

-LREV- HORIZONTAL CURVE DATA

PROJECT NO. U-2525A  
 GUILFORD COUNTY  
 STATION: 3+592.663 -LREV- POC =  
 3+206.735 -Y2REV- POT

SHEET 1 OF 4

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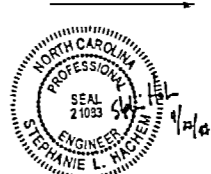
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 GENERAL DRAWING  
 FOR BRIDGE ON GREENSBORO LOOP  
 OVER PROPOSED US 70  
 BETWEEN SR 3041 AND SR 2770

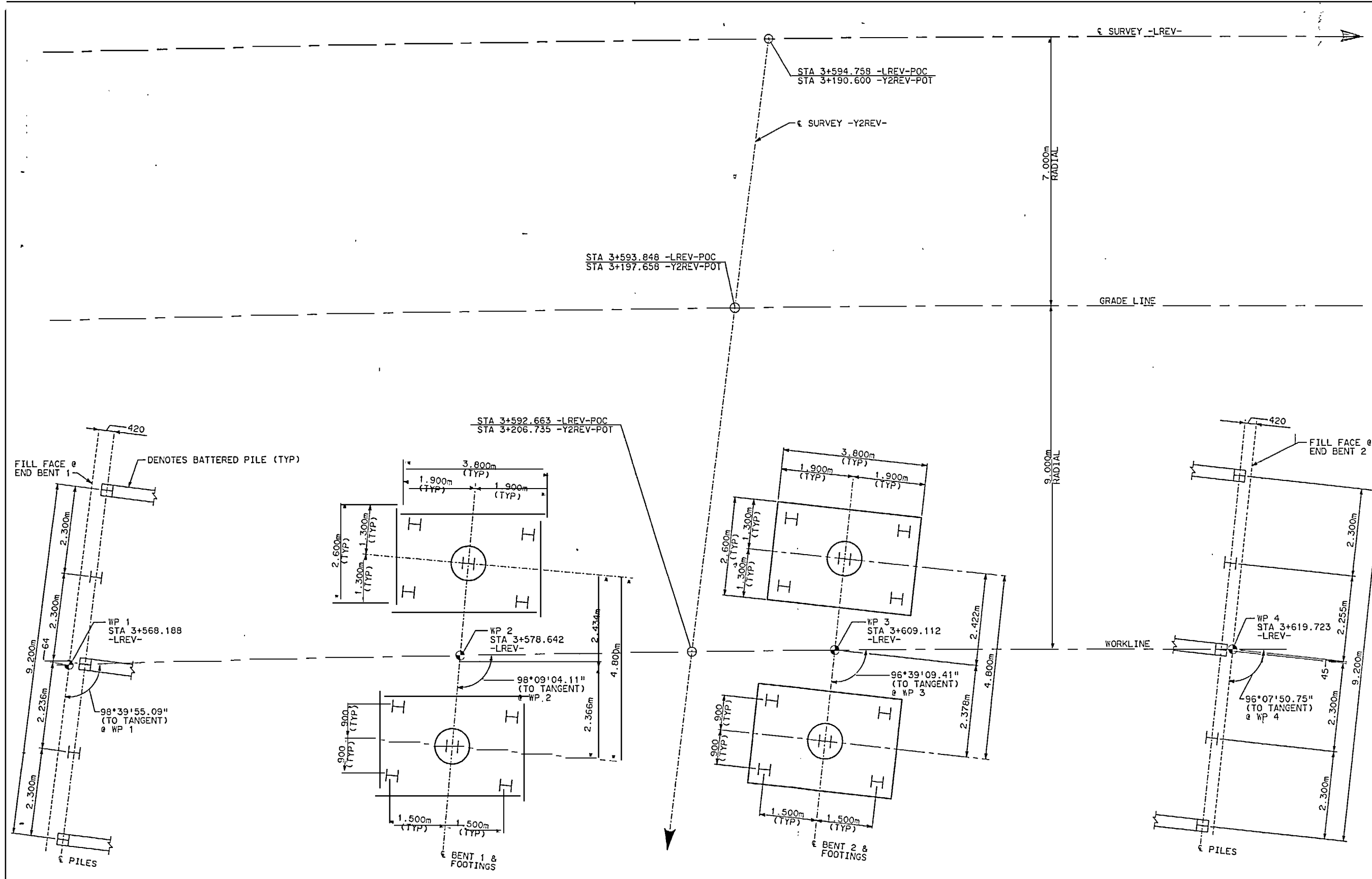
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DRAWING 1 OF 30

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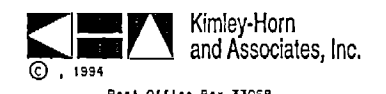




**FOUNDATION PLAN**

(DIMENSIONS LOCATING PILES ARE SHOWN TO THE PILE CENTERLINE AT BOTTOM OF CAP OR FOOTING)  
 BATTERED PILES HAVE 250:1000 BATTER AT END BENTS

PROJECT NO. U-2525A  
 GUILFORD COUNTY  
 STATION: 3+592.663 -LREV- POC =  
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 SHEET 2 OF 4



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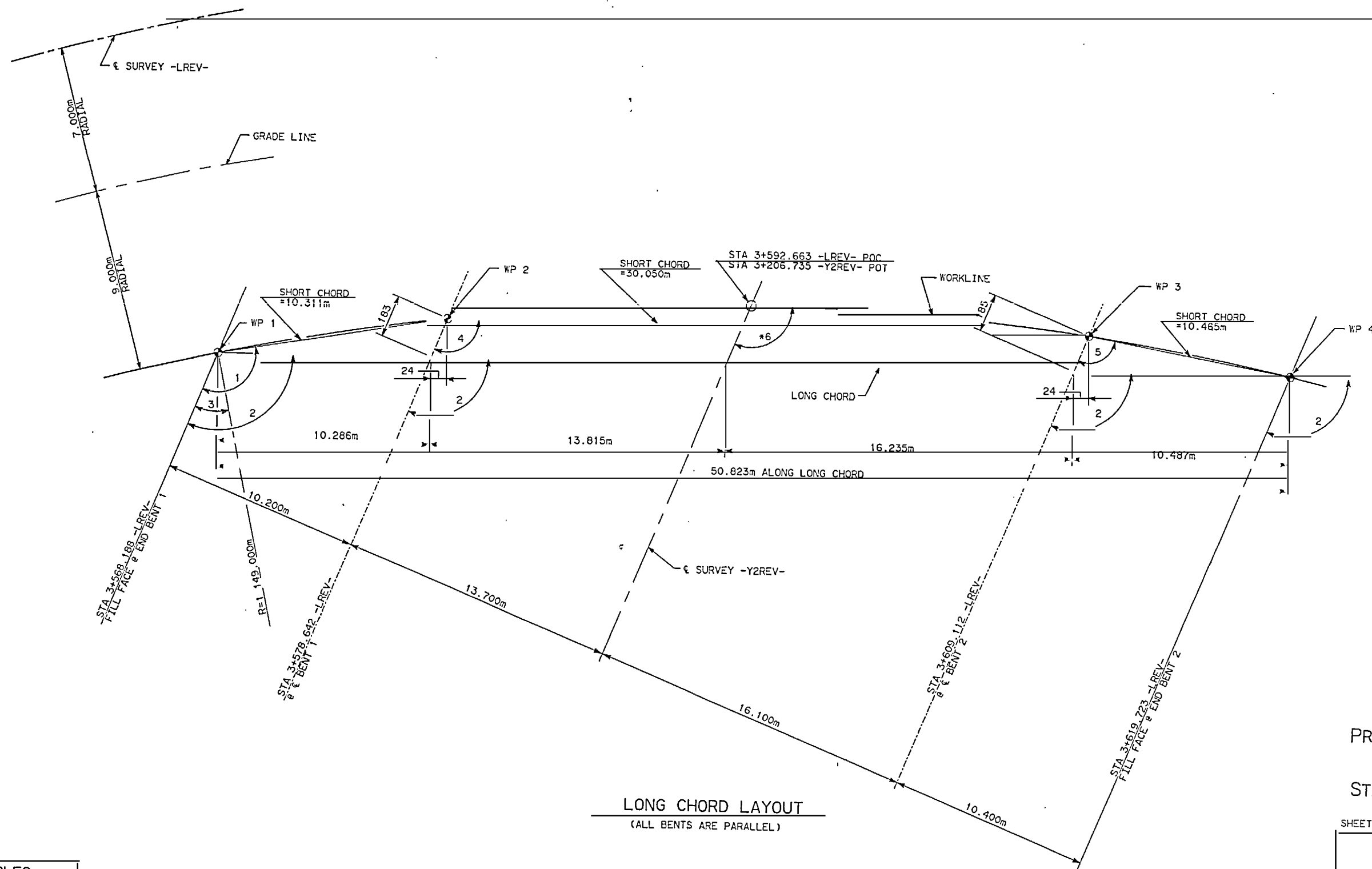
STATE OF NORTH CAROLINA  
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 RALEIGH  
 GENERAL DRAWING  
 FOR BRIDGE ON GREENSBORO LOOP  
 OVER PROPOSED US 70  
 BETWEEN SR 3041 AND SR 2770



REVISIONS						SHEET NO.
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1			3			5173
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DRAWING 2 OF 30

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 CHECKED BY: SLH DATE: 12/96



**LONG CHORD LAYOUT**  
(ALL BENTS ARE PARALLEL)

ANGLES	
1	98°24'29.60"
2	97°23'52.92"
3	8°39'55.09"
4	97°24'06.76"
5	96°23'30.08"
* 6	97°27'41.71" * TANGENT TO CURVE

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 GUILFORD COUNTY  
 STATION: 3+592.663 -LREV- POC =  
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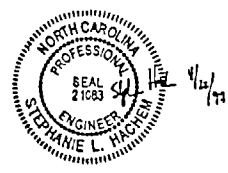
SHEET 3 OF 4

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STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

GENERAL DRAWING  
 FOR BRIDGE ON GREENSBORO LOOP  
 OVER PROPOSED US 70  
 BETWEEN SR 3041 AND SR 2770



DRAWING 3 OF 30

REVISIONS					
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 358

TOTAL BILL OF MATERIAL														
	FOUNDATION EXCAVATION	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS "A" CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	STRUCTURAL STEEL	HP310x79 STEEL PILES	CONCRETE BARRIER RAIL	100mm SLOPE PROTECTION	ELASTOMERIC BEARINGS	EVAZOTE JOINT SEALS	ELECTRICAL CONDUIT SYSTEM
	LS	M2	M2	M3	LS	KG	KG	APPROX KG	NO	M	M	M2	LS	LS
SUPERSTRUCTURE		408.3	313.1		LS			55,560		100.376		LS	LS	LS
END BENT 1				15.0		1,406			5	65		326.2		
BENT 1	LS			32.8		3,867	367		10	60				
BENT 2	LS			33.0		3,884	372		10	60				
END BENT 2				14.9		1,399			5	65		335.0		
TOTAL	LS	408.3	313.1	95.7	LS	10,556	739	55,560	30	250	100.376	661.2	LS	LS

GENERAL NOTES

ASSUMED LIVE LOAD = MS18 OR ALTERNATE LOADING.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET S-NM.

FOR REINFORCED CONCRETE DECK SLAB SEE SPECIAL PROVISIONS.

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

FOR CURING BRIDGE DECK SLABS, SEE SPECIAL PROVISION "REINFORCED CONCRETE DECK SLAB."

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

ALL STRUCTURAL STEEL SHALL BE AASHTO M270, GRADE 345W STEEL AND PAINTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, UNLESS OTHERWISE NOTED.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES", FOR SEISMIC PERFORMANCE CATEGORY A.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

ALL ELEVATIONS ARE SHOWN IN METERS.

PILES FOR END BENT 1, BENT 1, BENT 2 AND END BENT 2 SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 445 KN EACH.

AT THE CONTRACTOR'S OPTION, BENTS NO. 1 AND 2 MAY BE CONSTRUCTED PRIOR TO PLACING THE FILL. FILL SHALL BE PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 410-9 OF THE STANDARD SPECIFICATIONS.

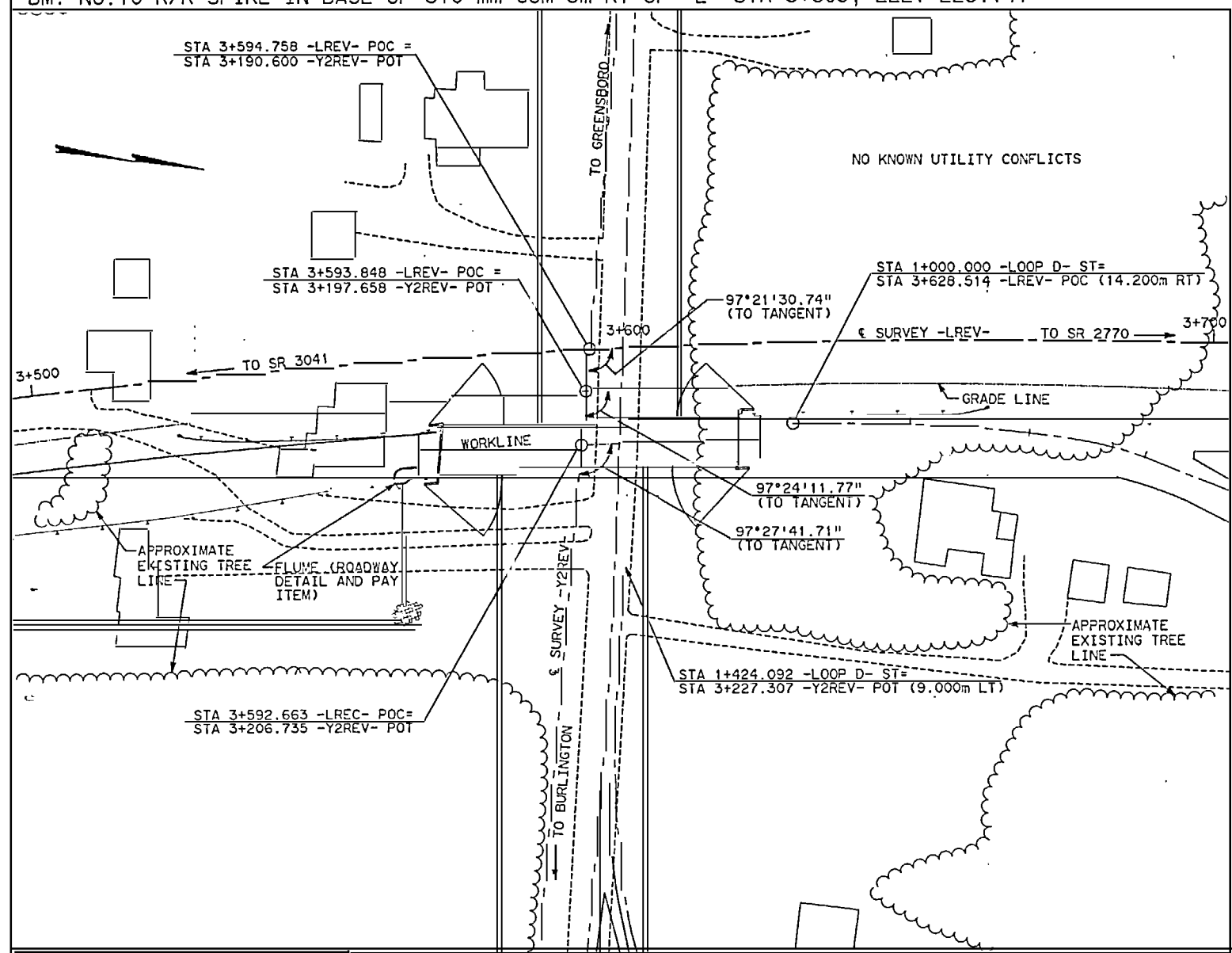
FOR MAINTENANCE AND PROTECTION OF TRAFFIC BENEATH PROPOSED STRUCTURE, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMS OVER OR ADJACENT TO TRAFFIC, SEE SPECIAL PROVISIONS.

FOR METRIC REINFORCING STEEL FOR STRUCTURES, SEE SPECIAL PROVISION.

FOR METRIC STRUCTURAL STEEL, SEE SPECIAL PROVISIONS.

BM: NO.10 R/R SPIKE IN BASE OF 310 mm GUM 5m RT OF -L- STA 3+609, ELEV 225.141



PROJECT No. U-2525A  
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SHEET 4 OF 4

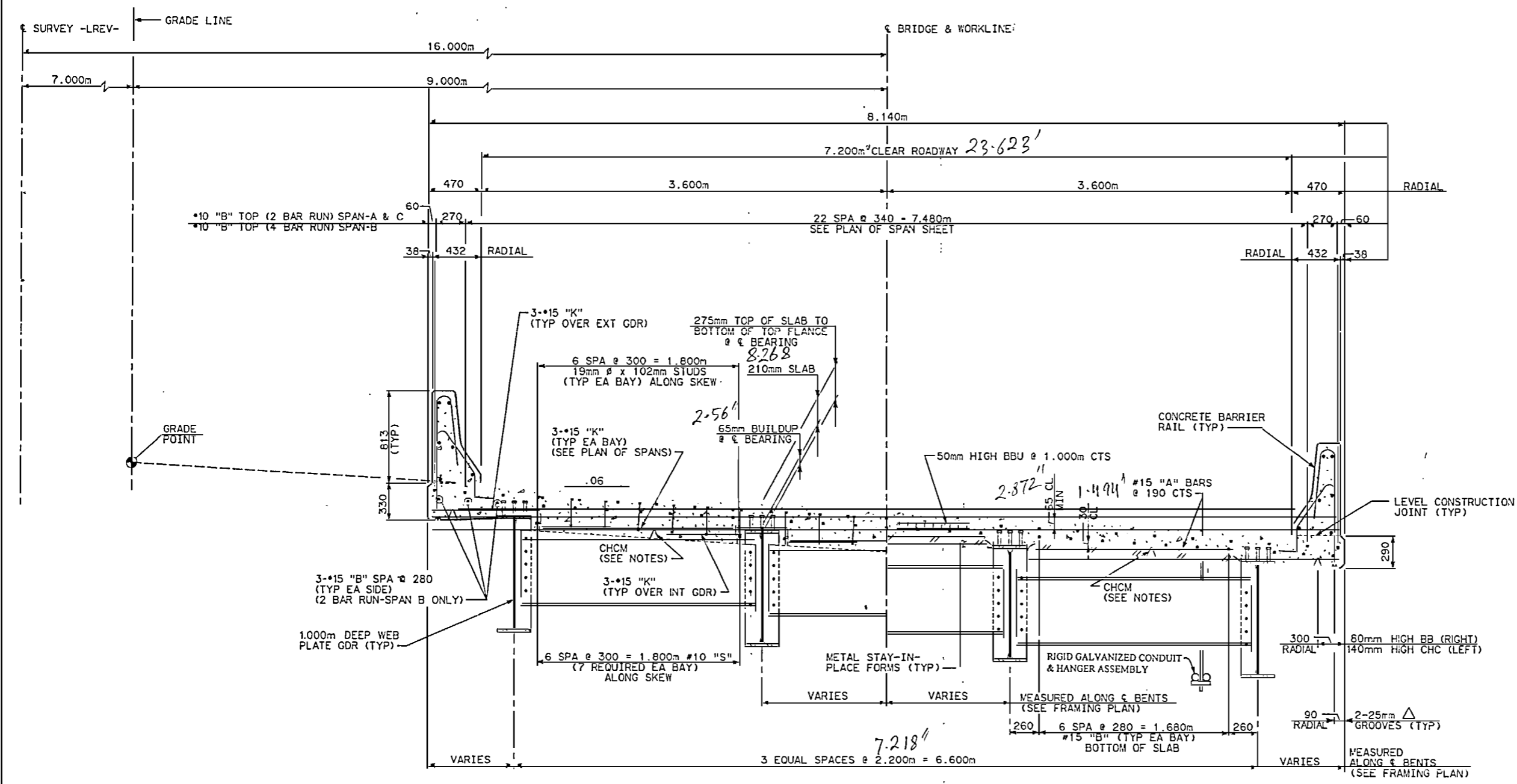
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STATE OF NORTH CAROLINA  
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 GENERAL DRAWING  
 FOR BRIDGE ON GREENSBORO LOOP  
 OVER PROPOSED US 70  
 BETWEEN SR 3041 AND SR 2770



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NOTES:

FOR DIMENSIONS THAT VARY SEE STRUCTURAL STEEL FRAMING PLAN SHEETS, AND SUPERSTRUCTURE PLAN SHEETS.

PROVIDE CONTINUOUS HIGH CHAIR FOR METAL DECK (CHCM) AT 1.200m CTS. WITH LEG SPACING TO MATCH THE PITCH OF THE FORMS AND WITH A HEIGHT TO SUPPORT BOTTOM LAYER OF SLAB REINFORCEMENT A CLEAR DISTANCE OF 30mm ABOVE THE TOP OF THE STAY-IN-PLACE FORM.

BARRIER RAIL IN EACH SPAN SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THAT SPAN HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 21 MPA.

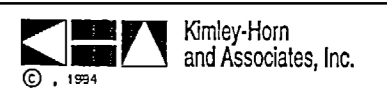
THE CONTRACTOR MAY, WHEN NECESSARY, PROPOSE A SCHEME FOR AVOIDING INTERFERENCE BETWEEN METAL STAY-IN-PLACE FORM SUPPORTS OR FORMS AND GIRDER STIFFENER OR CONNECTOR PLATES. THE PROPOSAL SHALL BE INDICATED, AS APPROPRIATE, ON EITHER THE STEEL WORKING DRAWINGS OR THE METAL STAY-IN-PLACE FORM WORKING DRAWINGS.

SEE PLANS AND SPECIAL PROVISIONS TITLED "ELECTRICAL CONDUIT SYSTEM" FOR MATERIALS, CONSTRUCTION METHODS, AND PAYMENT OF RIGID GALVANIZED CONDUIT AND HANGER ASSEMBLIES.

TYPICAL HALF SECTION  
SHOWING BENT DIAPHRAGMS

TYPICAL HALF SECTION  
SHOWING INTERMEDIATE DIAPHRAGMS

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RALEIGH

SUPERSTRUCTURE  
TYPICAL SECTION



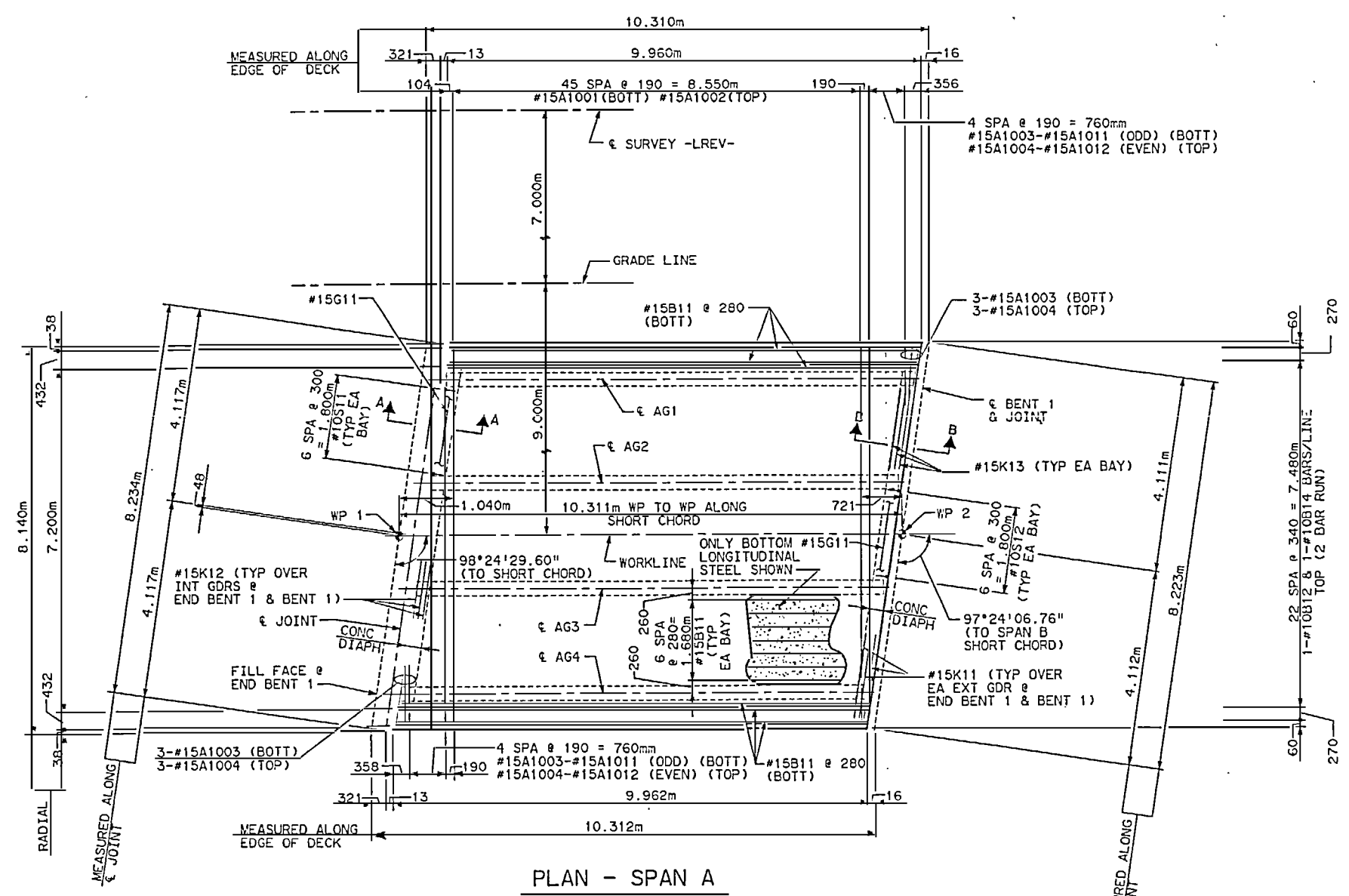
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CHECKED BY	SLH	DATE	12/96

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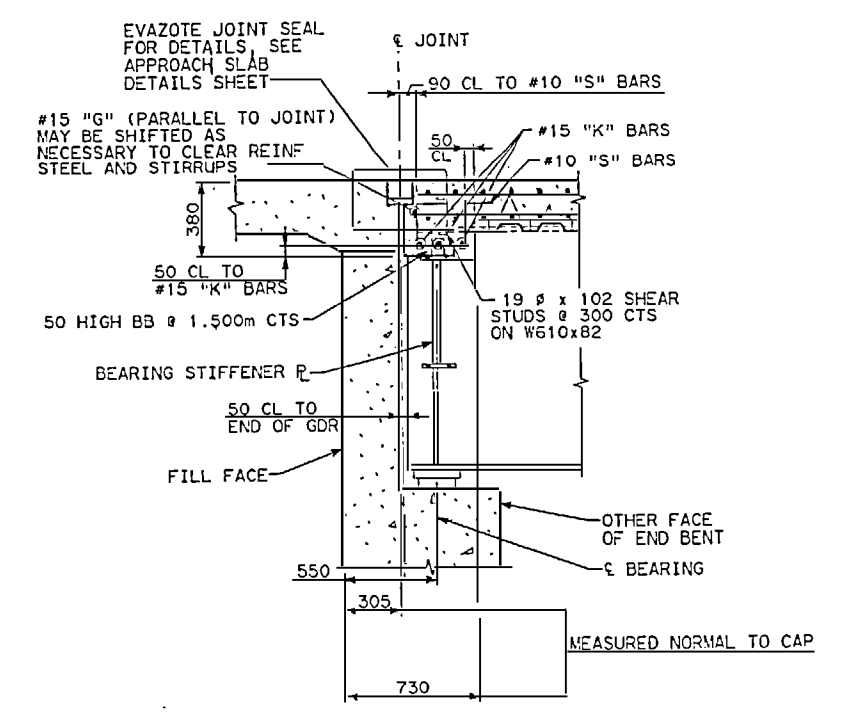
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REVISIONS					
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358

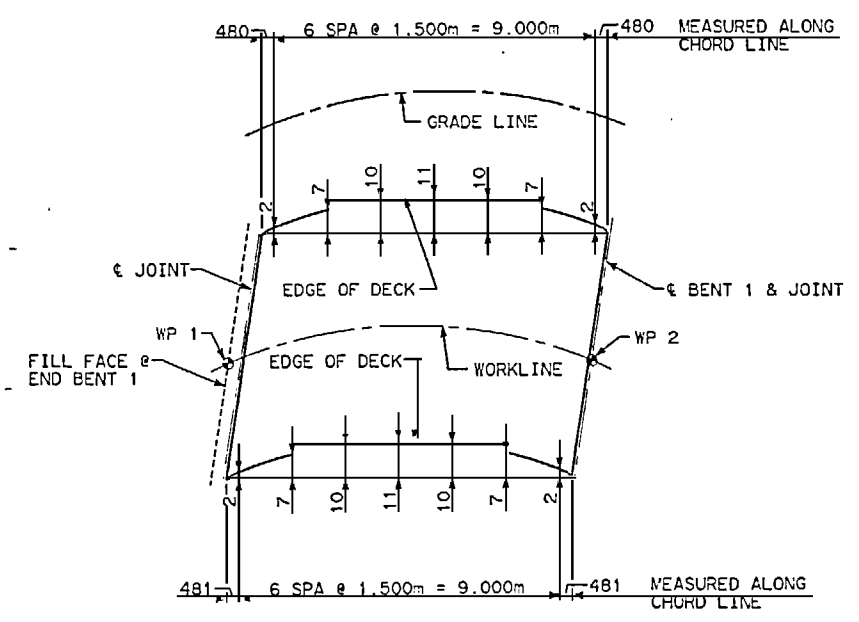


PLAN - SPAN A

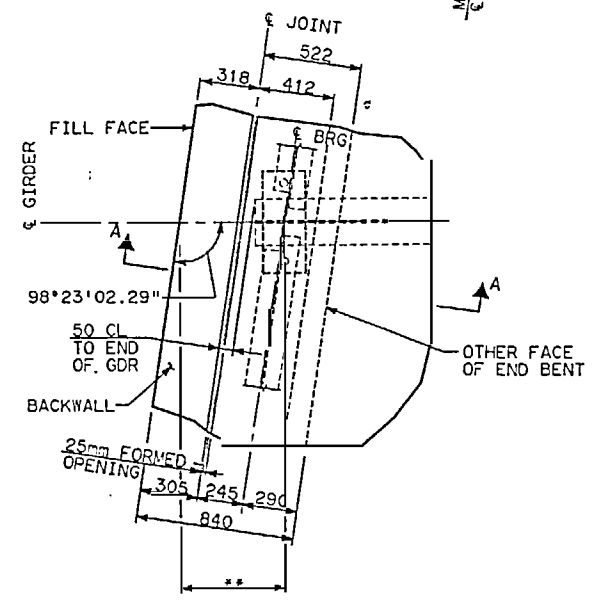


SECTION A-A

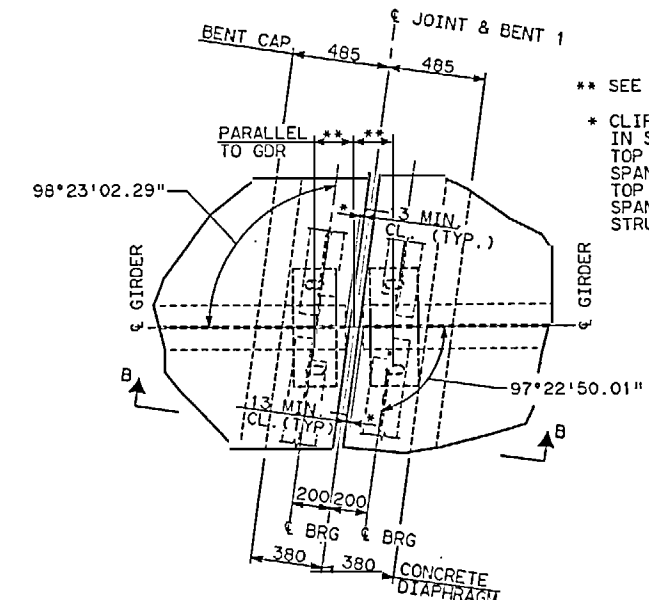
NOTES:  
 STAGGER SPLICES IN LONGITUDINAL BARS.  
 FOR JOINT DETAILS @ BENTS & END BENTS, SEE "APPROACH SLAB DETAILS" SHEET.  
 FOR SECTION B-B SEE PLAN SHEET - SPAN B.  
 SEE "CONCRETE BARRIER RAIL" SHEET FOR ADDITIONAL REINFORCING STEEL IN SLAB AND BARRIER RAIL.



CURVE OFFSETS



DETAIL OF END BENT 1 JOINT  
(END BENT 2 SIMILAR)



DETAIL OF BENT 1 JOINT  
(BENT 2 SIMILAR)

\*\* SEE STRUCTURAL STEEL PLANS  
 \* CLIP TOP FLANGE ON GIRDERS IN SPAN A AT BENT 1. CLIP TOP FLANGE ON GIRDERS IN SPAN B ON BOTH ENDS. CLIP TOP FLANGE ON GIRDERS IN SPAN C AT BENT 2. (SEE STRUCTURAL STEEL SHEETS.)

