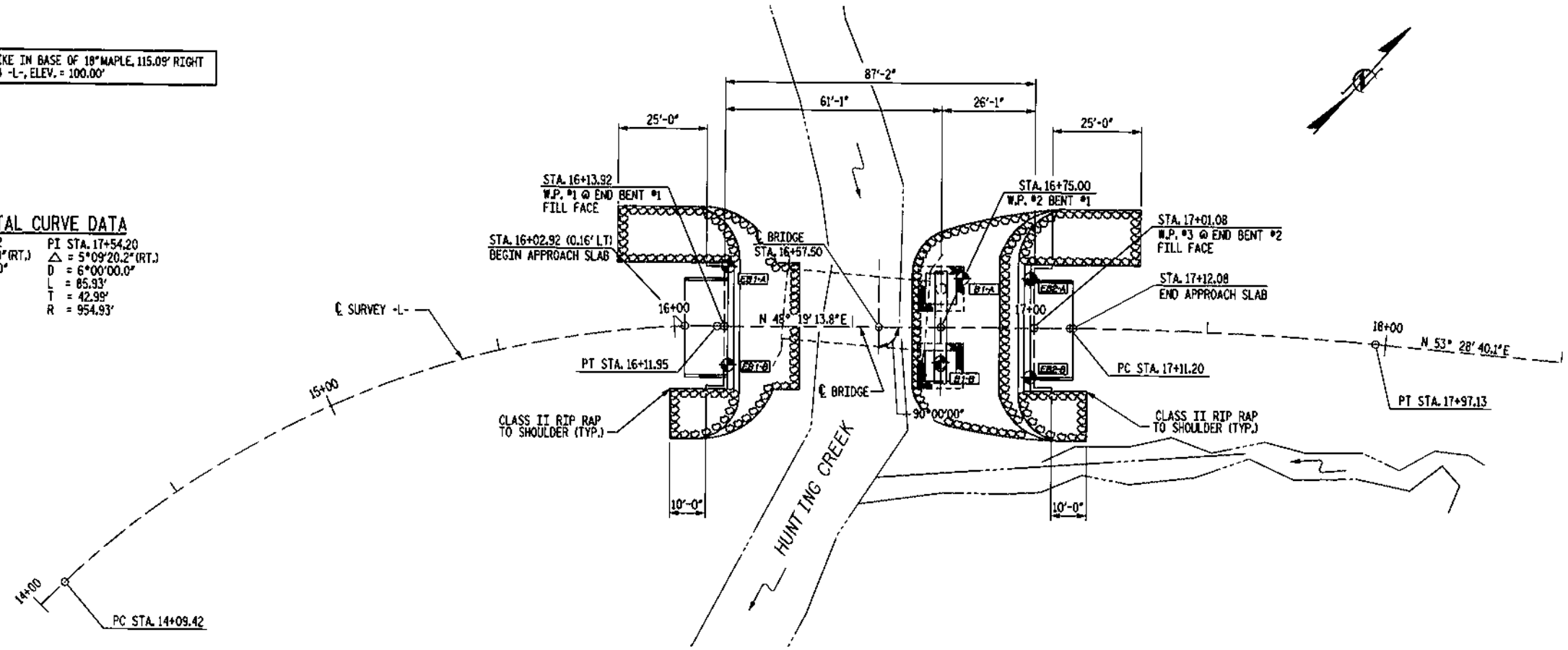
PROJ. NO. B-5227

24 WILKES COUNTY

B.M. #1 - RR SPIKE IN BASE OF 18" MAPLE, 115.09' RIGHT OF STA. 15+13.34 -L-, ELEV. = 100.00'

HORIZONTAL CURVE DATA

PI STA. 15+16.12	PI STA. 17+54.20
△ = 44°33'23.9" (RT.)	△ = 5°09'20.2" (RT.)
D = 22°00'00.0"	D = 6°00'00.0"
L = 202.53'	L = 85.93'
T = 106.70'	T = 42.99'
R = 260.44'	R = 954.93'



PLAN

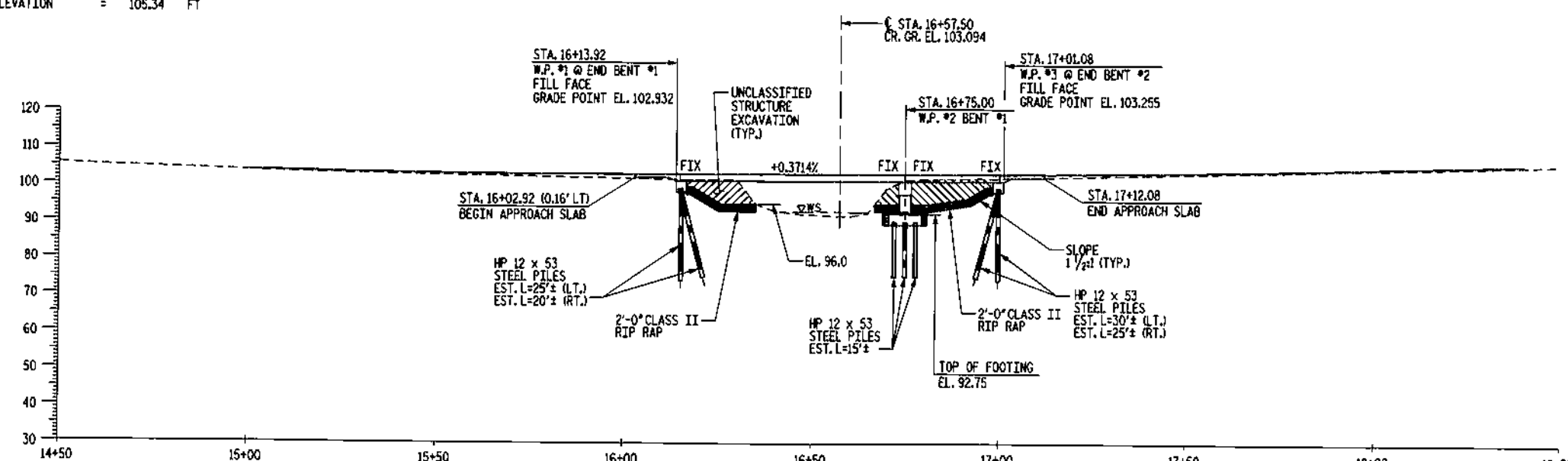
SCALE: 1" = 20'-0"

HYDRAULIC DATA

DESIGN DISCHARGE	=	3200	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	103.81	FT
DRAINAGE AREA	=	19.3	SQ MI
BASE DISCHARGE (Q_{100})	=	4700	CFS
BASE HW ELEVATION	=	105.34	FT

-1.6308% △ +0.3714%
P.I. 15+65.00
EL. 102.75'
L = 90'
GRADE DATA

+0.3714% △ +2.5714%
P.I. 17+40.00
EL. 103.40'
L = 80'
GRADE DATA



PROFILE ALONG ℄ SURVEY

SCALE: 1" = 20'

NOTES

1. ALL PILES SHALL BE DRIVEN TO MINIMUM BEARING CAPACITY OF 50 TONS EACH.
2. THE QUANTITY OF RIP RAP TO BE PAID FOR WILL BE THE ACTUAL NUMBER OF TONS OF EACH CLASS OF RIP RAP WHICH HAS BEEN INCORPORATED INTO THE COMPLETED AND ACCEPTED WORK. THE RIP RAP WILL BE MEASURED BY BEING WEIGHED IN TRUCKS ON CERTIFIED PLATFORM SCALES OR OTHER CERTIFIED WEIGHING DEVICES. THE QUANTITY OF RIP RAP WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON. FILTER FABRIC SHALL BE INCLUDED IN THE PRICE BID FOR CLASS II RIP RAP.

PLAIN RIP RAP CLASS II (2'-0" THICK)		FILTER FABRIC
END BENT NO. 1	140 TONS	130 SQUARE YARDS
END BENT NO. 2	280 TONS	260 SQUARE YARDS
TOTAL	420 TONS	390 SQUARE YARDS

3. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH FHWA'S TECHNICAL ADVISORY T5140.20 (SCOUR AT BRIDGES).
4. THE SCOUR CRITICAL ELEVATION FOR INTERIOR BENT NO. 1 IS BOTTOM OF FOOTING ELEVATION 90.000 FT. THE SCOUR CRITICAL ELVATION IS FOR USE BY MAINTENANCE FORCES TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
5. PIER SCOUR PROTECTION SHALL BE REQUIRED AT INTRIOR BENT NO. 1. RIP RAP NOT TO BE PLACED ABOVE THE STREAMBED.
6. PILES AT END BENT NO. 1 SHALL BE DRIVEN TO AN ELEVATION NO HIGHER THAN EL. 81.0 FT., AND SATISFY THE BEARING CAPACITY OF 50 TONS EACH.
7. PILES AT INTERIOR BENT NO. 1 SHALL BE DRIVEN TO AN ELEVATION NO HIGHER THAN EL. 76.0 FT., AND SATISFY THE BEARING CAPACITY OF 50 TONS EACH.
8. PILES AT END BENT NO. 2 SHALL BE DRIVEN TO AN ELEVATION NO HIGHER THAN EL. 77.0 FT., AND SATISFY THE BEARING CAPACITY OF 50 TONS EACH.
9. STEEL PILE POINTS ARE REQUIRED FOR PILES AT END BENT NO. 1, INTERIOR BENT NO. 1, AND END BENT NO. 2. SEE SPECIAL PROVISIONS FOR STEEL PILE POINTS.
10. THE STEEL PILES SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS. FOR GALVINIZING STEEL PILES, SEE SPECIAL PROVISIONS.
11. WHEN DRIVING PILES, THE MAXIMUM BLOW COUNT SHALL NOT BE EXCEEDED.
12. CURRENT ADT = 110 VPD.
13. DELINEATORS ON BARRIER RAIL AND ON STEEL BEAM GUARDRAIL SHALL BE INCLUDED IN THE PRICE BID FOR STEEL BEAM GUARDRAIL.

◈ GEOTECH BORE HOLES LOCATION

DESCRIPTION OF EXISTING BRIDGE

1 SPAN @ 40'-7½" 4"x 8" TIMBER FLOOR W/ 1.5" ASPHALT WEARING SURFACE; ON STEEL I-BEAMS ON TIMBER POSTS AND SILLS, ON TIMBER PILES; 19'-2" CLEAR ROADWAY WIDTH SHALL BE REMOVED.

PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE NO. 24 ON SR 2428 OVER HUNTING CREEK

DRAWN BY: C.L. SMITH DATE: DEC 2009
CHECKED BY: J.E. MONDOLFI DATE: DEC 2009

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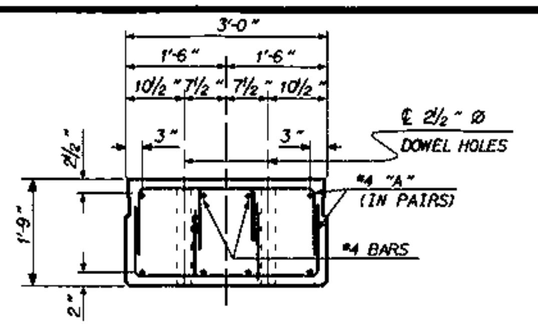
CONSULTING ENGINEERS
5121 Kingdom Way, Suite 100 Raleigh, NC 27607
NC License No. P-0258

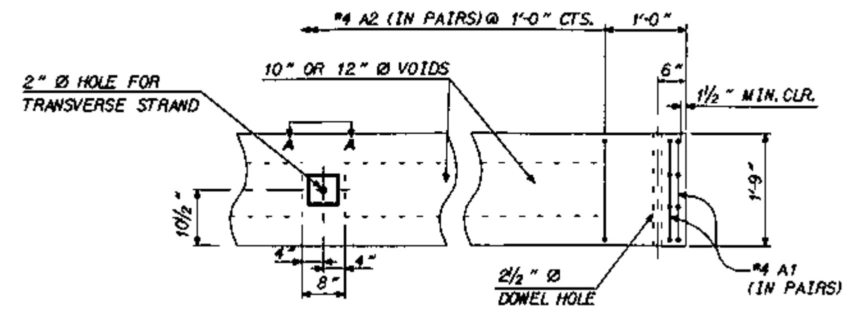
NORTH CAROLINA PROFESSIONAL SEAL 29530 ENGINEER JAMES E. MONDOLFI
2-9-10

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	1
1			3			TOTAL SHEETS
2			4			23

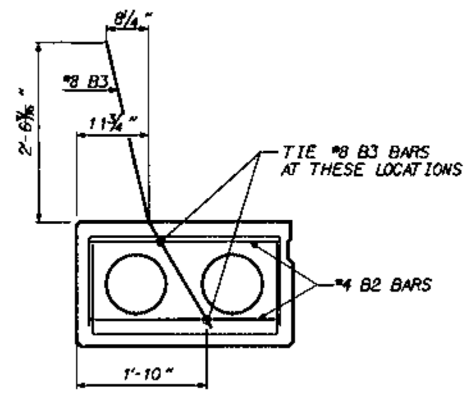


SLAB END ELEVATION

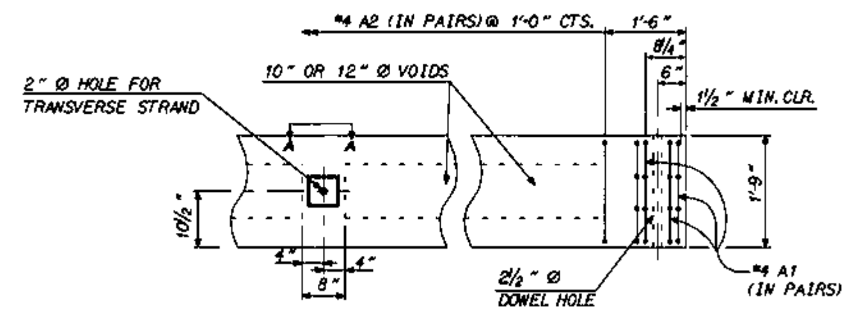
THE 2½" DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH GROUT.



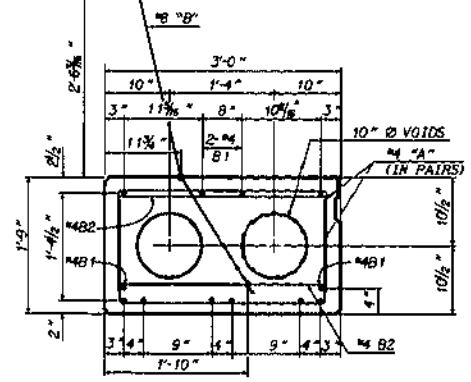
25' SLAB ELEVATION



TIE LOCATION FOR #8 B3

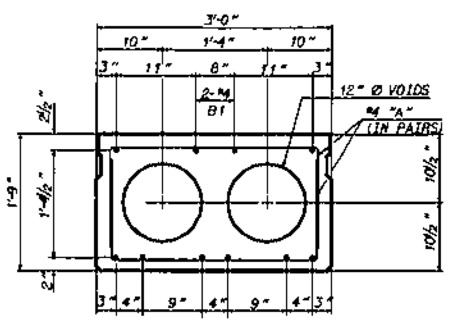


60' SLAB ELEVATION



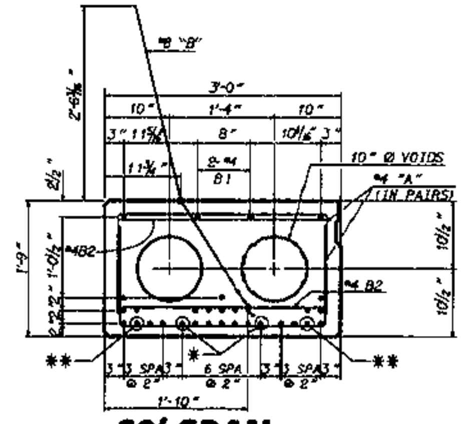
25' SPAN

8 -½" Ø H.S.STRANDS
EXTERIOR SLAB SECTIONS



25' SPAN

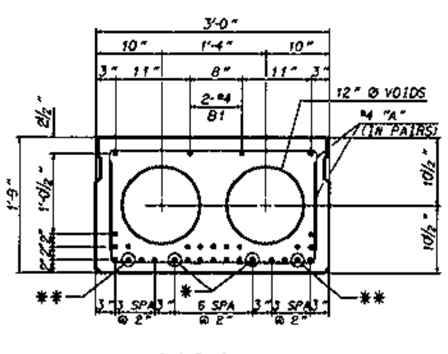
8 -½" Ø H.S.STRANDS
INTERIOR SLAB SECTIONS



60' SPAN

29 -½" Ø H.S.STRANDS
EXTERIOR SLAB SECTIONS

⊙ STRAND IS SHEATHED. SEE SHEATH CHART.



60' SPAN

29 -½" Ø H.S.STRANDS
INTERIOR SLAB SECTIONS

GENERAL NOTES

ASSUMED LIVE LOAD = HS 20-44 OR ALTERNATE LOADING.

CONCRETE: f'c = 5000 psi 25' SPAN ONLY
* CONCRETE: f'ci = 4000 psi 25' SPAN ONLY
CONCRETE: f'c = 7000 psi 60' SPAN ONLY
* CONCRETE: f'ci = 5000 psi 60' SPAN ONLY

* (COMPRESSIVE STRENGTH @ TRANSFER OF STRESSING FORCE.)

ALL PRESTRESS STRANDS SHALL MEET THE REQUIREMENTS OF ASTM A416.

ALL PRESTRESS STRANDS SHALL BE 7 WIRE, LOW RELAXATION, HIGH STRENGTH CABLES IN ACCORDANCE WITH THE SPECIFICATIONS.

SIZE TYPE	AREA	ULTIMATE STR.
1/2" Ø HIGH STR.	0.153 □"	41,300# PER CABLE

APPLIED FORCE
30,980# PER CABLE

STRUCTURAL STEEL ITEMS SHALL BE OF A GRADE CONFORMING TO EITHER ASTM A36 OR A373, EXCEPT HIGH STRENGTH BOLTS. HIGH STRENGTH BOLTS SHALL BE ASTM A325. ALL STRUCTURAL STEEL SHALL BE GALVANIZED AS PER THE SPECIFICATIONS.

ALL MATERIAL AND WORKMANSHIP SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OF THE NC DEPARTMENT OF TRANSPORTATION DATED JULY 2006 AND WITH THE SPECIAL PROVISIONS.

THE ULTIMATE STRENGTH OF THE CORED SLAB UNIT MUST MEET THE REQUIREMENTS OF THE APPLICABLE AASHTO SPECIFICATIONS.

