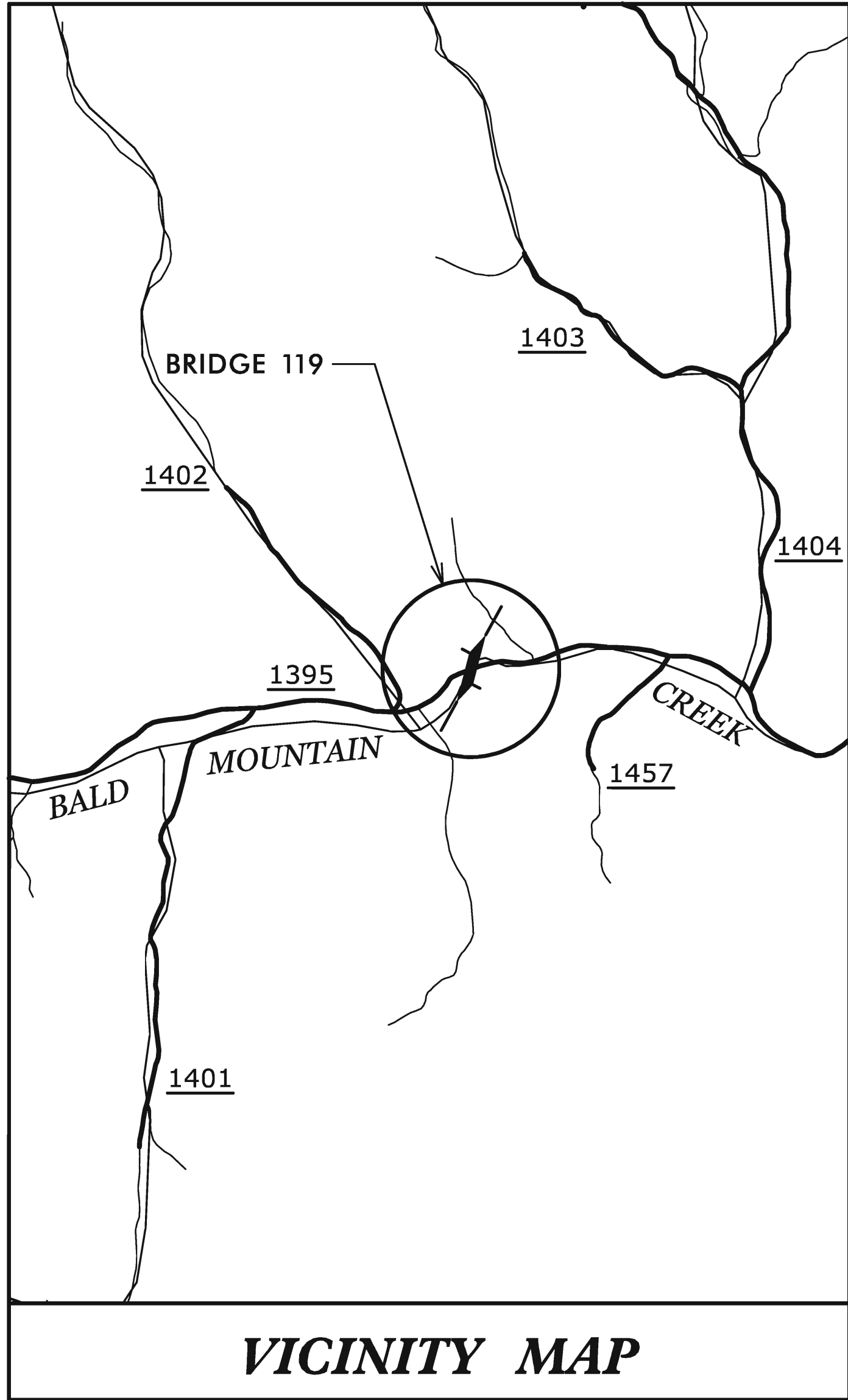


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Florence & Hutcheson - An ICA Company

09/08/99

TIP PROJECT: BK-5126

CONTRACT: DO00125



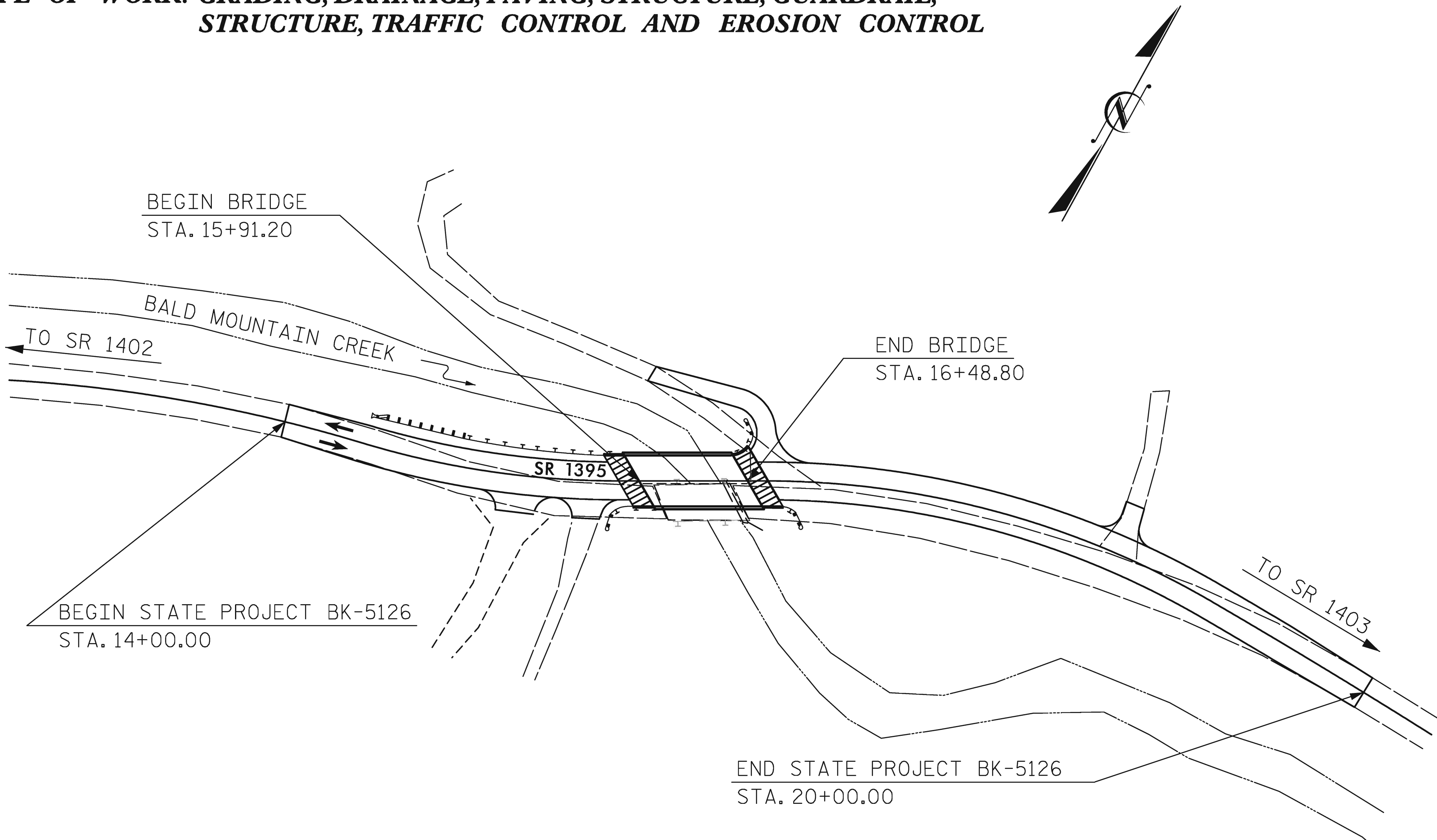
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**YANCEY COUNTY**