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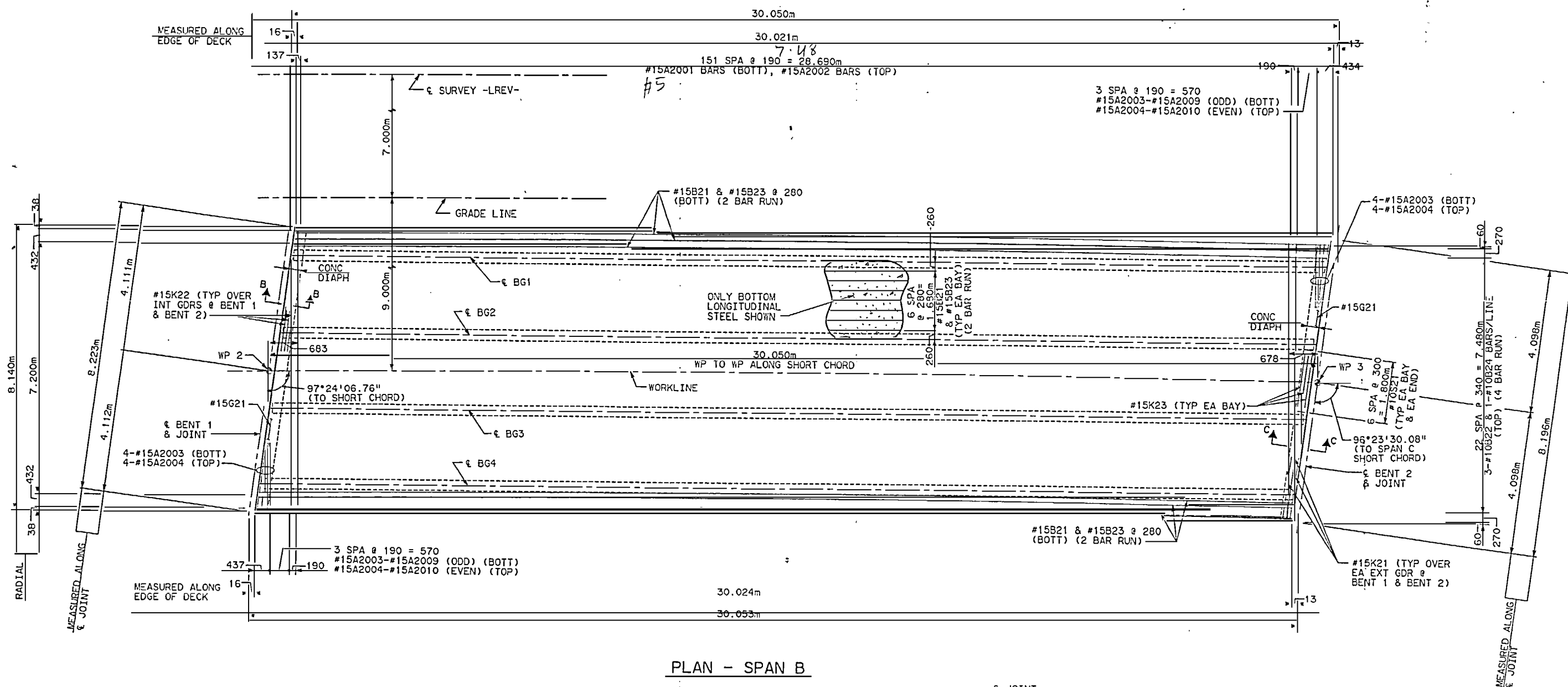
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 SUPERSTRUCTURE  
 PLAN - SPAN A

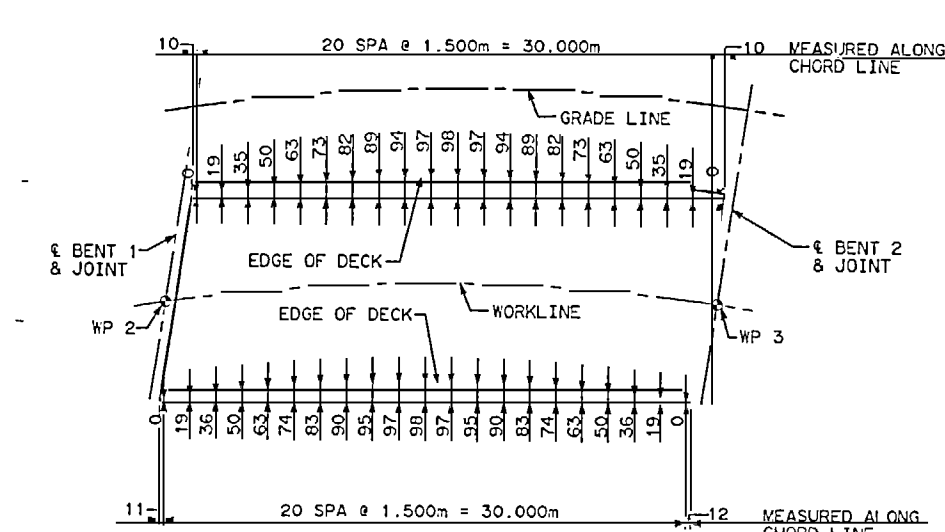


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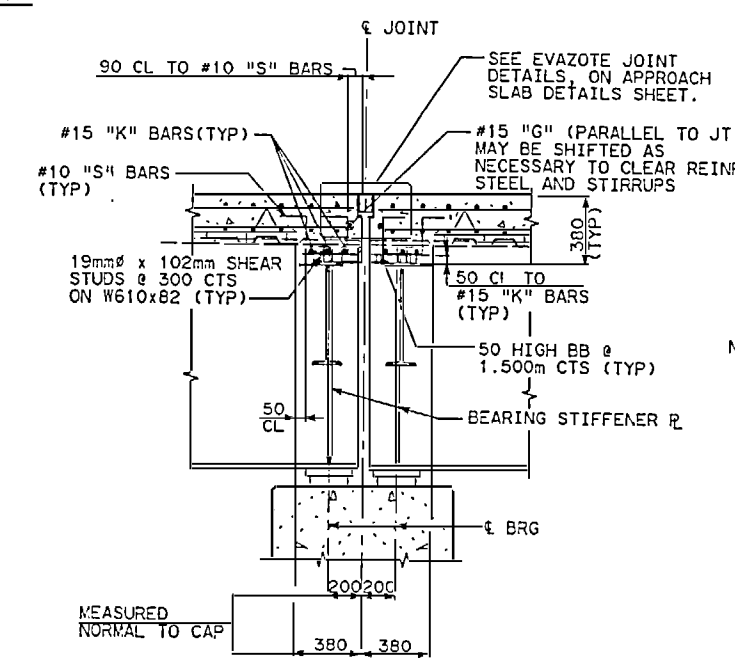
DRAWING 6 OF 30



PLAN - SPAN B



CURVE OFFSETS



SECTION B-B

- NOTES:
- STAGGER SPLICES IN LONGITUDINAL BARS.
  - FOR JOINT DETAILS @ BENTS, SEE "APPROACH SLAB DETAILS" SHEET
  - FOR SECTION C-C, SEE SHEET "PLAN - SPAN C".
  - SEE " CONCRETE BARRIER RAIL" FOR ADDITIONAL REINFORCING STEEL IN SLAB AND BARRIER RAIL.



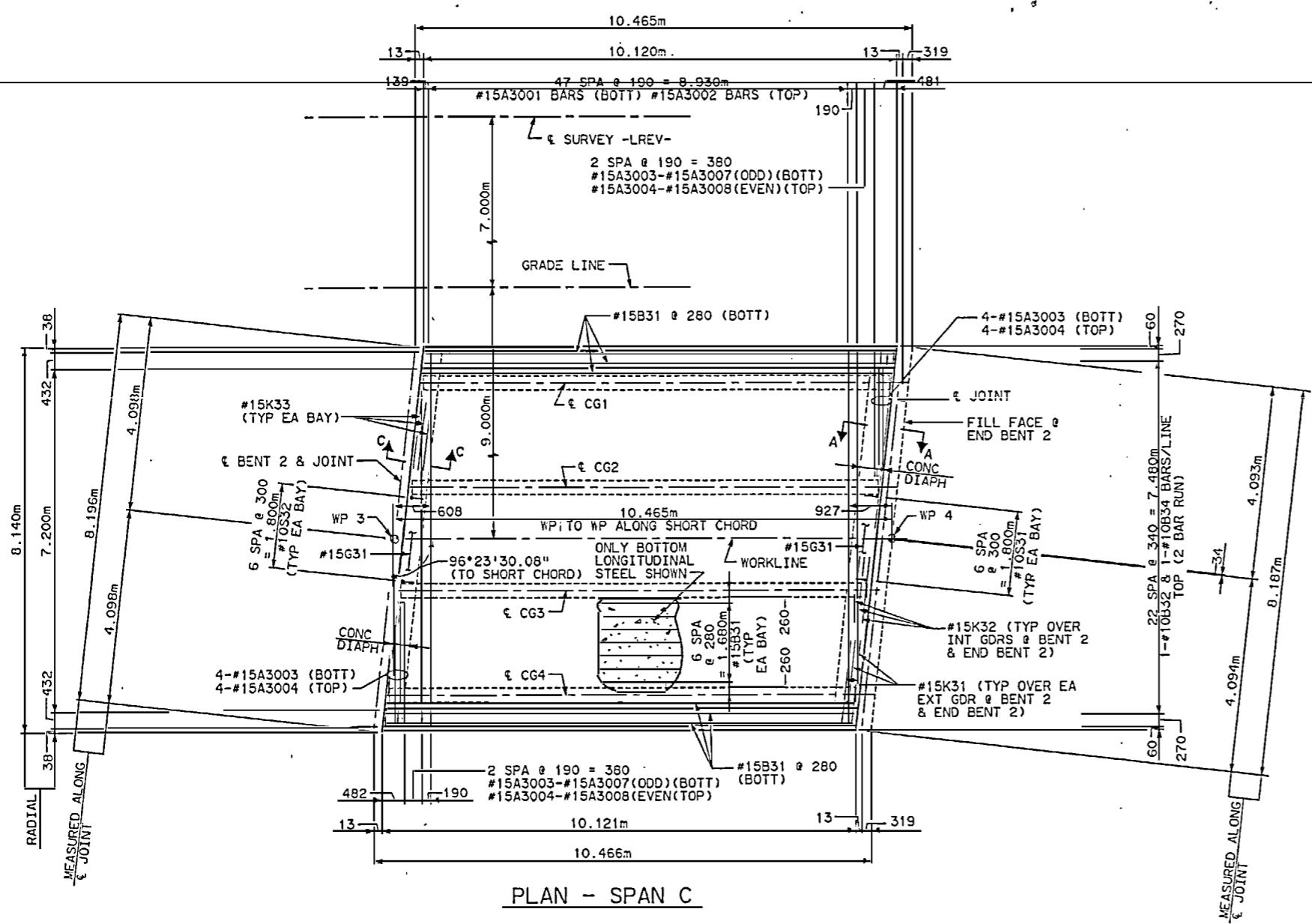
PROJECT NO. U-2525A  
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 STATION: 3+592.663 -LREV- POC = 3+206.735 -Y2REV- POT

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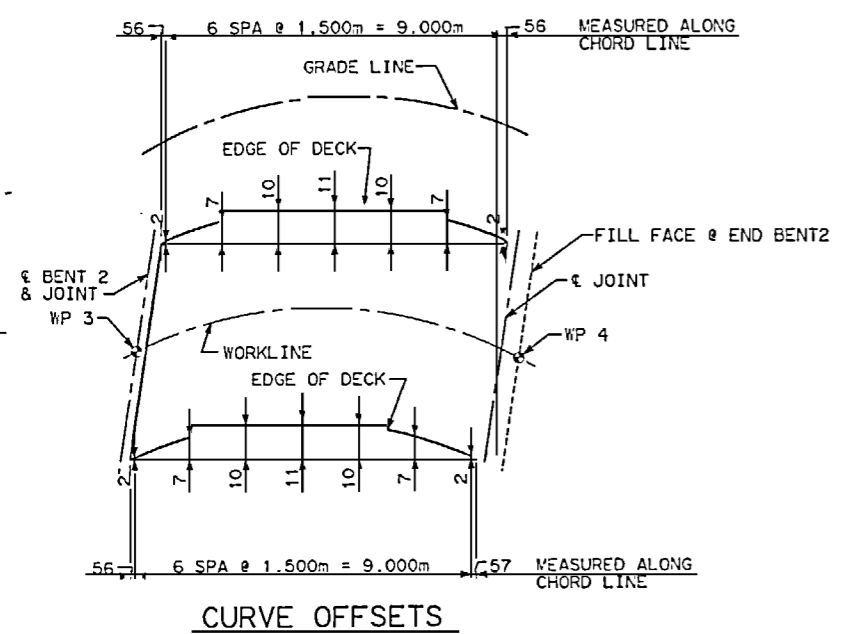
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 RALEIGH  
 SUPERSTRUCTURE  
 PLAN - SPAN B

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
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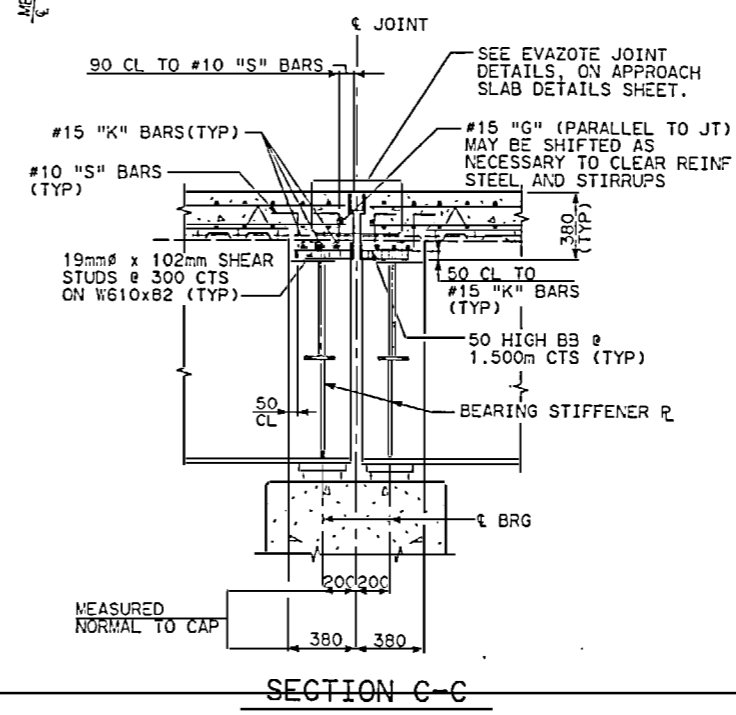
DRAWING 7 OF 30



PLAN - SPAN C



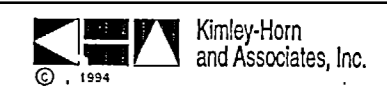
CURVE OFFSETS



SECTION C-C

NOTES:  
 FOR JOINT DETAILS AT BENTS AND END BENTS, SEE "APPROACH SLAB DETAILS" SHEET.  
 FOR SECTION A-A SEE PLAN SHEET-SPAN A.  
 STAGGER SPLICES IN LONGITUDINAL BARS.  
 SEE "CONCRETE BARRIER RAIL" SHEET FOR ADDITIONAL REINFORCING STEEL IN SLAB AND BARRIER RAIL.

PROJECT NO. U-2525A  
 GUILFORD COUNTY  
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 PLAN - SPAN C

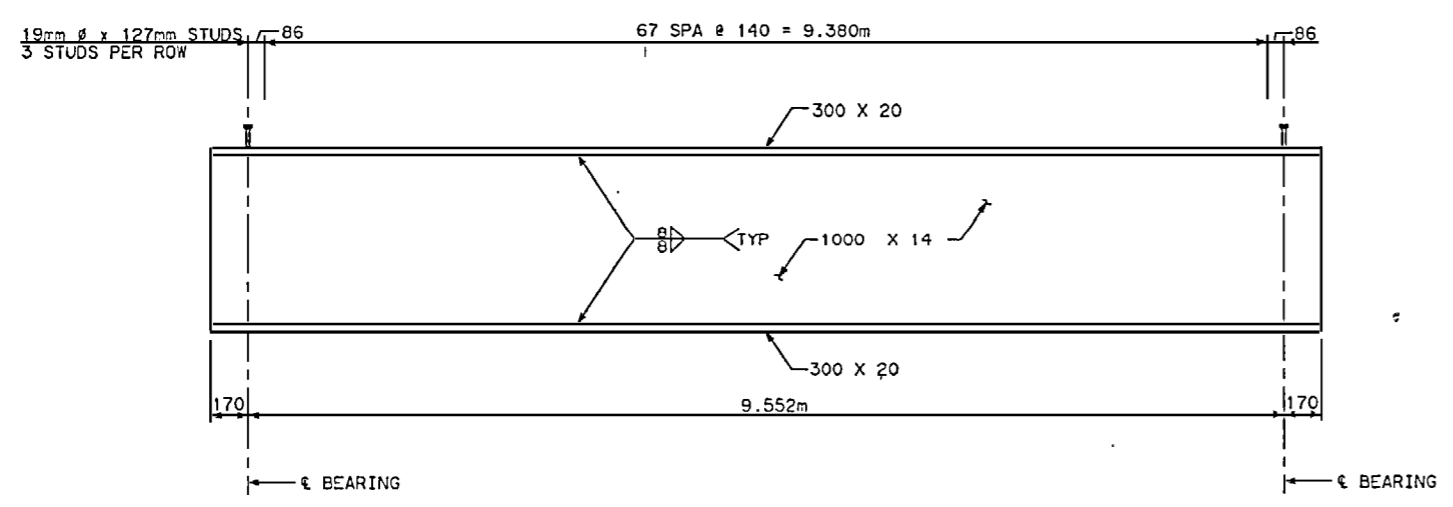


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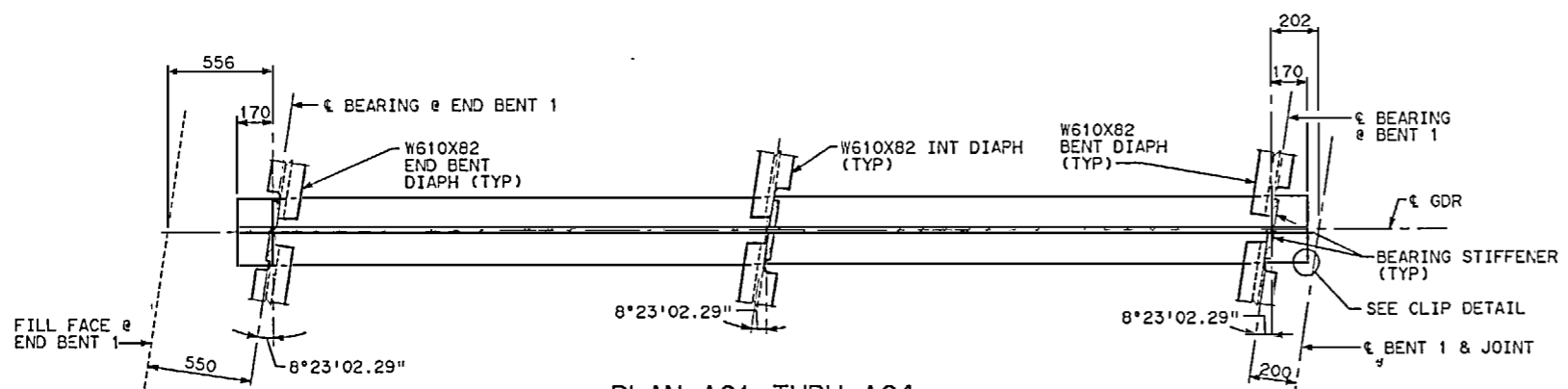
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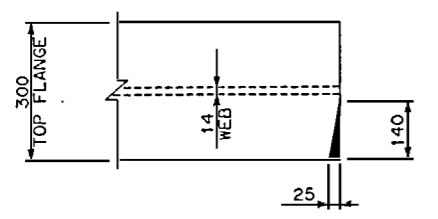




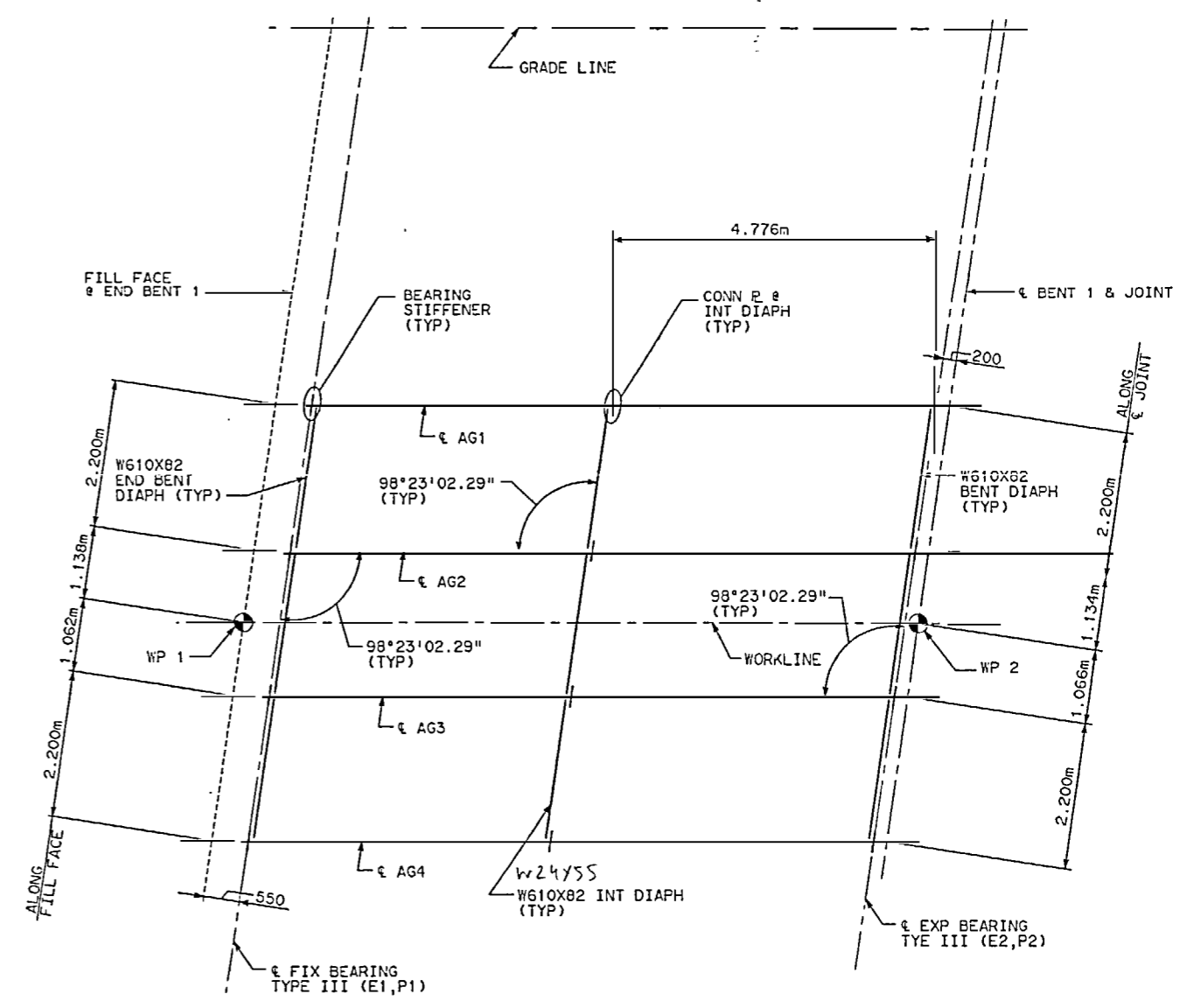
ELEVATION AG1 THRU AG4



PLAN AG1 THRU AG4  
(INTERIOR GIRDERS SHOWN, EXTERIOR GIRDERS SIMILAR)



CLIP DETAIL  
(TOP FLANGE ONLY)



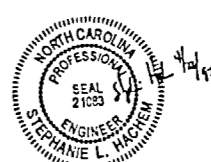
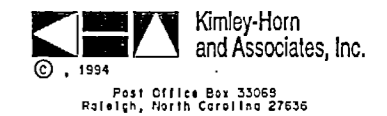
FRAMING PLAN - SPAN A

DEAD LOAD DEFLECTION TABLE											
	INTERIOR GIRDERS - AG2 AND AG3										€ BRG BENT 1
	€ BRG EB 1	1	2	3	4	5	6	7	8	9	
DEFLECTION DUE TO WEIGHT OF STEEL (m)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
DEFLECTION DUE TO WEIGHT OF SLAB* (m)	.000	.001	.001	.002	.002	.002	.002	.002	.001	.001	.000
DEFLECTION DUE TO WEIGHT OF RAIL (m)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
TOTAL DEAD LOAD DEFLECTION (m)	.000	.001	.001	.002	.002	.002	.002	.002	.001	.001	.000
VERTICAL CURVE ORDINATE (m)	.000	.000	.001	.001	.001	.001	.001	.001	.000	.000	.000
SUPERELEVATION ORDINATE (m)	.000	.000	.000	-.001	-.001	-.001	-.001	-.001	.000	.000	.000
REQUIRED CAMBER (mm)	0	0	0	0	0	0	0	0	0	0	0
	EXTERIOR GIRDERS - AG1 AND AG4										€ BRG BENT 1
	€ BRG EB 1	1	2	3	4	5	6	7	8	9	
DEFLECTION DUE TO WEIGHT OF STEEL (m)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
DEFLECTION DUE TO WEIGHT OF SLAB* (m)	.000	.001	.001	.002	.002	.002	.002	.002	.001	.001	.000
DEFLECTION DUE TO WEIGHT OF RAIL (m)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
TOTAL DEAD LOAD DEFLECTION (m)	.000	.001	.001	.002	.002	.002	.002	.002	.001	.001	.000
VERTICAL CURVE ORDINATE (m)	.000	.000	.001	.001	.001	.001	.001	.001	.000	.000	.000
SUPERELEVATION ORDINATE (m)	.000	.000	.000	-.001	-.001	-.001	-.001	-.001	.000	.000	.000
REQUIRED CAMBER (mm)	0	0	0	0	0	0	0	0	0	0	0

\* INCLUDES SLAB, BUILD-UPS AND STAY-IN-PLACE FORMS.

NOTE: ALL VALUES ARE SHOWN IN METERS, EXCEPT "REQUIRED CAMBER", WHICH IS GIVEN IN MILLIMETERS.

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STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
SUPERSTRUCTURE  
STRUCTURAL STEEL - SPAN A

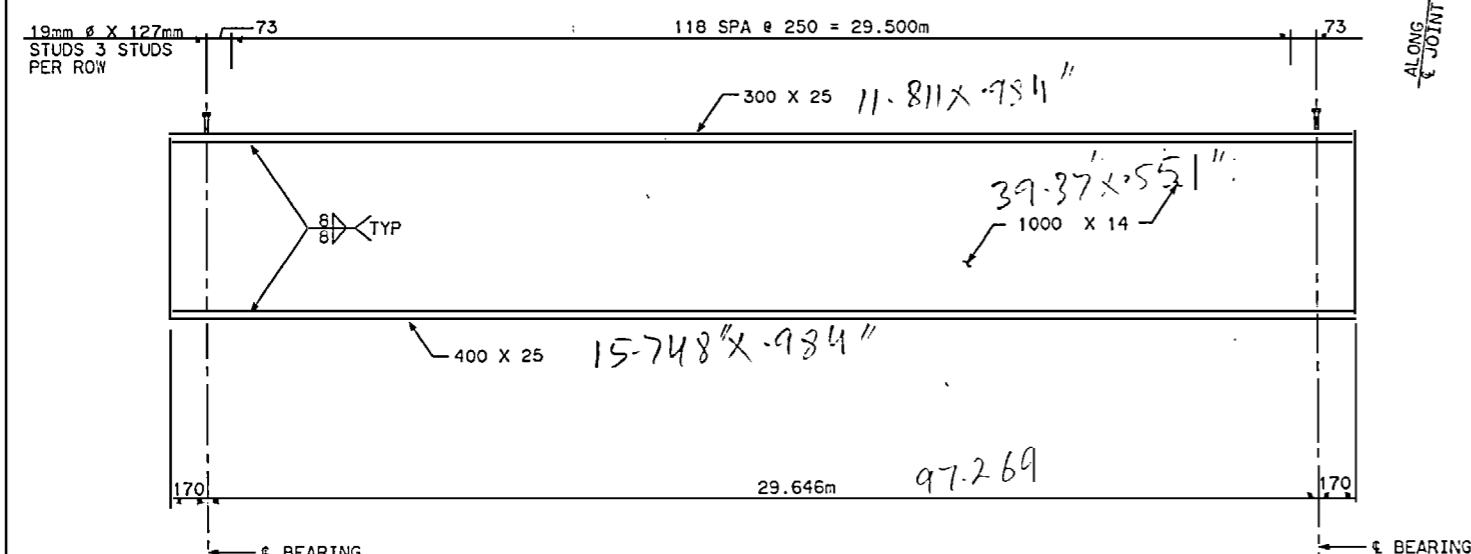
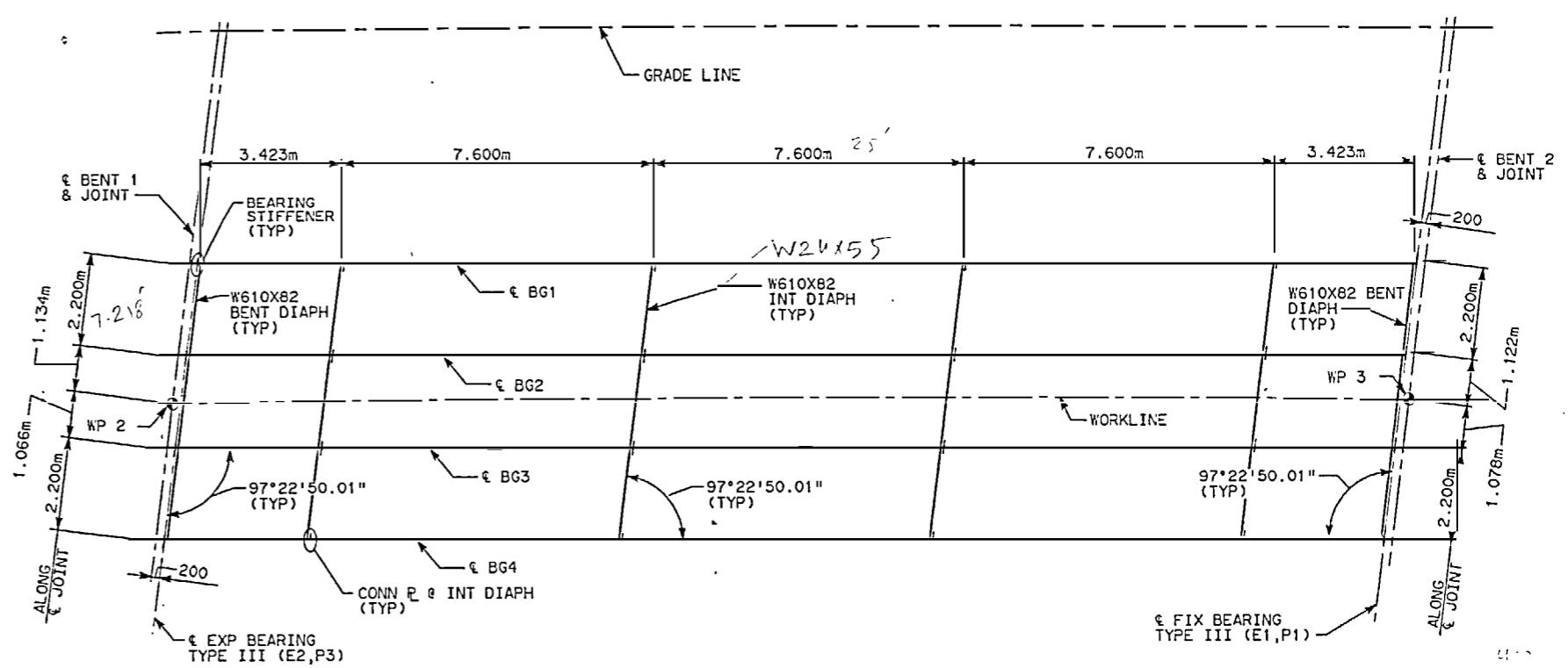
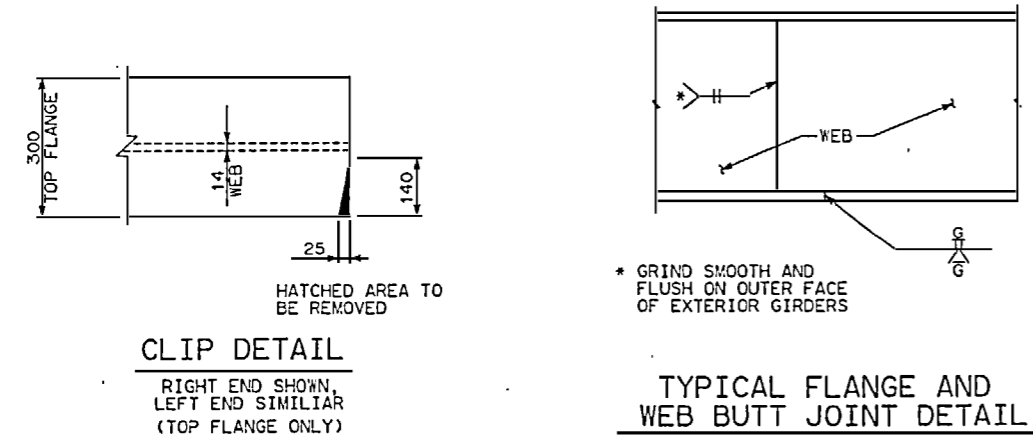


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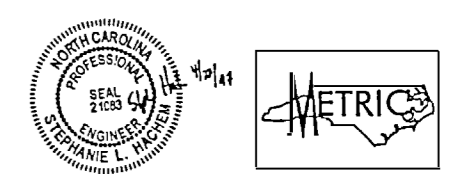


FRAMING PLAN - SPAN B

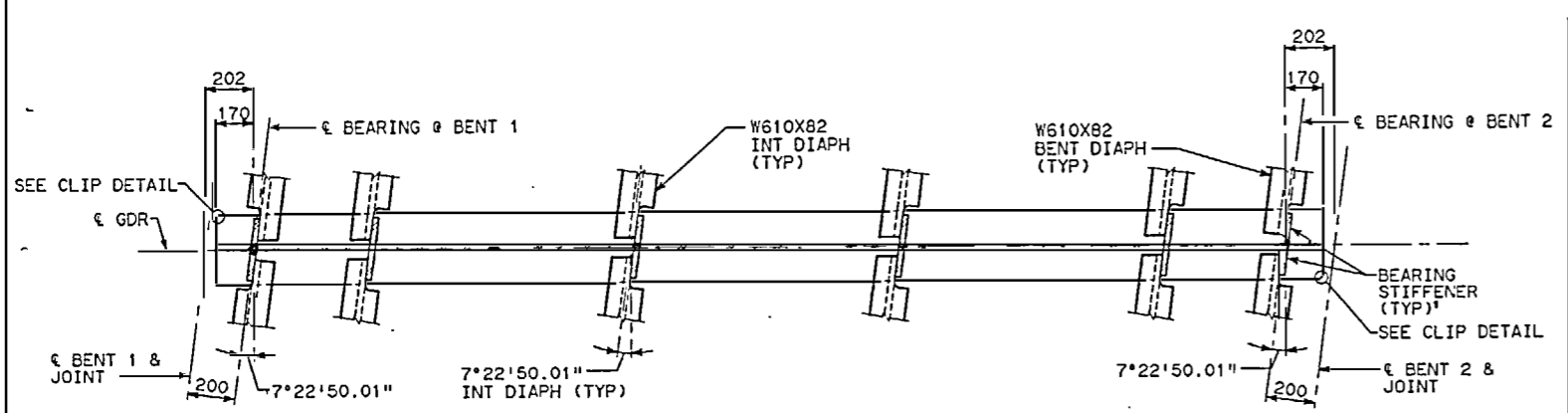
ELEVATION BG1 THRU BG4

PLAN-FLANGE BUTT SPLICE

NOTE: ALL VALUES ARE SHOWN IN METERS, EXCEPT "REQUIRED CAMBER", WHICH IS GIVEN IN MILLIMETERS.



