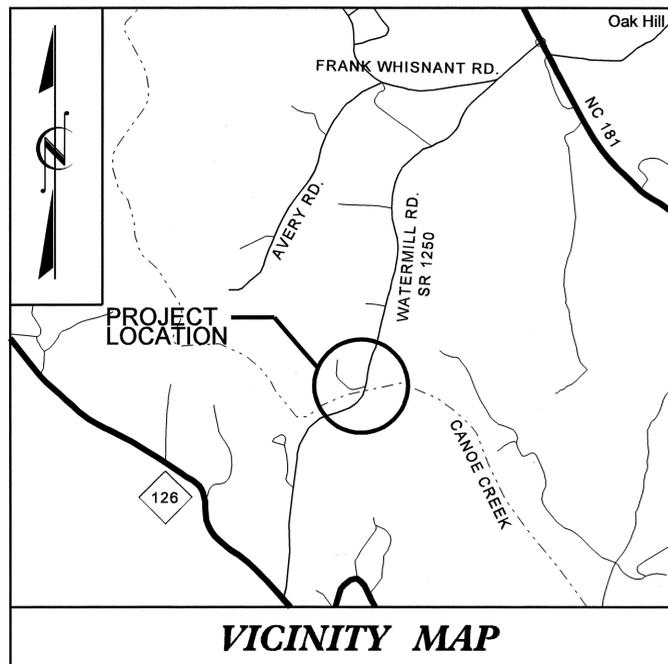


CONTRACT: C201786 TIP PROJECT: B-3814



VICINITY MAP

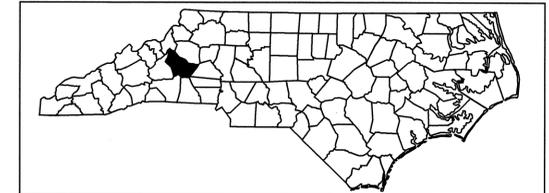
NEAREST SHIPPING POINT: MORGANTON ON NORFOLK SOUTHERN RR
APPROX. 4.9 MILES FROM PROJECT

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

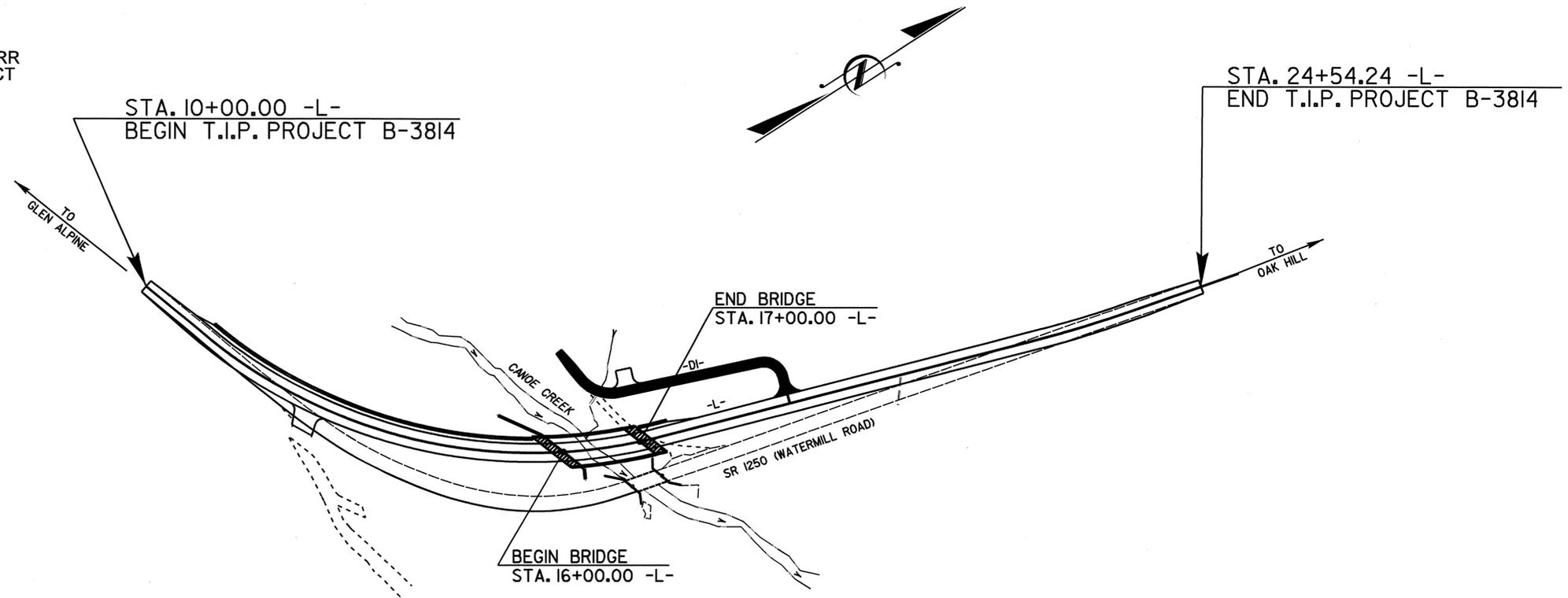
BURKE COUNTY

LOCATION: BRIDGE NO. 56 OVER CANOE CREEK ON SR 1250
TYPE OF WORK: GRADING, PAVING, DRAINAGE, WIDENING, RESURFACING, AND STRUCTURES.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3814		
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33269.1.1	BRZ-1250(1)	PE	
33269.3.1	BRZ-1250(1)	R/W & UTIL	
33269.2.2	BRZ-1250(1)	CONST.	



STRUCTURE



DESIGN DATA

ADT 2006 =	1984
ADT 2030 =	3520
DHV =	13 %
D =	60 %
T =	4 % *
V =	40 MPH
* TTST 2% DUAL 2%	
FUNC CLASS = RURAL MAJOR COLLECTOR	

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-3814 =	0.256 MI.
LENGTH OF STRUCTURE TIP PROJECT B-3814 =	0.019 MI.
TOTAL LENGTH OF TIP PROJECT B-3814 =	0.275 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 BIRCH RIDGE DR. RALEIGH, NC 27610

2006 STANDARD SPECIFICATIONS

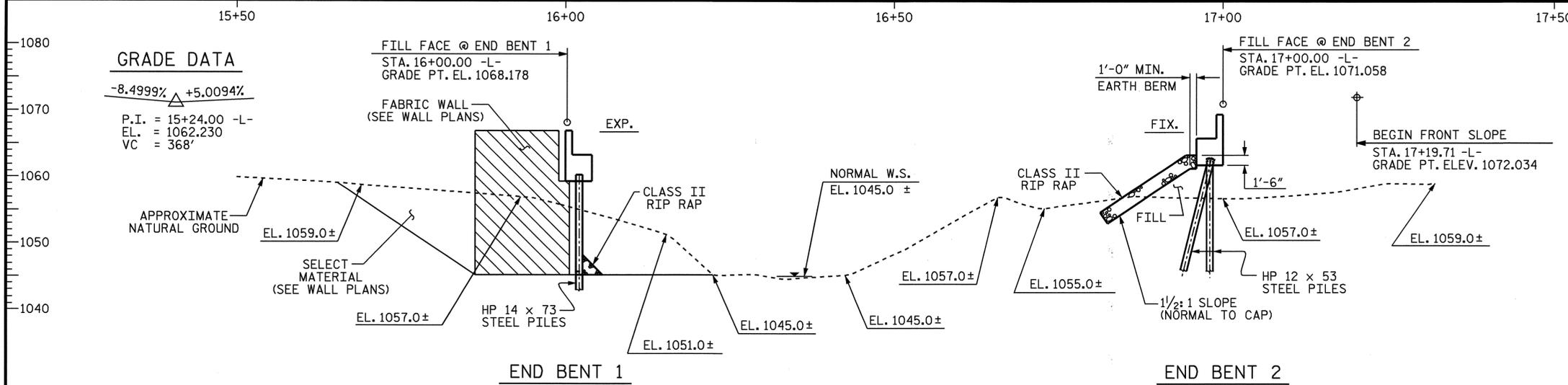
LETTING DATE: APRIL 15, 2008	N. N. BULLOCK, PE PROJECT ENGINEER
	D. R. CALHOUN, PE PROJECT DESIGN ENGINEER

STRUCTURE DESIGN UNIT

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER _____ P.E.
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ DATE _____
DIVISION ADMINISTRATOR



NOTES :

ASSUMED LIVE LOAD = HS 20 OR ALTERNATE LOADING, EXCEPT THAT THE GIRDERS HAVE BEEN DESIGNED FOR HS 25.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.

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

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

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50W AND PAINTED IN ACCORDANCE WITH SYSTEM 4 OF ARTICLE 442-7 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.

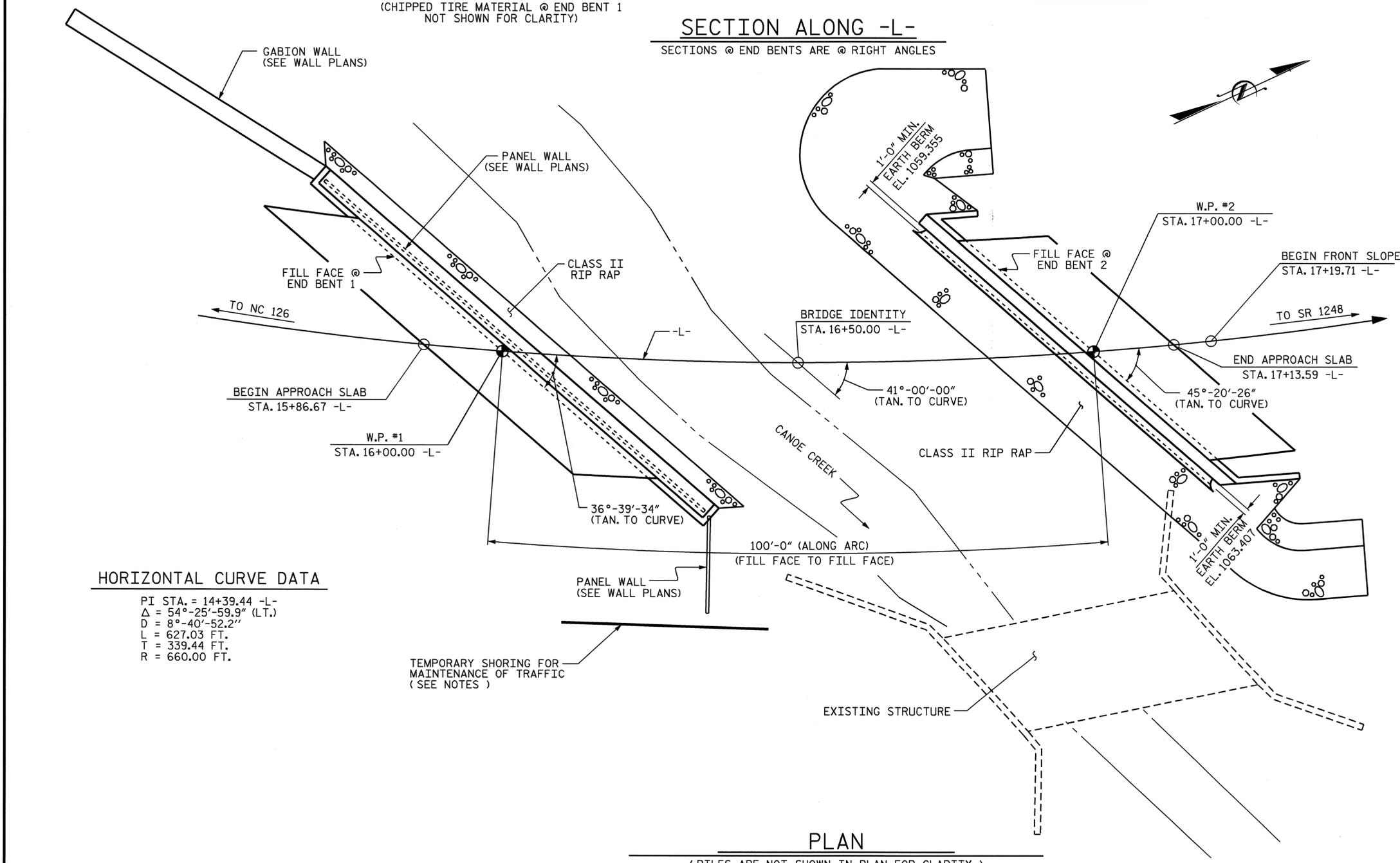
AFTER SERVING AS A TEMPORARY STRUCTURE, THE EXISTING STRUCTURE CONSISTING OF ONE 41'-2" TIMBER FLOOR DECK WITH A CLEAR ROADWAY WIDTH OF 19'-2" ON STEEL I-BEAMS ON REINFORCED CONCRETE YOUNG MASONRY ABUTMENTS AND LOCATED APPROXIMATELY 70' DOWNSTREAM FROM THE PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT. SEE SPECIAL PROVISIONS FOR "REMOVAL OF EXISTING STRUCTURE @ STA. 16+50.00 -L-".

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STATION 16+50.00 -L-".

SEE SHEET 3 OF 3 FOR ADDITIONAL NOTES.
 SEE SHEET 2 OF 3 FOR FOUNDATION NOTES.



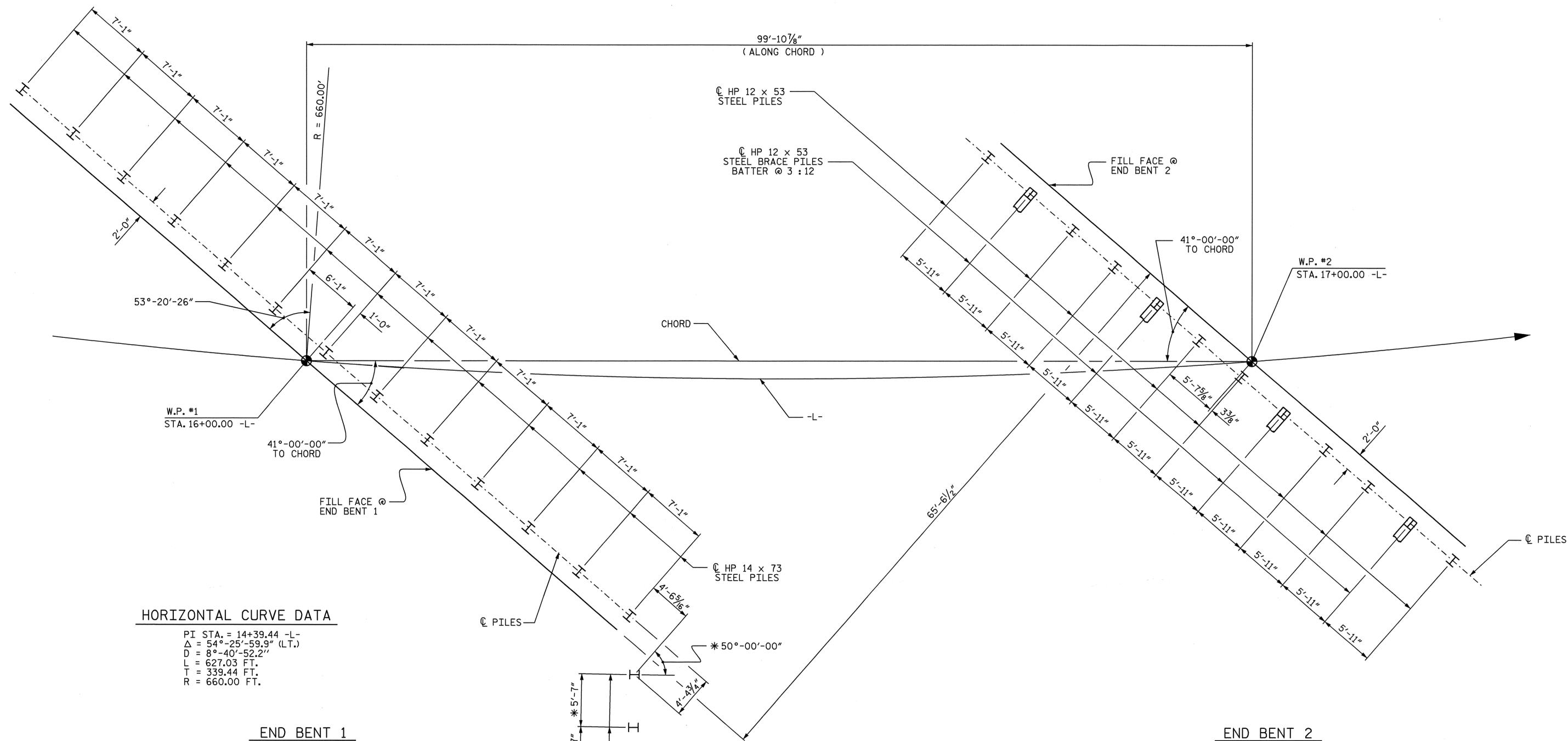
PROJECT NO. B-3814
 BURKE COUNTY
 STATION: 16+50.00 -L-
 SHEET 1 OF 3 REPLACES BRIDGE NO. 56

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 BRIDGE ON SR 1250 OVER
 CANOE CREEK BETWEEN
 NC 126 AND SR 1248

DRAWN BY : E. G. ALLEN DATE : 2/16/07
 CHECKED BY : B. N. GRADY DATE : 8/20/07

REVISIONS						SHEET NO. S-1
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 22
2			4			



HORIZONTAL CURVE DATA

PI STA. = 14+39.44 -L-
 $\Delta = 54^\circ-25'-59.9''$ (LT.)
 $D = 8^\circ-40'-52.2''$
 $L = 627.03$ FT.
 $T = 339.44$ FT.
 $R = 660.00$ FT.

END BENT 1

END BENT 2

FOUNDATION & CHORD LAYOUT

(DIMENSIONS LOCATING END BENT PILES ARE SHOWN TO CENTERLINE PILES)
 END BENTS ARE PARALLEL

FOUNDATION NOTES :

THE ALLOWABLE BEARING CAPACITY FOR PILES AT END BENT 1 AND 2 IS 50 TONS PER PILE.

DRIVE PILES AT END BENT 2 TO A REQUIRED BEARING CAPACITY OF 100 TONS PER PILE. THE REQUIRED BEARING CAPACITY IS EQUAL TO THE ALLOWABLE BEARING CAPACITY WITH A MINIMUM FACTOR OF SAFETY OF TWO.

PILE EXCAVATION IS REQUIRED TO INSTALL PILES AT END BENT 1. EXCAVATE HOLES TO ELEVATION 1040.0 FT. (LEFT) AND ELEVATION 1045.7 FT. (RIGHT). THESE APPROXIMATE ELEVATIONS ARE TO YIELD A 5'-0" ROCK SOCKET INTO HARD/WEATHERED ROCK. SEE PILE EXCAVATION SPECIAL PROVISION.

* SEE WALL PLANS FOR LAYOUT OR AS DIRECTED BY THE ENGINEER.

PROJECT NO. B-3814
BURKE COUNTY
 STATION: 16+50.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 BRIDGE ON SR 1250 OVER
 CANOE CREEK BETWEEN
 NC 126 AND SR 1248

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			22



DRAWN BY : E. G. ALLEN DATE : 2/16/07
 CHECKED BY : B. N. GRADY DATE : 8/20/07

TOTAL BILL OF MATERIAL																			
	REMOVAL OF EXISTING STRUCTURE	PILE EXCAVATION NOT IN SOIL	UNCLASSIFIED STRUCTURE EXCAVATION	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	STRUCTURAL STEEL	HP 12 X 53 STEEL PILES		HP 14 X 73 GALVANIZED STEEL PILES		CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE	ELASTOMERIC BEARINGS	EVAZOTE JOINT SEALS	CHIPPED TIRE MATERIAL
	LUMP SUM	LIN. FT.	CU. YDS.	SQ. FEET	SQ. FEET	CU. YDS.	LUMP SUM	LBS.	APPROX. LBS.	NO.	LIN. FT.	NO.	LIN. FT.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	LUMP SUM	CU. YDS.
SUPERSTRUCTURE				4208	4493		LUMP SUM		103,700					194.59			LUMP SUM	LUMP SUM	
END BENT 1		80				66.8		7881				16	400		7	30			83.0
END BENT 2						57.9		6772		12	240				208	230			
TOTAL	LUMP SUM	80	650	4208	4493	124.7	LUMP SUM	14,653	103,700	12	240	16	400	194.59	215	260	LUMP SUM	LUMP SUM	83.0

NOTES CONT.

THE CLASS AA CONCRETE IN THE BRIDGE DECK SHALL CONTAIN FLY ASH OR GROUND GRANULATED BLAST FURNACE SLAG AT THE SUBSTITUTION RATE SPECIFIED IN ARTICLE 1024-1 AND IN ACCORDANCE WITH ARTICLES 1024-5 AND 1024-6 OF THE STANDARD SPECIFICATIONS. NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE COST OF THE REINFORCED CONCRETE DECK SLAB.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES", MAY, 2001.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.

FOR LIMITS OF TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS. FOR PAY ITEM FOR TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE ROADWAY PLANS.

NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

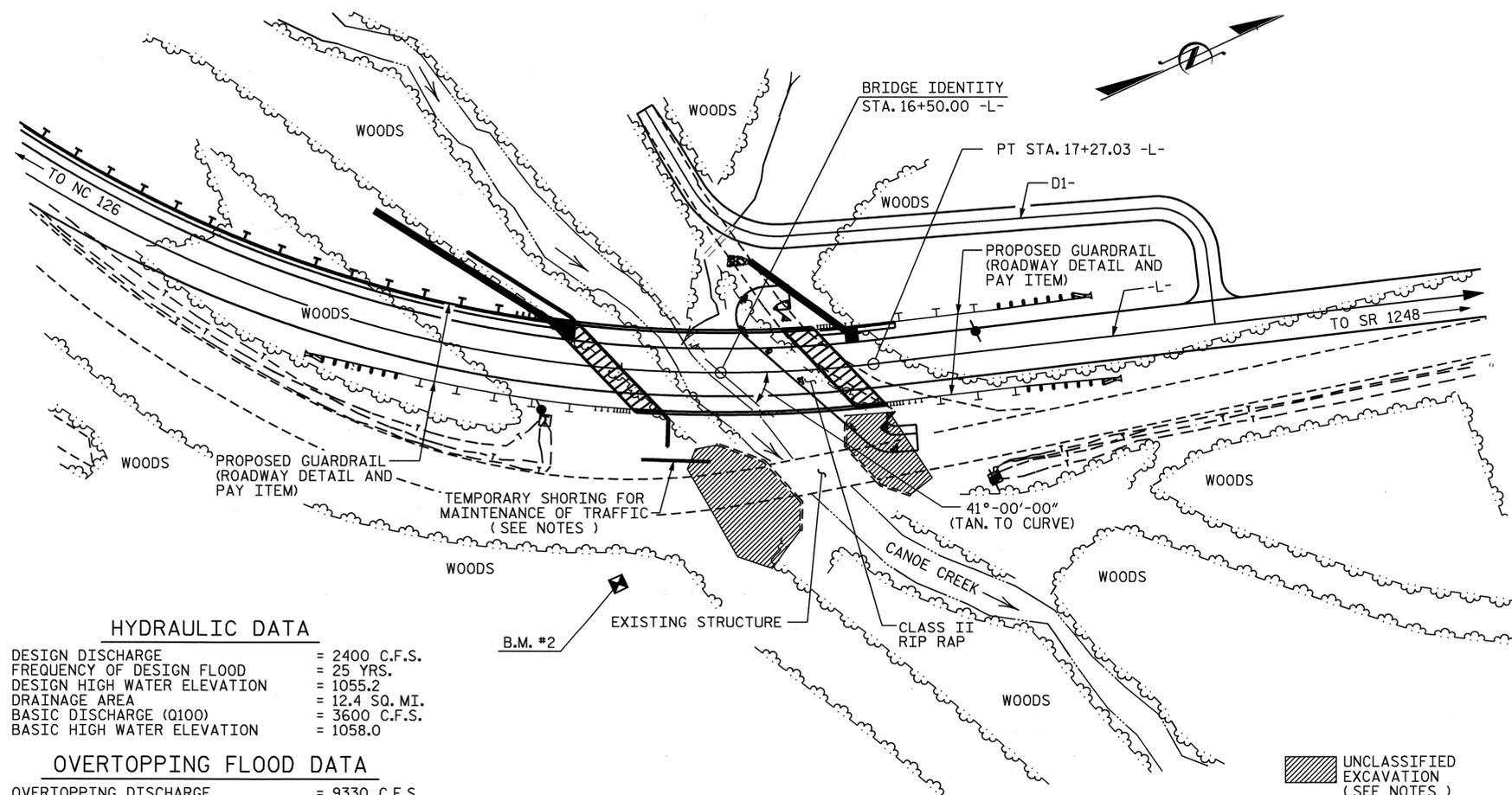
FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR SHIPPING STEEL STRUCTURAL MEMBERS, SEE SPECIAL PROVISIONS.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON THE LOCATION SKETCH SHALL BE EXCAVATED AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR UNCLASSIFIED STRUCTURE EXCAVATION.

B. M. #2 : 8" NAIL IN BASE OF 12" PINE TREE 108.50' RT. STA. 16+05.85 -L- EL. 1071.84



HYDRAULIC DATA

DESIGN DISCHARGE = 2400 C.F.S.
 FREQUENCY OF DESIGN FLOOD = 25 YRS.
 DESIGN HIGH WATER ELEVATION = 1055.2
 DRAINAGE AREA = 12.4 SQ. MI.
 BASIC DISCHARGE (Q100) = 3600 C.F.S.
 BASIC HIGH WATER ELEVATION = 1058.0

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 9330 C.F.S.
 FREQUENCY OF OVERTOPPING FLOOD = 500 + YRS.
 OVERTOPPING FLOOD ELEVATION = 1068.0

LOCATION SKETCH

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

DRAWN BY : E. G. ALLEN DATE : 2/16/07
 CHECKED BY : B. N. GRADY DATE : 8/20/07

PROJECT NO. B-3814
 BURKE COUNTY
 STATION: 16+50.00 -L-

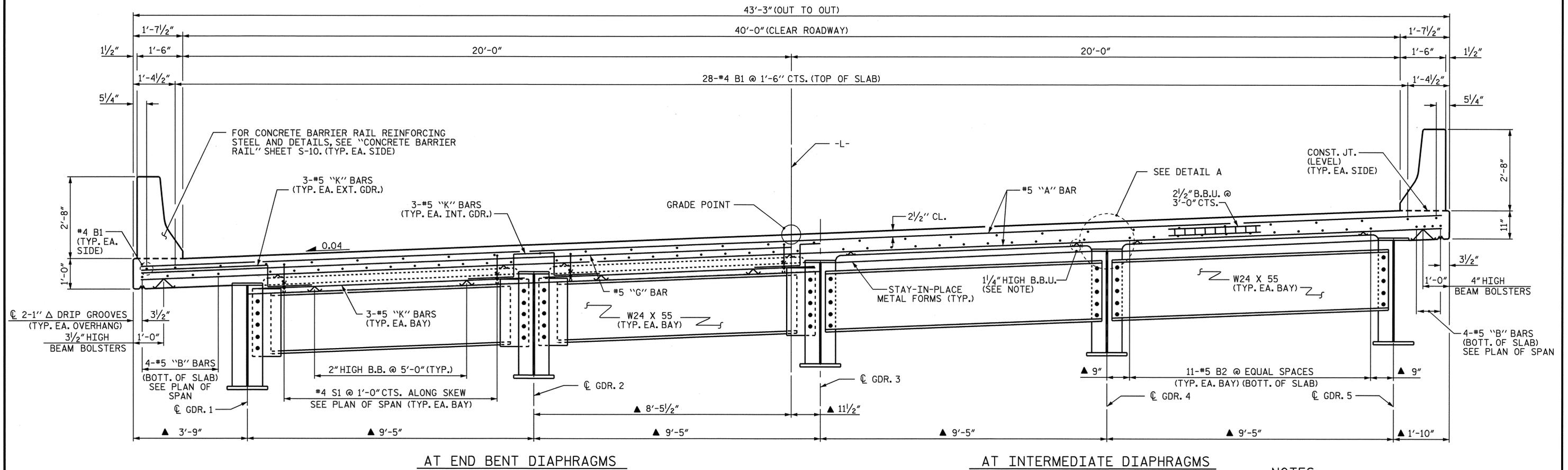
SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 BRIDGE ON SR 1250 OVER
 CANOE CREEK BETWEEN
 NC 126 AND SR 1248



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			22



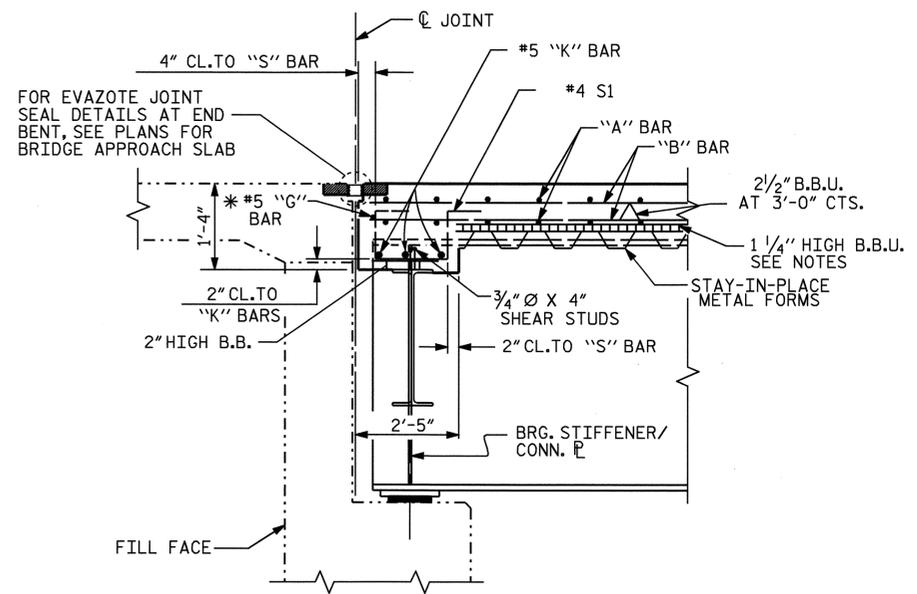
TYPICAL SECTION

(ALL HORIZONTAL DIMENSIONS ARE RADIAL UNLESS OTHERWISE NOTED)

NOTES

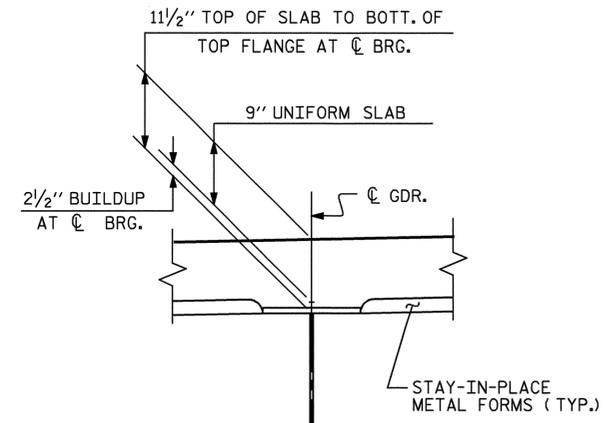
PROVIDE 1/4" HIGH BEAM BOLSTERS UPPER AT 4'-0" CTS. ATOP THE METAL STAY-IN-PLACE FORMS TO SUPPORT THE BOTTOM MAT OF 'A' BARS. WHEN USING REMOVABLE FORMS, PROVIDE CONTINUOUS HIGH CHAIRS FOR METAL DECK (C.H.C.M.) @ 4'-0" CTS. WITH A HEIGHT TO SUPPORT THE BOTTOM MAT OF 'A' BARS A CLEAR DISTANCE OF 2 1/2" ABOVE THE TOP OF THE REMOVABLE FORM.

THE CONTRACTOR MAY, WHEN NECESSARY, PROPOSE A SCHEME FOR AVOIDING INTERFERENCE BETWEEN METAL STAY-IN-PLACE FORM SUPPORTS OR FORMS AND GIRDER STIFFENERS 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.



SECTION THRU END BENT DIAPHRAGM

* #5 "G" BARS MAY BE SHIFTED SLIGHTLY, AS NECESSARY, TO CLEAR DIAPHRAGM AND REINFORCING STEEL.