**LOCATION:** BRIDGE NO.119 ON SR 1395 OVER BALD MOUNTAIN CREEK

**TYPE OF WORK:** GRADING, DRAINAGE, PAVING, STRUCTURE, GUARDRAIL,  
STRUCTURE, TRAFFIC CONTROL AND EROSION CONTROL

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BK-5126	1	32
YANCEY COUNTY #119			
WBS PROJ.NO.	F.A. PROJ.NO.	DESCRIPTION	
42577.1.1		P.E.	
42577.3.1		CONST	



PROJECT LENGTH		
LENGTH ROADWAY STATE PROJECT BK-5126	=	0.114 MILES
LENGTH STRUCTURES STATE PROJECT BK-5126	=	0.011 MILES
TOTAL LENGTH STATE PROJECT BK-5126	=	0.114 MILES

Prepared In the Office of:

Florence & Hutcheson

CONSULTING ENGINEERS  
5121 Kingston Way, Suite 100 Raleigh, NC 27607  
NC License No. P-0058

for the

**NCDOT STRUCTURES MANAGEMENT UNIT**  
2012 STANDARD SPECIFICATIONS

LETTING DATE:

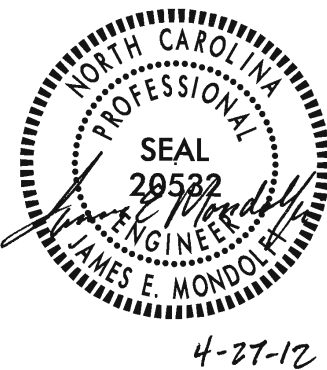
AUGUST 23, 2012

RICK NELSON, P.E.

PROJECT ENGINEER

ZAKI Wafa, P.E.

PROJECT MANAGEMENT ENGINEER

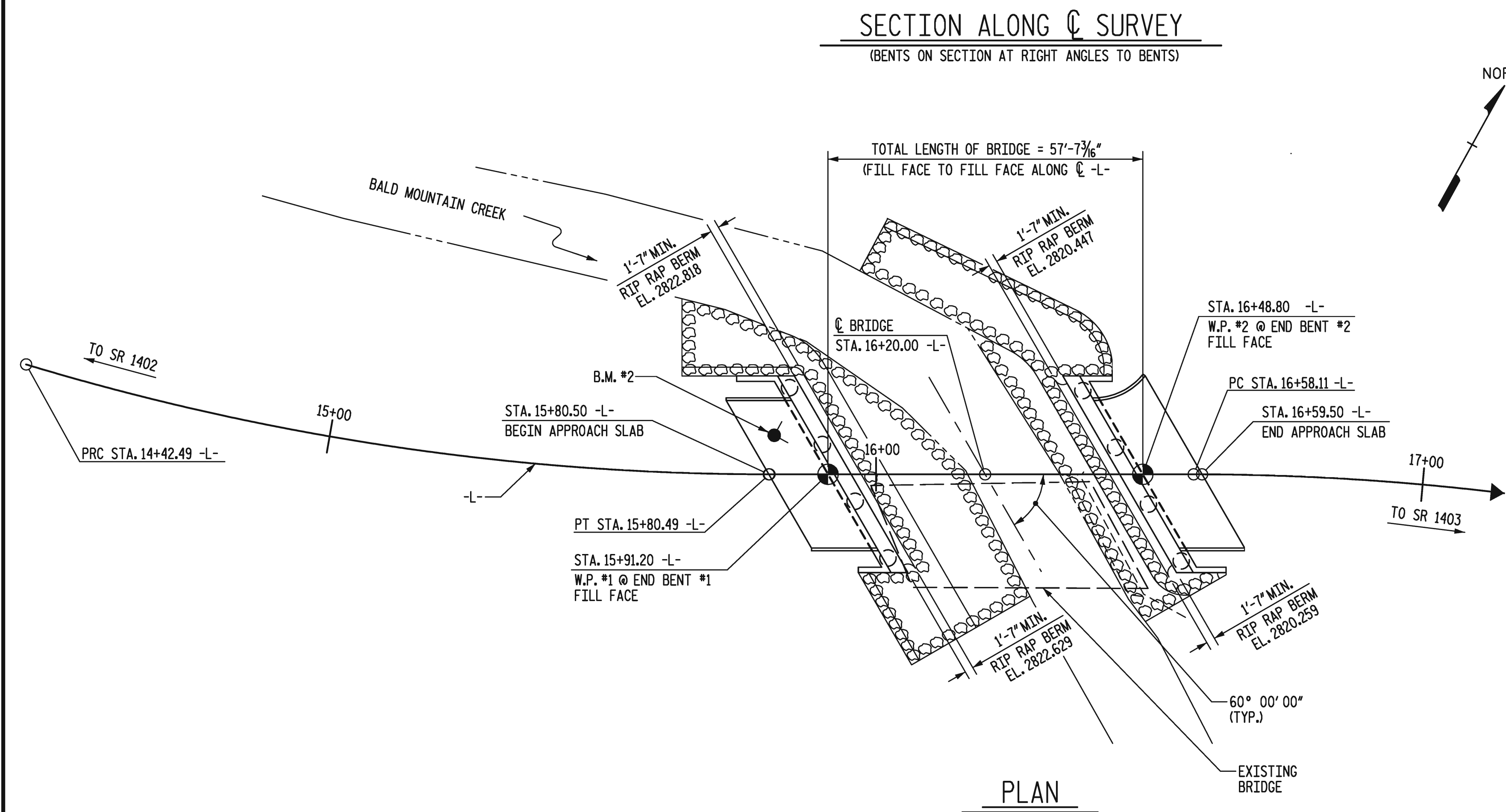
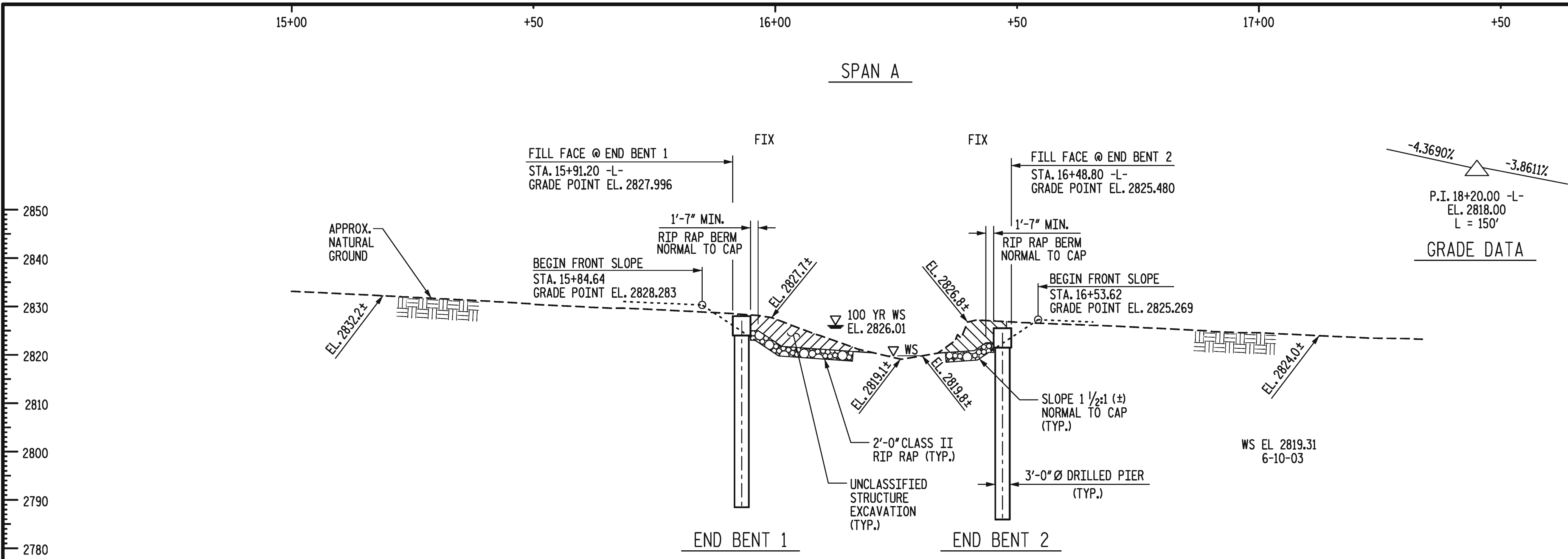


DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

P.E.  
STATE HIGHWAY DESIGN ENGINEER

4/26/2012  
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Florence & Hutcheson, Inc.