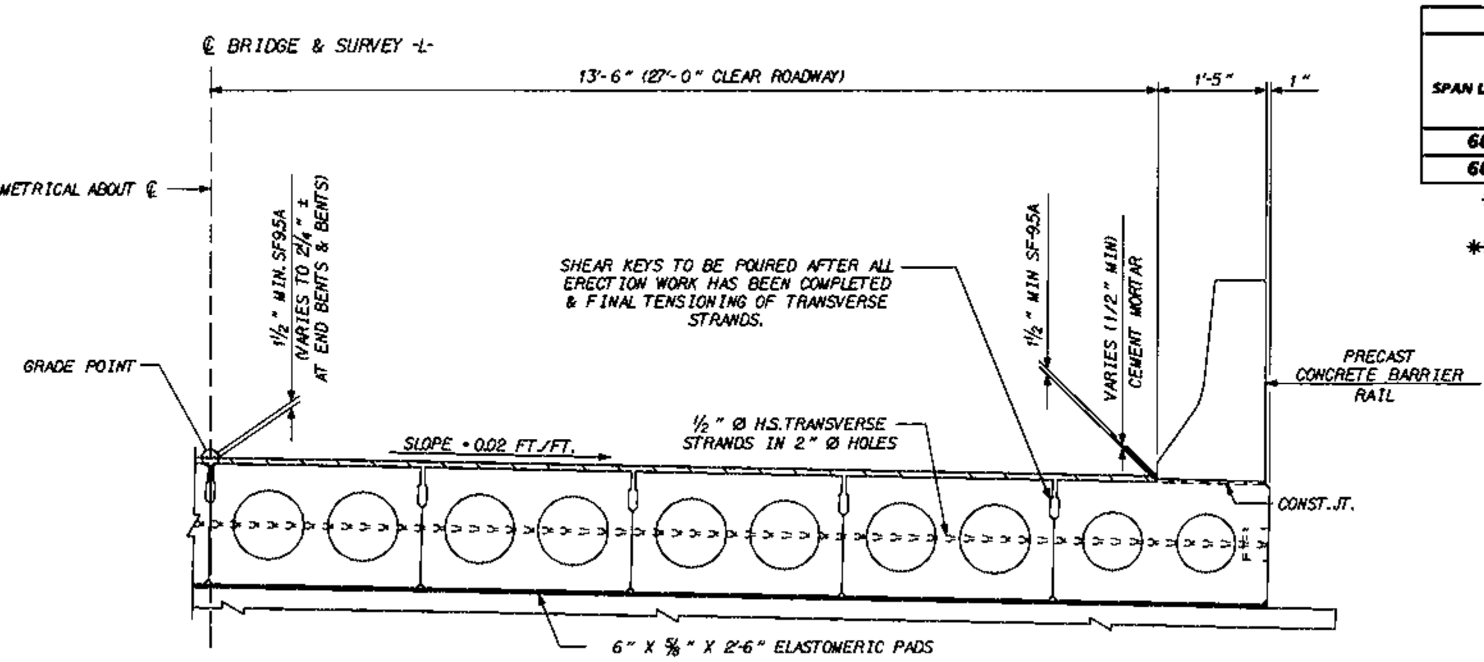
STRANDS SHALL BE CUT FLUSH WITH ENDS OF SLABS.

A POSITIVE HOLD DOWN SYSTEM MUST BE EMPLOYED TO PREVENT VOIDS FROM RISING.

NOTE:
SPIRAL WIRE REINFORCEMENT MAY BE USED IN LEIU OF DEFORMED BARS FOR STIRRUPS. MIN. W3.5 X 6" PITCH.

UNLESS OTHERWISE NOTED ON THE PLANS. ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED ¾".

APPLY EPOXY PROTECTIVE COATING TO THE ENDS OF THE CORED SLAB UNITS.



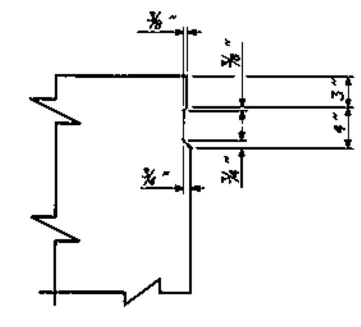
TYPICAL HALF SECTION

SPAN LENGTH	NUMBER OF SHEATHED STRANDS PER EXTERIOR SLAB SECTIONS	NUMBER OF SHEATHED STRANDS PER INTERIOR SLAB SECTIONS
60'	* 2 @ 2"	* 2 @ 2"
60'	** 2 @ 2"	** 2 @ 2"

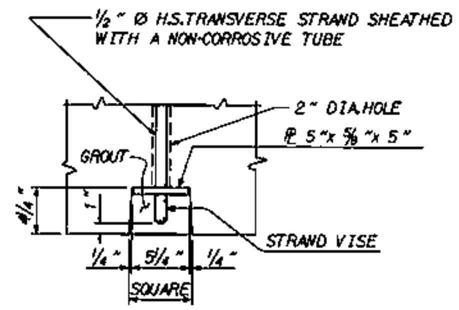
SHEATH CHART

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

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



SHEAR KEY DETAIL



SECTION A-A

EXTERIOR SLAB UNIT	25'	60'
(SLAB UNIT ALONE IN PLACE)	0.129' (UP)	2.393' (UP)
DEFLECTION (SUPERIMPOSED DEAD LOAD)	0.015 (DOWN)*	0.460' (DOWN)*
FINAL DEFLECTION	0.114' (UP)	1.933' (UP)
*INCLUDES FUTURE WEARING SURFACE		

INTERIOR SLAB UNIT	25'	60'
CAMBER (SLAB UNIT ALONE IN PLACE)	0.146' (UP)	2.789' (UP)
DEFLECTION (SUPERIMPOSED DEAD LOAD)	0.016' (DOWN)*	0.460' (DOWN)*
FINAL DEFLECTION	0.130' (UP)	2.329' (UP)
*INCLUDES FUTURE WEARING SURFACE		

NOT TO SCALE

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SEAL 20530 — NORTH CAROLINA PROFESSIONAL ENGINEER — JAMES E. MONDOLFI
2-9-10

PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

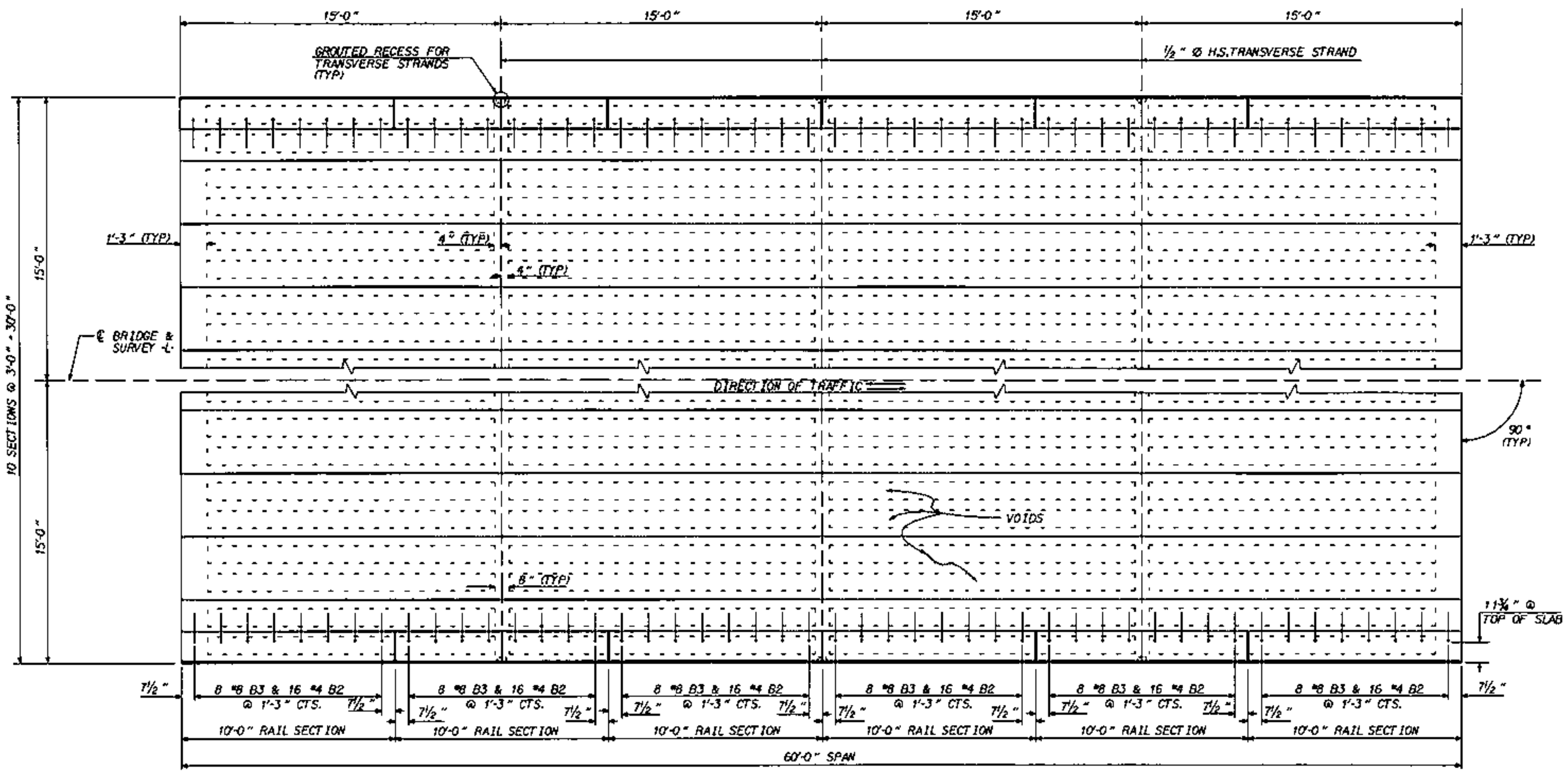
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD PRESTRESSED CORED SLAB
25' AND 60' SPANS
27' CLEAR ROADWAY - 90 °SKEW

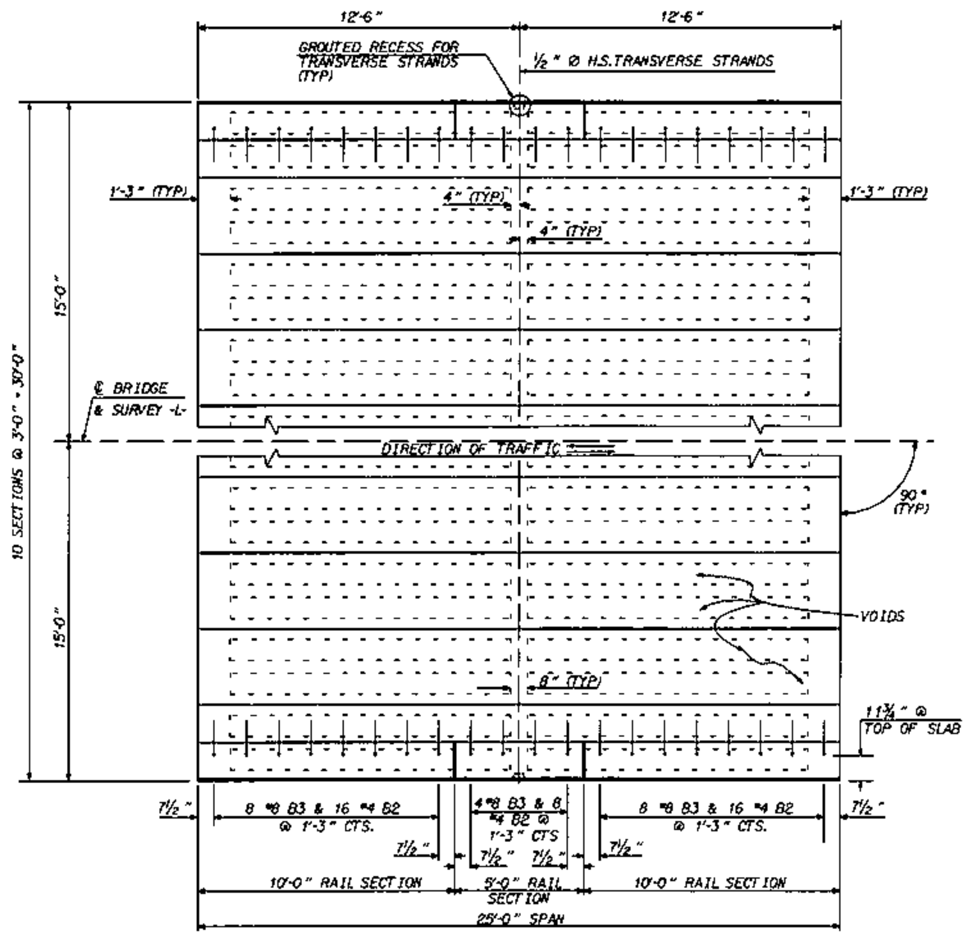
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

SHEET NO. 2
TOTAL SHEETS 23

DRAWN BY: C.L. SMITH DATE: DEC 2009
CHECKED BY: J.E. MONDOLFI DATE: DEC 2009



PLAN VIEW - 60' SPAN



PLAN VIEW - 25' SPAN

NOT TO SCALE

2'-10"

BILL OF MATERIAL FOR ONE 25'-0" INTERIOR CORED SLAB SECTION

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	2	#4	STR	24'-8"	33
A1	8	#4	1	4'-5"	24
A2	48	#4	1	5'-4"	171
REINFORCING STEEL				LBS.	251
5000 P.S.I. CONCRETE				C.Y.	3.4
0.5"Ø L.R. STRANDS				NO.	8

BILL OF MATERIAL FOR ONE 60'-0" INTERIOR CORED SLAB SECTION

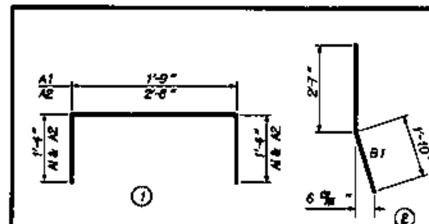
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#4	STR	30'-9"	82
A1	16	#4	1	4'-5"	47
A2	116	#4	1	5'-4"	413
REINFORCING STEEL				LBS.	542
7000 P.S.I. CONCRETE				C.Y.	8.2
0.5"Ø L.R. STRANDS				NO.	29

BILL OF MATERIAL FOR ONE 25'-0" EXTERIOR CORED SLAB SECTION

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#4	STR	24'-8"	66
B2	40	#4	STR	2'-8"	71
* B3	20	#8	2	4'-5"	236
A1	8	#4	1	4'-5"	24
A2	48	#4	1	5'-4"	171
REINFORCING STEEL				LBS.	332
*EPOXY COATED REINFORCING STEEL				LBS.	236
5000 P.S.I. CONCRETE				C.Y.	3.8
0.5"Ø L.R. STRANDS				NO.	8

BILL OF MATERIAL FOR ONE 60'-0" EXTERIOR CORED SLAB SECTION

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#4	STR	30'-9"	82
B2	96	#4	STR	2'-8"	171
* B3	48	#8	2	4'-5"	566
A1	16	#4	1	4'-5"	47
A2	116	#4	1	5'-4"	413
REINFORCING STEEL				LBS.	713
*EPOXY COATED REINFORCING STEEL				LBS.	566
7000 P.S.I. CONCRETE				C.Y.	9.2
0.5"Ø L.R. STRANDS				NO.	29



REINFORCING BAR TYPES
BAR DIMENSIONS ARE OUT TO OUT

PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLANS OF PRESTRESSED CORED SLAB AND BILL OF MATERIALS

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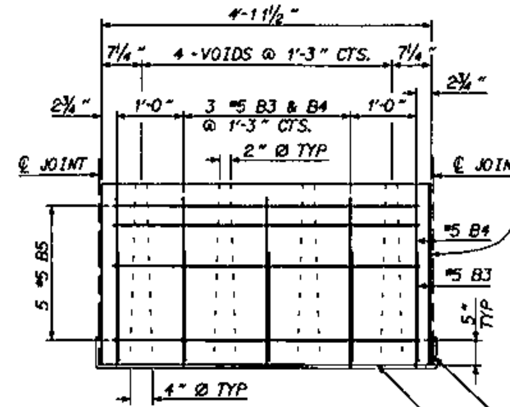
2-9-10

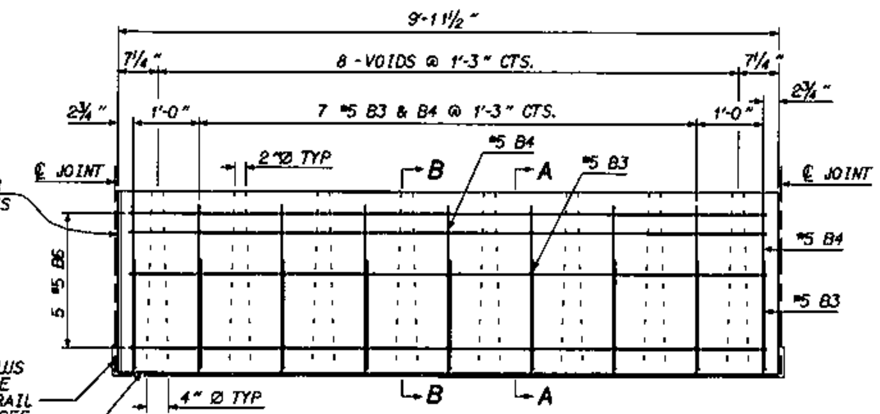
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

SHEET NO. 3
TOTAL SHEETS 23

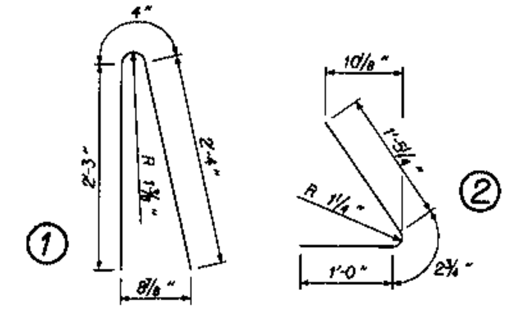
DRAWN BY: C.L. SMITH DATE: DEC 2009
CHECKED BY: J.E. MONDOLFI DATE: DEC 2009



TYPICAL 5'-0" PRECAST UNIT



TYPICAL 10'-0" PRECAST UNIT

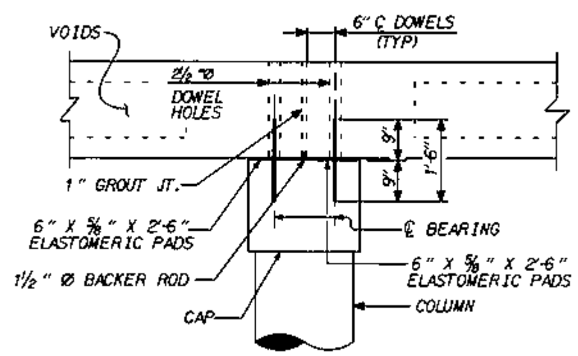


REINFORCING BAR TYPES

BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL					
FOR ONE 10'-0" RAIL SECTION					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B3	9	#5	1	4'-11"	46
B4	9	#5	2	2'-8"	25
B6	5	#5	STR	9'-7"	50
REINFORCING STEEL LBS. = 121					
CLASS AA CONCRETE CU. YDS. = 1.0					

BILL OF MATERIAL					
FOR ONE 5'-0" RAIL SECTION					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B3	5	#5	1	4'-11"	26
B4	5	#5	2	2'-8"	14
B5	5	#5	STR	4'-7"	24
REINFORCING STEEL LBS. = 64					
CLASS AA CONCRETE CU. YDS. = 0.5					



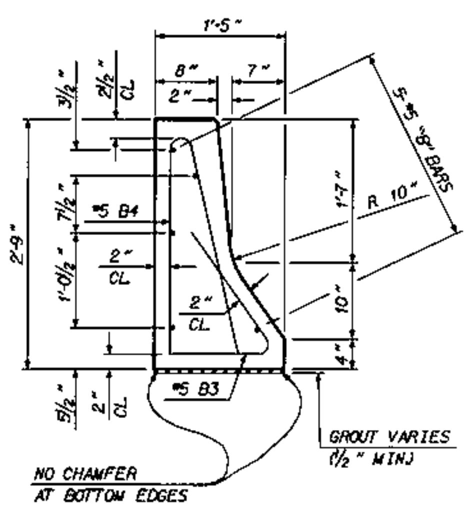
SECTION AT BENT

NOTES

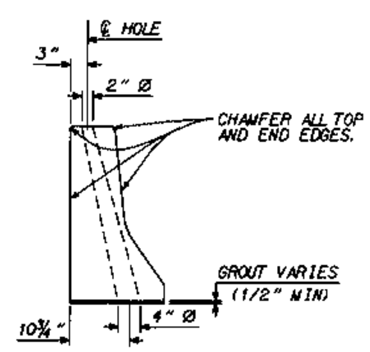
EACH PRECAST RAIL UNIT SHALL BE CAST WITH CLASS AA CONCRETE.