DETAIL A

PROJECT NO. B-3814
BURKE COUNTY
 STATION: 16+50.00 -L-

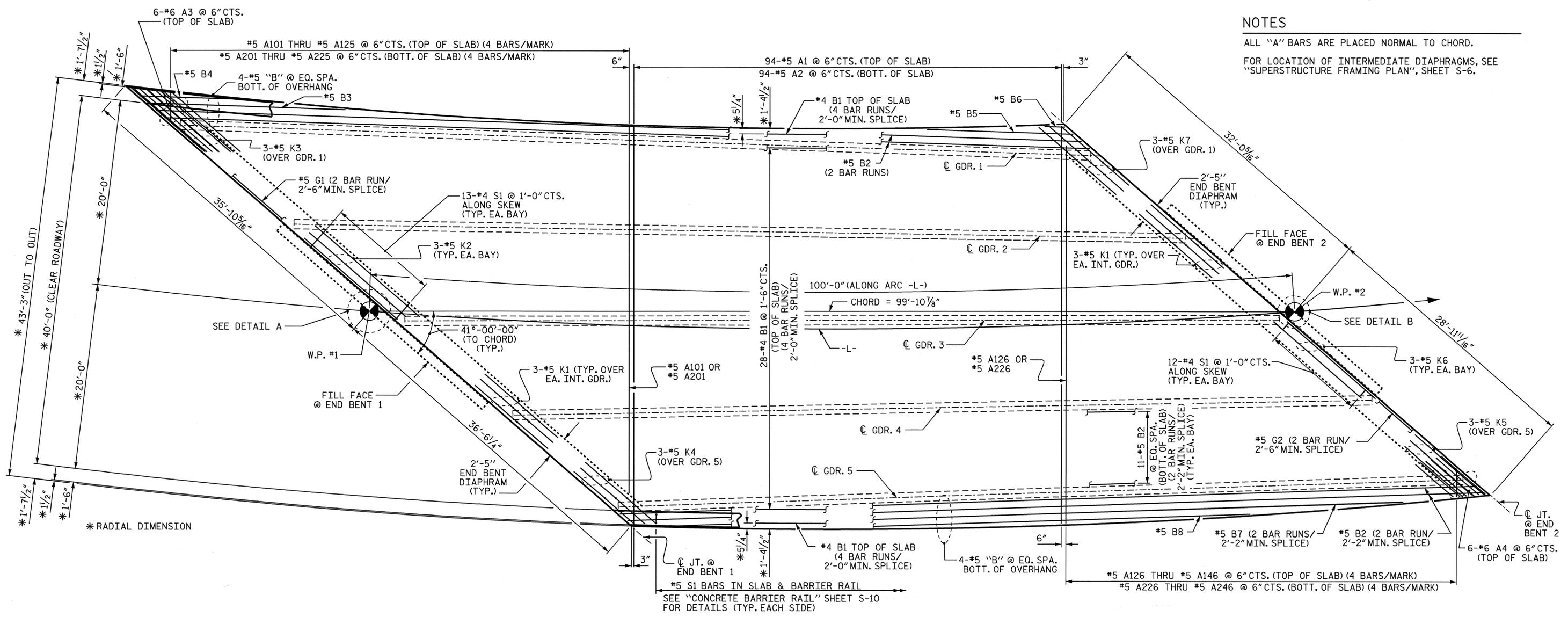
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE TYPICAL SECTION



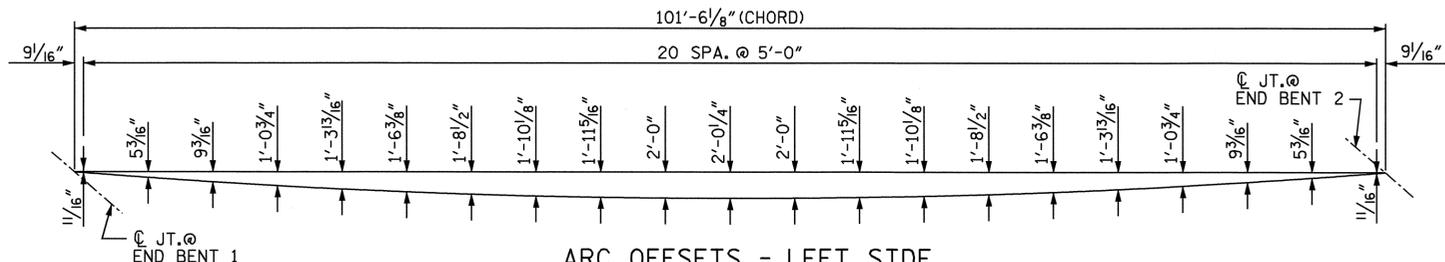
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-4
2			4			22

DRAWN BY : T.L.CLELLAND DATE : 11/21/05
 CHECKED BY : T.A.HARRIS DATE : 12/7/05

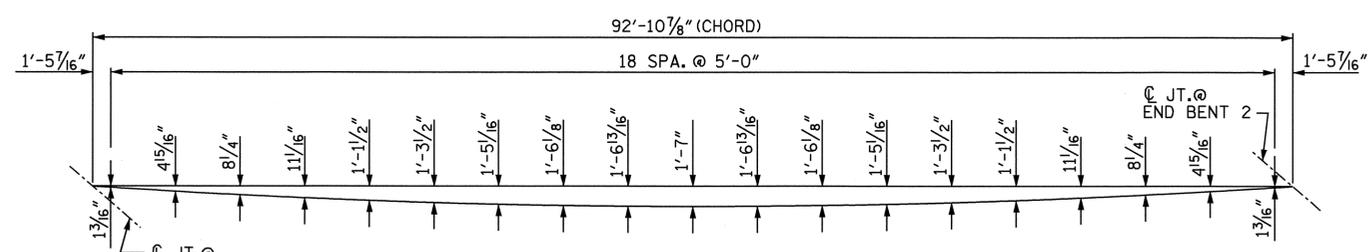


NOTES
 ALL "A" BARS ARE PLACED NORMAL TO CHORD.
 FOR LOCATION OF INTERMEDIATE DIAPHRAGMS, SEE "SUPERSTRUCTURE FRAMING PLAN", SHEET S-6.

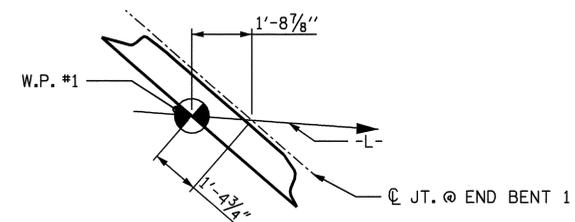
PLAN OF SPAN



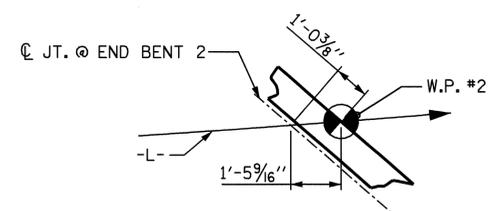
ARC OFFSETS - LEFT SIDE
 ARC OFFSETS ARE TAKEN ALONG THE OUTSIDE EDGE OF SUPERSTRUCTURE.



ARC OFFSETS - RIGHT SIDE
 ARC OFFSETS ARE TAKEN ALONG THE OUTSIDE EDGE OF SUPERSTRUCTURE.



DETAIL A



DETAIL B

PROJECT NO. B-3814
 COUNTY BURKE
 STATION: 16+50.00 -L-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

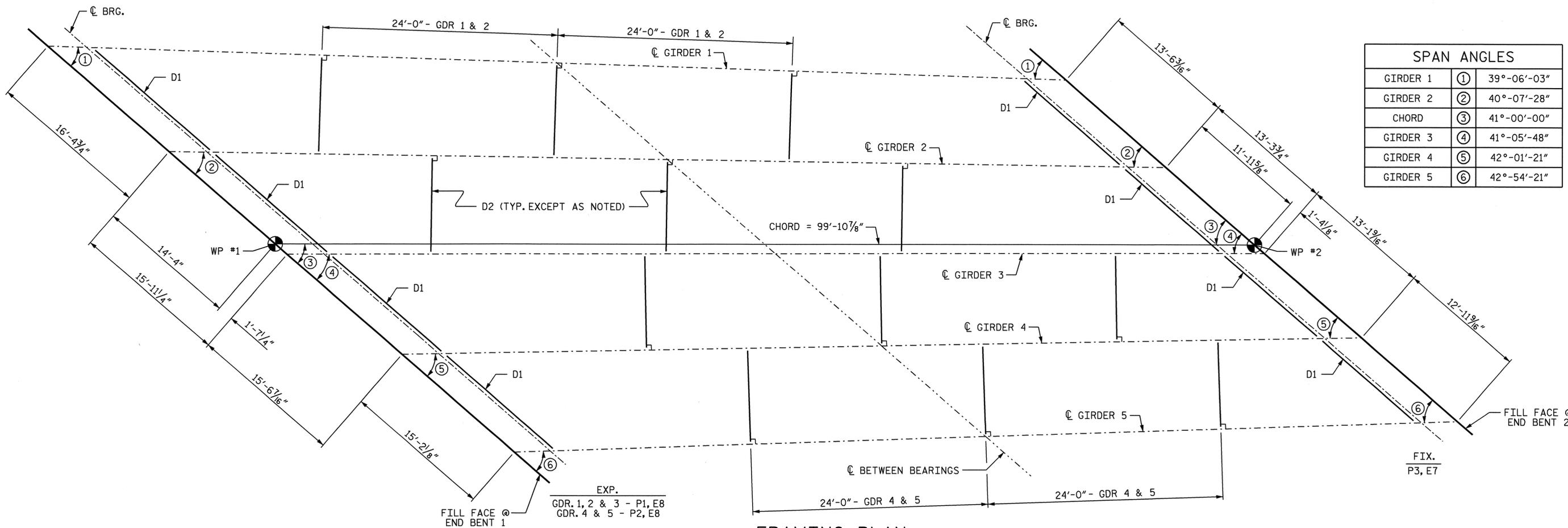
SUPERSTRUCTURE PLAN OF SPAN

REVISIONS						SHEET NO. S-5
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 22
2			4			

DRAWN BY: T.L.CLELLAND DATE: 11/21/05
 CHECKED BY: T.A.HARRIS DATE: 12/7/05

25-JAN-2008 13:55
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 bngrody





FRAMING PLAN

DEAD LOAD DEFLECTION TABLE																																		
TENTH POINTS	GDR. 1										GDR. 2										GDR. 3													
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0			
DEFLECTION DUE TO WEIGHT OF GIRDER	↓ 0.000	0.023	0.044	0.059	0.069	0.072	0.069	0.059	0.044	0.023	0.000	0.000	0.022	0.040	0.054	0.063	0.066	0.063	0.054	0.040	0.022	0.000	0.000	0.020	0.037	0.050	0.058	0.061	0.058	0.050	0.037	0.020	0.000	0.000
DEFLECTION DUE TO WEIGHT OF SLAB	↓ 0.000	0.104	0.194	0.261	0.303	0.317	0.302	0.260	0.193	0.103	0.000	0.000	0.126	0.235	0.317	0.368	0.385	0.367	0.315	0.233	0.125	0.000	0.000	0.117	0.219	0.294	0.342	0.358	0.341	0.292	0.216	0.116	0.000	0.000
DEFLECTION DUE TO WEIGHT OF BARRIER RAIL	↓ 0.000	0.007	0.014	0.018	0.021	0.022	0.021	0.018	0.014	0.007	0.000	0.000	0.006	0.012	0.016	0.019	0.020	0.019	0.016	0.012	0.006	0.000	0.000	0.006	0.011	0.015	0.017	0.018	0.017	0.015	0.011	0.006	0.000	0.000
TOTAL DEAD LOAD DEFLECTION	↓ 0.000	0.134	0.251	0.338	0.393	0.411	0.392	0.337	0.250	0.134	0.000	0.000	0.154	0.287	0.387	0.450	0.471	0.449	0.385	0.285	0.153	0.000	0.000	0.143	0.267	0.359	0.418	0.437	0.416	0.357	0.264	0.141	0.000	0.000
VERTICAL CURVE ORDINATE	↓ 0.000	0.161	0.287	0.377	0.430	0.448	0.430	0.375	0.286	0.160	0.000	0.000	0.150	0.267	0.351	0.400	0.417	0.400	0.349	0.266	0.149	0.000	0.000	0.140	0.250	0.327	0.374	0.389	0.373	0.326	0.248	0.139	0.000	0.000
ORDINATE DUE TO SUPERELEVATION	↓ 0.000	0.026	0.046	0.060	0.069	0.072	0.069	0.060	0.046	0.026	0.000	0.000	0.024	0.043	0.057	0.065	0.068	0.065	0.057	0.043	0.024	0.000	0.000	0.023	0.041	0.054	0.062	0.064	0.062	0.054	0.041	0.023	0.000	0.000
REQUIRED CAMBER	↓ 0	5/8"	1"	1 1/8"	1 1/4"	1 5/16"	1 1/4"	1 3/16"	1"	5/8"	0	0	1/4"	5/16"	1/4"	3/16"	3/16"	3/16"	1/4"	5/16"	1/4"	0	0	1/4"	5/16"	1/4"	3/16"	3/16"	1/4"	1/4"	5/16"	1/4"	0	0

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

DEAD LOAD DEFLECTION TABLE																																		
TENTH POINTS	GDR. 4										GDR. 5																							
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0			
DEFLECTION DUE TO WEIGHT OF GIRDER	↓ 0.000	0.018	0.033	0.045	0.052	0.054	0.052	0.045	0.033	0.018	0.000	0.000	0.017	0.032	0.044	0.051	0.053	0.051	0.044	0.032	0.017	0.000	0.000	0.017	0.032	0.044	0.051	0.053	0.051	0.044	0.032	0.017	0.000	0.000
DEFLECTION DUE TO WEIGHT OF SLAB	↓ 0.000	0.109	0.203	0.274	0.319	0.333	0.317	0.272	0.201	0.107	0.000	0.000	0.090	0.168	0.227	0.264	0.276	0.263	0.226	0.167	0.089	0.000	0.000	0.090	0.168	0.227	0.264	0.276	0.263	0.226	0.167	0.089	0.000	0.000
DEFLECTION DUE TO WEIGHT OF BARRIER RAIL	↓ 0.000	0.006	0.010	0.014	0.016	0.017	0.016	0.014	0.010	0.006	0.000	0.000	0.005	0.010	0.013	0.015	0.016	0.015	0.013	0.010	0.005	0.000	0.000	0.005	0.010	0.013	0.015	0.016	0.015	0.013	0.010	0.005	0.000	0.000
TOTAL DEAD LOAD DEFLECTION	↓ 0.000	0.132	0.246	0.333	0.386	0.404	0.385	0.330	0.244	0.131	0.000	0.000	0.112	0.210	0.283	0.330	0.346	0.329	0.282	0.209	0.112	0.000	0.000	0.112	0.210	0.283	0.330	0.346	0.329	0.282	0.209	0.112	0.000	0.000
VERTICAL CURVE ORDINATE	↓ 0.000	0.132	0.234	0.307	0.351	0.365	0.350	0.305	0.232	0.130	0.000	0.000	0.123	0.218	0.286	0.326	0.338	0.323	0.281	0.211	0.114	0.000	0.000	0.123	0.218	0.286	0.326	0.338	0.323	0.281	0.211	0.114	0.000	0.000
ORDINATE DUE TO SUPERELEVATION	↓ 0.000	0.022	0.039	0.051	0.059	0.061	0.059	0.051	0.039	0.022	0.000	0.000	0.021	0.037	0.049	0.056	0.058	0.056	0.049	0.037	0.021	0.000	0.000	0.021	0.037	0.049	0.056	0.058	0.056	0.049	0.037	0.021	0.000	0.000
REQUIRED CAMBER	↓ 0	1/4"	5/16"	5/16"	1/4"	1/4"	1/4"	5/16"	5/16"	1/4"	0	0	3/8"	9/16"	5/8"	5/8"	5/8"	5/8"	9/16"	1/2"	1/4"	0	0	3/8"	9/16"	5/8"	5/8"	5/8"	9/16"	1/2"	1/4"	0	0	

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

DRAWN BY : T.L.CLELLAND DATE : 11/22/05
CHECKED BY : T.A.HARRIS DATE : 12/12/05

25-JAN-2008 13:55
Y:\Structures\FINAL PLANS\B-3814.sd.SS.dgn
bngrady

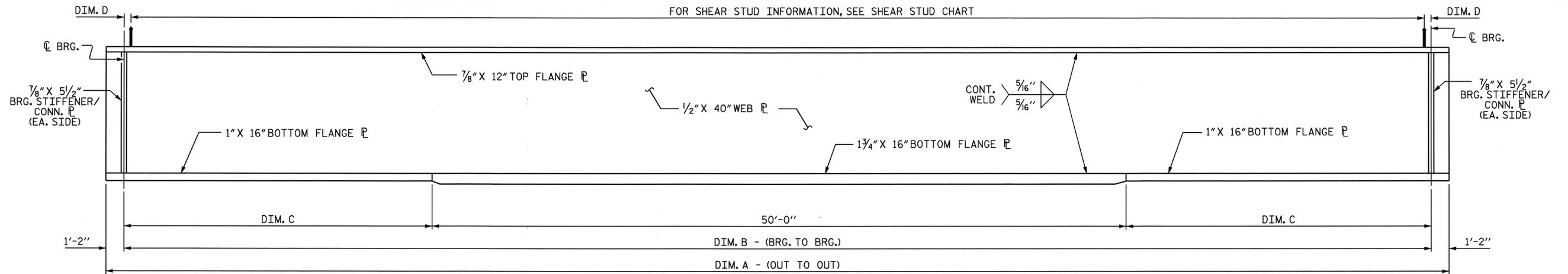
PROJECT NO. B-3814
BURKE COUNTY
STATION: 16+50.00 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
FRAMING PLAN
& DEAD LOAD
DEFLECTIONS



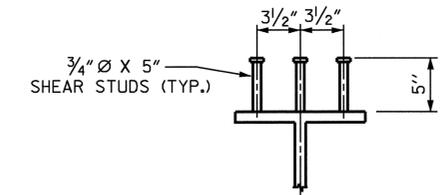
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS 22
2			4			



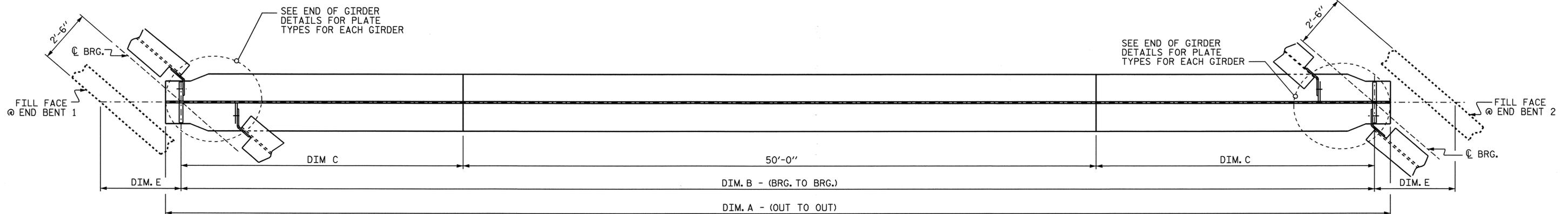
GIRDER ELEVATION

GIRDER DIMENSIONS							
	DIM. A (SLOPED)	DIM. B (SLOPED)	DIM. A (HORIZONTAL)	DIM. B (HORIZONTAL)	DIM. C (HORIZONTAL)	DIM. D	DIM. E
GIRDER 1	98'-4 ³ / ₁₆ "	96'-0 ³ / ₁₆ "	98'-3 ¹⁵ / ₁₆ "	95'-11 ⁵ / ₁₆ "	23'-0"	4 ⁵ / ₈ "	3'-11 ⁹ / ₁₆ "
GIRDER 2	96'-3 ¹¹ / ₁₆ "	93'-11 ¹ / ₁₆ "	96'-3 ³ / ₈ "	93'-11 ³ / ₈ "	21'-11 ¹ / ₁₆ "	1 ⁵ / ₁₆ "	3'-10 ⁹ / ₁₆ "
GIRDER 3	94'-5 ³ / ₄ "	92'-1 ³ / ₄ "	94'-5 ¹ / ₄ "	92'-1 ¹ / ₄ "	21'-0 ⁵ / ₈ "	3 ⁷ / ₈ "	3'-9 ³ / ₄ "
GIRDER 4	92'-9 ⁷ / ₈ "	90'-5 ⁷ / ₈ "	92'-9 ⁵ / ₁₆ "	90'-5 ⁵ / ₁₆ "	20'-2 ¹¹ / ₁₆ "	2 ¹⁵ / ₁₆ "	3'-8 ¹³ / ₁₆ "
GIRDER 5	91'-3 ¹³ / ₁₆ "	88'-11 ¹³ / ₁₆ "	91'-3 ³ / ₁₆ "	88'-11 ³ / ₁₆ "	19'-5 ⁵ / ₈ "	2 ¹⁵ / ₁₆ "	3'-8 ¹ / ₁₆ "

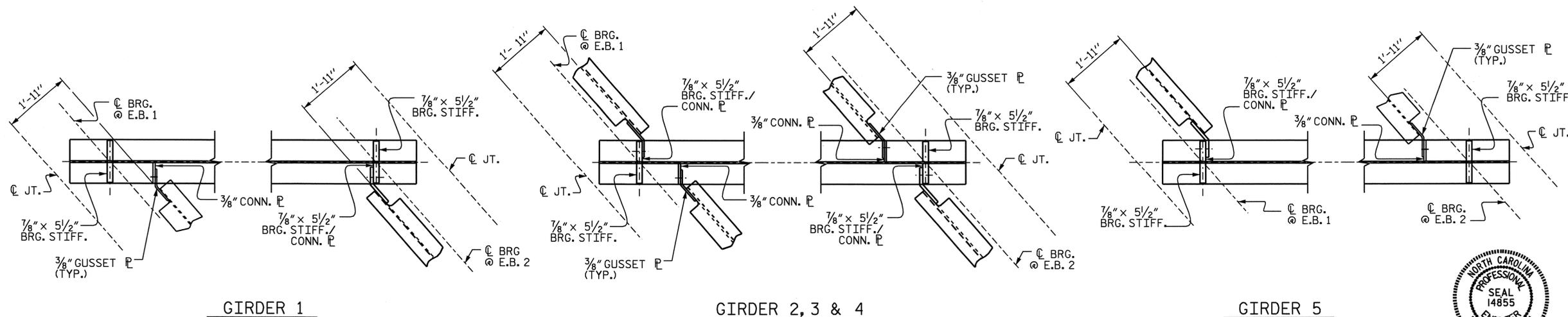
SHEAR STUD CHART (SHEAR STUDS @ 9" CTS., 3 STUDS PER ROW)		
GDR	ROWS OF STUDS	TOTAL
1	128	384
2	126	378
3	123	369
4	121	363
5	119	357



SHEAR STUD DETAILS



BOTTOM FLANGE DETAIL



END OF GIRDER DETAILS

PROJECT NO. B-3814
 BURKE COUNTY
 STATION: 16+50.00 -L-

SHEET 2 OF 3

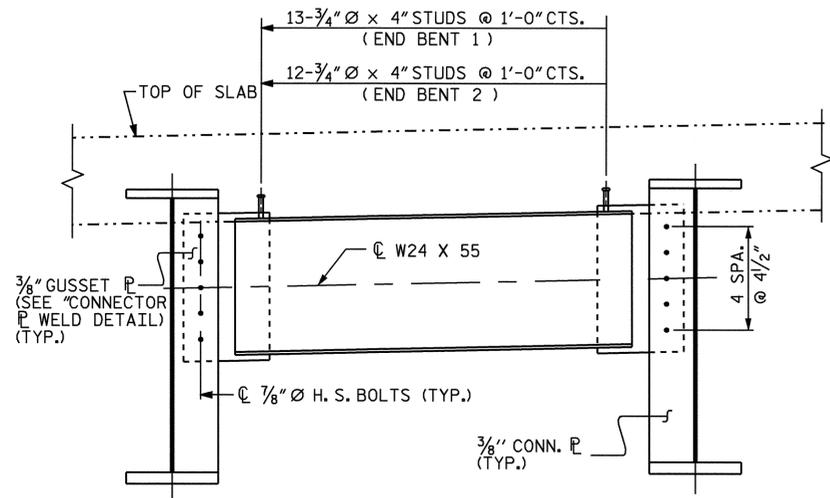
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUPERSTRUCTURE
 STRUCTURAL STEEL
 DETAILS**



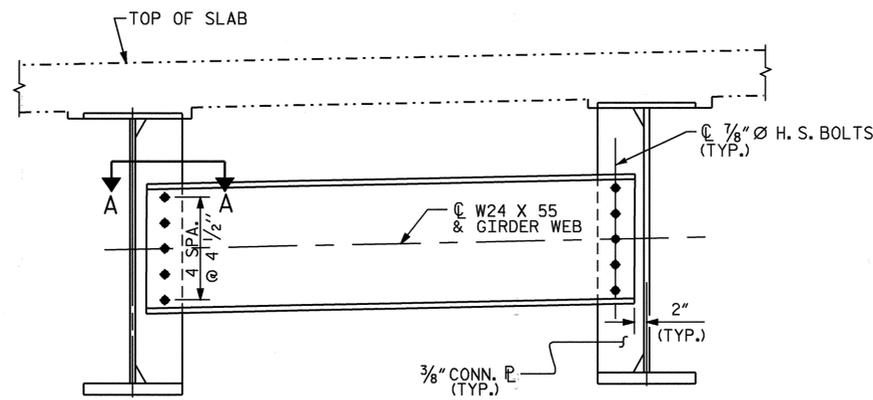
DRAWN BY: T.L.CLELLAND DATE: 11/23/05
 CHECKED BY: T.A.HARRIS DATE: 12/12/05

REVISIONS						SHEET NO. S-7
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 22
2			4			

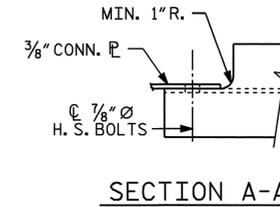


TYPICAL END BENT DIAPHRAGM (D1)

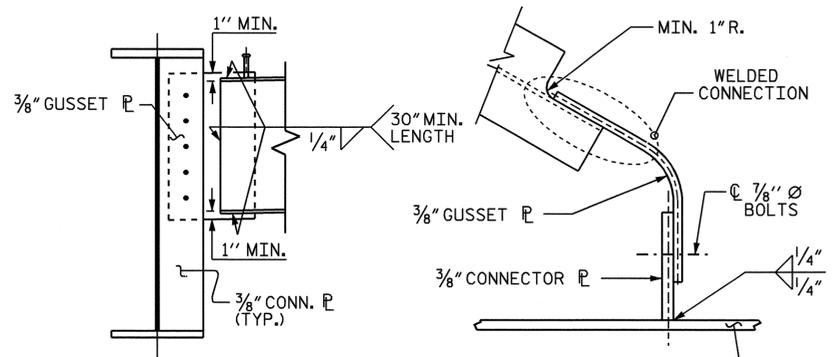
SEE "END OF GIRDER DETAILS" ON SHEET 2 OF 3 FOR CONNECTOR PLATE TYPES



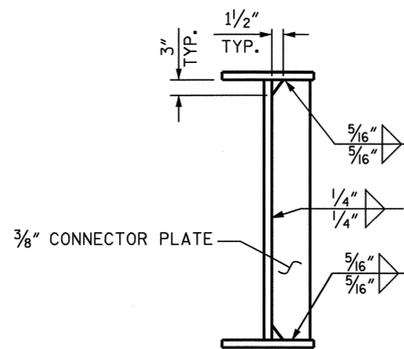
TYPICAL INTERMEDIATE DIAPHRAGM (D2)



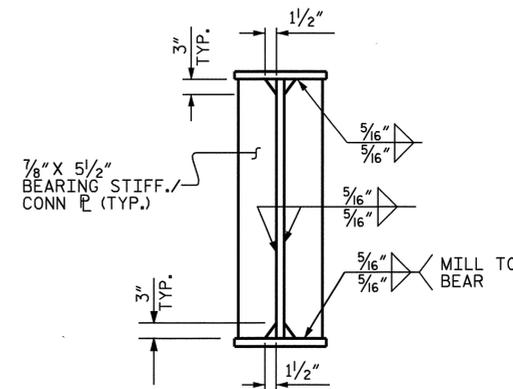
SECTION A-A



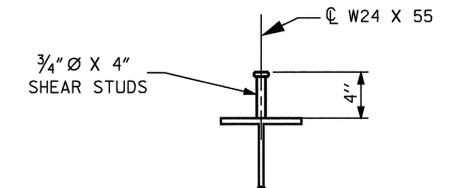
CONNECTOR PLATE WELD DETAILS



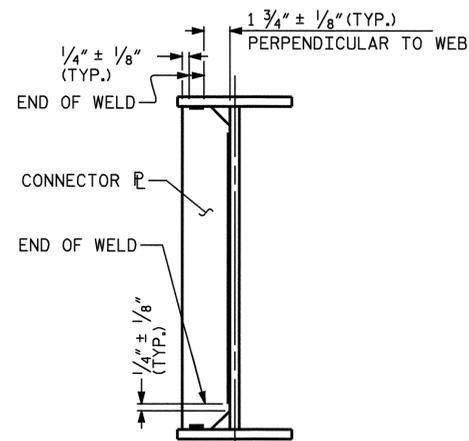
CONNECTOR PLATE



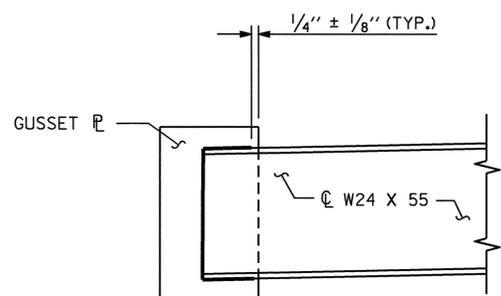
BEARING STIFFENER/CONNECTOR PLATE @ END BENT



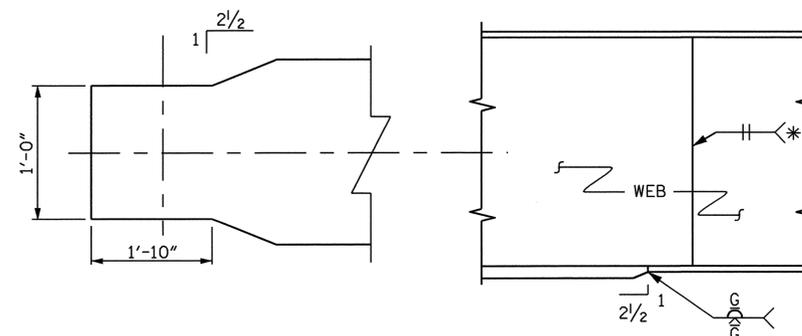
SHEAR STUD DETAIL



TYPICAL STIFFENER AND CONNECTOR PLATE CONNECTIONS



TYPICAL W-SECTION TO GUSSET PLATE CONNECTION



TYPICAL FLANGE AND WEB BUTT JOINT

* GRIND SMOOTH AND FLUSH ON OUTER FACE OF EXTERIOR GIRDERS



NOTES

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50W AND PAINTED IN ACCORDANCE WITH SYSTEM 4 OF ARTICLE 442-7 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

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

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

A CHARPY V-NOTCH TEST IS REQUIRED FOR WEB PLATES, BOTTOM FLANGE PLATES, BOTTOM FLANGE SPLICE PLATES AND WEB SPLICE PLATES (IF USED) FOR ALL GIRDERS AND IN ACCORDANCE WITH ARTICLE 1072-9 OF THE STANDARD SPECIFICATIONS.

SHOP SPLICES ARE PERMITTED TO LIMIT THE MAXIMUM REQUIRED FLANGE PIECE LENGTHS TO 60 FEET AND WEB PIECE LENGTHS TO 45 FEET. PERMITTED FLANGE AND WEB SHOP SPLICES SHALL NOT BE LOCATED WITHIN 15 FEET OF MAXIMUM DEAD LOAD DEFLECTION. KEEP 2 FEET MINIMUM BETWEEN WEB AND FLANGE SHOP SPLICES. KEEP 6" MINIMUM BETWEEN CONNECTOR PLATE OR TRANSVERSE STIFFENER WELDS AND WEB OR FLANGE SHOP SPLICES.

