



Project: WBS 42833.1.1 (B-5231)
 Bridge #162 on SR 1121 over Price Creek
 Yancey County

To: Meeting Attendees

Subject: MINUTES OF MEETING

Date Prepared: January 13, 2010

Prepared by: Jim Mondolfi

PURPOSE/DESCRIPTION:		Pre-Bid Meeting
DATE & TIME:		Wednesday, January 6, 2010 10:00 am
LOCATION:		NCDOT Bridge Management Unit Small Conference Room Raleigh, North Carolina
ATTENDEES		
Name	Representing	Telephone Number
	See Meeting Roster	
Jim Mondolfi	Ko/Florence & Hutcheson, Inc.	919-851-6066

The following items were discussed:

- 1) Revised Drawing 3 of 31 indicating cored slab details is attached.
- 2) Revised Drawings 4, 5, 6, 7, 8, 9, 13 & 13A was distributed to all attendees at the meeting. A complete set of drawings with revisions will be resubmitted to the BMU.
- 3) Page 5 in the Bid Proposal Document should read "Bids received after 2:00 pm, Tuesday, January 26, 2010 will not be accepted".
- 4) The existing bridge components will be removed and disposed of by the Contractor.

- 5) The cored slabs to be used to construct the proposed bridge are currently stored at the Yancey County Maintenance Yard located on Bakers Creek Road, Burnsville, NC 28714. The Contractor will be responsible for loading and transporting the cored slab units to the construction site.
- 6) Division 13 will not provide a portable traffic signal for use during construction. The Contractor shall include the cost for this item in his price bid for Item "Traffic Control".
- 7) Item "Safety Fence" was listed twice on the Bid Sheets. Item "Temporary Silt Fence" was omitted from the Bid Sheet. Temporary Silt Fence will be added to the Bid Sheets.
- 8) The quantity indicated for Safety Fence is 2700 linear feet. The limits of the safety fence delineate the edge of water and also to define the ESA. A sketch showing the project limits is attached for distribution to all attendees.
- 9) Items "Generic Mobilization (Pile Excavation)", "Pile Excavation in Soil" and "Pile Excavation Not in Soil" will be added to the Bid Sheets.
- 10) Bid Sheets are revised and attached for distribution to all attendees.

JEM/

BID SHEETS (REVISED ON 1-20-2010)

CONTRACT COST PROPOSAL

The Contractor agrees to provide the services outlined in this proposal for the following fixed price:

BRIDGE REPLACEMENT WITH PRESTRESSED CORED SLABS

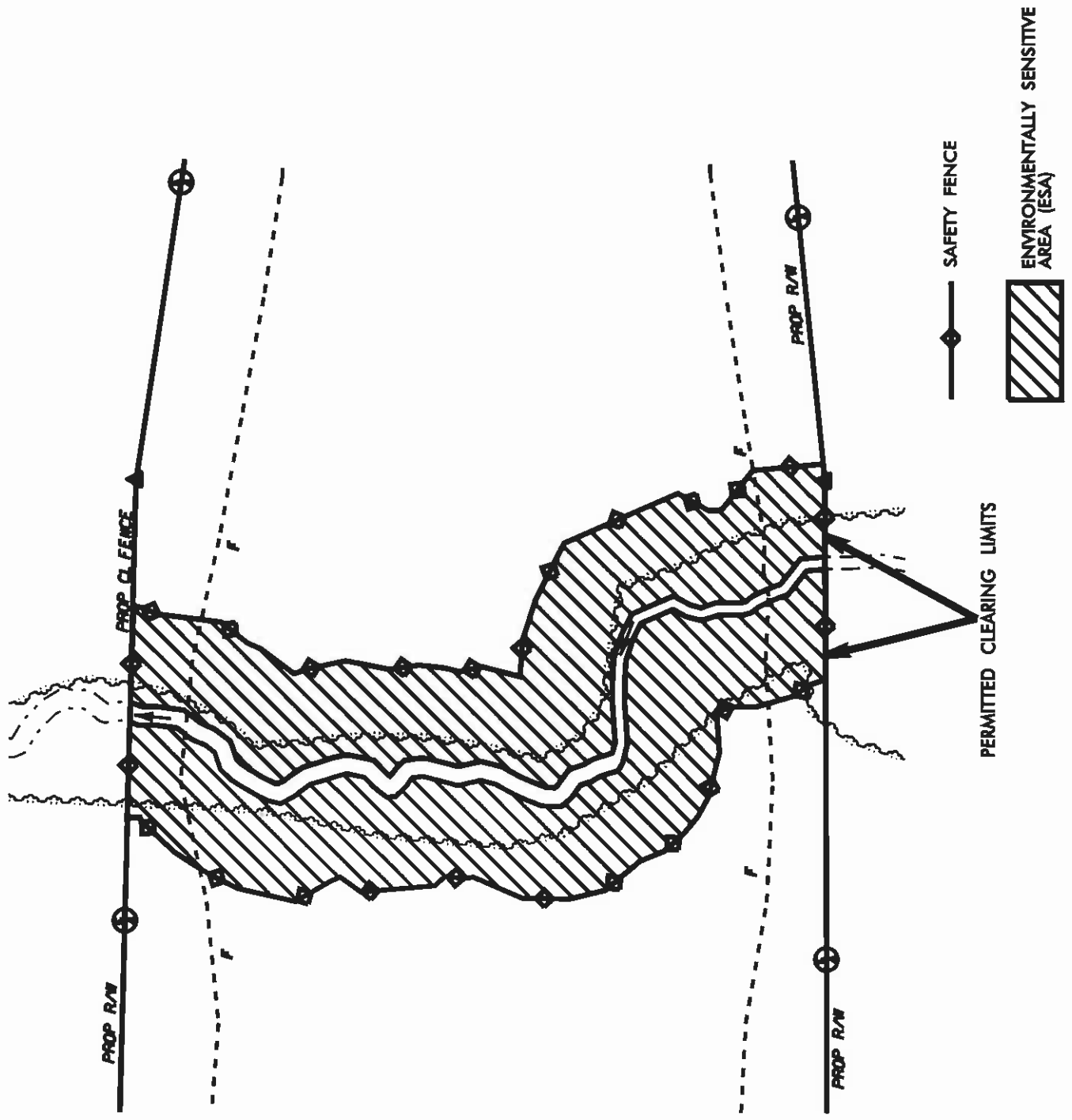
ITEM NUMBER	SEC #	DESCRIPTION	QUANTITY	UNIT COST	AMOUNT
0000100000-N	800	MOBILIZATION	LS	<u>LS</u>	_____
0000900000-N	SP	GENERIC MOBILIZATION (PILE EXCAVATION)	LS	<u>LS</u>	_____
0248000000-N	SP	GENERIC GRADING ITEM (EXCAVATION AND EMBANKMENT)	LS	<u>LS</u>	_____
0199000000-E	SP	TEMPORARY SHORING	820 SF	_____	_____
0344000000-E	310	18" SIDE DRAIN PIPE	24 LIN. FT.	_____	_____
0366000000-E	310	36"BIT.COATED CS PIPE CULVERT TYPE B, 0.079" THICK	32 LIN. FT.	_____	_____
1220000000-E	545	INCIDENTAL STONE BASE	50 TONS	_____	_____
1489000000-E	610	ASPHALT CONCRETE BASE COURSE, TYPE B25.0B	275 TONS	_____	_____
1519000000-E	610	ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B	307 TONS	_____	_____
1560000000-E	620	ASPHALT BINDER FOR PLANT MIX, TYPE PG 64-22	30 TONS	_____	_____
2286000000-E	840	MASONRY DRAINAGE STRUCTURES	1 EACH	_____	_____
2355000000-E	840	FRAME WITH TWO GRATES, STD 840.29	2 EACH	_____	_____

ITEM NUMBER	SEC.	DESCRIPTION	QUANTITY	UNIT COST	AMOUNT
2556000000-E	846	SHOULDER BERM GUTTER	42 LIN. FT.	_____	_____
3030000000-E	862	STEEL BEAM GUARDRAIL	100 LIN. FT	_____	_____
3045000000-E	862	STEEL BEAM GUARDRAIL (SHOP CURVED)	12.5 LIN. FT	_____	_____
3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	5 EACH	_____	_____
3270000000-N	SP	GUARDRAIL ANCHOR UNIT, TYPE 350	3 EACH	_____	_____
3317000000-N	862	GUARDRAIL ANCHOR UNIT, TYPE B-77	4 EACH	_____	_____
3195000000-N	862	GUARDRAIL ANCHOR UNIT, TYPE AT-1	1 EACH	_____	_____
3656000000-E	876	FILTER FABRIC FOR DRAINAGE	660 S.Y.	_____	_____
4589000000-N	1100	GENERIC TRAFFIC CONTROL	LS	<u>LS</u>	_____
6000000000-E	SP	TEMPORARY SILT FENCE	1180 LIN. FT.	_____	_____
6060000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	225 TONS	_____	_____
6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	195 TONS	_____	_____
6012000000-E	1610	SEDIMENT CONTROL STONE	45 TONS	_____	_____
6029000000-E	SP	SAFETY FENCE	2700 LIN. FT.	_____	_____
6030000000-E	1630	SILT EXCAVATION	270 CY	_____	_____

ITEM NUMBER	SEC.	DESCRIPTION	QUANTITY	UNIT COST	AMOUNT
6036000000-E	1631	MATTING FOR EROSION CONTROL	7500 SY	_____	_____
6133000000-E	SP	GENERIC EROSION CONTROL	LS	<u>LS</u>	_____
8035000000-N	402	REMOVAL OF EXISTING STRUCTURES	LS	<u>LS</u>	_____
8096000000-E	SP	PILE EXCAVATION IN SOIL	20 LIN.FT.	_____	_____
8097000000-E	SP	PILE EXCAVATION NOT IN SOIL	12 LIN.FT.	_____	_____
8210000000-N	422	BRIDGE APPROACH SLABS	LS	<u>LS</u>	_____
8365000000-E	SP	HP12X53 GALVANIZED STEEL PILES	228 LIN.FT.	_____	_____
8391000000-E	SP	STEEL PILE POINTS FOR HP12X53 STEEL PILES	14 EACH	_____	_____
8608000000-E	876	RIP RAP CLASS II	220 TON	_____	_____
8594000000-E	876	PLAIN RIP RAP, CLASS B	1 TON	_____	_____
8765000000-N	SP	CONSTR. OF SUBSTRUCTURE	LS	<u>LS</u>	_____
8766000000-N	SP	CONSTR. OF SUPERSTRUCTURE	LS	<u>LS</u>	_____

TOTAL PROJECT BID _____

JURISDICTIONAL STREAM – HIGH QUALITY WATER (HQW)



—◆— SAFETY FENCE

▶ PERMITTED CLEARING LIMITS

▨ ENVIRONMENTALLY SENSITIVE AREA (ESA)

PILE EXCAVATION

(7-18-06)

1.0 GENERAL

This special provision governs installing piles using pile excavation in accordance with the plans and as directed by the Engineer. Pile excavation is necessary when piles can not be installed to the required bearing capacity and tip elevation with conventional driving equipment due to vibration concerns or the presence of rock, boulders, debris or very dense soils. Install piles in accordance with Section 450 of the Standard Specifications and this provision.

