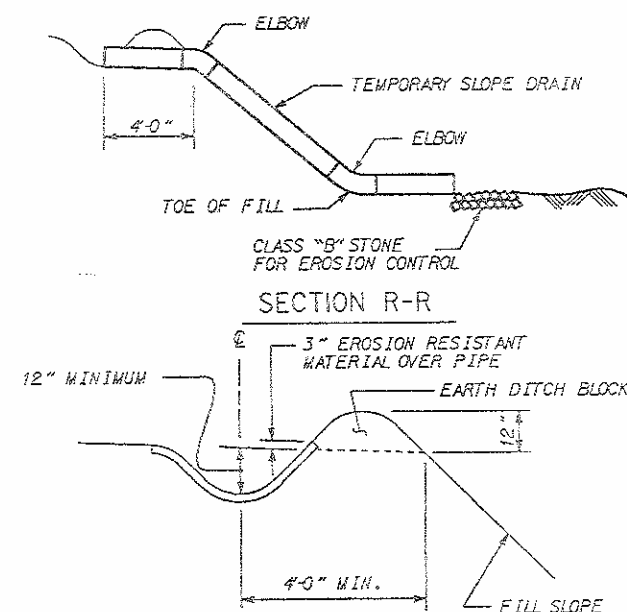


SECTION B-B
JOINT SEAL DETAILS
@ END BENT
(FOR BARRIER RAIL)



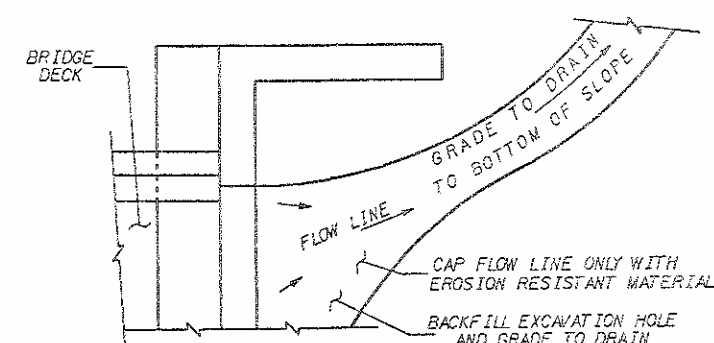
NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) BITUMINOUS PLANT MIX, TYPE 1 OR TYPE 2, MIN. 2" DEPTH, 2) EROSION CONTROL MAT, OR 3) CONCRETE, AS DIRECTED BY THE ENGINEER. THE SLOPE DRAIN SHALL CONSIST OF A NON-PERFORATED TEMPORARY DRAINAGE PIPE, 12 INCHES IN DIAMETER.

PLAN VIEW



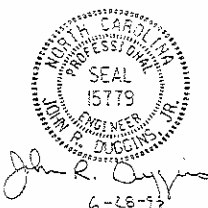
SECTION S-S

TEMPORARY BERM AND SLOPE DRAIN DETAILS



NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE DRAINAGE AND PROVIDE EROSION PROTECTION MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT TO THE STRUCTURE. THE CONTRACTOR WILL BE REQUIRED TO REMOVE THESE MATERIALS PRIOR TO CONSTRUCTION OF THE APPROACH SLAB.

TEMPORARY DRAINAGE DETAIL



PROJECT NO. 8.7500311
ORANGE COUNTY
 STATION: 48+92.97 -L- NBL REV.
49+20.51 -L- SBL

SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
BRIDGE APPROACH
SLAB DETAILS

DECEMBER						1988
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-107
1			3			TOTAL
2			4			SHEETS
						108