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

TENSION ON THE AASHTO M164 BOLTS SHALL BE CALIBRATED USING DIRECT TENSION INDICATOR WASHERS IN ACCORDANCE WITH ARTICLE 440-8 IN STANDARD NOTES.

ENDS OF GIRDERS SHALL BE PLUMB.

BEARING STIFFENER MAY REQUIRE COPING IF WIDER THAN BOTTOM FLANGE TO AVOID INTERFERENCE WITH THE ANCHOR BOLT.

FOR HIGH STRENGTH BOLTS, SEE SPECIAL PROVISIONS.

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

PROJECT NO. B-3814
BURKE COUNTY
 STATION: 16+50.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUPERSTRUCTURE
 STRUCTURAL STEEL
 DETAILS**

REVISIONS

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

SHEET NO.	S-8
TOTAL SHEETS	22

DRAWN BY : T.L.CLELAND DATE : 11/23/05
 CHECKED BY : T.A.HARRIS DATE : 12/12/05

11-MAR-2008 12:11
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 jmya

NOTES

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

THE 2" Ø PIPE SLEEVE SHALL BE CUT FROM SCHEDULE 40 PVC PLASTIC PIPE. THE PVC PLASTIC PIPE SHALL MEET THE REQUIREMENTS OF ASTM D1785.

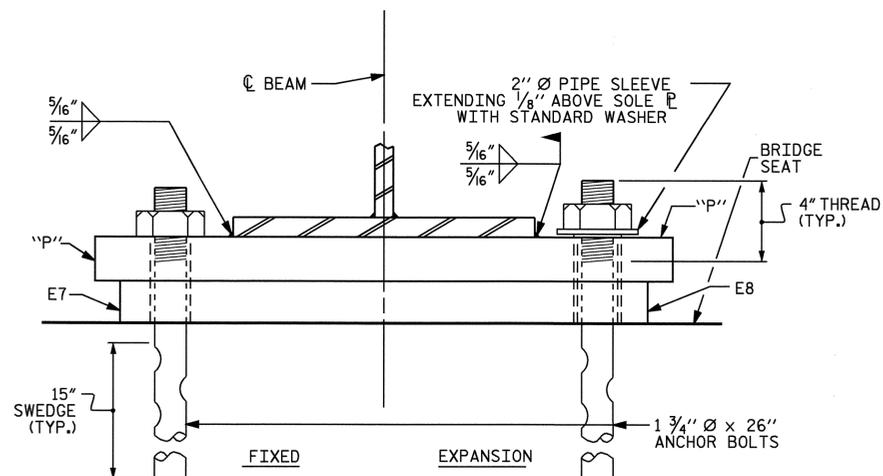
THE PAYMENT FOR THE PIPE SLEEVES SHALL BE INCLUDED IN THE SEVERAL PAY ITEMS.

FOR AASHTO M270 GRADE 50W STRUCTURAL STEEL, SOLE PLATE SHALL BE AASHTO M270 GRADE 50W AND SHALL NOT BE GALVANIZED. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

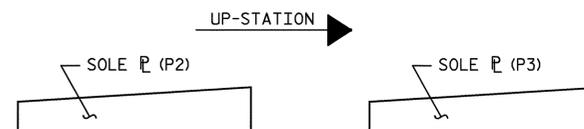
ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE NOT REQUIRED FOR ANCHOR BOLTS, NUTS AND WASHERS. SHOP INSPECTION IS REQUIRED.

WHEN FIELD WELDING THE SOLE PLATE TO THE GIRDER FLANGE, USE TEMPERATURE INDICATING WAX PENS, OR OTHER SUITABLE MEANS, TO ENSURE THAT THE TEMPERATURE OF THE SOLE PLATE DOES NOT EXCEED 300°F. TEMPERATURES ABOVE THIS MAY DAMAGE THE ELASTOMER.

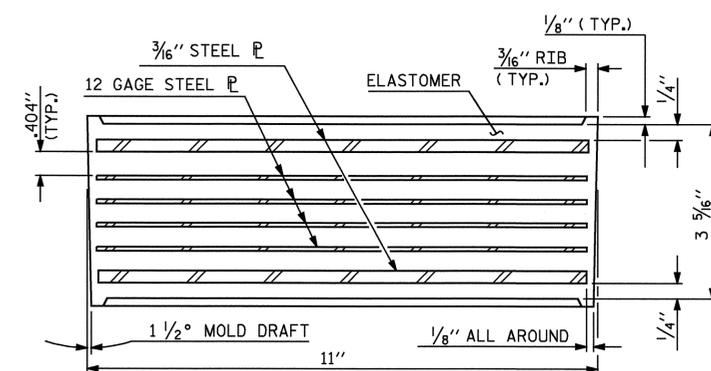
ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.



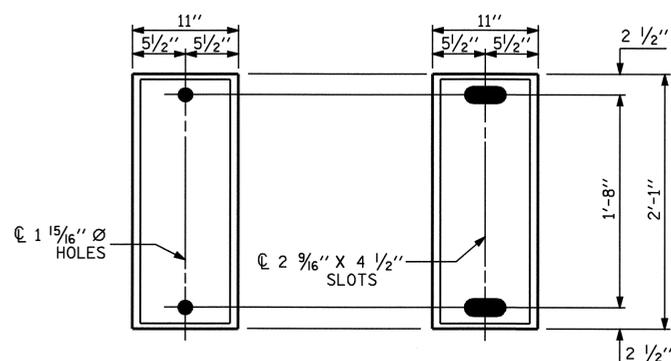
END VIEW



SOLE PLATE PLACEMENT DETAIL

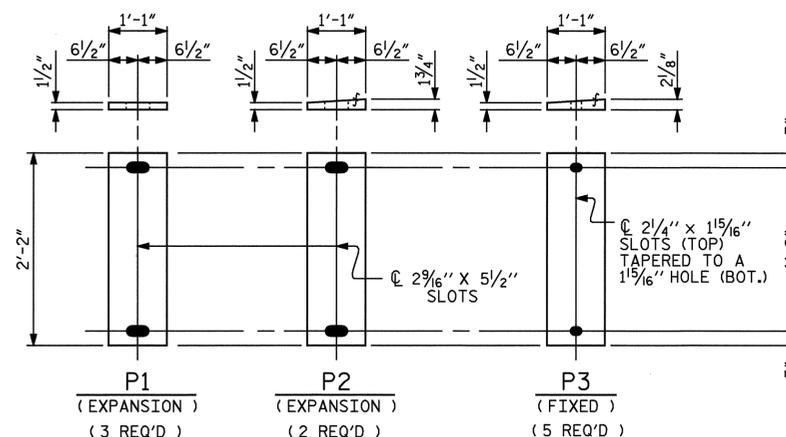


TYPICAL SECTION OF ELASTOMERIC BEARING



PLAN VIEW OF ELASTOMERIC BEARING

TYPE IV



SOLE PLATE DETAILS ("P")

-LOAD RATINGS-	
TYPE	MAX.D.L.+ L.L.
TYPE IV	184 K

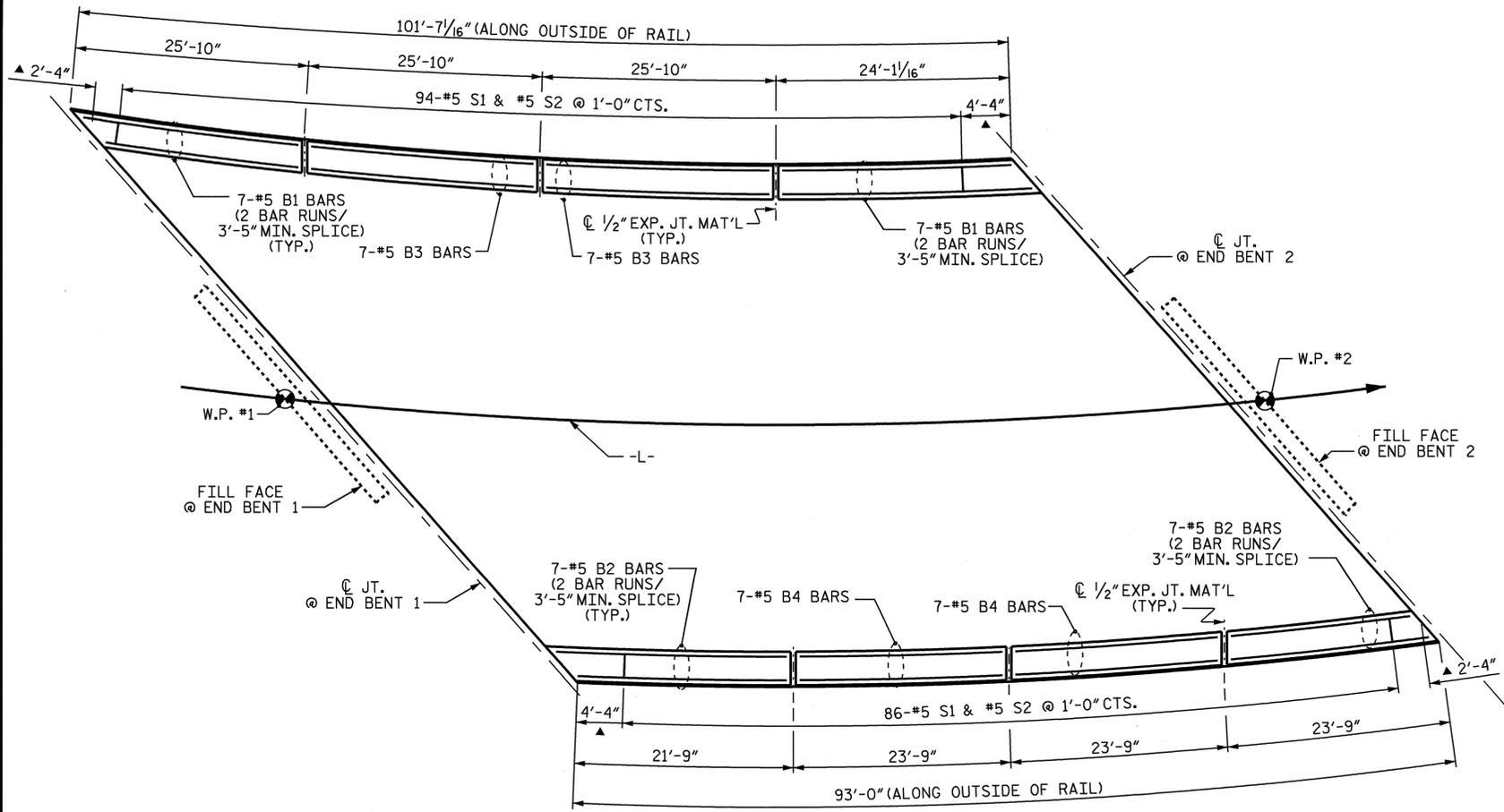
PROJECT NO. B-3814
BURKE COUNTY
 STATION: 16+50.00 -L-



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

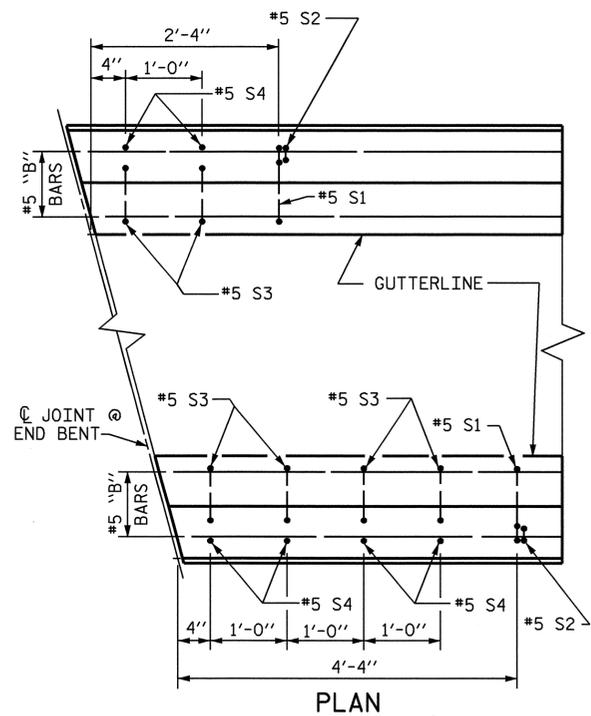
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			22

ASSEMBLED BY : T.L.CLELLAND	DATE : 11/30/05
CHECKED BY : T.A.HARRIS	DATE : 12/12/05
DRAWN BY : EEM 10/95	REV. 10/17/00 RWW/LES
CHECKED BY : PEK 10/95	REV. 7/10/01 LES/RDR
	REV. 5/1/06 TLA/GM

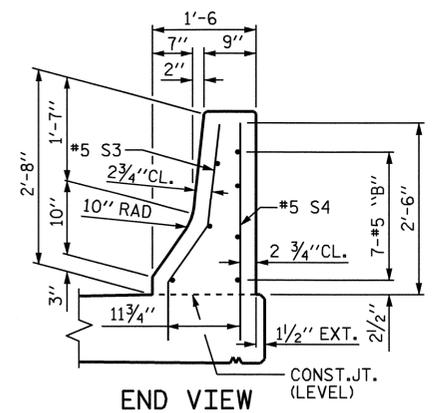


PLAN OF BARRIER RAIL

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE FROM C/JT. TO C/JT.
 ▲ FOR REINFORCING STEEL AT END OF RAIL, SEE "END OF RAIL DETAILS"



PLAN



END VIEW

END OF RAIL DETAILS

FOR ADHESIVE ANCHORING AT SAWED JOINTS

NOTES

THE BARRIER RAIL SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THE SPAN HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

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

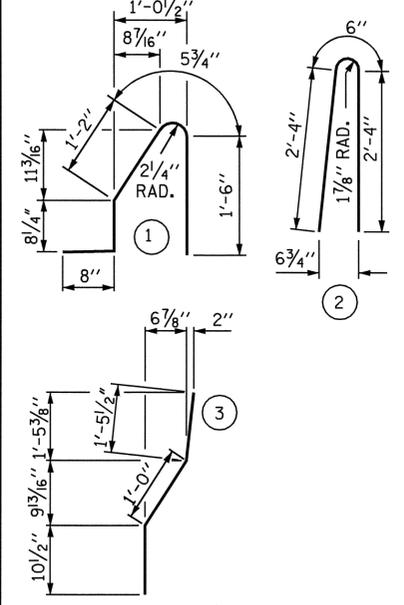
ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

THE #5 S3 AND #5 S4 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 #5 S3 AND #5 S4 BARS IS 18.6 KIPS. FIELD TESTING FOR THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.

VERTICAL GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF BARRIER RAIL SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

THE #5 S1 AND #5 S2 BARS MAY BE SHIFTED SLIGHTLY IN ORDER TO MAINTAIN A 2" MINIMUM CLEARANCE TO THE 1/2" EXPANSION JOINT MATERIAL IN BARRIER RAIL.

BAR TYPES

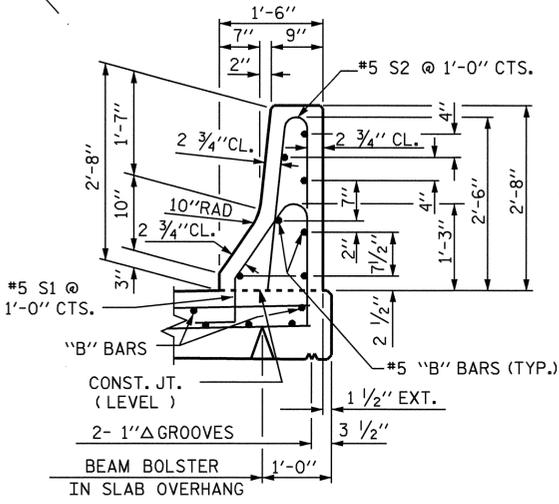


ALL BAR DIMENSIONS ARE OUT TO OUT

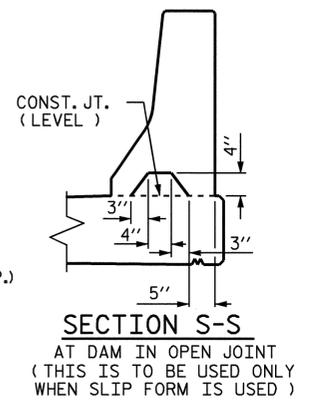
BILL OF MATERIAL

FOR CONCRETE BARRIER RAIL ONLY

BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
* S1	180	#5	1	4'-6"	845
* S2	180	#5	2	5'-2"	970
* S3	12	#5	3	3'-4"	42
* S4	12	#5	STR	3'-2"	40
* B1	28	#5	STR	14'-6"	423
* B2	28	#5	STR	13'-5"	391
* B3	14	#5	STR	25'-5"	371
* B4	14	#5	STR	23'-4"	341
* EPOXY COATED REINFORCING STEEL					3423 LBS.
CLASS AA CONCRETE					19.5 CU. YDS.
CONCRETE BARRIER RAIL					194.59 LIN. FT.

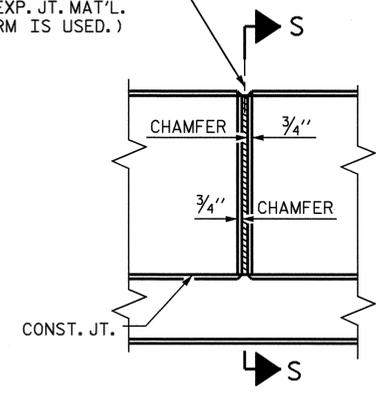


SECTION THRU RAIL



SECTION S-S
 AT DAM IN OPEN JOINT
 (THIS IS TO BE USED ONLY WHEN SLIP FORM IS USED)

C 1/2" 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



PROJECT NO. B-3814
BURKE COUNTY
 STATION: 16+50.00 -L-

SHEET 1 OF 2

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS 22
2			4			

ASSEMBLED BY : T.L.CLELLAND DATE : 11/29/05
 CHECKED BY : T.A.HARRIS DATE : 12/13/05
 DRAWN BY : ARB 5/87 REV. 10/17/00 RWW/LES
 CHECKED BY : SJD 9/87 REV. 5/7/03R RWW/JTE
 REV. 5/1/06 TLA/GM

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 4 - 7/8" 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 M111.

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 7/8" 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.)

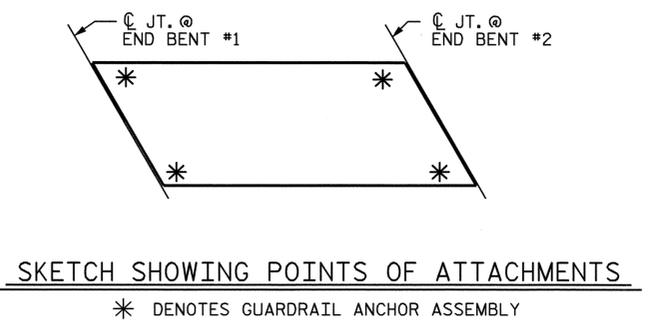
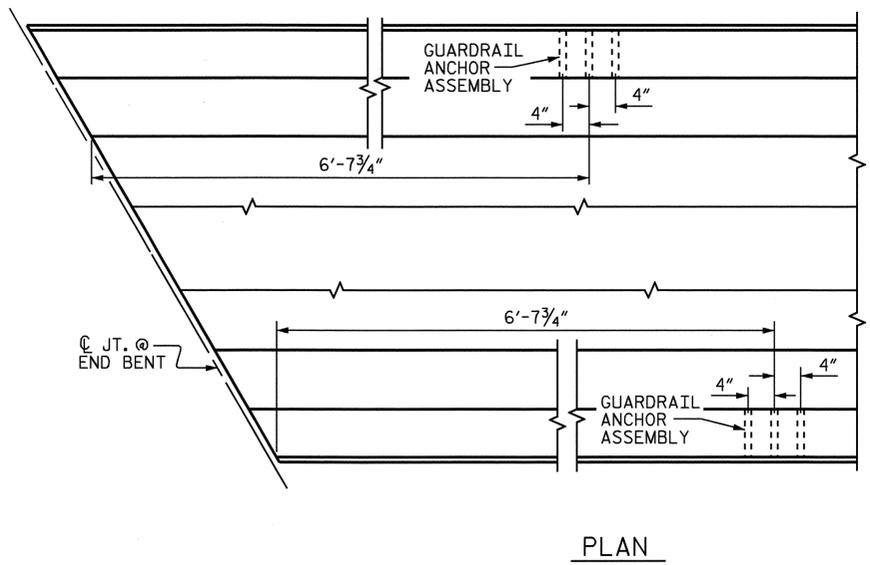
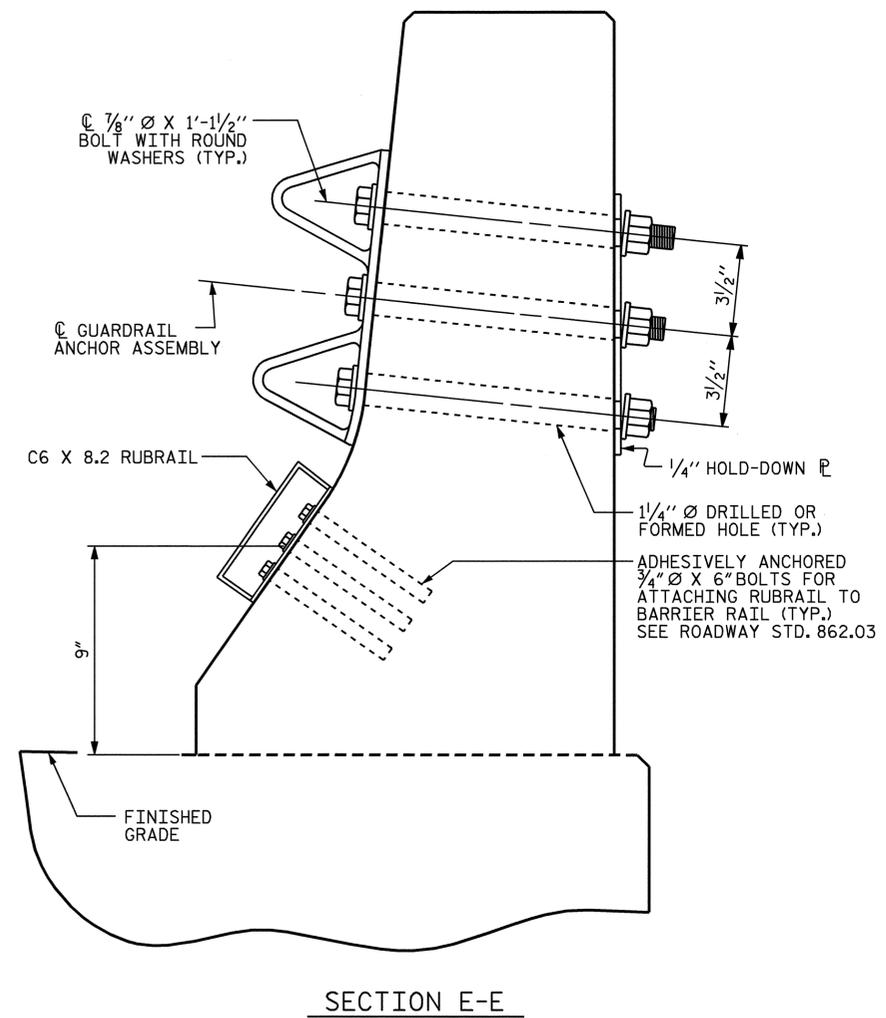
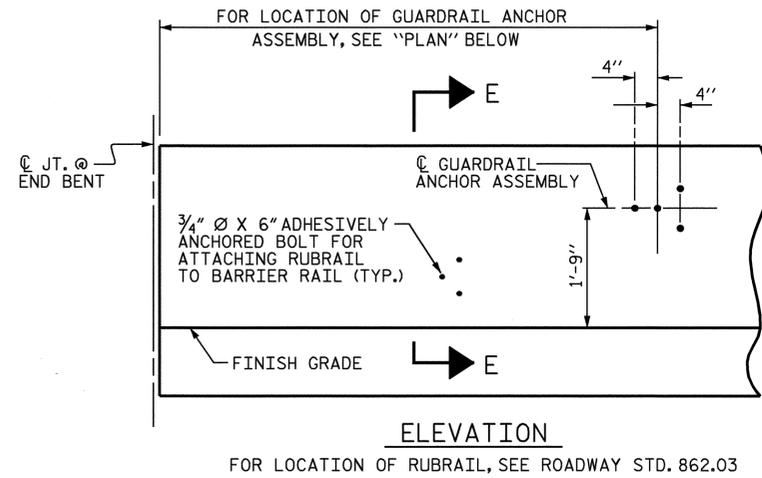
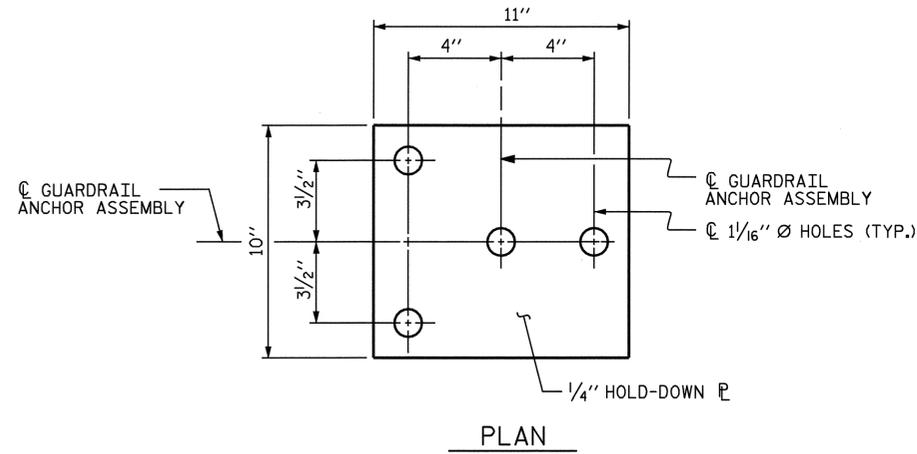
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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 CONCRETE BARRIER RAIL.

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 862.03 FOR DETAILS AND LOCATION OF THE RUBRAIL.



LOCATION OF ANCHORS FOR GUARDRAIL

END BENT 1 SHOWN, END BENT 2 SIMILAR.

GUARDRAIL ANCHOR ASSEMBLY DETAILS

PROJECT NO. B-3814
BURKE COUNTY
 STATION: 16+50.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD
 GUARDRAIL ANCHORAGE
 FOR BARRIER RAIL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			22



ASSEMBLED BY : E. G. ALLEN DATE : 2/19/07
 CHECKED BY : A. K. PATEL DATE : 8/02/07
 DRAWN BY : TLA 5/06 ADDED 5/1/06R KMM/GM
 CHECKED BY : GM 5/06

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

BAR SIZE	SUPERSTRUCTURE EXCEPT APPROACH SLABS, PARAPET, AND BARRIER RAIL		APPROACH SLABS		PARAPET AND BARRIER RAIL
	EPOXY COATED	UNCOATED	EPOXY COATED	UNCOATED	
#4	2'-0"	1'-9"	2'-0"	1'-9"	2'-9"
#5	2'-6"	2'-2"	2'-6"	2'-2"	3'-5"
#6	3'-0"	2'-7"	3'-10"	2'-7"	4'-4"
#7	5'-3"	3'-6"			
#8	6'-10"	4'-7"			

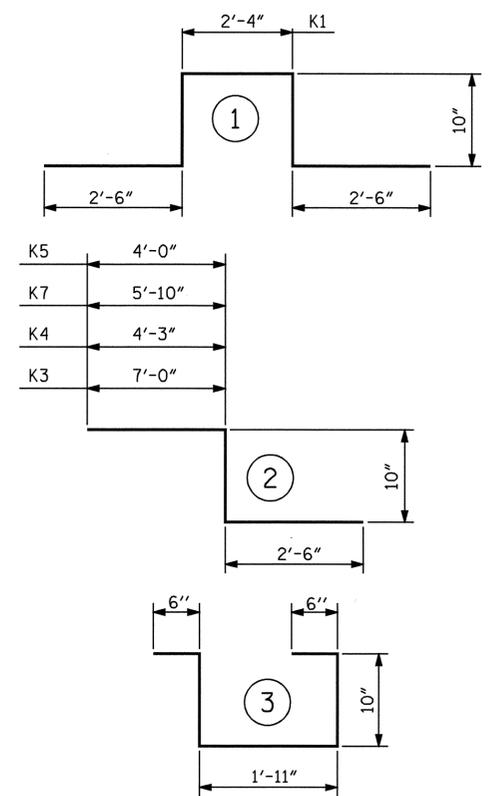
GROOVING BRIDGE FLOORS		
APPROACH SLABS	983	SQ.FT.
BRIDGE DECK	3510	SQ.FT.
TOTAL	4493	SQ.FT.