2.0 PILE EXCAVATION

Perform pile excavation to the required elevation shown on the plans or otherwise required by the Engineer. Excavate a hole with a diameter that will result in at least 3 in (75 mm) of clearance around the entire pile. Use equipment of adequate capacity and capable of drilling through soil and non-soil including rock, boulders, debris, man-made objects and any other materials encountered. Blasting is not permitted to advance the excavation. Blasting for core removal is only permitted when approved by the Engineer. Dispose of drilling spoils in accordance with Section 802 of the Standard Specifications and as directed by the Engineer. Drilling spoils consist of all excavated material including water removed from the excavation either by pumping or drilling tools.

If unstable, caving or sloughing soils are anticipated or encountered, the Engineer may require the Contractor to stabilize the excavation with steel casing. Steel casing may be either the sectional type or one continuous corrugated or non-corrugated piece. Steel casings should consist of clean watertight steel of ample strength to withstand handling and driving stresses and the pressures imposed by concrete, earth or backfill. Use steel casings with an outside diameter equal to the hole size and a minimum wall thickness of 1/4 in (7 mm).

3.0 CONCRETE PLACEMENT

Before placing concrete, center the pile in the excavation and drive to the required bearing capacity and specified tip elevation, if applicable, as shown on the plans or as directed by the Engineer. Check the water inflow rate in the excavation after any pumps have been removed. If the inflow rate is less than 6 in (150 mm) per half hour, remove any water and free fall the concrete into the excavation. Ensure that concrete flows completely around the pile. If the water inflow rate is greater than 6 in (150 mm) per half hour, propose a concrete placement procedure to the Engineer. The Engineer shall approve the concrete placement procedure before placing concrete.

Fill the excavation with Class A concrete in accordance with Section 1000 of the Standard Specifications except as modified herein. Provide concrete with a slump of 6 to 8 in (150 to 200 mm). Use an approved high-range water reducer to achieve this slump. Place concrete in a continuous manner and remove all casings.

4.0 MEASUREMENT AND PAYMENT

A. Method of Measurement

1. Pile Excavation in Soil

The quantity of “Pile Excavation in Soil” to be paid for will be the linear feet (meters) of pile excavation exclusive of the linear feet (meters) of “Pile Excavation Not in Soil” computed from elevations and dimensions as shown on the plans or from revised dimensions authorized by the Engineer.

2. Pile Excavation Not in Soil

The quantity of “Pile Excavation Not in Soil” to be paid for will be the linear feet (meters) of pile excavation in non-soil as determined by the Engineer. Non-soil is defined as material that can not be cut with a rock auger and requires excavation by coring, air tools, hand removal or other acceptable methods. Top of non-soil elevation is that elevation where the rock auger penetration rate is less than 2 in (50 mm) per 5 minutes of drilling at full crowd force and coring, air tools, etc. are used to advance the excavation. For pay purposes, after non-soil is encountered, earth seams, rock fragments and voids in the excavation less than 3 ft (0.9 m) in total length will be considered “Pile Excavation Not in Soil”. If the non-soil is discontinuous, payment will revert to “Pile Excavation in Soil” at the elevation where non-soil is no longer encountered.

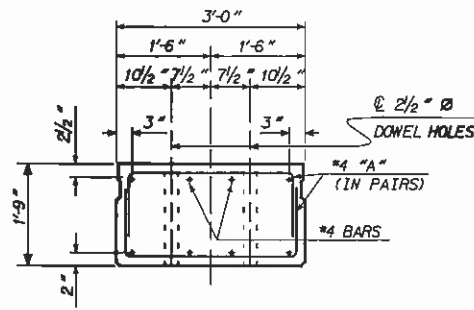
B. Basis of Payment

1. Pile Excavation in Soil

Payment will be made at the contract unit price per linear foot (meter) for “Pile Excavation in Soil”. Such payment will include, but is not limited to, furnishing all labor, tools, equipment, materials including concrete complete and in place and all incidentals necessary to excavate and complete the work as described in this provision. The cost for the pile will be paid for separately in accordance with the Standard Specifications and will not be part of the unit bid price for “Pile Excavation in Soil”.

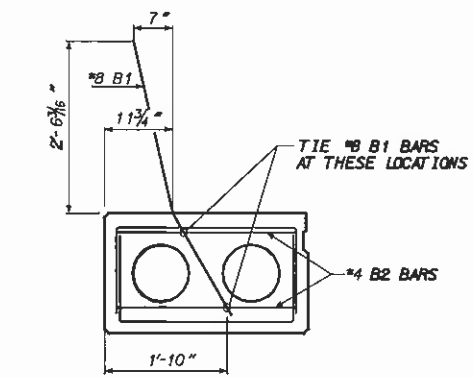
2. Pile Excavation Not in Soil

Payment will be made at the contract unit price per linear foot (meter) for “Pile Excavation Not in Soil”. Such payment will include, but is not limited to, furnishing all labor, tools, equipment, materials including concrete complete and in place and all incidentals necessary to excavate and complete the work as described in this provision. The cost for the pile will be paid for separately in accordance with the Standard Specifications and will not be part of the unit bid price for “Pile Excavation Not in Soil”.

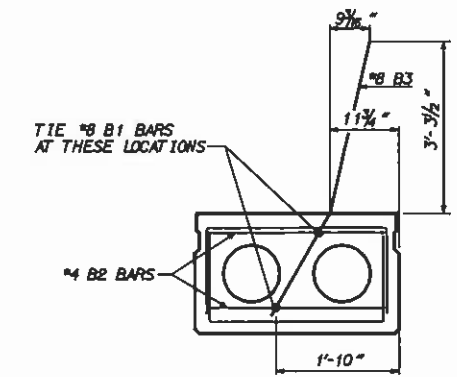


SLAB END ELEVATION

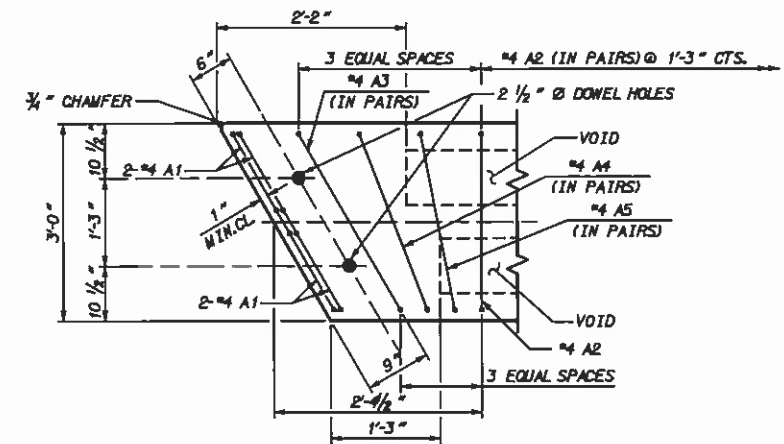
THE 2 1/2" DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH GROUT.



TIE LOCATION FOR #8 B1



TIE LOCATION FOR #8 B3

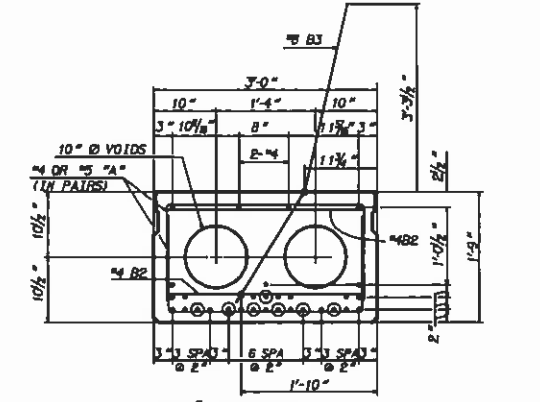


PART PLAN - SLAB

GENERAL NOTES
 ASSUMED LIVE LOAD - HS 20-44 OR ALTERNATE LOADING.
 CONCRETE: f'c - 7000 psi
 CONCRETE: f'ci - 5000 psi
 (COMPRESSIVE STRENGTH @ TRANSFER OF STRESSING FORCE.)
 ALL PRESTRESS STRANDS SHALL MEET THE REQUIREMENTS OF ASTM A416.
 ALL PRESTRESS STRANDS SHALL BE 7 WIRE, LOW RELAXATION, HIGH STRENGTH CABLES IN ACCORDANCE WITH THE SPECIFICATIONS.
 SIZE TYPE AREA ULTIMATE STR. 1/2" Ø HIGH 0.153 = 41,300 STR. PER CABLE APPLIED FORCE 30,980 * PER CABLE
 STRUCTURAL STEEL ITEMS SHALL BE OF A GRADE CONFORMING TO EITHER ASTM A36 OR A373, EXCEPT HIGH STRENGTH BOLTS. HIGH STRENGTH BOLTS SHALL BE ASTM A325. ALL STRUCTURAL STEEL SHALL BE GALVANIZED AS PER THE SPECIFICATIONS.
 ALL MATERIAL AND WORKMANSHIP SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OF THE NC DEPARTMENT OF TRANSPORTATION DATED JANUARY 2002 AND WITH THE SPECIAL PROVISIONS.
 THE ULTIMATE STRENGTH OF THE CORED SLAB UNIT MUST MEET THE REQUIREMENTS OF THE APPLICABLE AASHTO SPECIFICATIONS.
 STRANDS SHALL BE CUT FLUSH WITH ENDS OF SLABS AND EPOXY COATED.
 A POSITIVE HOLD DOWN SYSTEM MUST BE EMPLOYED TO PREVENT VOIDS FROM RISING.
 NOTE: SPIRAL WIRE REINFORCEMENT MAY BE USED IN LIEU OF DEFORMED BARS FOR STIRRUPS. MIN. W3.5 X 6" PITCH.
 UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4".
 APPLY EPOXY PROTECTIVE COATING TO THE ENDS OF THE CORED SLAB UNITS.