DRAWN BY: M.T. MOBLEY DATE: APR. 2012  
CHECKED BY: J.E. MONDOLFI DATE: APR. 2012



#### HORIZONTAL CURVE DATA

PI STA. 15+11.99	PI STA. 17+84.98
Δ = 16°49'20.7" (L.T.)	Δ = 30°12'49.1" (RT.)
D = 12°11'25.5"	D = 12°11'26.1"
L = 138.00'	L = 247.84'
T = 69.50'	T = 126.88'
R = 470.01'	R = 470.00'

#### NOTES

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

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

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LFD BRIDGE DESIGN SPECIFICATIONS.

THE EXISTING STRUCTURE CONSISTING OF ONE 42'-0" LONG STEEL BEAM SPAN; 19'-1" CLEAR ROADWAY; 4" x 8" TIMBER FLOOR SUPPORTED BY MASONRY ABUTMENTS WITH H-PILE HELPER BENT AT ABUTMENT #2. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

REMOVAL OF 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.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGE", 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. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS PAY ITEMS.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 25 FT. EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

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 COST 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."

THE CONTRACTOR SHALL TRANSPORT AND INSTALL EXISTING CORED SLAB UNITS AND PRECAST BARRIER RAIL.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

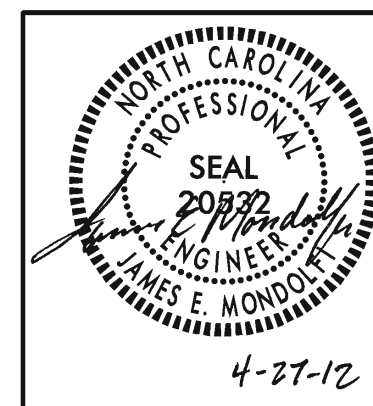
FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

PROJECT NO. 42577  
COUNTY: YANCEY  
STATION: 16 + 20.00 -L-  
SHEET 1 OF 2 REPLACES BRIDGE NO. 119

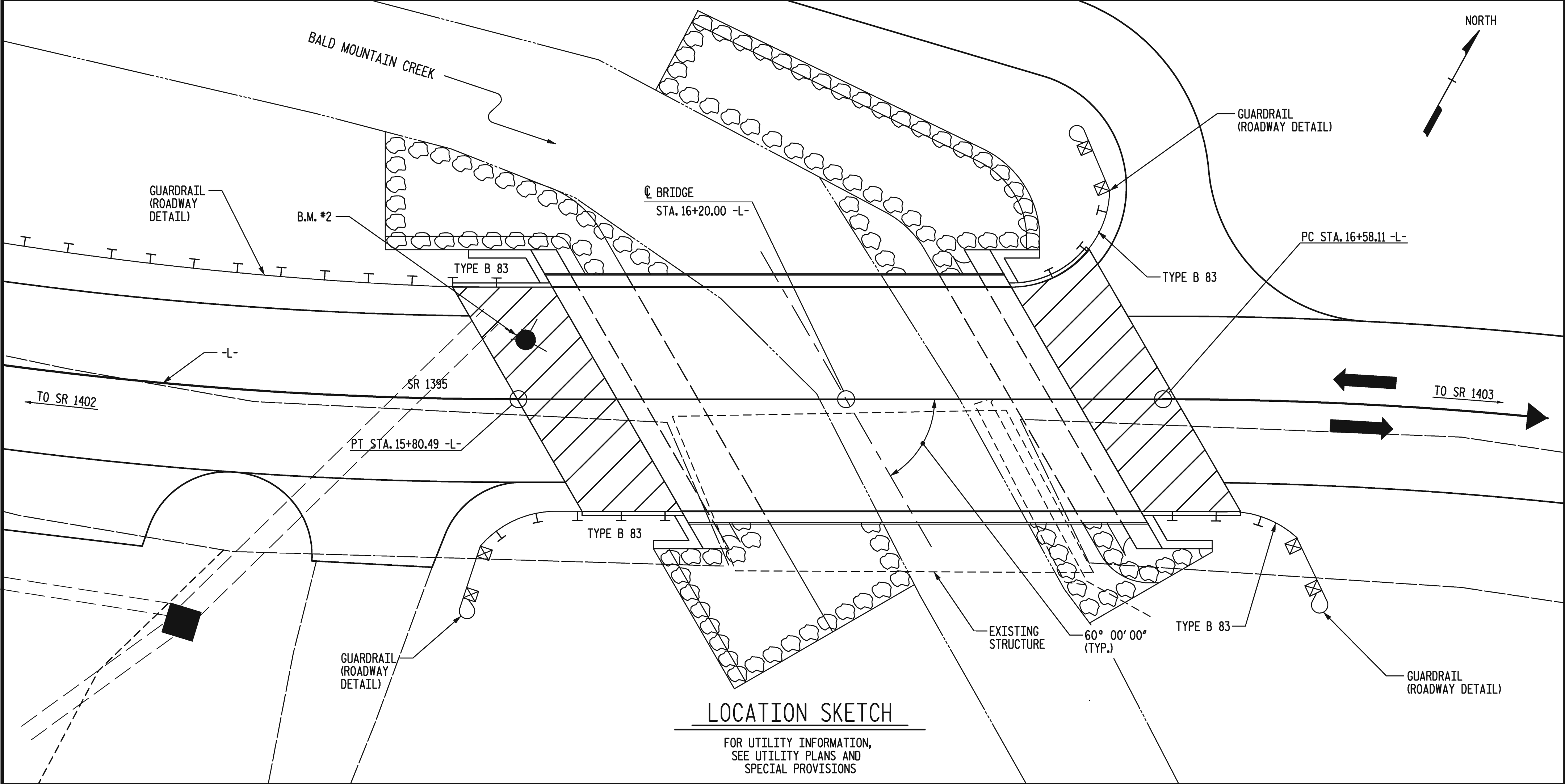
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

BRIDGE NO. 119 ON SR 1395  
OVER BALD MOUNTAIN CREEK

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



BENCH MARK: B.M. #2 - NAIL SPIKE IN BASE OF POWER POLE, 7.14' LT OF STA. 15+81.41 -L-, EL. 2,827.01 (SURVEY) OR EL. 100.00 (ASSUMED DATUM).



NOTES (CONT.)

- ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITIES.
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES", MAY, 2001.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR BRIDGE APPROACH FILLS, SEE SPECIAL PROVISIONS.
- FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.
- DRILLED PIERS AT END BENT NO.1 AND END BENT NO. 2 ARE DESIGNED FOR AN APPLIED LOAD OF 92 TONS EACH AT THE TOP OF THE DRILLED PIER.
- DRILLED PIERS AT END BENT NO.1 AND END BENT NO. 2 ARE DESIGNED FOR END BEARING ONLY. CHECK FIELD CONDITIONS FOR THE REQUIRED END BEARING CAPACITY OF 45 TSF.
- INSTALL DRILLED PIERS AT END BENT NO.1 THAT EXTEND TO AN ELEVATION NO HIGHER THEN 2787 FT FOR PIERS 1 & 2 AND 2785 FT FOR PIERS 3 & 4 AND SATISFY THE REQUIRED END BEARING CAPACITY.
- INSTALL DRILLED PIERS AT END BENT NO.2 THAT EXTEND TO AN ELEVATION NO HIGHER THEN 2787 FT FOR PIERS 1 & 2 AND 2783 FT FOR PIERS 3 & 4 AND SATISFY THE REQUIRED END BEARING CAPACITY.
- SPT TESTING IS REQUIRED FOR DRILLED PIERS AT END BENT NO.1 AND END BENT NO. 2, THE REQUIRED N60 SPT VALUE IS 100 BLOWS IN THE FIRST FOOT OF THE DRIVE.
- SID INSPECTIONS MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR SID INSPECTIONS.
- CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR CSL TESTING. FOR CROSSHOLE SONIC LOGGING, SEE SPECIAL PROVISIONS.