REINFORCING BAR SCHEDULE

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	94	#5	STR	42'-11"	4208							A230	4	#5	STR	33'-10"	141
A2	94	#5	STR	42'-11"	4208	* A137	4	#5	STR	20'-10"	87	A231	4	#5	STR	32'-0"	134
* A3	6	#6	STR	9'-5"	85	* A138	4	#5	STR	18'-11"	79	A232	4	#5	STR	30'-2"	126
* A4	6	#6	STR	5'-4"	48	* A139	4	#5	STR	17'-0"	71	A233	4	#5	STR	28'-3"	118
						* A140	4	#5	STR	15'-1"	63	A234	4	#5	STR	26'-5"	110
* A101	4	#5	STR	41'-3"	172	* A141	4	#5	STR	13'-3"	55	A235	4	#5	STR	24'-7"	103
* A102	4	#5	STR	39'-7"	165	* A142	4	#5	STR	11'-4"	47	A236	4	#5	STR	22'-8"	95
* A103	4	#5	STR	37'-11"	158	* A143	4	#5	STR	9'-5"	39	A237	4	#5	STR	20'-10"	87
* A104	4	#5	STR	36'-4"	152	* A144	4	#5	STR	7'-6"	31	A238	4	#5	STR	18'-11"	79
* A105	4	#5	STR	34'-8"	145	* A145	4	#5	STR	5'-7"	23	A239	4	#5	STR	17'-0"	71
* A106	4	#5	STR	33'-0"	138	* A146	4	#5	STR	3'-7"	15	A240	4	#5	STR	15'-1"	63
* A107	4	#5	STR	31'-5"	131							A241	4	#5	STR	13'-3"	55
* A108	4	#5	STR	29'-9"	124	A201	4	#5	STR	41'-3"	172	A242	4	#5	STR	11'-4"	47
* A109	4	#5	STR	28'-2"	118	A202	4	#5	STR	39'-7"	165	A243	4	#5	STR	9'-5"	39
* A110	4	#5	STR	26'-6"	111	A203	4	#5	STR	37'-11"	158	A244	4	#5	STR	7'-6"	31
* A111	4	#5	STR	24'-11"	104	A204	4	#5	STR	36'-4"	152	A245	4	#5	STR	5'-7"	23
* A112	4	#5	STR	23'-4"	97	A205	4	#5	STR	34'-8"	145	A246	4	#5	STR	3'-7"	15
* A113	4	#5	STR	21'-9"	91	A206	4	#5	STR	33'-0"	138						
* A114	4	#5	STR	20'-2"	84	A207	4	#5	STR	31'-5"	131	* B1	120	#4	STR	26'-10"	2150
* A115	4	#5	STR	18'-7"	78	A208	4	#5	STR	29'-9"	124	B2	96	#5	STR	51'-7"	5165
* A116	4	#5	STR	17'-0"	71	A209	4	#5	STR	28'-2"	118	B3	1	#5	STR	21'-4"	22
* A117	4	#5	STR	15'-5"	64	A210	4	#5	STR	26'-6"	111	B4	1	#5	STR	9'-7"	10
* A118	4	#5	STR	13'-10"	58	A211	4	#5	STR	24'-11"	104	B5	1	#5	STR	15'-10"	17
* A119	4	#5	STR	12'-4"	51	A212	4	#5	STR	23'-4"	97	B6	1	#5	STR	8'-0"	8
* A120	4	#5	STR	10'-9"	45	A213	4	#5	STR	21'-9"	91	B7	2	#5	STR	40'-3"	84
* A121	4	#5	STR	9'-3"	39	A214	4	#5	STR	20'-2"	84	B8	1	#5	STR	45'-1"	47
* A122	4	#5	STR	7'-8"	32	A215	4	#5	STR	18'-7"	78						
* A123	4	#5	STR	6'-2"	26	A216	4	#5	STR	17'-0"	71	* G1	2	#5	STR	37'-3"	78
* A124	4	#5	STR	4'-8"	19	A217	4	#5	STR	15'-5"	64	* G2	2	#5	STR	31'-7"	66
* A125	4	#5	STR	3'-1"	13	A218	4	#5	STR	13'-10"	58						
* A126	4	#5	STR	41'-2"	172	A219	4	#5	STR	12'-4"	51	* K1	18	#5	1	9'-0"	169
* A127	4	#5	STR	39'-4"	164	A220	4	#5	STR	10'-9"	45	K2	12	#5	STR	14'-6"	181
* A128	4	#5	STR	37'-6"	156	A221	4	#5	STR	9'-3"	39	* K3	3	#5	2	10'-4"	32
* A129	4	#5	STR	35'-8"	149	A222	4	#5	STR	7'-8"	32	* K4	3	#5	2	7'-7"	24
* A130	4	#5	STR	33'-10"	141	A223	4	#5	STR	6'-2"	26	* K5	3	#5	2	7'-4"	23
* A131	4	#5	STR	32'-0"	134	A224	4	#5	STR	4'-8"	19	K6	12	#5	STR	12'-5"	155
* A132	4	#5	STR	30'-2"	126	A225	4	#5	STR	3'-1"	13	* K7	3	#5	2	9'-2"	29
* A133	4	#5	STR	28'-3"	118	A226	4	#5	STR	41'-2"	172						
* A134	4	#5	STR	26'-5"	110	A227	4	#5	STR	39'-4"	164	* S1	100	#4	3	4'-7"	306
* A135	4	#5	STR	24'-7"	103	A228	4	#5	STR	37'-6"	156						
* A136	4	#5	STR	22'-8"	95	A229	4	#5	STR	35'-8"	149						

REINFORCING STEEL = 14,161 LBS
 * EPOXY COATED REIN. STEEL = 11,176 LBS

BAR TYPES



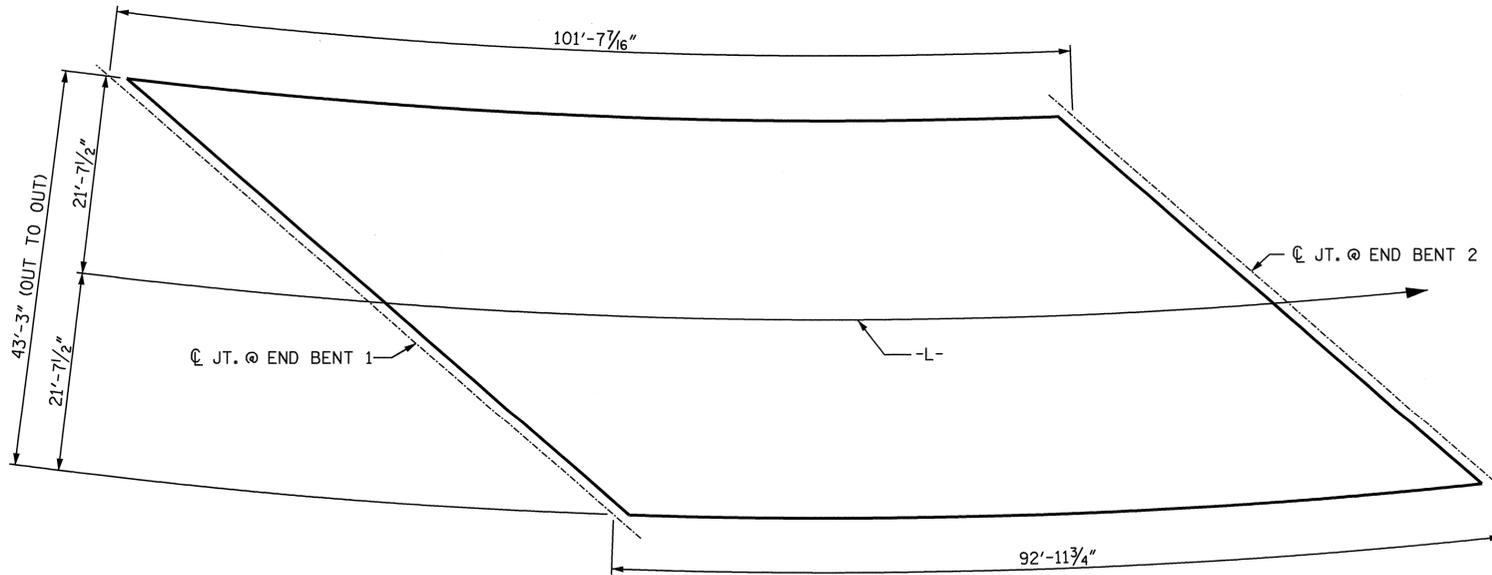
ALL BAR DIMENSIONS ARE OUT TO OUT

SUPERSTRUCTURE BILL OF MATERIAL

	CLASS AA CONCRETE (CU.YDS.)	REINFORCING STEEL (LBS.)	EPOXY COATED REINFORCING STEEL (LBS.)
	142.1	14,161	11,176
TOTALS**	142.1	14,161	11,176

**QUANTITIES FOR BARRIER RAIL ARE NOT INCLUDED

PROJECT NO. B-3814
 BURKE COUNTY
 STATION: 16+50.00 -L-



LAYOUT FOR COMPUTING AREA OF REINFORCED CONCRETE DECK SLAB (SQ. FT. = 4208)

ASSEMBLED BY : T.L.CLELLAND DATE : 11/29/05
 CHECKED BY : T.A.HARRIS DATE : 12/13/05
 DRAWN BY : JMB 5/87 REV. 6/1/94 EEM/GRP
 CHECKED BY : SJD 9/87 REV. 8/16/99 RWW/LES



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 BILL OF MATERIAL

OCTOBER 1987

REVISIONS		REVISIONS		SHEET NO.		
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-12
2			4			TOTAL SHEETS 22

NOTES

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

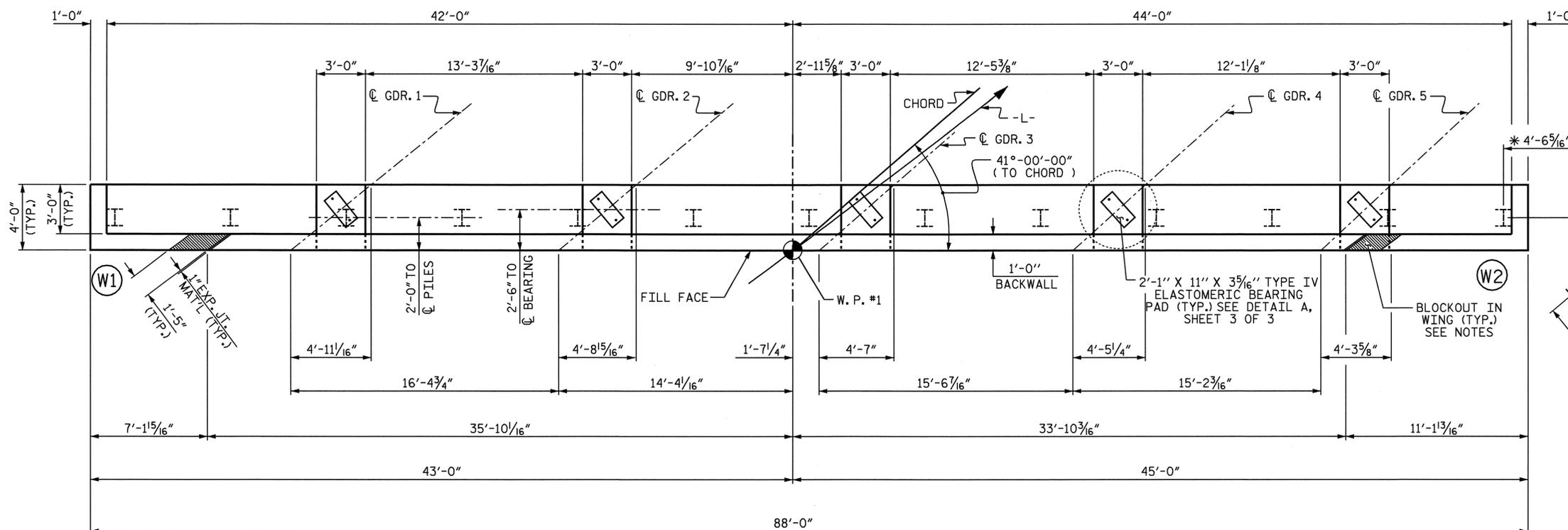
BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.

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

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

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

* SEE WALL PLANS FOR LAYOUT OR AS DIRECTED BY THE ENGINEER.

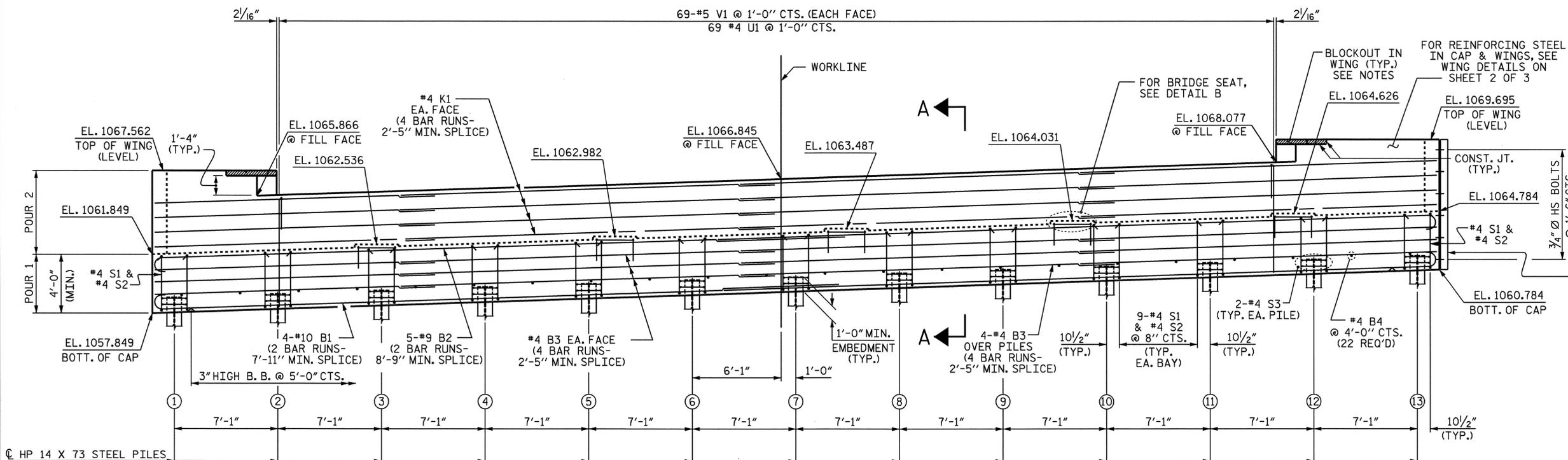


PLAN

TOP OF PILE ELEVATIONS

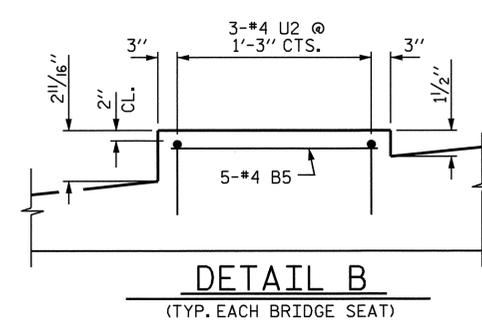
PILE	ELEVATION
①	1058.916
②	1059.152
③	1059.388
④	1059.625
⑤	1059.861
⑥	1060.097
⑦	1060.333
⑧	1060.570
⑨	1060.806
⑩	1061.042
⑪	1061.278
⑫	1061.515
⑬	1061.751
⑭	1065.454
⑮	1061.997
⑯	1058.540

69-#5 V1 @ 1'-0" CTS. (EACH FACE)
69 #4 U1 @ 1'-0" CTS.



ELEVATION

PILES 14 THRU 16 NOT SHOWN FOR CLARITY
FOR PILE PANEL WALL UNDER BENT CAP,
SEE WALL PLANS.



DETAIL B
(TYP. EACH BRIDGE SEAT)

PROJECT NO. B-3814
BURKE COUNTY
STATION: 16+50.00 -L-

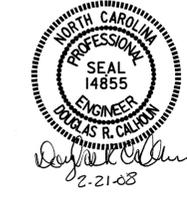
SHEET 1 OF 3

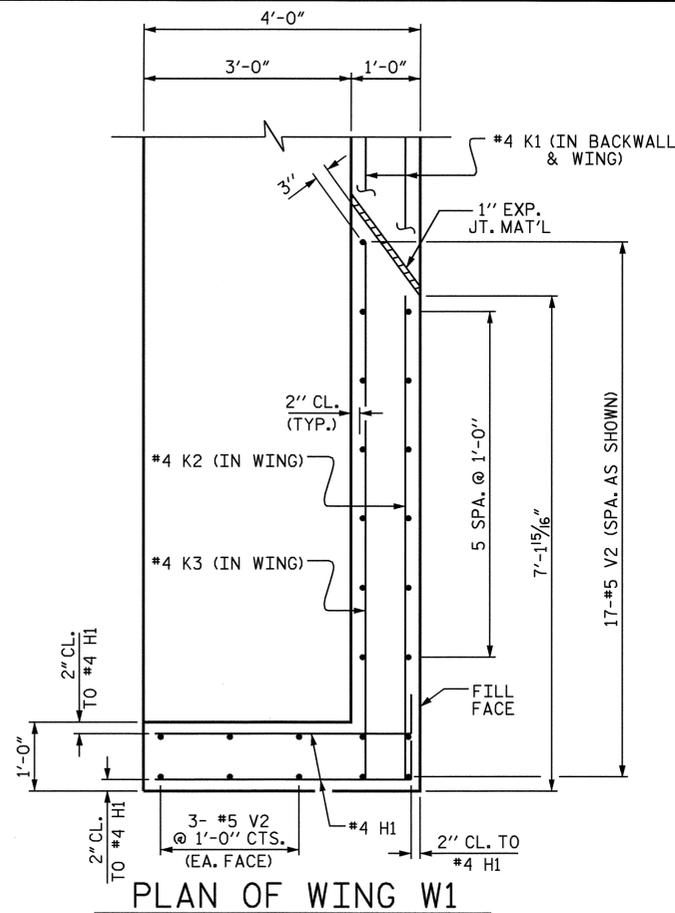
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**SUBSTRUCTURE
END BENT 1**

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

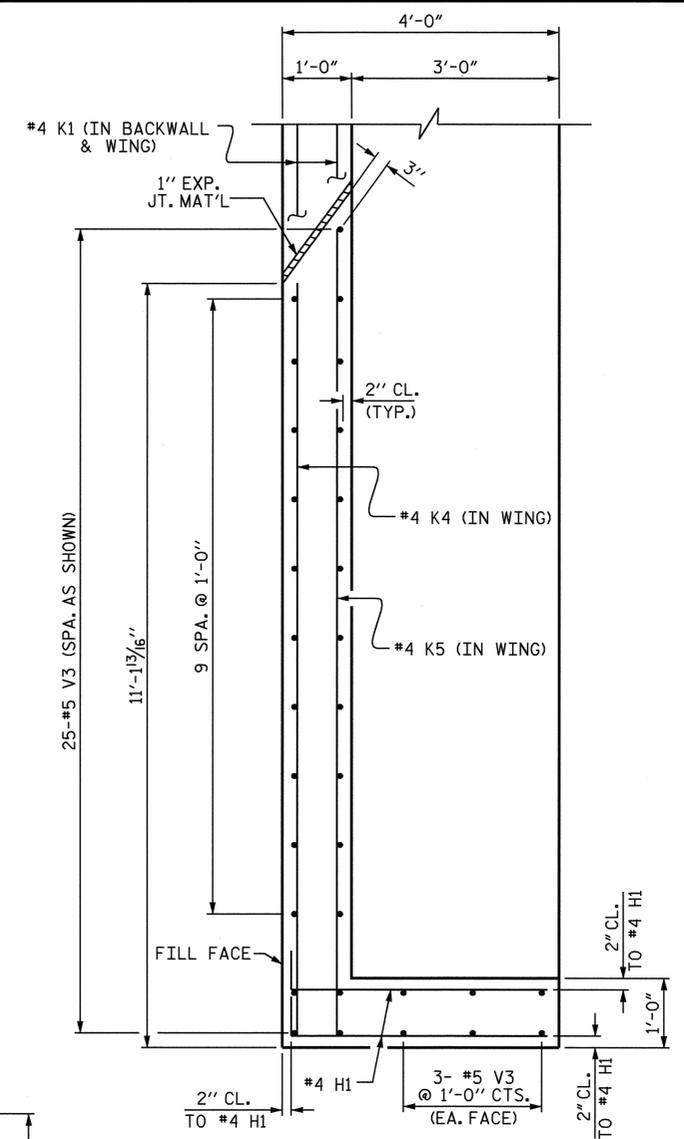
TOTAL SHEETS
22

DRAWN BY: J. MYA DATE: 2/28/07
CHECKED BY: J. KHARVA DATE: 3/7/07

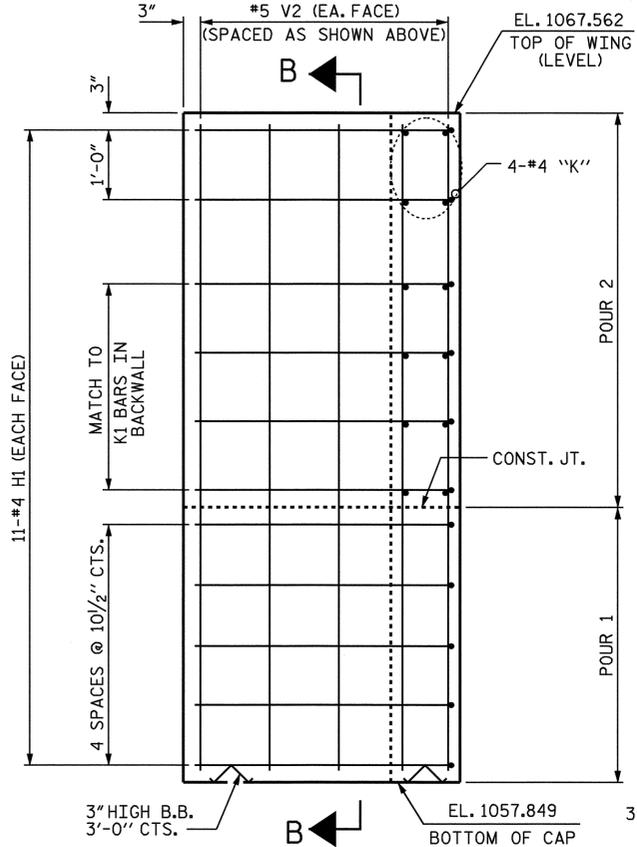




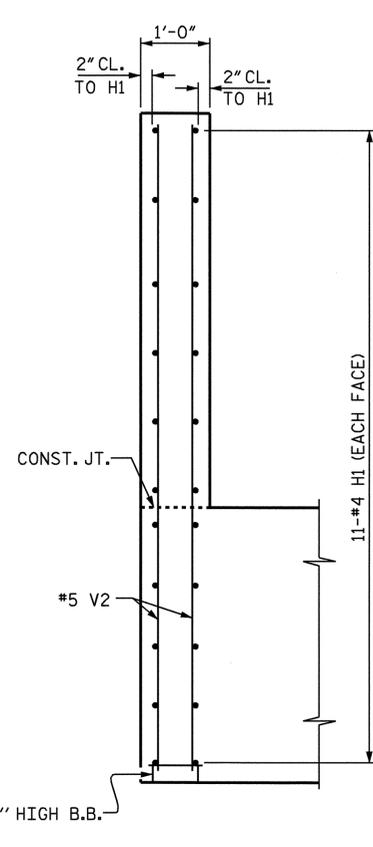
PLAN OF WING W1



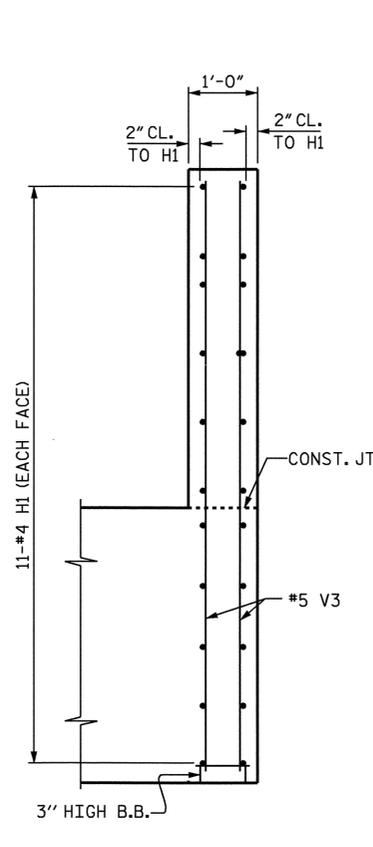
PLAN OF WING W2



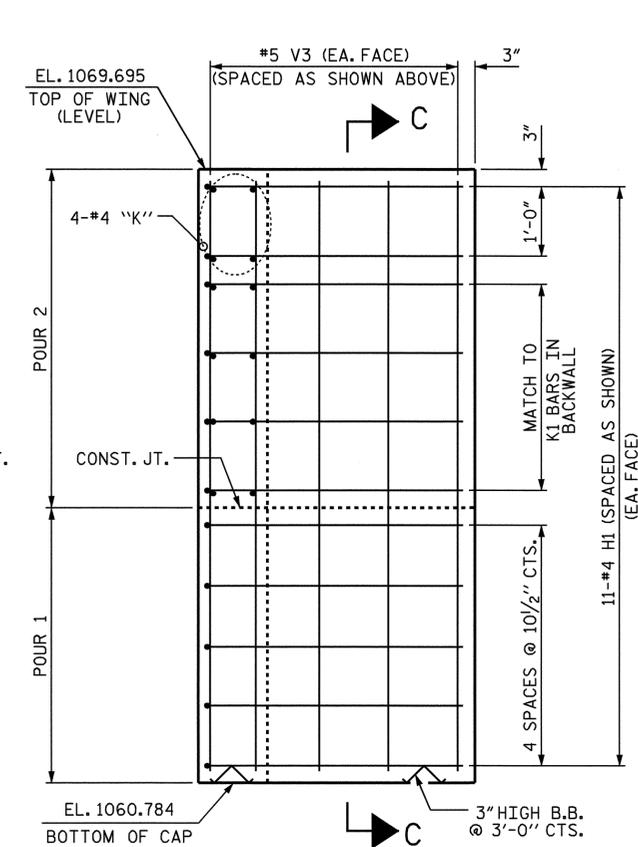
ELEVATION OF WING W1



SECTION B-B



SECTION C-C



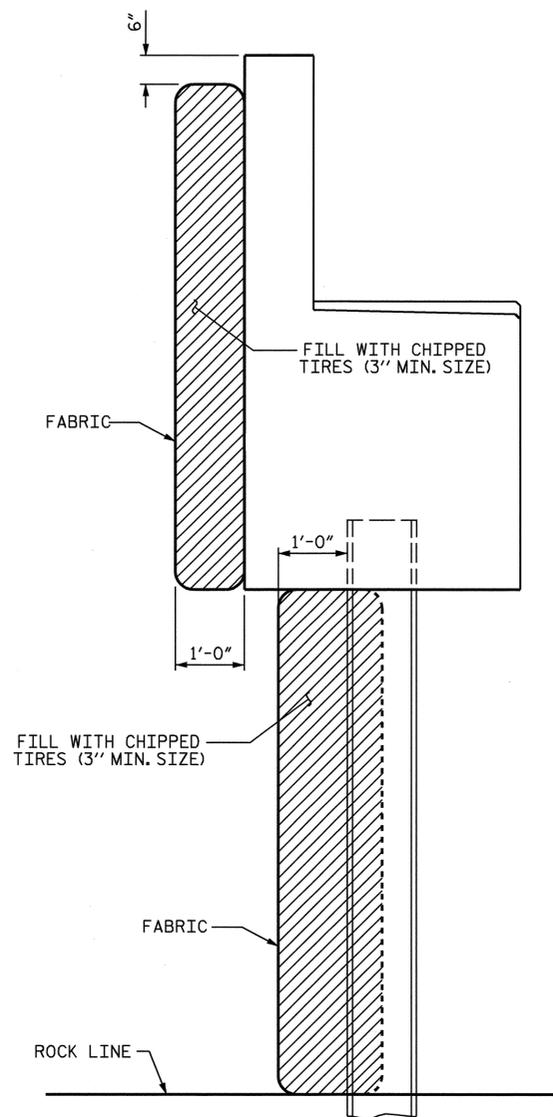
ELEVATION OF WING W2



PROJECT NO. B-3814
BURKE COUNTY
 STATION: 16+50.00 -L-
 SHEET 2 OF 3

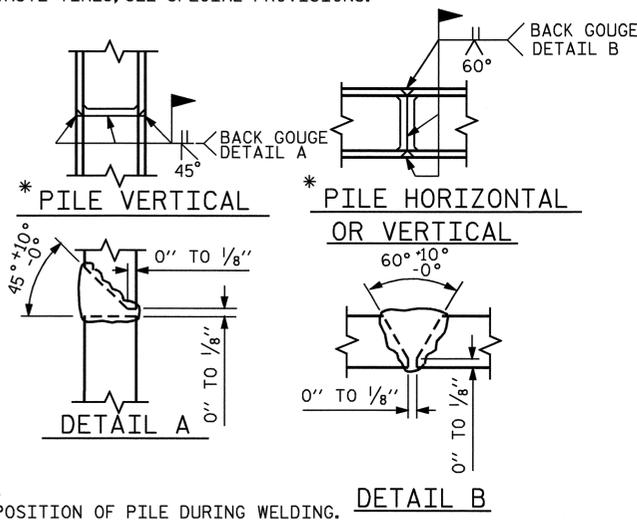
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE END BENT 1					
SHEET NO. S-14					
TOTAL SHEETS 22					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

DRAWN BY : J. MYA DATE : 2/28/07
 CHECKED BY : J. KHARVA DATE : 3/7/07



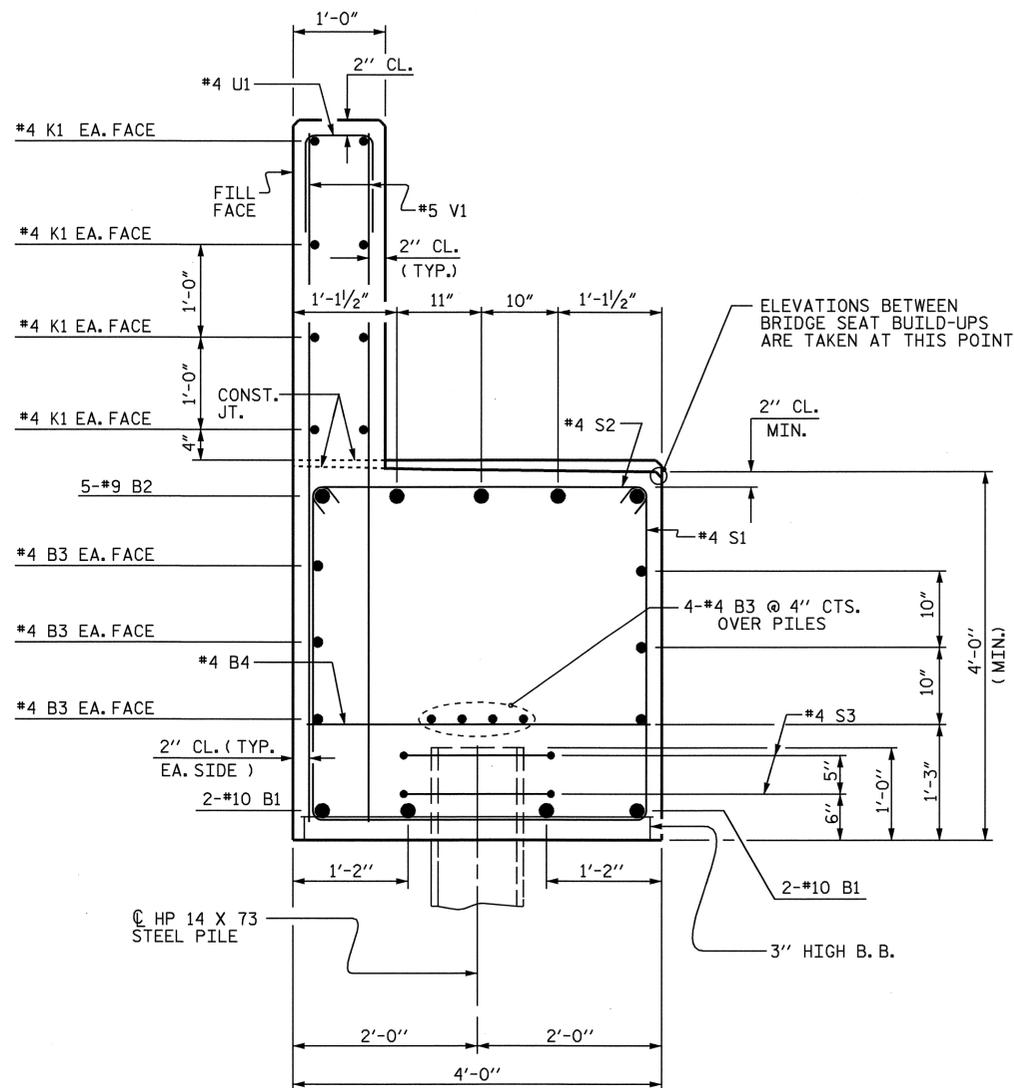
CHIPPED TIRE DETAIL

NOTES : CHIPPED WASTE TIRES SHALL BE PLACED BETWEEN END BENT 1, PILES, AND FABRIC WALL TO THE LIMITS SHOWN ON WALL PLANS. FOR CHIPPED WASTE TIRES, SEE SPECIAL PROVISIONS.

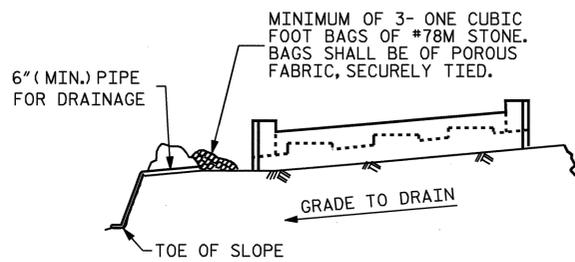


PILE SPLICE DETAILS

* POSITION OF PILE DURING WELDING.



SECTION A-A

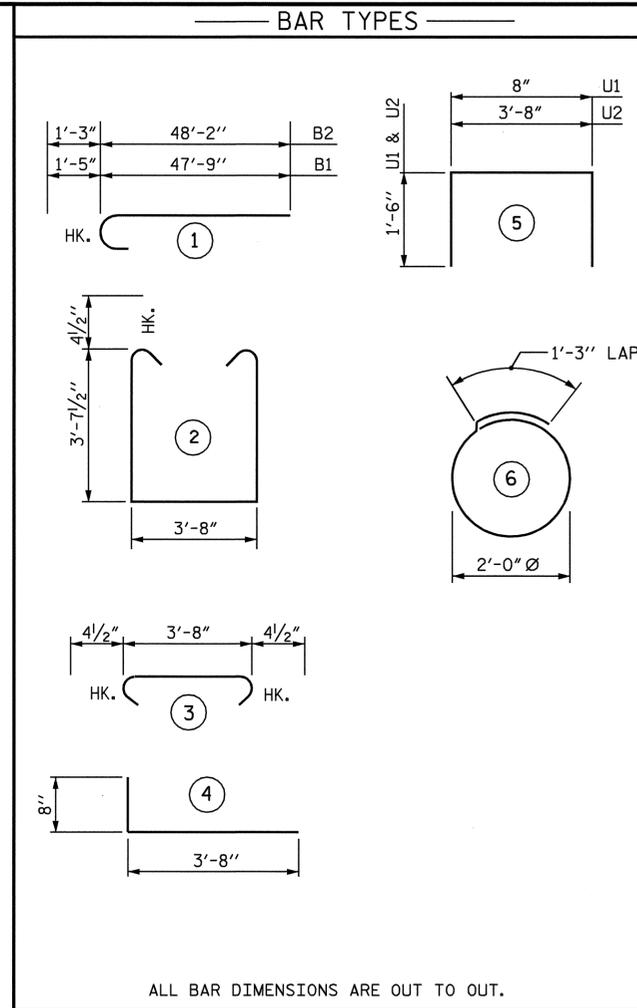


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

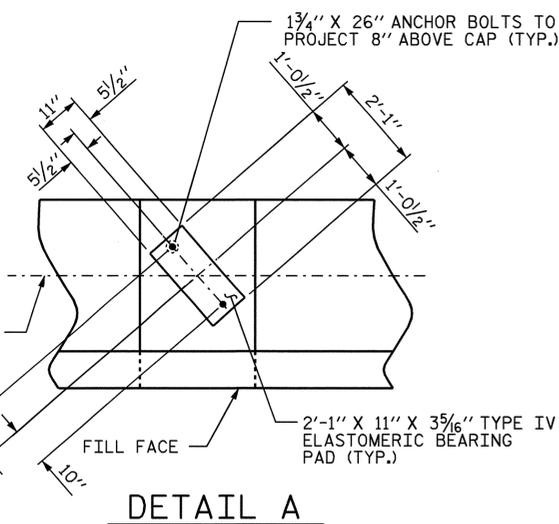
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

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

TEMPORARY DRAINAGE AT END BENT



ALL BAR DIMENSIONS ARE OUT TO OUT.