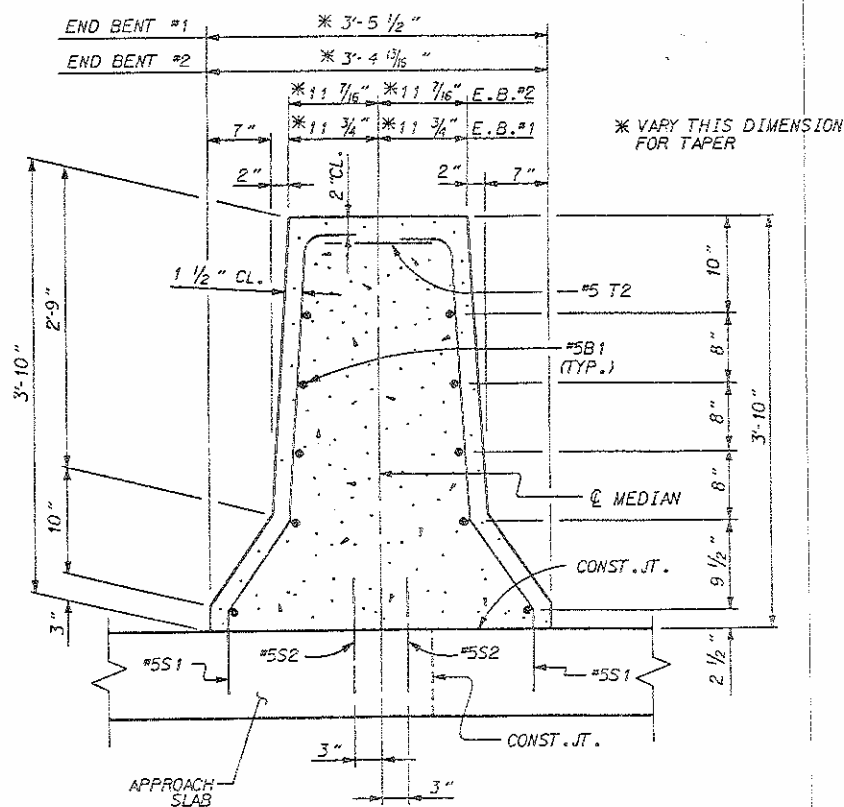
STD. NO. 8453

STR. #3

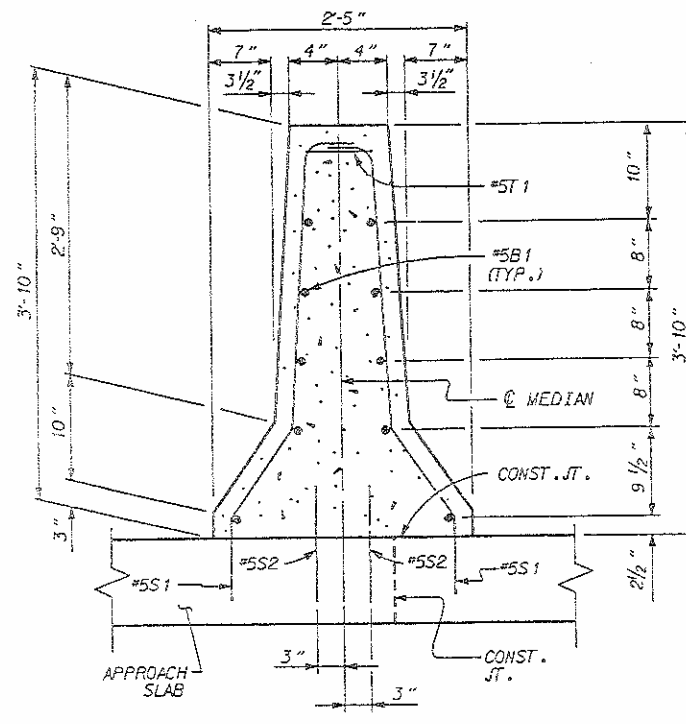
ASSEMBLED BY : <u>P. TUNG</u>	DATE : <u>4-30-93</u>	SPECIAL
CHECKED BY : <u>J. P. DUGGINS</u>	DATE : <u>4-30-93</u>	
DRAWN BY : <u>F. C. JONES</u>	DATE : <u>1/28/88</u>	STANDARD
CHECKED BY : <u>A. R. BISSETTE</u>	DATE : <u>1/28/88</u>	