HYDRAULIC DATA

DESIGN DISCHARGE	= 1700 CFS
FREQUENCY OF DESIGN FLOOD	= 25 YRS.
DESIGN HIGH WATER ELEVATION	= 2824.61
DRAINAGE AREA	= 7.0 SQ. MI
BASIC DISCHARGE (Q100)	= 2500 CFS
BASIC HIGH WATER ELEVATION	= 2826.01

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 1700 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 25 YRS.
OVERTOPPING FLOOD ELEVATION	= 2824.61

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	BRIDGE APPROACH FILL SUB REGIONAL TIER, STA. 16+20.00 -L-	3'-0"DIA. DRILLED PIERS IN SOIL	3'-0"DIA. DRILLED PIERS NOT IN SOIL	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	REINFORCING STEEL (BRIDGE)	SPIRAL COLUMN REINFORCING STEEL	BRIDGE APPROACH SLABS	SID INSPECTION	SPT INSPECTION	CSL TESTING	RIP RAP CLASS II	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	CONCRETE BARRIER RAIL (TRANSPORT & INSTALL ONLY)	3'-0"X 1'-9" PRESTRESSED CONCRETE CORED SLABS (TRANSPORT & INSTALL ONLY)
	LUMP SUM	LUMP SUM	LF	LF	LUMP SUM	CU. YD.	LB.	LB.	LUMP SUM	EA.	EA.	EA.	TON	SQ. YD.	LUMP SUM	LF	LF
SUPERSTRUCTURE	LUMP SUM								LUMP SUM						LUMP SUM	110	550
END BENT NO. 1		LUMP SUM	116	28	LUMP SUM	26.6	9,523	2,662		1	4	1	139	154			
END BENT NO. 2		LUMP SUM	118	20	LUMP SUM	26.6	9,277	2,562		1	4	1	125	139			
TOTAL	LUMP SUM	LUMP SUM	234	48	LUMP SUM	53.2	18,800	5,224	LUMP SUM	2	8	2	264	293	LUMP SUM	110	550

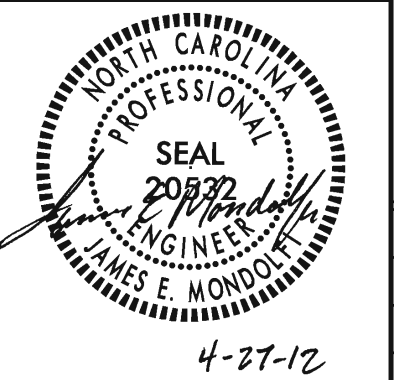
PROJECT NO. 42577  
COUNTY: YANCEY  
STATION: 16 + 20.00 -L-  
SHEET 2 OF 2

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

BRIDGE NO. 119 ON SR 1395  
OVER BALD MOUNTAIN CREEK



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CONSULTING ENGINEERS  
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NC License No: F-0258

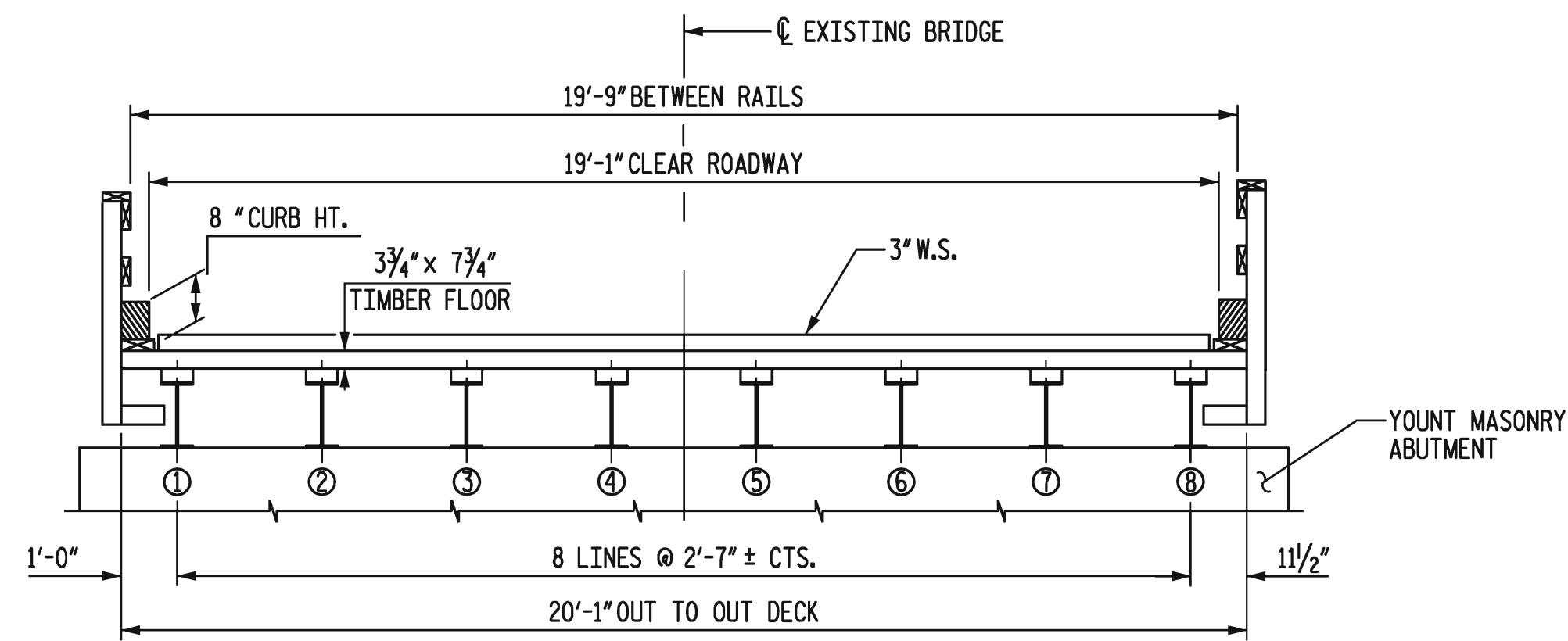


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CHECKED BY: J.E. MONDOLFI    DATE: APR. 2012