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PLAN BG1 THRU BG4  
 (INTERIOR GIRDERS SHOWN, EXTERIOR GIRDERS SIMILAR)

DEAD LOAD DEFLECTION TABLE											
	INTERIOR GIRDERS - BG2 AND BG3									BRG BENT 2	
	BRG BENT 1	1	2	3	4	5	6	7	8		9
DEFLECTION DUE TO WEIGHT OF STEEL (m)	.000	.008	.015	.020	.023	.025	.023	.020	.015	.008	.000
DEFLECTION DUE TO WEIGHT OF SLAB* (m)	.000	.036	.067	.093	.110	.114	.110	.093	.067	.036	.000
DEFLECTION DUE TO WEIGHT OF RAIL (m)	.000	.006	.011	.016	.018	.019	.018	.016	.011	.006	.000
TOTAL DEAD LOAD DEFLECTION (m)	.000	.050	.094	.129	.151	.158	.151	.129	.094	.050	.000
VERTICAL CURVE ORDINATE (m)	.000	.003	.005	.006	.007	.008	.007	.006	.005	.003	.000
SUPERELEVATION ORDINATE (m)	.000	-.002	-.004	-.005	-.006	-.006	-.006	-.005	-.004	-.002	.000
REQUIRED CAMBER (mm)	.000	51	95	130	152	160	152	130	95	51	0
	EXTERIOR GIRDERS - BG1 AND BG4									BRG BENT 2	
	BRG BENT 1	1	2	3	4	5	6	7	8		9
DEFLECTION DUE TO WEIGHT OF STEEL (m)	.000	.008	.015	.020	.023	.025	.023	.020	.015	.008	.000
DEFLECTION DUE TO WEIGHT OF SLAB* (m)	.000	.035	.066	.090	.107	.111	.107	.090	.066	.035	.000
DEFLECTION DUE TO WEIGHT OF RAIL (m)	.000	.006	.011	.016	.018	.019	.018	.016	.011	.006	.000
TOTAL DEAD LOAD DEFLECTION (m)	.000	.049	.092	.126	.148	.155	.148	.126	.092	.049	.000
VERTICAL CURVE ORDINATE (m)	.000	.003	.005	.006	.007	.008	.007	.006	.005	.003	.000
SUPERELEVATION ORDINATE (m)	.000	-.002	-.004	-.005	-.006	-.006	-.006	-.005	-.004	-.002	.000
REQUIRED CAMBER (mm)	0	50	93	127	149	157	149	127	93	50	0

\* INCLUDES SLAB, BUILD-UPS AND STAY-IN-PLACE FORMS.

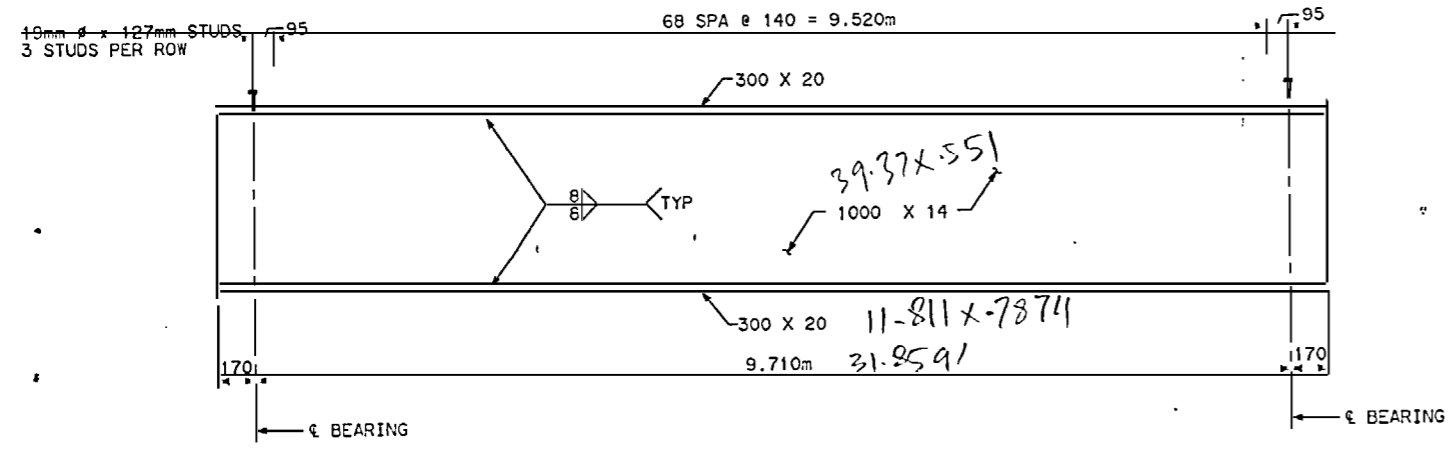
DESIGNED BY: MDM DATE: 12/96  
 CHECKED BY: SLH DATE: 12/96  
 21 APR 97 12:02:11 IRELAND s:\01103607\dgn\struct-b.050

DRAWING 10 OF 30

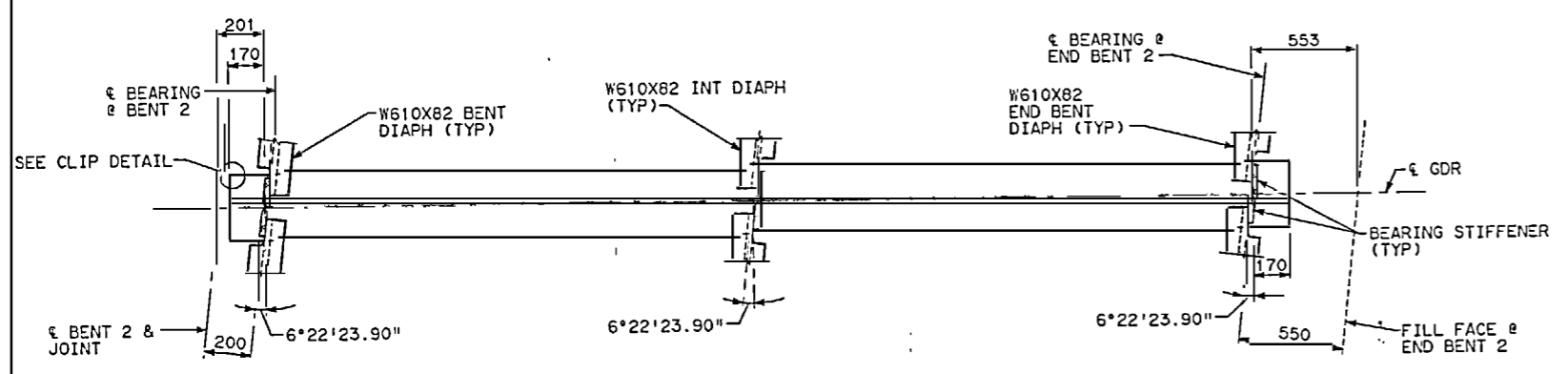
REVISIONS					SHEET NO.
NO.	BY	DATE	NO.	BY	
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2			4		

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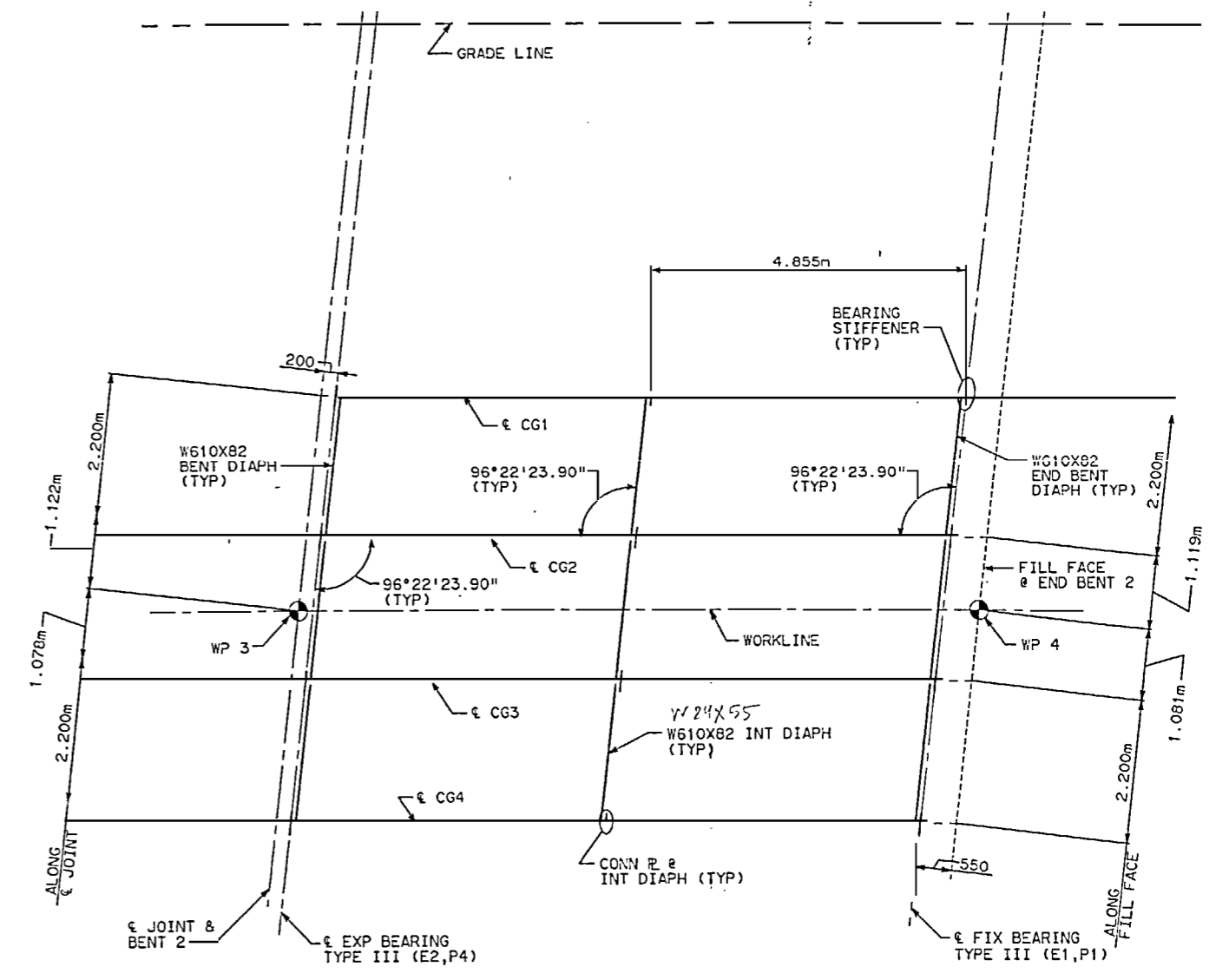
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUPERSTRUCTURE  
 STRUCTURAL STEEL - SPAN B



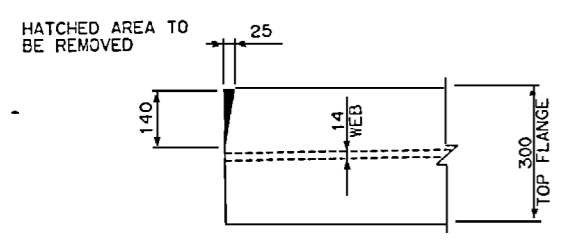
ELEVATION CG1 THRU CG4



PLAN CG1 THRU CG4  
(INTERIOR GIRDERS SHOWN, EXTERIOR GIRDERS SIMILAR)



FRAMING PLAN - SPAN C



CLIP DETAIL  
(TOP FLANGE ONLY)

DEAD LOAD DEFLECTION TABLE											
	INTERIOR GIRDERS - CG2 AND CG3									BRG EB2	
	BRG BENT 2	1	2	3	4	5	6	7	8		9
DEFLECTION DUE TO WEIGHT OF STEEL (m)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
DEFLECTION DUE TO WEIGHT OF SLAB* (m)	.000	.001	.001	.002	.002	.002	.002	.002	.001	.001	.000
DEFLECTION DUE TO WEIGHT OF RAIL (m)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
TOTAL DEAD LOAD DEFLECTION (m)	.000	.001	.001	.002	.002	.002	.002	.002	.001	.001	.000
VERTICAL CURVE ORDINATE (m)	.000	.001	.001	.001	.001	.001	.000	.000	.000	.000	.000
SUPERELEVATION ORDINATE (m)	.000	.000	.000	-.001	-.001	-.001	-.001	-.001	.000	.000	.000
REQUIRED CAMBER (mm)	0	0	0	0	0	0	0	0	0	0	0
	EXTERIOR GIRDERS - CG1 AND CG4									BRG EB2	
	BRG BENT 2	1	2	3	4	5	6	7	8		9
DEFLECTION DUE TO WEIGHT OF STEEL (m)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
DEFLECTION DUE TO WEIGHT OF SLAB* (m)	.000	.001	.001	.002	.002	.002	.002	.002	.001	.001	.000
DEFLECTION DUE TO WEIGHT OF RAIL (m)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
TOTAL DEAD LOAD DEFLECTION (m)	.000	.001	.001	.002	.002	.002	.002	.002	.001	.001	.000
VERTICAL CURVE ORDINATE (m)	.000	.001	.001	.001	.001	.001	.000	.000	.000	.000	.000
SUPERELEVATION ORDINATE (m)	.000	.000	.000	-.001	-.001	-.001	-.001	-.001	.000	.000	.000
REQUIRED CAMBER (mm)	0	0	0	0	0	0	0	0	0	0	0

\* INCLUDES SLAB, BUILD-UPS AND STAY-IN-PLACE FORMS.

NOTE: ALL VALUES ARE SHOWN IN METERS, EXCEPT "REQUIRED CAMBER", WHICH IS GIVEN IN MILLIMETERS.

PROJECT No. U-2525A  
 GUILFORD COUNTY  
 STATION: 3+592.663 -LREV- POC =  
 3+206.735 -Y2REV- POT



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STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUPERSTRUCTURE  
 STRUCTURAL STEEL - SPAN C



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

DRAWING 11 OF 30

**STRUCTURAL STEEL NOTES:** 56030151

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 345W STEEL AND PAINTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

ALL DIMENSIONS SHOWN ARE HORIZONTAL OR VERTICAL UNLESS OTHERWISE NOTED.  
ALL FIELD CONNECTIONS SHALL BE M22 HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.

IN LIEU OF THE TURN OF THE NUT METHOD, TENSION ON M22 BOLTS MAY BE CALIBRATED USING DIRECT TENSION INDICATOR WASHERS. FOR DIRECT TENSION INDICATORS, SEE SPECIAL PROVISIONS.

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.

ENDS OF GIRDERS TO BE PLUMB AND CONNECTION PLATES SHALL BE PARALLEL TO ENDS OF GIRDER.

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.

BEARING STIFFENERS CONNECTION PLATE SHALL BE PLACED ALONG SKEW AT THE END BENTS AND INTERIOR BENTS. BEARING STIFFENERS SHALL BE PLUMB.

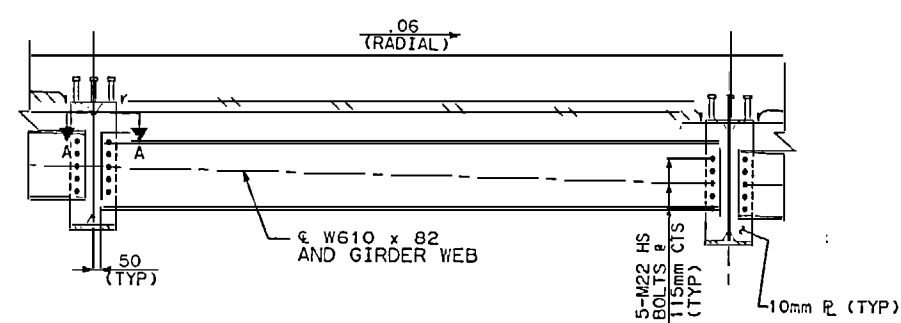
STUDS ON GIRDERS MAY BE SHIFTED UP TO 25mm, IF NECESSARY TO CLEAR FLANGE SPLICE WELD.

SHOP SPLICES ARE PERMITTED TO LIMIT THE MAXIMUM REQUIRED FLANGE PIECE LENGTHS TO 18 METERS AND WEB PIECE LENGTHS TO 14 METERS. PERMITTED FLANGE AND WEB SHOP SPLICES SHALL NOT BE LOCATED WITHIN 4.5 METERS OF MAXIMUM DEAD LOAD DEFLECTION. KEEP 610mm MINIMUM BETWEEN WEB AND FLANGE SHOP SPLICES. KEEP 150mm MINIMUM BETWEEN CONNECTOR PLATE WELDS AND WEB OR FLANGE SHOP SPLICE.

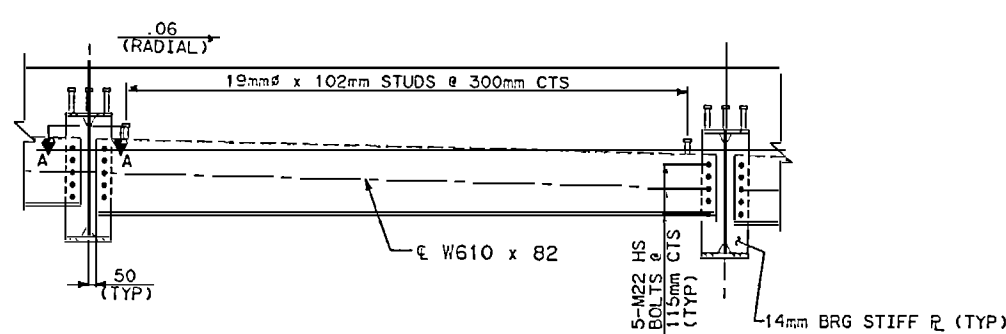
A CHARPY V-NOTCH TEST IS REQUIRED FOR WEB PLATES AND BOTTOM FLANGE PLATES FOR ALL GIRDERS. SEE SPECIAL PROVISIONS.

FOR RADIOGRAPHIC TESTING OF BUTT WELDS, SEE SPECIAL PROVISIONS.

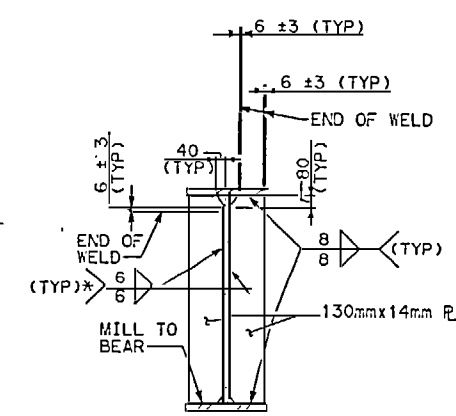
FOR SURFACE PREPARATION OF UNPAINTED STRUCTURAL STEEL, SEE SPECIAL PROVISIONS.



**INTERMEDIATE DIAPHRAGM**  
(SPANS A THRU C)



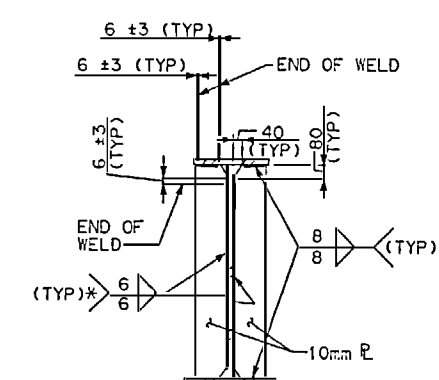
**BENT DIAPHRAGM**  
(SPANS A THRU C)



**BEARING STIFFENER & CONNECTOR PLATE**

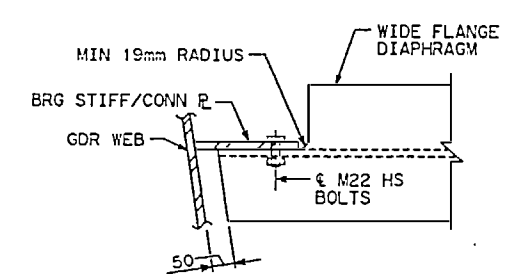
INTERIOR PLATE GIRDER SHOWN, EXTERIOR PLATE GIRDER SIMILAR

\* PER BRIDGE WELDING CODE FIG. 2.3(C) BEVEL IF NECESSARY

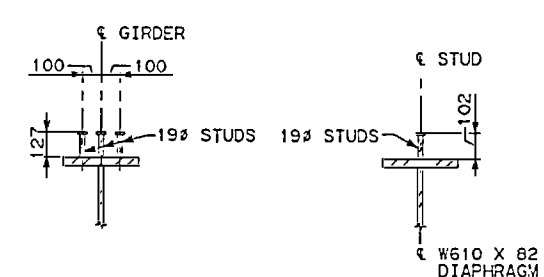


**CONNECTOR PLATE AT INTERMEDIATE DIAPHRAGM**

INTERIOR PLATE GIRDER SHOWN, EXTERIOR PLATE GIRDER SIMILAR



**SECTION A-A**  
(DIAPHRAGMS)



**ON SPAN**      **ON BENT DIAPHRAGM**

**SHEAR CONNECTORS**

PROJECT No. U-2525A  
GUILFORD COUNTY  
STATION: 3+592.663 -LREV- POC =  
3+206.735 -Y2REV- POT



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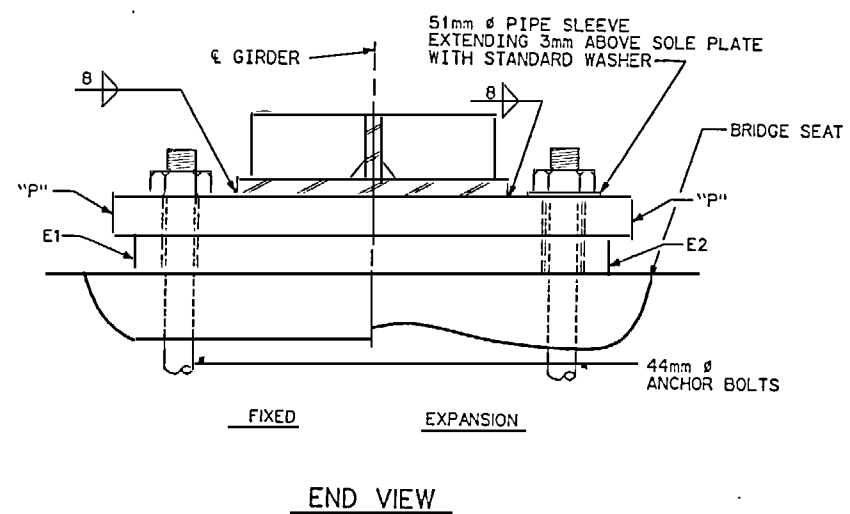
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**SUPERSTRUCTURE**  
**STRUCTURAL STEEL DETAILS**

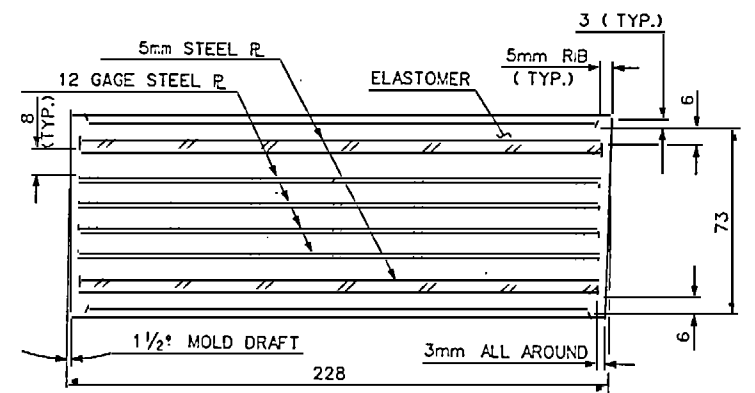
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
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DRAWING 12 OF 30

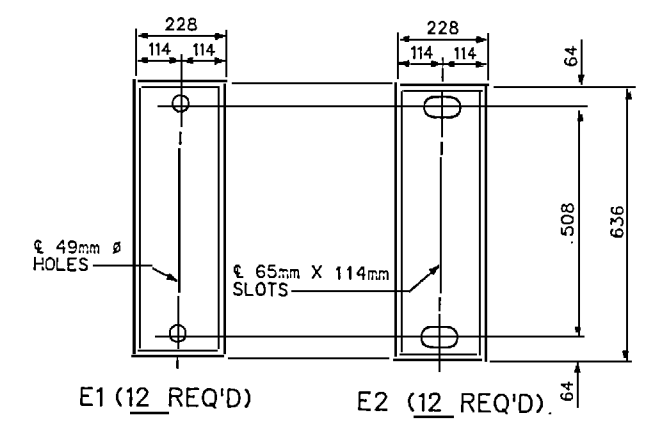
5-183  
358



END VIEW

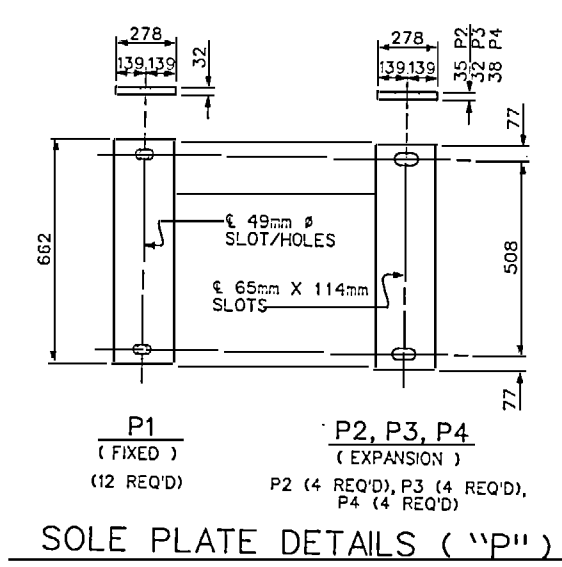


TYPICAL SECTION OF ELASTOMERIC BEARINGS



PLAN VIEW OF ELASTOMERIC BEARING

TYPE III



SOLE PLATE DETAILS ("P")

NOTES

FOR ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.  
 THE 51mm DIA. PIPE SLEEVE SHALL BE CUT FROM SCHEDULE 40 P.V.C. PLASTIC PIPE. THE P.V.C. PLASTIC PIPE SHALL MEET THE REQUIREMENTS OF A.S.T.M. D1785.  
 THE PAYMENT FOR THE PIPE SLEEVES SHALL BE INCLUDED IN THE SEVERAL PAY ITEMS.  
 FOR AASHTO M270 GRADE 345W STRUCTURAL STEEL, SOLE PLATE SHALL BE AASHTO M270 GRADE 345W AND SHALL NOT BE GALVANIZED, ANCHOR BOLTS AND NUTS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.  
 ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.  
 AT FIXED POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS SHALL 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.

-LOAD RATINGS-	
TYPE III	MAX.D.L.+ L.L. 640 kN

PROJECT NO. U-2525A  
 GUILFORD COUNTY  
 STATION: 3+592.663 -LREV- POC =  
 3+206.735 -Y2REV- POT



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 ELASTOMERIC BEARING  
 DETAILS  
 (STEEL SUPERSTRUCTURE)



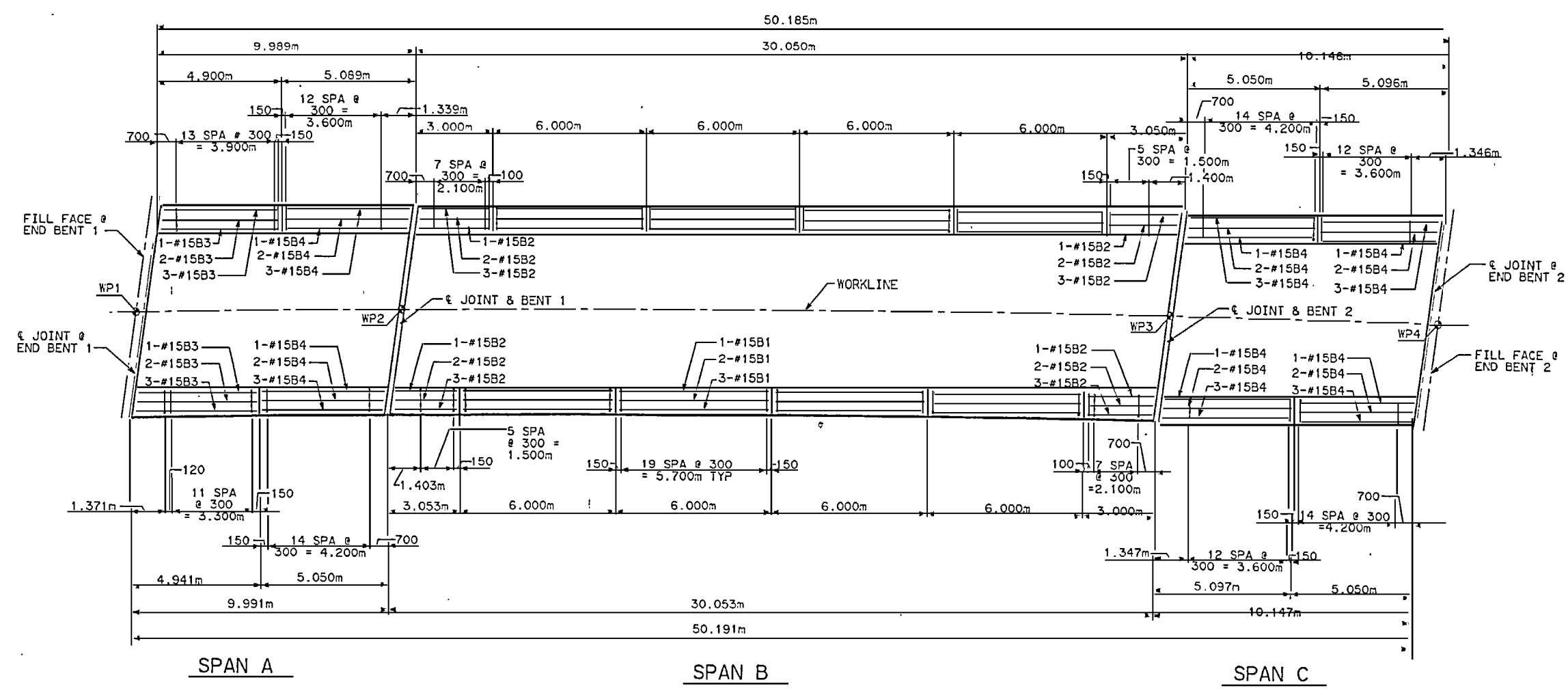
REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

DRAWING 13 OF 30

STD.No.EB1M

ASSEMBLED BY: MDM	DATE: 12/95	SPECIAL
CHECKED BY: SLH	DATE: 12/95	
RAWN BY: MIKE BRITT	DATE: NOV. 1987	STANDARD
CHECKED BY: RANDY BISSETTE	DATE: NOV. 1987	

REV. 10/1/93 ELR v(1) GRP  
 REV. 8/1/94 EEM v(1) GRP  
 REV. 6/16/95 EEM v(1) GRW  
 21 APR 97 12:04:28 IRELAND s:\01103607\cgn\elostbrg.std



NOTES:  
 ALL DIMENSIONS ALONG  
 OUTSIDE FACE OF RAIL.  
 SPACING SHOWN FOR #15S1  
 AND #15S2 BARS.  
 SPACING FOR 6.000m  
 SECTIONS ARE TYPICAL.  
 SEE "GUARDRAIL ANCHORAGE  
 FOR BARRIER RAIL" SHEET FOR  
 ANCHOR ASSEMBLY PLACEMENT  
 REFER TO STANDARD SHEET 2 OF 2  
 FOR ADDITIONAL REINFORCING  
 AND OTHER DETAILS.

SPAN A

SPAN B

SPAN C

PLAN

PROJECT NO. U-2525A  
 GUILFORD COUNTY  
 STATION: 3+592.663 -LREV- POC =  
 3+206.735 -Y2REV- POT

SHEET 1 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 PLAN  
 CONCRETE  
 BARRIER RAIL

REVISIONS					
NO	BY	DATE	NO	BY	DATE
1			3		
2			4		

DATE: 12/96  
 CHECKED BY: SLH

21 APR 97 12:05:15 IRELAND s:\01103607\dgn\brail.100

DRAWING 14 OF 30

5-185  
 358

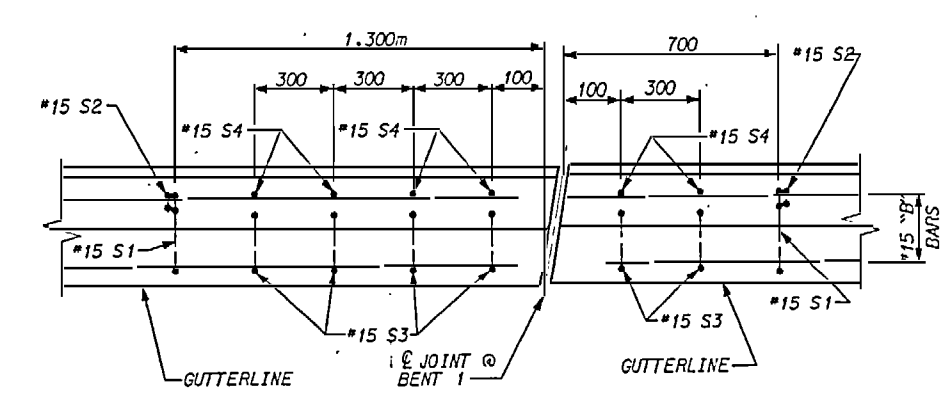
NOTES

THE BARRIER RAIL IN EACH SPAN SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THAT SPAN HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 21 MPa.

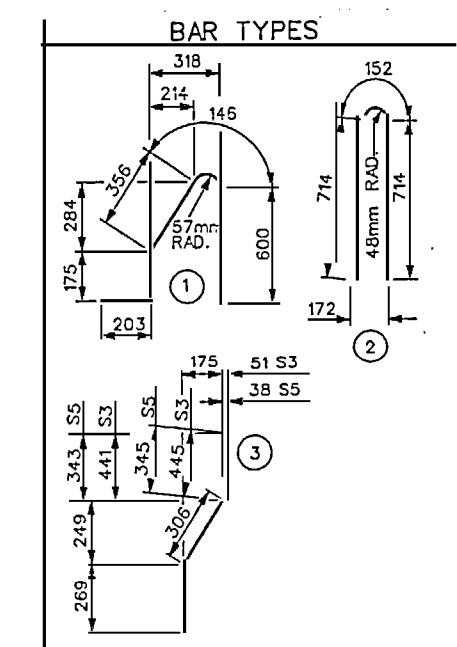
WHEN COMPRESSION JOINT SEAL OR EVAZOTE JOINT SEAL IS REQUIRED, THE JOINT IN THE DECK SHALL BE SAWSD PRIOR TO THE CASTING OF BARRIER RAIL.

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

THE #15S3 THRU #15S6 BARS SHALL BE INSTALLED, USING AN ADHESIVE ANCHORING SYSTEM, AFTER SAWING THE JOINT. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE SPECIAL PROVISIONS. THE YIELD LOAD FOR THE #15 S3 THRU #15 S6 BARS IS 82.7 KN. FIELD TESTING FOR THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.