23-JUN-1993 14:08
7H05202011304E03&S.DGN

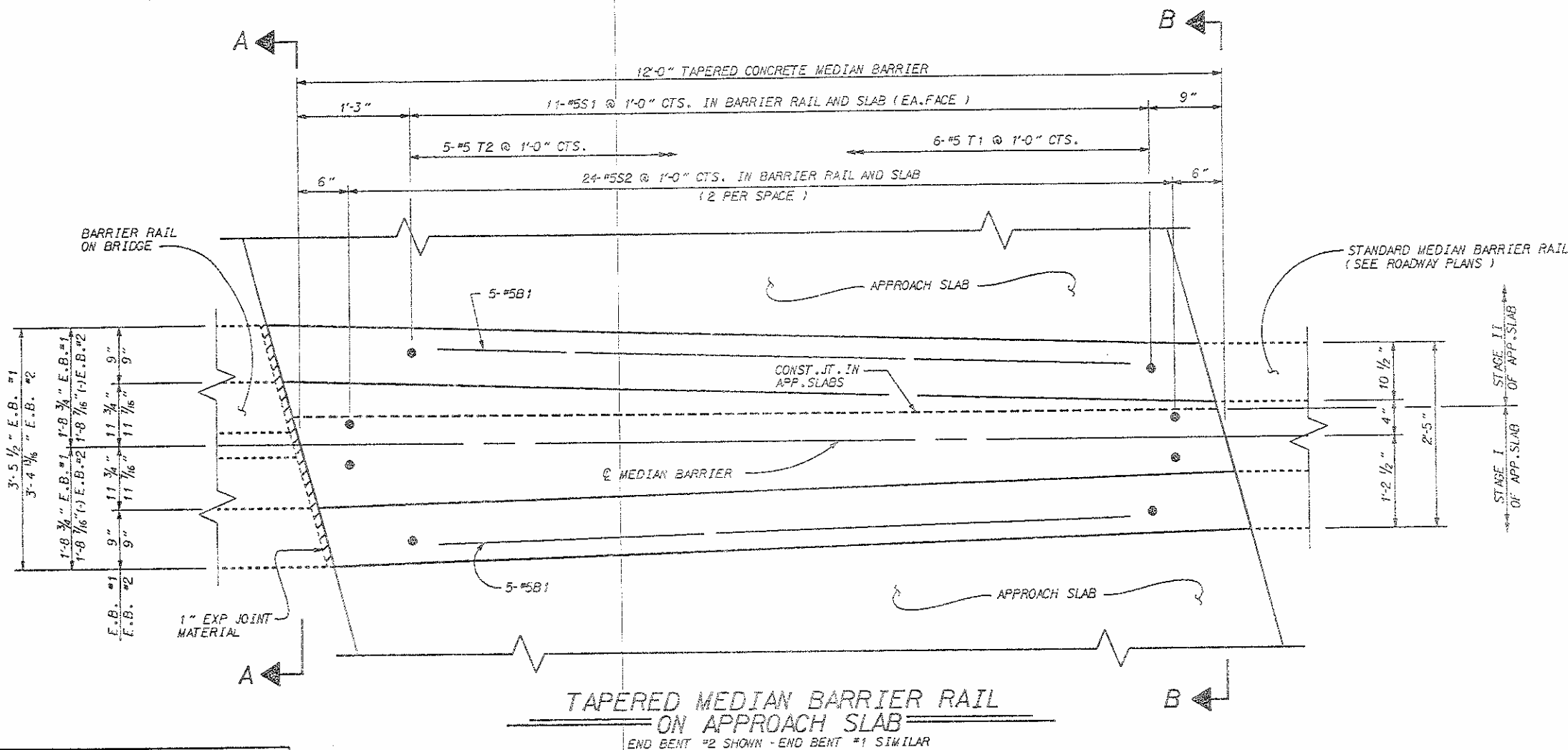
08/20/2013 04:03:45 J.S.D. JCH



SECTION A-A



SECTION B-B



TAPERED MEDIAN BARRIER RAIL ON APPROACH SLAB
END BENT #2 SHOWN - END BENT #1 SIMILAR

NOTES

CONCRETE MEDIAN BARRIER SHALL NOT BE CAST UNTIL ALL APPROACH SLAB CONCRETE HAS BEEN CAST AND REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

#5 S1 & #5 S2 BARS SHALL BE ADHESIVELY ANCHORED.

FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE SPECIAL PROVISIONS.

FOR CONCRETE MEDIAN BARRIER FOR STRUCTURE AT STATION 48+92.97 -L-NBL REV./49+20.51 -L-SBL, SEE SPECIAL PROVISIONS.

BILL OF MATERIAL

@ END BENT #1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	10	#5	STR	11'-8"	122
S1	22	#5	STR	4'-7"	105
S2	24	#5	STR	1'-0"	25
T1	6	#5	STR	0'-6"	3
T2	5	#5	STR	1'-0"	5

EPOXY COATED REINFORCING STEEL 260 LBS.

CLASS A-A CONCRETE 3.1 CU. YDS.

CONCRETE MEDIAN BARRIER RAIL 12.00 LIN. FT.

@ END BENT #2

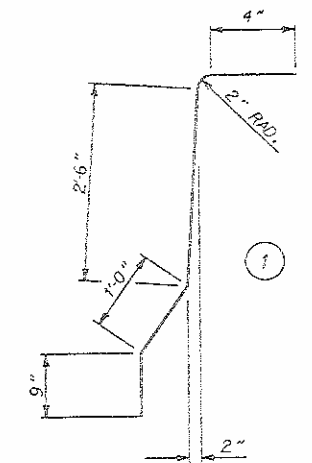
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	10	#5	STR	11'-8"	122
S1	22	#5	STR	4'-7"	105
S2	24	#5	STR	1'-0"	25
T1	6	#5	STR	0'-6"	3
T2	5	#5	STR	1'-0"	5

EPOXY COATED REINFORCING STEEL 260 LBS.

CLASS A-A CONCRETE 3.0 CU. YDS.

CONCRETE MEDIAN BARRIER RAIL 12.00 LIN. FT.

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

PROJECT NO. 8.T500311

ORANGE COUNTY

STATION: 48 + 92.97 -L-NBL REV.
49 + 20.51 -L-SBL

SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE APPROACH
SLAB DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			2			5-108
2			3			108

DRAWN BY: D.P. CONNOR / D. CHAPMAN DATE: 3-19-91
CHECKED BY: L.E. SUTTON DATE: 4-30-91