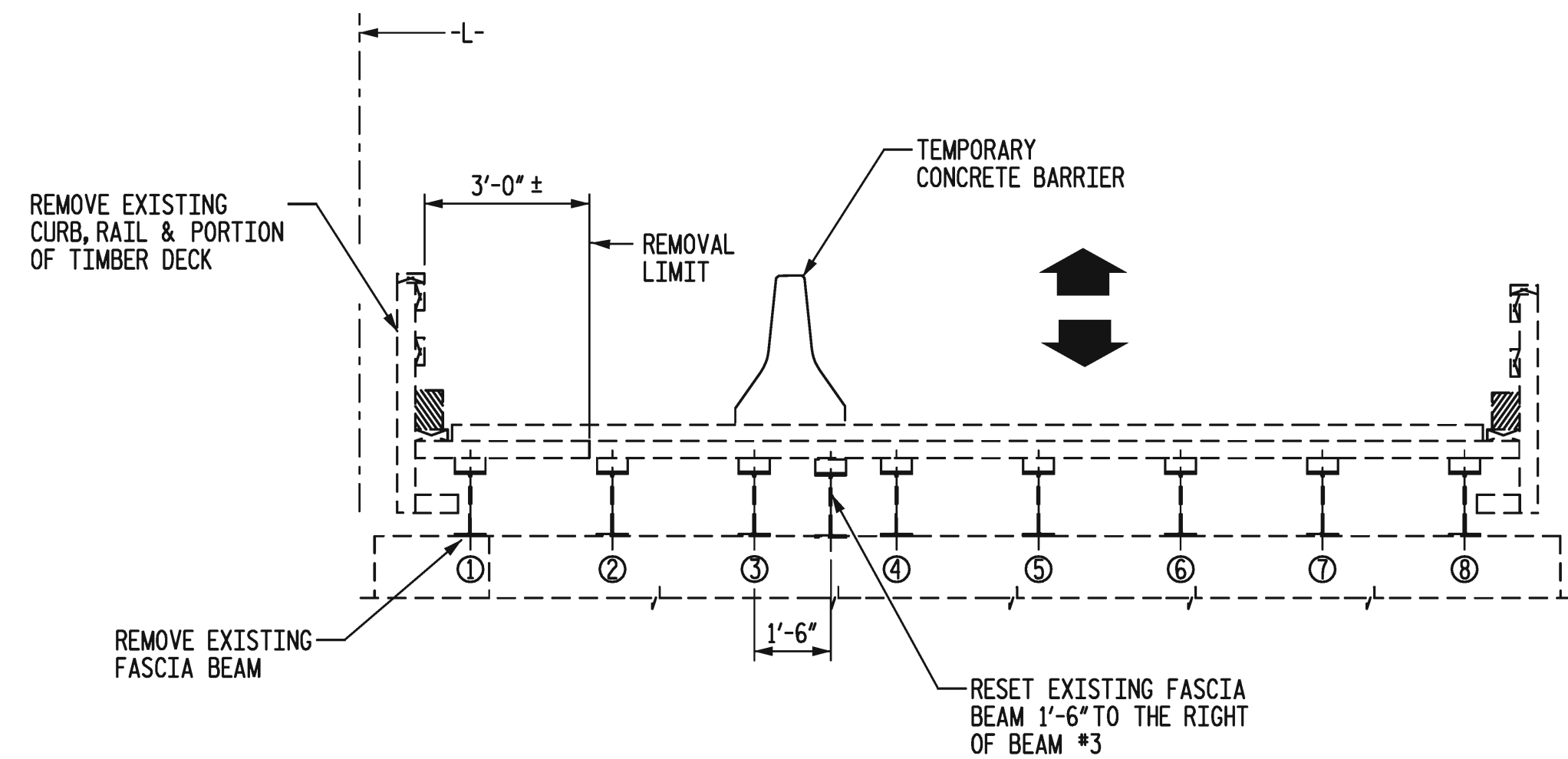
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-2
1			3			TOTAL SHEETS 18
2			4			

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Florence & Hutcheson, Inc.

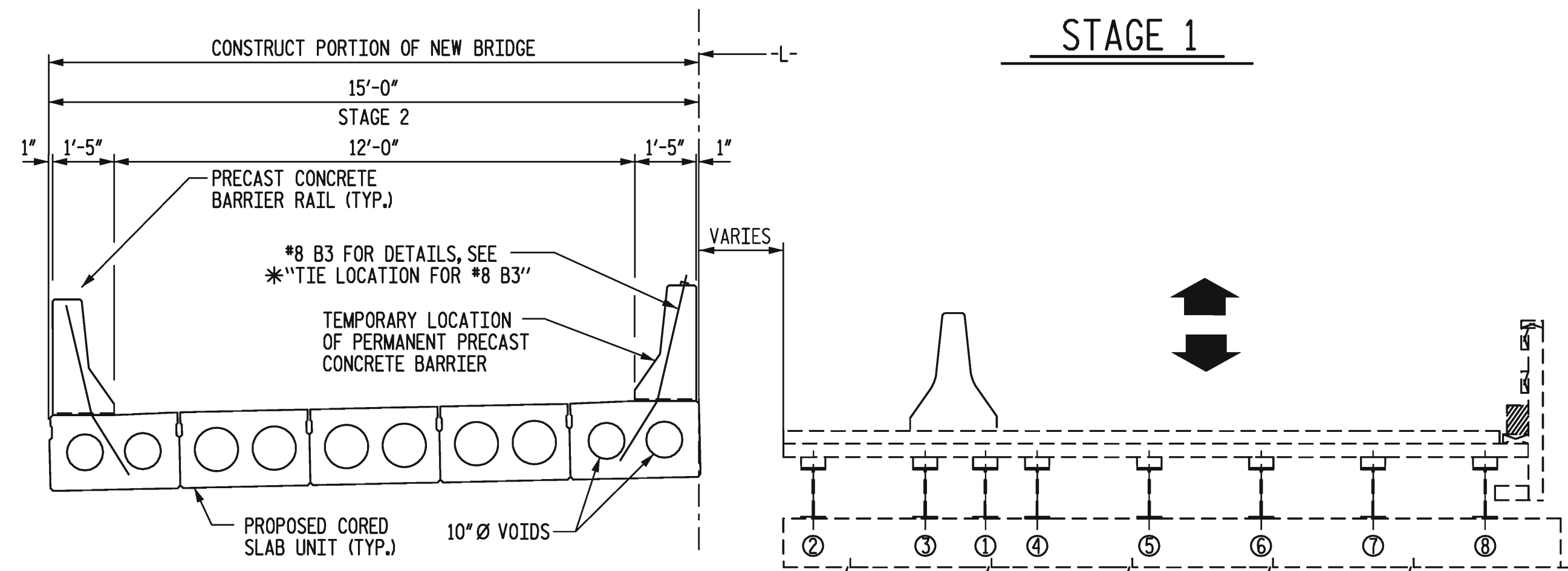




**EXISTING BRIDGE SECTION**



**STAGE 1**



**STAGE 2**

**NOTES**

STAGE 1:

2. REMOVE AND RELOCATE EXISTING FASCIA BEAM 1'-6" TO THE RIGHT OF BEAM #3.
3. INSTALL TEMPORARY CONNECTION BETWEEN THE RELOCATED FASCIA BEAM AND BEAM #3.
4. SET TEMPORARY PORTABLE CONCRETE BARRIER CENTERED ABOVE THE TWO BEAMS SPACED AT 1'-6" ON THE EXISTING BRIDGE.

STAGE 2:

1. CONSTRUCT PORTION OF NEW END BENTS AND NORTH FASCIA WINGS.
2. INSTALL FIVE CORED SLAB UNITS AND PERMANENT CONCRETE BARRIER RAILS.
3. MOVE TRAFFIC TO CONSTRUCTED PORTION OF NEW BRIDGE.

STAGE 3:

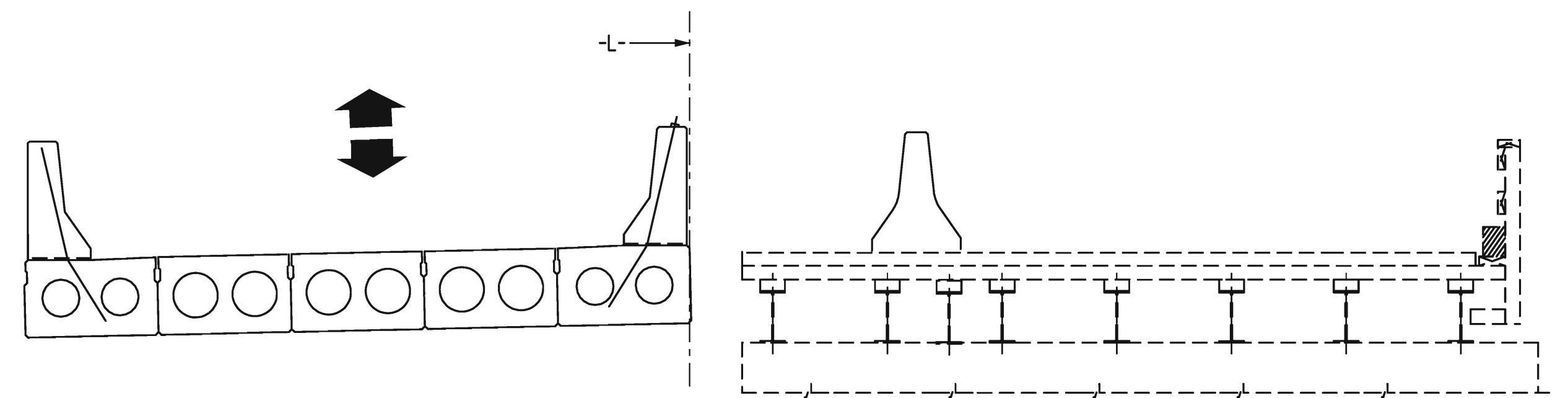
1. REMOVE REMAINDER OF EXISTING BRIDGE.