EACH PRECAST RAIL UNIT SHALL BE SUPPLIED WITH LIFTING DEVICE(S). NO CABLES ARE TO BE WRAPPED AROUND THE RAIL UNITS FOR LIFTING.

THE JOINT SEALER SHALL BE LOW MODULUS SILICONE SEALANT.SEE SECTION 1028-4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A



SECTION B-B

NOT TO SCALE

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NC License No: F-0288

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 20599 JAMES E. MONDOLFI
2-9-10

PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

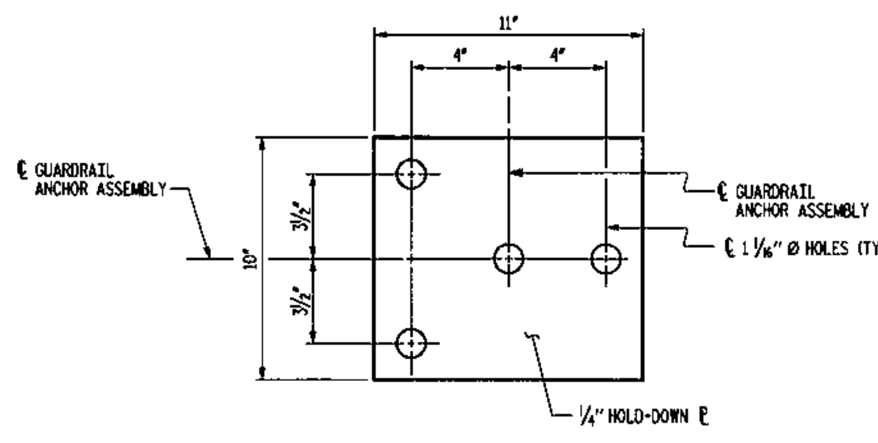
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BARRIER RAIL DETAILS

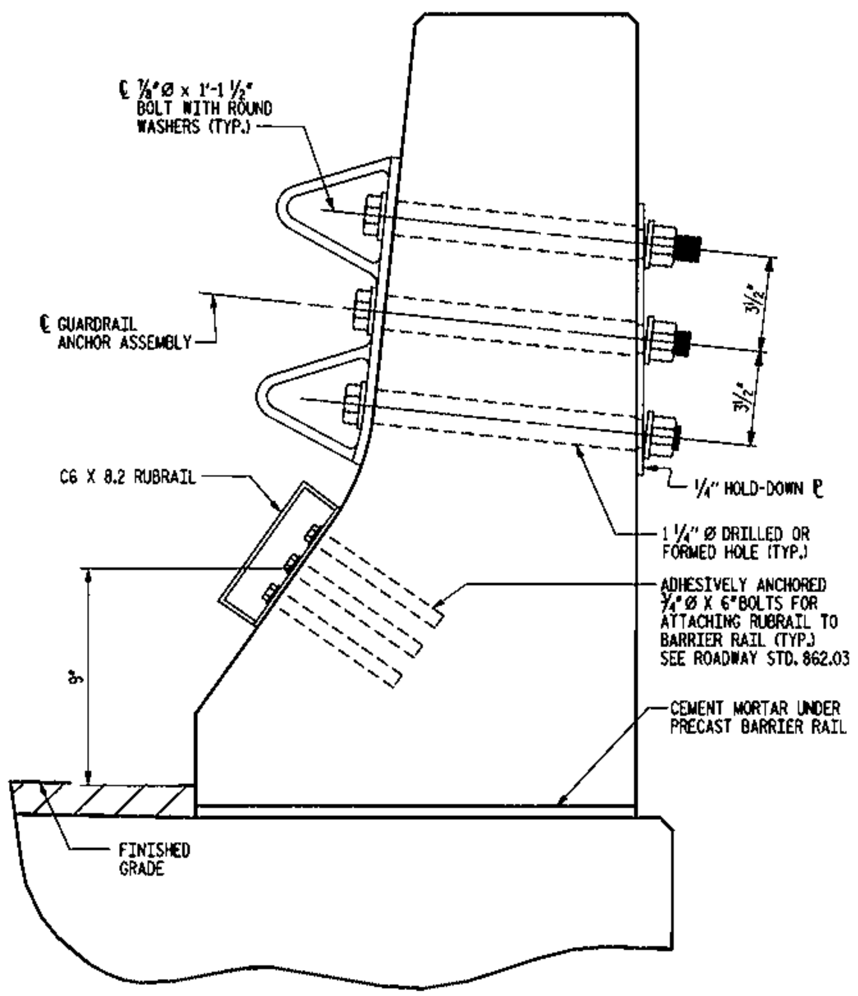
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

SHEET NO. 4
TOTAL SHEETS 23

DRAWN BY: C.L. SMITH DATE: DEC 2009
CHECKED BY: J.E. MONDOLFI DATE: DEC 2009



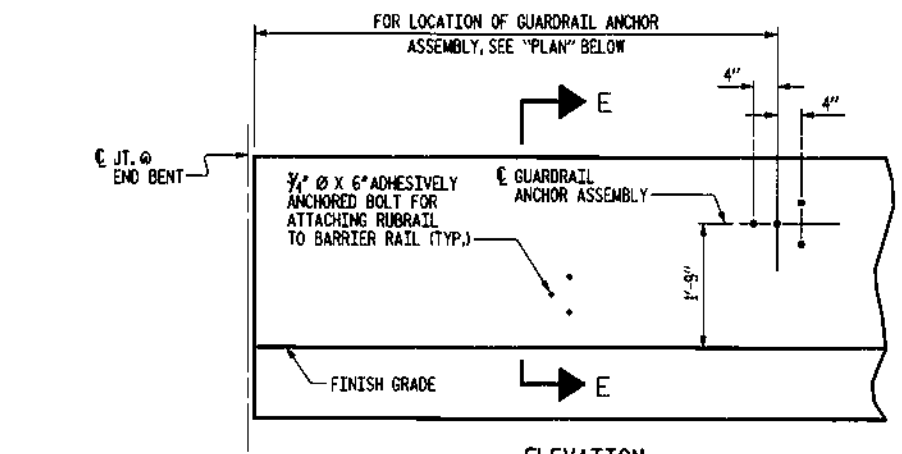
PLAN



SECTION E-E

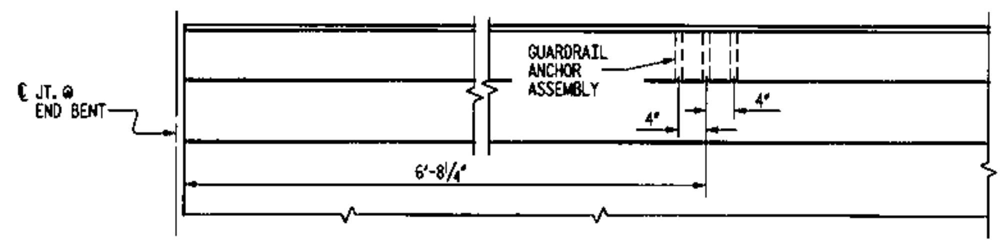
GUARDRAIL ANCHOR ASSEMBLY DETAILS

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



ELEVATION

FOR LOCATION OF RUBRAIL, SEE ROADWAY STD. 862.03



PLAN

LOCATION OF ANCHORS FOR GUARDRAIL

FOR CONCRETE BARRIER RAIL
END BENT #1 SHOWN, END BENT #2 SIMILAR

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A ¼" HOLD DOWN PLATE AND ⅞" 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 ⅞" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

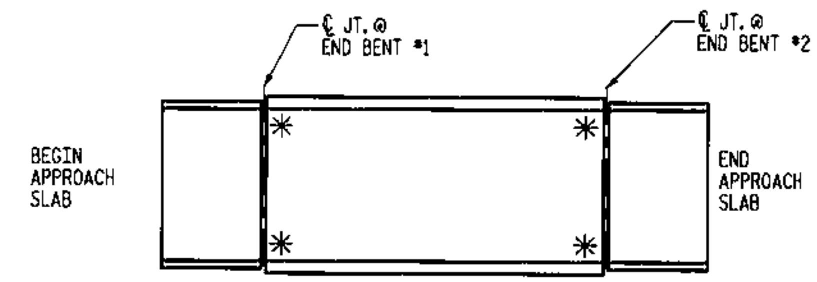
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF CONCRETE BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

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

THE 1 ¼" 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 ¾"Ø X 6"BOLTS WITH WASHERS. LEVEL ONE FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE ¾"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.



SKETCH SHOWING POINTS OF ATTACHMENTS

✳ DENOTES GUARDRAIL ANCHOR ASSEMBLY

NOT TO SCALE

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NC License No. F-0268

SEAL 25790 — 2-9-10

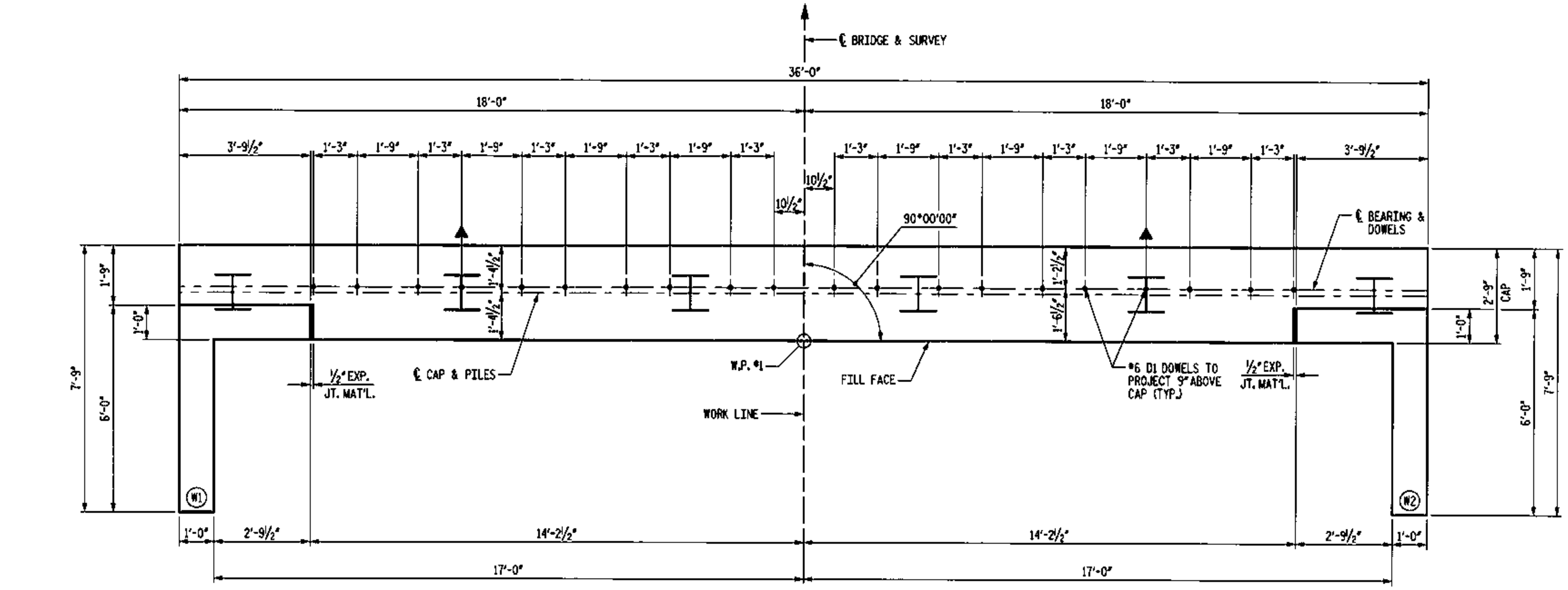
PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

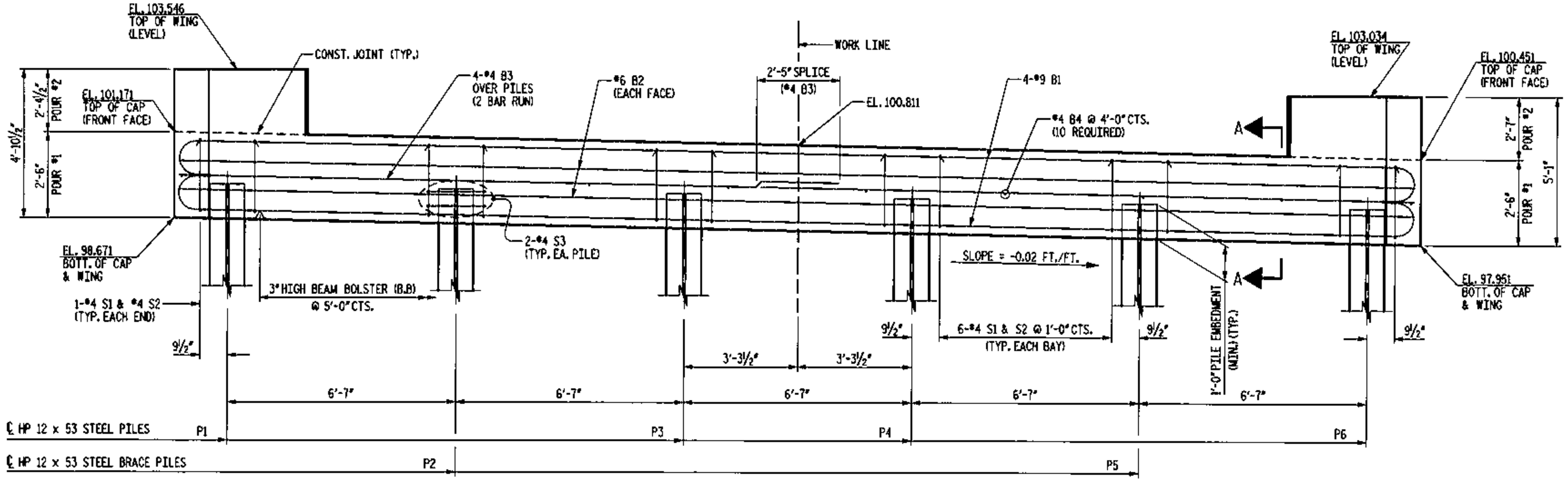
SUPERSTRUCTURE
GUARDRAIL ANCHORAGE DETAILS

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	5
1			3			TOTAL SHEETS
2			4			23

DRAWN BY: C.L. SMITH DATE: DEC 2009
CHECKED BY: J.E. MONDOLFI DATE: DEC 2009

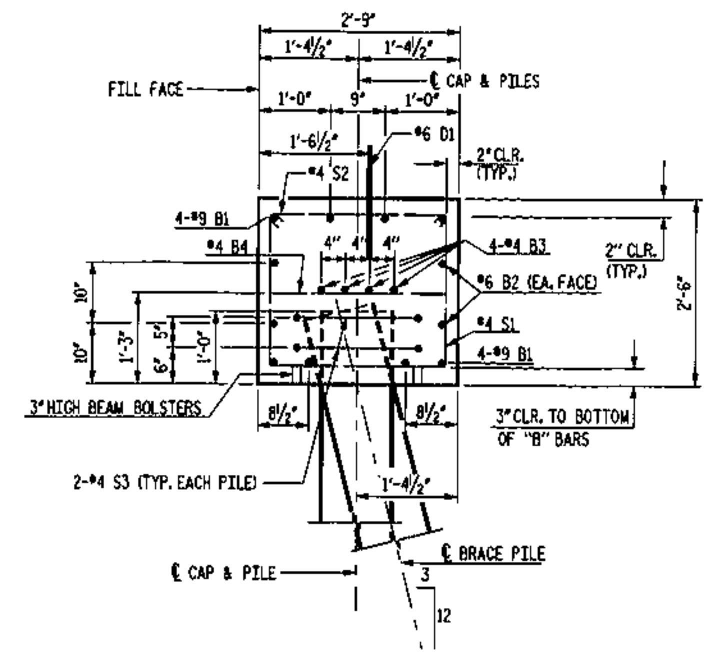


PLAN

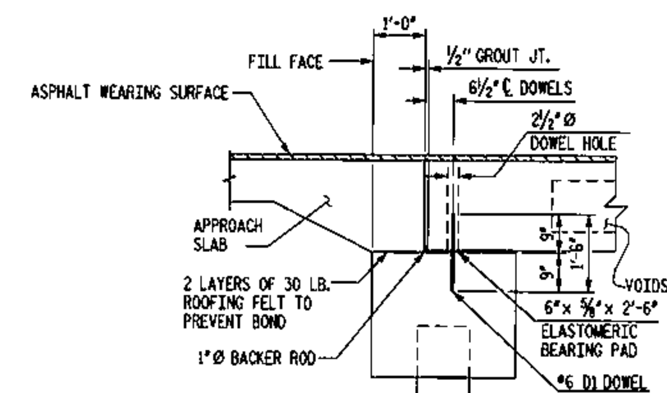


ELEVATION

TOP OF PILE ELEVATIONS	
PILE	ELEVATION
P1	99.630
P2	99.498
P3	99.367
P4	99.235
P5	99.103
P6	98.972



SECTION A-A



DOWEL LOCATION DETAIL

NOTE: ℄ OF DOWELS SHALL MATCH ℄ OF DOWEL HOLES IN CORED SLAB UNITS.