DETAIL A

BILL OF MATERIAL

END BENT 1

BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#10	1	49'-2"	1693
B2	10	#9	1	49'-5"	1680
B3	40	#4	STR	23'-9"	635
B4	22	#4	STR	3'-8"	54
B5	25	#4	STR	2'-8"	45
H1	44	#4	4	4'-4"	127
K1	32	#4	STR	23'-9"	508
K2	2	#4	STR	7'-0"	9
K3	2	#4	STR	7'-9"	10
K4	2	#4	STR	10'-10"	14
K5	2	#4	STR	11'-8"	16
S1	110	#4	2	11'-8"	857
S2	110	#4	3	4'-5"	325
S3	26	#4	6	7'-7"	132
U1	69	#4	5	3'-8"	169
U2	15	#4	5	6'-8"	67
V1	138	#5	STR	7'-3"	1044
V2	23	#5	STR	9'-1"	218
V3	31	#5	STR	8'-7"	278
REINFORCING STEEL				LBS	7881

CLASS A CONCRETE BREAKDOWN

POUR 1 CAP	C.Y.	52.5
POUR 2 (BACKWALL & WING)	C.Y.	14.3
TOTAL	C.Y.	66.8

HP 14 X 73 GALVANIZED STEEL PILES : NO. : 16 LIN. FT. 400

PILE EXCAVATION NOT IN SOIL : LIN. FT. 80

CHIPPED TIRE MATERIAL C.Y. 83.0

PROJECT NO. B-3814
BURKE COUNTY
 STATION: 16+50.00 -L-

SHEET 3 OF 3

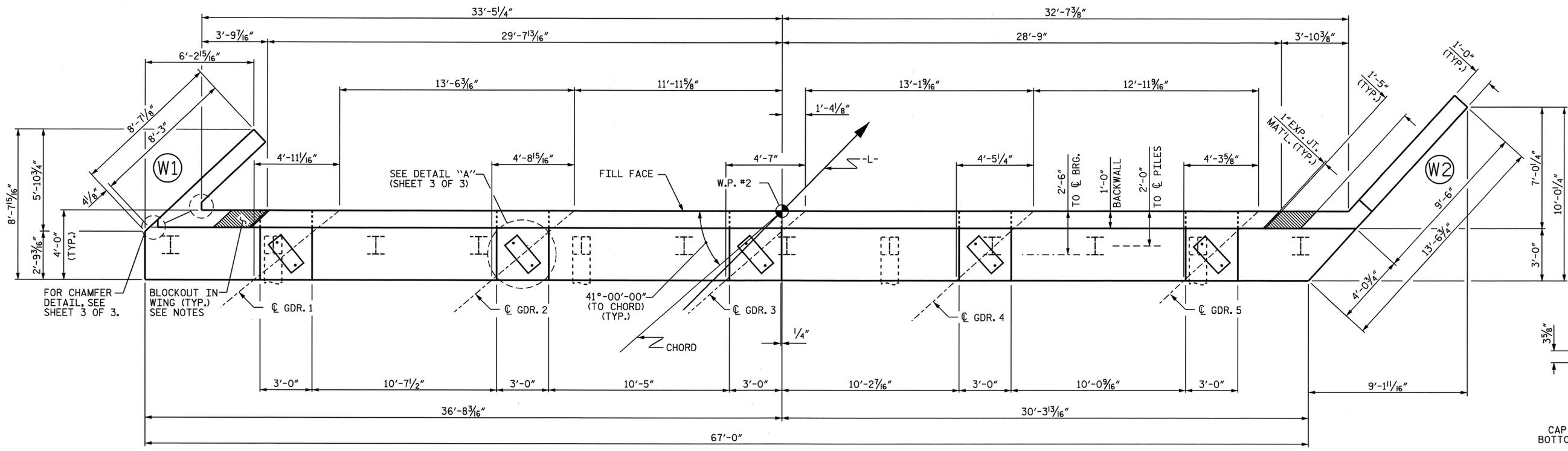
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 END BENT 1**

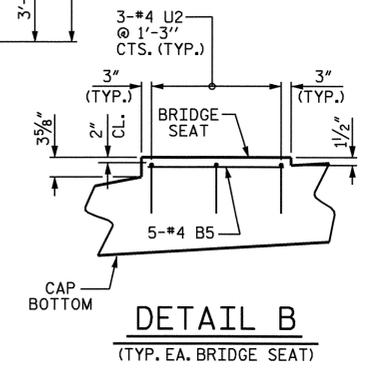


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NO.	BY:	DATE:	NO.	BY:	DATE:	S-15
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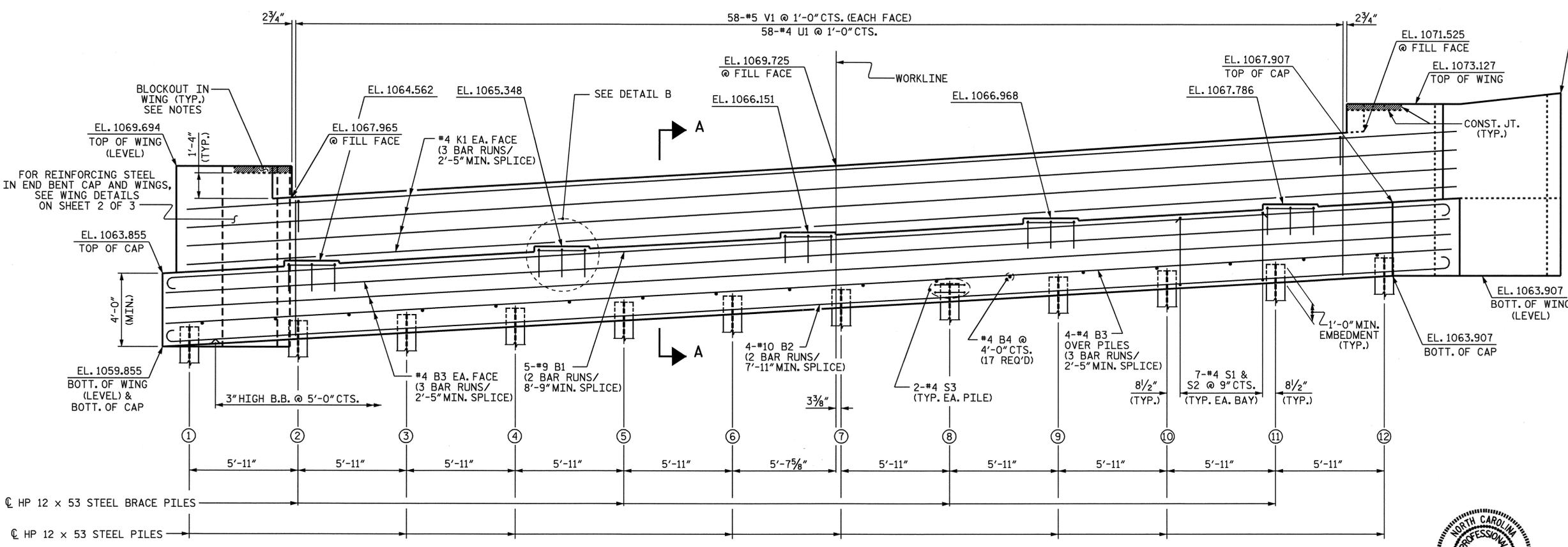
DRAWN BY : J. MYA DATE : 2/28/07
 CHECKED BY : J. KHARVA DATE : 3/7/07



PLAN



DETAIL B
(TYP. EA. BRIDGE SEAT)



ELEVATION

TOP OF PILE ELEVATIONS	
PILE	ELEVATION
1	1060.970
2	1061.328
3	1061.687
4	1062.045
5	1062.404
6	1062.762
7	1063.121
8	1063.479
9	1063.838
10	1064.192
11	1064.555
12	1064.914

PROJECT NO. B-3814
 BURKE COUNTY
 STATION: 16+50.00 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

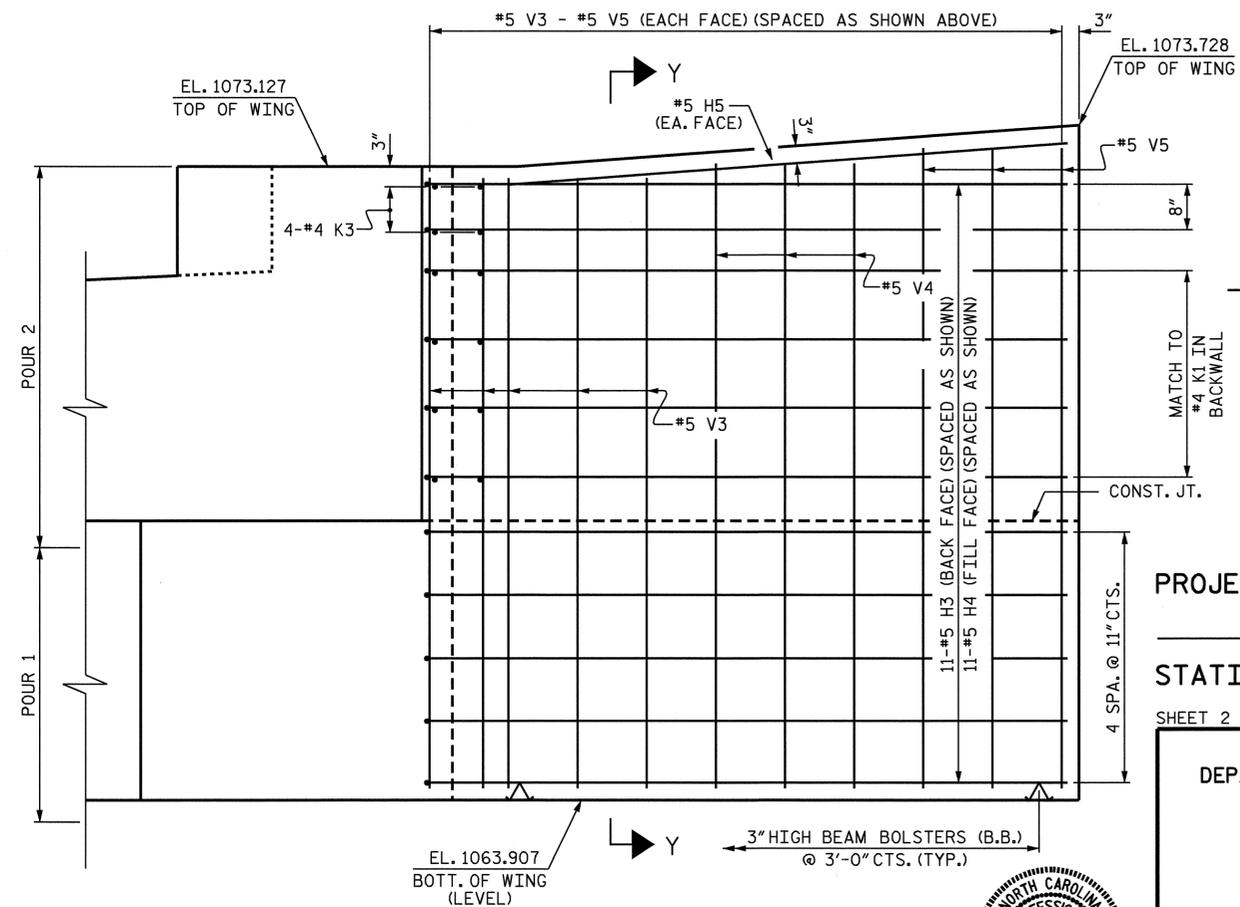
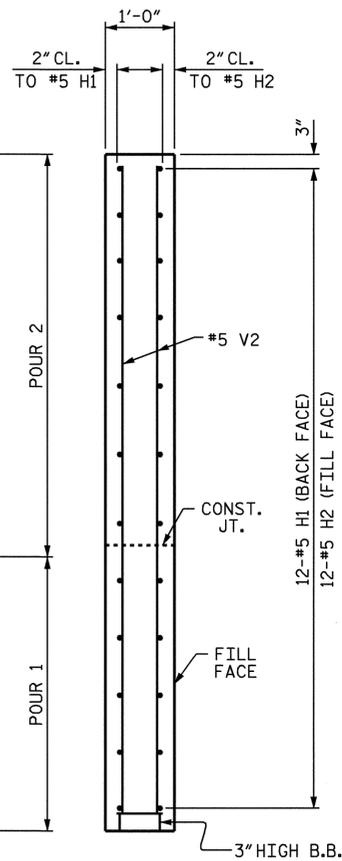
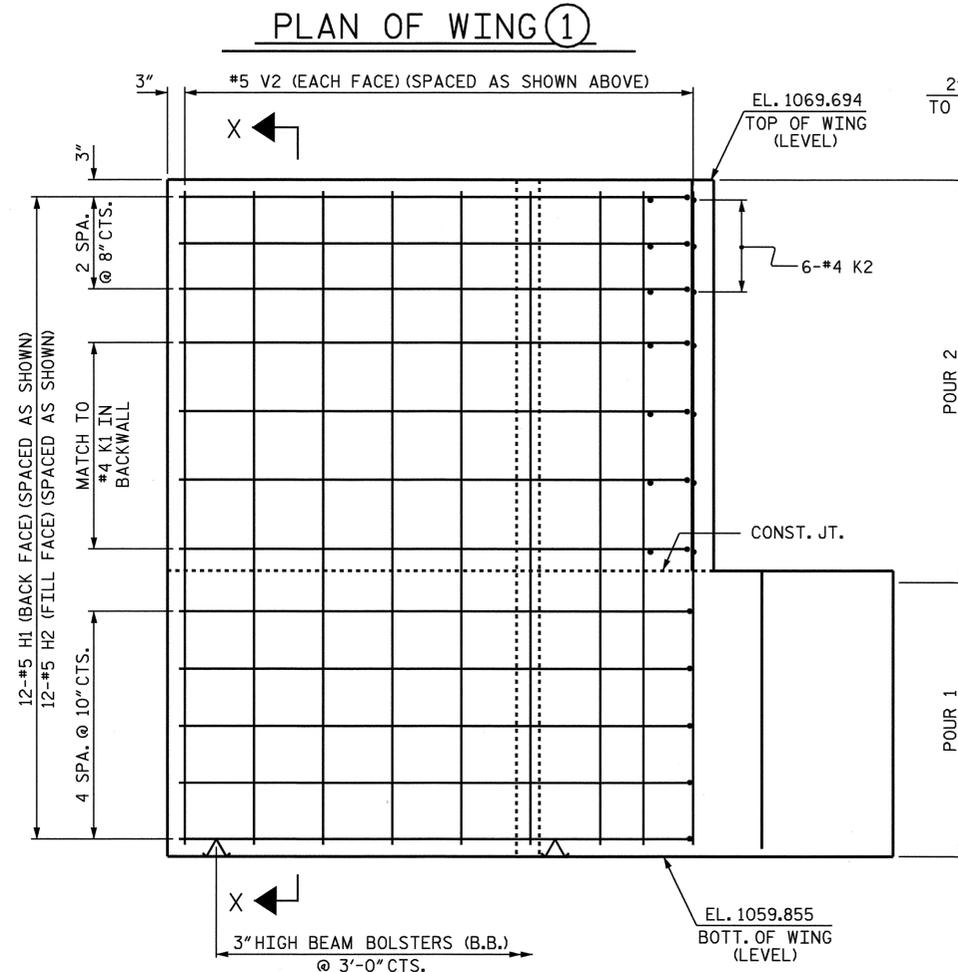
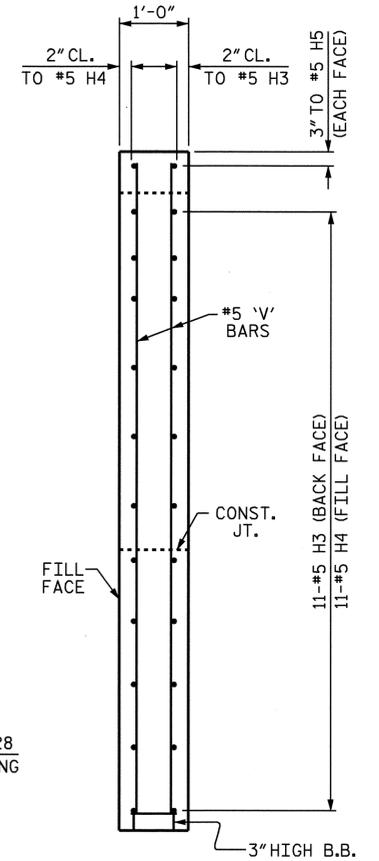
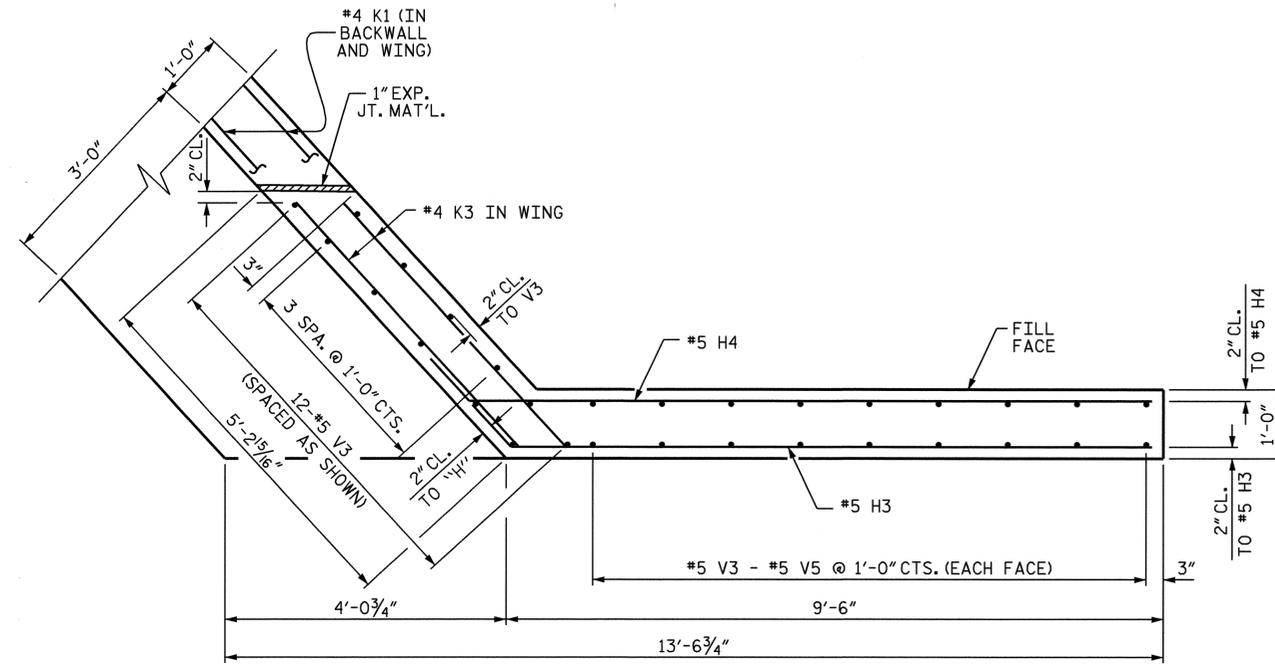
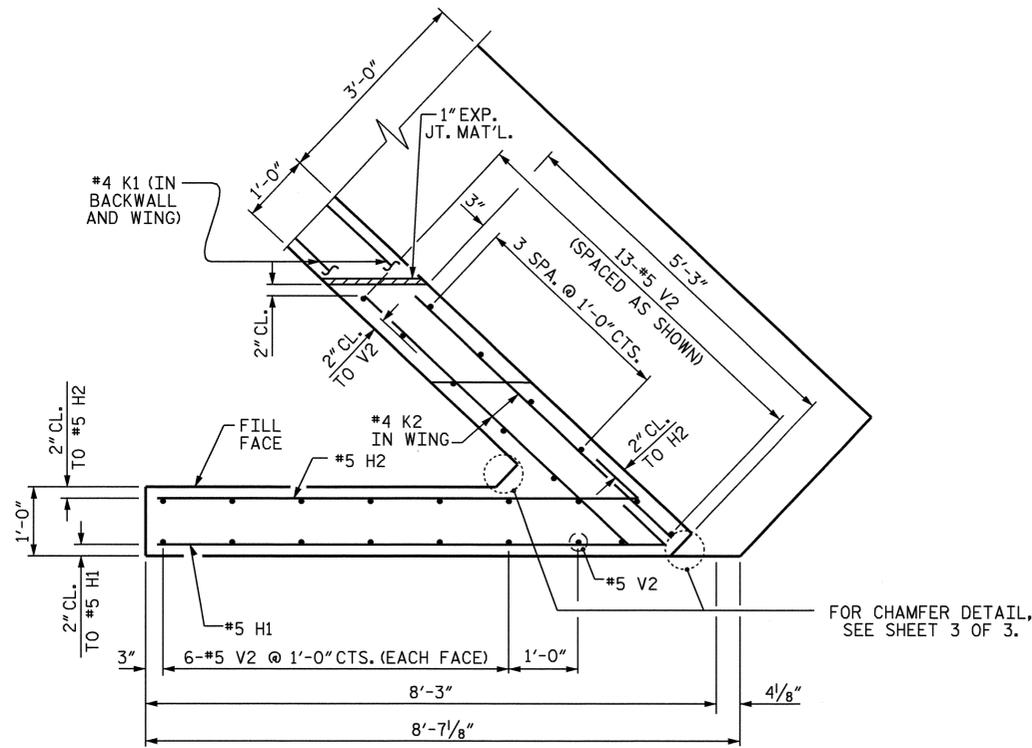
**SUBSTRUCTURE
 END BENT 2**

REVISIONS						SHEET NO. S-16
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 22
2			4			



DRAWN BY: J.B. WILSON/A. PATEL-DATE: 4/27/06
 CHECKED BY: J. MYA DATE: 3/06/07

11-MAR-2008 12:12
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PROJECT NO. B-3814
 BURKE COUNTY
 STATION: 16+50.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT 2

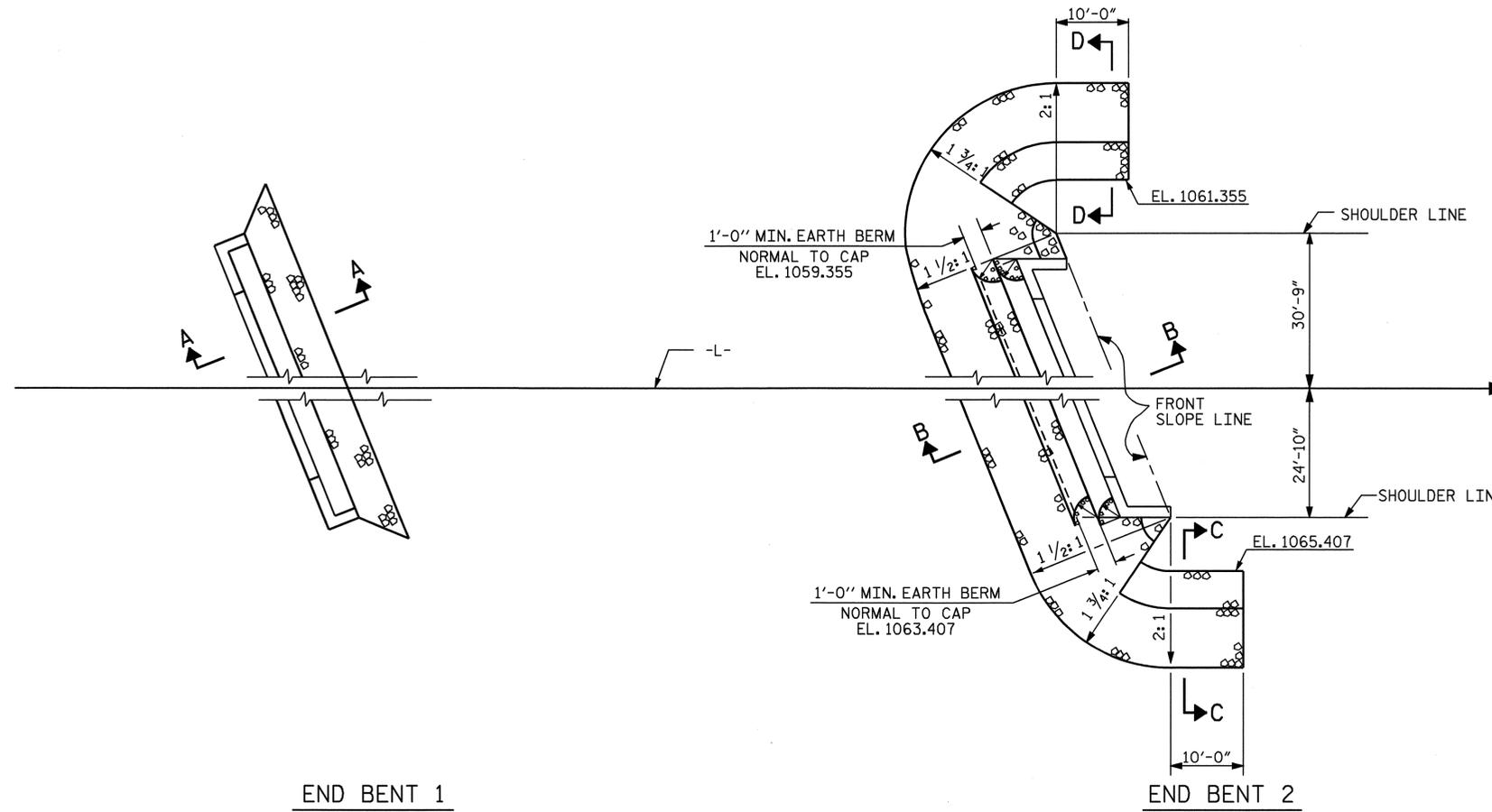
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-17	
1			3			TOTAL SHEETS 22	
2			4				

DRAWN BY: J.B. WILSON/PATEL DATE: 4/27/06
 CHECKED BY: J. MYA DATE: 3/06/07

25-JAN-2008 13:52
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NOTES :
FOR BERM WIDTH DIMENSIONS, SEE GENERAL DRAWING.

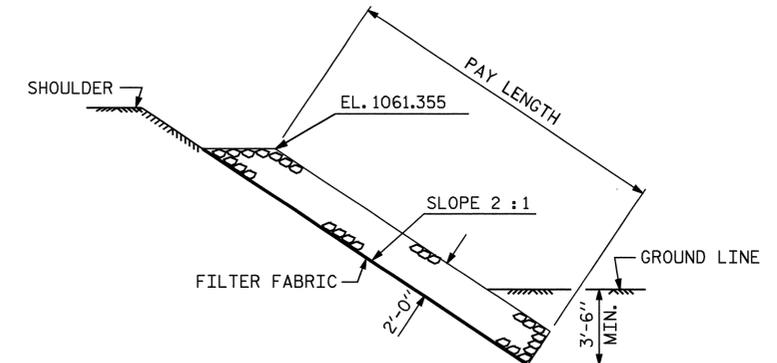
ESTIMATED QUANTITIES		
BRIDGE @ STA. 16+50.00 -L-	RIP RAP CLASS II	FILTER FABRIC FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	7	30
END BENT 2	208	230



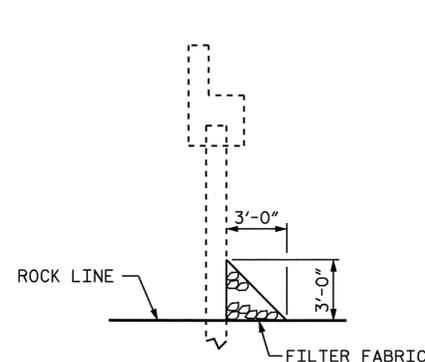
END BENT 1

END BENT 2

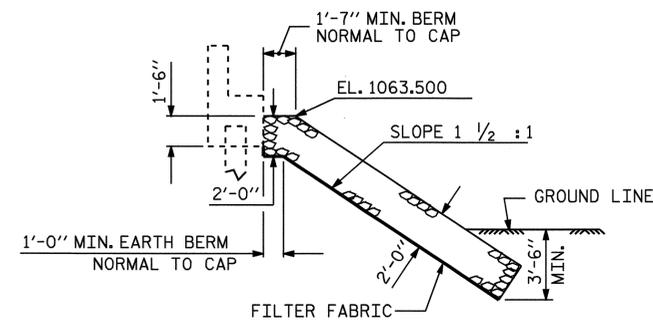
PLAN



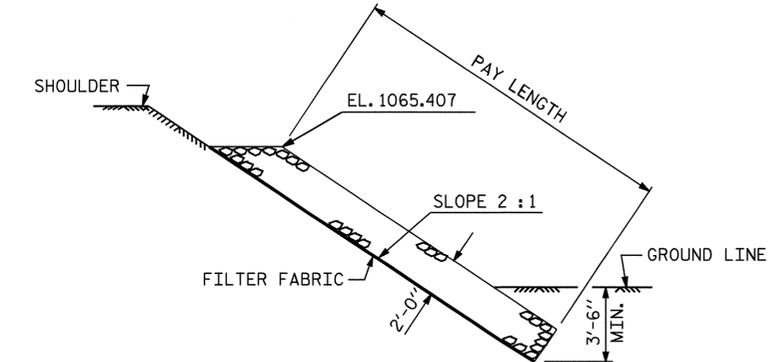
SECTION D-D



SECTION A-A



SECTION B-B



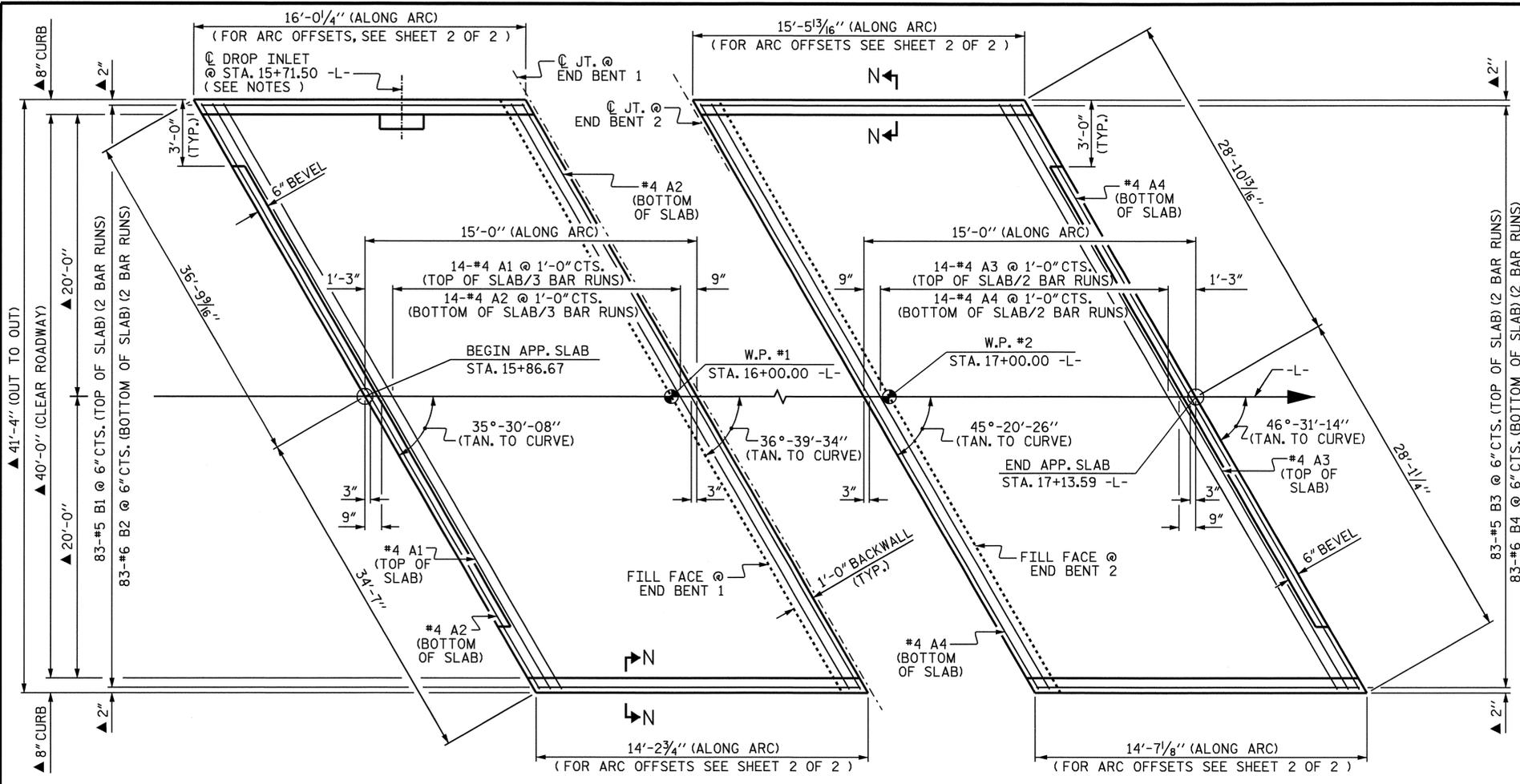
SECTION C-C

PROJECT NO. B-3814
BURKE COUNTY
STATION: 16+50.00 -L-

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO.
STANDARD						S-19
= RIP RAP DETAILS =						TOTAL SHEETS
REVISIONS						22
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