STAGE 4:

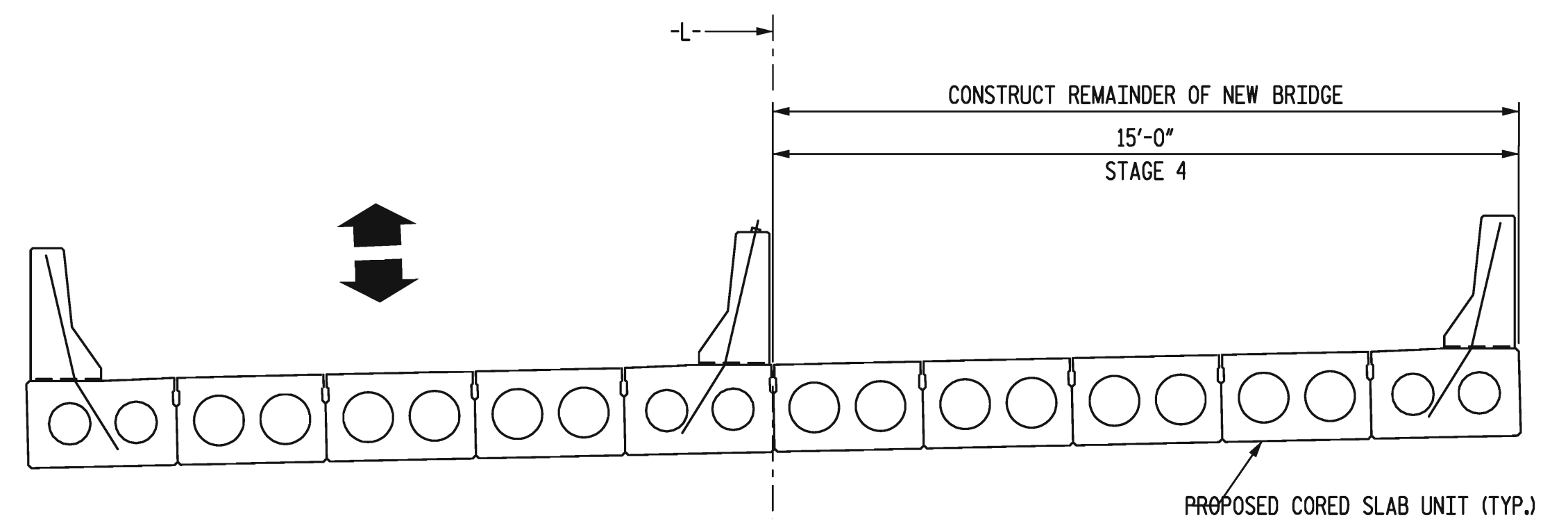
1. CONSTRUCT REMAINDER OF NEW END BENTS AND SOUTH FASCIA WINGS.
2. INSTALL REMAINING CORED SLAB UNITS.
3. RELOCATE PRECAST CONCRETE BARRIER RAIL TO THE EXTERIOR CORED SLAB UNIT.

STAGE 5:

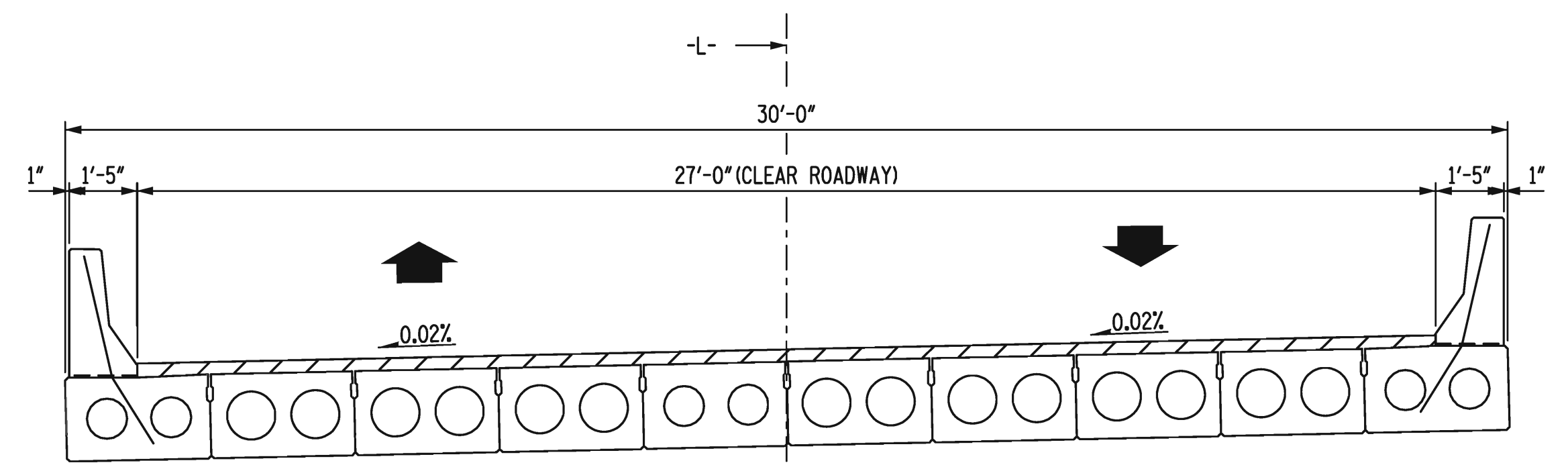
1. INSTALL ASPHALT WEARING SURFACE.



**STAGE 3**



**STAGE 4**



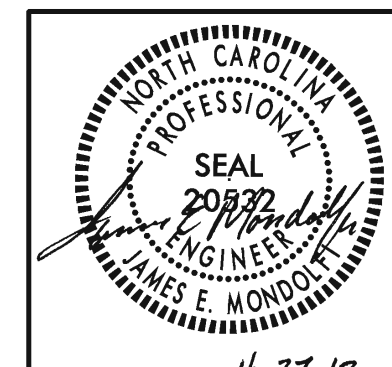
**STAGE 5**

PROJECT NO. 42577  
COUNTY: YANCEY  
STATION: 16 + 20.00 -L-

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**CONSTRUCTION  
STAGING LAYOUT**