NOTE:

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

NOT TO SCALE

PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CAST - IN - PLACE
END BENT NO. 1
27' CLEAR ROADWAY - 90° SKEW

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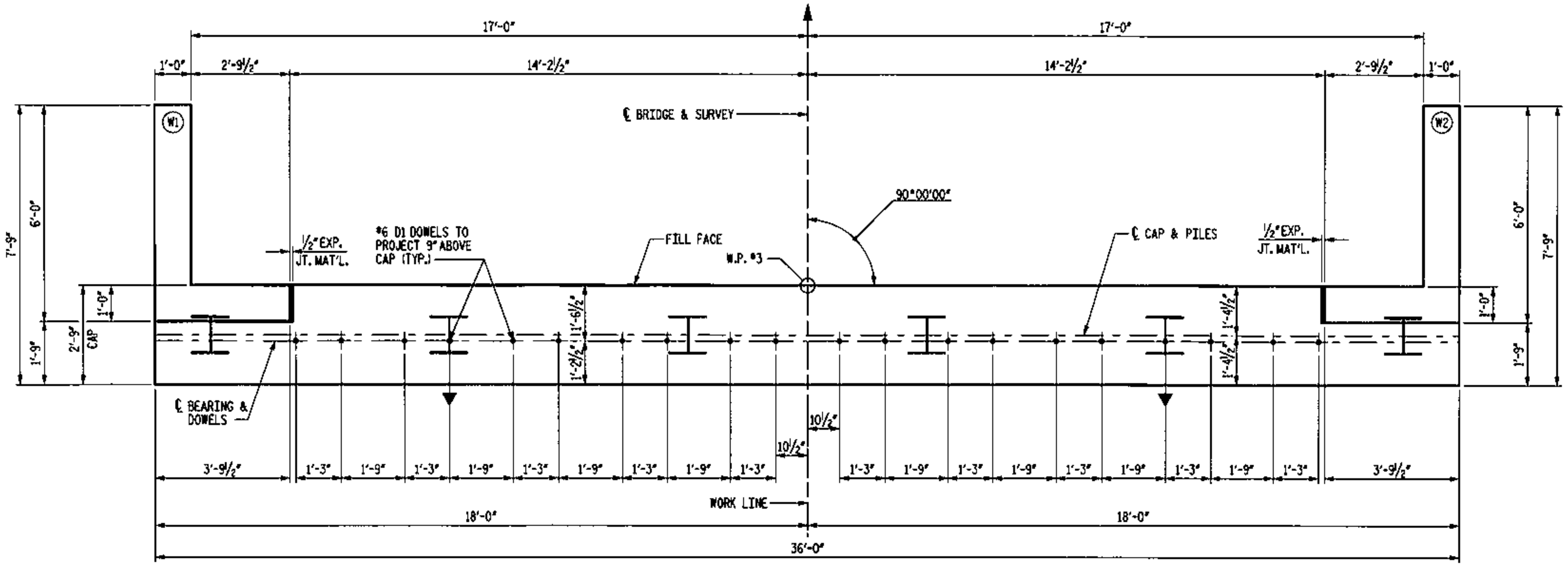
NC License No. F-0288

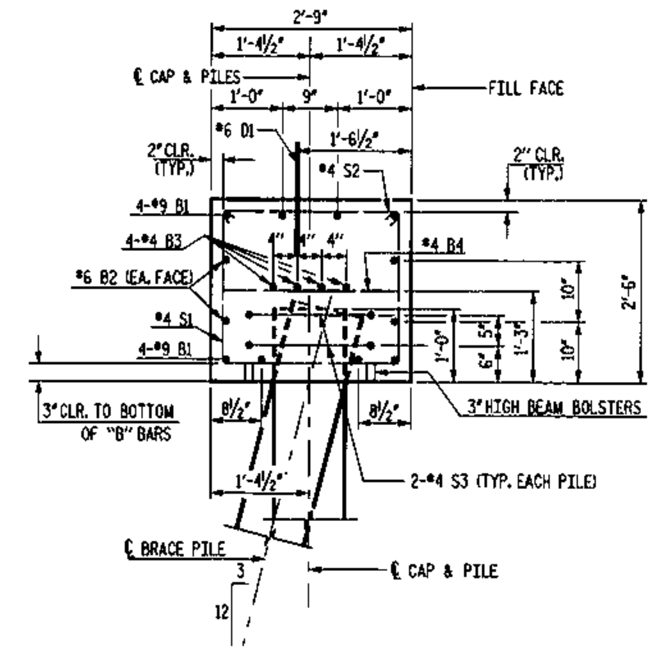
SEAL 20532 — NORTH CAROLINA PROFESSIONAL — 2-9-10

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	6
1			3			TOTAL SHEETS
2			4			23

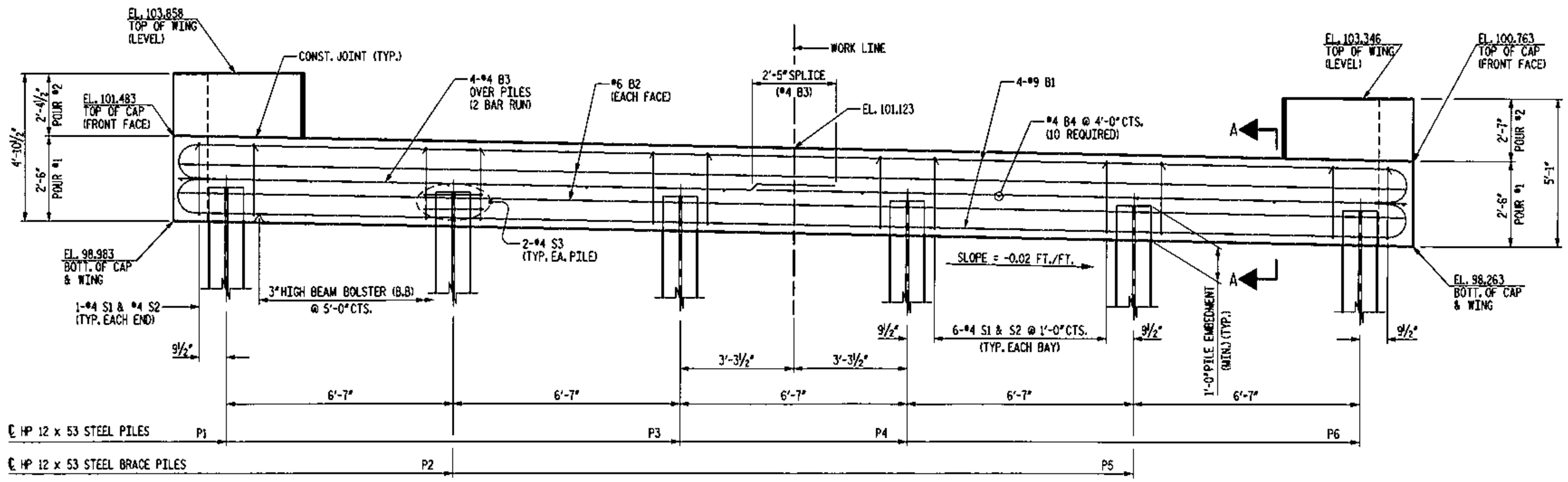
DRAWN BY: C.L. SMITH DATE: DEC 2009
CHECKED BY: A.K. ORR DATE: DEC 2009



PLAN



SECTION A-A



ELEVATION

TOP OF PILE ELEVATIONS	
PILE	ELEVATION
P1	99.942
P2	99.810
P3	99.679
P4	99.547
P5	99.415
P6	99.284

INDICATES BRACE PILE (BATTER: 3:12)

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

NOT TO SCALE

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NC License No. F-0268

NORTH CAROLINA PROFESSIONAL SEAL 20532 ENGINEER JAMES E. MONDOR
2-9-10

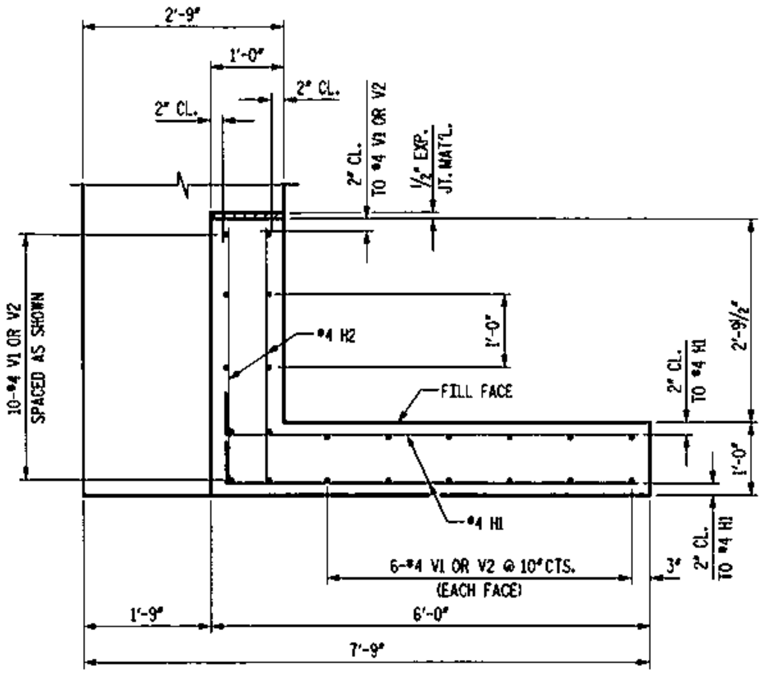
PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

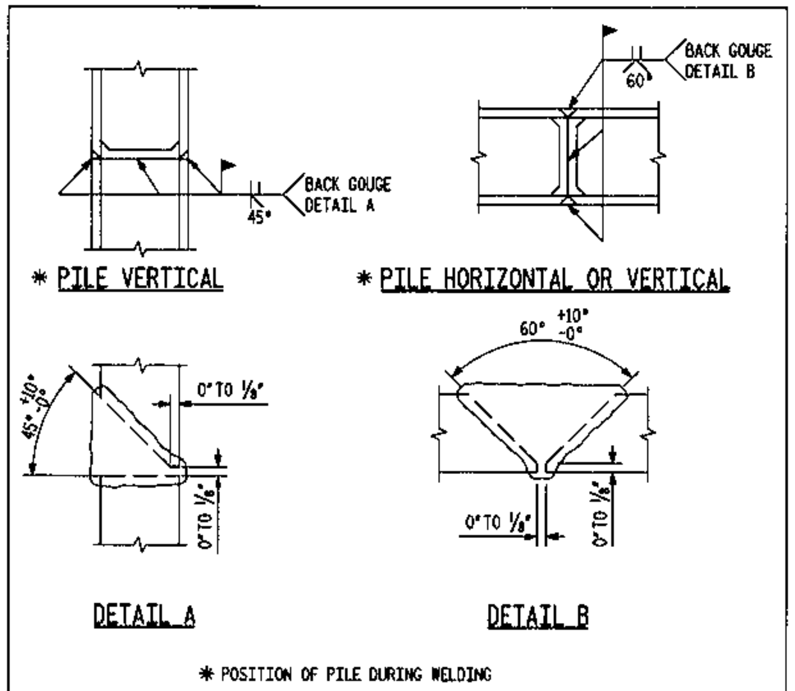
CAST - IN - PLACE
END BENT NO. 2
27' CLEAR ROADWAY - 90° SKEW

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	7
1			3			TOTAL SHEETS
2			4			23

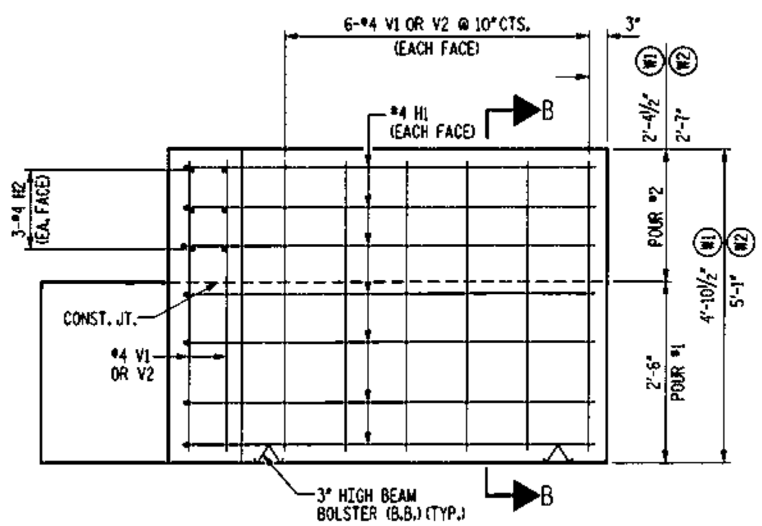
DRAWN BY: C.L. SMITH DATE: DEC 2009
CHECKED BY: A.K. ORR DATE: DEC 2009



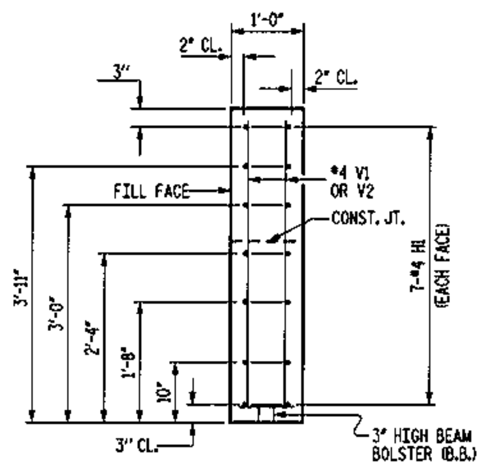
PLAN OF WING



PILE SPLICE DETAILS



ELEVATION OF WING



SECTION B-B

BILL OF MATERIAL

ONE END BENT (2 REQUIRED)

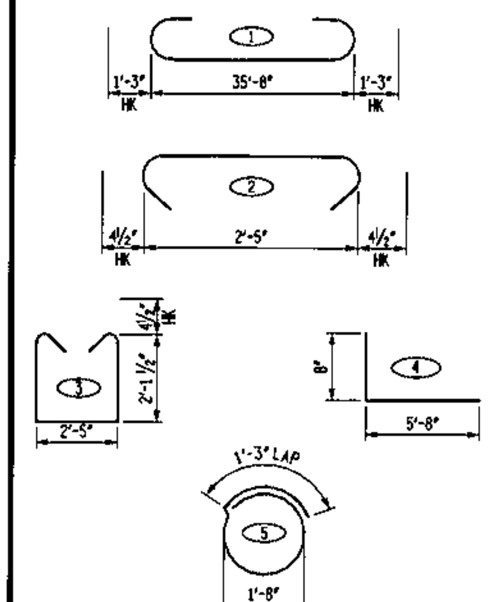
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	9	1	38'-2"	1038
B2	4	6	STR	35'-8"	214
B3	8	4	STR	19'-1"	102
B4	10	4	STR	2'-5"	16
D1	20	6	STR	1'-6"	45
H1	28	4	4	6'-4"	118
H2	12	4	STR	3'-5"	27
S1	32	4	3	7'-5"	159
S2	32	4	2	3'-2"	68
S3	12	4	5	6'-6"	52
V1	22	4	STR	4'-6"	66
V2	22	4	STR	4'-9"	70

REINFORCING STEEL TOTAL 1,975 LBS.

CLASS "A" CONCRETE	
POUR 1	10.1 CYS.
POUR 2	1.5 CYS.
TOTAL	11.7 CYS.

BAR TYPES

ALL BAR DIMENSIONS ARE OUT TO OUT



PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CAST - IN - PLACE
END BENTS #1 & #2 DETAILS

REVISIONS							
NO.	BY	DATE	NO.	BY	DATE	SHEET NO.	8
1			3			TOTAL SHEETS	23
2			4				

NORTH CAROLINA PROFESSIONAL SEAL 20532 ENGINEER
2-9-10

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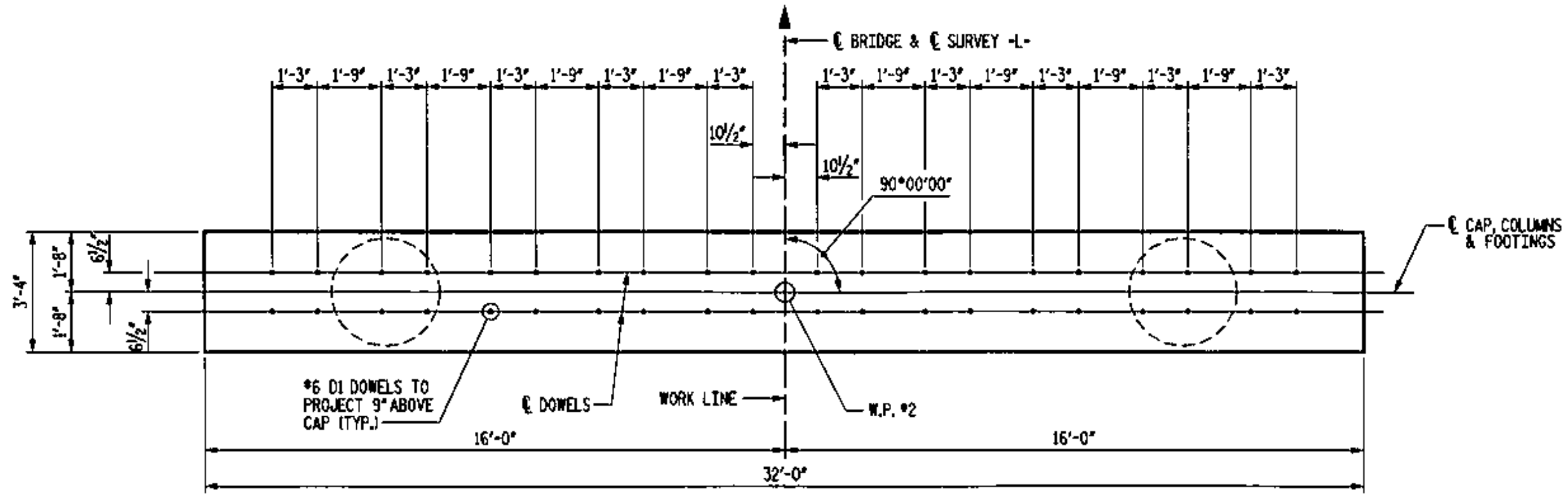
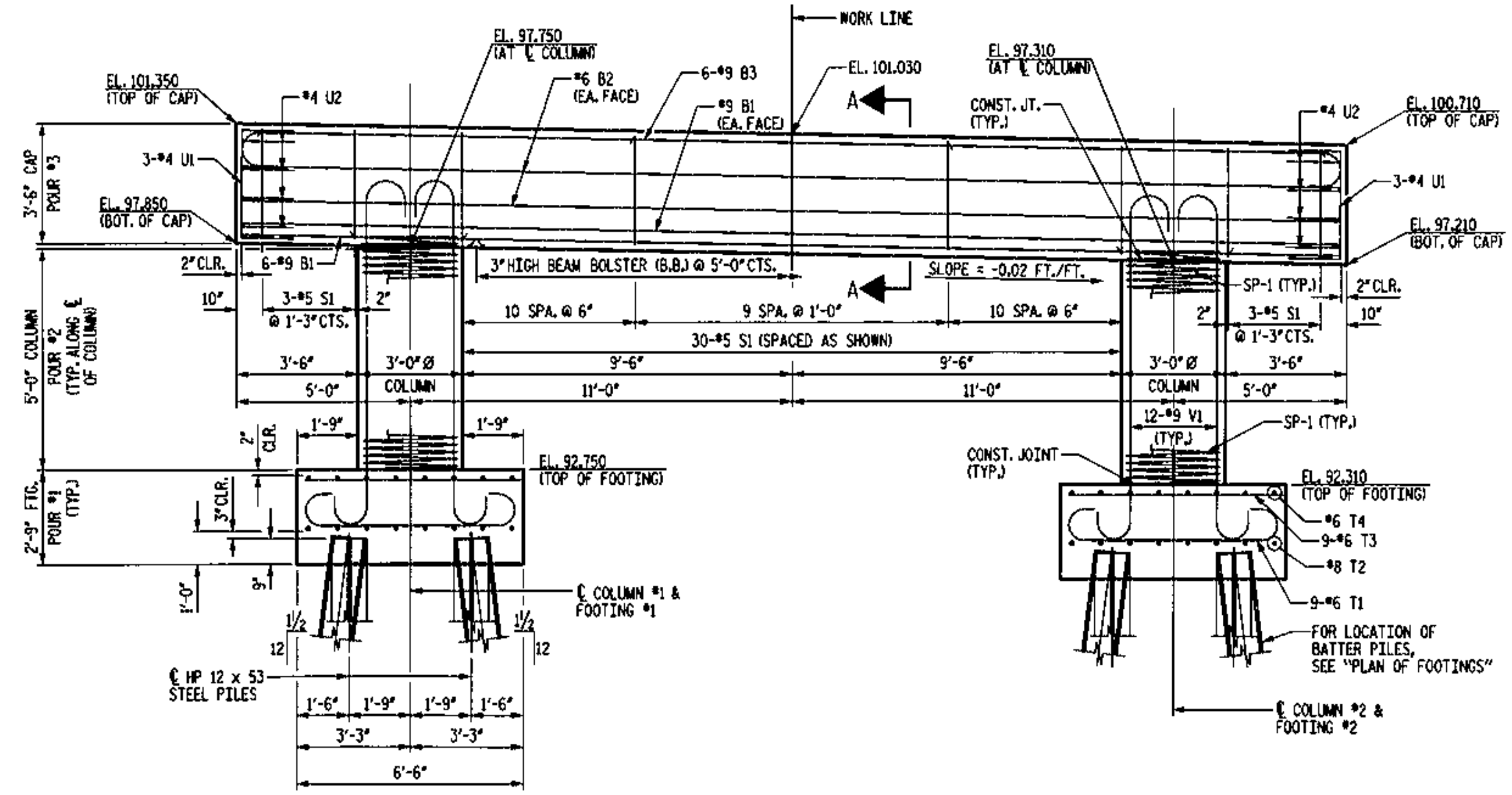
NOT TO SCALE

DRAWN BY: C.L. SMITH DATE: DEC 2009
CHECKED BY: A.K. ORR DATE: DEC 2009



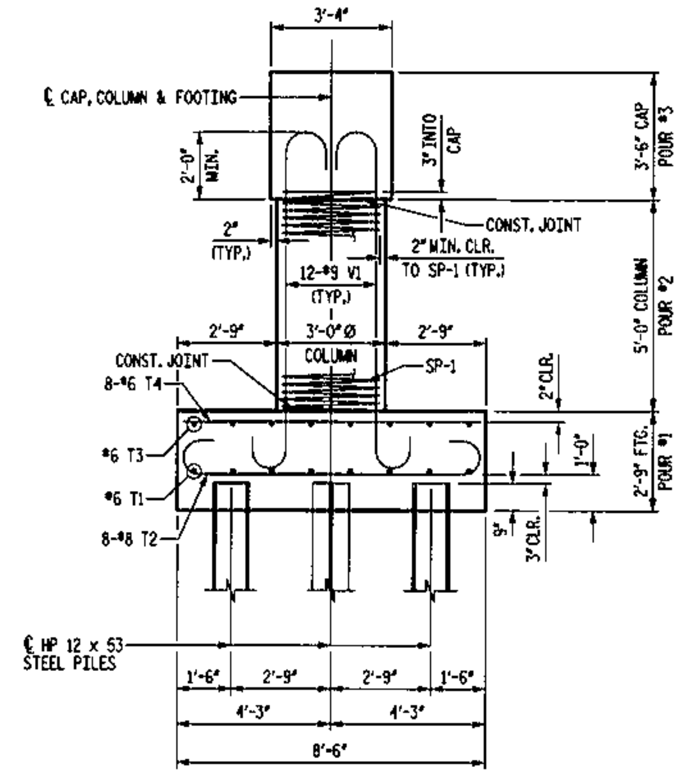
PLAN



INVERT ALTERNATE #5 S1 STIRRUPS.