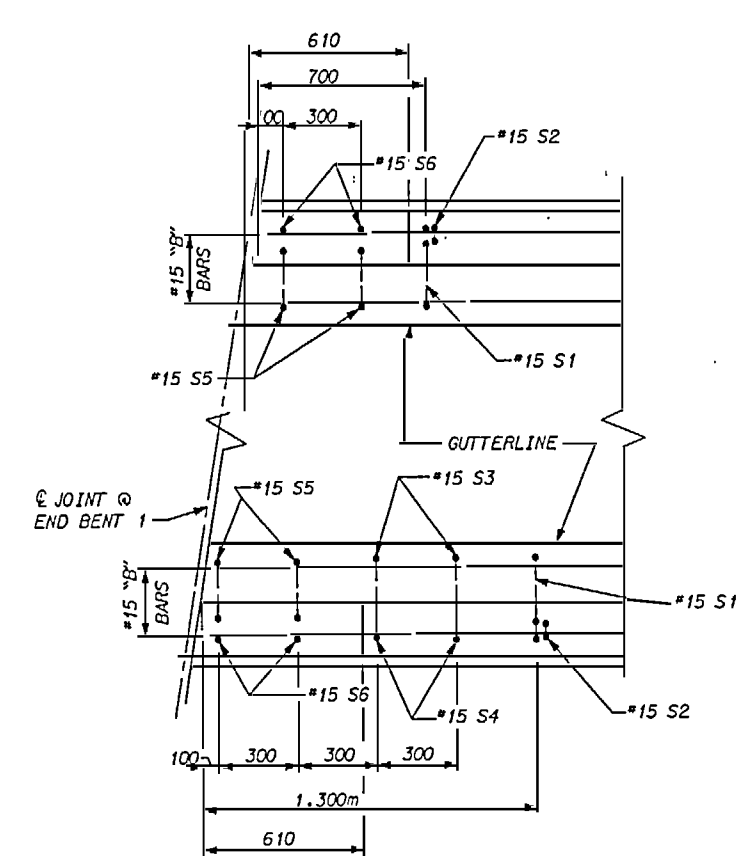


PLAN @ INT BENT 1  
(BENT 2 SIMILAR)

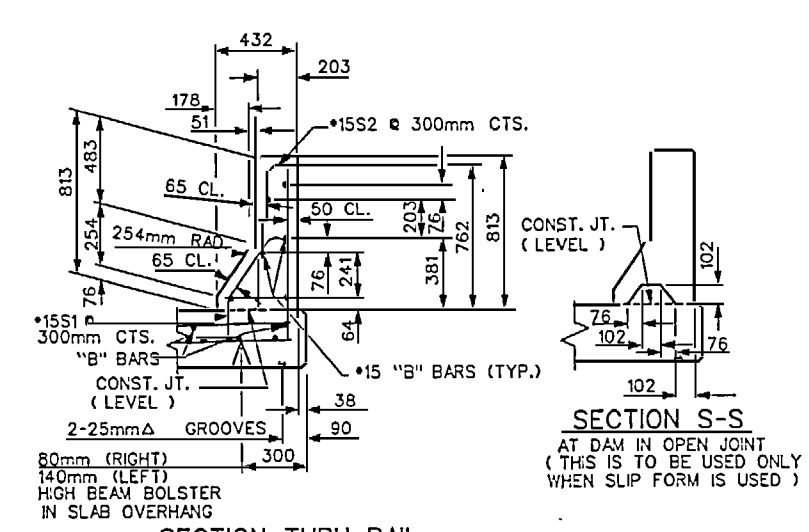


ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL					
FOR CONCRETE BARRIER RAIL ONLY					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	302	#15	1	1480	702
S2	302	#15	2	1580	749
S3	28	#15	3	1020	45
S4	28	#15	STR	960	42
S5	8	#15	3	920	12
S6	8	#15	STR	840	11
B1	48	#15	STR	5900	445
B2	24	#15	STR	2900	109
B3	12	#15	STR	4800	90
B4	36	#15	STR	4940	279
EPOXY COATED REINFORCING STEEL				2484	kg
CLASS AA CONCRETE				23.0	CU. METER
CONCRETE BARRIER RAIL				100.376	LIN. METER

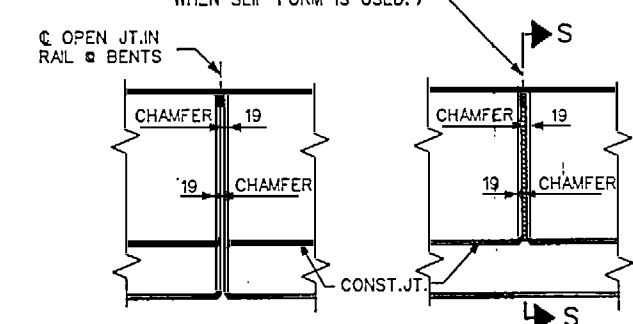


PLAN @ END BENT 1  
END BENT 2 SIMILAR

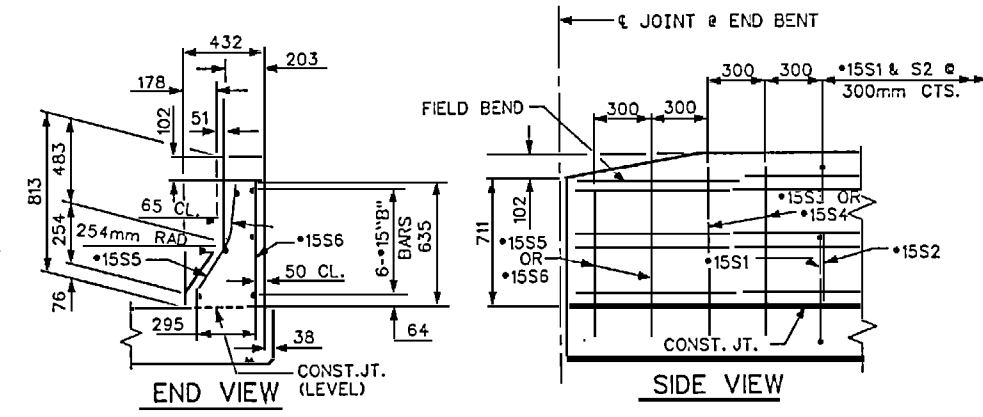


SECTION THRU RAIL

© 13mm EXP. JT. MAT'L HELD IN PLACE WITH GALVANIZED NAILS.  
(NOTE: OMIT EXP. JT. MAT'L WHEN SLIP FORM IS USED.)



ELEVATION AT EXPANSION JOINTS  
BARRIER RAIL DETAILS



BARRIER RAIL - END OF RAIL DETAILS

PROJECT NO. U-2525A  
GUILFORD COUNTY  
STATION: 3+592.663 -LREV- POC =  
3+206.735 -Y2REV- POT  
SHEET 2 OF 2

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
STANDARD  
CONCRETE  
BARRIER RAIL

ASSEMBLED BY: MDM	DATE: 12/95	SPECIAL
CHECKED BY: SLH	DATE: 12/95	
DRAWN BY: R. BISSETTE	DATE: 5/28/87	STANDARD
CHECKED BY: S.J. DAVIS	DATE: 9/3/87	

REV. 10/1/93 ELR (1) GRP  
REV. 6/1/84 EEM (1) GRP  
REV. 6/15/95 EEM (1) RGW

21 APR 97 12:08:02 IRELAND #01103507\cgr\cbrkm.dwg



DRAWING 15 OF 30

REVISIONS						SHEET NO 5-186
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 358
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CBR1M

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF THE FOLLOWING COMPONENTS :

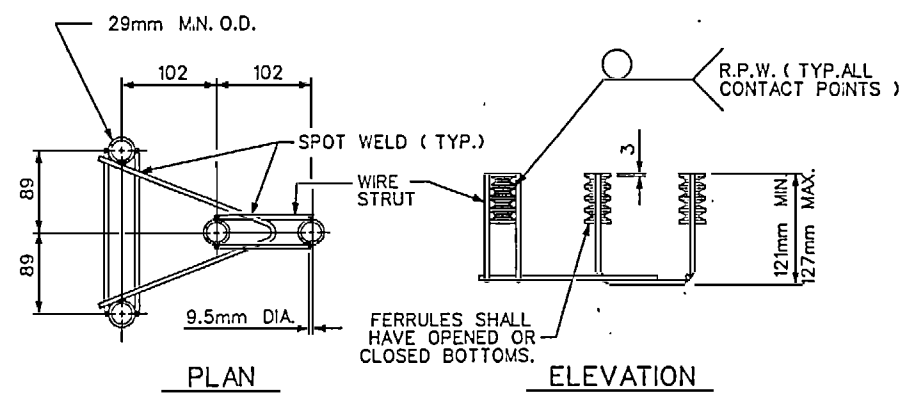
- A. FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF ASTM A108, GRADE 12L14 AND SHALL HAVE A MINIMUM LENGTH OF THREADS OF 38mm.
- B. 4 - 22.2mm DIA X 70mm BOLTS WITH WASHERS FOR GUARDRAIL ANCHOR ASSEMBLY SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. BOLTS AND WASHERS SHALL BE GALVANIZED. ( AT THE CONTRACTORS OPTION, STAINLESS STEEL BOLTS WITH WASHERS MAY BE USED AS AN ALTERNATE FOR THE 22.2mm DIA X 70mm 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.)
- C. WIRE STRUTS SHOWN IN THE ANCHOR ASSEMBLY ARE THE MINIMUM ALLOWABLE SIZE AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 689 MPa.

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

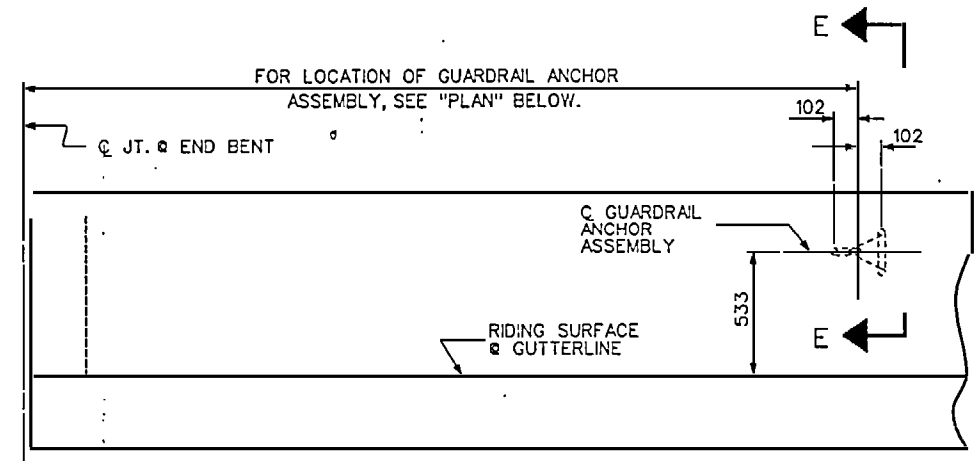
THE COST OF THE GUARDRAIL ANCHOR ASSEMBLIES WITH BOLTS AND WASHERS COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR CONCRETE BARRIER RAIL.

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.

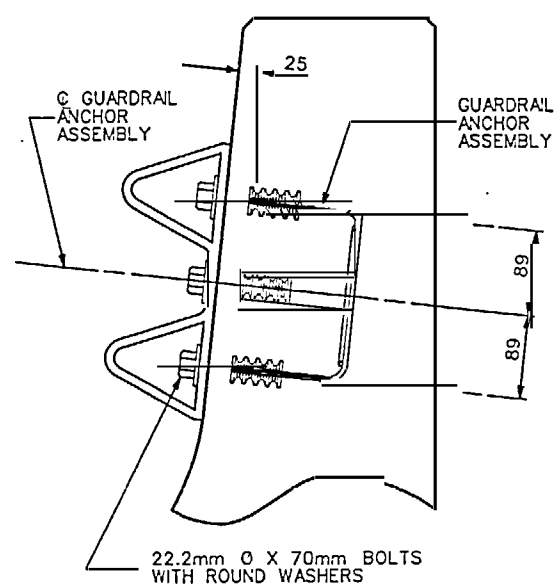
THE CONTRACTOR MAY, AT HIS OPTION, USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF GUARDRAIL ANCHOR ASSEMBLY. SEE SPECIAL PROVISIONS FOR "ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS". THE YIELD LOAD OF THE 22.2mm DIA BOLT IS 73.8 kN. FIELD TESTING OF THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.



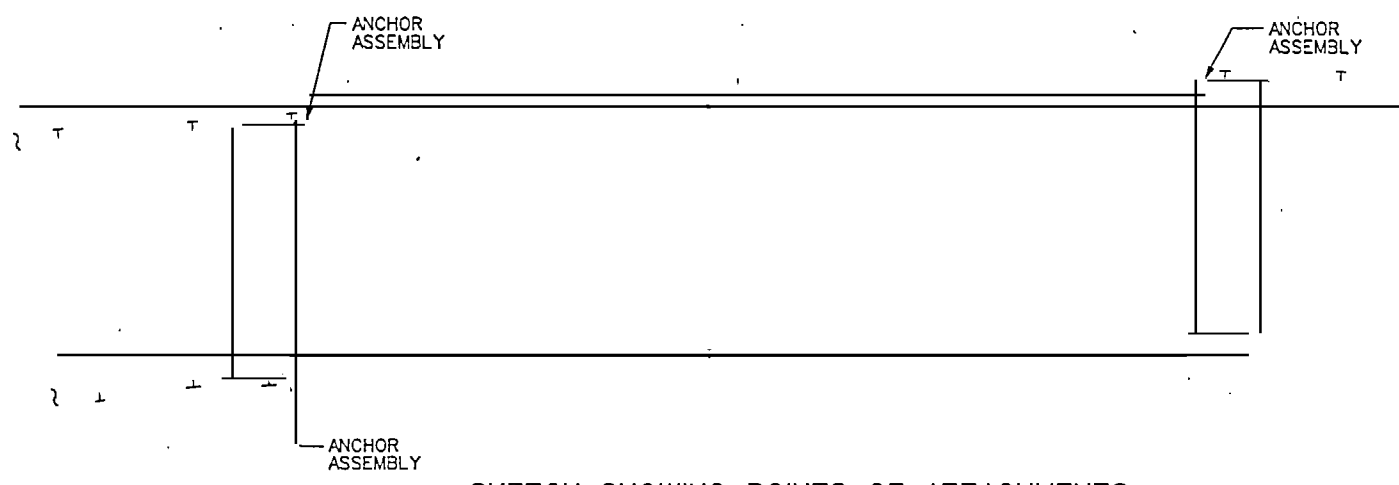
GUARDRAIL ANCHOR ASSEMBLY



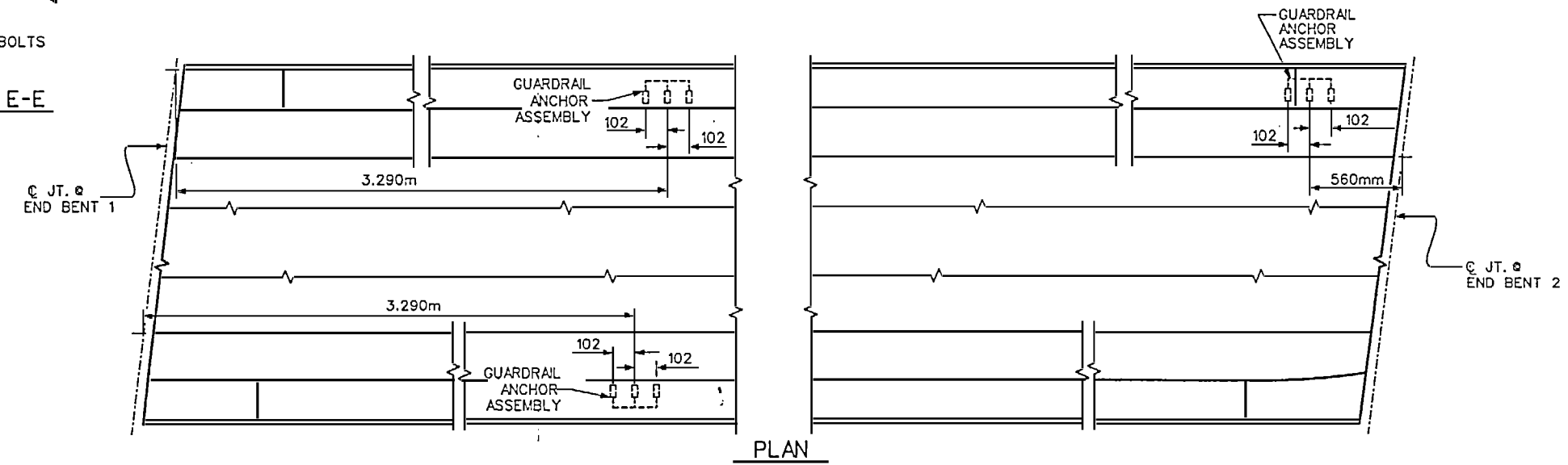
ELEVATION  
ELEVATION AT .25 TO 1



SECTION E-E



SKETCH SHOWING POINTS OF ATTACHMENTS



LOCATION OF ANCHORS FOR GUARDRAIL

ASSEMBLED BY : CEM	DATE : 12/95	SPECIAL
CHECKED BY : SLH	DATE : 12/95	
DRAWN BY : MIKE BRITT	DATE : DEC.1997	STANDARD
CHECKED BY : RANDY BISSETTE	DATE : DEC.1997	

REV. 10/1/93 ELR v(1) GRP 21 APR 97 12-06:30 IRELAND  
REV. 6/1/94 EEM v(1) GRP



PROJECT NO. U-2525A  
GUILFORD COUNTY  
STATION: 3+592.663 -LREV- POC =  
3+206.735 -Y2REV- POT

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
STANDARD  
GUARDRAIL ANCHORAGE  
FOR BARRIER RAIL

REVISIONS						SHEET NO. S-187
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTALS 358
2			4			

DRAWING 16 OF 30

STD.No. GRA1M

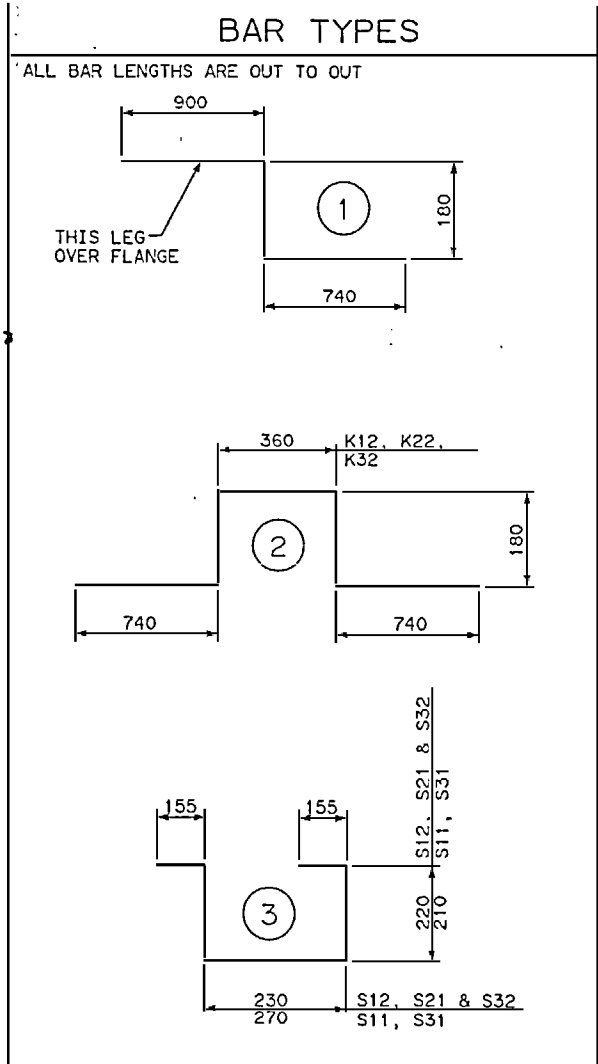


### REINFORCING BAR SCHEDULE

SPAN "A"					SPAN "B"					SPAN "C"															
BAR	NO	SIZE	TYPE	LENGTH	MASS	BAR	NO	SIZE	TYPE	LENGTH	MASS	BAR	NO	SIZE	TYPE	LENGTH	MASS	BAR	NO	SIZE	TYPE	LENGTH	MASS		
A1001	46	15	STR	8040	581	A2001	152	15	STR	8040	1919	A3001	48	15	STR	8040	606								
A1003	6	15	STR	1340	13	A2003	8	15	STR	1740	22	A3003	8	15	STR	2440	31								
A1005	2	15	STR	3300	10	A2005	2	15	STR	4360	14	A3005	2	15	STR	5480	17								
A1007	2	15	STR	4580	14	A2007	2	15	STR	5820	18	A3007	2	15	STR	7180	23								
A1009	2	15	STR	5860	18	A2009	2	15	STR	7280	23														
A1011	2	15	STR	7160	22							B31	27	15	STR	10020	425								
						B21	27	15	STR	18000	763														
B11	27	15	STR	9860	418	B23	27	15	STR	12600	534														
TOTAL					1076	TOTAL					3293	TOTAL					1102								

SPAN "A" (EPOXY COATED)					SPAN "B" (EPOXY COATED)					SPAN "C" (EPOXY COATED)															
BAR	NO	SIZE	TYPE	LENGTH	MASS	BAR	NO	SIZE	TYPE	LENGTH	MASS	BAR	NO	SIZE	TYPE	LENGTH	MASS	BAR	NO	SIZE	TYPE	LENGTH	MASS		
A1002	46	15	STR	8040	581	A2002	152	15	STR	8040	1919	A3002	48	15	STR	8040	606								
A1004	6	15	STR	1340	13	A2004	8	15	STR	1740	22	A3004	8	15	STR	2440	31								
A1006	2	15	STR	3300	10	A2006	2	15	STR	4360	14	A3006	2	15	STR	5480	17								
A1008	2	15	STR	4580	14	A2008	2	15	STR	5820	18	A3008	2	15	STR	7180	23								
A1010	2	15	STR	5860	18	A2010	2	15	STR	7280	23														
A1012	2	15	STR	7160	22							B32	25	10	STR	9000	177								
						B22	75	10	STR	9000	530	B34	25	10	STR	1540	30								
B12	25	10	STR	9000	177	B24	25	10	STR	4500	88														
B14	25	10	STR	1380	27							G31	2	15	STR	8080	25								
						G21	2	15	STR	8180	26														
G11	2	15	STR	8120	25							K31	12	15	1	1820	34								
						K21	12	15	1	1820	34	K32	12	15	2	2200	41								
K11	12	15	1	1820	34	K22	12	15	2	2200	41	K33	18	15	STR	1840	52								
K12	12	15	2	2200	41	K23	18	15	STR	1840	52														
K13	18	15	STR	1840	52							S31	21	10	3	1000	16								
						S21	42	10	3	980	32	S32	21	10	3	980	16								
S11	21	10	3	1000	16																				
S12	21	10	3	980	16																				
TOTAL					1046	TOTAL					2799	TOTAL					1068								



#### GROOVING BRIDGE FLOORS

BRIDGE	313.1 M2
APPR. SLAB	0.0 M2
TOTAL	313.1 M2

PROJECT NO. U-2525A  
 GUILFORD COUNTY  
 STATION: 3+592.663 -LREV- POC =  
 3+206.735 -Y2REV- POT

SHEET 1 OF 1

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 Post Office Box 33068  
 Raleigh, North Carolina 27636

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 SUPERSTRUCTURE  
 BILL OF MATERIAL

#### STRUCTURE BILL OF MATERIAL

	CLASS A-A CONCRETE (CU. METERS)	REINFORCING STEEL (KGS.)	EPOXY COATED REINFORCING STEEL (KGS.)
SPAN "A"	19.8	1076	1046
SPAN "B"	55.3	3293	2799
SPAN "C"	20.1	1102	1068
TOTALS **	98.2	5471	4913

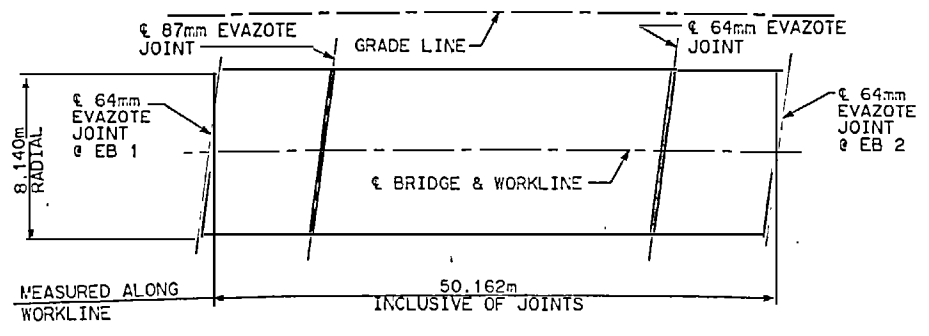
RTW  
 10-11-02

PROFESSIONAL ENGINEER  
 SEAL 21983 SH  
 STEPHANIE L. HARRIS



SUPERSTRUCTURE REINFORCING STEEL LENGTHS ARE BASED ON THE FOLLOWING MINIMUM SPLICE LENGTHS

BAR SIZE	SUPERSTRUCTURE EXCEPT APPROACH SLABS, PARAPET AND BARRIER RAIL		VOID APPROACH SLABS		PARAPET AND BARRIER RAIL
	EPOXY COATED	UNCOATED	EPOXY COATED	UNCOATED	
#10	520	450	520	450	720
#15	730	640	730	640	1 020
#20	910	790	1 190	790	1 350
#25	1 980	1 320	1 980	1 320	2 240



LAYOUT FOR COMPUTING AREA OF REINFORCED CONCRETE DECK SLAB  
 ( SQUARE METERS = 408.319)

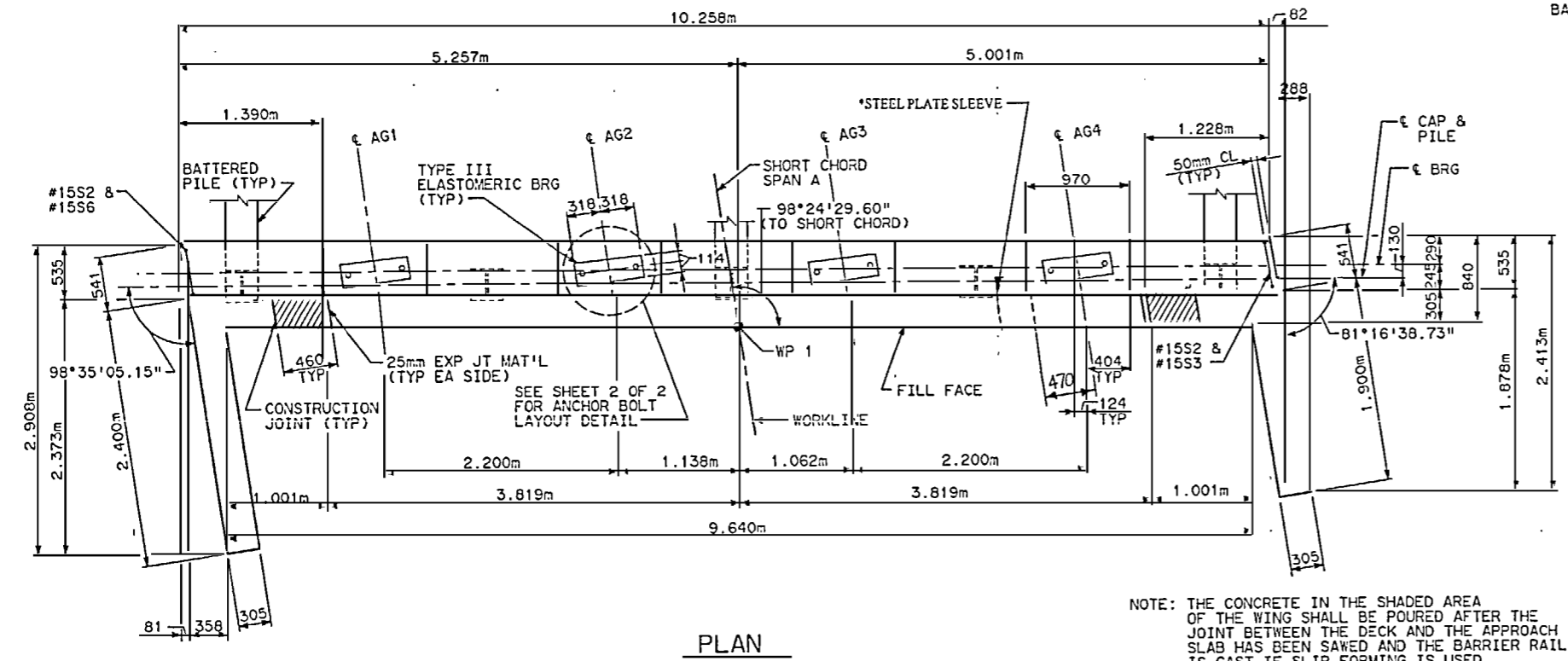
\*\* QUANTITIES FOR BARRIER RAIL ARE NOT INCLUDED

DRAWING 17 OF 30

#### REVISIONS

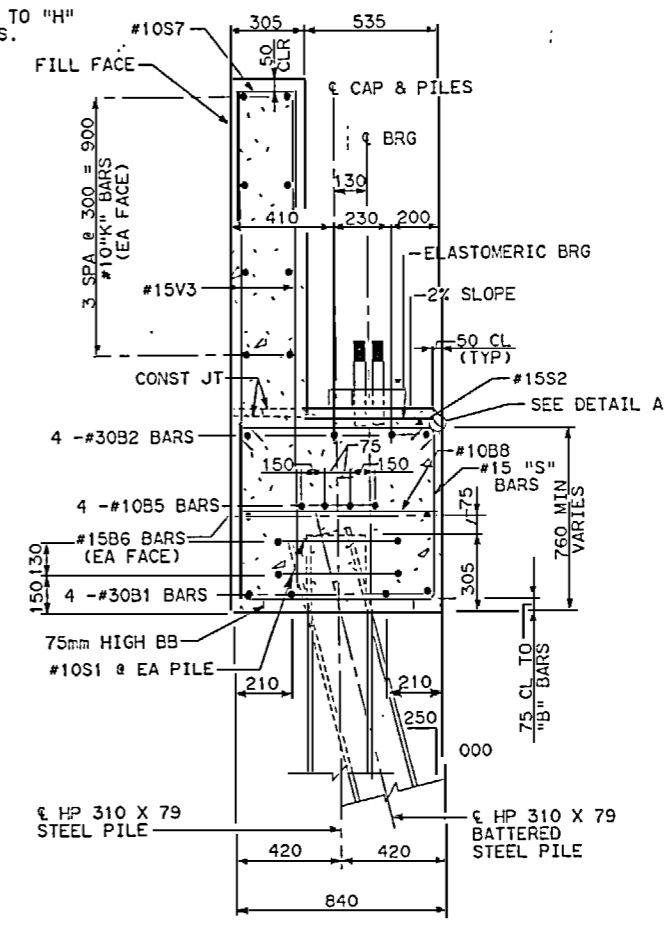
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

NOTE:  
MATCH "K" BARS TO "H"  
BARS FROM WINGS.



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

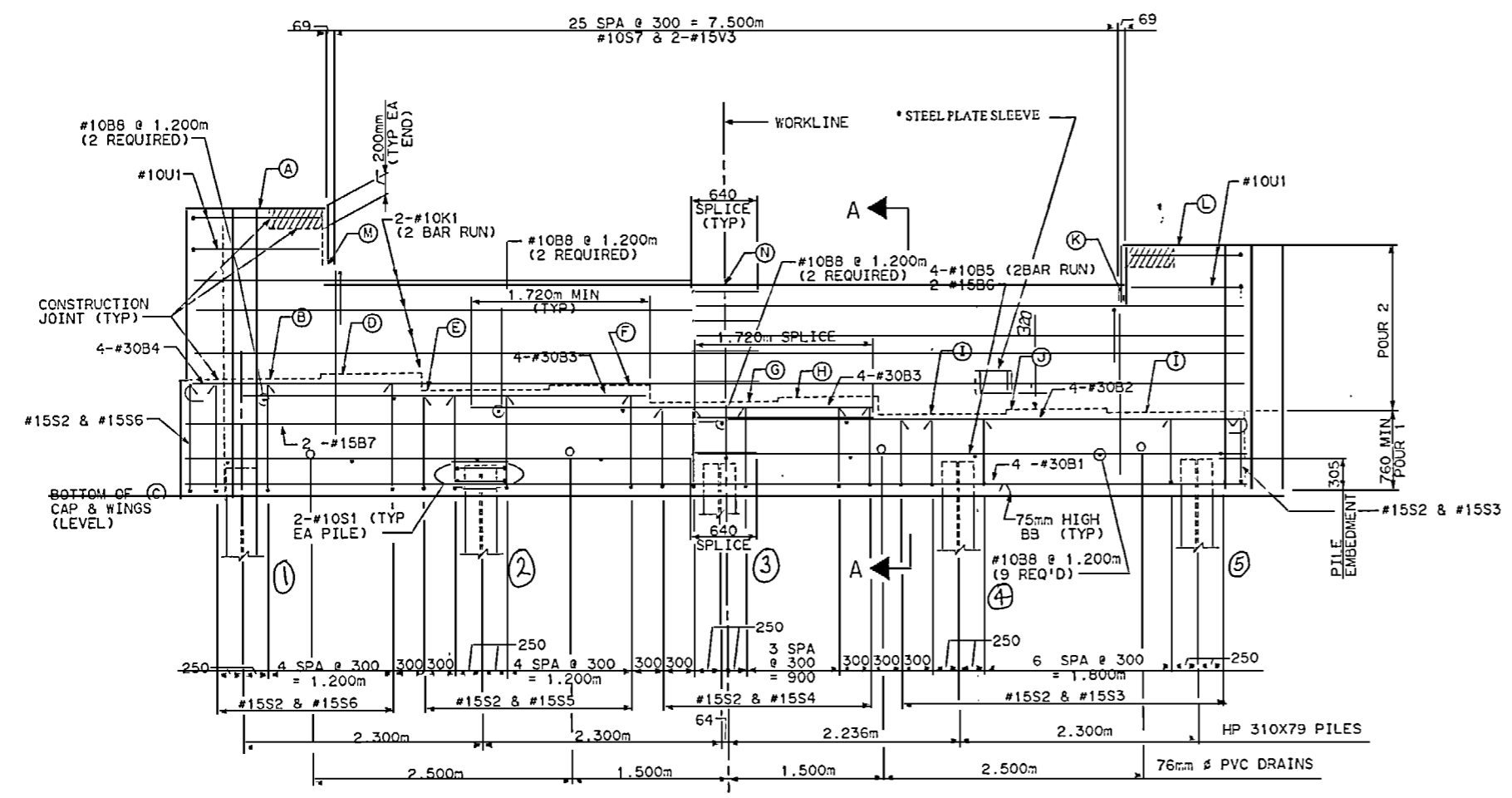
\* SEE PLANS AND SPECIAL PROVISIONS TITLED "ELECTRICAL CONDUIT SYSTEM" FOR MATERIALS, CONSTRUCTION METHODS, AND PAYMENT.



\* ELEVATIONS BETWEEN BRIDGE SEAT BUILD UPS ARE SHOWN @ THIS POINT

DETAIL A

HP 310 x 79 STEEL PILES	
NO.	LENGTH
1	12.32 ✓
2	13.05 ✓
3	13.47 ✓
4	11.95 ✓
5	12.46 ✓

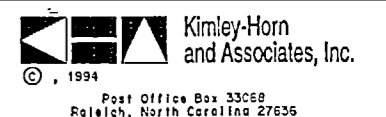


NOTE:  
ELEVATIONS ALONG BACKWALL ARE SHOWN @ FILL FACE.