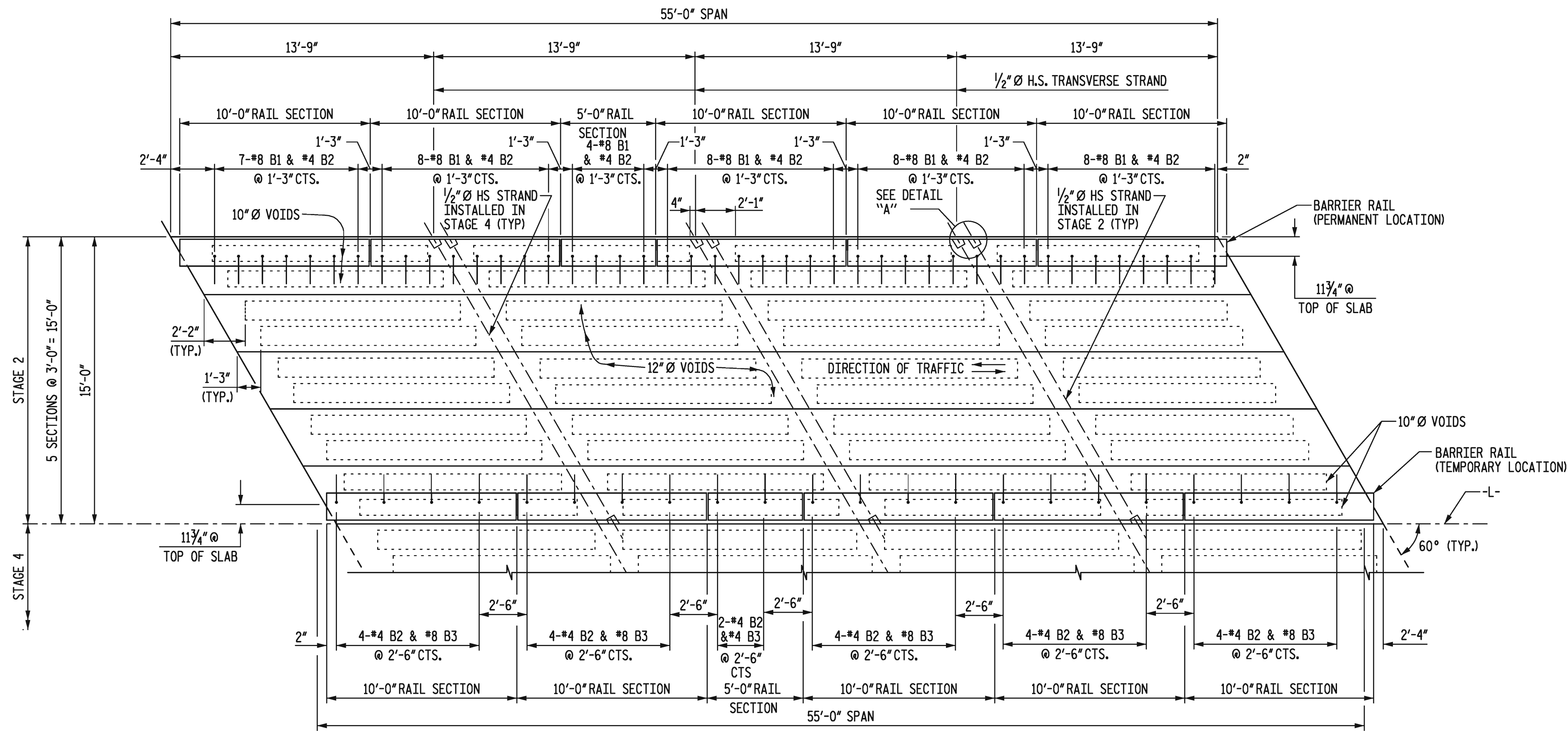
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NO.	BY	DATE	NO.	BY	DATE	S-3
1			3			TOTAL SHEETS 18
2			4			



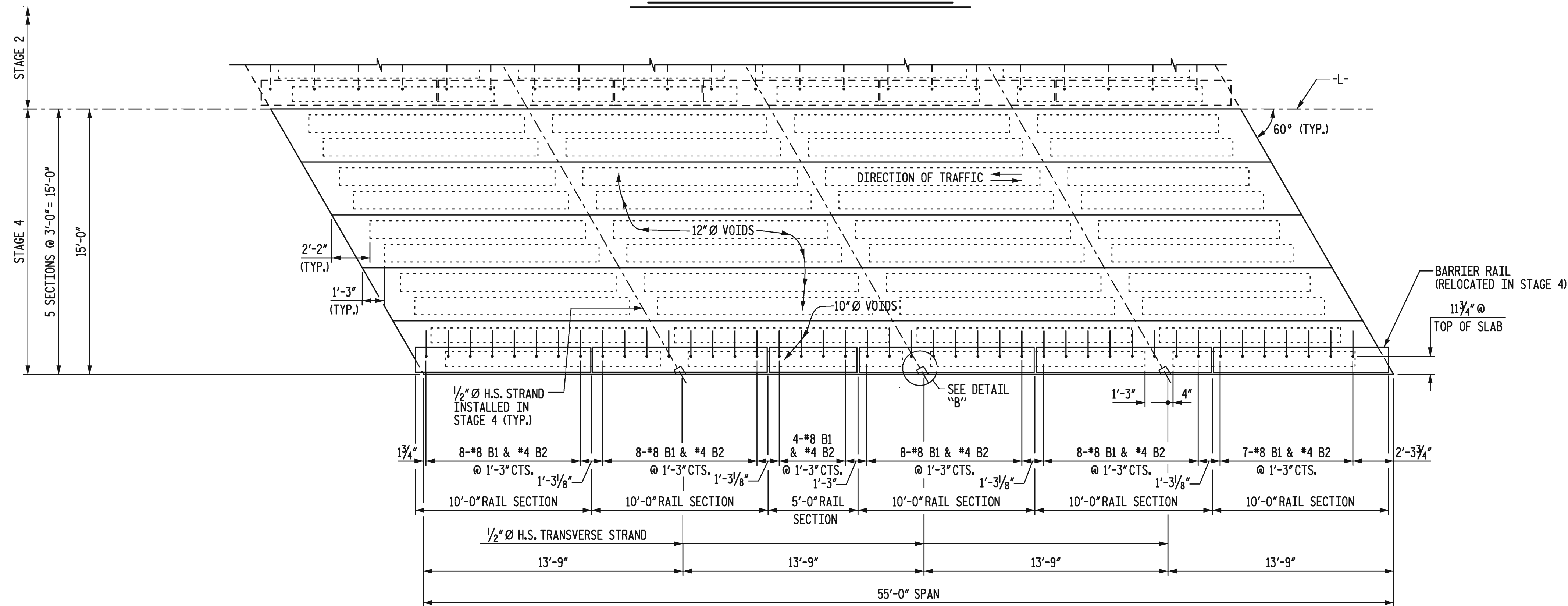


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Florence & Hutcheson, Inc.

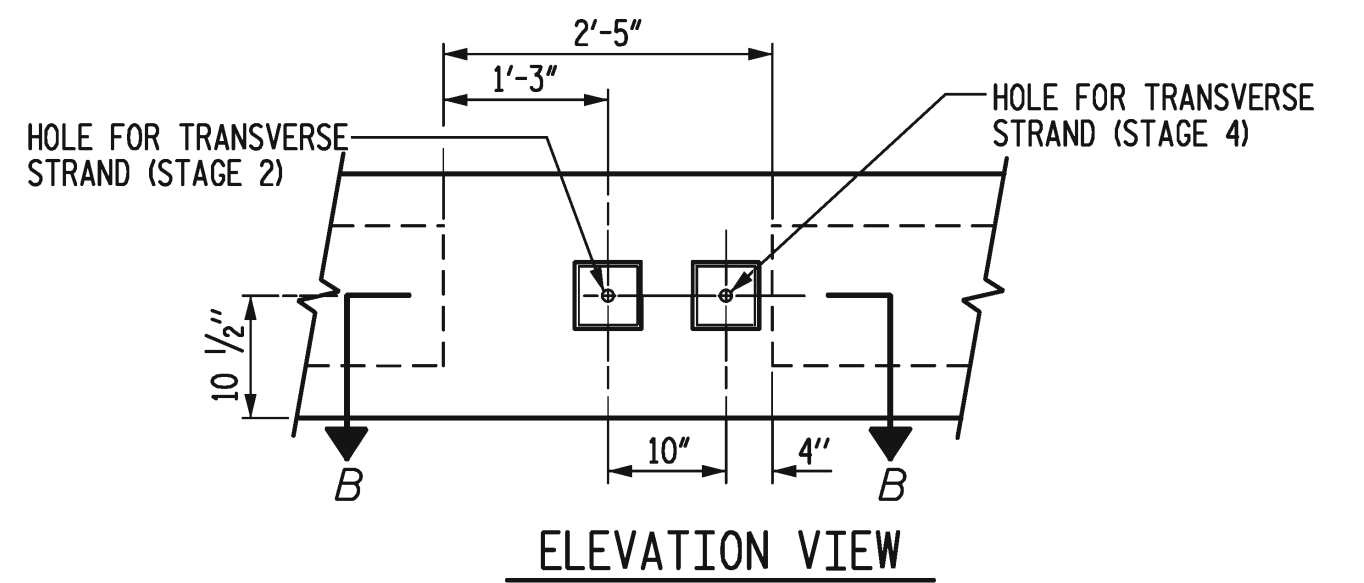
DRAWN BY: M.T. MOBLEY DATE: APR. 2012  
CHECKED BY: J.E. MONDOLFI DATE: APR. 2012