ELEVATION

DETAILS SHOWN FOR FOOTINGS ARE TYPICAL.



END ELEVATION

NOTES:

STIRRUPS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO CLEAR DOWELS.

HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.

NOT TO SCALE

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5121 Kingdom Way, Suite 100 Raleigh, NC 27607
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2-9-10

PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

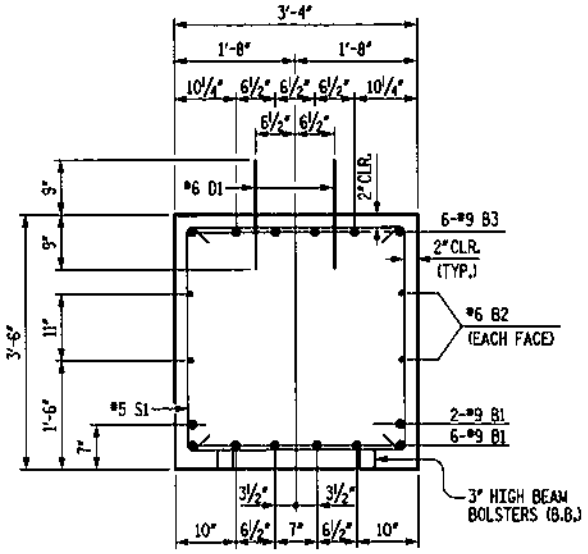
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CAST - IN - PLACE
INTERIOR BENT #1
27' CLEAR ROADWAY - 90° SKEW

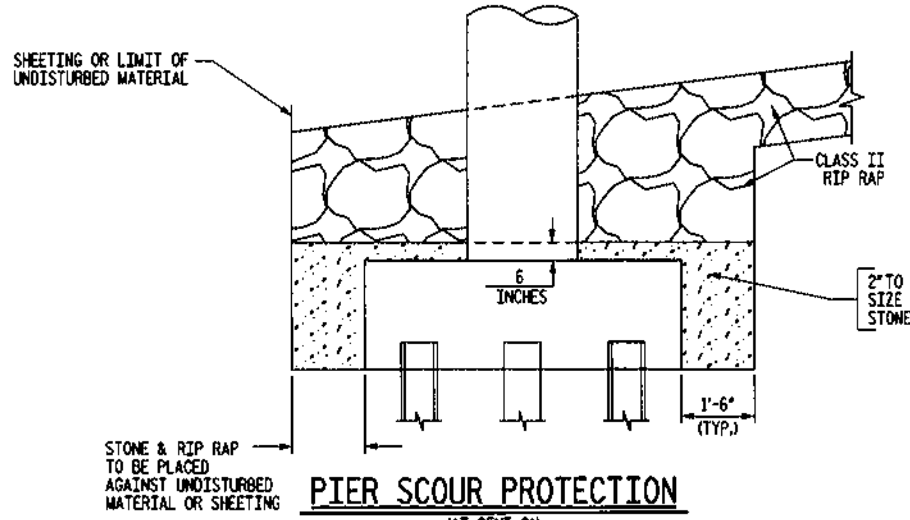
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

SHEET NO. 9
TOTAL SHEETS 23

DRAWN BY: C.L. SMITH — DATE: DEC 2009
CHECKED BY: J.C. KO — DATE: DEC 2009



SECTION A-A



PIER SCOUR PROTECTION

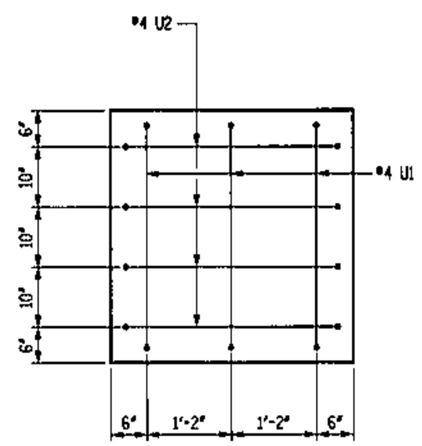
(AT BENT #1)

NOTES FOR SUBSTRUCTURE SCOUR PROTECTION

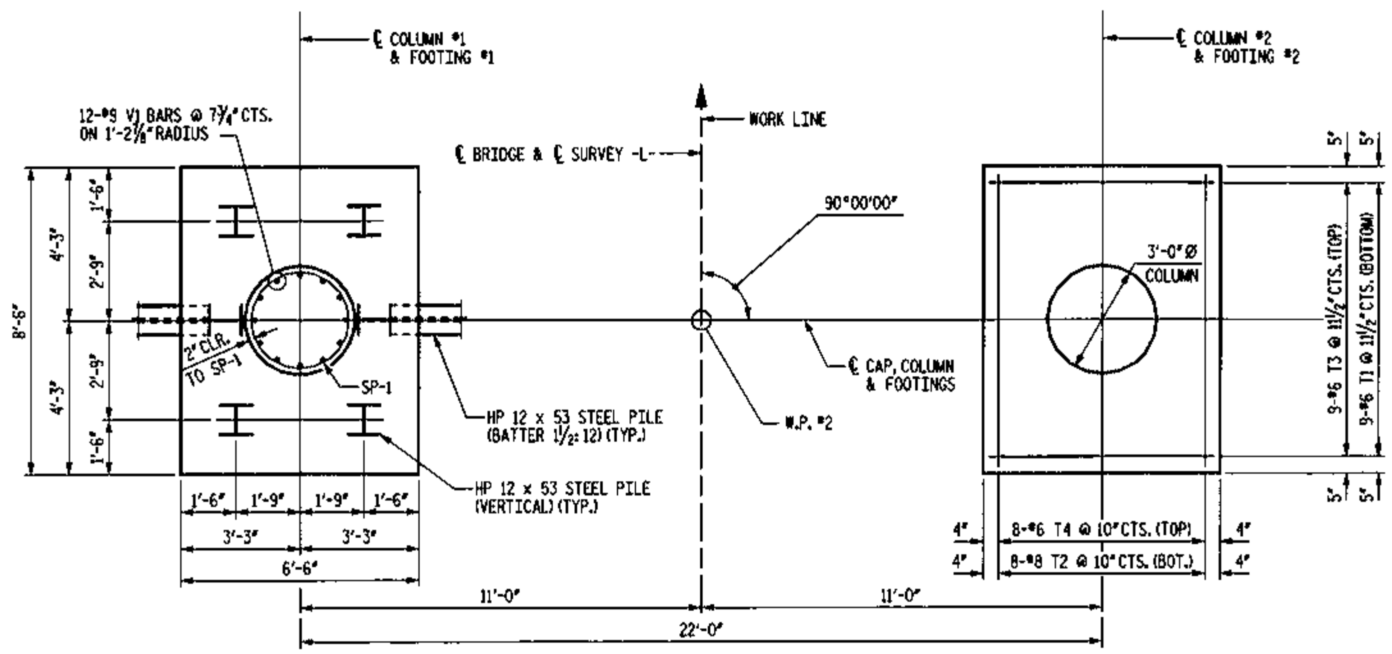
SUBSTRUCTURE SCOUR PROTECTION SHALL BE PROVIDED AS INDICATED IN THE PLANS. THE TWO TO SIX INCH SIZE STONE SHALL BE PLACED AFTER FOOTING FORMWORK HAS BEEN REMOVED AND WHILE THE EXCAVATION IS DEWATERED. THE RIP RAP STONE SHALL BE PLACED BEFORE COFFERDAM SHEETING IS REMOVED, EITHER BEFORE OR AFTER THE EXCAVATION IS ALLOWED TO FLOOD. WHEN NO SHEETING IS USED, EACH STONE TYPE SHALL BE PLACED TO THE REQUIRED THICKNESS AND SHALL EXTEND HORIZONTALLY TO THE UNDISTURBED MATERIAL.

THE TWO TO SIX INCH SIZE SCOUR PROTECTION STONE SHALL BE HARD AND DURABLE IN NATURE. WHILE NO SPECIFIC GRADATION IS REQUIRED THE VARIOUS SIZES OF STONE SHALL BE REASONABLY EQUALLY DISTRIBUTED WITHIN THE REQUIRED SIZE RANGE. THE STONE SHALL BE ESSENTIALLY CUBICAL IN SHAPE.

THE COST OF THE ABOVE WORK INCLUDING THE TWO TO SIX INCH SIZE STONE, MATERIALS, EQUIPMENT, TOOLS, LABOR AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR PLACEMENT OF SUBSTRUCTURE. CLASS II RIP RAP SHALL BE PAID FOR AT THE UNIT PRICE BID FOR CLASS II RIP RAP PER TON. FOUNDATION EXCAVATION COST SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR EXCAVATION AND EMBANKMENT.



CAP END VIEW

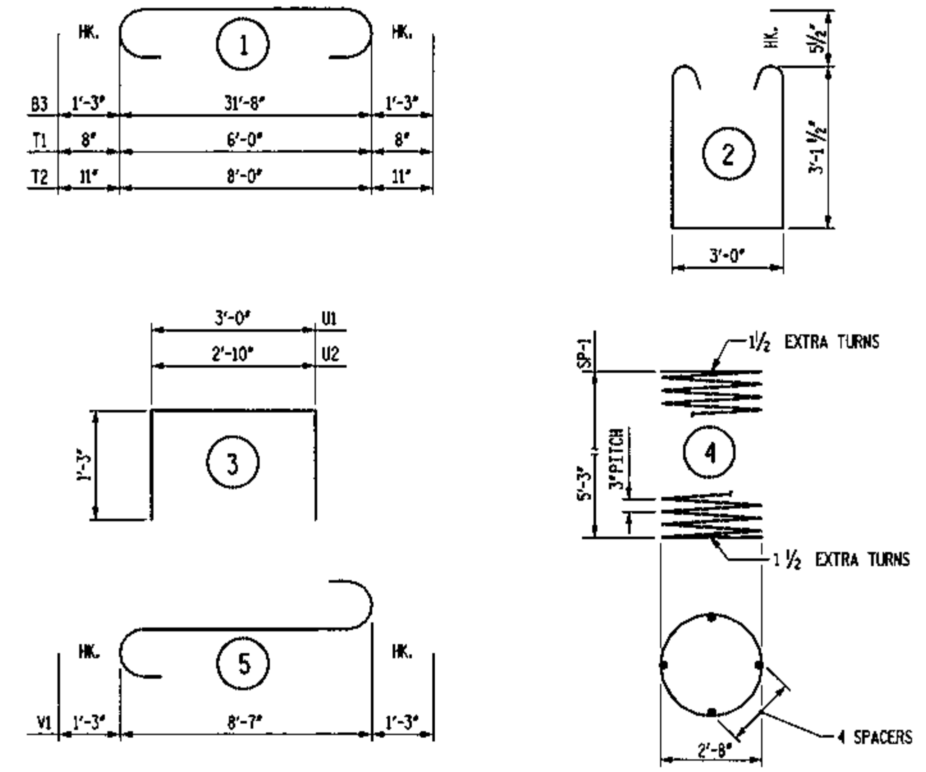


PLAN OF FOOTINGS

DETAILS SHOWN FOR FOOTINGS AND COLUMNS ARE TYPICAL.

BAR TYPES

ALL BAR DIMENSIONS ARE OUT TO OUT.



BILL OF MATERIAL

BENT #1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	9	STR	31'-8"	861
B2	4	6	STR	31'-8"	190
B3	6	9	1	34'-2"	697
D1	40	6	STR	1'-6"	90
S1	36	5	2	10'-2"	382
T1	18	6	1	7'-4"	198
T2	16	8	1	9'-10"	420
T3	18	6	STR	6'-0"	162
T4	16	6	STR	8'-0"	192
U1	6	4	3	5'-6"	22
U2	8	4	3	5'-4"	29
V1	24	5	1	11'-1"	904

REINFORCING STEEL TOTAL 4,147 LB

SPIRAL COLUMN REINFORCING STEEL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
SP-1	2	**	4	198'-0"	265

SPIRAL COLUMN REINF. STEEL TOTAL 265 LB

POUR #1 FOOTING 11.3 CY
POUR #2 COLUMN 2.6 CY
POUR #3 CAP 13.8 CY
TOTAL CY 27.7

** NOTE: THE SP-1 SPIRAL REINFORCING STEEL SHALL BE W20 OR D-20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR.

PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CAST – IN – PLACE
INTERIOR BENT NO. 1 DETAILS

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CONSULTING ENGINEERS
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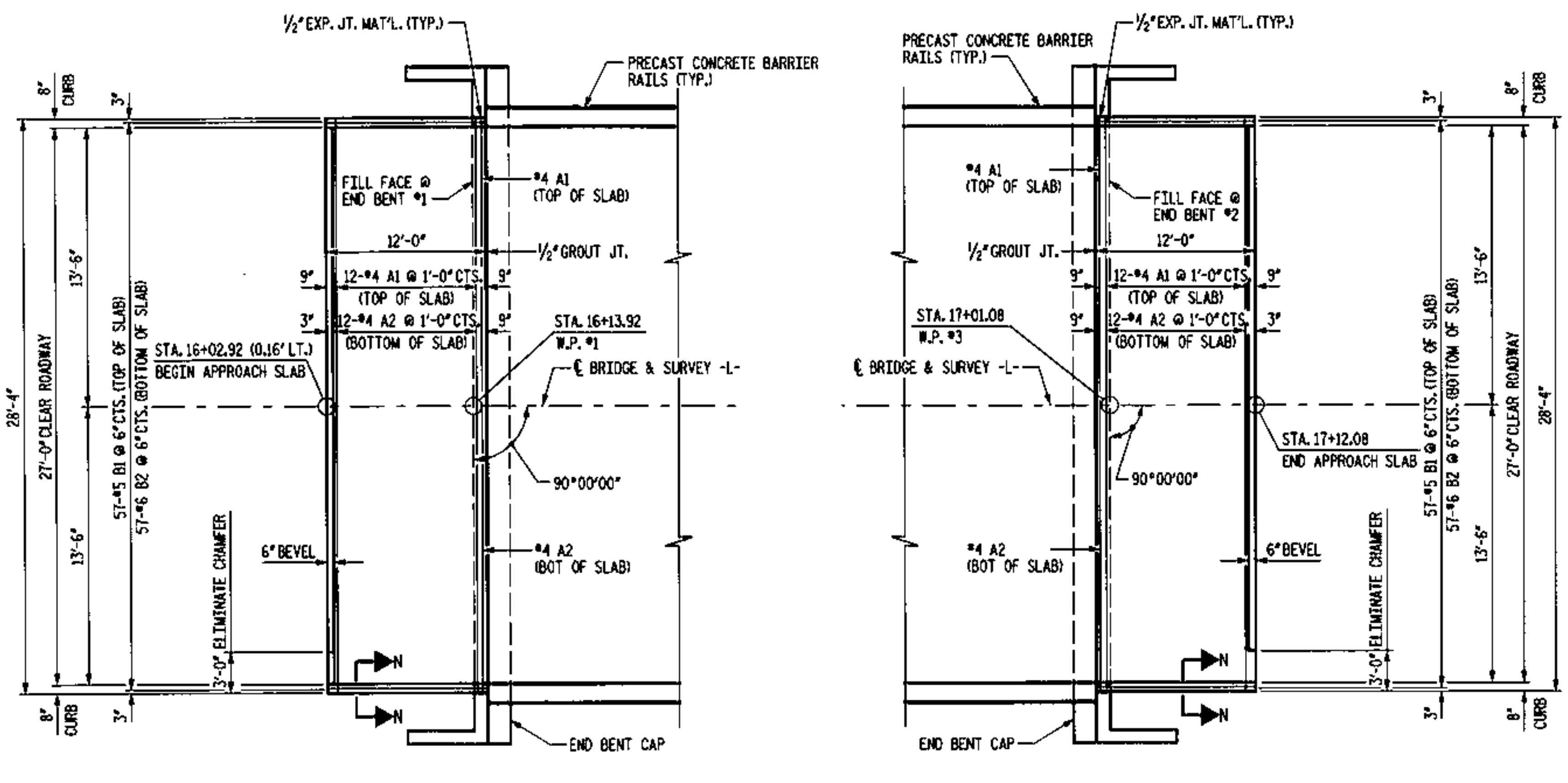
NC License No. F-0268

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 29592 JAMES E. MONDO
2-9-10

REVISIONS						SHEET NO. 10
NO.	BY	DATE	NO.	BY	DATE	TOTAL SHEETS 23
1			3			
2			4			

DRAWN BY: C.L. SMITH DATE: DEC 2009
CHECKED BY: J.C. KO DATE: DEC 2009



AT END BENT #1

AT END BENT #2

PLAN OF APPROACH SLABS

NOTES

FOR BRIDGE APPROACH FILL INCLUDING FABRIC, 4" Ø DRAINAGE PIPE, AND *78M STONE BACKFILL, SEE BRIDGE APPROACH FILLS, SHEET 13.

APPROACH SLAB SHALL NOT BE CONSTRUCTED PRIOR TO INSTALLATION OF CORED SLAB.

FABRIC SHALL BE TYPE 1 ENGINEERING FABRIC IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 1056.

*78M STONE BACKFILL (CLASS V SELECT MATERIAL) SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 1016.

*78M STONE BACKFILL IS TO BE CONTINUOUS ALONG FILL FACE OF END BENT CAP FROM OUTSIDE EDGE OF APPROACH SLAB.

FOR THE 4" Ø DRAINAGE PIPE OUTLET(S), SEE BRIDGE APPROACH FILLS, SHEET 13.

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.

THE 6" COMP. A.B.C. SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB AND SHALL BE FLUSH WITH EACH EDGE OF 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 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.

THE JOINT AT THE END BENT SHALL BE GROUTED AS SOON AS PRACTICAL AFTER THE CONSTRUCTION OF THE APPROACH SLABS.