ELEVATION TABLE	
(A)	239.007
(B)	237.349
(C)	236.191
(D)	237.389
(E)	237.217
(F)	237.257
(G)	237.084
(H)	237.124
(I)	236.951
(J)	236.991
(K)	238.005
(L)	238.565
(M)	238.444
(N)	238.225

PROJECT No. U-2525A  
GUILFORD COUNTY  
STATION: 3+592.663 -LREV- POC =  
3+208.735 -Y2REV- POT

SHEET 1 OF 2



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
SUBSTRUCTURE  
END BENT 1

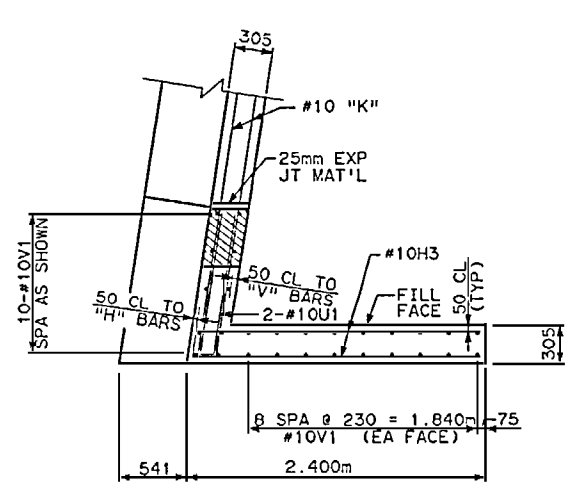


REVISIONS						SHEET NO. S-189
NO.	BY	DATE	NO.	BY	DATE	
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2			4			

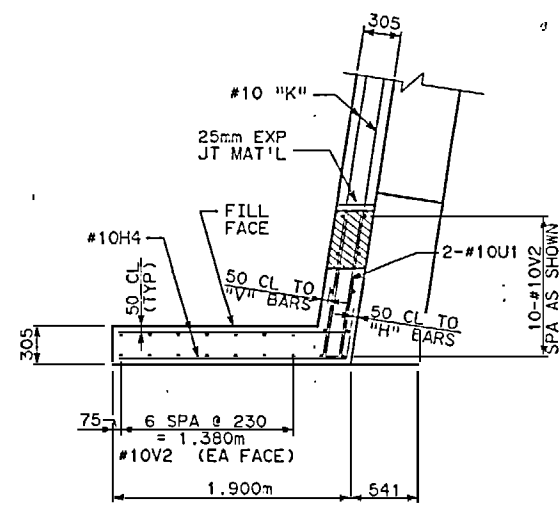
DRAWING 18 OF 30

DESIGNED BY: MDW DATE: 12/96  
CHECKED BY: SLH DATE: 12/96

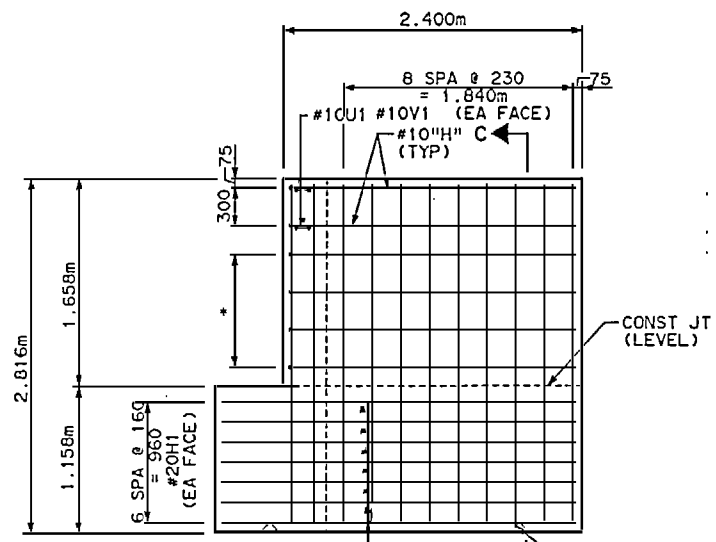
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10-11-02



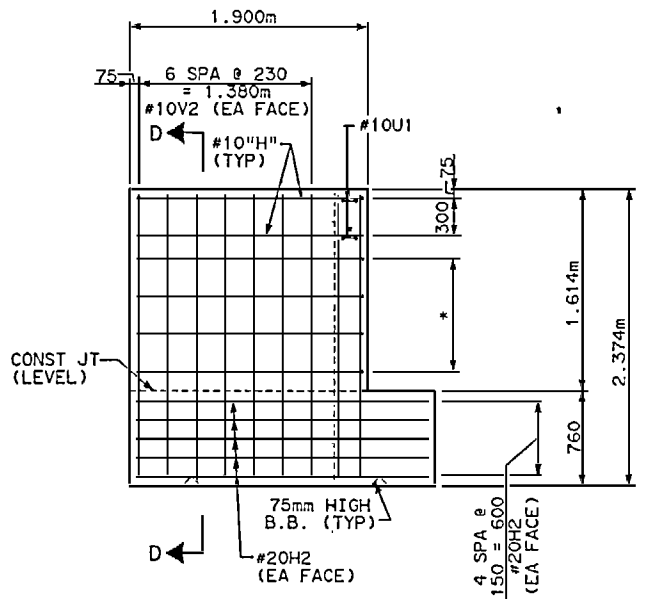
PLAN OF LEFT WING



PLAN OF RIGHT WING

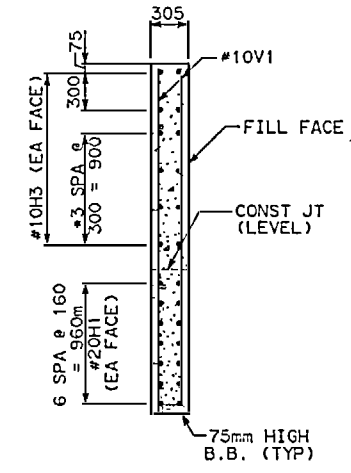


ELEVATION LEFT WING

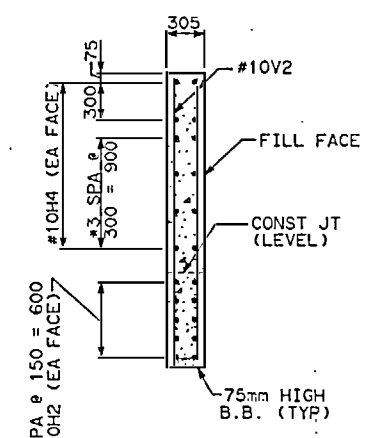


ELEVATION RIGHT WING

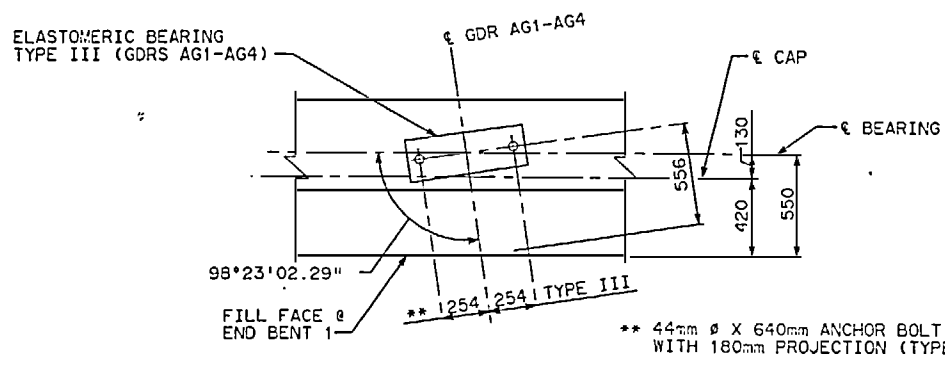
\* MATCH THESE BARS TO THE "K" BARS IN THE BACKWALL



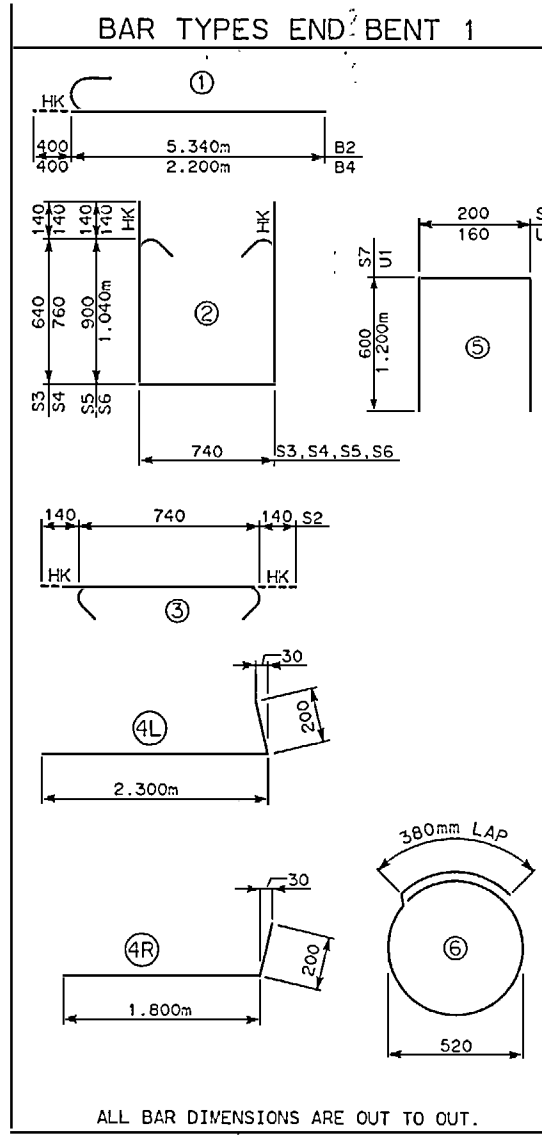
SECTION C-C



SECTION D-D



ANCHOR BOLT LAYOUT DETAIL - END BENT 1



END BENT 1					
BAR NO	SIZE	TYPE	LENGTH	WEIGHT	
B1	4	30	STR	10140	223
B2	4	30	1	5740	126
B3	8	30	STR	3880	171
B4	4	30	1	2600	57
B5	8	10	STR	5400	34
B6	2	15	STR	10140	32
B7	2	15	STR	6520	20
B8	15	10	STR	740	9
S1	10	10	6	2020	16
S2	32	15	3	1020	51
S3	11	15	2	2300	40
S4	7	15	2	2540	28
S5	7	15	2	2920	31
S6	7	15	2	3100	34
S7	26	10	5	1400	29
K1	16	10	STR	5420	68
V1	28	10	STR	2680	59
V2	24	10	STR	2240	42
V3	52	15	STR	1680	137
U1	4	10	5	2560	8
H1	14	20	STR	2840	94
H2	10	20	STR	2340	55
H3	12	10	4L	2500	24
H4	12	10	4R	2000	19

REINFORCING STEEL - K<sub>a</sub> - 1406

CLASS A CONCRETE BREAKDOWN:

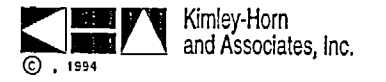
POUR #1	m <sup>3</sup>	9.3
POUR #2	m <sup>3</sup>	5.7
TOTAL CLASS A CONCRETE	m <sup>3</sup>	15.0

HP 310 x 79 STEEL PILES

NO.	5
TOTAL LENGTH	m 65

PROJECT No. U-2525A  
 GUILFORD COUNTY  
 STATION: 3+592.663 -LREV- POC =  
 3+206.735 -Y2REV- POT

SHEET 2 OF 2



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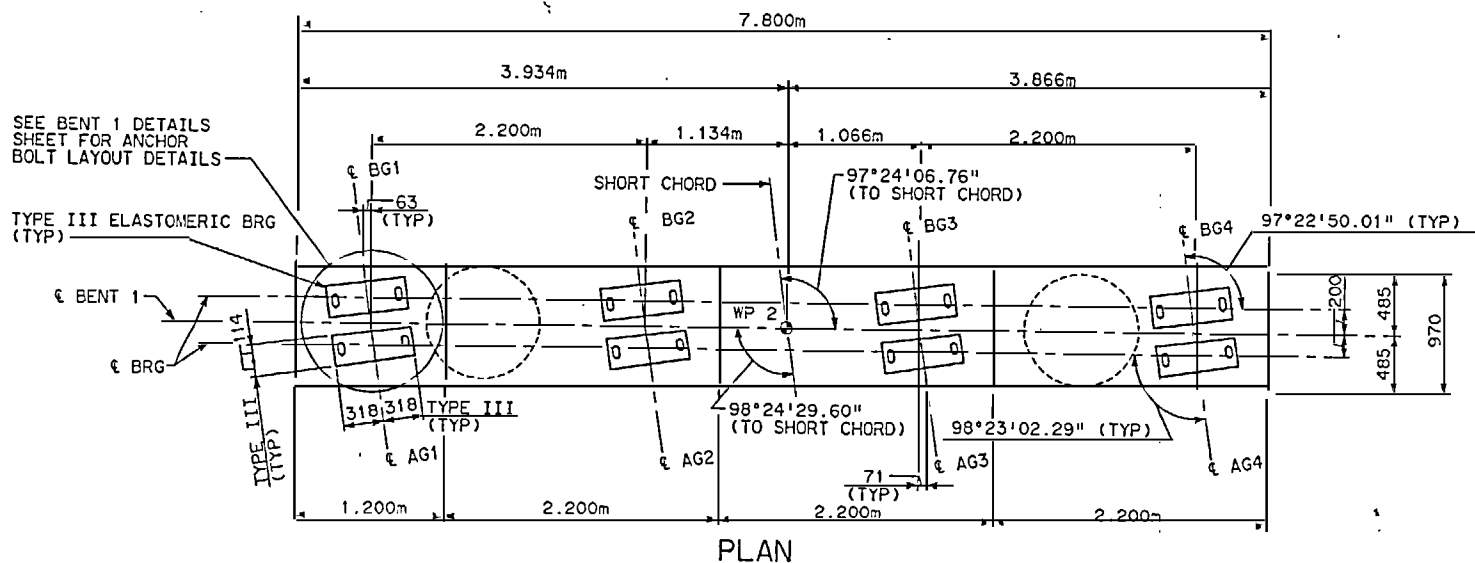


STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

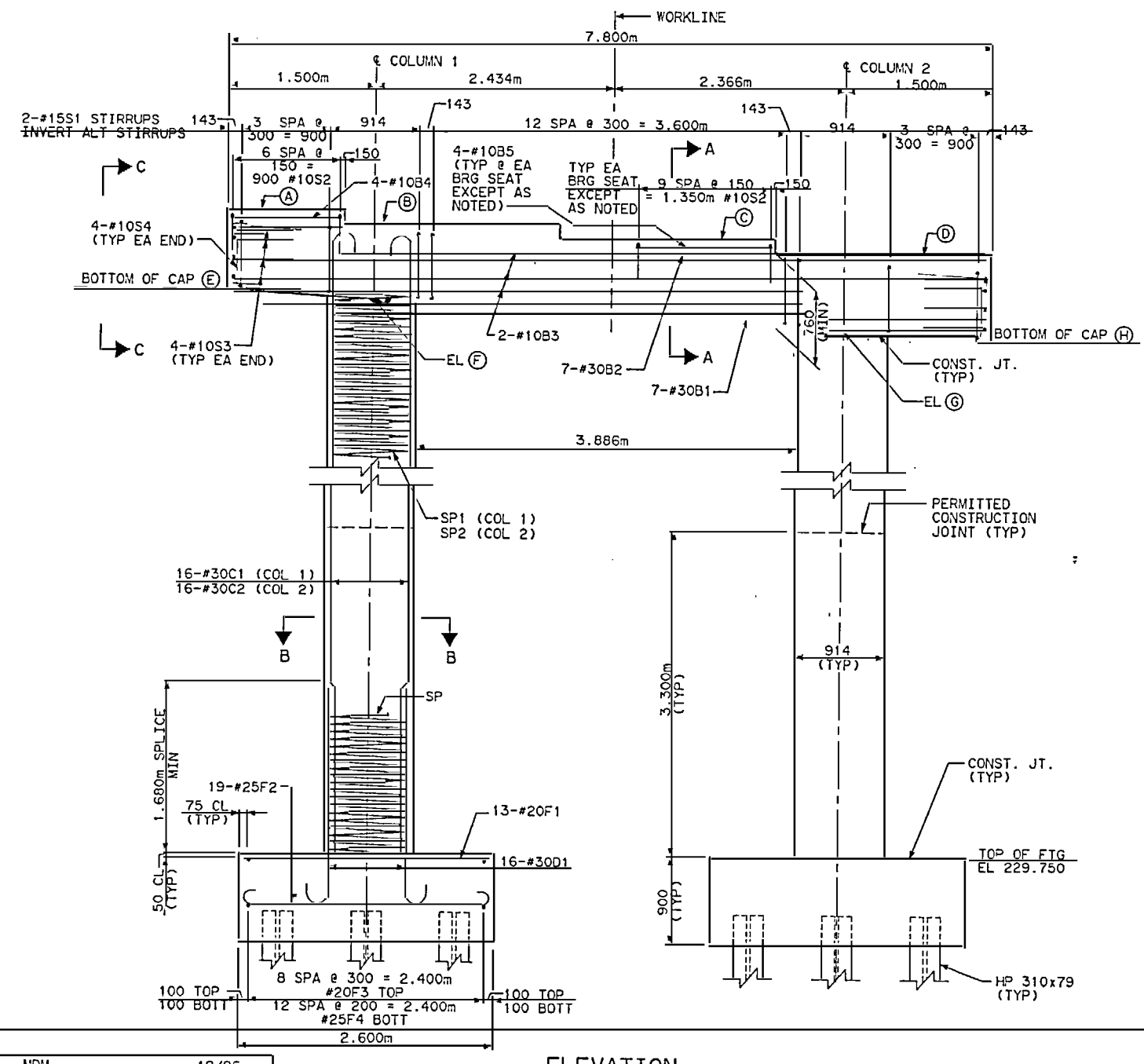
SUBSTRUCTURE  
 END BENT 1

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

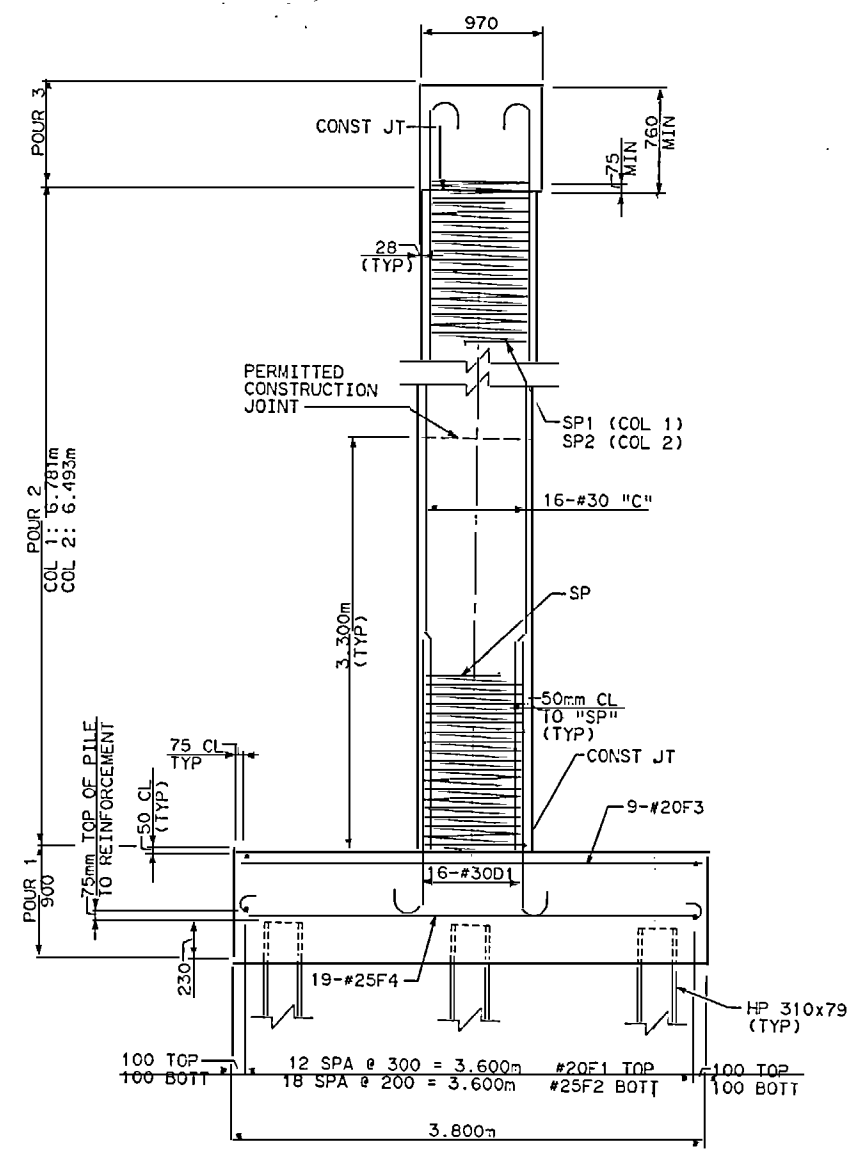
DRAWING 19 OF 30



PLAN



ELEVATION



END ELEVATION

ELEVATION	EL
(A)	237.442
(B)	237.310
(C)	237.177
(D)	237.045
(E)	236.621
(F)	236.531
(G)	236.243
(H)	236.153

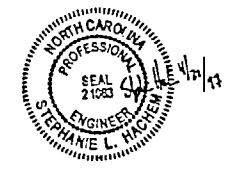
NOTES:  
 STIRRUPS IN THE CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.  
 REINFORCING STEEL SHALL HAVE 50mm COVER UNLESS OTHERWISE NOTED.  
 FOR SPIRAL COLUMN REINFORCING STEEL, SEE SPECIAL PROVISIONS.  
 FOR SECTIONS AND VIEWS SEE BENT 1 DETAILS SHEET.  
 FOR BAR LIST AND QUANTITIES SEE BENT 1 DETAILS SHEET.  
 HOOKS ON "C" BARS MAY BE TURNED AS NECESSARY TO CLEAR REINFORCING STEEL IN CAP.  
 FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.  
 THE TOP SURFACE AREAS OF THE BENT CAPS SHALL BE CURED IN ACCORDANCE WITH STANDARD SPECIFICATIONS EXCEPT THAT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.  
 AT THE CONTRACTOR'S OPTION, BENTS 1 AND 2 MAY BE CONSTRUCTED PRIOR TO PLACING THE FILL. FILL SHALL BE PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 410-9 OF THE STANDARD SPECIFICATIONS.  
 FOR PILE SPlice DETAILS SEE END BENT DETAILS SHEET.

PROJECT No. U-2525A  
 GUILFORD COUNTY  
 STATION: 3+592.663 -LREV- POC =  
 3+206.735 -Y2REV- POT

SHEET 1 OF 2

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 Raleigh, North Carolina 27626

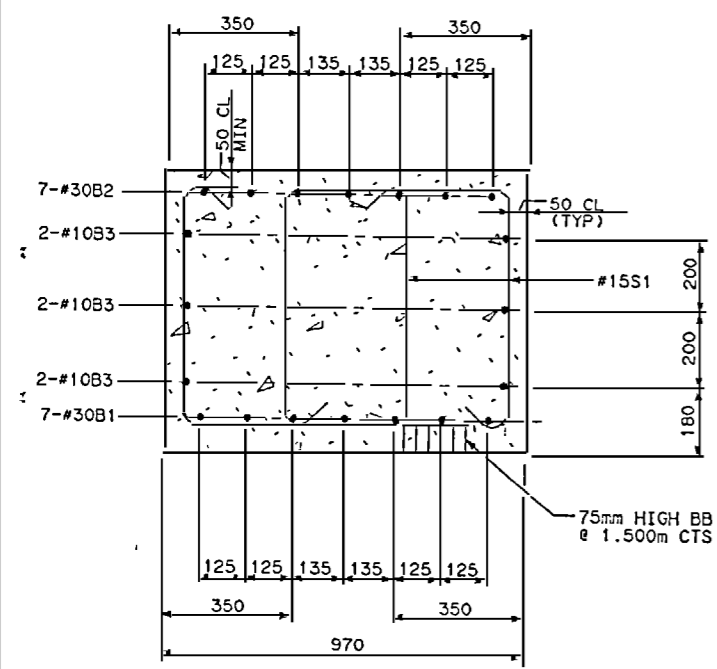
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUBSTRUCTURE  
 BENT 1



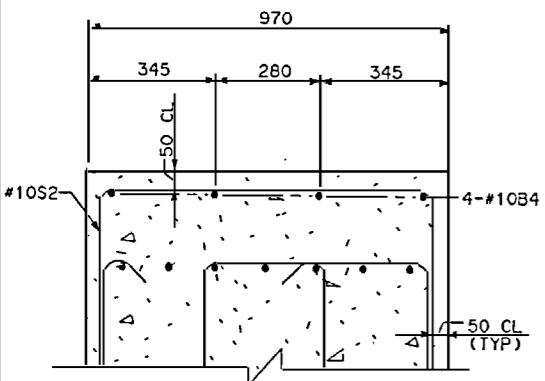
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DRAWING 20 OF 30

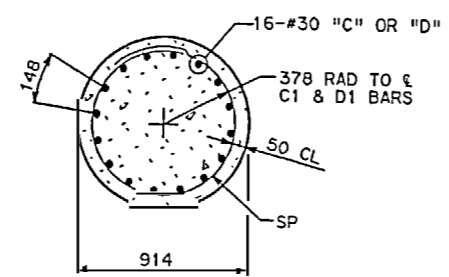
REVISIONS						SHEET NO. S-191
NO.	BY	DATE	NO.	BY	DATE	
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2			4			



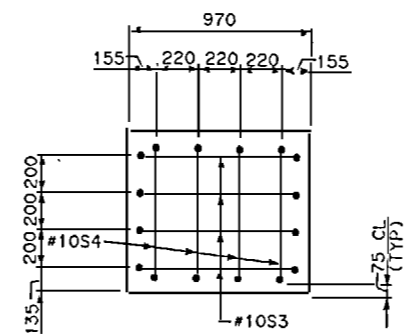
SECTION A-A



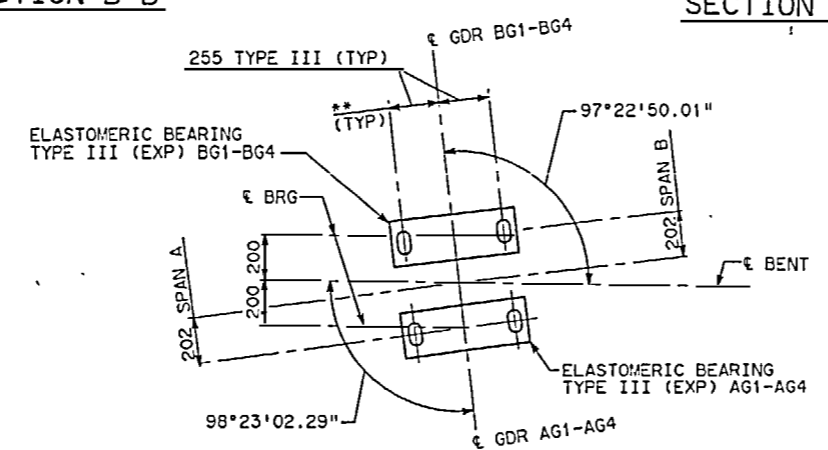
SECTION THRU BEARING



SECTION B-B

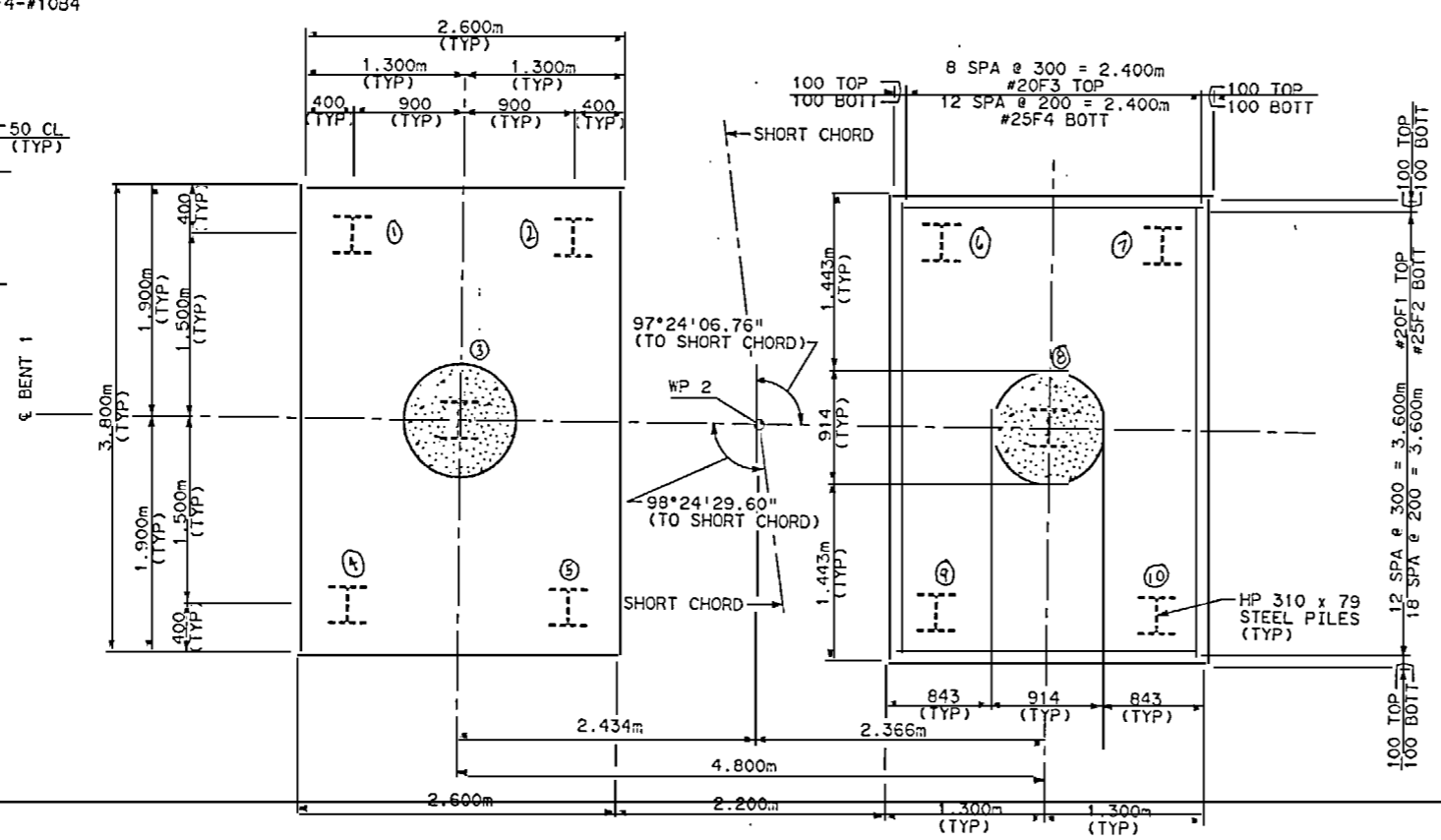


SECTION C-C

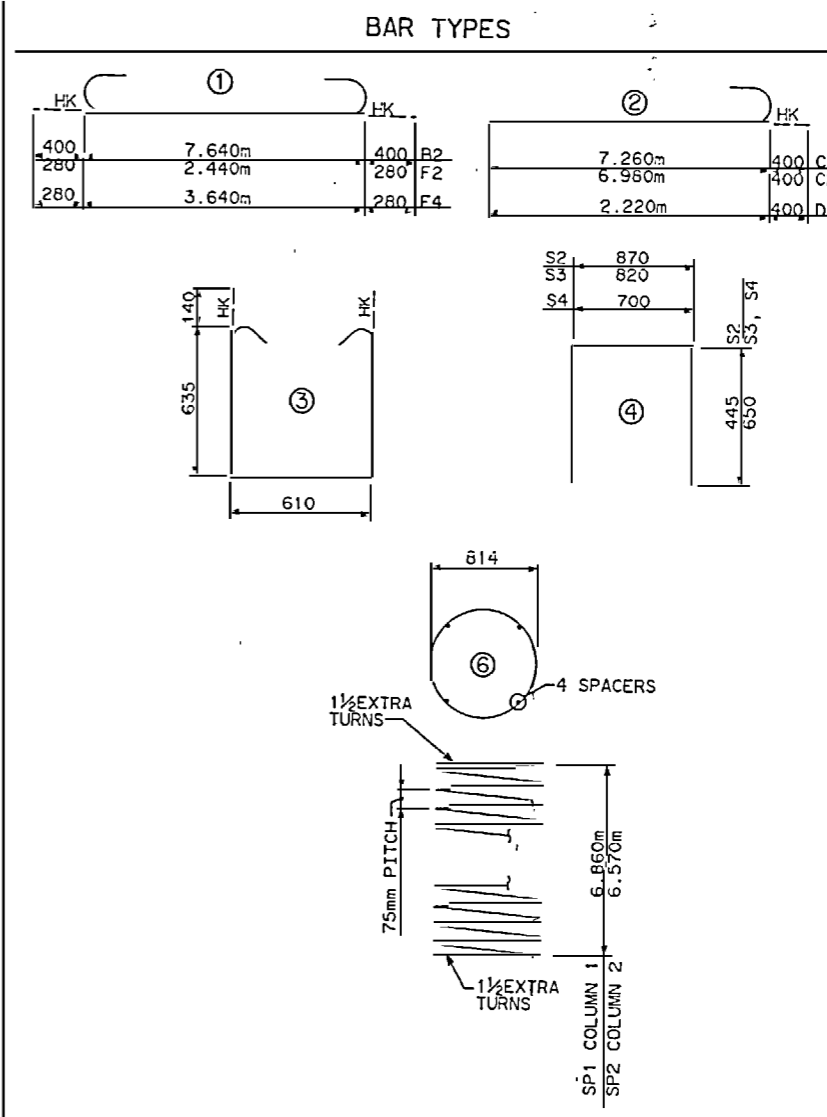


ANCHOR BOLT LAYOUT DETAIL

\*\* 44mm Ø x 640mm ANCHOR BOLT WITH 160mm PROJECTION (TYPE III)



FOUNDATION PLAN



BAR TYPES

BENT 1		BAR NO	SIZE	TYPE	LENGTH	WEIGHT
B1	7	30	STR	7640	294	
B2	7	30	1	8440	326	
B3	6	10	STR	7640	76	
B4	4	10	STR	1000	3	
B5	12	10	STR	1400	13	
C1	6	30	2	7660	673	
C2	16	30	2	7380	649	
D1	32	30	2	2620	461	
F1	26	20	STR	2440	149	
F2	38	25	1	3000	447	
F3	18	20	STR	3640	154	
F4	26	25	1	4200	429	
S1	46	15	3	2160	156	
S2	37	10	4	1760	51	
S3	8	10	4	2120	13	
S4	8	10	4	2000	13	
REINFORCING STEEL - Kg 3857						
SPT	-	-	-	238400	187	
SP2	-	-	-	228700	180	
SPIRAL COLUMN REINFORCING STEEL - Kg 367						
CLASS A CONCRETE BREAKDOWN						
POUR #1	-	m <sup>3</sup>	-	17.8		
POUR #2	-	m <sup>3</sup>	-	8.7		
POUR #3	-	m <sup>3</sup>	-	6.3		
TOTAL CLASS A CONCRETE - m <sup>3</sup> - 32.8						
HP 310x79 STEEL PILES						
						NO. 10
						TOTAL LENGTH m 60

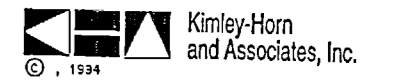
HP 310 x 79 STEEL PILES

No.	LENGTH
1	4.66 4.70 ✓
2	2.94 5.52 ✓
3	5.22 4.92 ✓
4	4.44 4.79 ✓
5	5.39 5.39 ✓
6	4.65 5.66 ✓
7	4.74 5.53 ✓
8	5.00 5.94 ✓
9	6.04 5.26 ✓
10	5.46 5.25 ✓

ALL BAR DIMENSIONS ARE OUT TO OUT.