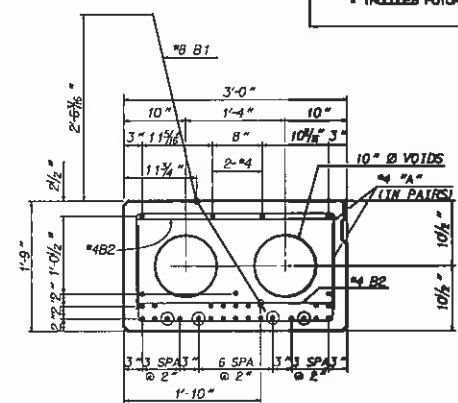
SHEATH CHART			
SPAN LENGTH	NUMBER OF SHEATHED STRANDS PER EXTERIOR SLAB SECTIONS	NUMBER OF SHEATHED STRANDS PER INTERIOR SLAB SECTIONS	NUMBER OF SHEATHED STRANDS PER UNIT #5 SLAB SECTIONS
60'	* 4 @ 2"	* 2 @ 2"	* 4 @ 2"
60'	* 1 @ 4"	* * 2 @ 2"	* 1 @ 4"
60'	* * 2 @ 2"	* * * 2 @ 2"	* * 2 @ 2"

* BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 4 FEET FROM THE END OF THE SLAB
 * * BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 6 FEET FROM THE END OF THE SLAB
 * * * BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 12 FEET FROM THE END OF THE SLAB



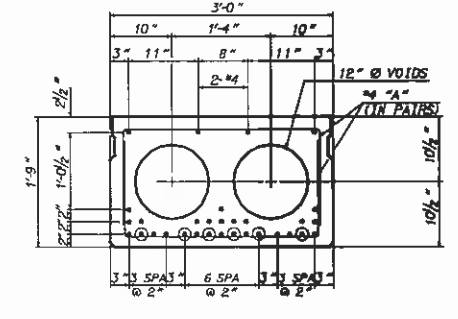
60' SPAN

29 - 1/2" Ø H.S. STRANDS CORED SLAB UNIT #5 (STAGE 2)



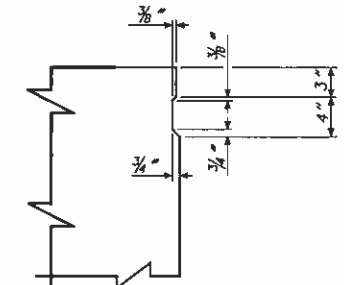
60' SPAN

29 - 1/2" Ø H.S. STRANDS EXTERIOR SLAB SECTIONS

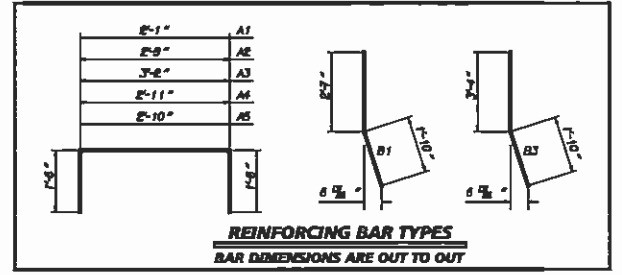


60' SPAN

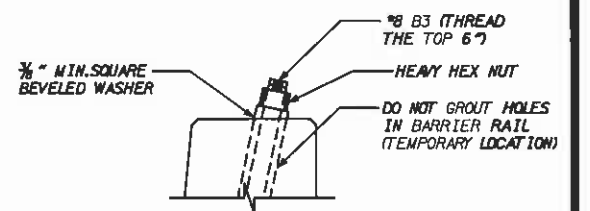
29 - 1/2" Ø H.S. STRANDS INTERIOR SLAB SECTIONS



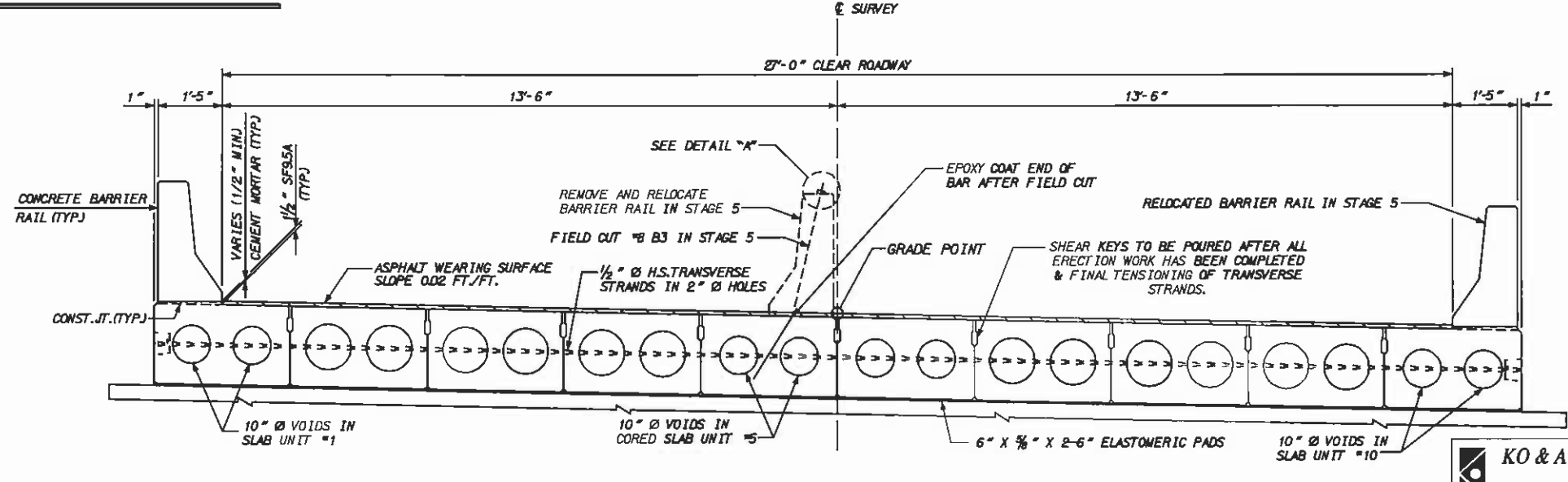
SHEAR KEY DETAIL



REINFORCING BAR TYPES
 BAR DIMENSIONS ARE OUT TO OUT



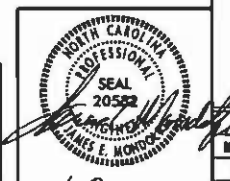
DETAIL "A"



TYPICAL SECTION

NOT TO SCALE

KO & ASSOCIATES, P.C.
 Consulting Engineers
 A Florence & Hutcheson, Inc. Company
 5121 KINGDOM WAY, SUITE 100 RALEIGH, N.C. 27607
 (919) 851-4064



PROJECT NO. 42833
 COUNTY: YANCEY
 STATION: 16+03.00
 REPLACES BRIDGE NO. 162

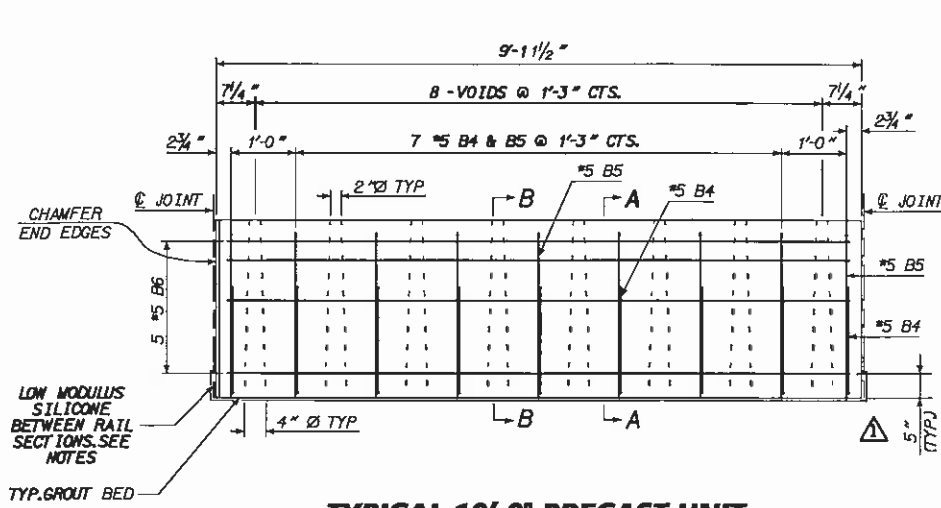
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD PRESTRESSED CORED SLAB
 60' SPAN
 27' CLEAR ROADWAY - 60° SKEW

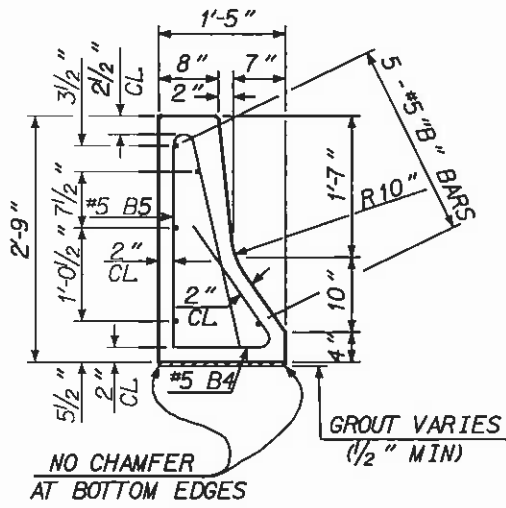
REVISIONS						NO.
NO.	BY	DATE	NO.	BY	DATE	3
1	JEM	12/29/09	0			TOTAL SHEETS
2			4			31