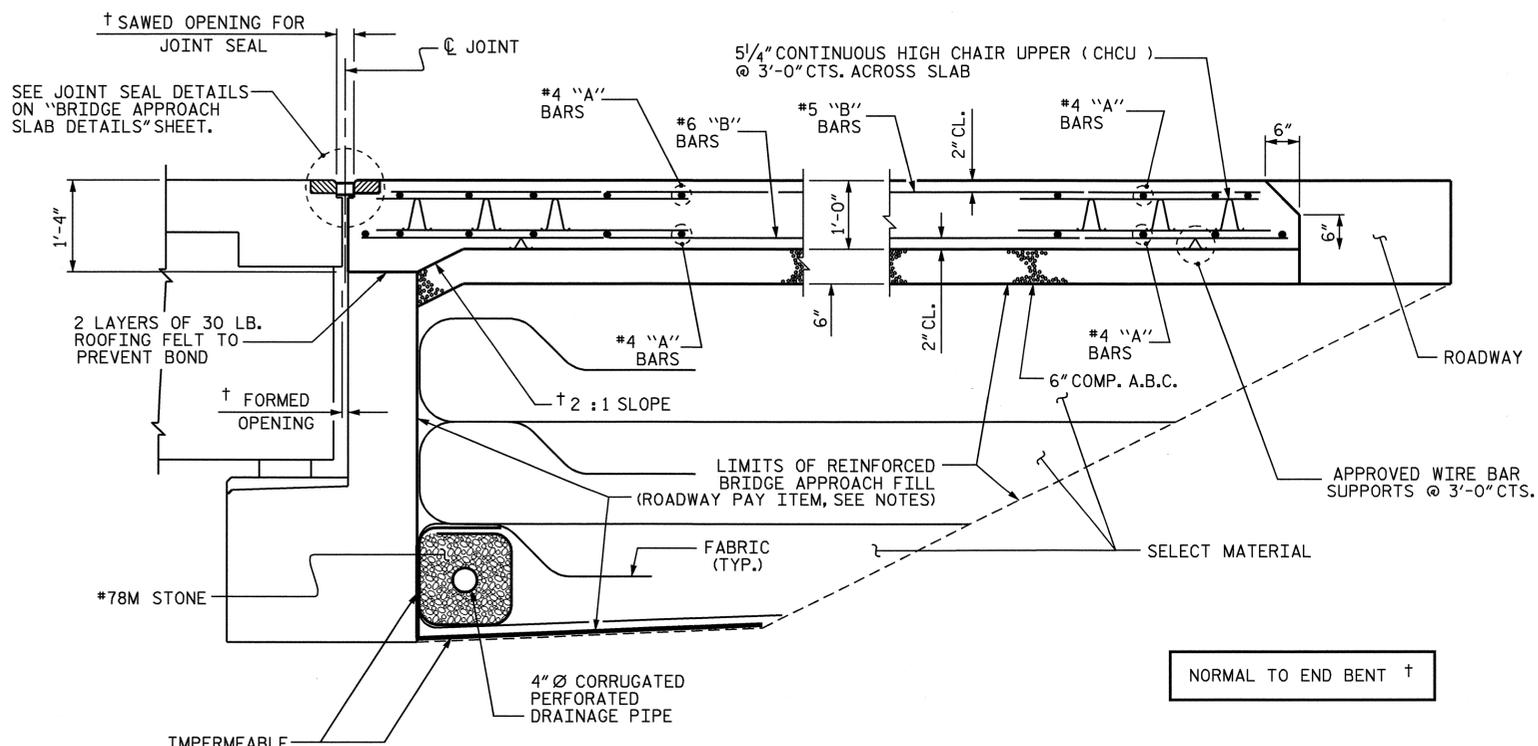
ASSEMBLED BY : T.R.C. & J. MYA	DATE : 11/4/05
CHECKED BY : D.R. CALHOUN	DATE : 11/06/07
DRAWN BY : REK 1/84	REV. 7/17/98 REK/RWW
CHECKED BY : RDU 1/84	REV. 8/16/99 RWW/LES
	REV. 10/17/00 RWW/LES



PLAN @ END BENT 1

PLAN @ END BENT 2

▲ DIMENSIONS SHOWN ARE RADIAL



SECTION THRU SLAB @ END BENT 2

SHOWING SECTION WITHOUT CONCRETE WEARING SURFACE

NOTES

- APPROACH SLAB SHALL NOT BE CONSTRUCTED PRIOR TO COMPLETION OF THE BRIDGE DECK.
- FOR REINFORCED BRIDGE APPROACH FILL AT END BENT 2 INCLUDING FABRIC, IMPERMEABLE GEOMEMBRANE, 4" Ø DRAINAGE PIPE, #78M STONE, AND SELECT MATERIAL, SEE ROADWAY PLANS.
- AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.
- THE 6" COMP. A.B.C. SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB AND SHALL EXTEND 1'-0" OUTSIDE EACH EDGE OF THE APPROACH SLAB.
- THE CONTRACTOR MAY USE 4" TYPE B-25.0B ASPHALT CONCRETE BASE COURSE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE BASE COURSE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB.
- THE CONTRACTOR MAY USE 5" CLASS "A" CONCRETE BASE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE CONCRETE BASE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB. THE CONCRETE SHALL BE FINISHED TO A SMOOTH SURFACE AND A LAYER OF 30 LB ROOFING FELT SHALL BE PLACED BETWEEN THE CONCRETE BASE AND THE APPROACH SLAB TO PREVENT BOND. THE APPROACH SLAB SHALL NOT BE CAST UNTIL THE CONCRETE BASE HAS REACHED AN AGE OF THREE CURING DAYS.
- FOR EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.
- THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE EVAZOTE JOINT SEAL SHALL BE 2 1/2".
- FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.
- REINFORCING STEEL MAY BE CUT AS NECESSARY FOR INSTALLATION OF DROP INLET AT END BENT 2. SEE ROADWAY PLANS FOR DETAILS OF DROP INLET.

BILL OF MATERIAL

APPROACH SLAB @ E.B. 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	45	#4	STR	25'-1"	754
A2	48	#4	STR	24'-11"	799
*B1	166	#5	STR	9'-0"	1558
B2	166	#6	STR	9'-2"	2285

REINFORCING STEEL	LBS.	3084
*EPOXY COATED REINFORCING STEEL	LBS.	2312

CLASS AA CONCRETE	C. Y.	24.0
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APPROACH SLAB @ E.B. 2

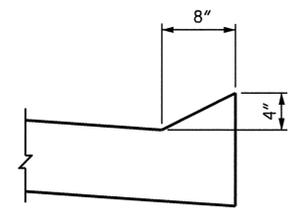
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A3	30	#4	STR	30'-0"	601
A4	32	#4	STR	29'-11"	639
*B3	166	#5	STR	8'-9"	1515
B4	166	#6	STR	8'-10"	2202

REINFORCING STEEL	LBS.	2841
*EPOXY COATED REINFORCING STEEL	LBS.	2116

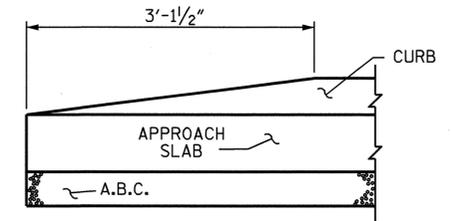
CLASS AA CONCRETE	C. Y.	23.8
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SPLICE CHART

BARS	SPLICE LENGTH
#4 A1, A3	2'-0"
#4 A2, A4	1'-9"
#5 B1, B3	2'-6"
#6 B2, B4	2'-7"



SECTION N-N



END OF CURB WITHOUT SHOULDER BERM GUTTER

(OMIT TAPER WHEN SHOULDER BERM GUTTER IS REQUIRED)

CURB DETAILS

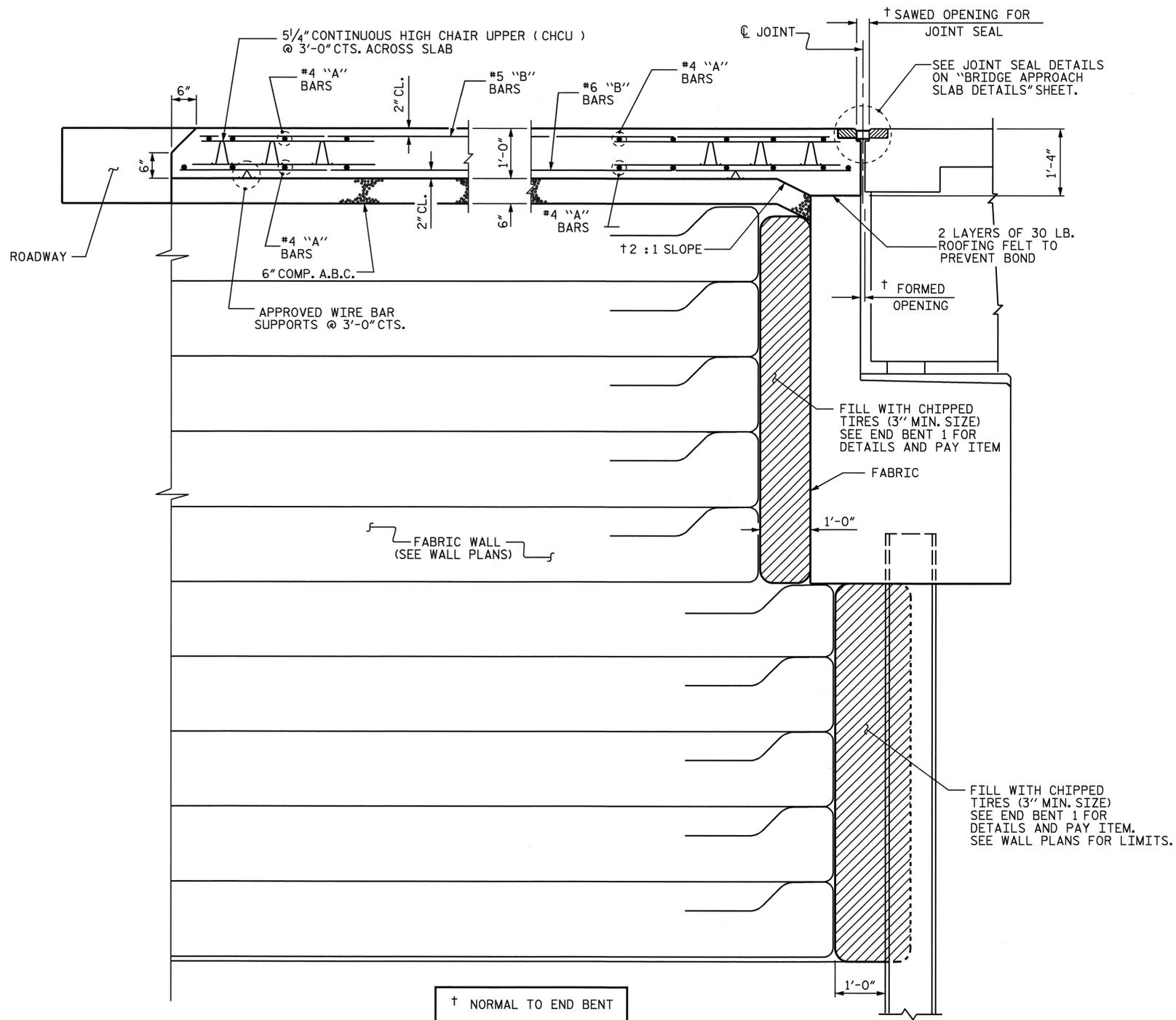
PROJECT NO. B-3814
 BURKE COUNTY
 STATION: 16+50.00 -L-

SHEET 1 OF 3

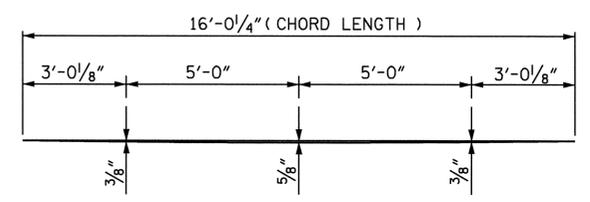
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD BRIDGE APPROACH SLAB FOR FLEXIBLE PAVEMENT					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		



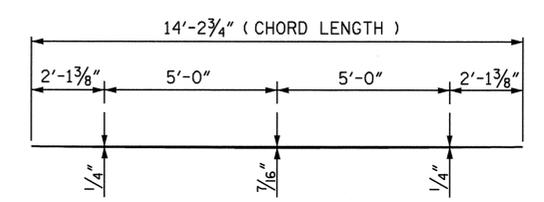
ASSEMBLED BY: T.L.C. & E.G.A. DATE: 7/16/07
 CHECKED BY: B. N. GRADY DATE: 8/22/07
 DRAWN BY: EEM 3/95 REV. 7/10/01 LES/RDR
 CHECKED BY: VAP 3/95 REV. 5/7/03R RWW/JTE
 REV. 5/1/06R KMM/GM



SECTION THRU SLAB @ END BENT 1

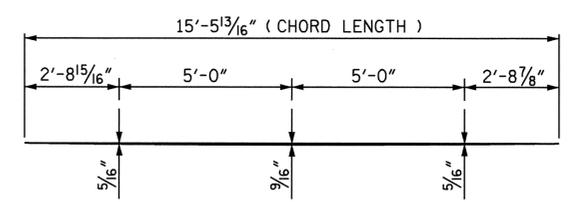


LEFT SIDE

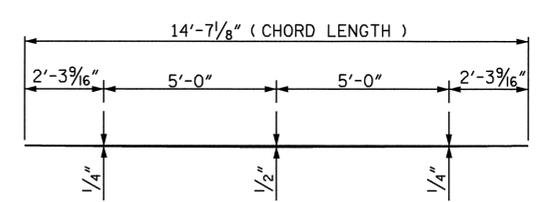


RIGHT SIDE

ARC OFFSETS @ END BENT 1



LEFT SIDE



RIGHT SIDE

ARC OFFSETS @ END BENT 2

PROJECT NO. B-3814
BURKE COUNTY
 STATION: 16+50.00 -L-

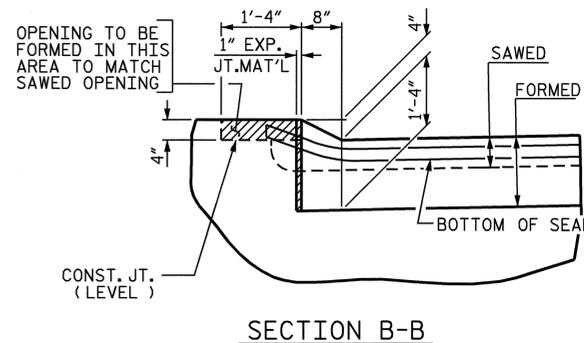
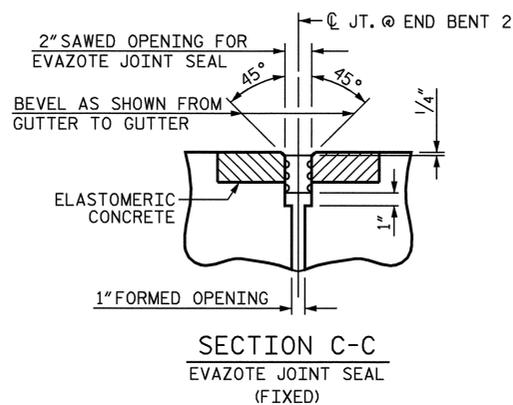
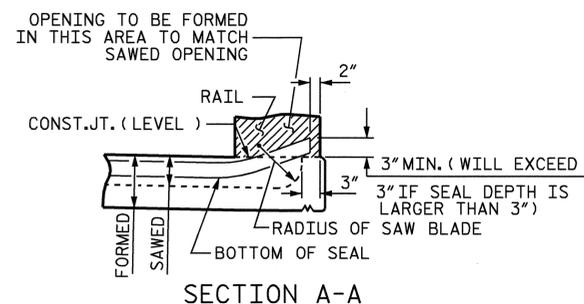
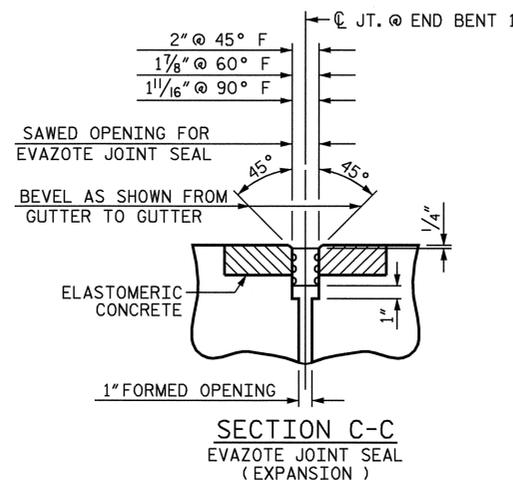
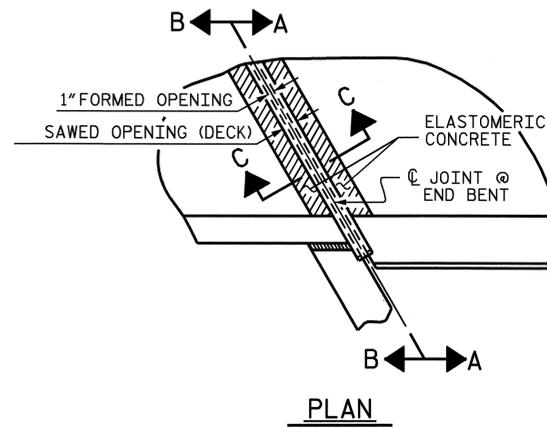
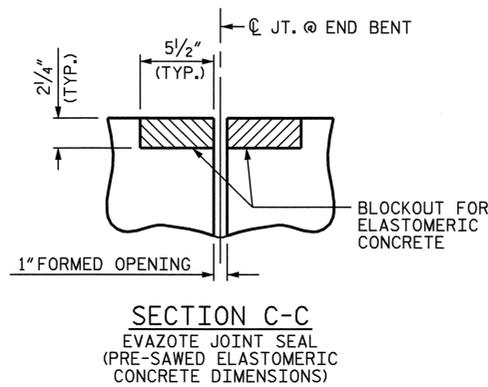
SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 BRIDGE APPROACH SLAB
 FOR FLEXIBLE PAVEMENT

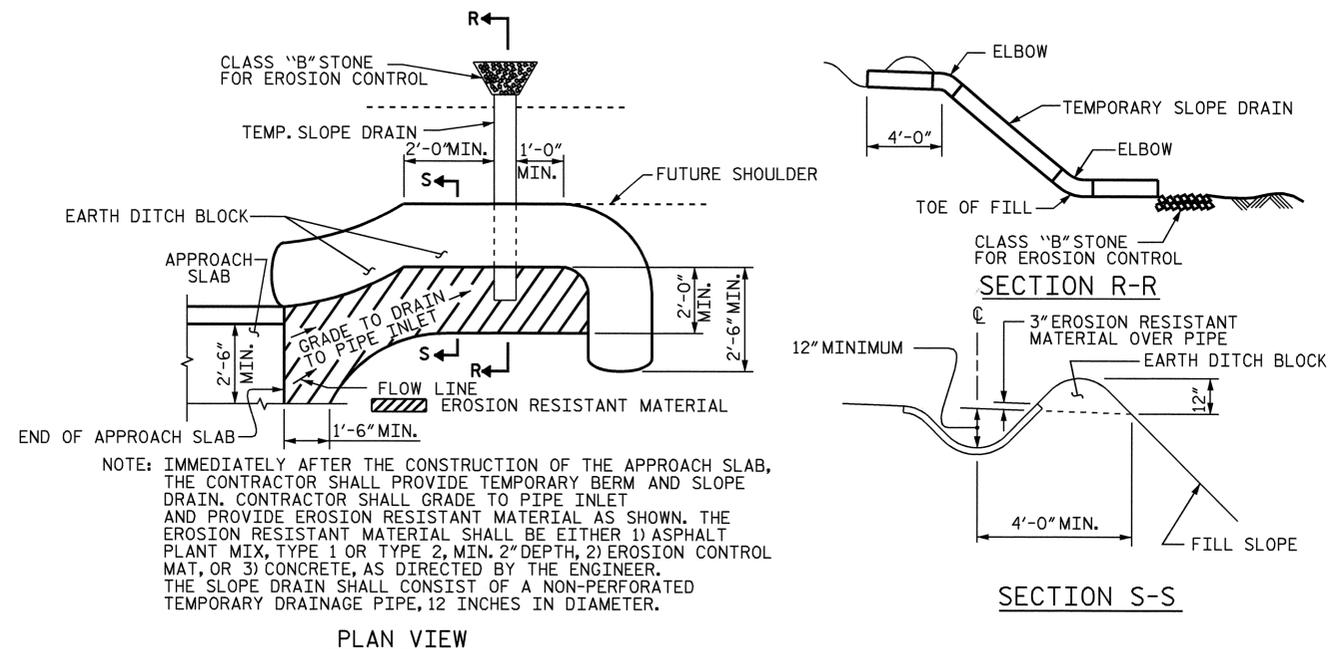


REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-21
1			3			TOTAL SHEETS
2			4			22

ASSEMBLED BY : T.L.C. & E.G.A. DATE : 7/16/07
 CHECKED BY : B. N. GRADY DATE : 8/22/07
 DRAWN BY : EEM 3/95 REV. 7/10/01 LES/RDR
 CHECKED BY : VAP 3/95 REV. 5/1/03R RWW/JTE
 REV. 5/1/06R TLA/GM

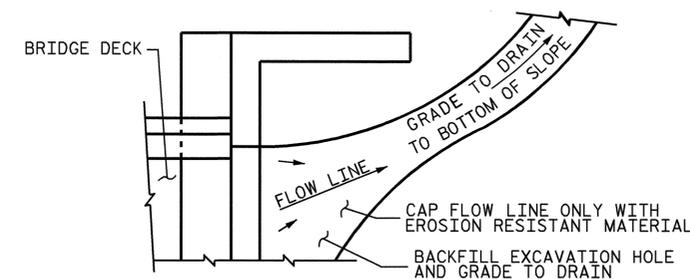


JOINT SEAL DETAILS @ END BENT



TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



ELASTOMERIC CONCRETE	
END BENT NO.	ELASTOMERIC CONCRETE * (CU. FT.)
1	11.5
2	9.5
TOTAL	21.0

* BASED ON THE MINIMUM BLOCKOUT SHOWN.

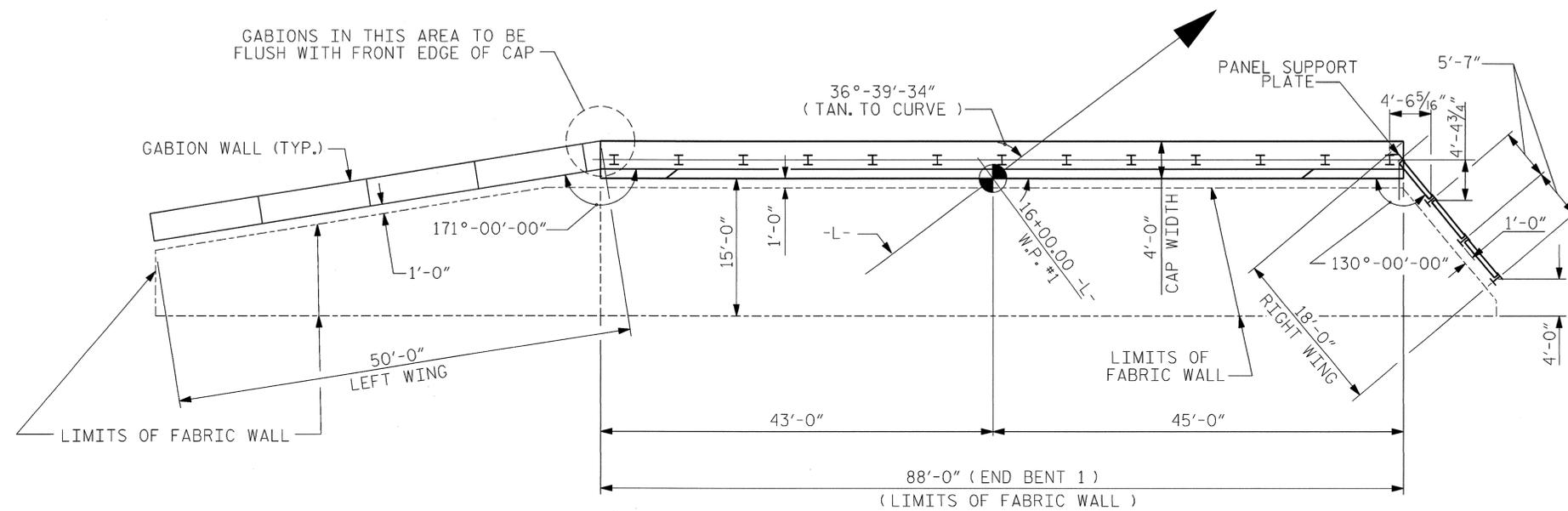
PROJECT NO. B-3814
BURKE COUNTY
 STATION: 16+50.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						1988
STANDARD						SHEET NO.
BRIDGE APPROACH SLAB DETAILS						TOTAL SHEETS
REVISIONS						22
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



ASSEMBLED BY: T.L.C. & E.G.A.	DATE: 7/16/07
CHECKED BY: B.N. GRADY	DATE: 8/22/07
DRAWN BY: FCJ 11/88	REV. 10/17/00 RWW/LES
CHECKED BY: ARB 11/88	REV. 5/7/03 RWW/JTE
	REV. 5/1/06R MAA/KMM

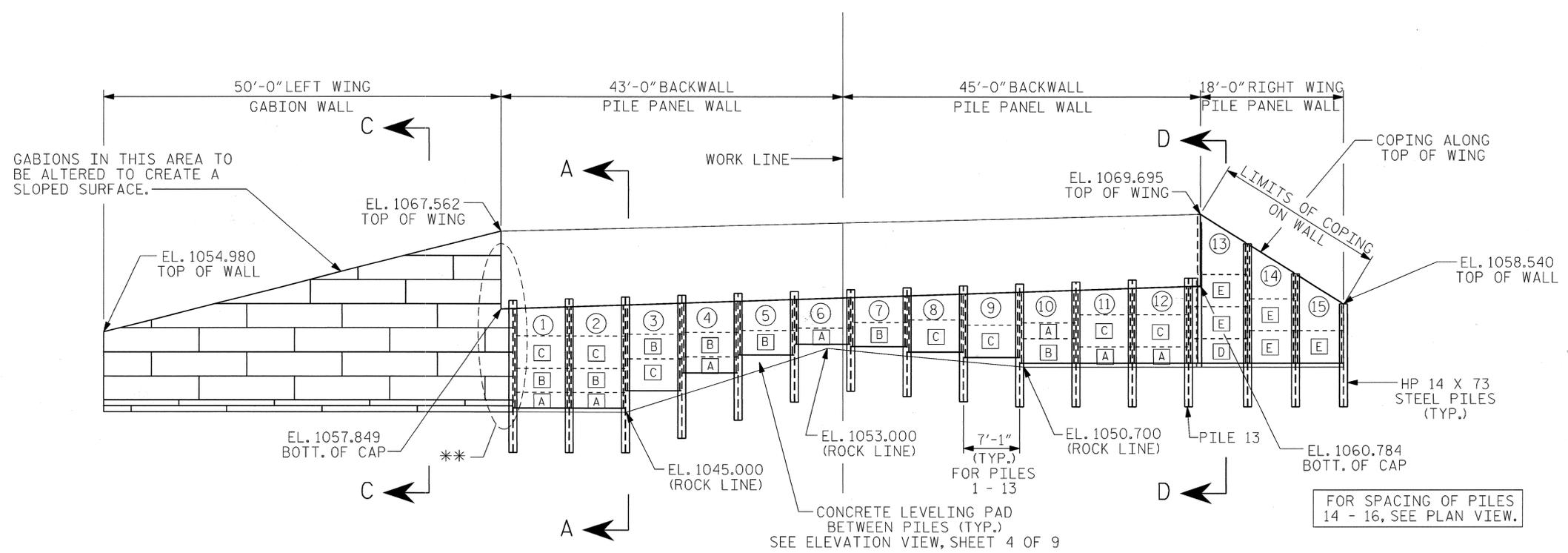


PLAN

PRECAST PANELS NOT SHOWN FOR CLARITY

GABION WALL CONSTRUCTION SEQUENCE:

1. LAY OUT WALL LOCATION BY SURVEY.
2. EXCAVATE DOWN TO HARD ROCK AND ESTABLISH A 1.5 :1 SLOPE.
3. CLEAR AREA OF DEBRIS.
4. INSTALL FABRIC (ENGINEERING FABRIC, TYPE 4) UNDER THE RENO MATTRESSES.
5. INSTALL RENO MATTRESSES AND FILL WITH STONE IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS.
6. CUT AND FIT RENO MATTRESSES TO CREATE A LEVEL PLATFORM.
7. REPEAT STEPS 4 THROUGH 6, AS NECESSARY, TO THE TOP LEFT OF THE RENO MATTRESSES.
8. PLACE FABRIC (ENGINEERING FABRIC, TYPE 4) ON THE BACKSIDE OF THE RENO MATTRESSES AND BACKFILL WITH SELECT MATERIAL, CLASS II, TYPE I.
9. INSTALL GABIONS AND FILL WITH STONE IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS.
10. CUT AND FIT GABIONS AS OUTLINED BY THE WALL LIMITS FOR THE END BENT WINGWALLS.
11. INSTALL FABRIC (ENGINEERING FABRIC, TYPE 4) ON THE BACKSIDE OF EACH GABION LIFT AND BACKFILL WITH SELECT MATERIAL, CLASS II, TYPE I.
12. REPEAT STEPS 9 THROUGH 11, AS NECESSARY, TO THE TOP OF THE GABION WALL.
13. PLACE ADDITIONAL FILL OR RIP RAP TO THE PROPOSED TOP OF EMBANKMENT.