PROJECT No. U-2525A  
 GUILFORD COUNTY  
 STATION: 3+592.663 - LREV - POC =  
 3+206.735 - Y2REV - POT

SHEET 2 OF 2



Post Office Box 33069  
 Raleigh, North Carolina 27635



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUBSTRUCTURE  
 BENT 1 DETAILS



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

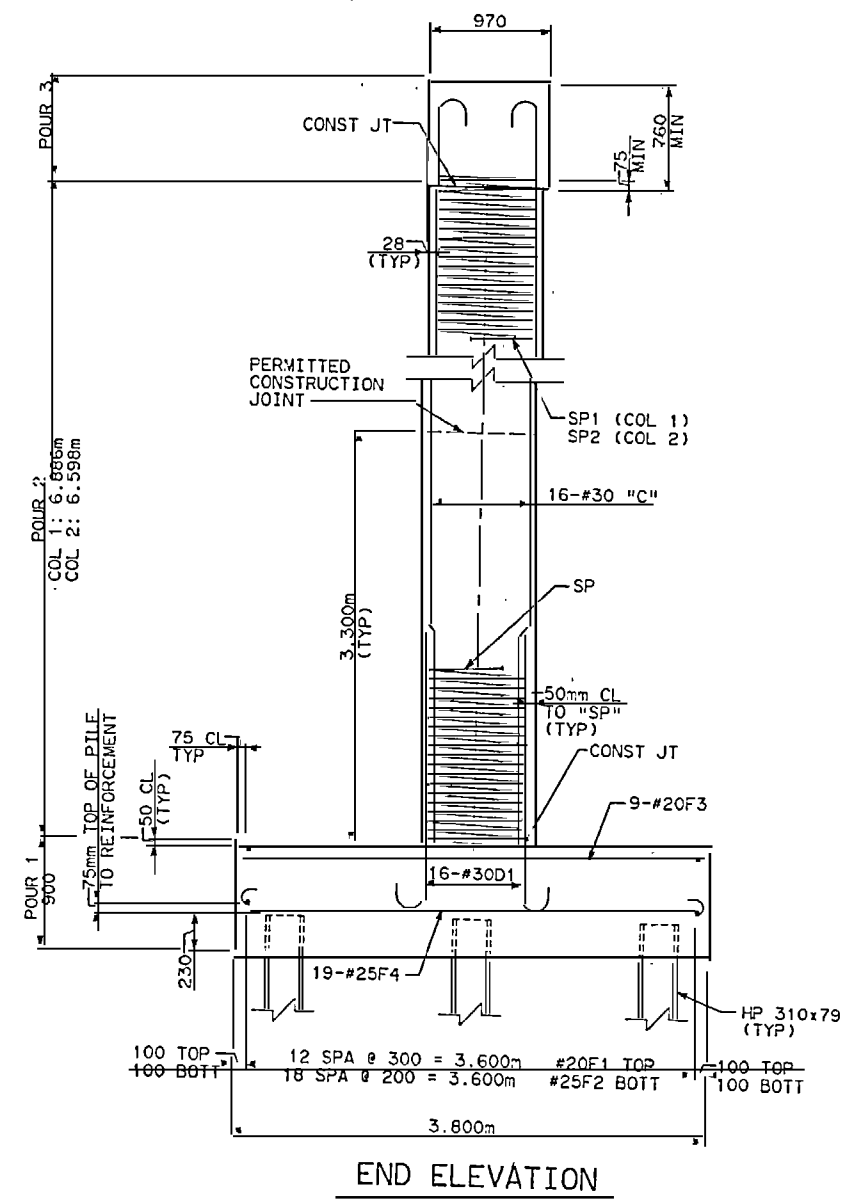
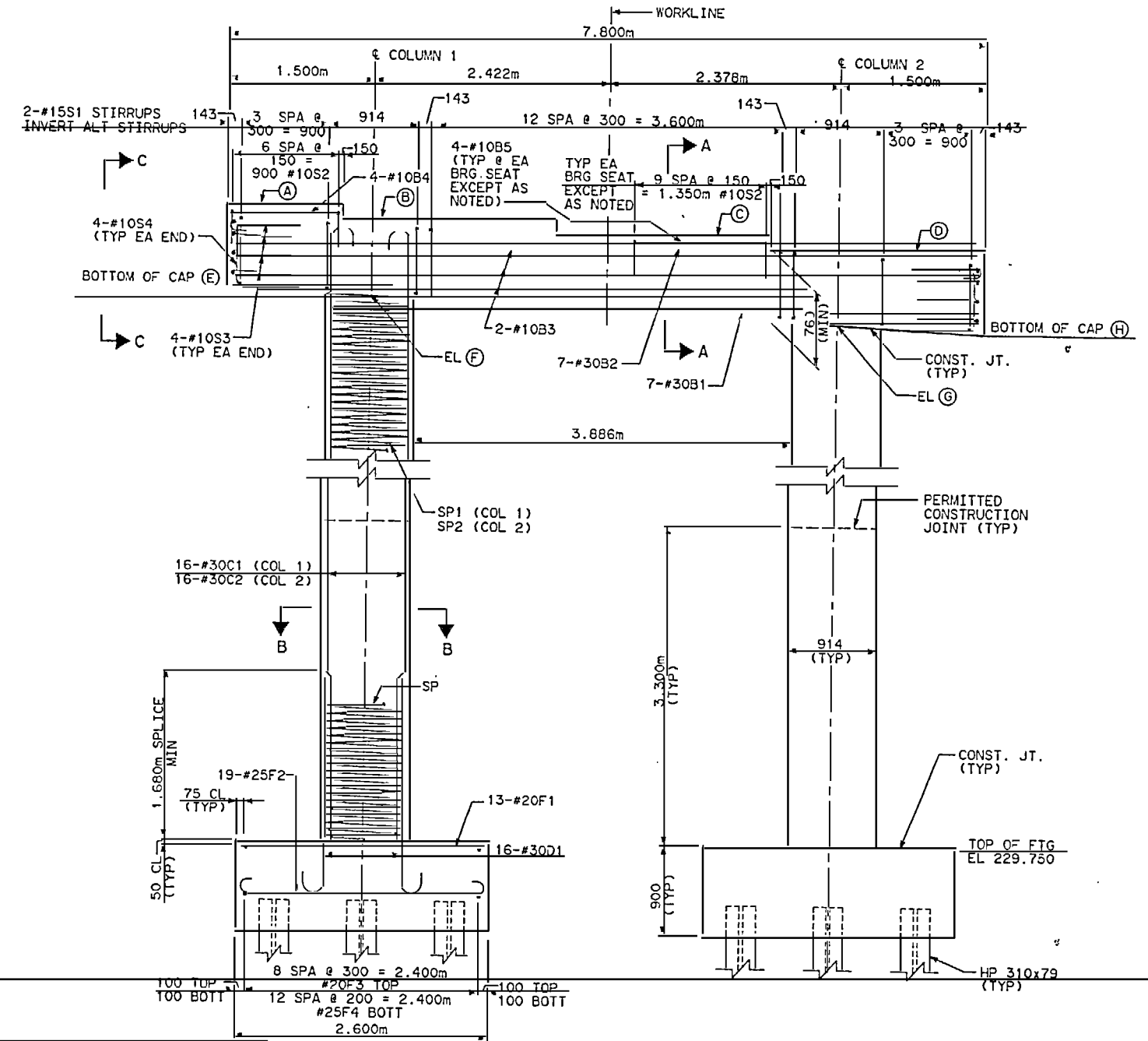
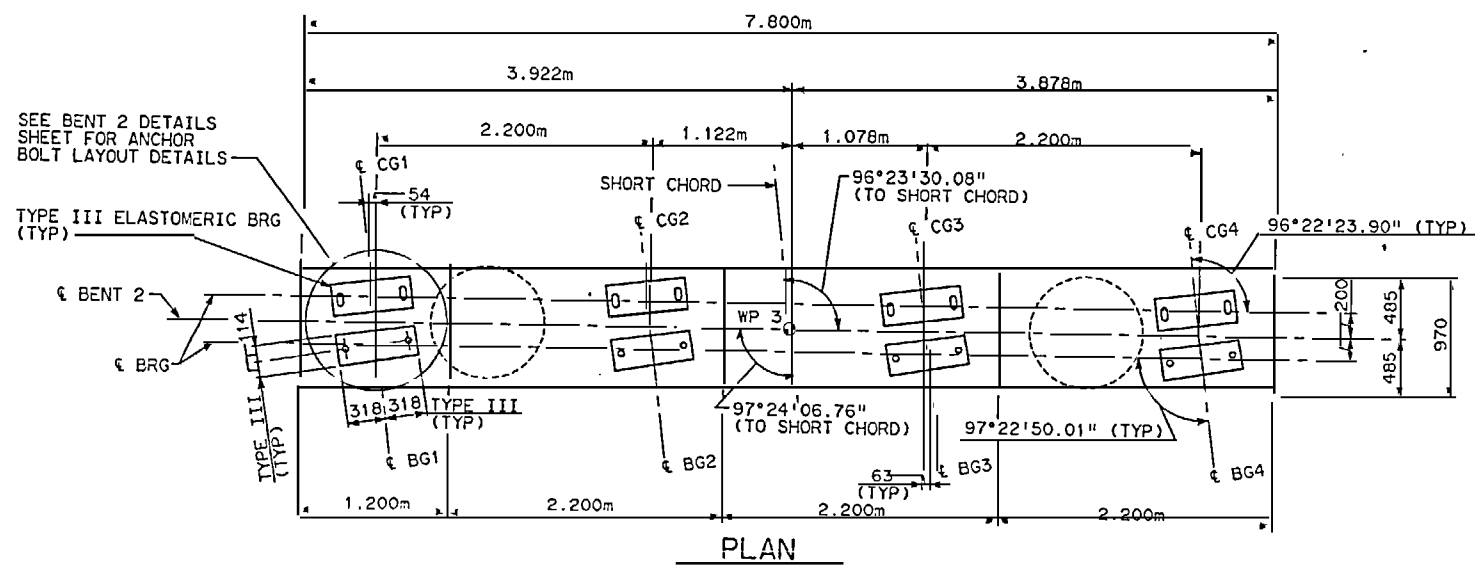
DRAWING 21 OF 30

DESIGNED BY: NDM	DATE: 12/96
CHECKED BY: SLH	DATE: 12/96

21 APR 97 12:28:46 IRELAND s:\01\03607\adgn\bent1det.030

RTH  
 10-11-02

NO. 5-192  
 358



NOTES:

STIRRUPS IN THE CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.

REINFORCING STEEL SHALL HAVE 50mm COVER UNLESS OTHERWISE NOTED.

FOR SPIRAL COLUMN REINFORCING STEEL, SEE SPECIAL PROVISIONS.

FOR SECTIONS AND VIEWS SEE BENT 2 DETAILS SHEET.

FOR BAR LIST AND QUANTITIES SEE BENT 2 DETAILS SHEET.

HOOKS ON "C" BARS MAY BE TURNED AS NECESSARY TO CLEAR REINFORCING STEEL IN CAP.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

THE TOP SURFACE AREAS OF THE BENT CAPS SHALL BE CURED IN ACCORDANCE WITH STANDARD SPECIFICATIONS EXCEPT THAT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.

AT THE CONTRACTOR'S OPTION, BENTS 1 AND 2 MAY BE CONSTRUCTED PRIOR TO PLACING THE FILL. FILL SHALL BE PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 410-9 OF THE STANDARD SPECIFICATIONS.

FOR PILE SPLICE DETAILS SEE END BENT DETAILS SHEET.

ELEVATION TABLE

(A)	237.544
(B)	237.413
(C)	237.281
(D)	237.150
(E)	236.726
(F)	236.636
(G)	236.348
(H)	236.258

PROJECT No. U-2525A  
 GUILFORD COUNTY  
 STATION: 3+592.663 -LREV- POC = 3+206.735 -Y2REV- POT

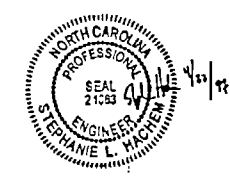
SHEET 1 OF 2

Kimley-Horn and Associates, Inc.  
 Post Office Box 33068  
 Raleigh, North Carolina 27636

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUBSTRUCTURE

BENT 2

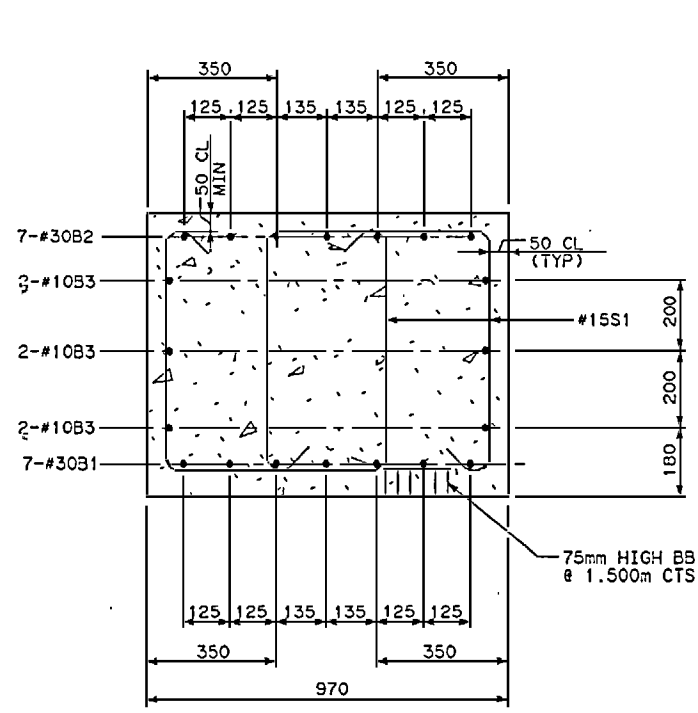


REVISIONS

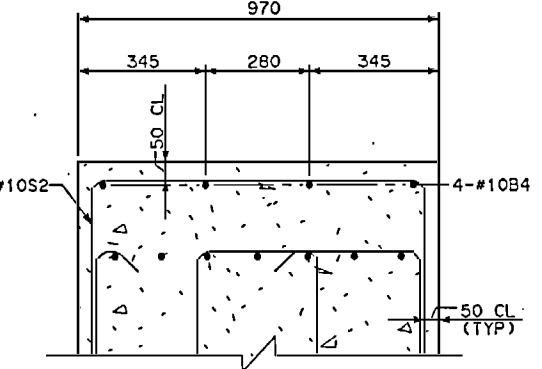
NO.	BY	DATE	NO.	BY	DATE
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2			4		

NO. 193  
 358

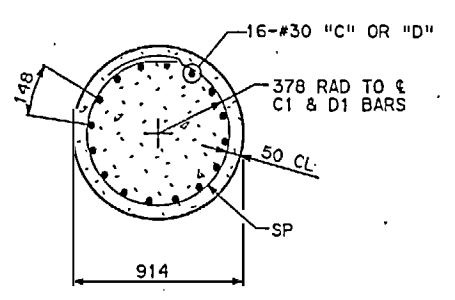
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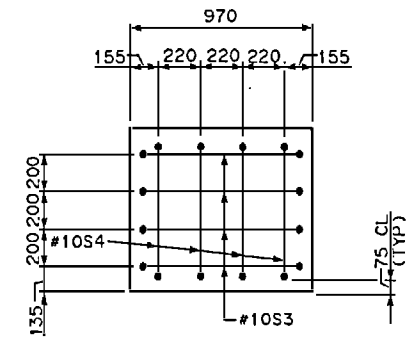
SECTION A-A



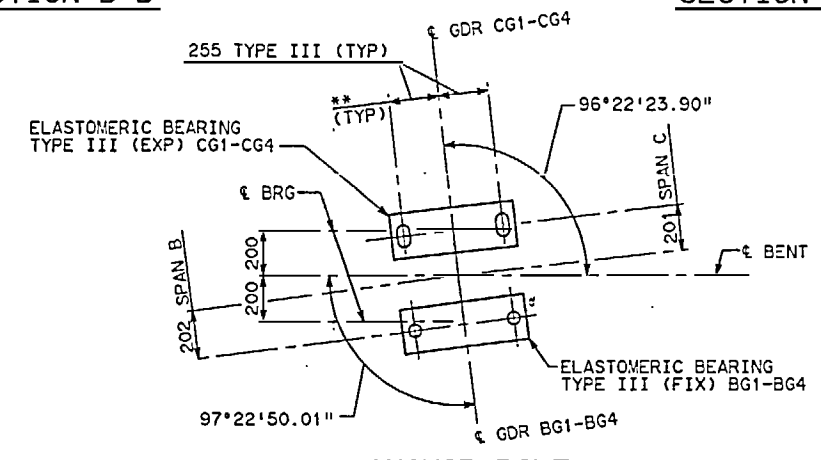
SECTION THRU BEARING



SECTION B-B

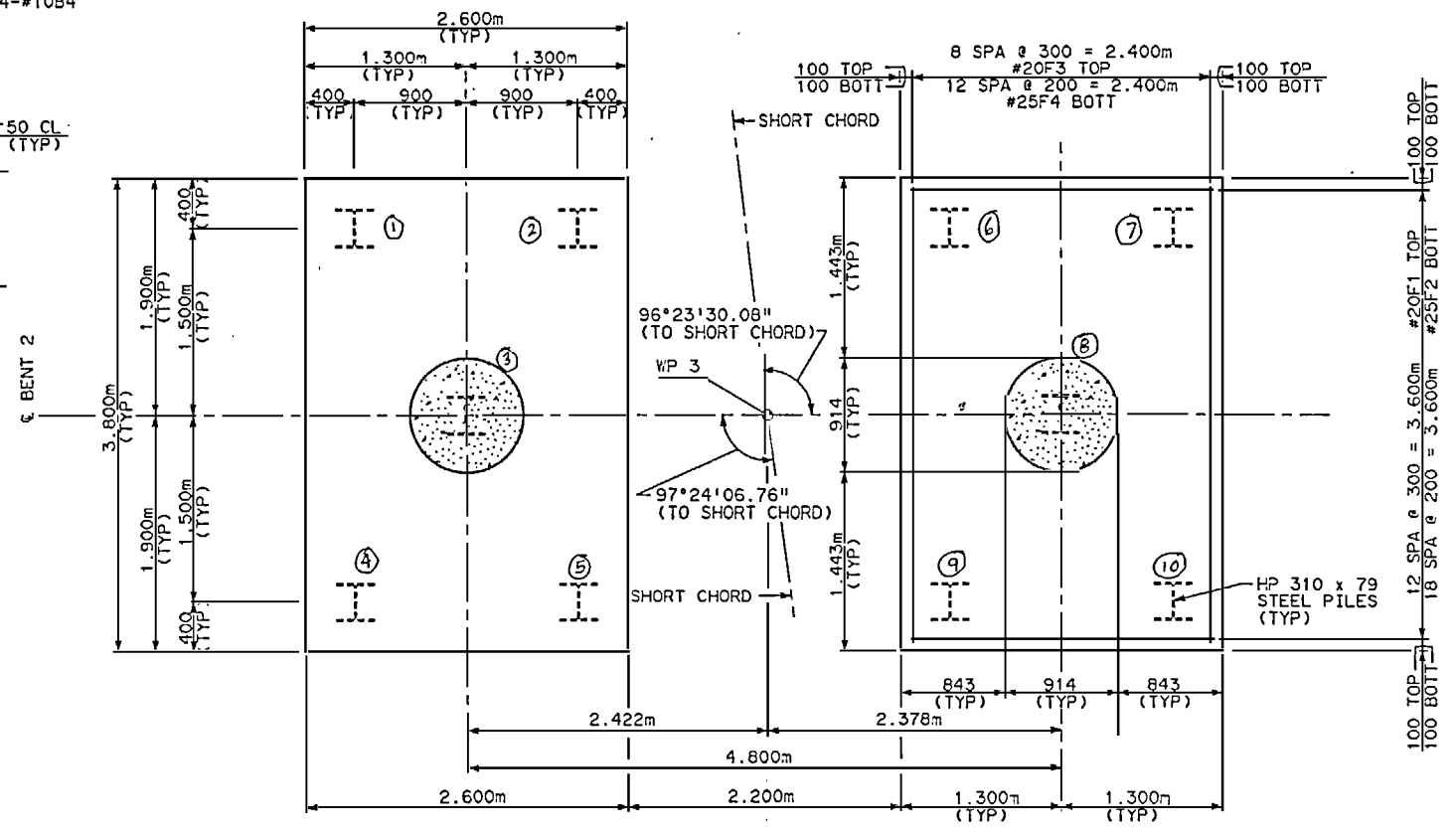


SECTION C-C

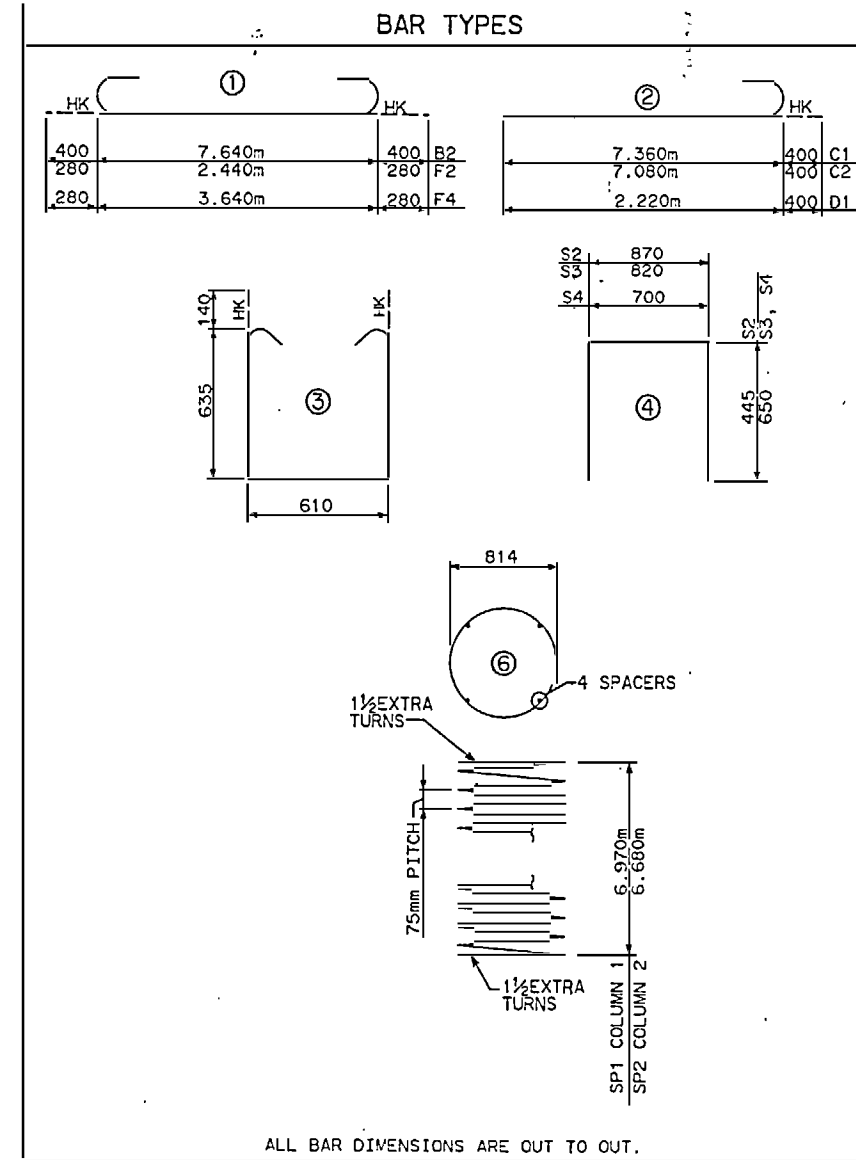


ANCHOR BOLT LAYOUT DETAIL

\*\* 44mm Ø x 640mm ANCHOR BOLT WITH 180mm PROJECTION (TYPE III)



FOUNDATION PLAN



BAR TYPES

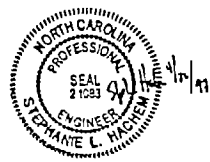
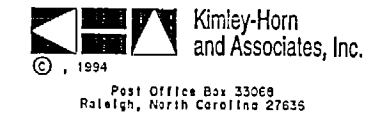
BENT 2						
BAR NO	SIZE	TYPE	LENGTH	WEIGHT		
B1	7	30	STR	7640	297	
B2	7	30	1	8440	326	
B3	6	10	STR	7640	56	
B4	4	10	STR	1000	3	
B5	2	10	STR	1400	13	
C1	16	30	2	7760	682	
C2	16	30	2	7480	658	
D1	32	30	2	2620	461	
F1	26	20	STR	2440	149	
F2	36	25	1	3000	447	
F3	18	20	STR	3540	154	
F4	26	25	1	4200	429	
S1	46	15	3	2160	156	
S2	37	10	4	1760	51	
S3	8	10	4	2120	13	
S4	8	10	4	2020	13	
REINFORCING STEEL					- Kg	3884
SP1	1	-	-	242100	190	
SP2	1	-	-	232400	182	
SPIRAL COLUMN REINFORCING STEEL					- Kg	372
CLASS A CONCRETE BREAKDOWN						
POUR #1	-	-	m <sup>3</sup>	-	17.8	
POUR #2	-	-	m <sup>3</sup>	-	8.8	
POUR #3	-	-	m <sup>3</sup>	-	6.4	
TOTAL CLASS A CONCRETE					- m <sup>3</sup>	33.0
HP 310x79 STEEL PILES						
				NO.	10	
TOTAL LENGTH					m	60

HP 310 x 79 STEEL PILES

No.	LENGTH
1	4.66 ✓
2	3.94 ✓
3	5.00 ✓
4	4.44 ✓
5	5.39 ✓
6	4.65 ✓
7	4.70 ✓
8	5.00 ✓
9	5.89 ✓
10	5.46 ✓

PROJECT No. U-2525A  
 GUILFORD COUNTY  
 STATION: 3+592.663 -LREV- POC =  
 3+206.735 -Y2REV- POT

SHEET 2 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUBSTRUCTURE  
 BENT 2 DETAILS

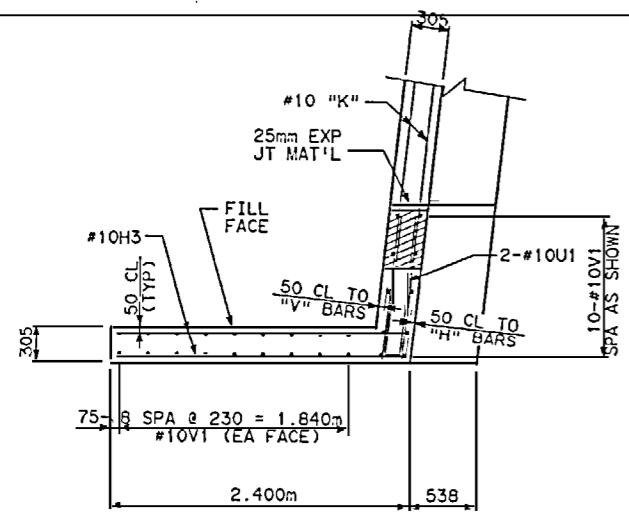
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

DRAWING 23 OF 30

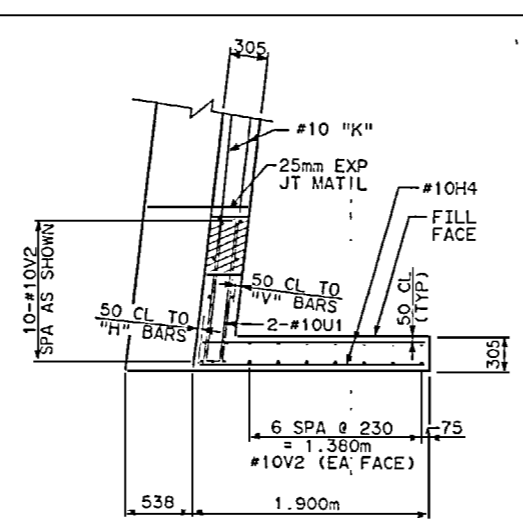
✓ RTW  
 10-11-02



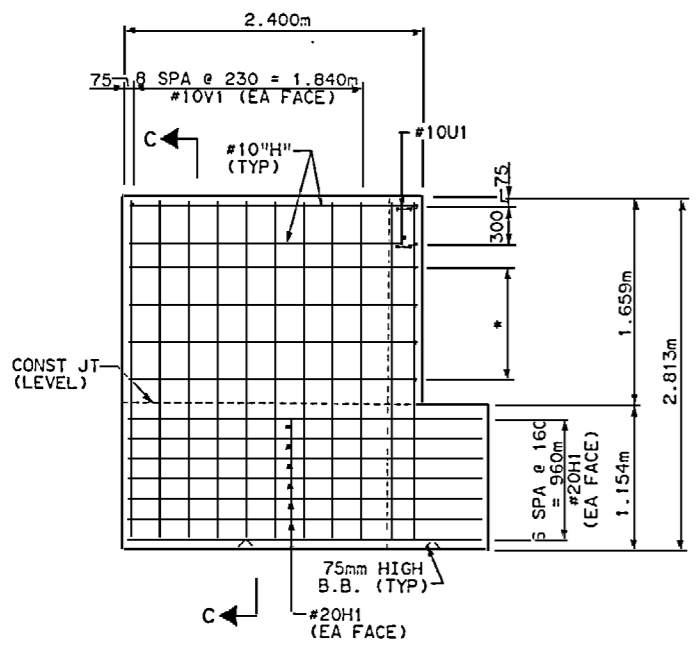




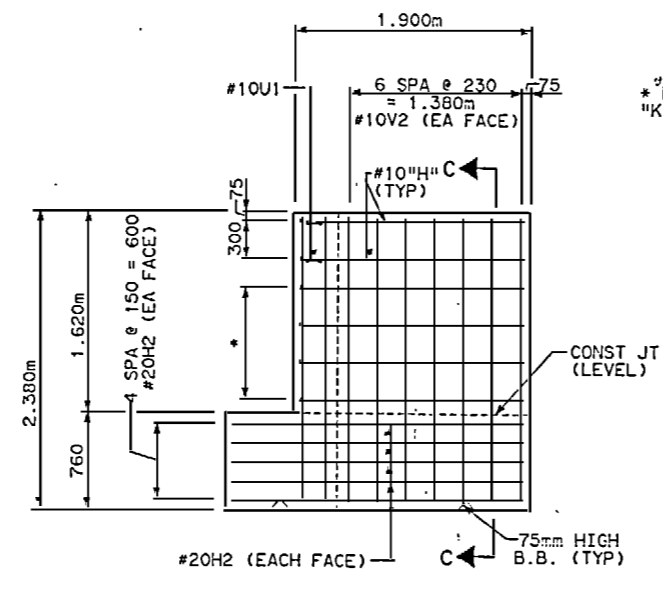
PLAN OF LEFT WING



PLAN OF RIGHT WING

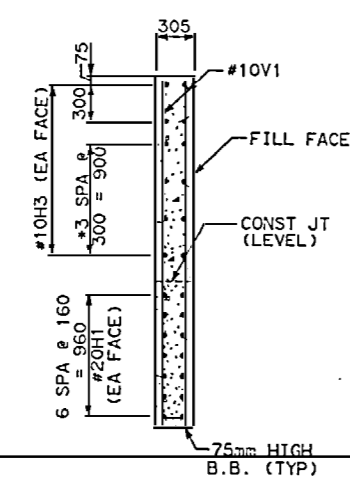


ELEVATION LEFT WING

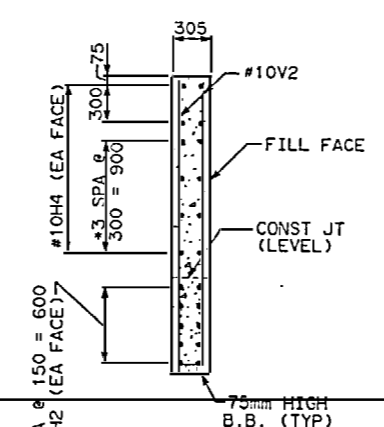


ELEVATION RIGHT WING

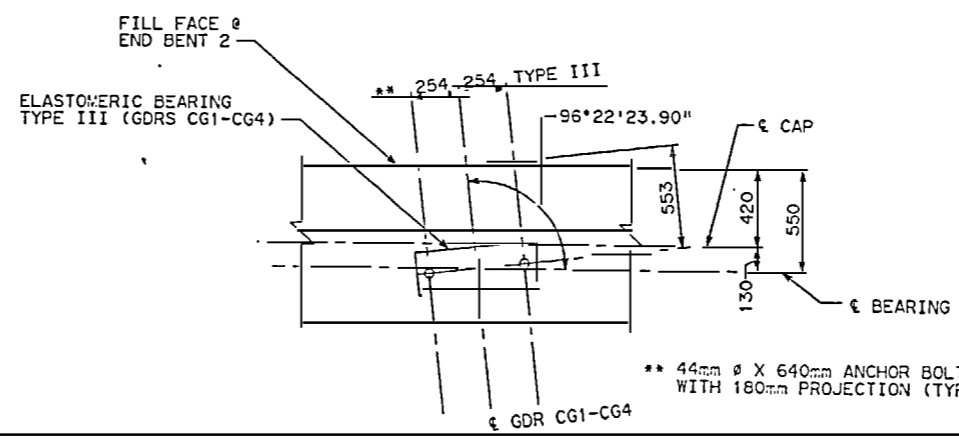
\* MATCH THESE BARS TO THE "K" BARS IN THE BACKWALL



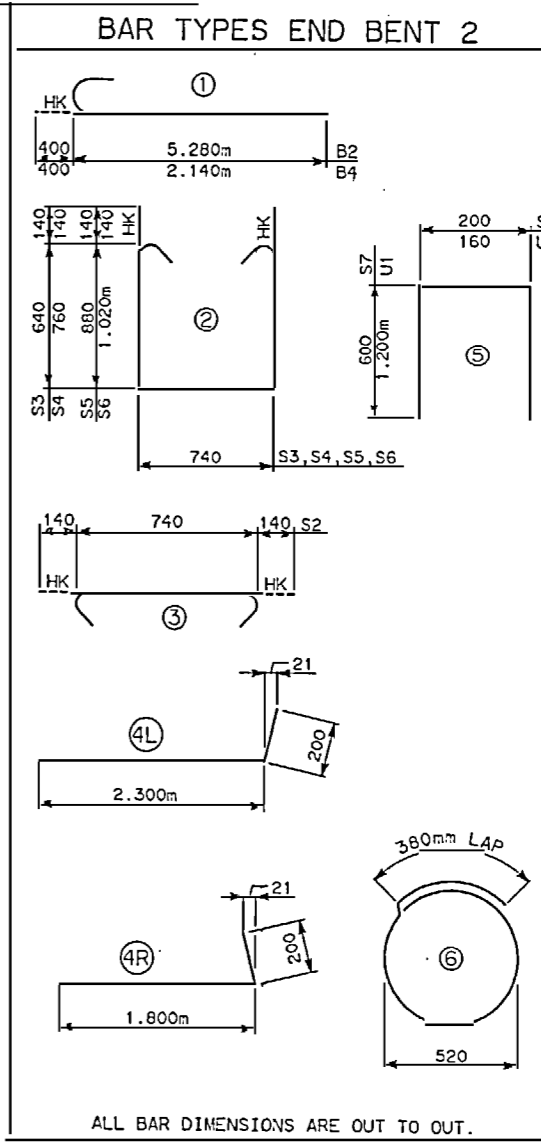
SECTION C-C



SECTION D-D



ANCHOR BOLT LAYOUT DETAIL - END BENT 2



END BENT 2					
BAR NO	SIZE	TYPE	LENGTH	WEIGHT	
B1	4	30	STR	10080	222
B2	4	30	1	5680	125
B3	8	30	STR	3880	171
B4	4	30	1	2540	56
B5	8	10	STR	5360	34
B6	2	15	STR	10080	32
B7	2	15	STR	6520	20
B8	15	10	STR	740	9
S1	10	10	6	2020	16
S2	32	15	3	1020	51
S3	11	15	2	2300	40
S4	7	15	2	2540	28
S5	6	15	2	2780	26
S6	8	15	2	3060	38
S7	26	10	5	1400	29
K1	16	10	STR	5380	68
V1	28	10	STR	2680	59
V2	24	10	STR	2240	42
V3	52	15	STR	1680	137
U1	14	10	5	2560	8
H1	18	20	STR	2820	93
H2	10	20	STR	2320	55
H3	12	10	4L	2500	24
H4	12	10	4R	2000	19
REINFORCING STEEL - Kg - 1399					
CLASS A CONCRETE BREAKDOWN					
POUR #1			m <sup>3</sup>	9.2	
POUR #2			m <sup>3</sup>	5.7	
TOTAL CLASS A CONCRETE - m <sup>3</sup> - 14.9					
HP 310 x 79 STEEL PILES					
			NO.	5	
			TOTAL LENGTH	m	65

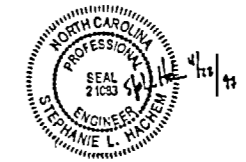
ALL BAR DIMENSIONS ARE OUT TO OUT.