DRAWN BY: B.E. LANDING DATE: NOV 2009
 CHECKED BY: J.E. MONDOLFI DATE: NOV 2009

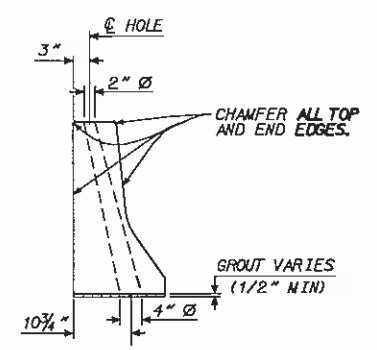
PLN 17/283



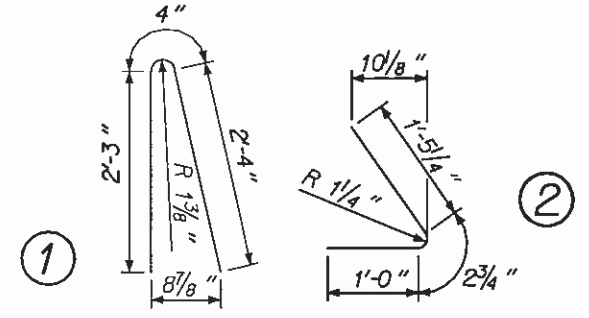
TYPICAL 10'-0" PRECAST UNIT



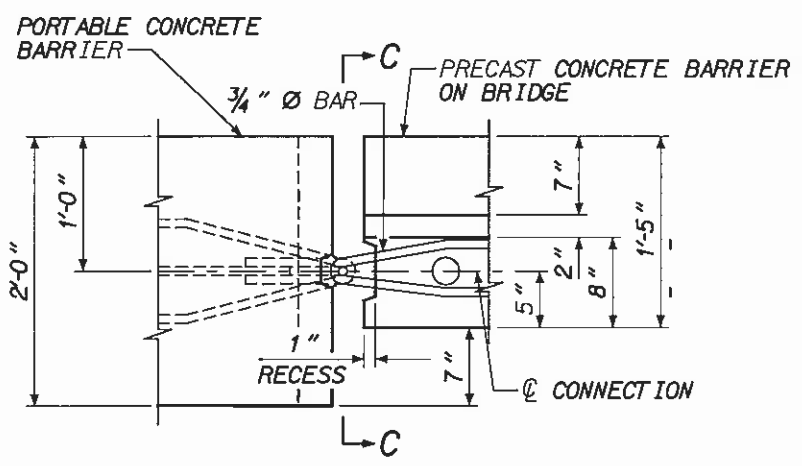
SECTION A-A



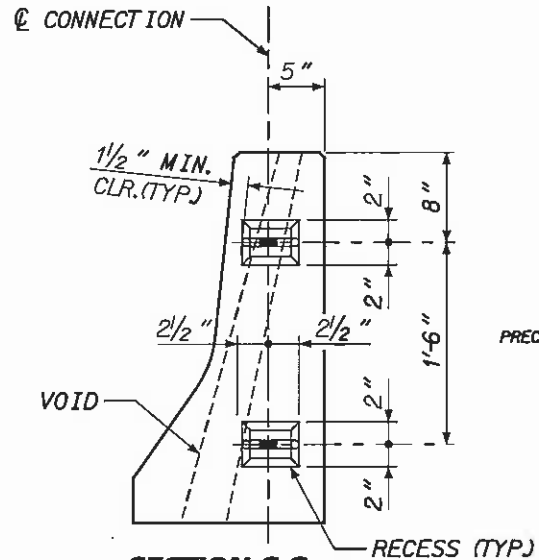
SECTION B-B



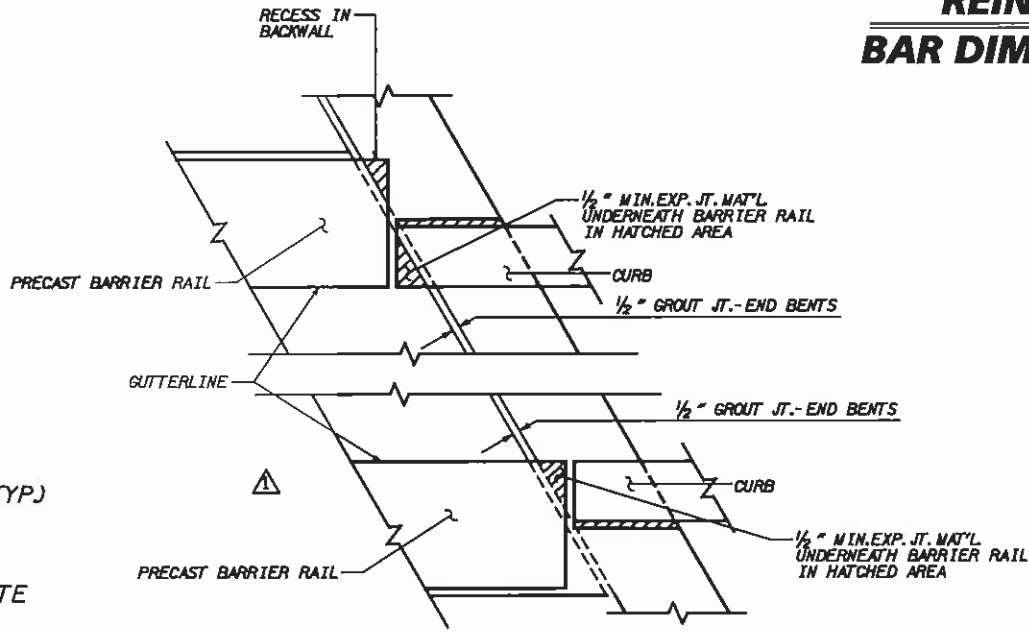
**REINFORCING BAR TYPES
BAR DIMENSIONS ARE OUT TO OUT**



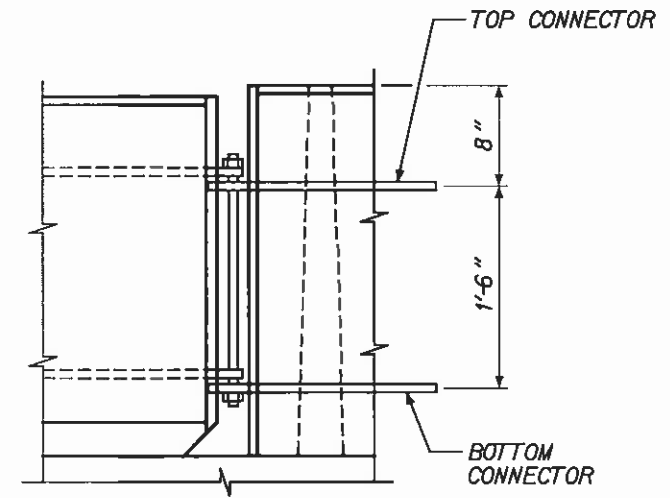
PLAN



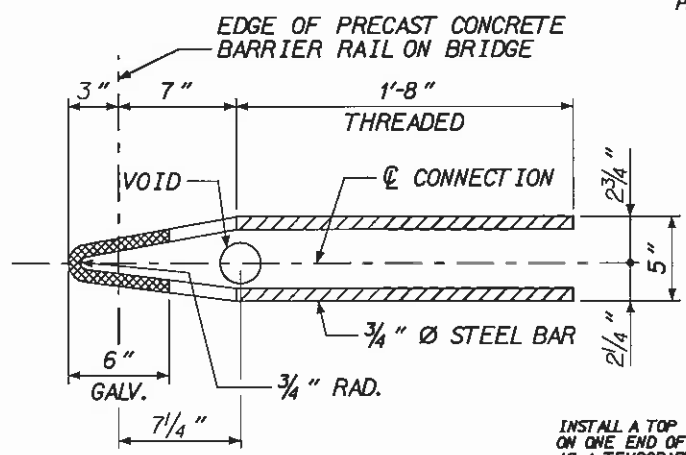
SECTION C-C



**PLAN OF BARRIER RAIL AND CURB
CORED SLAB AT END BENTS**



ELEVATION



CONNECTOR DETAIL

INSTALL A TOP CONNECTOR AND A BOTTOM CONNECTOR ON ONE END OF THE BRIDGE BARRIER RAIL UNIT, USED AS A TEMPORARY BARRIER RAIL FOR STAGE 4 CONSTRUCTION, LOCATED AT THE BEGINNING AND AT THE END OF THE BRIDGE.
AFTER MOVING THE BARRIER RAIL TO IT'S PERMANENT LOCATION IN STAGE 5, CUT THE 3/4" diameter BAR CONNECTOR FLUSH WITH THE CONCRETE SURFACE. FILL RECESS WITH NON-SHRINK, NON-METALLIC GROUT TO THE NEAT LINE OF BARRIER RAIL UNIT.

ADDED #5 INCH DIMENSION
REVISED NOTES
REVISED PLAN OF BARRIER RAIL DETAIL

BILL OF MATERIAL					
FOR ONE 10'-0" RAIL SECTION					
BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
B4	9	#5	1	4'-11"	46
B5	9	#5	2	2'-8"	25
B6	5	#5	STR	9'-7"	50
REINFORCING STEEL LBS. = 121					
CLASS AA CONCRETE CU. YDS. = 1.0					

- NOTES**
- EACH PRECAST RAIL UNIT SHALL BE CAST WITH CLASS AA CONCRETE.
 - CENTERLINE OF RAIL TO BE FLUSH WITH END OF CURED SLAB UNITS AT EACH END OF SPAN.
 - EACH PRECAST RAIL UNIT SHALL BE SUPPLIED WITH LIFTING DEVICES, NO CABLES ARE TO BE WRAPPED AROUND THE RAIL UNITS FOR LIFTING.
 - THE JOINT SEALER SHALL BE LOW MODULUS SILICONE SEALANT. SEE SECTION 102B-4 OF THE STANDARD SPECIFICATIONS.

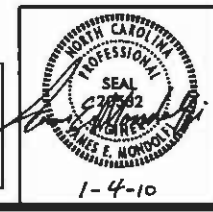
PROJECT NO. 42833
COUNTY: YANCEY
STATION: 16+03.00
REPLACES BRIDGE NO. 162

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD PRECAST CONCRETE
BARRIER RAIL SECTIONS
60' SPAN
27' CLEAR ROADWAY - 60° SKEW

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1	JEM	12/29/09	3		
2			4		

KO & ASSOCIATES, P.C.
Consulting Engineers
A Florence & Hutcheson, Inc. Company
5121 KINGDOM WAY, SUITE 100 RALEIGH, N.C. 27607
(919) 851-6666



CONNECTION DETAIL
(PORTABLE CONCRETE BARRIER AT END OF BRIDGE)

NOT TO SCALE

DRAWN BY: J.E. MONDOLFI DATE: NOV 2009
CHECKED BY: J.E. MONDOLFI DATE: NOV 2009

FILE NAME: P:\WORK\102833\102833-01\102833-01.dwg
 PLOT: 12/29/09 10:46:48 AM
 PLOT: 12/29/09 10:46:48 AM

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 3/4" Ø BOLTS WITH NUTS AND WASHERS, RUBRAIL, AND ADHESIVELY ANCHORED BOLTS.

THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M11.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 3/4" Ø GALVANIZED BOLTS, NUTS 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.)