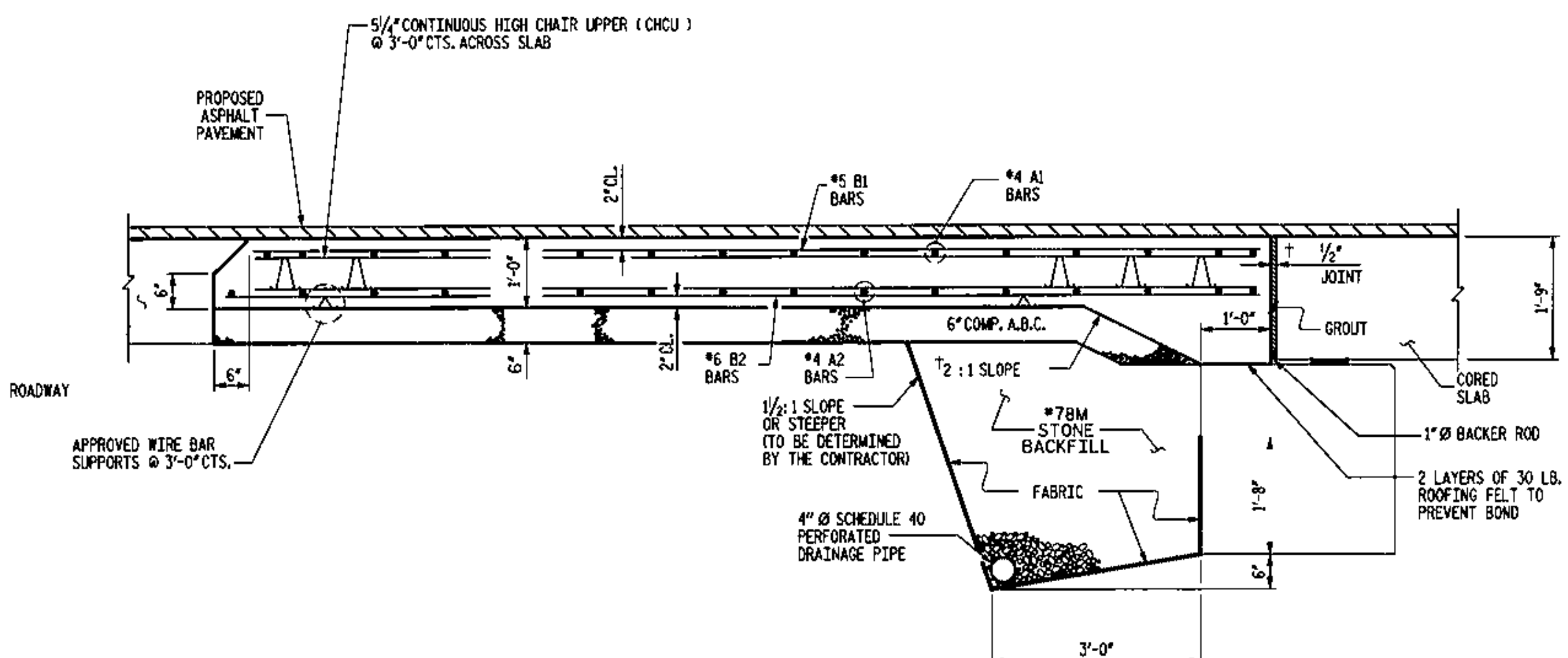
APPROACH SLAB GROOVING IS NOT REQUIRED.

*78 STONE BACKFILL 4"Ø DRAINAGE PIPE, AND FABRIC SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR APPROACH SLABS.

BILL OF MATERIAL

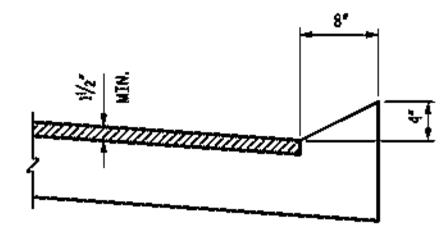
FOR ONE APPROACH SLAB (2 REQUIRED)

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	13	#4	STR	28'-0"	243
A2	13	#4	STR	28'-0"	243
* B1	57	#5	STR	11'-3"	669
B2	57	#6	STR	11'-8"	999
REINFORCING STEEL				LBS.	1,242
* EPOXY COATED REINFORCING STEEL				LBS.	912
CLASS AA CONCRETE				C. Y.	14.3

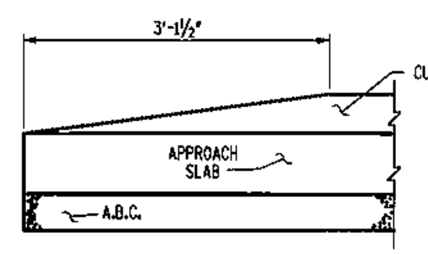


† NORMAL TO END BENT

SECTION THRU SLAB



SECTION N-N



END OF CURB WITHOUT SHOULDER BERM GUTTER

CURB DETAILS

NOT TO SCALE

PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

APPROACH SLAB
27'-0" CLEAR ROADWAY
90° SKEW

Florence & Hutcheson
CONSULTING ENGINEERS
5121 Kingdom Way, Suite 100 Raleigh, NC 27607
NC License No: F-0288

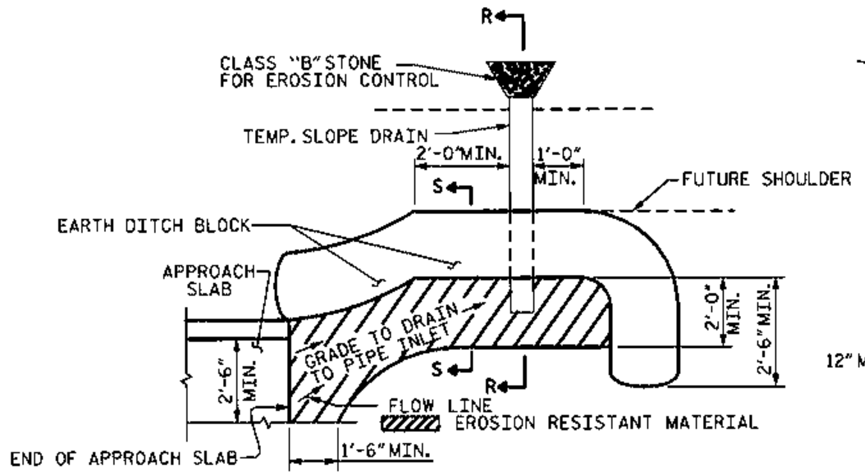
SEAL 2-9-10

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

SHEET NO. 11
TOTAL SHEETS 23

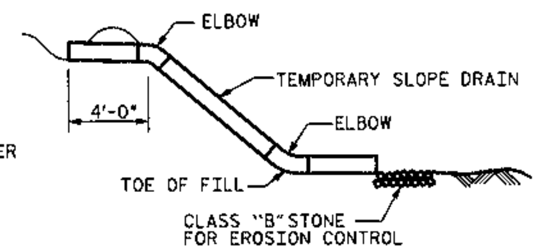
DRAWN BY: C.L. SMITH DATE: DEC 2009
CHECKED BY: A.K. ORR DATE: DEC 2009

BILL OF MATERIAL

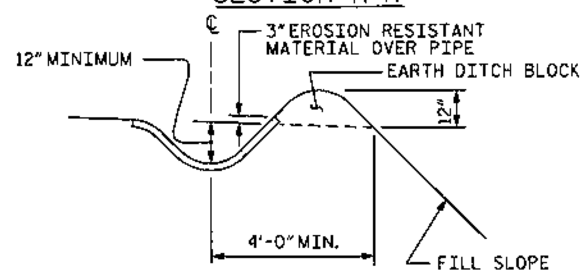


NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN.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

PLAN VIEW



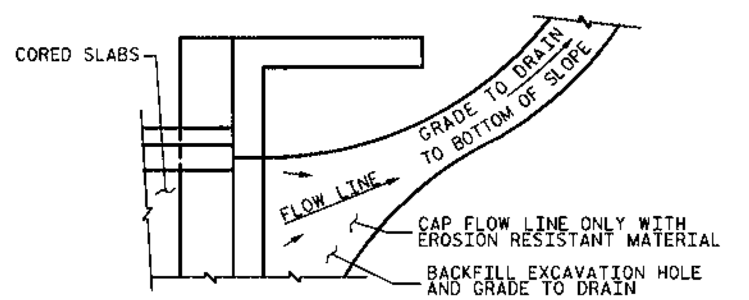
SECTION R-R



SECTION S-S

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



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

TEMPORARY DRAINAGE DETAIL

DRAWN BY: C.L. SMITH DATE: DEC 2009
CHECKED BY: J.E. MONDOLFI DATE: DEC 2009

NOT TO SCALE

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CONSULTING ENGINEERS
5121 Kingdom Way, Suite 100 Raleigh, NC 27607
NC License No: F-0258

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 20532 JAMES E. MONDOLFI
2-9-10

PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

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

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	12
1			3			TOTAL SHEETS
2			4			23

26-JUN-2008 15:32
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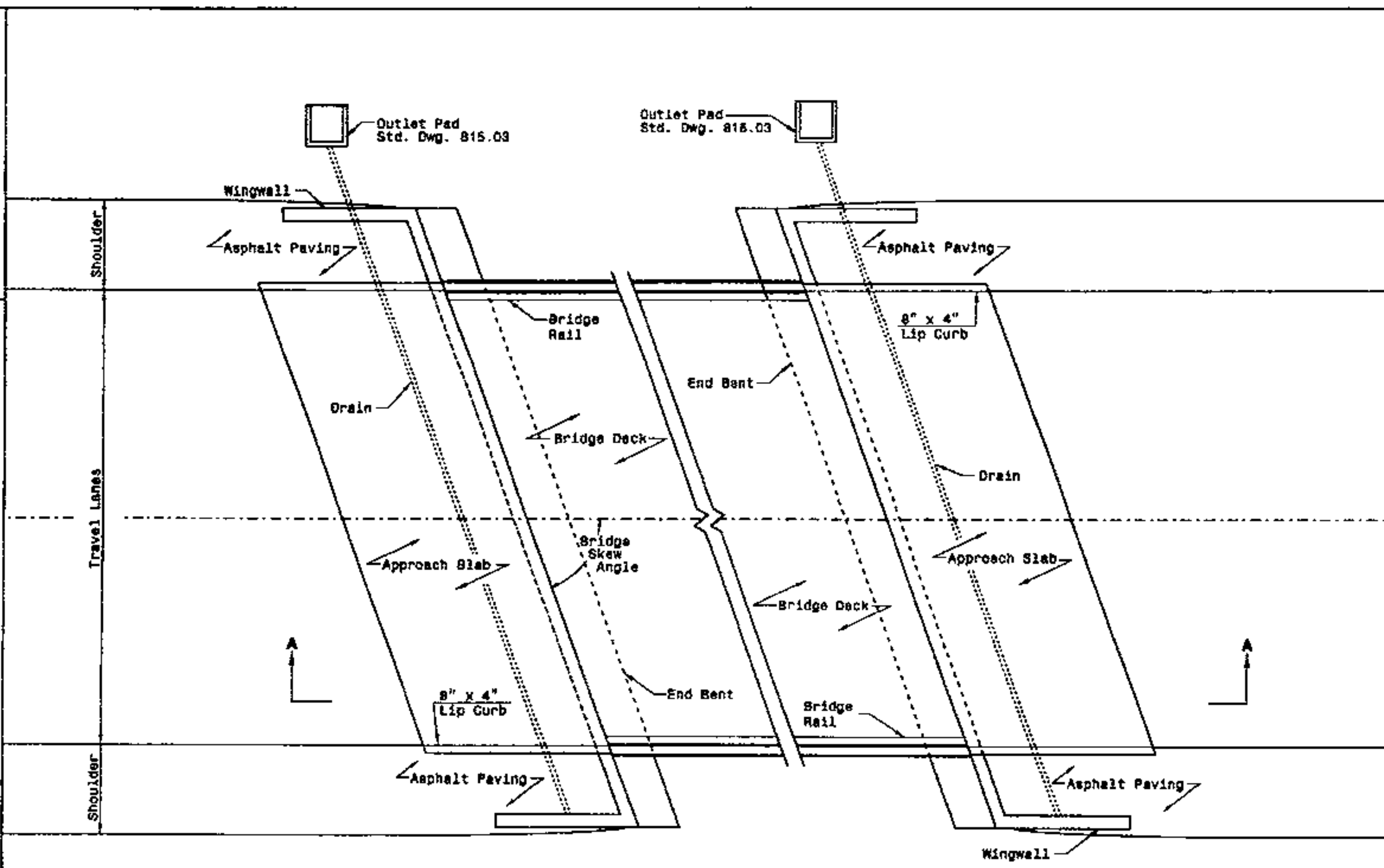
kkempf AT PS237489

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER

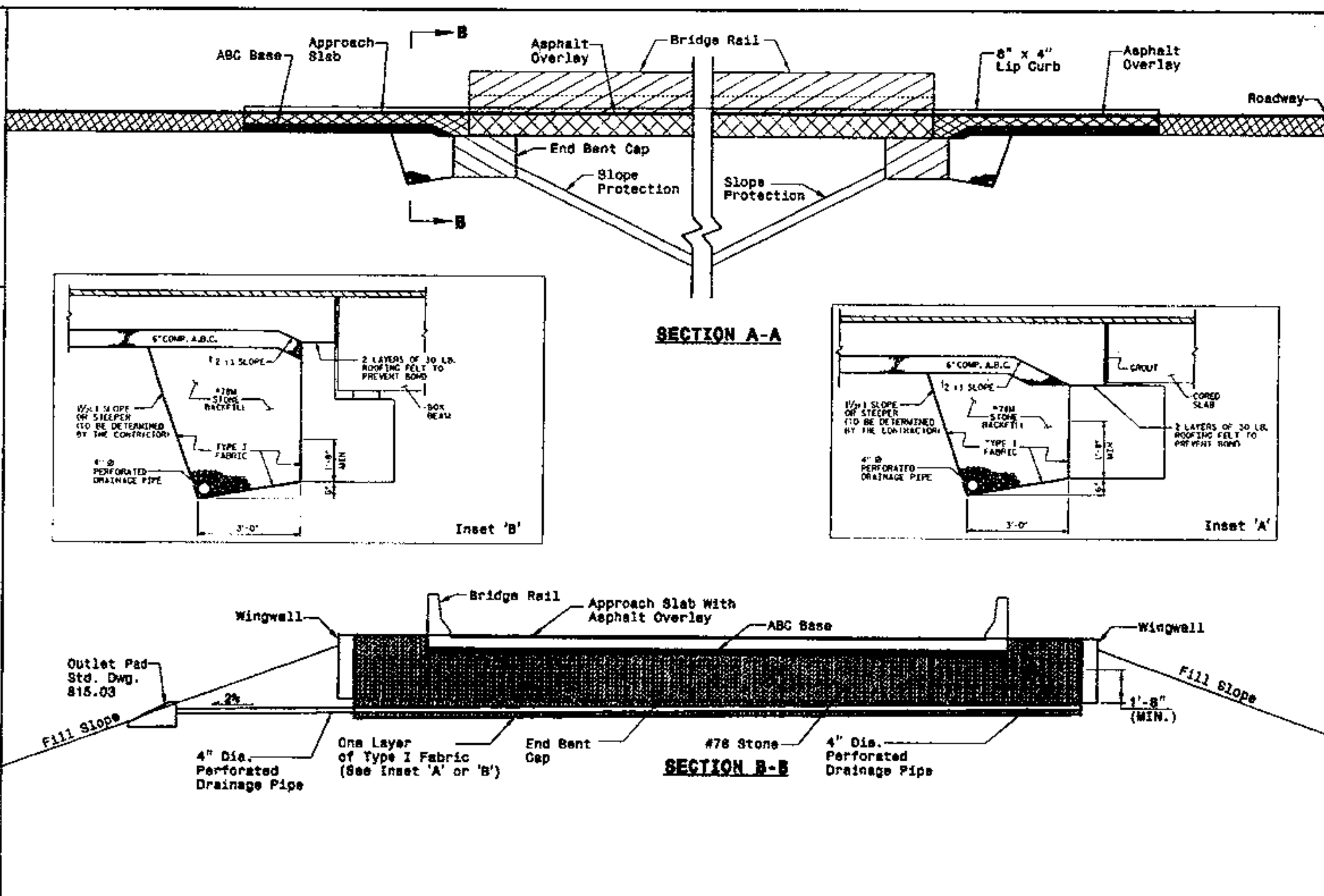


PLAN VIEW
12' APPROACH SLAB

SHEET 1 OF 2
422D11

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER



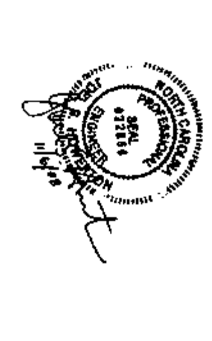
12' APPROACH SLAB

SHEET 2 OF 2
422D11

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

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

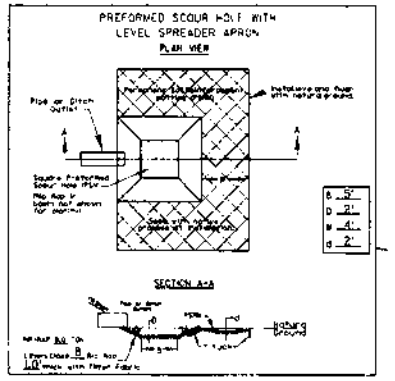
ORIGINAL BY: K. A. Kempf DATE: 6-10-08
MODIFIED BY: DATE:
CHECKED BY: DATE: 6/27/08
FILE SPEC.: bridge approach fills.dgn



PROJECT REFERENCE NO.	SHEET NO.
B-5227	13

DATUM DESCRIPTION

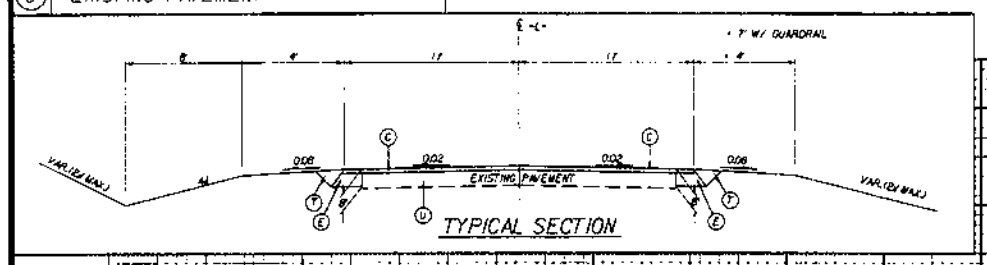
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY BBM ASSOCIATES, INC. FOR MONUMENT "BL-2" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 848,000.000(m) EASTING: 1,415,000.000(m)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: NONE APPLIED
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-2" TO -L- STATION 15+00.00 IS N 4° 41' 43.0" E , 192.32'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS ASSUMED



RIGHT OF WAY AREA DATA

PARCEL NO.	PROPERTY OWNERS NAME	TOTAL ACREAGE	AREA TAKEN	CONSTR. EASEMENT	PERMANENT DRAINAGE EASEMENT	TEMPORARY DRAINAGE EASEMENT
1	ALVIN GREGORY			+316 sf 0.00 ac		
2	THELMA BROOKS JOHNSON			538 sf 0.01 ac		

	PAVEMENT SCHEDULE
(C)	2½" SURFACE COURSE, TYPE SF9.5A
(E)	5½" BASE COURSE, TYPE B25.0B
(T)	EARTH MATERIAL
(U)	EXISTING PAVEMENT



TYPICAL SECTION

PI Sta 10+70.07
Δ = 8° 25' 17.1" (LT)
D = 10° 00' 00.0"
L = 84.21'
T = 42.18'
R = 572.96'

PI Sta 15+16.12
Δ = 44° 33' 23.9" (RT)
D = 22° 00' 00.0"
L = 202.53'
T = 106.70'
R = 260.44'

PI Sta 17+54.20
Δ = 5° 09' 20.2" (RT)
D = 6° 00' 00.0"
L = 85.93'
T = 42.99'
R = 954.93'