PROJECT No. U-2525A  
 GUILFORD COUNTY  
 STATION: 3+592.663 -LREV- POC =  
 3+206.735 -Y2REV- POT

SHEET 2 OF 2



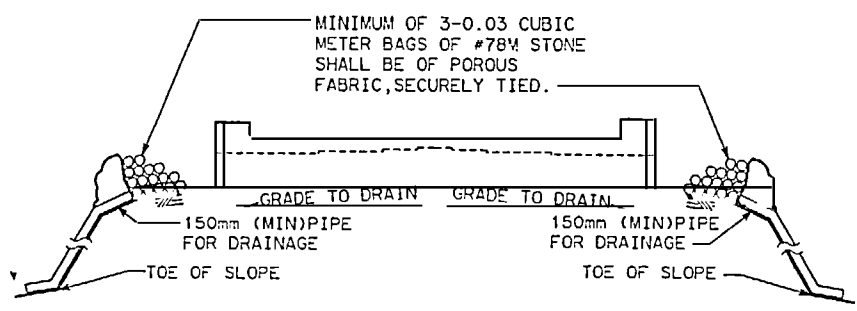
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUBSTRUCTURE  
 END BENT 2



FOR END BENT NOTES, PILE SPLICE DETAILS, AND OTHER DETAILS, SEE END BENT DETAILS SHEET.



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

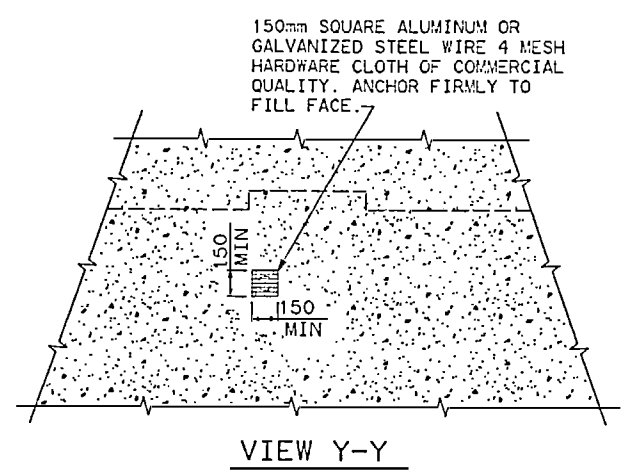
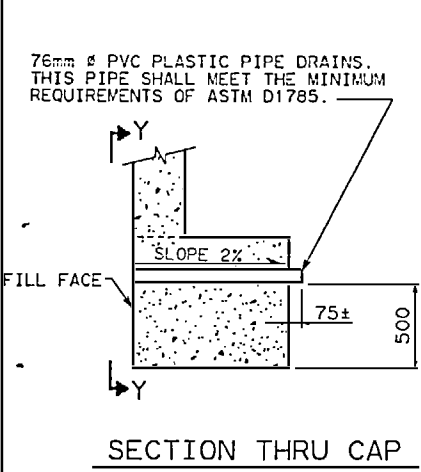


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS OF 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

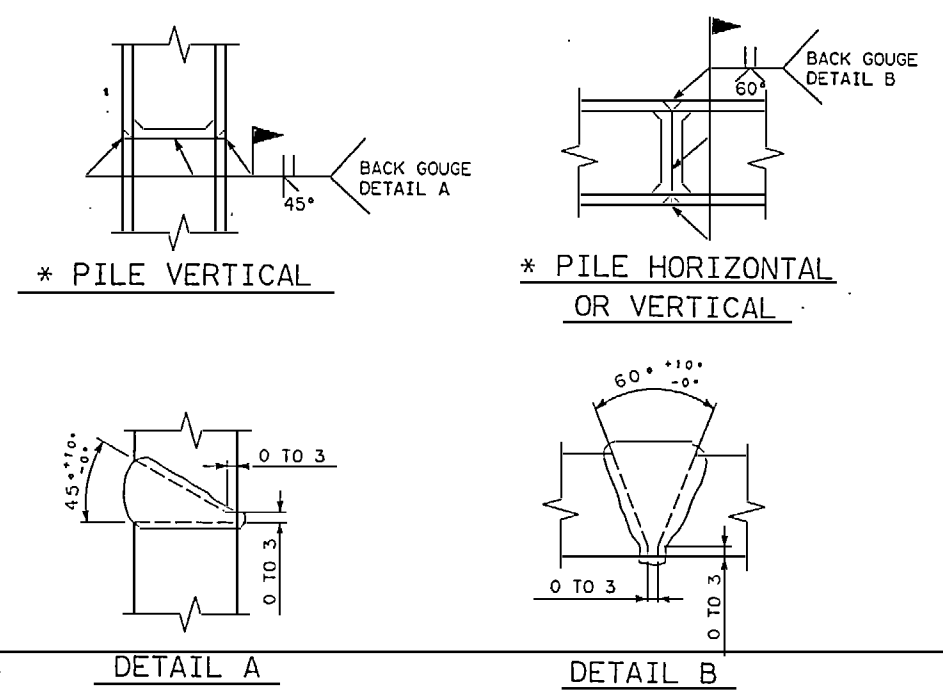


NOTE:  
NO SEPARATE PAYMENT WILL BE MADE FOR FURNISHING AND INSTALLING THE PVC PLASTIC PIPE DRAINS, HARDWARE CLOTH AND FASTENERS. THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE FOR THE SEVERAL PAY ITEMS.

PIPE DRAIN DETAILS

DESIGNED BY	CEM	DATE	12/96
CHECKED BY	SLH	DATE	12/96

21 APR 97 12:31:29 IRELAND s:\01103507\sgn\endbent.dwg



PILE SPLICE DETAILS

END BENT NOTES

THE TOP SURFACE OF THE END BENT CAP EXCEPT THE BRIDGE SEAT BUILDUPS SHALL BE SLOPED TRANSVERSELY FROM THE FILL FACE TO THE BACK FACE AT THE RATE OF 2%.

BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

THE TOP SURFACE AREAS OF THE END BENT CAP SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.

PIPE DRAINS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO CLEAR REINFORCING STEEL AND ANCHOR BOLTS.

STIRRUPS IN CAP MAY BE SHIFTED SLIGHTLY AS NECESSARY TO CLEAR ANCHOR BOLTS.

PROJECT NO. U-2525A  
GUILFORD COUNTY  
STATION: 3+592.663 -LREV- POC =  
3+206.735 -Y2REV- POT



Post Office Box 33069  
Raleigh, North Carolina 27635



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

SUBSTRUCTURE

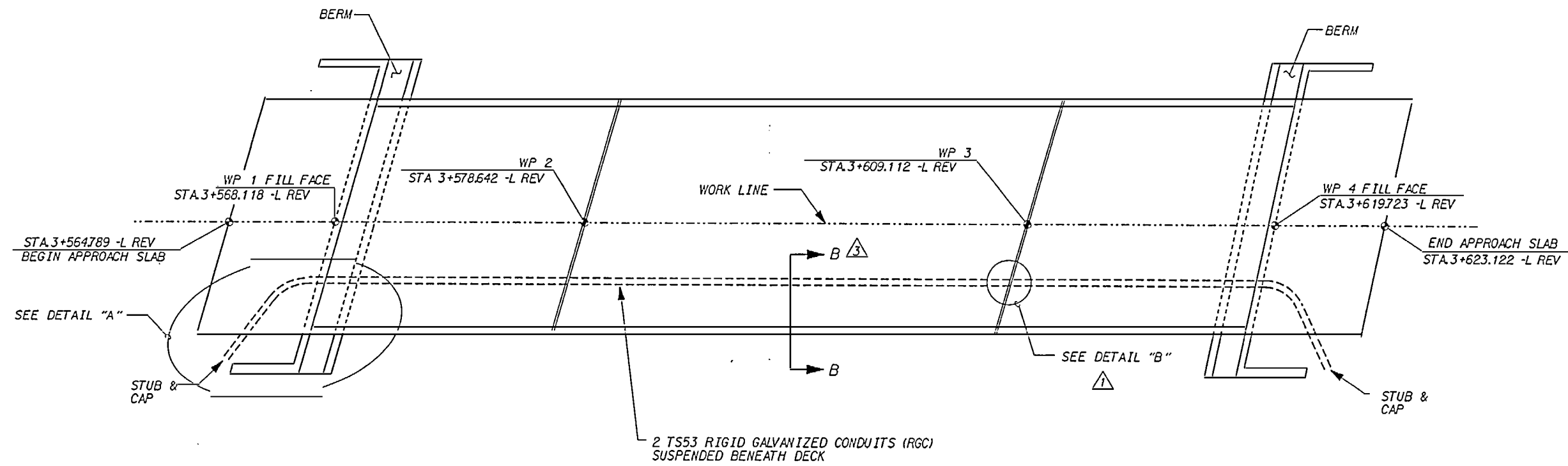
END BENT DETAILS

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

DRAWING 26 OF 30

5-197  
358

PROJ. REFERENCE	SHEET NO.	TOTAL SHEETS
U-2525A	ET	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION



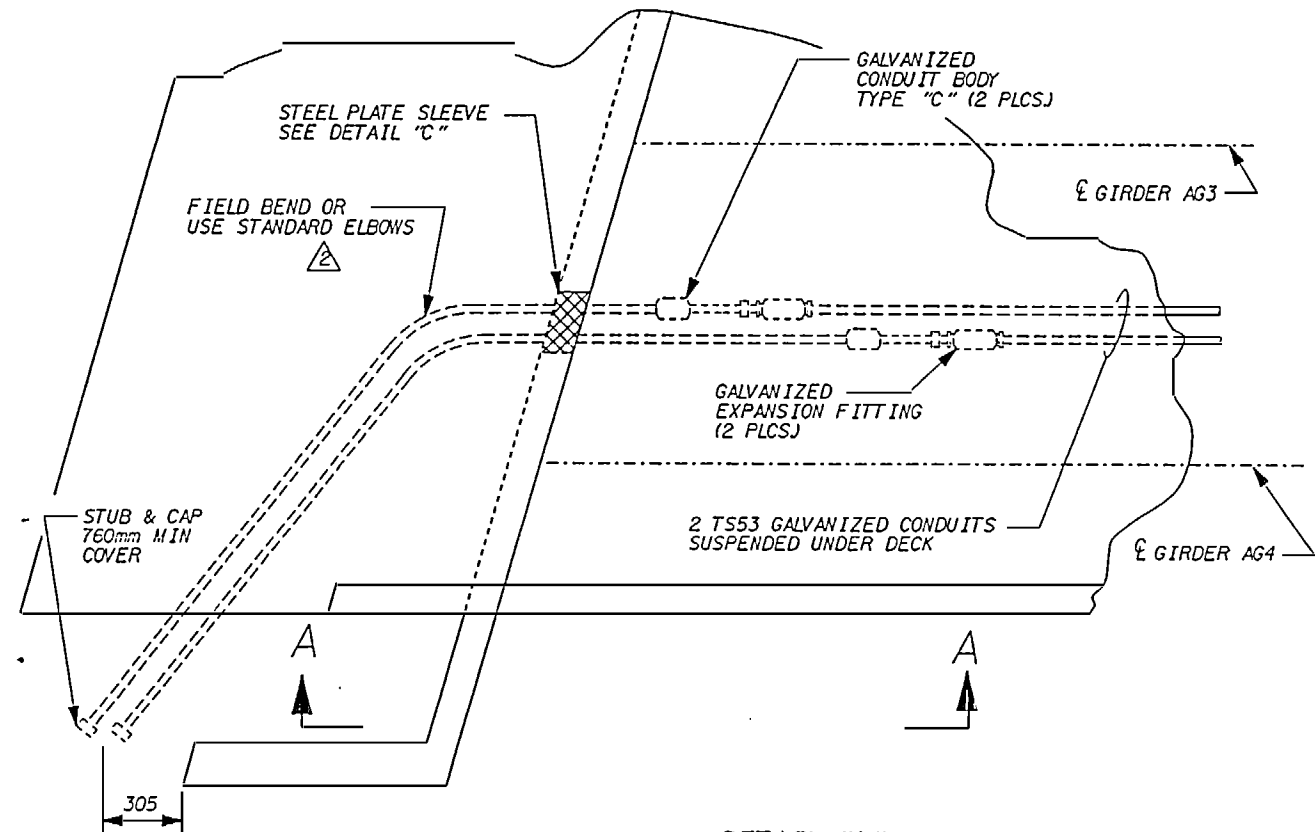
CONDUIT LAYOUT

NOTES

- △ PROVIDE EXPANSION FITTING FOR EACH CONDUIT AT ALL LOCATIONS WHERE CONDUIT CROSSES AN EXPANSION, COMPRESSION OR CONSTRUCTION JOINT. SEE SHEET E2 FOR DETAIL "B".
- △ ROUTE CONDUIT TO AVOID DAMAGE DURING GUARDRAIL INSTALLATION.
- △ SEE SHEET E2 FOR SECTION B-B.
- △ ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- △ INSERTS MUST BE LOCATED IN THE HIGH PART OF STAY-IN-PLACE FORMS. SPACING MAY BE VARIED TO AVOID LOCATING INSERTS ON SLOPING OR LOW SURFACE OF FORMS. DO NOT EXCEED 3m SPACING.

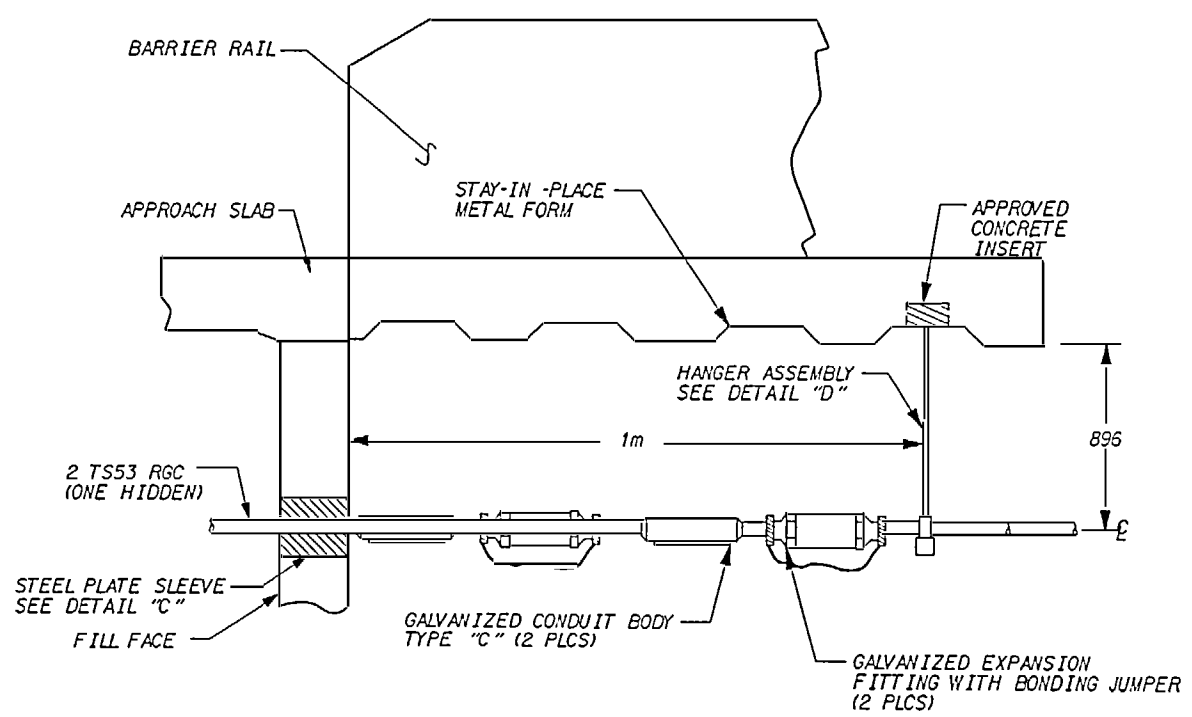
LEGEND

- RGC RIGID GALVANIZED CONDUIT
- TS53 METRIC TRADE SIZE FOR CONDUIT PER NEC 346-5



DETAIL "A"

INSTALLATION SIMILAR AT EACH END OF BRIDGE



VIEW A-A

GIRDERS NOT SHOWN

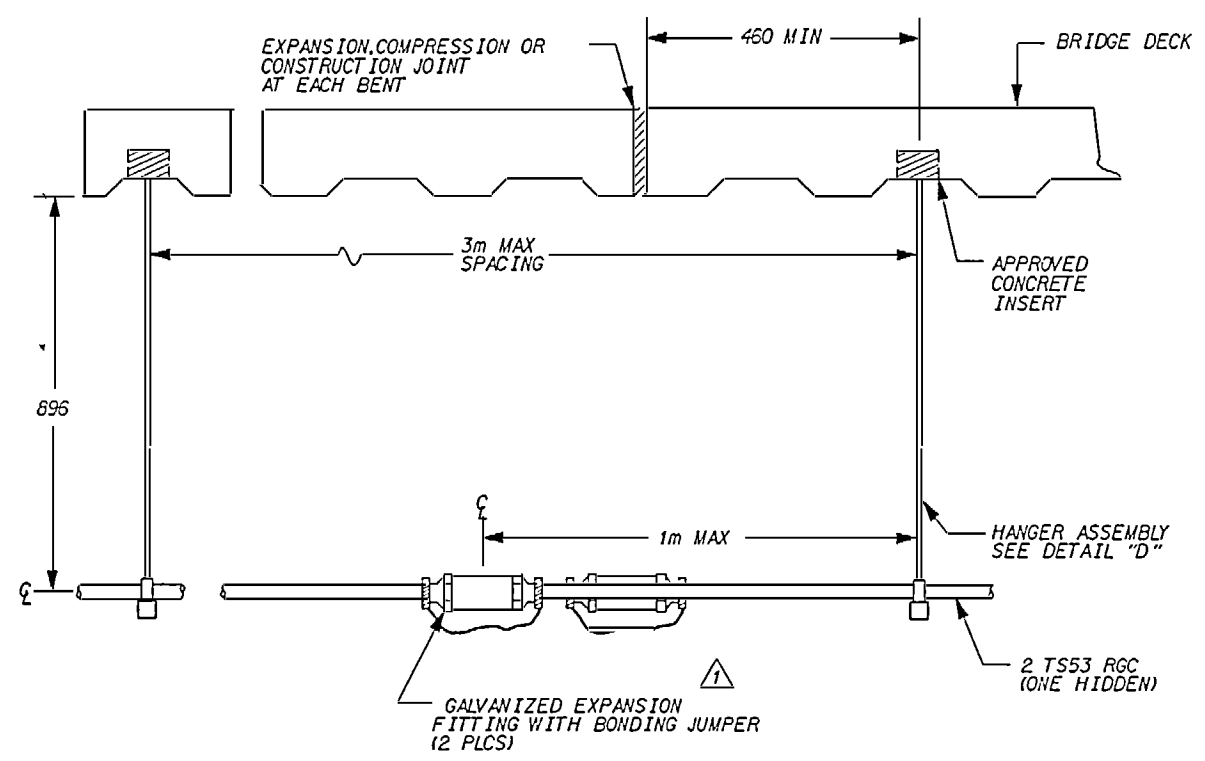
PROJECT NO. U-2525A  
 GUILFORD COUNTY  
 STATION 3+592.663-L REV-POC=  
 3+206.735-Y2 REV-POT

SHEET 1 OF 2			
2			
1			
Rev.	Date	Description	Approved
		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES LIGHTING/ELECTRICAL SECTION	
<b>ELECTRICAL CONDUIT SYSTEM</b>			
			S-198 Total 358
Designed By:	Checked By:	Approved By:	
JAS	EM	EM	

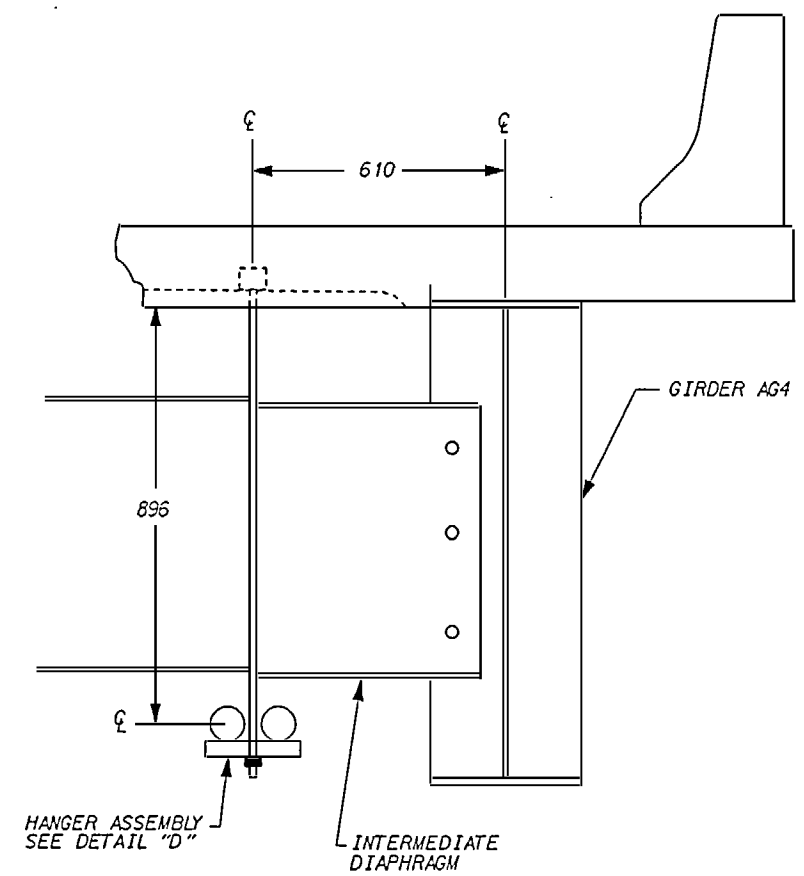
DRAWN BY : J. A. STANCIU DATE : 3/97  
 CHECKED BY : \_\_\_\_\_ DATE : \_\_\_\_\_

SEE SPECIAL PROVISIONS TITLED "ELECTRICAL CONDUIT SYSTEM" FOR MATERIALS, CONSTRUCTION METHODS AND PAYMENT.

PROJ. REFERENCE NO. U-2525A	SHEET NO. E2	TOTAL SHEETS
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

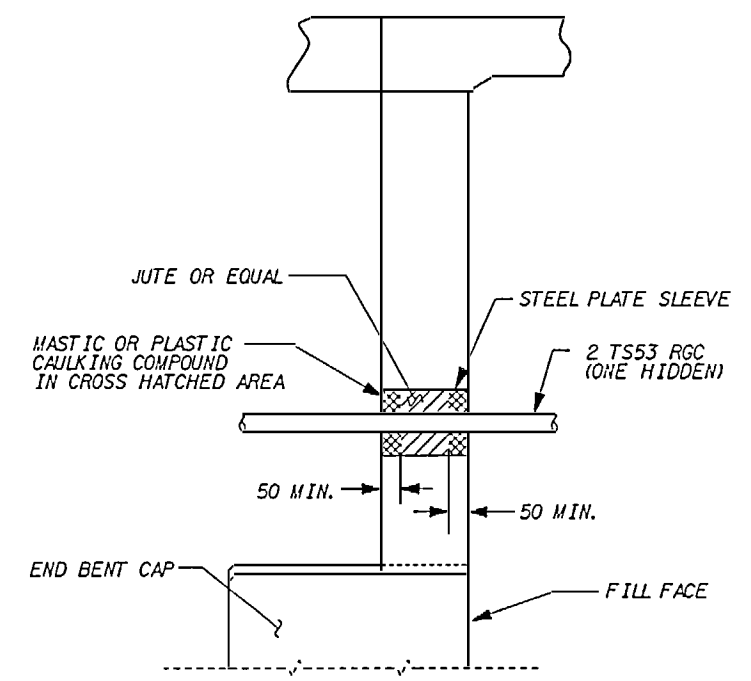


DETAIL "B"  
GIRDER AND DIAPHRAGM NOT SHOWN

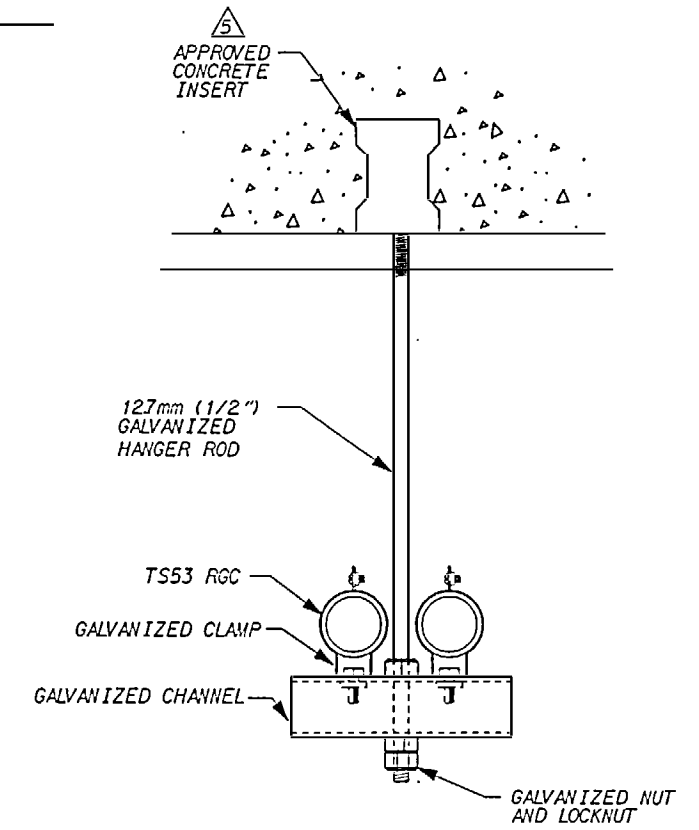
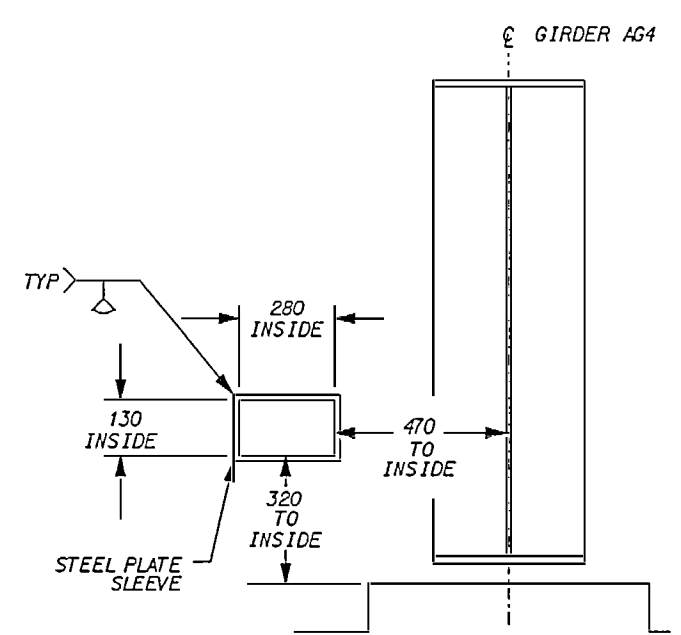


SECTION B-B  
HANGER ASSEMBLY LOCATION

ESTIMATED BILL OF MATERIALS		
QTY	UNIT	DESCRIPTION
120	m	TS53 RIGID GALVANIZED CONDUIT (RGC)
8	EA	GALVANIZED EXPANSION FITTING W/ BONDING JUMPER
4	EA	RGC END CAPS
4	EA	TYPE "C" GALVANIZED CONDUIT BODIES
17	EA	GALV. HANGER ASSEMBLIES W/ GALV. STL RODS
122	m	POLYETHYLENE FULL LINE
17	EA	CONCRETE INSERTS
2	EA	STEEL PLATE SLEEVE
1	LOT	JUTE
1	LOT	MASTIC



DETAIL "C"  
STEEL PLATE SLEEVE INSTALLATION @ BACKWALL  
END BENT 2 SHOWN, END BENT 1 SIMILAR



DETAIL "D"  
HANGER ASSEMBLY AND CONCRETE INSERT

PROJECT NO. U-2525A  
GUILFORD COUNTY  
STATION 3+592.663-L REV-POC=  
3+206.735-Y2 REV-POT

SHEET 2 OF 2			
2			
1			
Rev.	Date	Description	Approved

NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DESIGN SERVICES LIGHTING/ELECTRICAL SECTION  
**ELECTRICAL CONDUIT SYSTEM**  
S-199  
Total 350

DRAWN BY : J. A. STENCIL DATE : 3/97  
CHECKED BY : DATE :

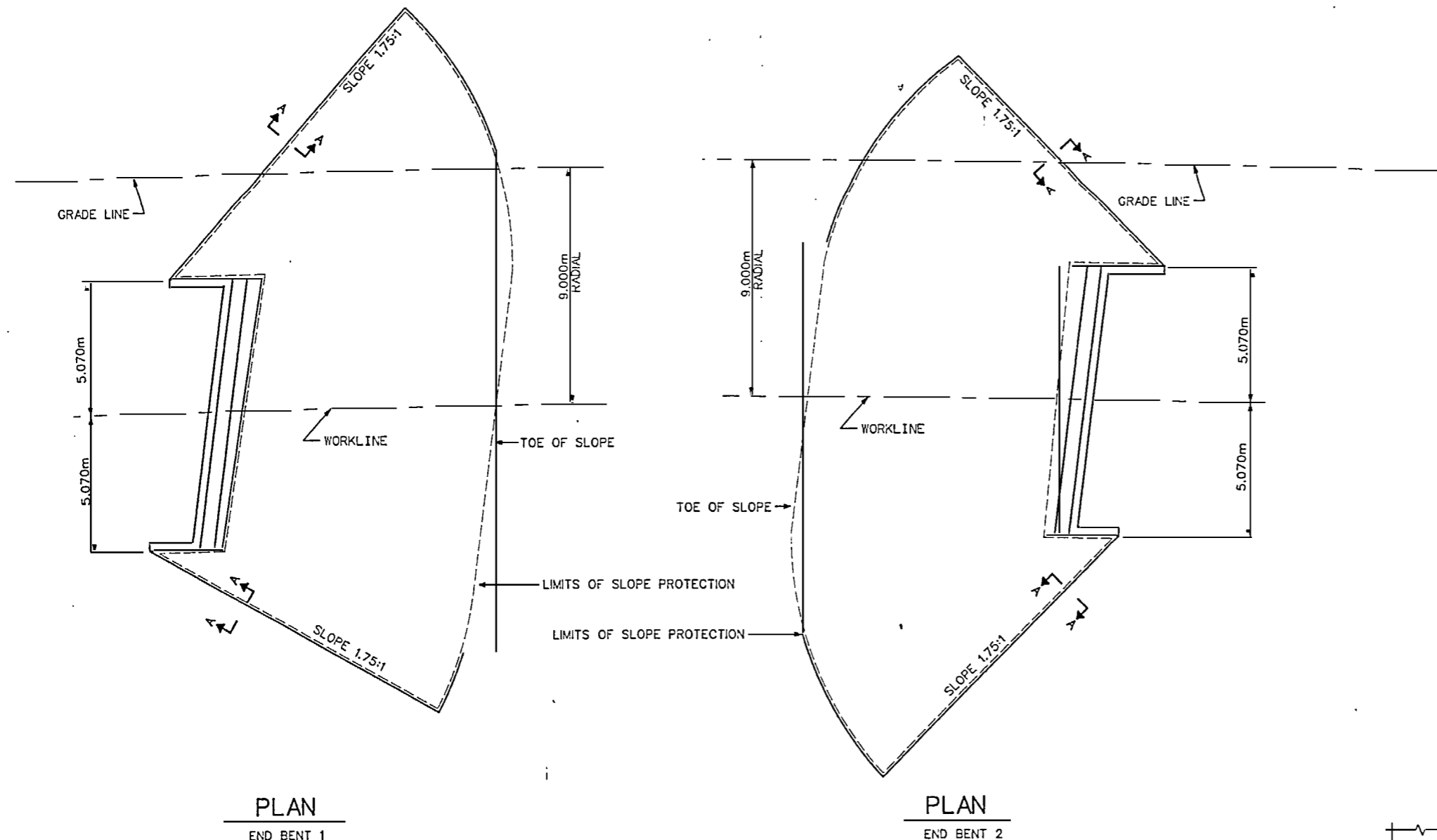
SEE SPECIAL PROVISIONS TITLED "ELECTRICAL CONDUIT SYSTEM" FOR MATERIALS, CONSTRUCTION METHODS AND PAYMENT.

Designed By: JAS  
Checked By: [Signature]  
Approved By: [Signature]

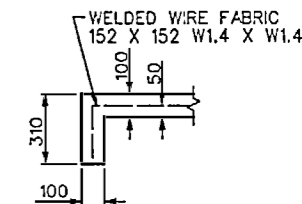
**GENERAL NOTES**

SLOPE PROTECTION SHALL BE PLACED UNDER THE ENDS OF THE BRIDGE AS SHOWN IN THE DETAILS. METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE AS PRESCRIBED IN SECTION 462 OF THE STANDARD SPECIFICATIONS. FOR BERM WIDTH, SEE GENERAL DRAWING.