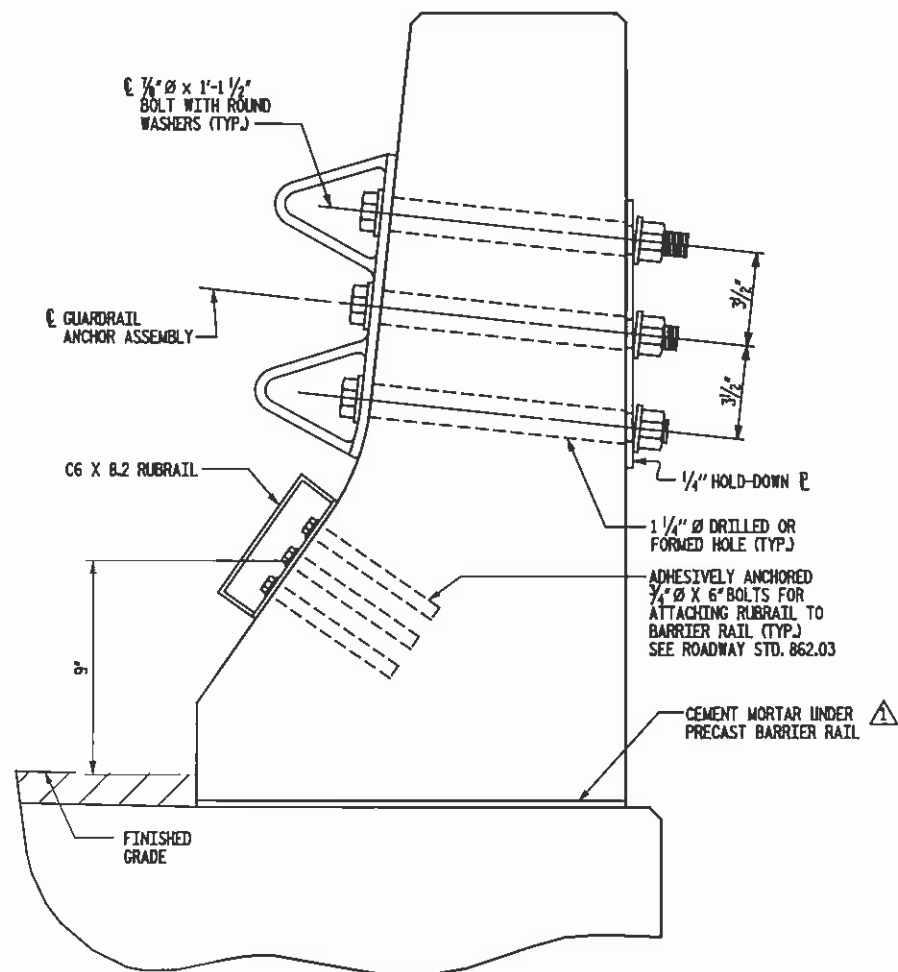
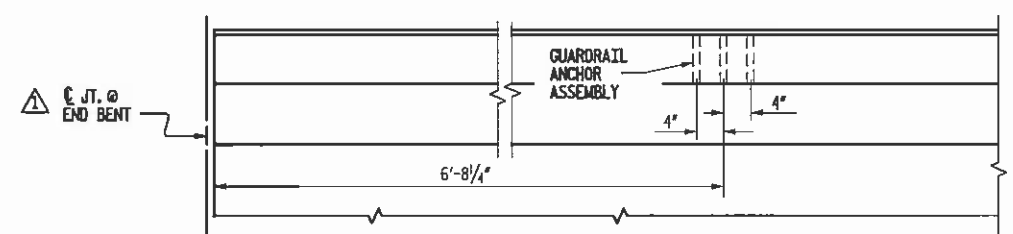
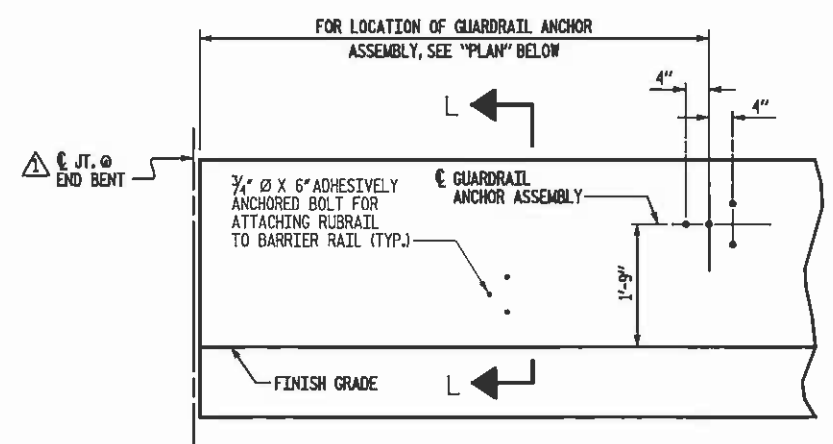
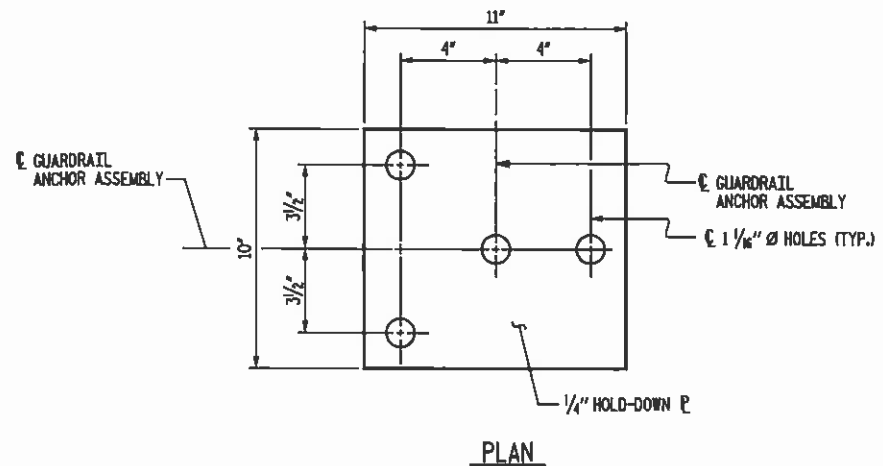
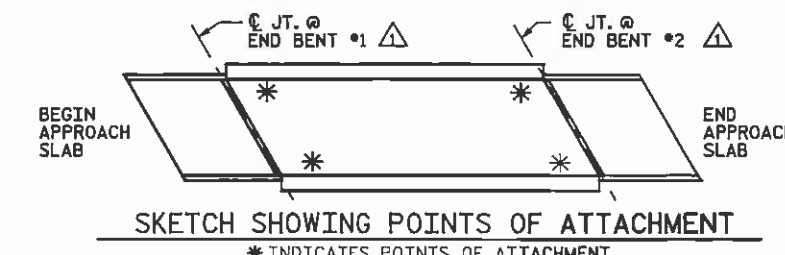
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF CONCRETE BARRIER RAIL OR CONCRETE END POSTS. FOR POINTS OF ATTACHMENT, SEE SKETCH.

AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

△ THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR GUARDRAIL ANCHOR UNIT TYPE B-77.

THE 1 1/4" Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

THE C6 X 8.2 RUBRAIL IS TO BE ADHESIVELY ANCHORED TO THE RAIL USING THREE 3/4" Ø X 6" BOLTS WITH WASHERS. LEVEL ONE FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE 3/4" Ø BOLT IS 12 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE SPECIAL PROVISIONS. SEE ROADWAY STANDARD B62.03 FOR DETAILS AND LOCATION OF THE RUBRAIL.



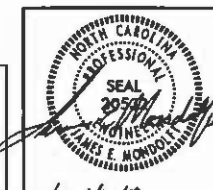
SECTION L-L
GUARDRAIL ANCHOR ASSEMBLY DETAILS
FOR CONCRETE BARRIER RAIL ONLY
(FOR LOCATION OF GUARDRAIL ANCHOR ASSEMBLY, SEE THIS SHEET)

- △ REVISED NOTE.
- REVISED DESCRIPTION CALLOUT.
- ADDED MORTAR NOTE.

PROJECT NO. 42833
COUNTY: YANCEY
STATION: 16+03.00
REPLACES BRIDGE NO. 162

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
GUARDRAIL ANCHORAGE
DETAILS

KO & ASSOCIATES, P.C.
Consulting Engineers
A Florence & Hutcheson, Inc. Company
5121 KINGDOM WAY, SUITE 100 RALEIGH, N.C. 27607
(919) 851-6066

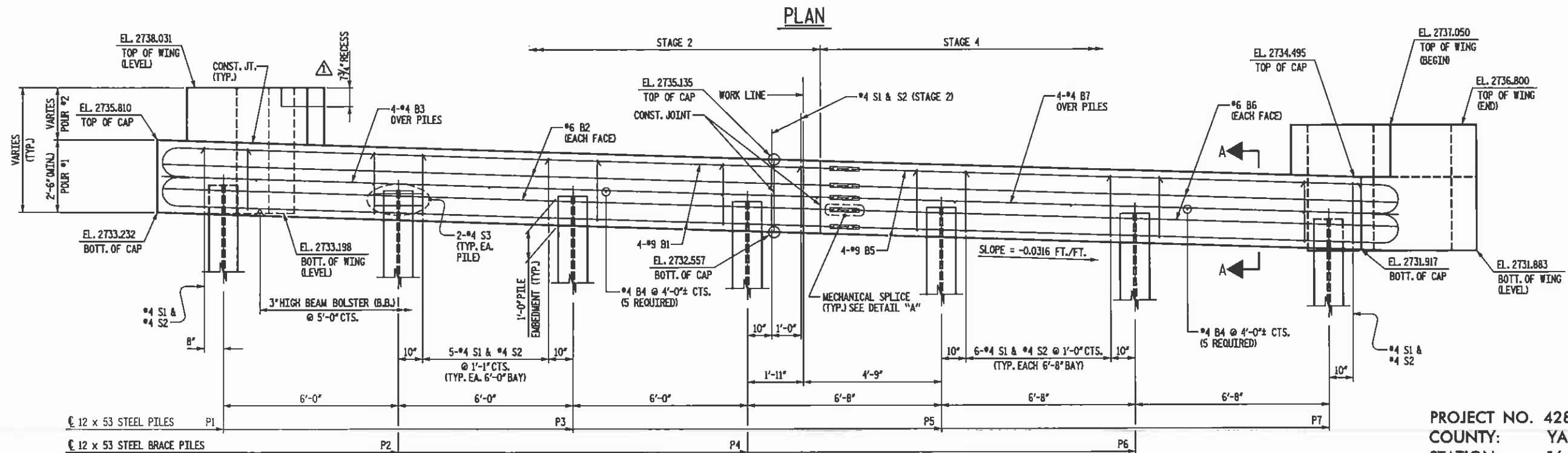
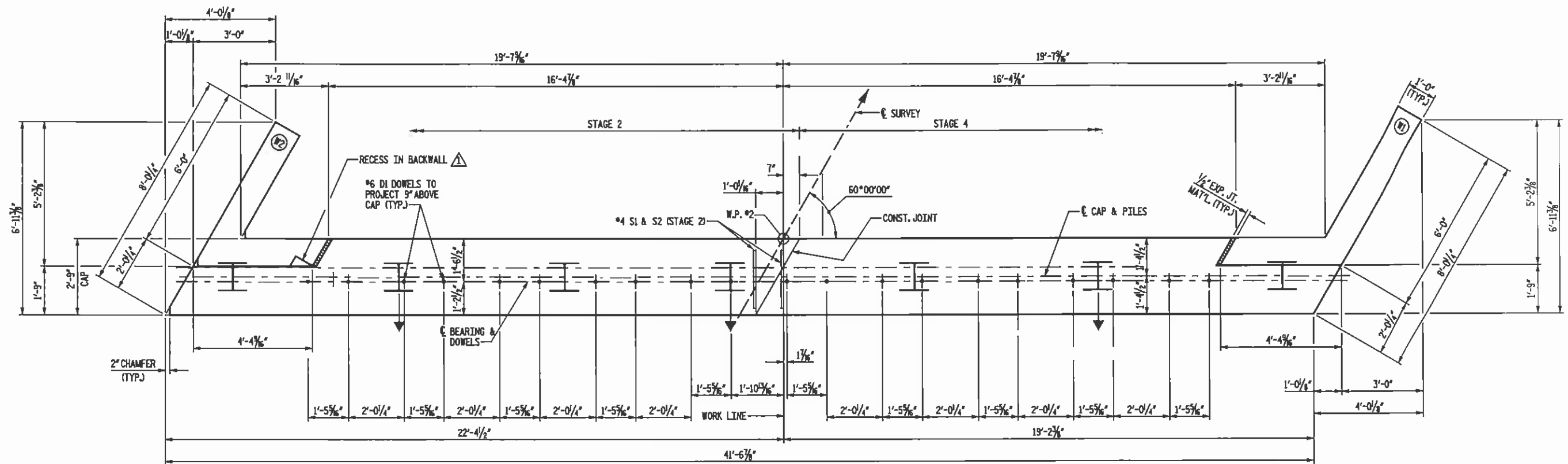


REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1	JEM	12/29/09	3		
2			4		

NOT TO SCALE

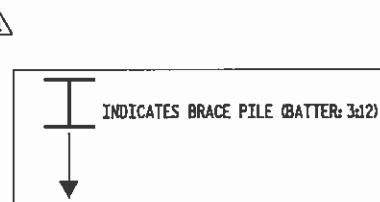
DRAWN BY: R.E. LANNING DATE: NOV 2009

CHECKED BY: J.E. MONDOLFI DATE: NOV 2009



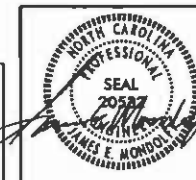
PILE	ELEVATION
P1	2734.221
P2	2734.031
P3	2733.841
P4	2733.651
P5	2733.440
P6	2733.229
P7	2733.018

NOTES:
STIRRUPS IN CAP MAY BE SHIFTED SLIGHTLY AS NECESSARY TO CLEAR DOWELS.



▲ ADDED RECESS IN BACKWALL
REMOVED SECOND NOTE

KO & ASSOCIATES, P.C.
Consulting Engineers
A Florence & Hutcheson, Inc. Company
5121 KINGDOM WAY, SUITE 100 RALEIGH, N.C. 27607
(919) 851-6066

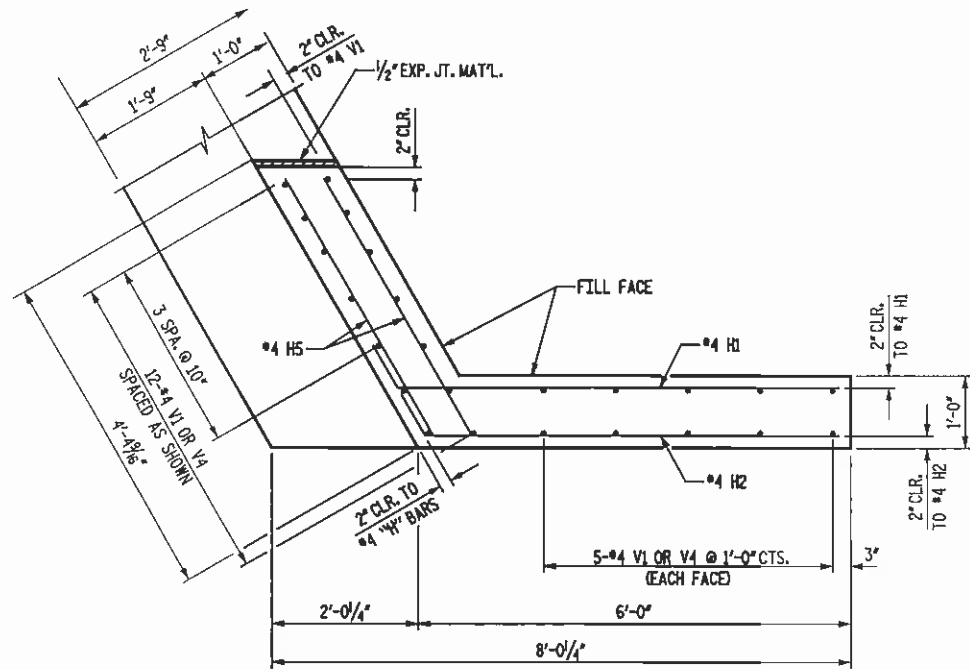


PROJECT NO. 42833
COUNTY: YANCEY
STATION: 16+03.00
REPLACES BRIDGE NO. 162

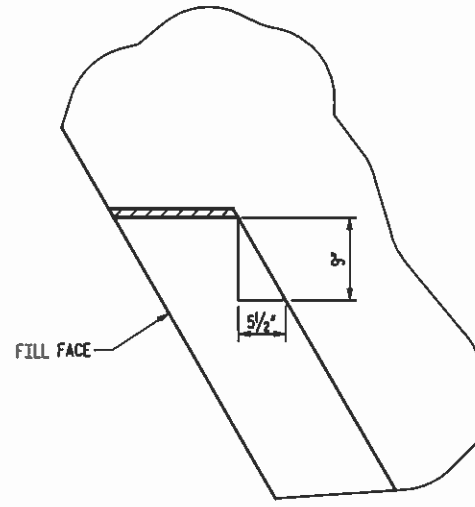
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALPHIGH
CAST - IN - PLACE
END BENT NO. 2
60' SPAN WITH APPROACH SLAB
27' CLEAR ROADWAY - 60° SKEW

REVISIONS						HEET NO.
NO.	BY	DATE	NO.	BY	DATE	8
1	JEM	12/29/09	3			TOTAL SHEETS
2			4			31

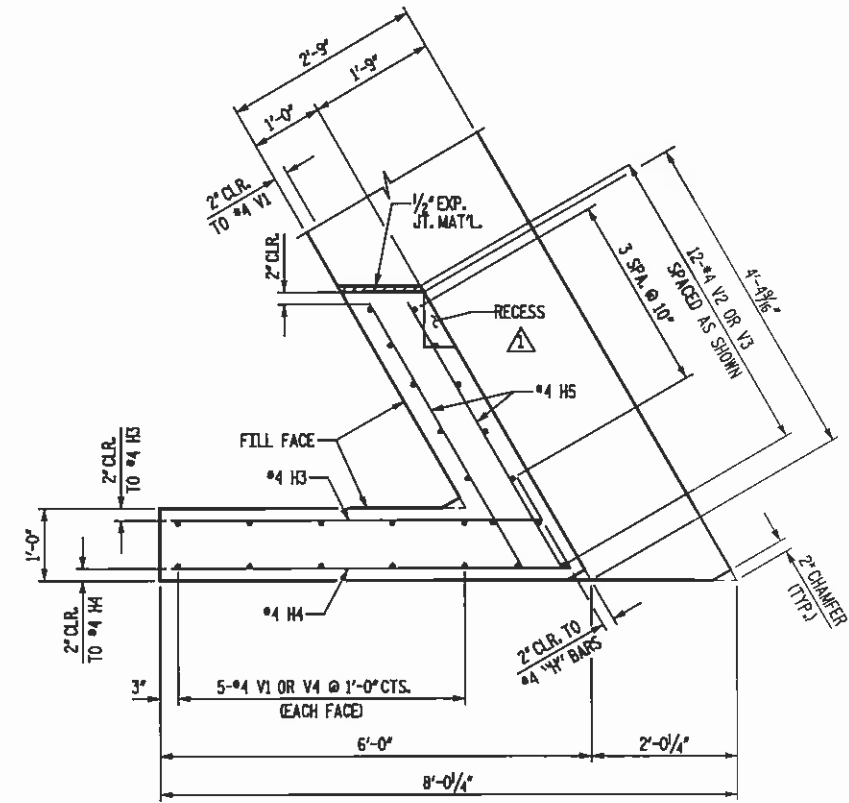
NOT TO SCALE



PLAN OF WING - W1

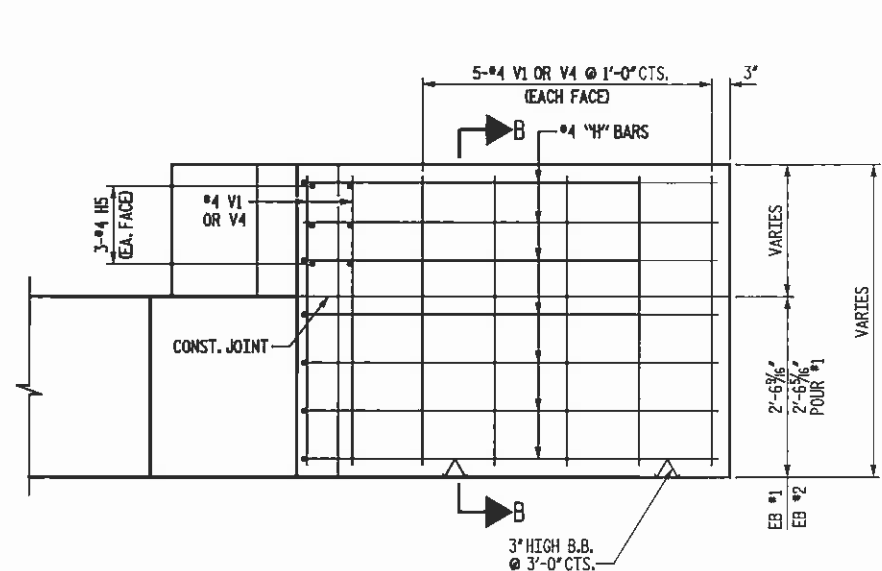


DETAIL OF RECESS
IN TOP OF BACKWALL
AT WING W2

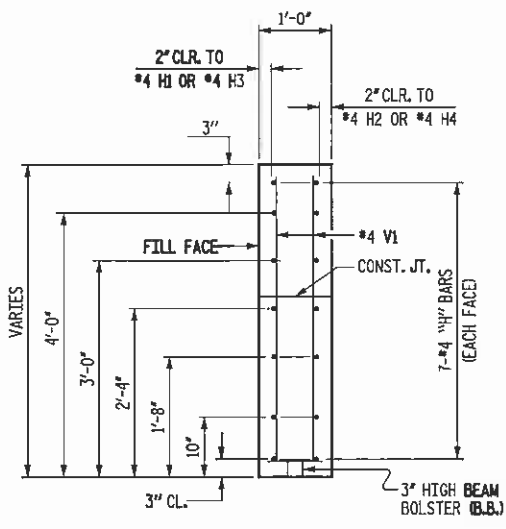


PLAN OF WING - W2

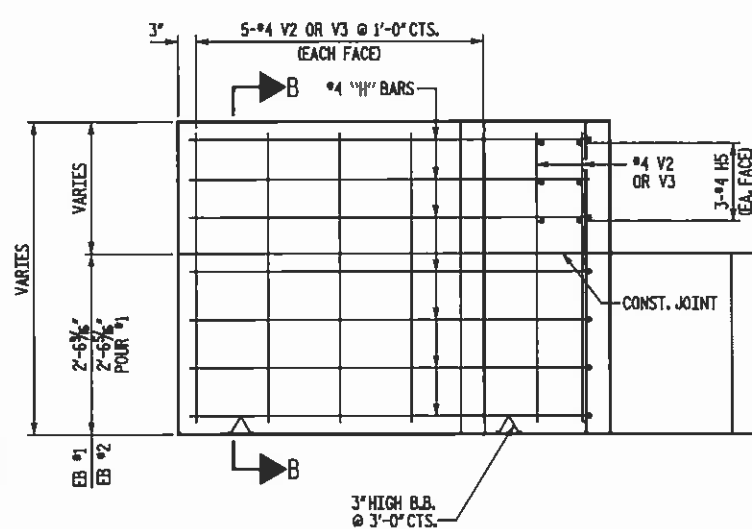
NOTE:
SHIFT, FIELD BEND OR CUT REINFORCING STEEL AS NECESSARY
TO CLEAR RECESS IN TOP OF BACKWALL.