PI Sta 18+90.99
Δ = 5° 12' 38.8" (LT)
D = 8° 00' 00.0"
L = 65.13'
T = 32.59'
R = 716.20'

GRAPHIC SCALE
50 0 50 100

PROJECT REFERENCE NO.	SHEET NO.
B-5227	
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 22606 ENGINEER DAVID C. WALLER
2-9-10

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 20253 ENGINEER R. KEVIN WILLIAMS

(2) THELMA BROOKS JOHNSON DB 208, PG. 04

BEGIN PROJECT -L- STA.15+00.00

PROPOSED GUARDRAIL

-L- STA.15+77 RT BEGIN SHOULDER BERM GUTTER

20' (6) 1" RAP RAP

CLASS "A" RIP RAP SEE STRUCTURE PLAN

END PROJECT -L- STA.19+31.12

(1) ALVIN GREGORY DB 615, PG. 458

PROPOSED GUARDRAIL

STA.19+27.61 END SHOULDER BERM GUTTER

N.C. GRID NAD 83

PC 18+58.40

PT 19+23.53

POT 19+16.59

BURL J. JOHNSON AND WIFE THELMA B. JOHNSON DB 668, PG. 333

GRAU-350

15' RCP

15' RCP W/PSH SEE DETAIL

N 48° 15' 55.2" E

POT 10+00.00

PC 10+21.88

PT 11+12.10

N 5° 45' 49.9" E

PC 14+09.42

PT 16+11.55

PC 17+11.20

PT 17+49.13

N 12° 11' 01.0" E

-BL- 1 Sta. 10+00.00 PINC

-BL- 2 Sta. 13+07.94 PINC

-BL- 3 Sta. 16+03.42 PINC

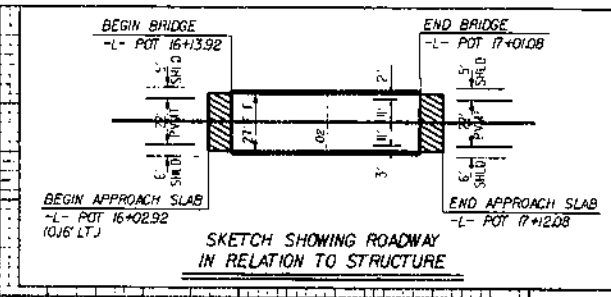
-BL- 4 Sta. 19+31.83 PINC

ALVIN GREGORY DB 615, PG. 458

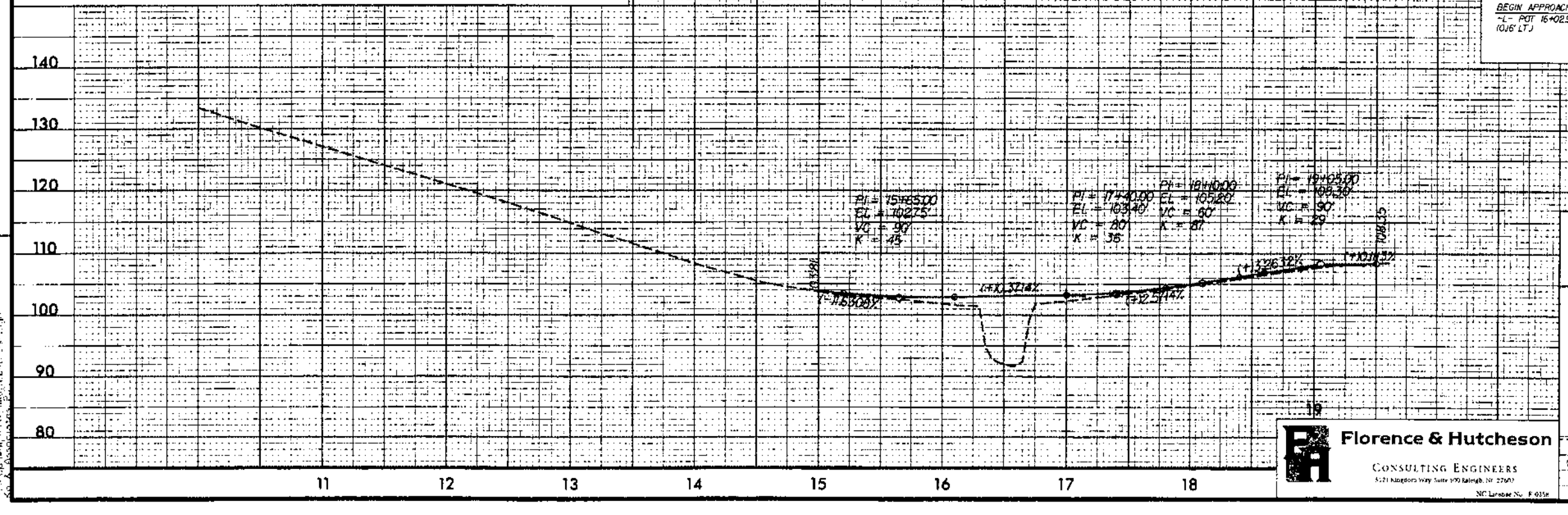
BURL JOHNSON AND WIFE THELMA B. JOHNSON DB 744, PG. 598

BURL J. JOHNSON AND WIFE THELMA B. JOHNSON DB 422, PG. 376

BM 1
-L- STA.15+13.34, 115.09' RT
RR SPIKE SET IN 18" MAPLE
EL.100.00 (ASSUMED)



SKETCH SHOWING ROADWAY IN RELATION TO STRUCTURE



PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE NO. 24 ON SR 2428 OVER HUNTING CREEK

Florence & Hutcheson
CONSULTING ENGINEERS
5121 Kingdom Way Suite 100 Raleigh, NC 27607
NC License No. F-0158

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	14
1			5			TOTAL SHEETS
2			6			23

REVISIONS

PROJECT: B-5227

TIP B

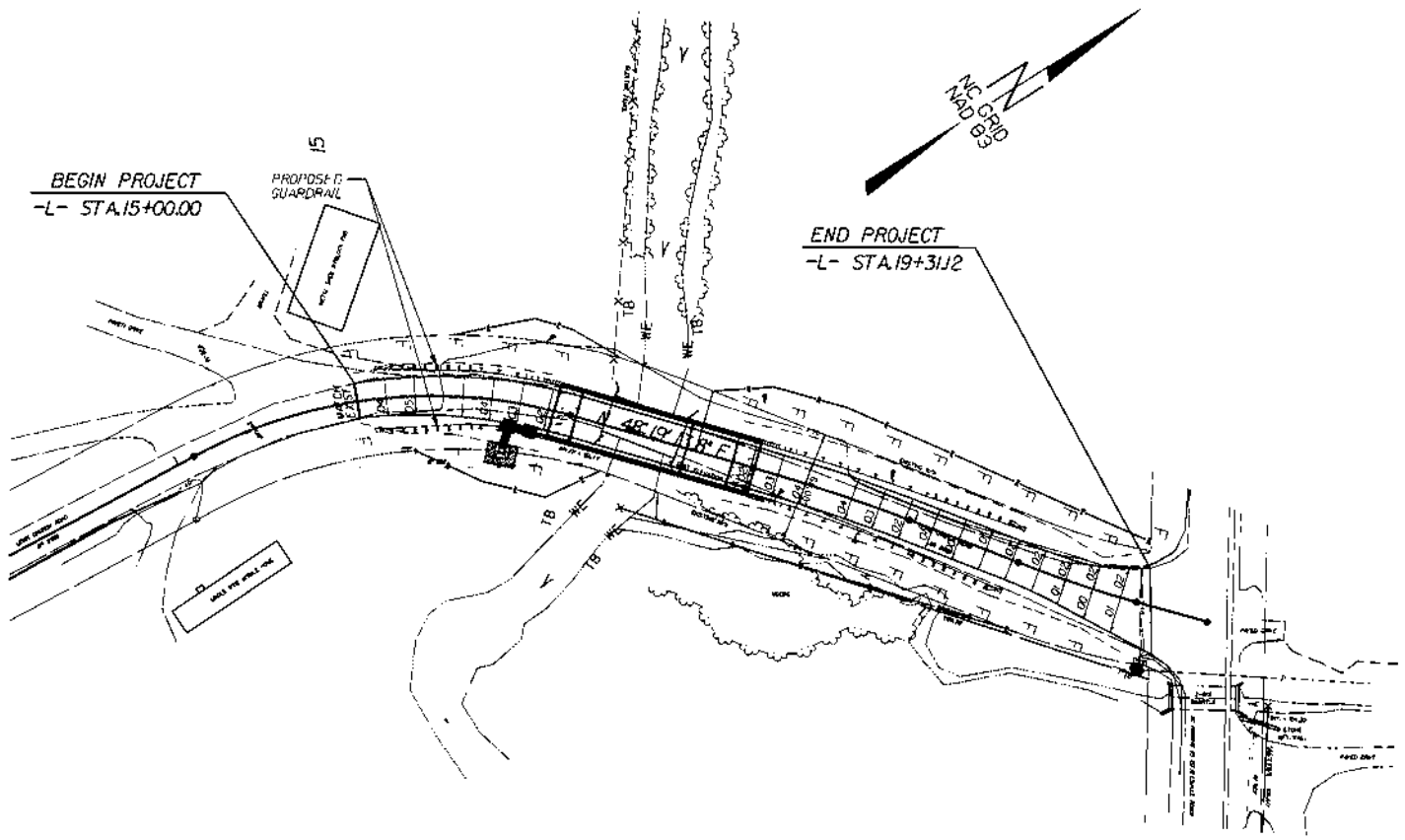
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

WILKES

LOCATION: BRIDGE NO. 24 OVER HUNTING CREEK ON SR 2428

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURES



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5227	EC-1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
	Temporary Rock Silt Check Type-B	
	Wattle	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

GRAPHIC SCALE

0
PLANS
0
PROFILE (HORIZONTAL)
0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

Prepared In the Office of:

ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2006 STANDARD SPECIFICATIONS

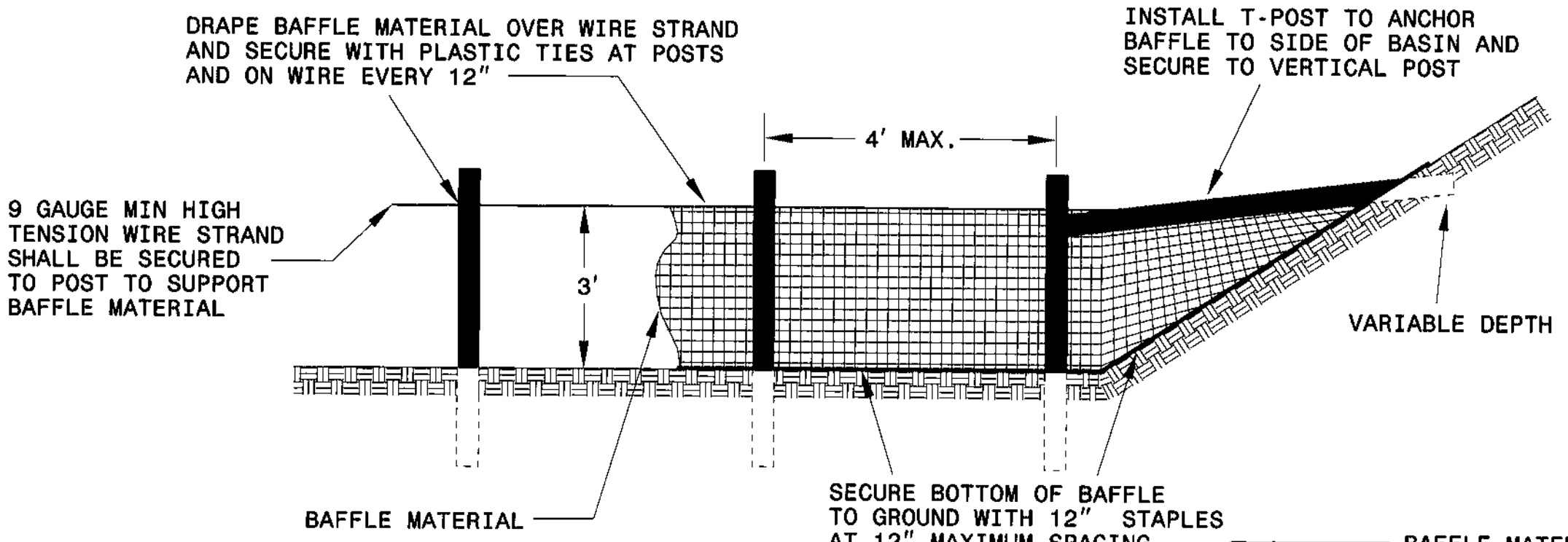
Roadway Standard Drawings

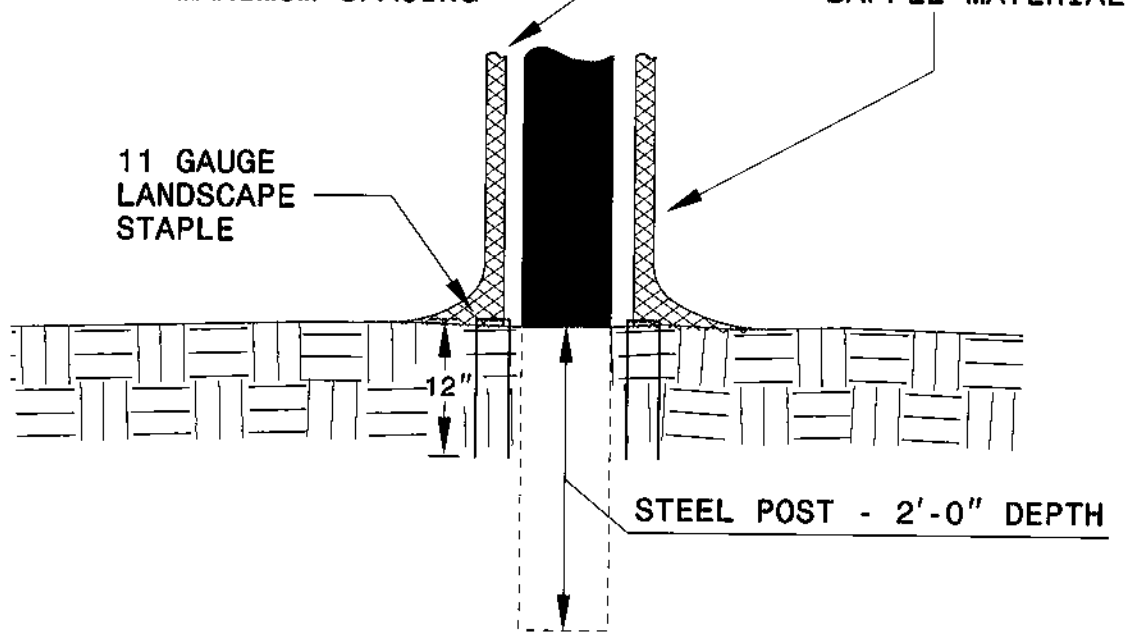
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated July 18, 2006 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence
1606.01 Special Sediment Control Fence
1607.01 Gravel Construction Entrance
1622.01 Temporary Berms and Slope Drains
1632.03 Rock Inlet Sediment Trap Type C
1634.02 Temporary Rock Sediment Dam Type B

PROJECT REFERENCE NO.	SHEET NO.
B-5227	EC-2
R/W SHEET NO.	

COIR FIBER BAFFLE DETAIL





BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12" LANDSCAPE STAPLES

NOTES:

1. INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF ¼ THE BASIN LENGTH.

2. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF 1/3 THE BASIN LENGTH.

3. TOP HEIGHT OF COIR FIBER BAFFLES SHALL NOT BE BELOW BASE OF EMERGENCY SPILLWAY ELEVATION.

PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE NO. 24 ON SR 2428
OVER HUNTING CREEK

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	16
1			3			TOTAL SHEETS
2			4			23

2/9/2010
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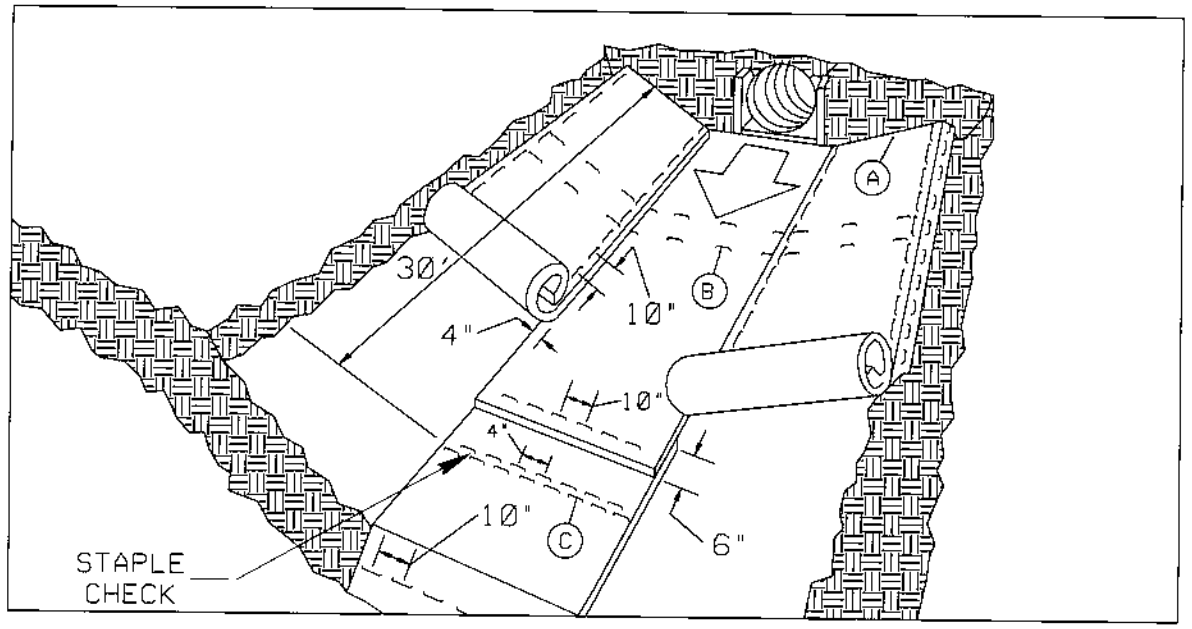
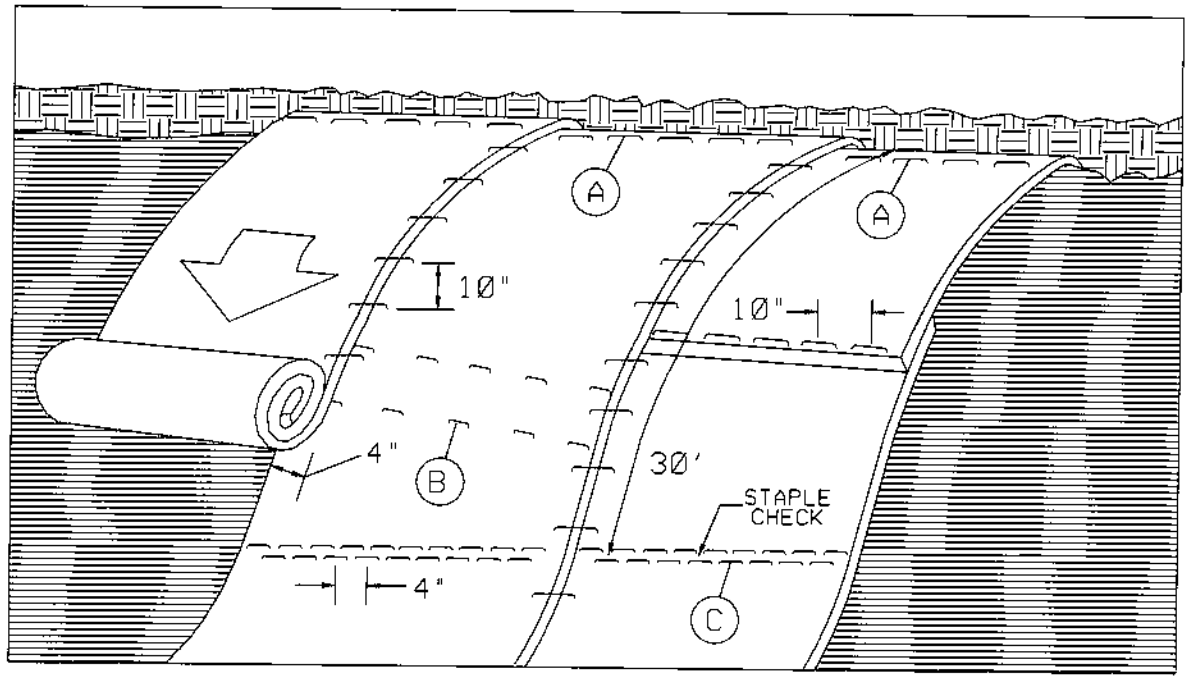
PROJECT REFERENCE NO.	SHEET NO.
B-5227	EC-2A
R/W SHEET NO.	