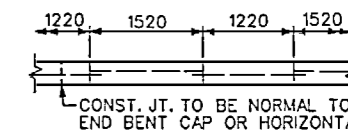
SLOPE PROTECTION SHALL CONSIST OF 100mm POURED -IN -PLACE CONCRETE PAVING AS SHOWN IN THE DETAILS ON THIS SHEET. CONCRETE SHALL BE CLASS "B". THE CONCRETE SURFACE SHALL BE FLOATED WITH A WOODEN FLOAT AND FINISHED. WELDED WIRE FABRIC REINFORCING SHALL BE 152 X 152 W 1.4 X W 1.4, 1524mm WIDE. ADJACENT RUNS OF WELDED WIRE FABRIC SHALL LAP AT LEAST 150mm. SLOPE PROTECTION SHALL BE POURED IN ALTERNATE 1220mm AND 1520mm STRIPS AS SHOWN IN THE POURING DETAIL. THE COST OF THE WELDED WIRE FABRIC SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BD PER SQUARE METER FOR SLOPE PROTECTION.



BRIDGE # STA.	100 mm SLOPE PROTECTION SQUARE METERS		WELDED WIRE FABRIC 1524mm WIDE APPROX. L.M.
	END BENT 1	END BENT 2	
3+592.663 -LREV-	326.2	335.0	478.0

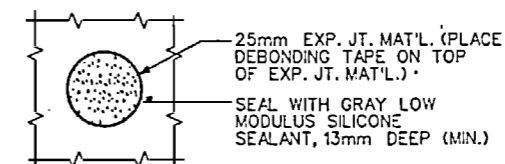


SECTION A-A



POUR A 1220mm STRIP FIRST. STRIP WIDTHS MAY VARY IN CURVED PORTION.

POURING DETAIL



**PLAN WHERE CONCRETE SLOPE PROTECTION MUST BE PLACED AROUND A BENT COLUMN**

PROJECT NO. U-2525A  
GUILFORD COUNTY

STATION: 3+592.663 -LREV- POC  
3+206.735 -Y2REV- POT

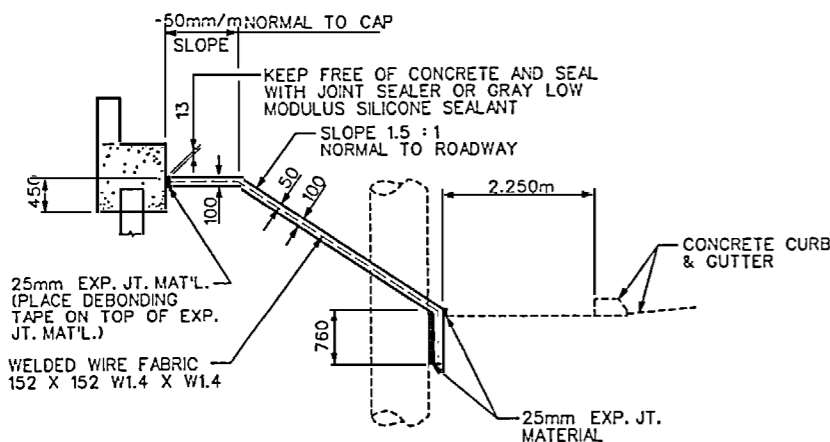
SHEET 1 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**STANDARD**  
**SLOPE PROTECTION**  
**DETAILS**

PLAN  
 END BENT 1

PLAN  
 END BENT 2



SECTION ALONG & ROADWAY WITH SHOULDER PIER

ASSEMBLED BY: MDM	DATE: 12/96	SPECIAL
CHECKED BY: SLH	DATE: 12/96	
DRAWN BY: E.L. ROSE	DATE: 5/12/92	STANDARD
CHECKED BY: G.R. FERRETTI	DATE: 6/8/92	

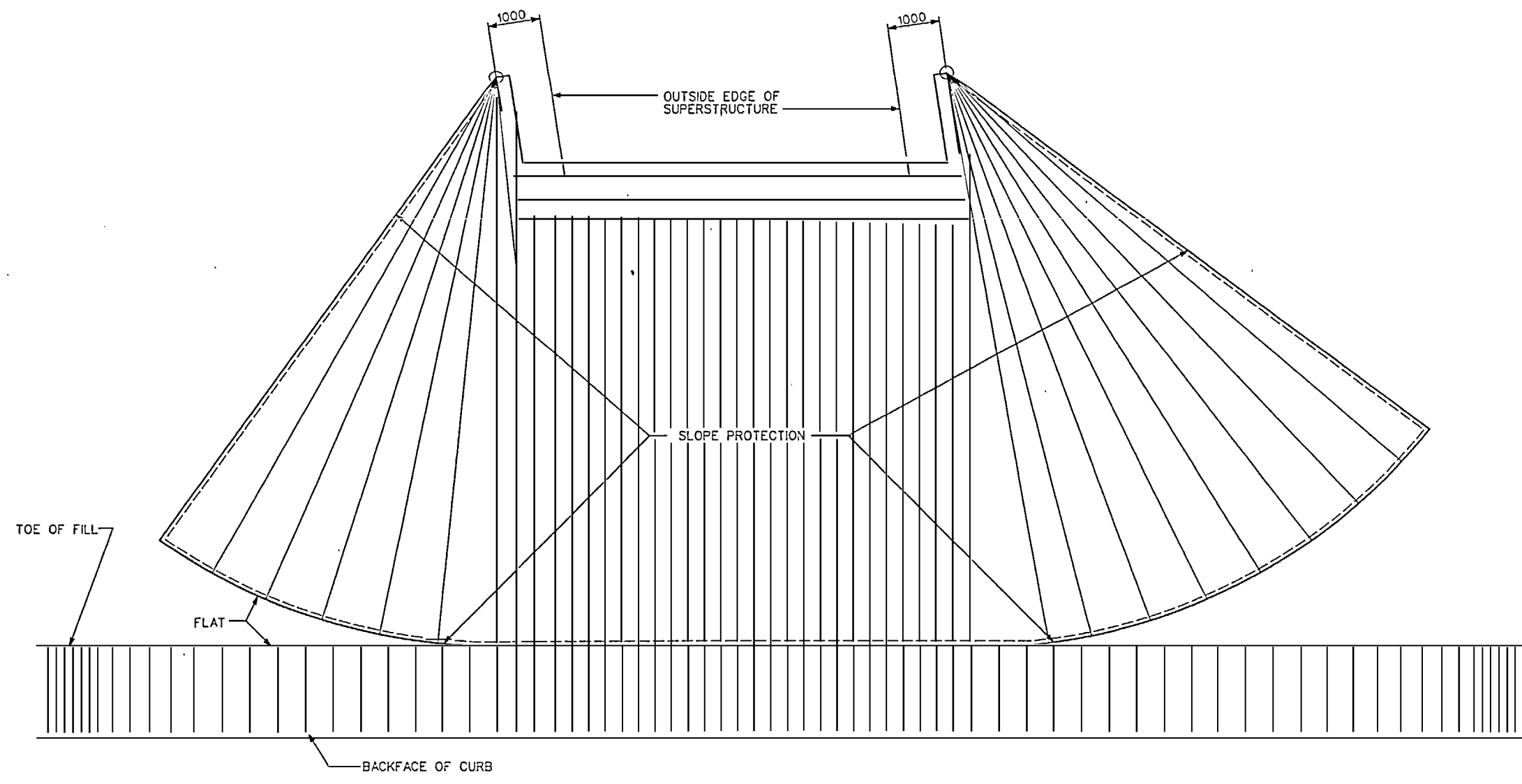
REV. 10-1-93 LLR (1) GRP 21 APR 97 12:32:01 IRELAND #:\01103607\dgn\sp.dgn  
 REV. 6-1-94R EEM (1) GRP  
 REV. 6-16-95 EEM (1) RGW

DRAWING 27 OF 30

REVISIONS				SHEET NO.
NO.	DATE	NO.	DATE	5-200
1		3		TOTAL SHEETS
2		4		358

STD. NO. SP1M

5205



PLAN - END BENT WITH SWEEPED BACK WINGS - SKEWED

PROJECT NO. U-2525A  
 GUILFORD COUNTY  
 STATION: 3+592.663 -LREV- POC =  
3+206.735 -Y2REV- POT

SHEET 2 OF 2  
 STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 STANDARD  
 SLOPE PROTECTION  
 DETAILS



ASSEMBLED BY: MDM	DATE: 12/96	SPECIAL
CHECKED BY: SLH	DATE: 12/96	
DESIGNED BY: W. J. HARRIS	DATE: 10/4/88	
CHECKED BY: F. C. JONES	DATE: 10/5/88	

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL	
1			3			358	5201
			4				

NOTES

SUBDRAIN FINE AGGREGATE IS TO BE CONTINUOUS ALONG FILL FACE OF BACKWALL AND END BENT FROM OUTSIDE EDGE TO OUTSIDE EDGE OF APPROACH SLAB.

TEMPORARY DRAINAGE AND TEMPORARY BERM AND SLOPE DRAINS WILL BE PAID FOR UNDER THE LUMP SUM PRICE FOR BRIDGE APPROACH SLAB.

AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE.

THE AREAS BETWEEN THE WINGWALLS AND THE APPROACH SLABS SHALL BE PAVED, SEE ROADWAY PLANS.

THE 150mm COMP. A.B.C. IS TO EXTEND 3m BEYOND THE SLAB AS SHOWN AND 300mm OUTSIDE OF EACH EDGE OF SLAB.

THE CONTRACTOR MAY, AT HIS OPTION, USE EITHER 100mm TYPE HB ASPHALT CONCRETE BASE COURSE OR 125mm CLASS 'A' CONCRETE IN LIEU OF 150mm A.B.C. IF 125mm CLASS 'A' CONCRETE IS USED, THE CONCRETE SHALL BE FINISHED TO A SMOOTH SURFACE AND A LAYER OF 13.6 kg ROOFING FELT SHALL BE PLACED BETWEEN THE CONCRETE BASE AND THE APPROACH SLAB TO PREVENT BOND. THE WIDTH OF THE CONCRETE BASE SHALL BE THE SAME WIDTH AS THE APPROACH SLAB. THE APPROACH SLABS SHALL NOT BE CAST UNTIL THE CONCRETE BASE HAS REACHED AN AGE OF THREE CURING DAYS.

DOWELS MAY BE PUSHED INTO GREEN CONCRETE AFTER THE SLAB HAS BEEN SCREEDED AND FLOAT FINISHED EXCEPT AS NOTED ON THE PLANS.

THE JOINT SHALL BE SAWED PRIOR TO THE CASTING OF THE CONCRETE CURB TO THE CONSTRUCTION JOINT AND THE BARRIER RAIL. FOR LOCATION OF CONSTRUCTION JOINT SEE CURB DETAILS.

APPROACH SLAB GROOVING IS NOT REQUIRED.

FOR SKEWS BETWEEN 70° AND 110°, THE CONTRACTOR MAY, AT HIS OPTION, USE A COMPRESSION JOINT SEAL IN LIEU OF THE EVAZOTE JOINT SEAL. SEE SPECIAL PROVISION FOR OPTIONAL PREFORMED COMPRESSION JOINT SEALS.

**WITH EVAZOTE JOINT SEAL**

FOR EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.

PAYMENT FOR EVAZOTE JOINT SEALS SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR EVAZOTE JOINT SEALS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE EVAZOTE JOINT SEAL SHALL BE 64mm.

**WITH OPTIONAL COMPRESSION JOINT SEAL**

FOR OPTIONAL PREFORMED COMPRESSION JOINT SEALS, SEE SPECIAL PROVISIONS.

PAYMENT FOR OPTIONAL COMPRESSION JOINT SEALS SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR COMPRESSION JOINT SEALS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE COMPRESSION JOINT SEAL SHALL BE 76mm.

**BILL OF MATERIAL**

APPROACH SLAB AT END BENT 1

BAR	NO.	SIZE	TYPE	LENGTH	MASS
*A1	11	10	STR	7480	65
A2	11	10	STR	7480	65
*B1	50	20	STR	3460	397
B2	50	20	STR	3560	411
*B3	2	10	STR	3420	5
*D1	16	10	STR	240	3
*D2	3	20	STR	460	3

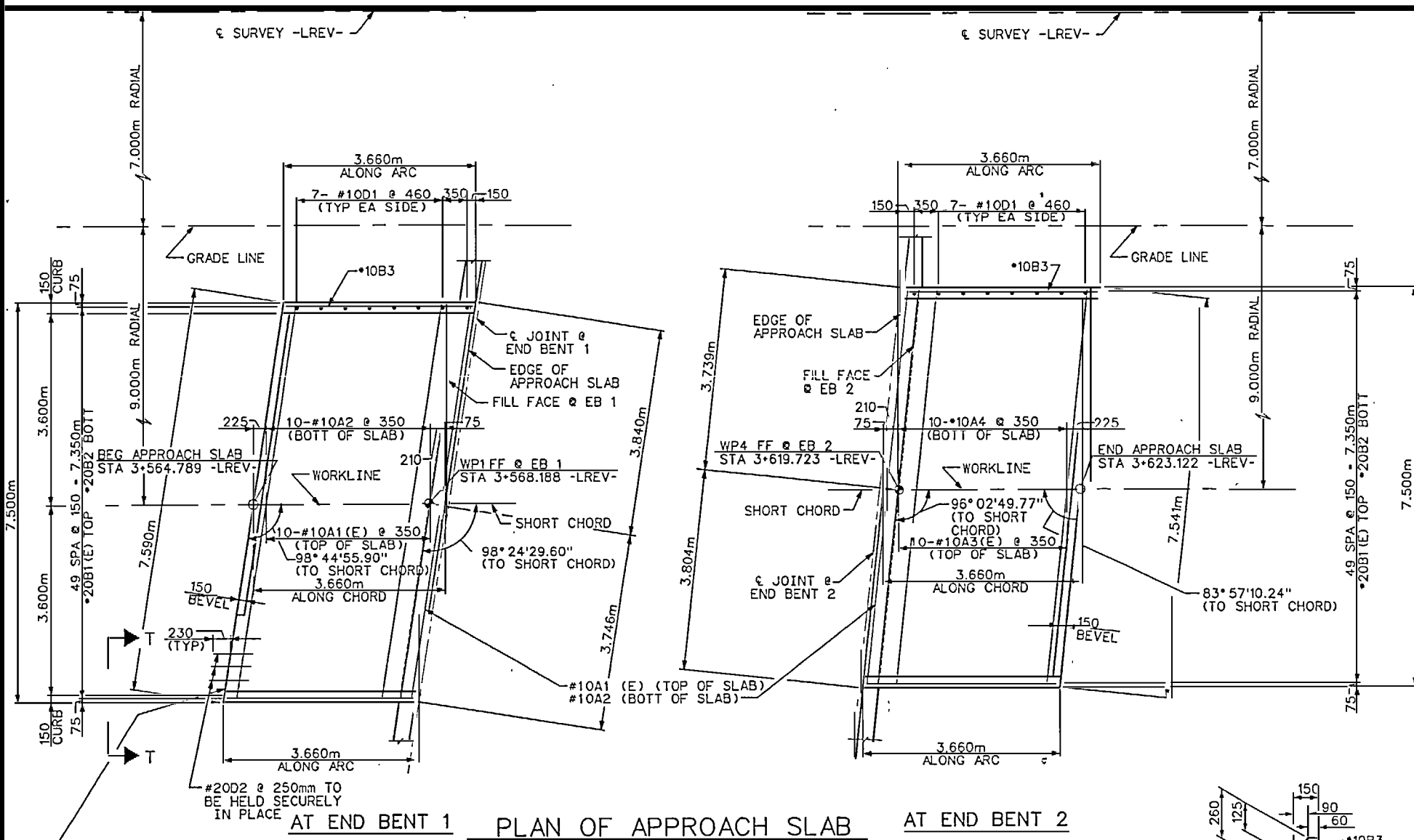
APPROACH SLAB AT END BENT 2

BAR	NO.	SIZE	TYPE	LENGTH	MASS
*A3	11	10	STR	7440	64
A4	11	10	STR	7440	64
*B1	50	20	STR	3460	397
B2	50	20	STR	3560	411
*B3	2	10	STR	3420	5
*D1	16	10	STR	240	3

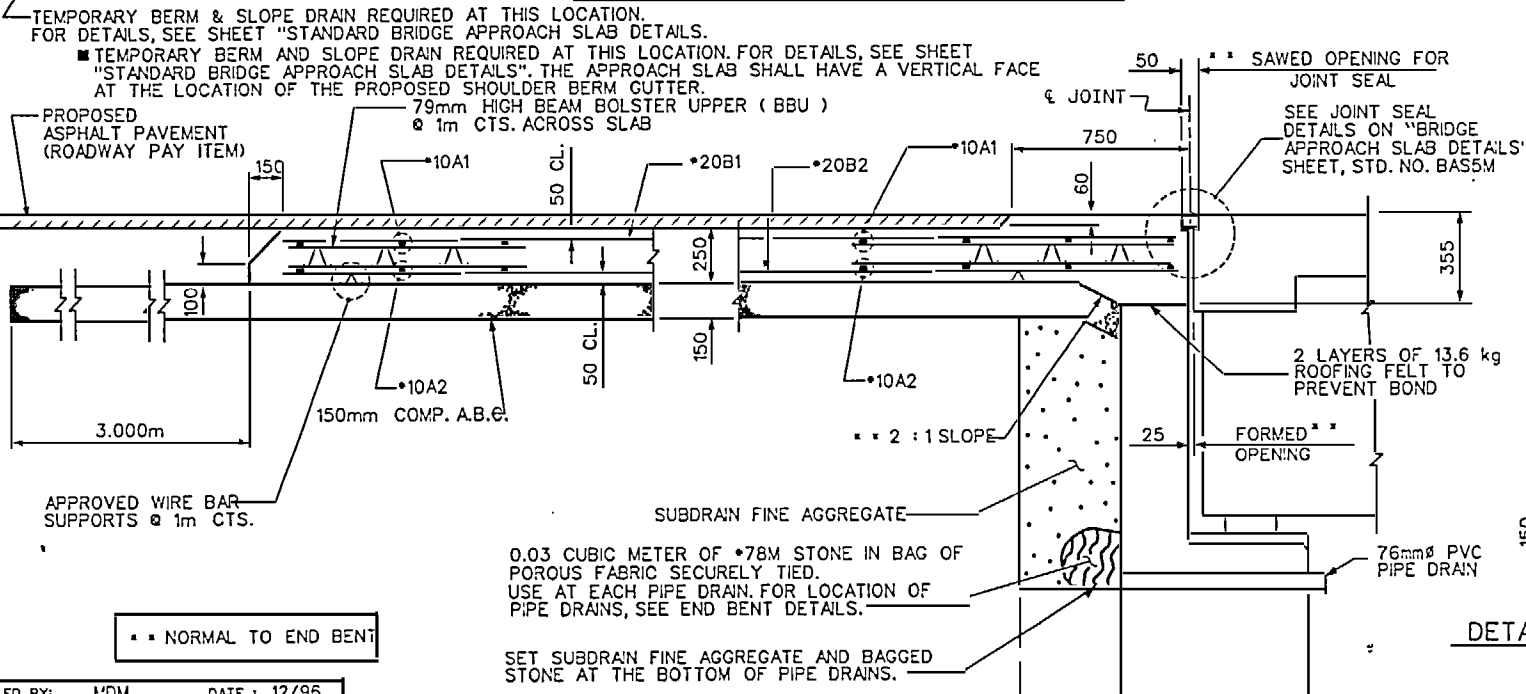
**\* EPOXY COATED REINFORCING**

END BENT 1	REINFORCING STEEL	MASS
	REINFORCING STEEL	476 Kg
	EPOXY COATED REINFORCING STEEL	473 Kg
	CLASS "AA" CONCRETE	7.1 m <sup>3</sup>

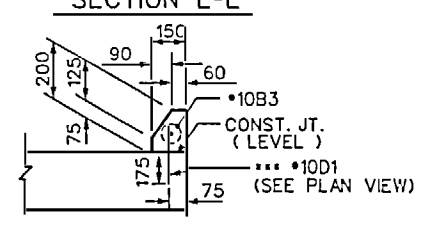
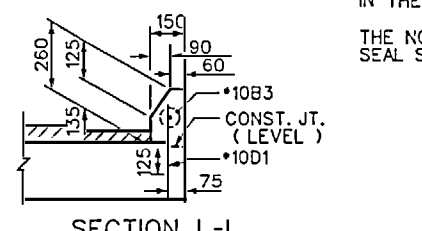
END BENT 2	REINFORCING STEEL	MASS
	REINFORCING STEEL	475 Kg
	EPOXY COATED REINFORCING STEEL	469 Kg
	CLASS "AA" CONCRETE	7.1 m <sup>3</sup>



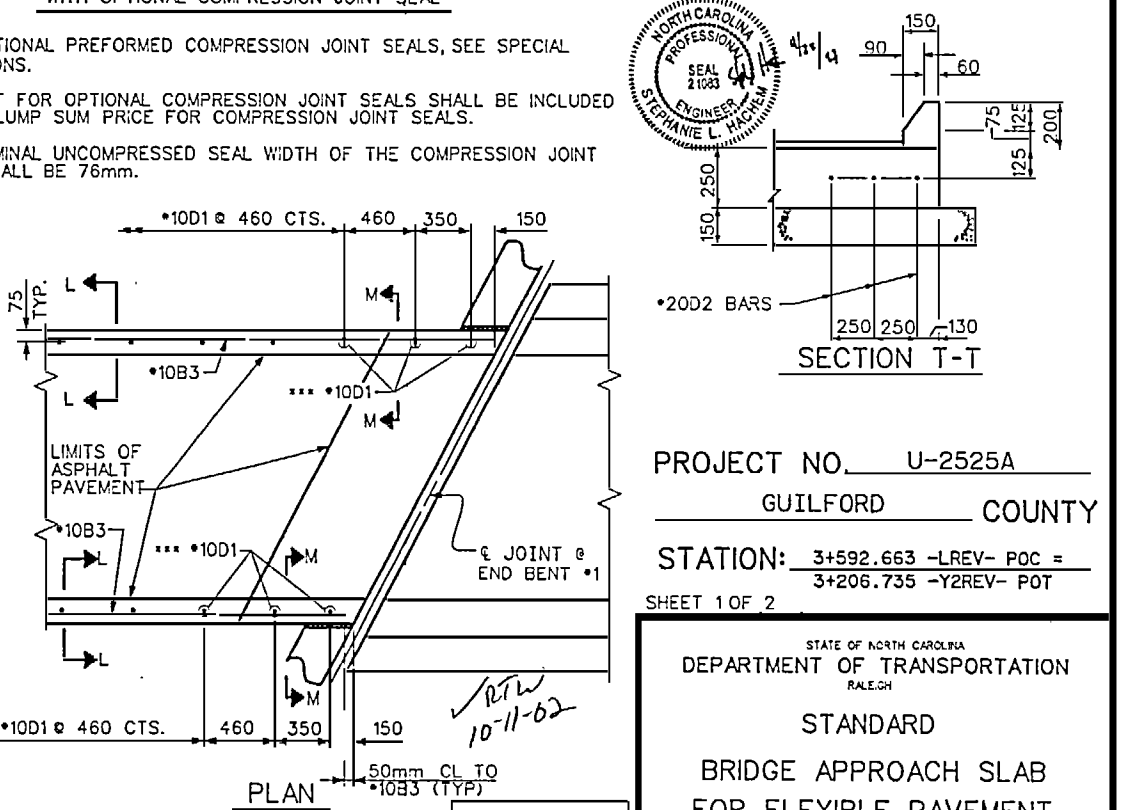
AT END BENT 1 PLAN OF APPROACH SLAB AT END BENT 2



SECTION THRU SLAB



DETAIL AT END OF CURB WITHOUT SPECIAL DRAINAGE



CURB DETAILS

PROJECT NO. U-2525A  
 GUILFORD COUNTY  
 STATION: 3+592.663 -LREV- POC = 3+206.735 -Y2REV- POT

SHEET 1 OF 2  
 STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 STANDARD  
 BRIDGE APPROACH SLAB  
 FOR FLEXIBLE PAVEMENT

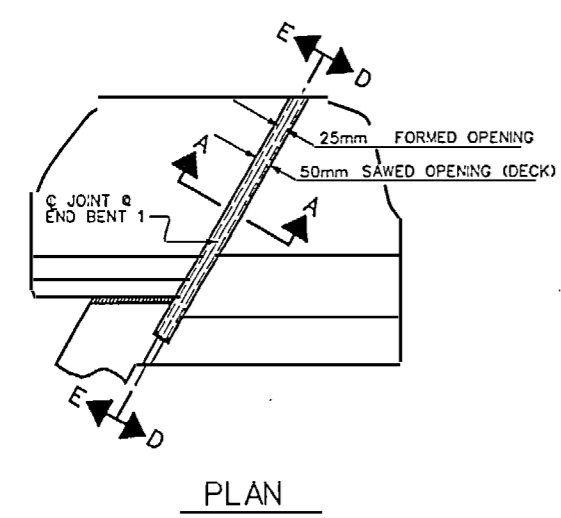
ASSEMBLED BY: LDM DATE: 12/95  
 CHECKED BY: SLH DATE: 12/95  
 STD. DRAWN BY: F. C. JONES DATE: 6/10/87  
 STD. CHECKED BY: F. G. ALLEN DATE: 6/25/87  
 REV. 10/1/93 ELR (K) GRP  
 REV. 6/1/94 EEM (K) GRP  
 REV. 6/18/95 EEM (K) RCW

21 APR 97 12:33:10 IRELAND

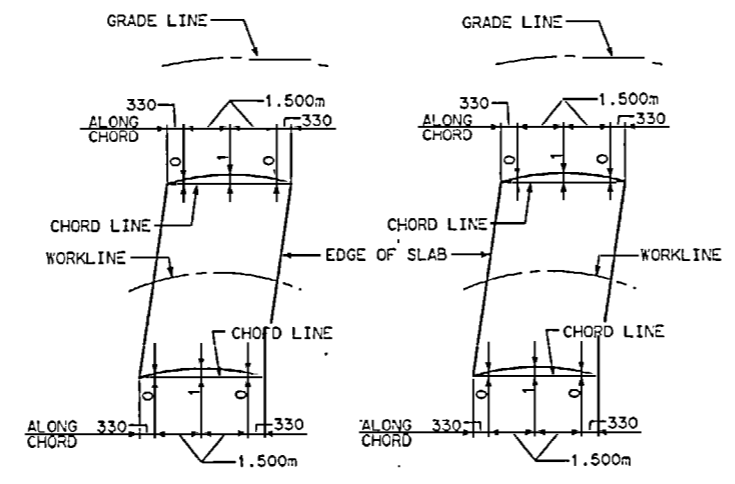
DRAWING 29 OF 30

NO.	DATE	NO.	DATE	SHEET NO.
1		3		5202
2		4		358

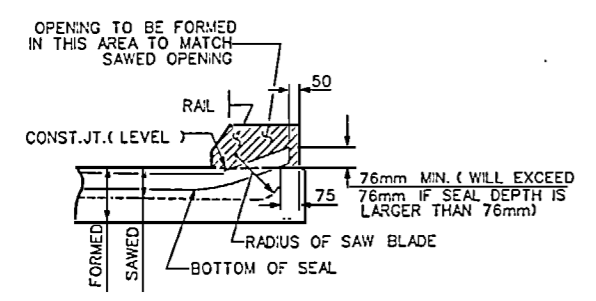
STD. NO. BAS2M



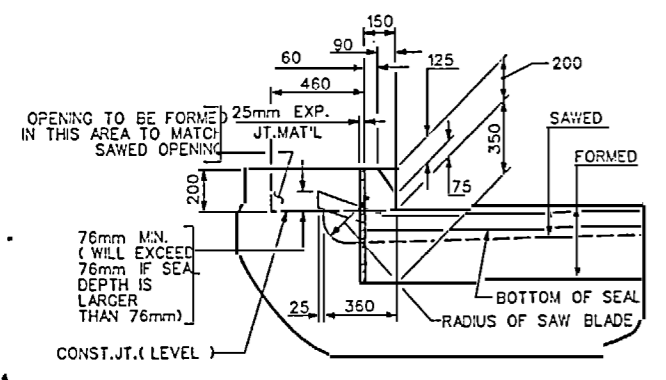
PLAN



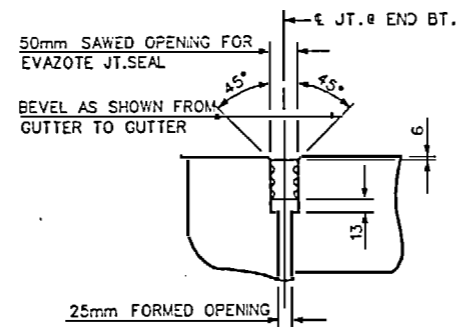
CURVE OFFSETS



SECTION D-D

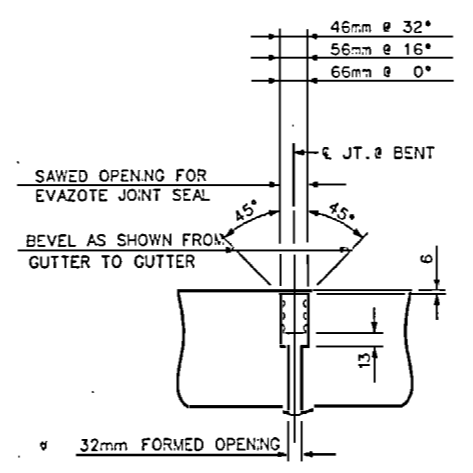


SECTION E-E



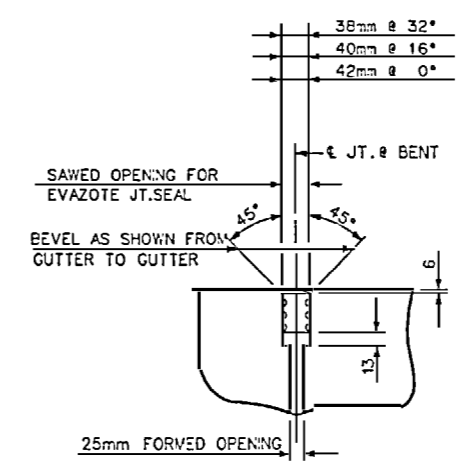
SECTION A-A

EVAZOTE JOINT SEAL (END BENT 1 & 2)  
 THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE EVAZOTE JOINT SEAL SHALL BE 64mm AT BOTH END BENTS.  
 FOR EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.



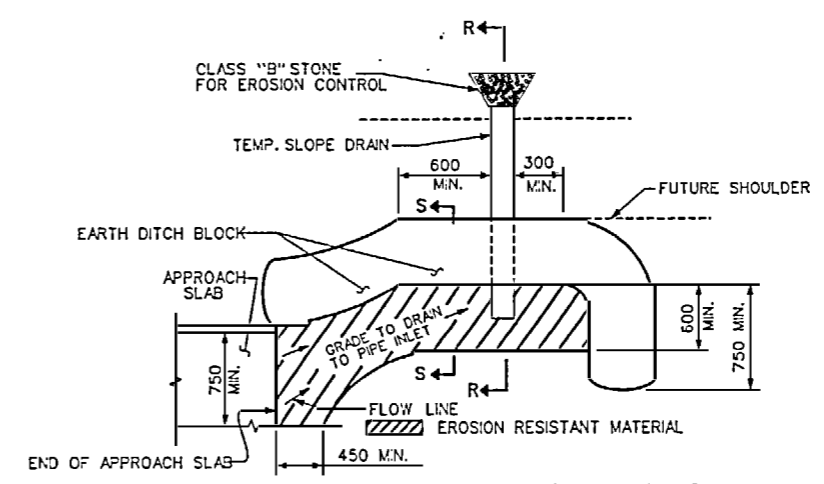
SECTION B-B

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE EVAZOTE JOINT SEAL SHALL BE 87mm AT BENT 1.  
 FOR EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.



SECTION C-C

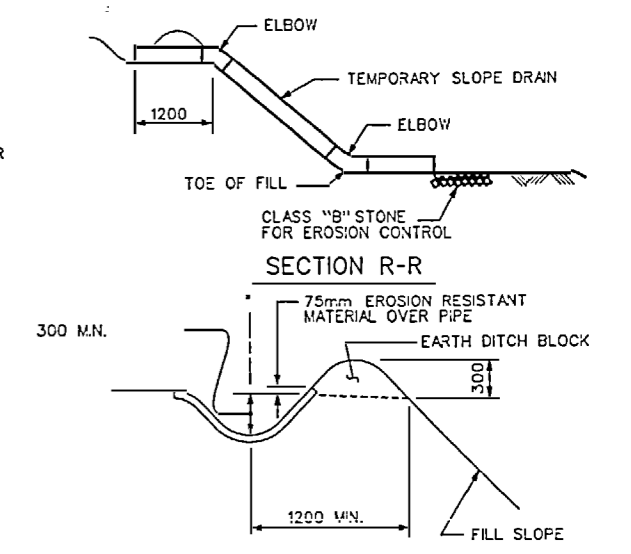
THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE EVAZOTE JOINT SEAL SHALL BE 64mm AT BENT 2.  
 FOR EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.



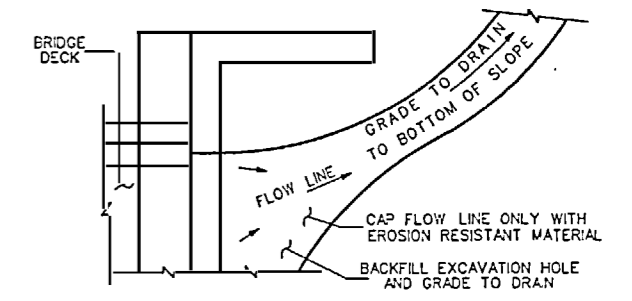
PLAN VIEW

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. 50mm 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, 305mm IN DIAMETER.

TEMPORARY BERM AND SLOPE DRAIN DETAILS



SECTION S-S



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 SLOPE AND PROVIDE EROSION RESISTANT 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

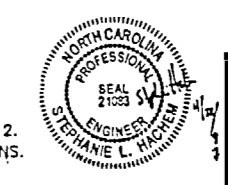
NOTE:  
 FOR SECTIONS A-A, B-B & C-C  
 SEE PLAN OF SPAN SHEETS.

JOINT SEAL DETAILS @ END BENT (FOR BARRIER RAIL)

JOINT SEAL DETAILS INTERIOR BENTS

ASSEMBLED BY : MDM	DATE : 12/95	SPECIAL
CHECKED BY : SLH	DATE : 12/95	
DRAWN BY : F. C. JONES	DATE : 11/28/88	STANDARD
CHECKED BY : A. R. BISSETTE	DATE : 11/28/88	

REV. 10/1/93 ELR (1) GRP  
 REV. 8/1/94 EEM (1) GRP  
 REV. 8/12/95 EEM (1) GRP



PROJECT NO. U-2525A  
 GUILFORD COUNTY  
 STATION: 3+592.663 -LREV- POC =  
 3+206.735 -Y2REV- POT

SHEET 2 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD BRIDGE APPROACH SLAB DETAILS					
DECEMBER 1988					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. 5-203					TOTAL SHEETS 358

DRAWING 30 OF 30

STD. NO. BASSM