ELEVATION OF WING - W1



SECTION B-B

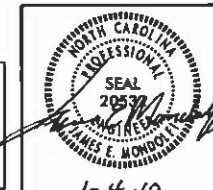


ELEVATION OF WING - W2

ADDED RECESS DETAIL AND NOTE

NOT TO SCALE

KO & ASSOCIATES, P.C.
Consulting Engineers
A Florence & Hutcheson, Inc. Company
5121 KINGDOM WAY, SUITE 100 RALEIGH, N.C. 27607
(919) 851-4066



PROJECT NO. 42833
COUNTY: YANCEY
STATION: 16+03.00
REPLACES BRIDGE NO. 162

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CAST - IN - PLACE
END BENT NO. 1 & 2 DETAILS

REVISIONS						QUANTITY
NO.	BY	DATE	NO.	BY	DATE	9
1	JEM	12/23/09	8			31
2			4			

DRAWN BY: B.E. LANNING DATE: NOV 2009
CHECKED BY: J.E. MONDOLFI DATE: NOV 2009

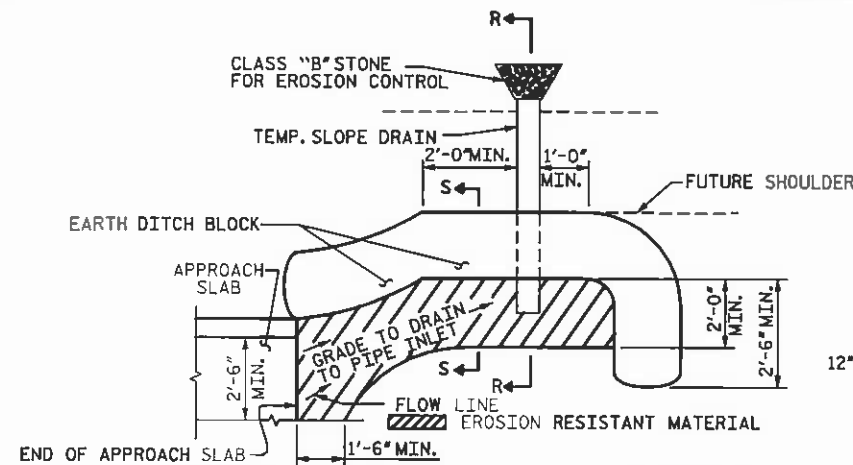
FILE NAME: P:\Projects\2009\12\16\160303\160303.dwg
 PLOT: 1/1/2010 9:56:41 AM E:\Administration\PLT

BILL OF MATERIAL

APPROACH SLAB AT END BENT #1- STAGE 2						APPROACH SLAB AT END BENT #1- STAGE 4						APPROACH SLAB AT END BENT #2 - STAGE 2						APPROACH SLAB AT END BENT #2 - STAGE 4									
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT				
*A1	13	4	STR	17'-6"	152	*A3	13	4	STR	14'-10"	129	*A1	13	4	STR	17'-6"	152	*A3	13	4	STR	14'-10"	129				
A2	13	4	STR	17'-5"	152	A4	13	4	STR	14'-10"	129	A2	13	4	STR	17'-6"	152	A4	13	4	STR	14'-10"	129				
*B1	29	5	STR	11'-1"	335	*B1	27	5	STR	11'-1"	312	*B1	29	5	STR	11'-1"	335	*B1	27	5	STR	11'-1"	312				
B2	29	6	STR	11'-7"	505	B2	27	6	STR	11'-7"	470	B2	29	6	STR	11'-7"	505	B2	27	6	STR	11'-7"	470				
REINFORCING STEEL					LBS.	657	REINFORCING STEEL					LBS.	599	REINFORCING STEEL					LBS.	657	REINFORCING STEEL					LBS.	599
*EPOXY COATED REINFORCING STEEL					LBS.	487	*EPOXY COATED REINFORCING STEEL					LBS.	441	*EPOXY COATED REINFORCING STEEL					LBS.	487	*EPOXY COATED REINFORCING STEEL					LBS.	441
CLASS AA CONCRETE					C. Y.	7.5	CLASS AA CONCRETE					C. Y.	7.5	CLASS AA CONCRETE					C. Y.	7.5	CLASS AA CONCRETE					C. Y.	7.5

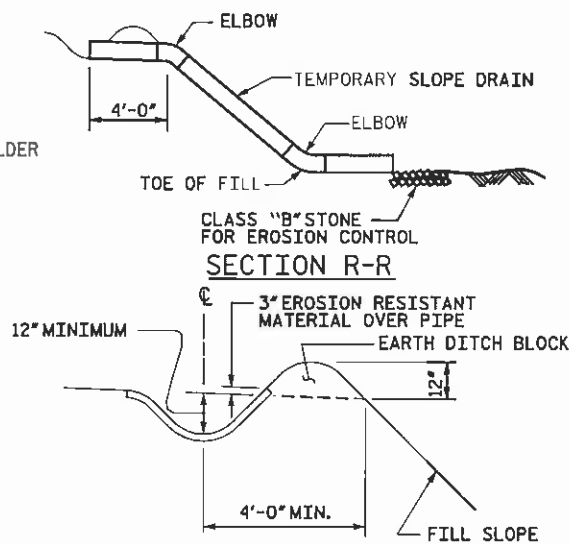
NOTES

- FOR BRIDGE APPROACH FILL INCLUDING FABRIC, 4" Ø DRAINAGE PIPE, AND *78M STONE BACKFILL, SEE BRIDGE APPROACH FILLS, SHEET 13A.
- APPROACH SLAB SHALL NOT BE CONSTRUCTED PRIOR TO INSTALLATION OF CORED SLAB.
- FABRIC SHALL BE TYPE 1 ENGINEERING FABRIC IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 1056.
- *78M STONE BACKFILL (CLASS V SELECT MATERIAL) SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 1016.
- *78M STONE BACKFILL IS TO BE CONTINUOUS ALONG FILL FACE OF END BENT CAP FROM OUTSIDE EDGE OF APPROACH SLAB.
- FOR THE 4" Ø DRAINAGE PIPE OUTLET(S), SEE BRIDGE APPROACH FILLS, SHEET 13A.

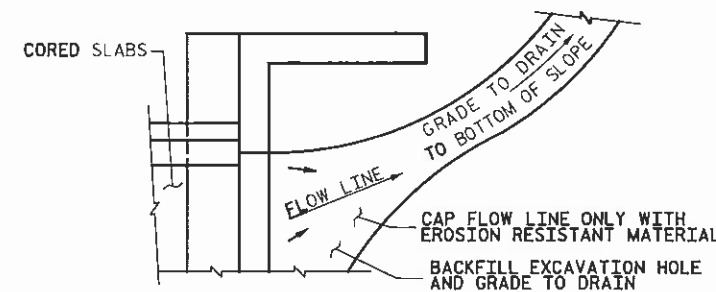


NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN. 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

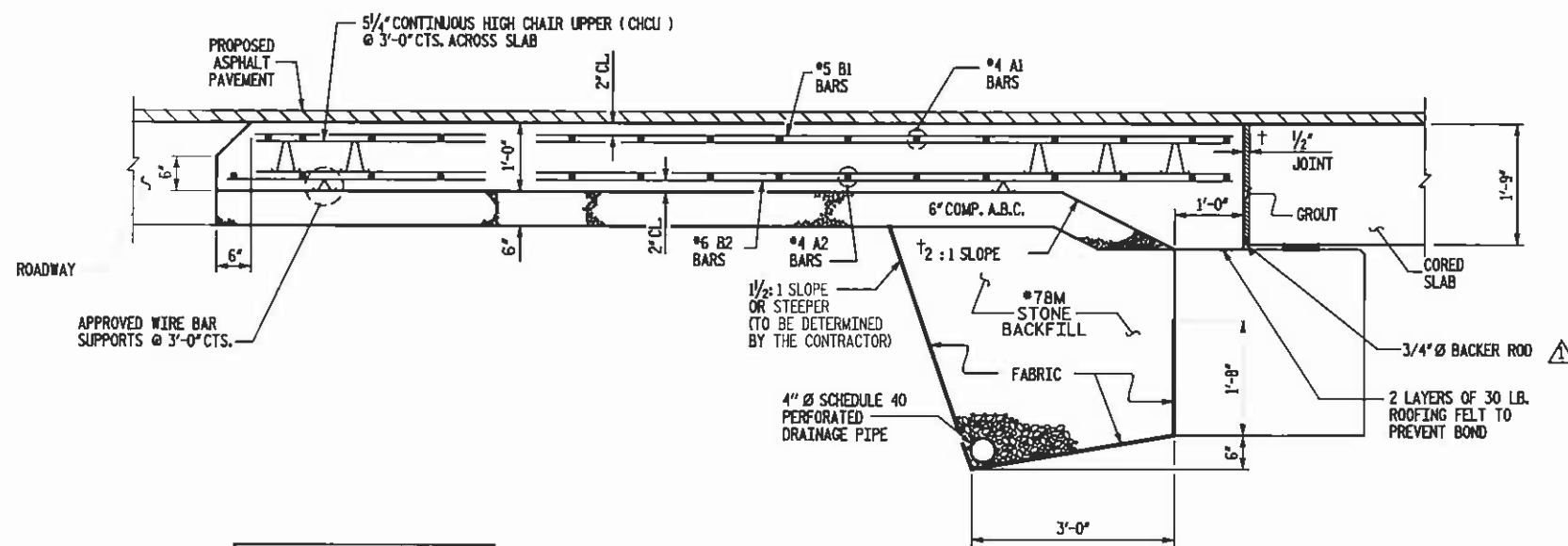


NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT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