ELEVATION ALONG FILL FACE OF CAP

LENGTHS ARE SHOWN ALONG SKEWED LAYOUT
 FOR PILE PANEL WALL DETAILS, SEE SHEETS 5, 6, & 7.
 FOR FABRIC WALL DETAILS, SEE SHEET 9.

TOTAL BILL OF MATERIAL	
PILE PANEL WALL	SO. FT. 896
TOTAL BILL OF MATERIAL	
FABRIC WALL	SO. FT. 1248
TOTAL BILL OF MATERIAL	
GABION AND RENO MATTRESS RETAINING WALL	SO. FT. 815

NOTES: A LEVEL PLATFORM IS TO BE CONSTRUCTED USING RENO MATTS. AFTER A LEVEL PLATFORM IS ESTABLISHED CONTINUE STACKING GABIONS AS DESCRIBED BY SECTION C-C.

RENO MATTS AND GABIONS ARE TO BE PLACED TO CREATE A RUNNING BOND PATTERN.

** GABIONS IN THIS AREA ARE TO BE MODIFIED TO FIT TIGHTLY AGAINST THE HP PILES AND THE END OF CAP.

- SPECIAL PRECAST PANEL NUMBER
- STANDARD PRECAST PANEL

PROJECT NO.: B-3814
COUNTY: BURKE
STATION: 16+50.00 -L-

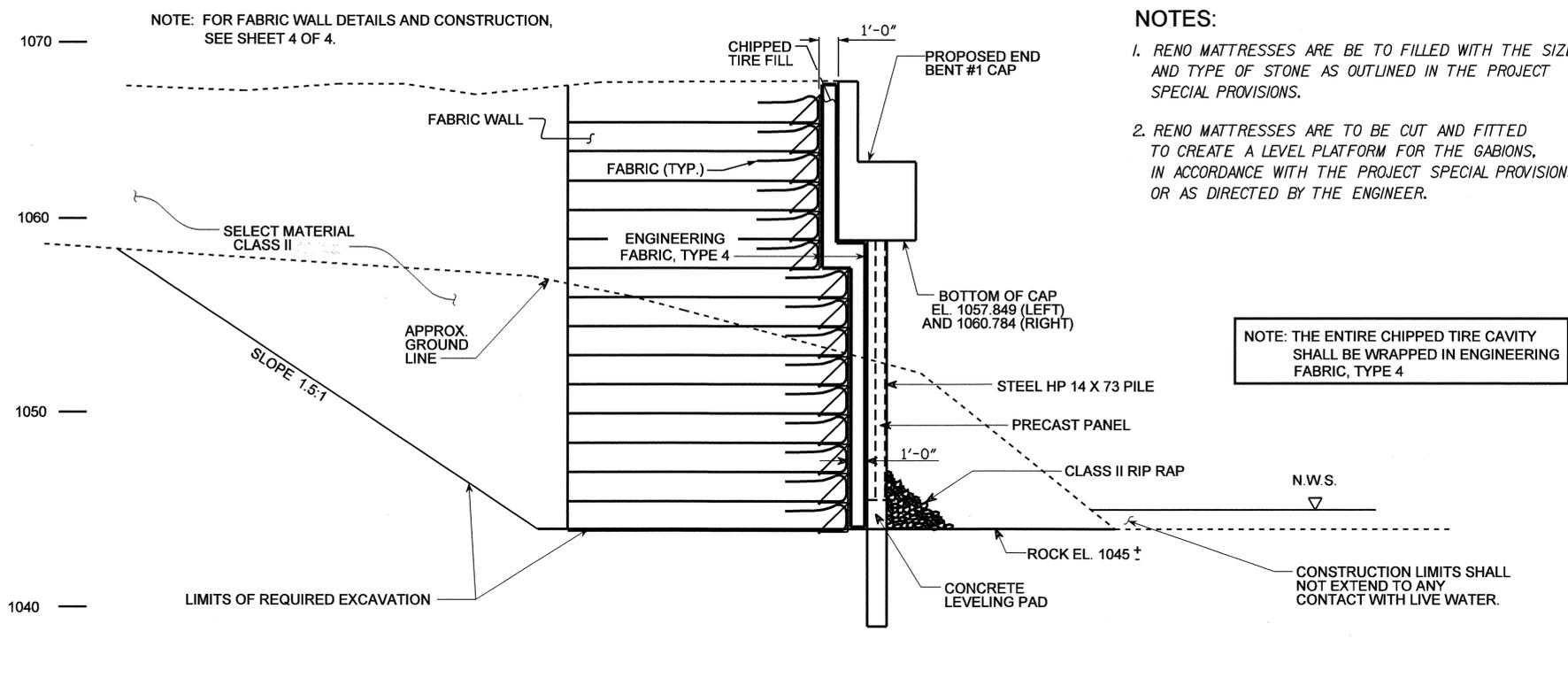
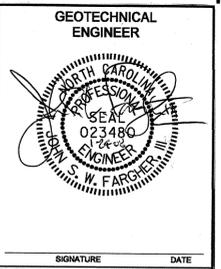
GEOTECHNICAL ENGINEERING UNIT
 EASTERN REGIONAL OFFICE
 WESTERN REGIONAL OFFICE
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
 END BENT 1
 (WALL ENVELOPE)

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	W-1
1			3			TOTAL SHEETS
2			4			9

PREPARED BY: E.J. SALVO	DATE: 12/07
REVIEWED BY: J.S.F.	DATE: 12/07

31-MAR-2008 11:01
 \$\$\$DGN\$\$\$\$\$ AT GEH214787

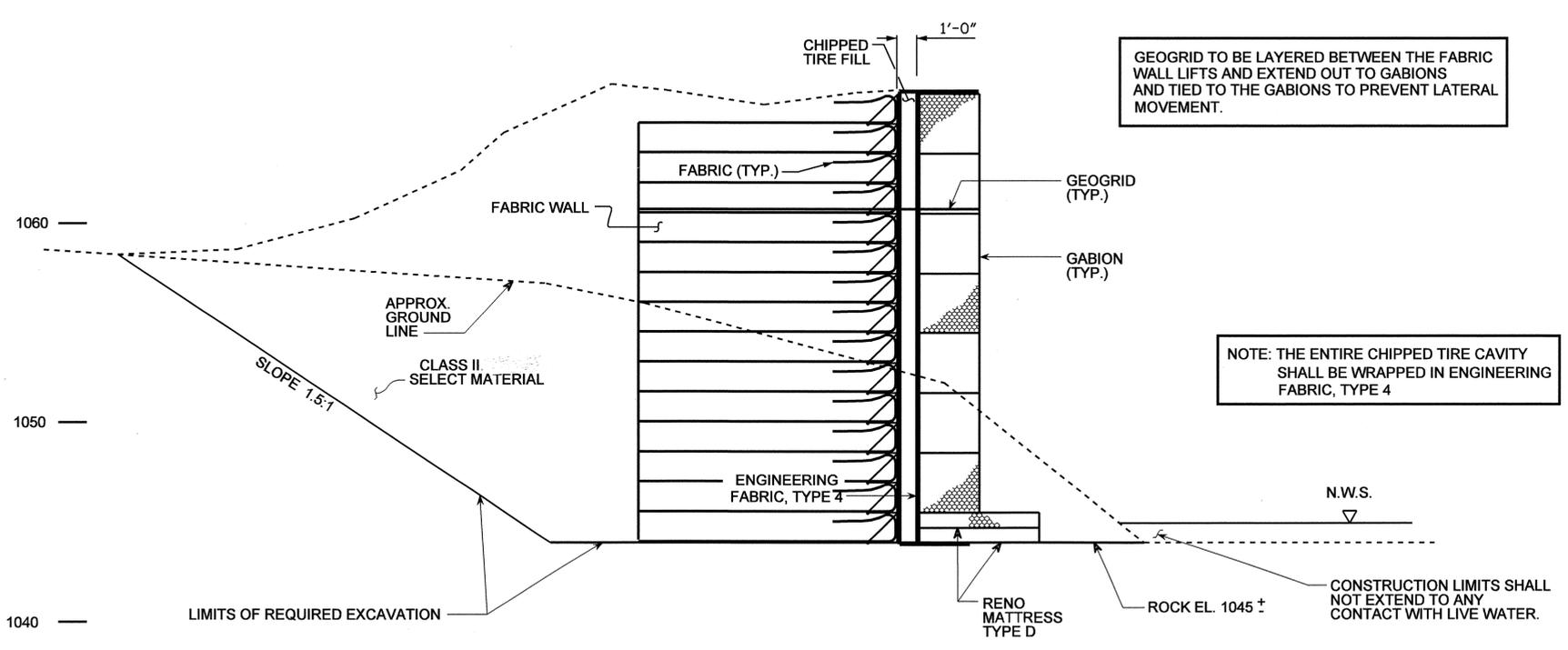


- NOTES:**
1. RENO MATTRESSES ARE TO BE FILLED WITH THE SIZE AND TYPE OF STONE AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS.
 2. RENO MATTRESSES ARE TO BE CUT AND FITTED TO CREATE A LEVEL PLATFORM FOR THE GABIONS, IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
 3. GABIONS ARE TO BE FILLED WITH THE SIZE AND TYPE OF STONE AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS.
 4. GABIONS ARE TO BE CUT AND FITTED TO CREATE THE END BENT BACKWALL AND WINGWALL LIMITS AS DESCRIBED IN THE ELEVATION VIEW, IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
 5. OVERLAP FABRIC A MINIMUM 18" OR AS DIRECTED BY THE ENGINEER.
 6. FOR GABION AND RENO MATTRESS WALL, SEE SPECIAL PROVISIONS.

SECTION A-A THRU WALL AND END BENT

FOR FABRIC WALL DETAILS, SEE SHEET 9 OF 9.

GABIONS	LENGTH	WIDTH	HEIGHT
TYPE "A"	6' X	3' X	3'
TYPE "C"	12' X	3' X	3'
RENO MATTRESS	LENGTH	WIDTH	HEIGHT
TYPE "D"	12' X	6' X	9"



SECTION C-C THRU LEFT WING

FOR FABRIC WALL DETAILS, SEE SHEET 9 OF 9.

GABIONS	UN-MODIFIED NUMBER RENO MATTRESS /GABIONS	MODIFIED NUMBER RENO MATTRESS /GABIONS
TYPE "C"	15	6
RENO MATTRESS		
TYPE "D"	8	2
TOTAL VOLUME OF STONE = 112 CU. YDS.		

PROJECT NO.: B-3814
BURKE COUNTY
STATION: 16+50.00 -L-

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

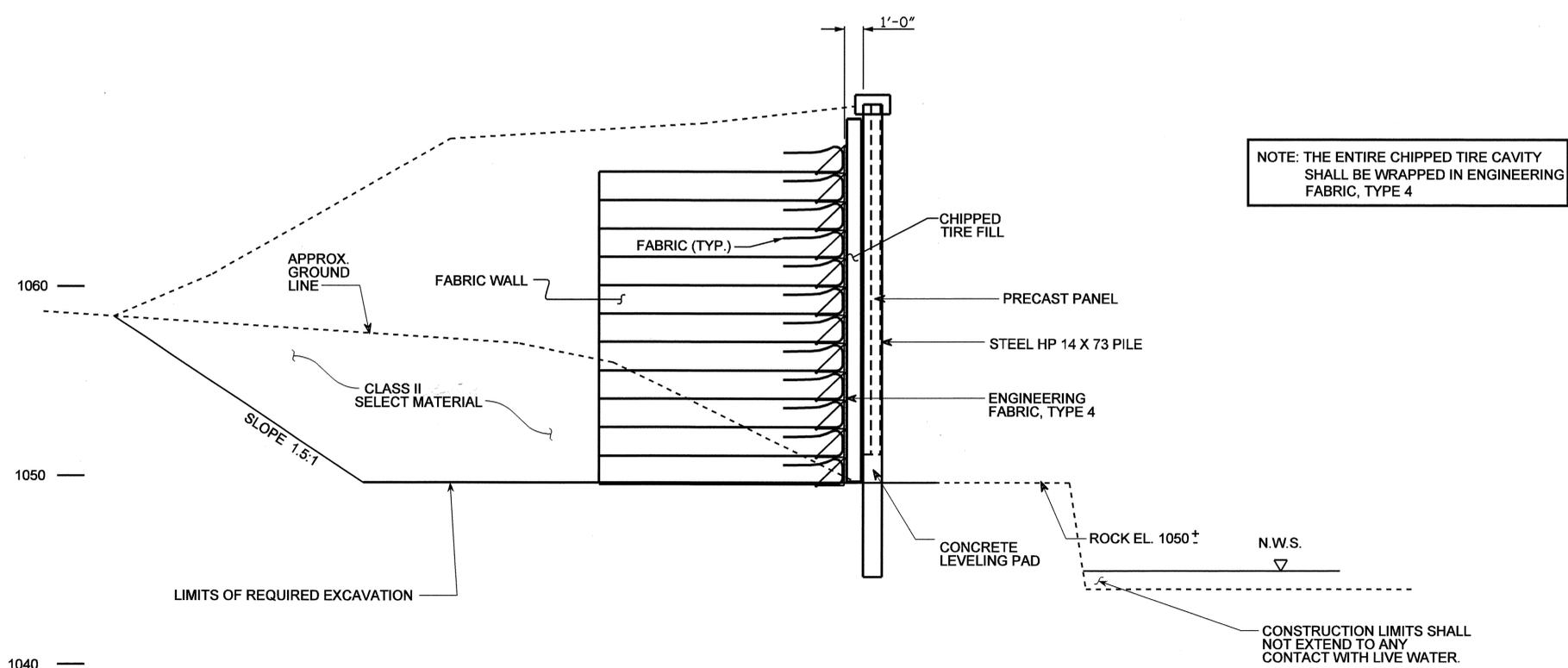
SUBSTRUCTURE
END BENT 1
(WALL ENVELOPE)

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

SHEET NO. **W-2**
TOTAL SHEETS **9**

25-JAN-2008 11:12 Y:\Structures\FINAL PLANS\B3814_SDWALLS.dgn bng:ddy

PREPARED BY: E. SALVO DATE: 12/07
REVIEWED BY: J.S.F. DATE: 12/07



NOTE: THE ENTIRE CHIPPED TIRE CAVITY SHALL BE WRAPPED IN ENGINEERING FABRIC, TYPE 4

SECTION D-D THRU RIGHT WING

NOTE: FOR FABRIC WALL DETAILS AND CONSTRUCTION, SEE SHEET 9 OF 9.

PROJECT NO.: B-3814
 BURKE COUNTY
 STATION: 16+50.00 -L-

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PREPARED BY:	E.J. SALVO	DATE:	12/07
REVIEWED BY:	J.S.F.	DATE:	12/07

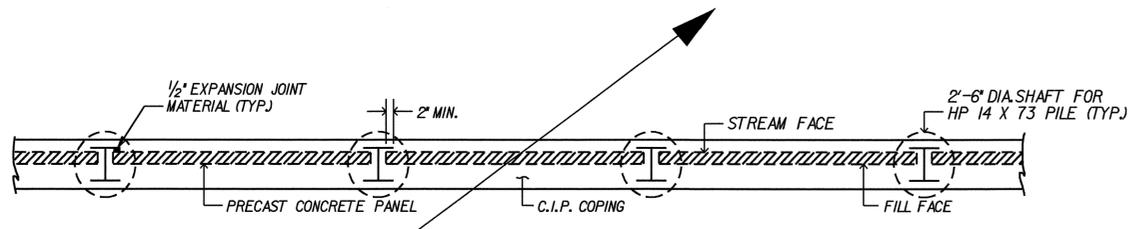
GEOTECHNICAL ENGINEERING UNIT

EASTERN REGIONAL OFFICE
 WESTERN REGIONAL OFFICE

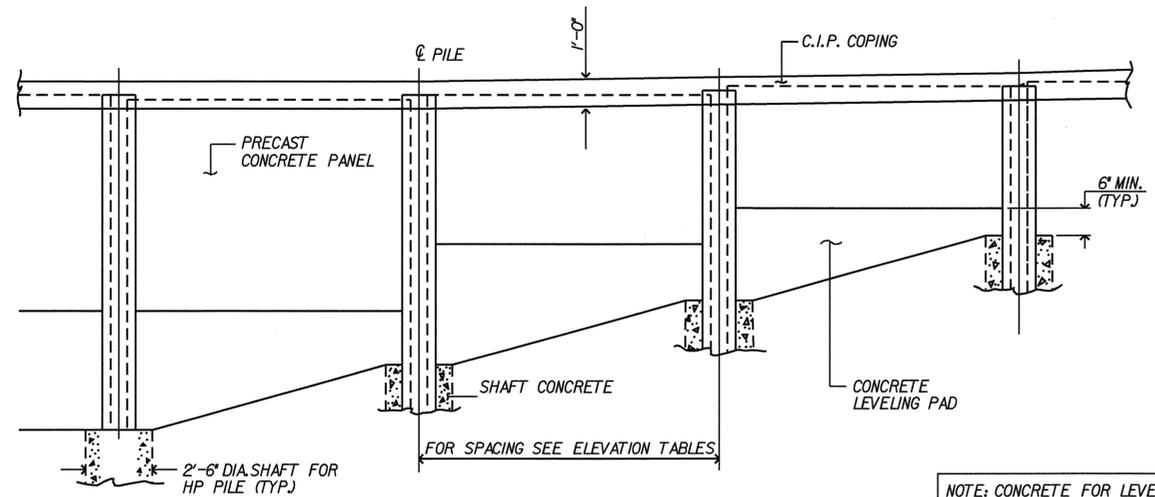
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH



SUBSTRUCTURE END BENT 1 (WALL ENVELOPE)						SHEET NO. W-3
REVISIONS						TOTAL SHEETS 9
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			

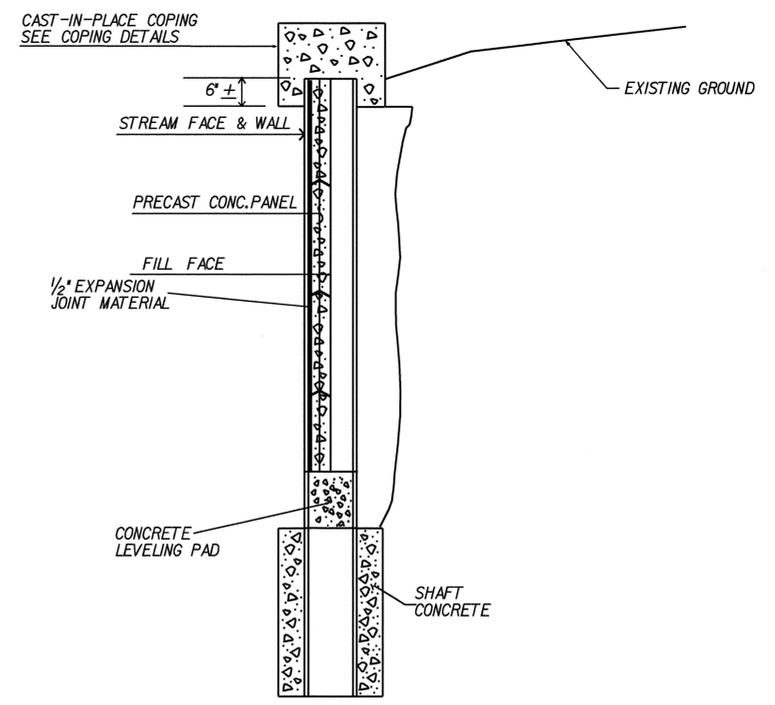


PLAN VIEW
 N.T.S.

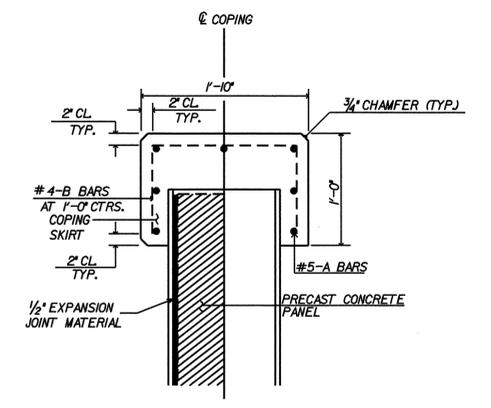


ELEVATION VIEW
 N.T.S.

NOTE: CONCRETE FOR LEVELING PAD IS TO BE POURED BETWEEN PILE FLANGES.



TYPICAL SECTION
 N.T.S.



FULL COPING DETAIL
 N.T.S.

NOTE: FOR END OF COPING DETAILS, SEE SHEET 8 OF 9.

NOTES:

- CONCRETE PANELS SHALL HAVE A MINIMUM BEARING DISTANCE OF 2" ON THE PILE FLANGE. 1/2" THICK EXPANSION JOINT MATERIAL SHALL BE PLACED BETWEEN THE CONCRETE PANELS AND PILE FLANGES FOR THE WIDTH OF THE BEARING SURFACE.
- SEE SPECIAL PROVISIONS FOR COLOR, TEXTURE AND AGGREGATE REQUIREMENTS.
- THE TOP OF COPING IS TO BE ADJUSTED BY THE ENGINEER TO GIVE A UNIFORM APPEARANCE.
- CONSTRUCTION JOINTS IN COPING ARE PERMITTED AT LOCATIONS WHERE COPING CHANGES SLOPE AND AT 90 FOOT CENTERS. EXPANSION JOINTS ARE NOT PERMITTED.
- SHAFT EXCAVATION MAY REQUIRE SPECIALTY DRILLING EQUIPMENT TO PENETRATE INTO WEATHERED ROCK AND FRESH ROCK.
- FOR STEEL PILES AND PLACEMENT, SEE BRIDGE PLANS.

PROJECT NO.: **B-3814**
BURKE COUNTY
 STATION: **16+50.00 -L-**

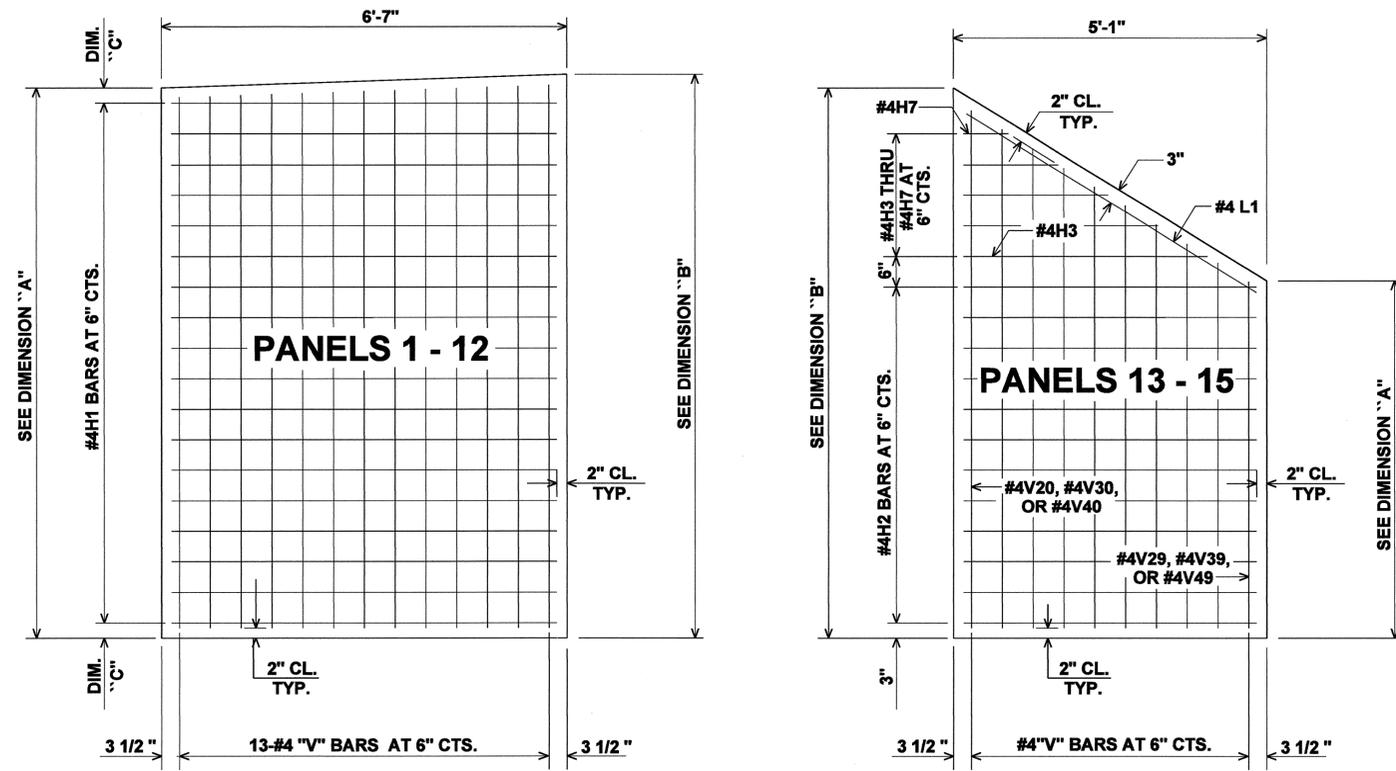
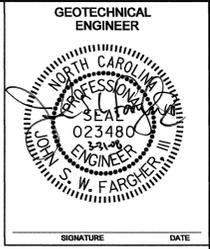
PREPARED BY: E.J. SALVO	DATE: 12/07
REVIEWED BY: J.S.F.	DATE: 12/07

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STATE OF NORTH CAROLINA
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 RALEIGH

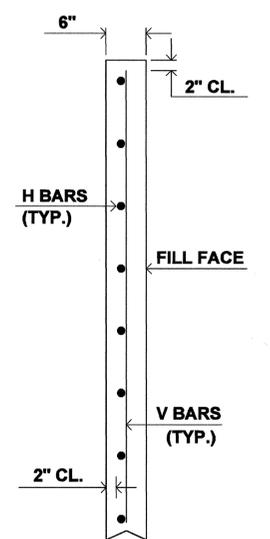
PILE PANEL WALL

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	W-4
1			3			TOTAL SHEETS
2			4			9



PANEL	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"	WIDTH
1	3'-5"	3'-8"	2 1/2 "	6'-7"
2	3'-8"	3'-10"	4"	6'-7"
3	3'-8"	3'-11"	4"	6'-7"
4	3'-8"	3'-11"	4"	6'-7"
5	3'-8"	3'-10"	4"	6'-7"
6	3'-7"	3'-10"	3 1/2 "	6'-7"
7	3'-1"	3'-4"	3 1/2 "	6'-7"
8	3'-0"	3'-3"	3"	6'-7"
9	3'-11"	4'-1"	2 1/2 "	6'-7"
10	3'-10"	4'-1"	5"	6'-7"
11	3'-1"	3'-4"	3 1/2 "	6'-7"
12	3'-4"	3'-6"	5"	6'-7"
13	3'-10"	7'-6"	5"	5'-1"
14	3'-1"	6'-8"	3 1/2 "	5'-1"
15	3'-4"	6'-11"	5"	5'-1"

SPECIAL PRECAST PANEL DETAILS



SECTION THRU PANELS

BILL OF MATERIAL FOR PANELS 1 - 12

PANEL	"H" BARS	"H" BAR LENGTH	"V" BARS	"V" BAR LENGTH
1	7-H1	6'-3"	13-V1	3'-1"
2	7-H1	6'-3"	13-V2	3'-4"
3	7-H1	6'-3"	13-V3	3'-4"
4	7-H1	6'-3"	13-V4	3'-4"
5	7-H1	6'-3"	13-V5	3'-4"
6	7-H1	6'-3"	13-V6	3'-3"
7	6-H1	6'-3"	13-V7	2'-9"
8	6-H1	6'-3"	13-V8	2'-8"
9	8-H1	6'-3"	13-V9	3'-7"
10	7-H1	6'-3"	13-V10	3'-6"
11	6-H1	6'-3"	13-V11	2'-9"
12	6-H1	6'-3"	13-V12	3'-0"

BILL OF MATERIAL FOR PANELS 13 AND 14

PANEL	"H" BARS	"H" BAR LENGTH	"V" BARS	"V" BAR LENGTH	"L" BARS	"L" BAR LENGTH
13	7-H2	4'-9"	1-V20	6'-11"	1-#4L1	5'-9"
13	1-H3	3'-11"	1-V21	6'-6"	—	—
13	1-H4	3'-1"	1-V22	6'-2"	—	—
13	1-H5	2'-4"	1-V23	5'-10"	—	—
13	1-H6	1'-6"	1-V24	5'-5"	—	—
13	1-H7	8"	1-V25	5'-1"	—	—
13	—	—	1-V26	4'-9"	—	—
13	—	—	1-V27	4'-2"	—	—
13	—	—	1-V28	4'-0"	—	—
13	—	—	1-V29	3'-8"	—	—
14	6-H2	4'-9"	1-V30	6'-1"	1-#4L1	5'-9"
14	1-H3	3'-11"	1-V31	5'-8"	—	—
14	1-H4	3'-1"	1-V32	5'-4"	—	—
14	1-H5	2'-4"	1-V33	5'-0"	—	—
14	1-H6	1'-6"	1-V34	4'-8"	—	—
14	1-H7	8"	1-V35	4'-3"	—	—
14	—	—	1-V36	3'-11"	—	—
14	—	—	1-V37	3'-7"	—	—
14	—	—	1-V38	3'-3"	—	—
14	—	—	1-V39	2'-11"	—	—

BILL OF MATERIAL FOR PANEL 15

PANEL	"H" BARS	"H" BAR LENGTH	"V" BARS	"V" BAR LENGTH	"L" BARS	"L" BAR LENGTH
15	6-H2	4'-9"	1-V40	6'-4"	1-#4L1	5'-9"
15	1-H3	3'-11"	1-V41	5'-11"	—	—
15	1-H4	3'-1"	1-V42	5'-7"	—	—
15	1-H5	2'-4"	1-V43	5'-3"	—	—
15	1-H6	1'-6"	1-V44	4'-11"	—	—
15	1-H7	8"	1-V45	4'-6"	—	—
15	—	—	1-V46	4'-2"	—	—
15	—	—	1-V47	3'-10"	—	—
15	—	—	1-V48	3'-6"	—	—
15	—	—	1-V49	3'-2"	—	—

PROJECT NO.: **B-3814**
BURKE COUNTY
 STATION: 16+50.00 -L-

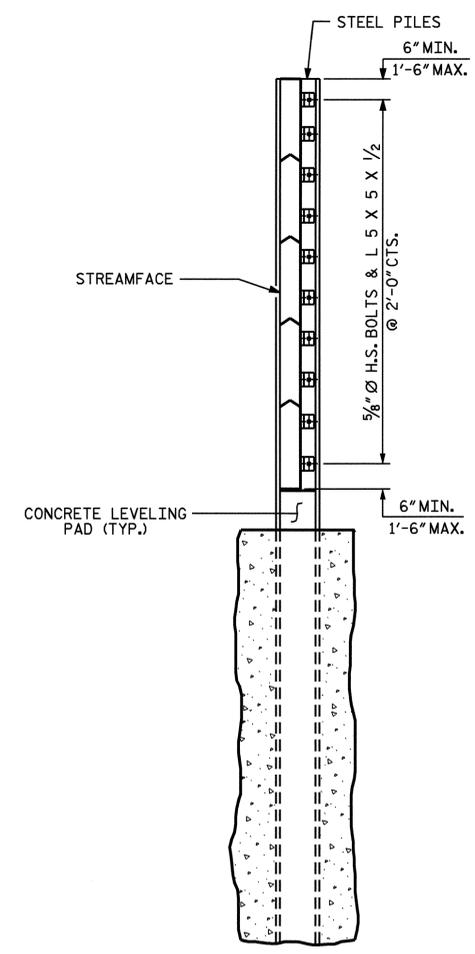
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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

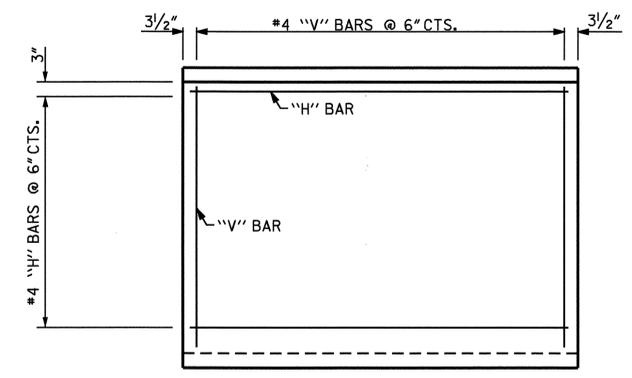
PILE PANEL WALL DETAILS

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	W-5
1			3			TOTAL SHEETS
2			4			9