MATTING INSTALLATION DETAIL



MATTING IN DITCHES



MATTING ON SLOPES

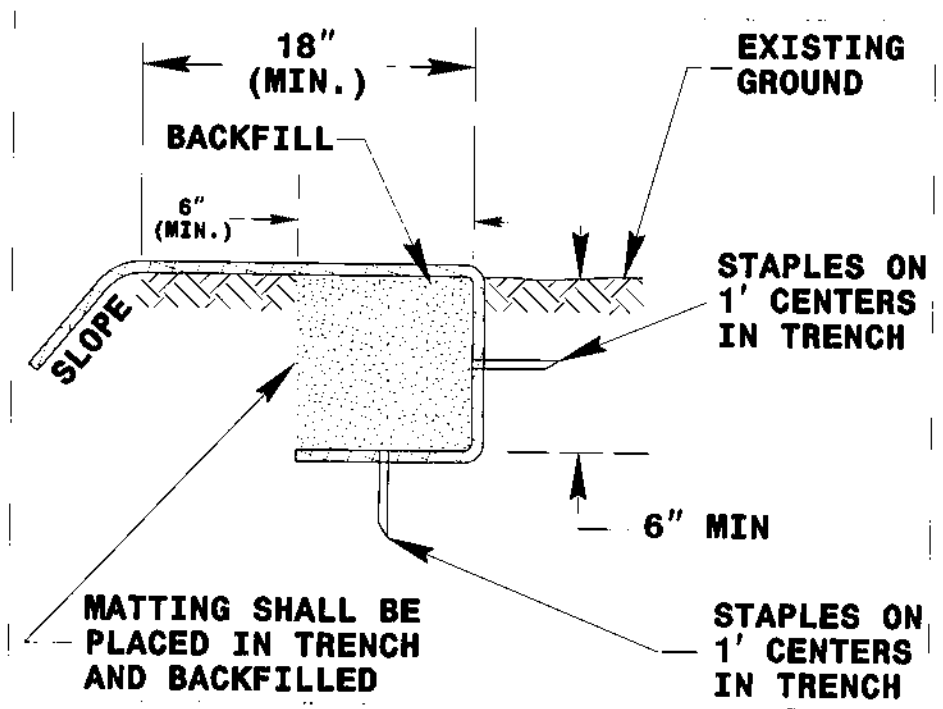


DIAGRAM (A)

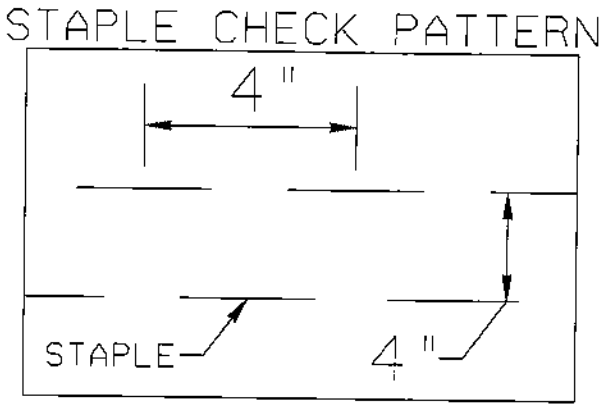


DIAGRAM (C)

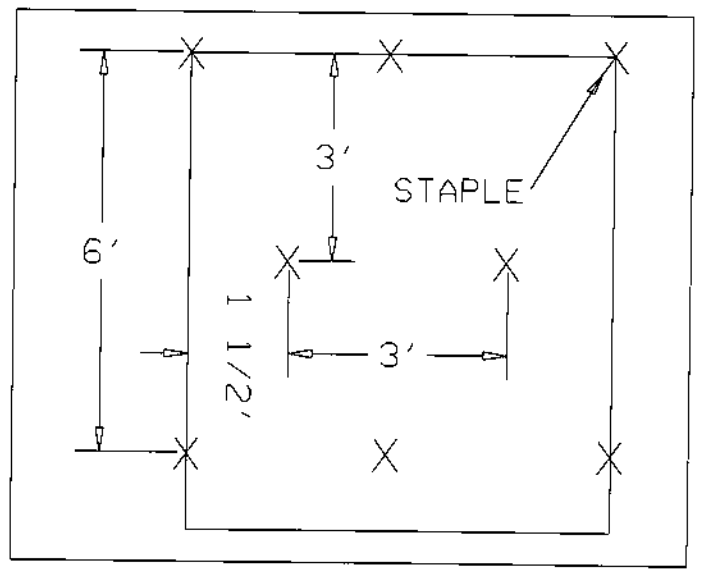


DIAGRAM (B)

NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

NOT TO SCALE

PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE NO. 24 ON SR 2428
OVER HUNTING CREEK

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	17
1			3			TOTAL SHEETS
2			4			23

2/9/2010
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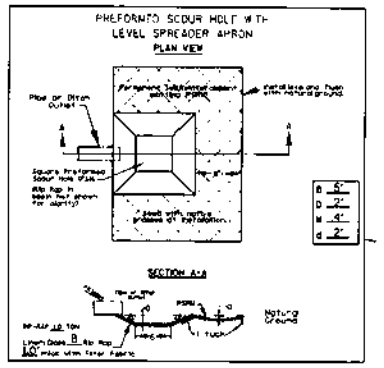
GRAPHIC SCALE
50 0 50 100

PROJECT REFERENCE NO.	SHEET NO.
B-5227	EC-3
R/W SHEET NO.	

NC GRID NAD 83



NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

NOTE:
UTILIZE TEMPORARY ROCK SEDIMENT DAM TYPE - B AS STILLING BASIN WHERE APPLICABLE.

PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+57.50
REPLACES BRIDGE NO. 24

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE NO. 24 ON SR 2428 OVER HUNTING CREEK

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	18
1			3			TOTAL SHEETS
2			4			23

PROJECT REFERENCE NO.	SHEET NO.
MA11004B	
R/W SHEET NO.	

NORTH CAROLINA PROFESSIONAL SEAL 025976 ENGINEER MICHAEL T REESE
2-9-10

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"-ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TRAFFIC PATTERN ALTERATIONS

A) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

B) PROVIDE PERMANENT SIGNING.

C) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS, UNLESS OTHERWISE NOTED.

D) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

E) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

F) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

G) INSTALL PAVEMENT MARKINGS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING
1. SR 2428 (LEWIS CHURCH RD.)	PAINT

H) PLACE AT LEAST TWO APPLICATION OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE ON NEW ASPHALT PAVEMENT. PLACE ADDITIONAL APPLICATIONS OF PAINT UPON SUFFICIENT DRYING TIME, AS DETERMINED BY THE ENGINEER.

LOCAL NOTES

1) CONTRACTOR TO MAINTAIN ACCESS TO ALL DRIVEWAYS, WITHIN THE PROJECT LIMITS, AT ALL TIMES.

PHASE I

STEP 1: - USING ROADWAY STANDARD DRAWING NUMBER 1101.04, SHEET 1 OF 1, INSTALL ALL TEMPORARY ROAD CLOSURE SIGNS KEEPING SIGNS COVERED (SEE ROADWAY STANDARD DRAWING NUMBER 1101.03, SHEETS 1 OF 9 AND 2 OF 9).

WORKING IN A CONTINUOUS MANNER, COMPLETE THE FOLLOWING WORK IN PHASE I, STEP 2.

STEP 2: - CLOSE SR 2428 (LEWIS CHURCH RD.)TO TRAFFIC, UNCOVER ALL TEMPORARY ROAD CLOSURE SIGNS AND SHIFT TRAFFIC TO DETOUR (SEE SHEET 16).

STEP 3: - DISMANTLE AND REMOVE EXISTING BRIDGE NUMBER 201.

STEP 4: - COMPLETE CONSTRUCTION OF PROPOSED STRUCTURE, APPROACH ROADWAY TIE-INS, AND ASSOCIATED ITEMS.

STEP 5: - PLACE FINAL PAVEMENT MARKINGS (PAINT) ON SR 2428 (LEWIS CHURCH RD.).

WORKING IN A CONTINUOUS MANNER, COMPLETE THE FOLLOWING WORK IN PHASE I, STEP 6.

STEP 6: - USING ROADWAY STANDARD DRAWING NUMBER 1101.04, SHEET 1 OF 1, REMOVE ALL TEMPORARY ROAD CLOSURE SIGNS, ALL TRAFFIC CONTROL DEVICES AND OPEN SR 2428 (LEWIS CHURCH RD.) TO TRAFFIC.

FINAL PAV'T MARKING SCHEDULE

SYMBOL	DESCRIPTION	QUANTITY BREAKDOWN	PAY ITEM	TOTAL QUANTITY
		PAVEMENT MARKING LINES		
			PAINT (4")	
PA	WHITE EDGELINE 2X	1,724 LF		
PI	YELLOW DOUBLE CENTER LINE 2X	1,724 LF		
			TOTAL	3,448 LF

PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+55.00
REPLACES BRIDGE NO. 24

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

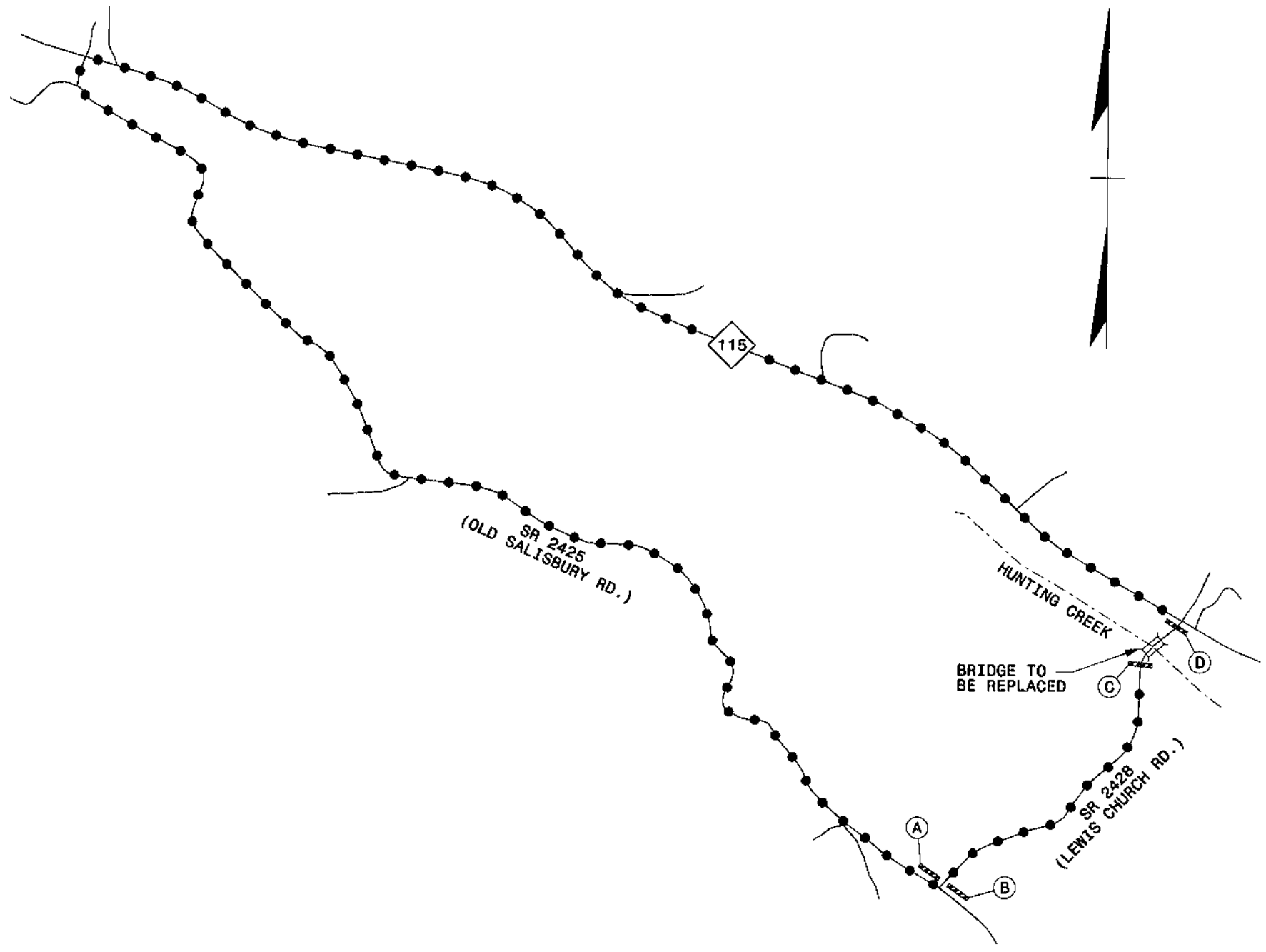
BRIDGE NO. 24 ON SR 2428 OVER HUNTING CREEK

Florence & Hutcheson
CONSULTING ENGINEERS
5121 Kingdom Way, Suite 100 Raleigh, NC 27607
NC License No. P-0266

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	19
1			3			TOTAL SHEETS
2			4			23

PROJECT REFERENCE NO.	SHEET NO.
MA1100418	
RW SHEET NO.	

NORTH CAROLINA PROFESSIONAL SEAL 038761 ENGINEER MICHAEL T. KEEPER
2-9-10



LEGEND

DETOUR ROUTE

R11-4
60"X30"
ROAD CLOSED TO THRU TRAFFIC
DETOUR

M4-10L
48"X18"

TYPE III BARRICADE
(A)

R11-4
60"X30"
ROAD CLOSED TO THRU TRAFFIC
DETOUR

M4-10L
48"X18"

TYPE III BARRICADE
(B)

R11-2
48"X30"
ROAD CLOSED

TYPE III BARRICADE
(C)

R11-2
48"X30"
ROAD CLOSED
DETOUR

M4-10R
48"X18"

TYPE III BARRICADE
(D)

PROJECT NO. 42825
COUNTY: WILKES
STATION: 16+55.00
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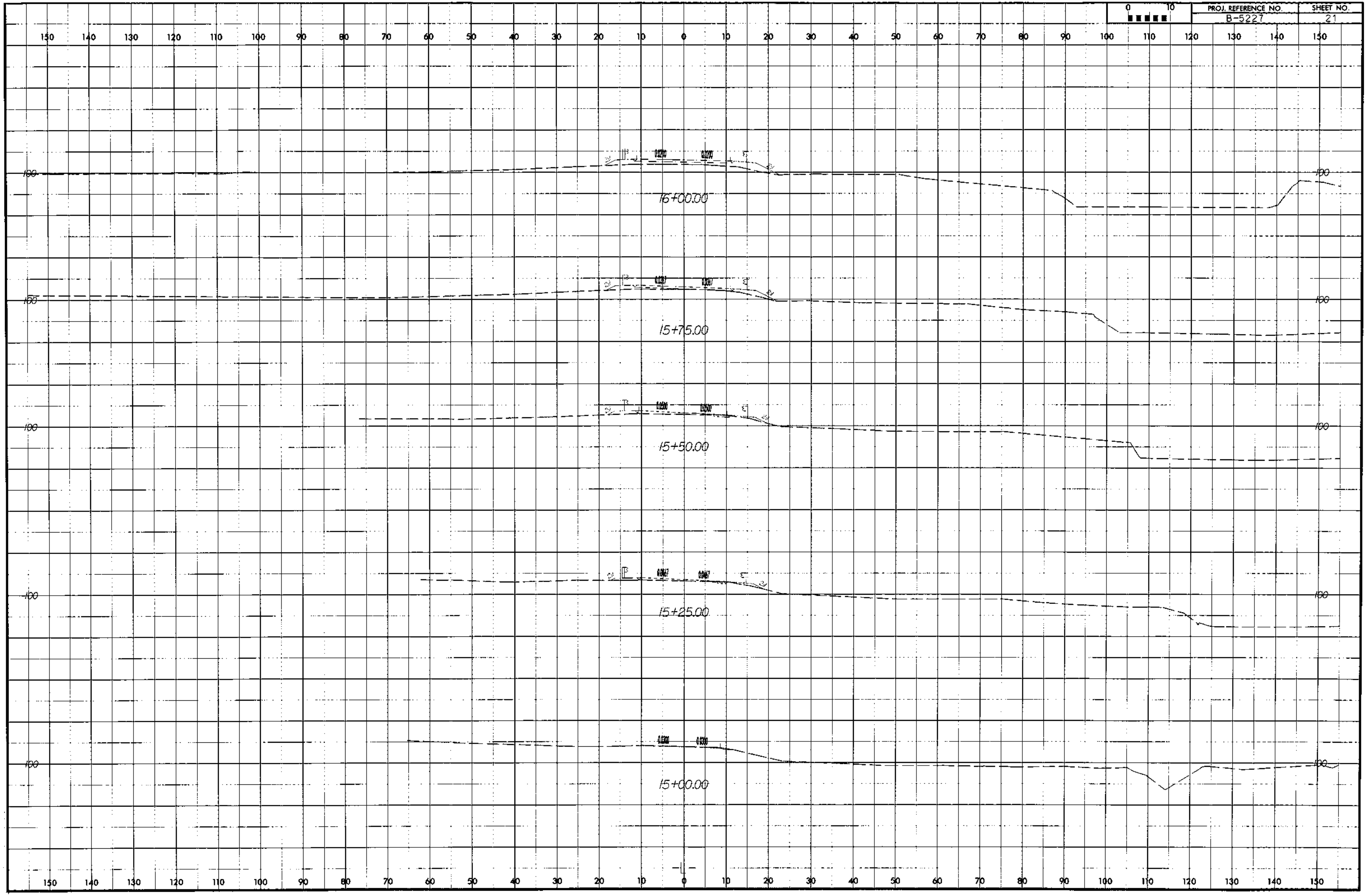
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE NO. 24 ON SR 2428
OVER HUNTING CREEK

Florence & Hutcheson
CONSULTING ENGINEERS
5121 Kingdom Way, Suite 100 Raleigh, NC 27607
NC License No: F-0258

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	20
1			3			TOTAL SHEETS
2			4			23

0 10	PROJ. REFERENCE NO.	SHEET NO.
	B-5227	21



PROJ. REFERENCE NO.	SHEET NO.
B-5227	22

0 10

17+75.00

17+50.00

17+25.00

17+00.00

16+75.00

16+50.00

16+25.00

PROJ. REFERENCE NO.	SHEET NO.
B-5227	23

0 10

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

110

110

19+25.00

110

19+00.00

110

110

18+75.00

110

100

18+50.00

110

100

18+25.00

100

18+00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150