TEMPORARY DRAINAGE DETAIL

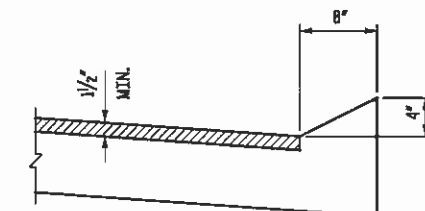
TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)

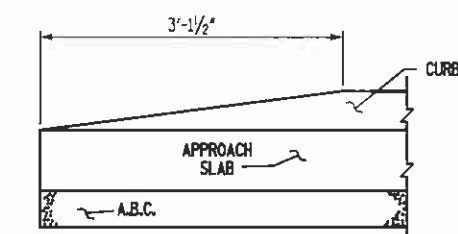


† NORMAL TO END BENT

SECTION THRU SLAB



SECTION N-N



END OF CURB WITHOUT SHOULDER BERM GUTTER CURB DETAILS

- REVISOR'S NOTES
- ADDED BACKER ROD NOTE
- REVISED TITLE BLOCK

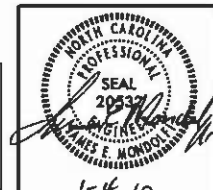
PROJECT NO. 42833
 COUNTY: YANCEY
 STATION: 16+03.00
 REPLACES BRIDGE NO. 162

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

APPROACH SLAB
 27'-0" CLEAR ROADWAY
 60° SKEW

REVISIONS						REVISION NO.
NO.	BY	DATE	NO.	BY	DATE	13
1	JEM	12/29/09	3			TOTAL QUANTITY
2			4			31

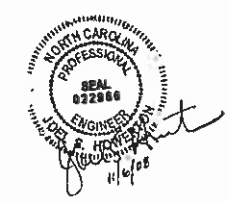
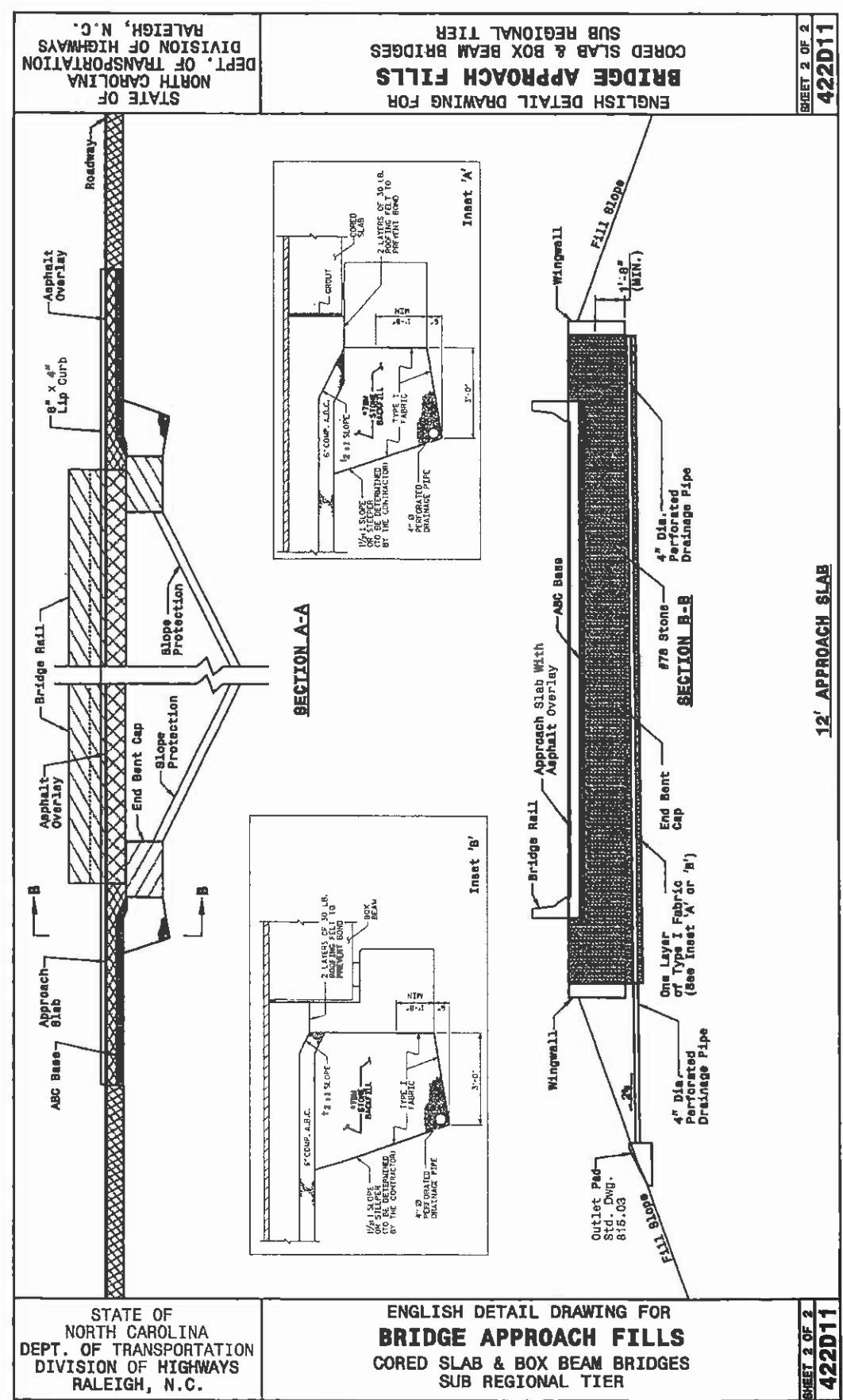
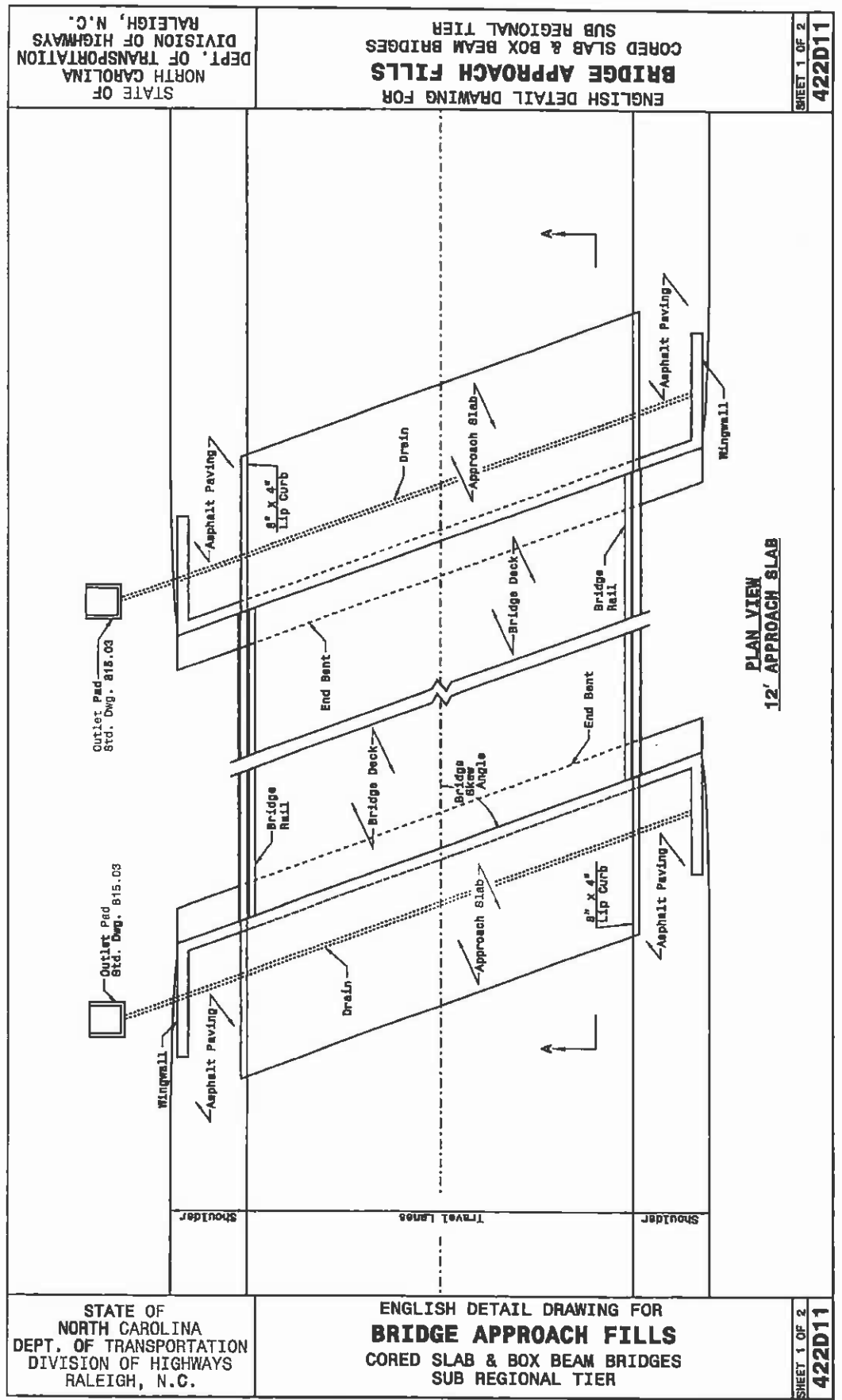
KO & ASSOCIATES, P.C.
 Consulting Engineers
 A Florence & Hutcheson, Inc. Company
 5121 KINGDOM WAY, SUITE 100 RALEIGH, N.C. 27607
 (919) 851-6066



NOT TO SCALE

FILED: 1/4/2010
 DRAWN BY: B.E. LANNING DATE: NOV 2009
 CHECKED BY: J.E. MONDOLFI DATE: NOV 2009

26-JAN-2008 09:32
 s:\con\projects\spacial\details\english\bridge approach fill.dgn
 akemp



PROJECT SERVICES UNIT
 STANDARDS AND SPECIAL DESIGN
 Office 919-250-4128 FAX 919-250-4119

BRIDGE APPROACH FILLS
 CORED SLAB & BOX BEAM BRIDGES
 SUB REGIONAL TIER

ORIGINAL BY: K. A. Kempf DATE: 6-10-08
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.: s:\con\projects\spacial\details\english\bridge approach fill.dgn