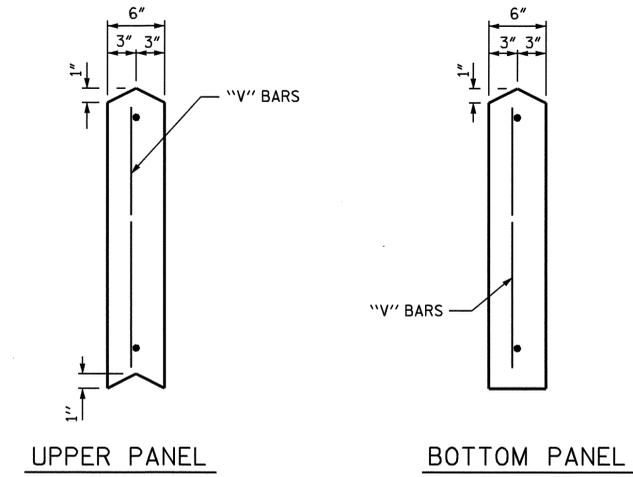
PREPARED BY: E.J. SALVO DATE: 12/07
 REVIEWED BY: J.S.F. DATE: 06/25/07



SECTION THRU PILES

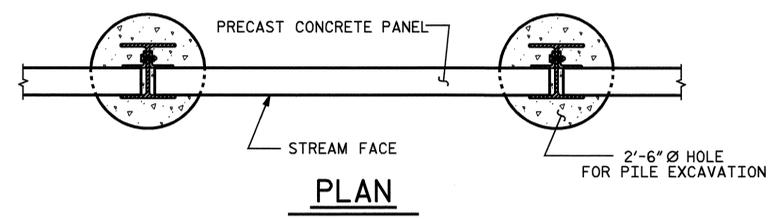


FRONT ELEVATION OF PRECAST PANELS

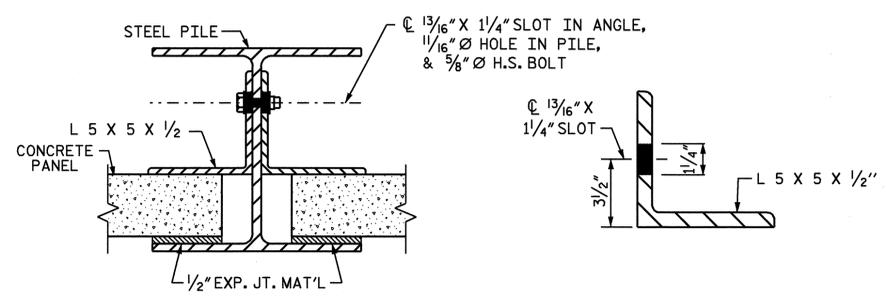


SECTION THROUGH PRECAST PANELS
 FOR STANDARD PRECAST PANELS AND SPECIAL PRECAST PANELS

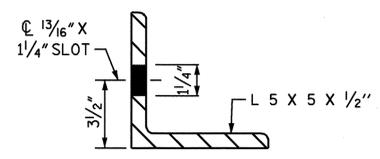
PANEL	NO. OF PANELS	PANEL HEIGHT	PANEL LENGTH	CLASS AA CONCRETE C.Y. / PANEL	BAR TYPES											
					HORIZONTAL					VERTICAL						
					NO.	BAR SIZE	TYPE	LENGTH	WEIGHT (lb)	NO.	BAR SIZE	TYPE	LENGTH	WEIGHT (lb)		
A	7	2'-0"	6'-7"	0.24	4	H1	#4	STR	6'-3"	17	13	V1	#4	STR	1'-8"	14
B	7	3'-0"	6'-7"	0.37	6	H1	#4	STR	6'-3"	25	13	V2	#4	STR	2'-8"	23
C	7	4'-0"	6'-7"	0.49	8	H1	#4	STR	6'-3"	33	13	V3	#4	STR	3'-8"	32
D	1	3'-0"	5'-1"	0.28	6	H2	#4	STR	4'-9"	19	10	V2	#4	STR	2'-8"	18
E	5	4'-0"	5'-1"	0.38	8	H2	#4	STR	4'-9"	25	10	V3	#4	STR	3'-8"	24



PLAN

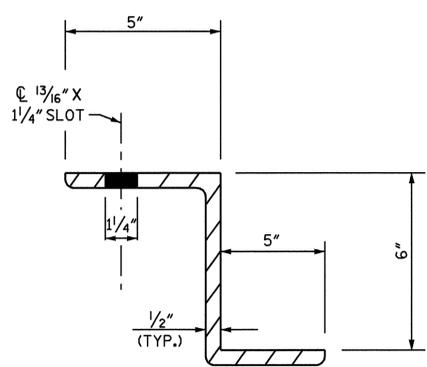


CONNECTION DETAIL



ANGLE DETAIL

(APPROX. 144 ANGLES & 5/8" Ø H.S. BOLTS)



ANGLE DETAIL

(APPROX. 8 ANGLES & 16 - 5/8" Ø H.S. BOLTS)

NOTES

USE STEEL ANGLES MEETING THE REQUIREMENTS OF AASHTO M270, GRADE 50. GALVANIZE ALL STEEL BOLTS, NUTS, ANGLES AND WASHERS IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS. REPAIR ANY DAMAGED GALVANIZATION IN ACCORDANCE WITH ARTICLE 1076-6 OF THE STANDARD SPECIFICATIONS.

B-3814
 BURKE COUNTY
 STATION: 16+50.00 -L-

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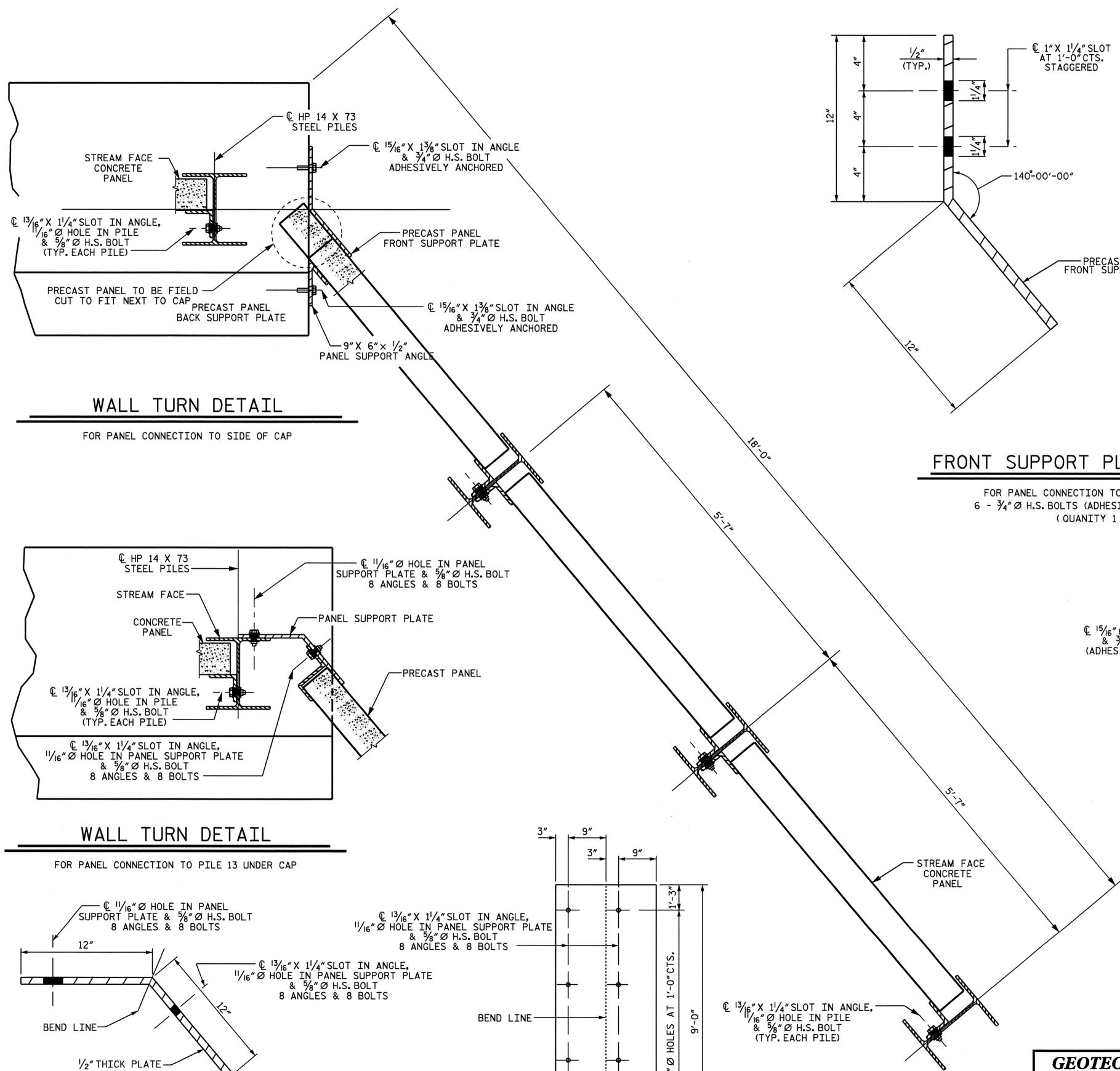
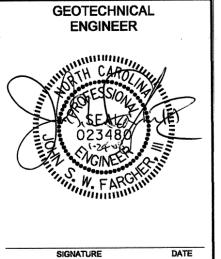
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	W-6
1			3			TOTAL SHEETS
2			4			9

STANDARD PANELS

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PREPARED BY: E.J. SALVO DATE: 12/07
 REVIEWED BY: J.S.F. DATE: 12/07

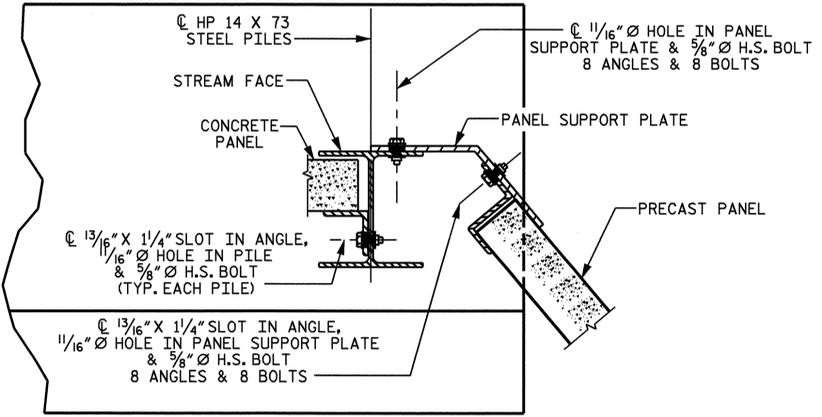


WALL TURN DETAIL

FOR PANEL CONNECTION TO SIDE OF CAP

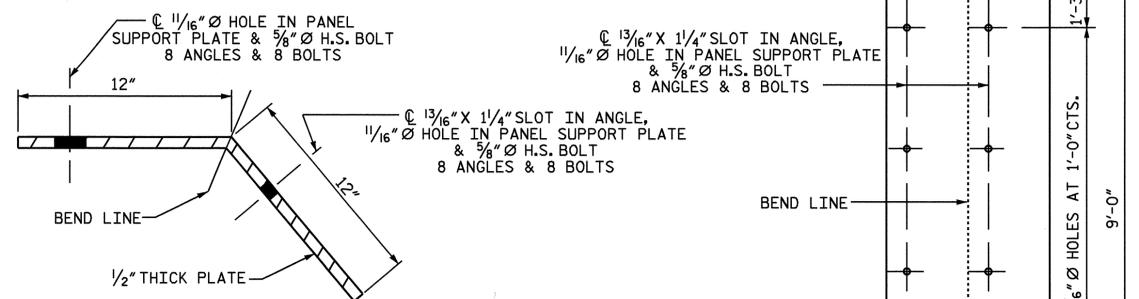
FRONT SUPPORT PLATE DETAIL

FOR PANEL CONNECTION TO SIDE OF CAP
6 - 3/4" Ø H.S. BOLTS (ADHESIVELY ANCHORED)
(QUANTITY 1)



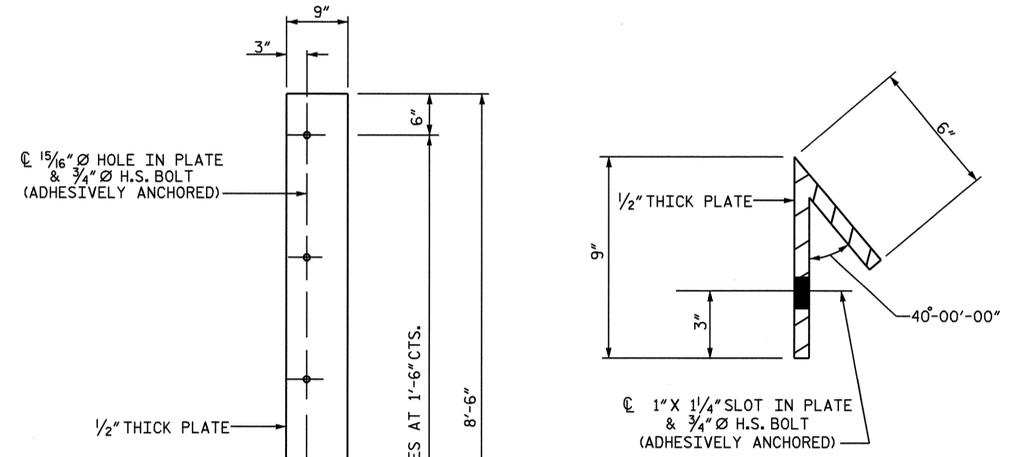
WALL TURN DETAIL

FOR PANEL CONNECTION TO PILE 13 UNDER CAP



PANEL SUPPORT PLATE

(QUANTITY 1)

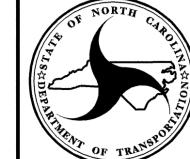


BACK SUPPORT PLATE DETAIL

FOR PANEL CONNECTION TO SIDE OF CAP
6 - 3/4" Ø H.S. BOLTS (ADHESIVELY ANCHORED)
(QUANTITY 1)

PROJECT NO.: B-3814
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STATION: 16+50.00 -L-

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DEPARTMENT OF TRANSPORTATION
RALEIGH

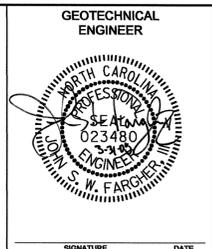
WALL DETAILS

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

SHEET NO. **W-7**
TOTAL SHEETS 9

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PREPARED BY: E.J. SALVO DATE: 12/07
REVIEWED BY: J.S.F. DATE: 12/07



**BILL OF MATERIALS FOR
RETAINING WALL**

SPECIAL PRECAST CONCRETE PANELS					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT (LBS.)
H1	81	#4	STR.	6'-3"	338
H2	19	#4	STR.	4'-9"	60
H3	3	#4	STR.	3'-11"	8
H4	3	#4	STR.	3'-1"	6
H5	3	#4	STR.	2'-4"	5
H6	3	#4	STR.	1'-6"	3
H7	3	#4	STR.	8"	1
V1	13	#4	STR.	3'-1"	27
V2	13	#4	STR.	3'-4"	29
V3	13	#4	STR.	3'-4"	29
V4	13	#4	STR.	3'-4"	29
V5	13	#4	STR.	3'-4"	29
V6	13	#4	STR.	3'-3"	28
V7	13	#4	STR.	2'-9"	24
V8	13	#4	STR.	2'-8"	23
V9	13	#4	STR.	3'-7"	31
V10	13	#4	STR.	3'-6"	30
V11	13	#4	STR.	2'-9"	24
V12	13	#4	STR.	3'-0"	26
V20	1	#4	STR.	6'-11"	5
V21	1	#4	STR.	6'-6"	4
V22	1	#4	STR.	6'-2"	4
V23	1	#4	STR.	5'-10"	4
V24	1	#4	STR.	5'-5"	4
V25	1	#4	STR.	5'-1"	3
V26	1	#4	STR.	4'-9"	3
V27	1	#4	STR.	4'-4"	3
V28	1	#4	STR.	4'-0"	3
V29	1	#4	STR.	3'-8"	2
V30	1	#4	STR.	6'-1"	4
V31	1	#4	STR.	5'-8"	4
V32	1	#4	STR.	5'-4"	4
V33	1	#4	STR.	5'-0"	3
V34	1	#4	STR.	4'-8"	3
V35	1	#4	STR.	4'-3"	3
V36	1	#4	STR.	3'-11"	3
V37	1	#4	STR.	3'-7"	2
V38	1	#4	STR.	3'-3"	2
V39	1	#4	STR.	2'-11"	2
V40	1	#4	STR.	6'-4"	4
V41	1	#4	STR.	5'-11"	4
V42	1	#4	STR.	5'-7"	4
V43	1	#4	STR.	5'-3"	4
V44	1	#4	STR.	4'-11"	3
V45	1	#4	STR.	4'-6"	3
V46	1	#4	STR.	4'-2"	3
V47	1	#4	STR.	3'-10"	3
V48	1	#4	STR.	3'-6"	2
V49	1	#4	STR.	3'-2"	2
L1	3	#4	STR.	5'-9"	12

REINFORCING STEEL (PANELS) LBS. 859
CLASS #A CONCRETE (PANELS) CU.YDS. 16.6

**BILL OF MATERIALS FOR
RETAINING WALL**

CAST-IN-PLACE (C.I.P.) COPING

A	7	#5	STR	20'-6"	150
B	22	#4	1	2'-10"	42
C	4	#5	1	4'-10"	20

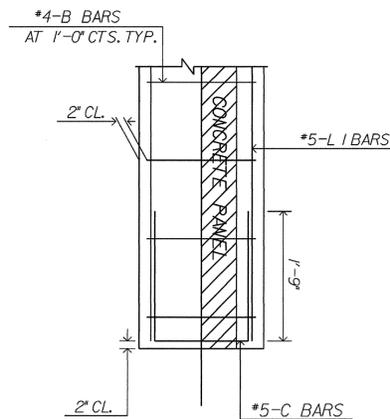
REINFORCING STEEL (COPING) LBS. 212
CLASS #A CONCRETE (COPING) CU.YDS. 1.5

ESTIMATED QUANTITIES

PRECAST CONCRETE PANEL 1	-----	NO.	1
PRECAST CONCRETE PANEL 2	-----	NO.	1
PRECAST CONCRETE PANEL 3	-----	NO.	1
PRECAST CONCRETE PANEL 4	-----	NO.	1
PRECAST CONCRETE PANEL 5	-----	NO.	1
PRECAST CONCRETE PANEL 6	-----	NO.	1
PRECAST CONCRETE PANEL 7	-----	NO.	1
PRECAST CONCRETE PANEL 8	-----	NO.	1
PRECAST CONCRETE PANEL 9	-----	NO.	1
PRECAST CONCRETE PANEL 10	-----	NO.	1
PRECAST CONCRETE PANEL 11	-----	NO.	1
PRECAST CONCRETE PANEL 12	-----	NO.	1
PRECAST CONCRETE PANEL 13	-----	NO.	1
PRECAST CONCRETE PANEL 14	-----	NO.	1
PRECAST CONCRETE PANEL 15	-----	NO.	1
PRECAST CONCRETE PANEL A	-----	NO.	7
PRECAST CONCRETE PANEL B	-----	NO.	7
PRECAST CONCRETE PANEL C	-----	NO.	7
PRECAST CONCRETE PANEL D	-----	NO.	1
PRECAST CONCRETE PANEL E	-----	NO.	5

C.I.P. COPING LIN.FT. 21.0

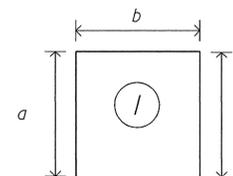
NOTE: ALL GALVANIZED HP 14X73 STEEL PILES ARE ASTM GRADE 50 STEEL



TOP VIEW

END OF COPING DETAILS
N.T.S.

COPING BAR TYPES



ALL DIMENSIONS OUT TO OUT

BAR	COPING TYPE	PILE SIZE	DIMENSION a	DIMENSION b
B	FULL COPING	ALL PILES	8"	1'-6"
C	FULL COPING	ALL PILES	1'-9"	1'-4"

NOTE: ALL BAR DIMENSIONS ARE SHOWN IN INCHES.

PROJECT NO.: **B-3814**
BURKE COUNTY
STATION: **16+50.00 -L-**

GEOTECHNICAL ENGINEERING UNIT



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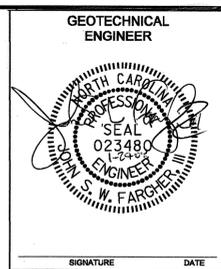
STATE OF NORTH CAROLINA
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RALEIGH

PILE PANEL WALL

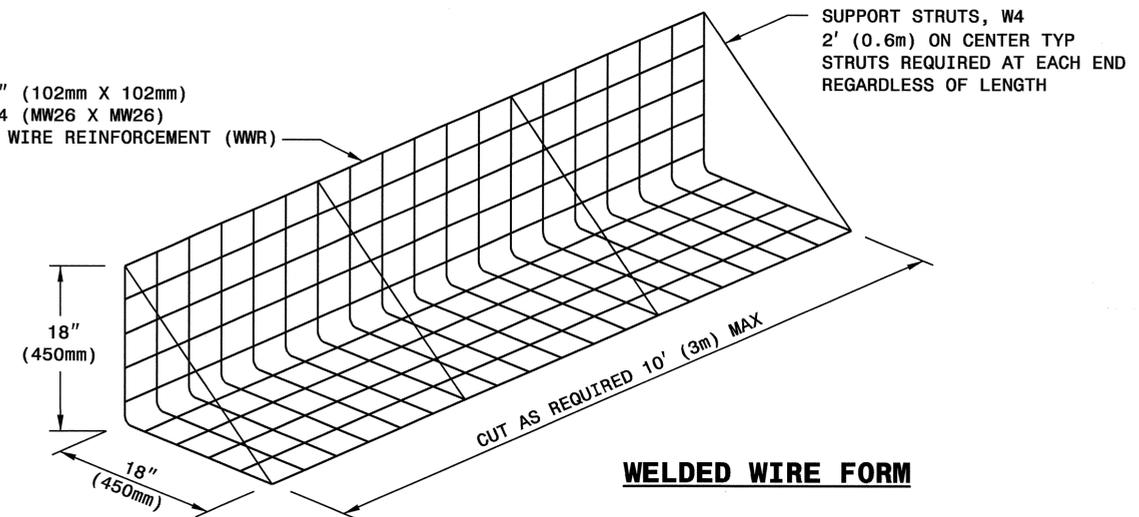
REVISIONS

NO.	BY	DATE	NO.	BY	DATE	SHEET NO.
1			3			W-8
2			4			9

PREPARED BY:	E.J. SALVO	DATE:	12/07
REVIEWED BY:	J.S.F.	DATE:	12/07



4" X 4" (102mm X 102mm)
W4 X W4 (MW26 X MW26)
WELDED WIRE REINFORCEMENT (WWR)



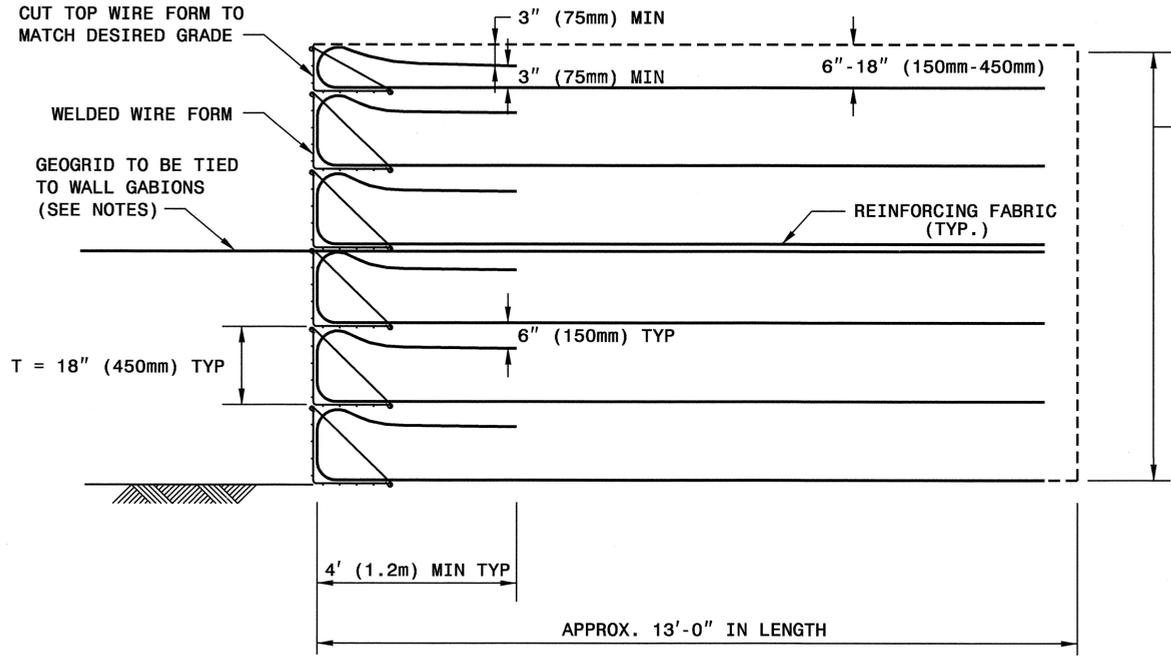
WELDED WIRE FORM

NOTES:

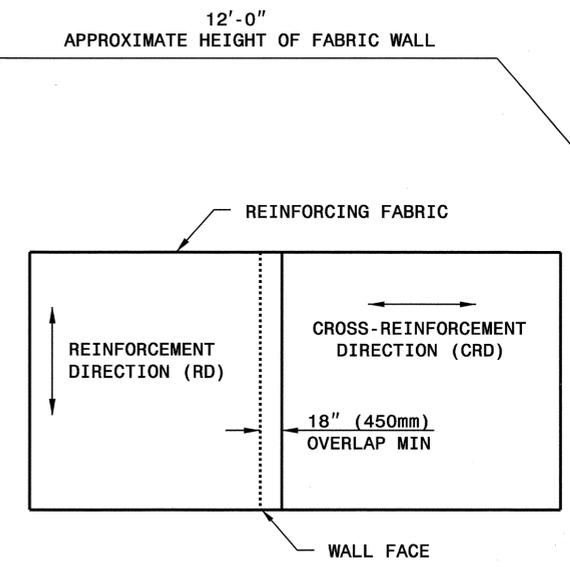
- FABRIC FOR THE FABRIC WALL SHALL HAVE A MINIMUM WIDE WIDTH TENSILE STRENGTH OF 100 LB/IN. IN THE WARP AND FILL DIRECTION (BASED ON ASTM-D4595) AT 5% ELONGATION AND A MINIMUM ULTIMATE WIDE WIDTH TENSILE STRENGTH OF 220 LB/IN. IN THE WARP DIRECTION.
- LOCATIONS AND QUANTITIES PROVIDED ARE ONLY APPROXIMATE. EXACT LOCATIONS AND QUANTITIES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
- PROPER DRAINAGE AT THE TOP OF THE WALL SHALL BE AS DIRECTED BY THE ENGINEER.
- SELECT GRANULAR MATERIAL FOR FABRIC WALL SHALL BE CLASS II, TYPE I IN ACCORDANCE WITH SECTION 1016 OF THE STANDARD SPECIFICATIONS. CLASS II SHALL ALSO BE USED FOR THE FILL AREAS BEHIND THE FABRIC WALL.
- FABRIC WALL SHALL BE LEFT IN PLACE PERMANENTLY.
- THE CONTRACTOR MAY ELECT TO USE A FORMING SYSTEM TO CONSTRUCT THE FABRIC WALL OTHER THAN THE WIRE MESH FORM OPTION SHOWN IN THESE PLANS, HOWEVER, THE ALTERNATE METHOD MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW.
- WHEN THE FINAL FILL IS PLACED IN FRONT OF THE WALL, UNFOLD THE TOP LAYER OF FABRIC AND INCORPORATE IT INTO THE FILL AS DIRECTED BY THE ENGINEER.
- THE FABRIC WALL SHALL BE BENCHED INTO THE SIDE OF THE EXCAVATION WHERE APPLICABLE AND AS DIRECTED BY THE ENGINEER.
- FOR LIMITS OF FABRIC WALL AT END BENT NO. 1, SEE SHEET 1 OF 9, PLAN VIEW.
- FOR FABRIC WALL, SEE SPECIAL PROVISIONS.

GEOGRID NOTES:

GEOGRID FOR THE GABION WALL SHALL HAVE A MINIMUM TENSILE STRENGTH OF 380 LB/FT. (BASED ON ASTM-D6637-01) AT 2% ELONGATION AND A MINIMUM TENSILE STRENGTH OF 720 LB/FT. (BASED ON ASTM-D6637-01) AT 5% ELONGATION.
GEOGRID TO BE LAYERED BETWEEN THE FABRIC WALL LIFTS AND EXTEND OUT TO GABIONS AND TIED TO THE GABIONS TO PREVENT LATERAL MOVEMENT.



TYPICAL SECTION



PLAN VIEW OF FABRIC OVERLAP

**MINIMUM REQUIRED REINFORCING FABRIC STRENGTH FOR RD*
(SLOPE AND SURCHARGE CASES)**

WALL HEIGHT H FEET (M)	POLYESTER WIDE WIDTH TENSILE STRENGTH @ ULTIMATE LB/INCH (KN/M)	POLYPROPYLENE WIDE WIDTH TENSILE STRENGTH @ ULTIMATE LB/INCH (KN/M)
4 (1.2)	200 (35)	200 (35)
6 (1.8)	200 (35)	200 (35)
8 (2.4)	200 (35)	200 (35)
10 (3.0)	200 (35)	230 (40)
12 (3.7)	220 (39)	264 (46)
14 (4.3)	248 (43)	297 (52)
16 (4.9)	276 (48)	330 (58)
18 (5.5)	304 (53)	364 (64)
20 (6.1)	332 (58)	397 (70)
22 (6.7)	359 (63)	431 (76)
24 (7.3)	387 (68)	464 (81)
26 (7.9)	415 (73)	497 (87)
28 (8.5)	443 (78)	531 (93)

*RD = REINFORCEMENT DIRECTION

PROJECT NO.: B-3814
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FABRIC WALL

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

SHEET NO. **W-9**
TOTAL SHEETS 9

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PREPARED BY: E.J. SALVO DATE: 12/07
REVIEWED BY: J.S.F. DATE: 12/07

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	-----	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	-----	SEE PLANS
IMPACT ALLOWANCE	-----	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF		
STRUCTURAL STEEL - AASHTO M270 GRADE 36	-	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	-	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	-	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION		
GRADE 60	--	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	-----	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	-----	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR		
UNTREATED - EXTREME FIBER STRESS	-----	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	-----	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	-----	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2002 STANDARD SPECIFICATIONS "FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP; AND CLASS S SHALL BE USED FOR UNDERWATER FOOTING SEALS.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE. ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED WITH THE EXCEPTION OF #2 BARS WHICH MAY BE FABRICATED FROM COLD DRAWN STEEL WIRE. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

PLACEMENT OF BEAM OR GIRDER MEMBERS ON TRUCKS FOR HAULING SHALL BE DONE IN COMPLIANCE WITH LIMITS SHOWN ON SKETCHES PROVIDED TO THE MATERIALS AND TEST UNIT APPROVED BY THE STRUCTURE DESIGN UNIT DATED MAY 8, 1991. THESE SKETCHES PRIMARILY LIMIT THE UNSUPPORTED CANTILEVER LENGTH OF MEMBERS. WHEN THE CONTRACTOR WISHES TO PLACE MEMBERS ON TRUCKS NOT IN ACCORDANCE WITH THESE LIMITS, TO SHIP BY RAIL, TO ATTACH SHIPPING RESTRAINTS TO THE MEMBERS OR TO INVERT MEMBERS, HE SHALL SUBMIT A SKETCH FOR APPROVAL PRIOR TO SHIPPING. SEE ALSO ARTICLE 1072-11.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

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