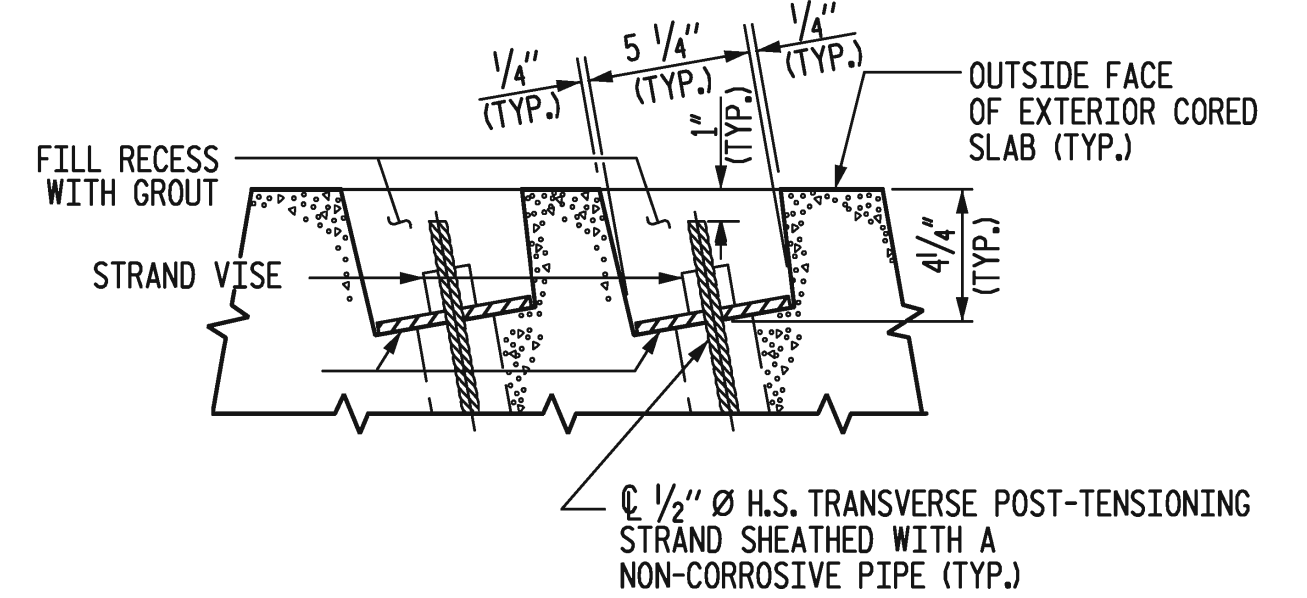
STAGE 2-PLAN OF SPAN A



STAGE 4-PLAN OF SPAN A

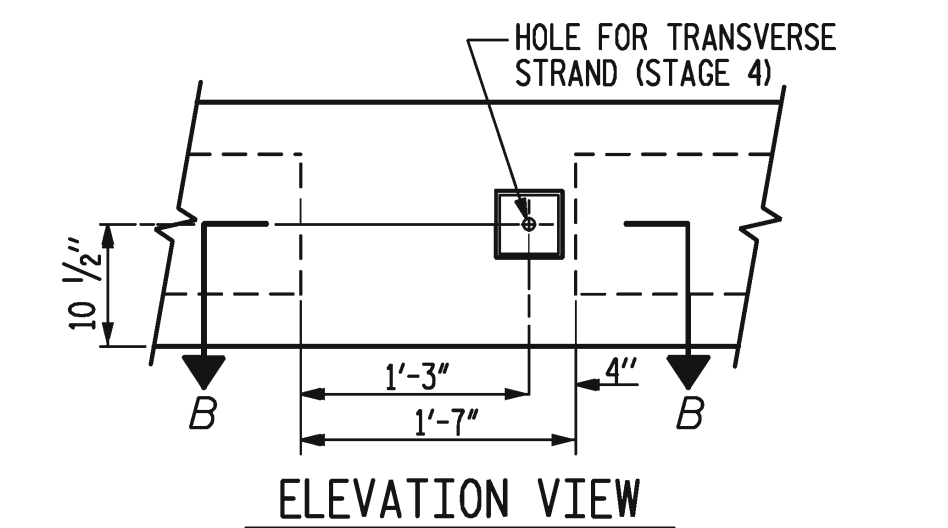


ELEVATION VIEW

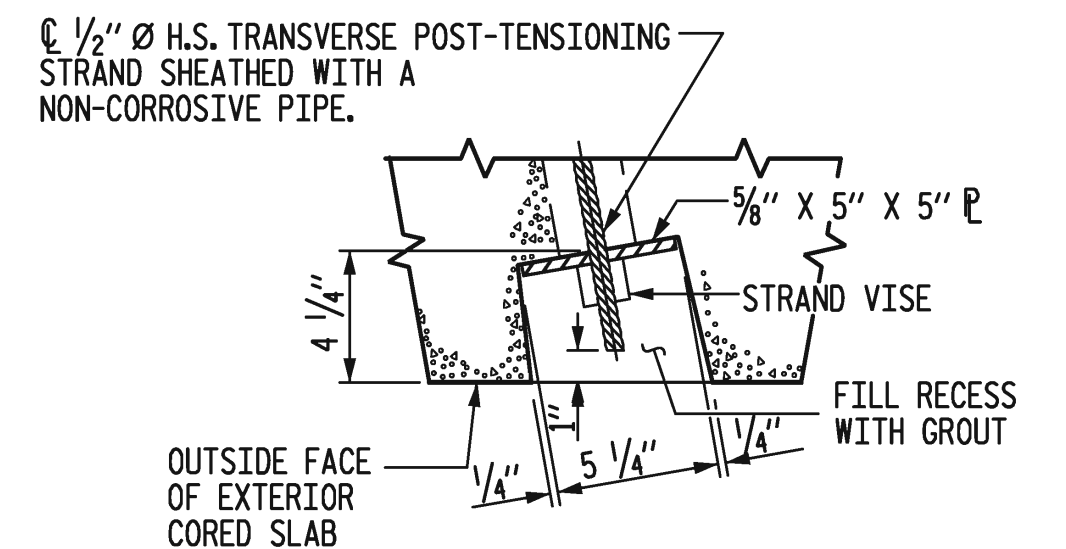


SECTION B-B

DETAIL "A"  
GROUTED RECESS AT END OF  
POST-TENSIONED STRAND CORED SLABS



ELEVATION VIEW



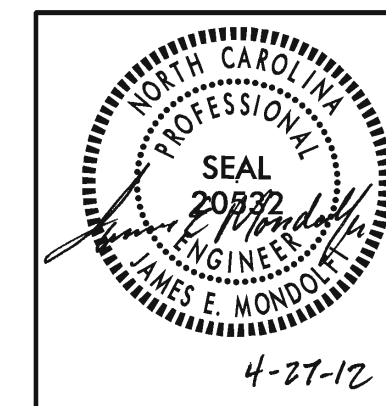
SECTION B-B

DETAIL "A"  
GROUTED RECESS AT END OF  
POST-TENSIONED STRAND CORED SLABS

PROJECT NO. 42577  
COUNTY: YANCEY  
STATION: 16 + 20.00 -L-

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
PLAN OF SPAN  
27' CLEAR ROADWAY  
60° SKEW

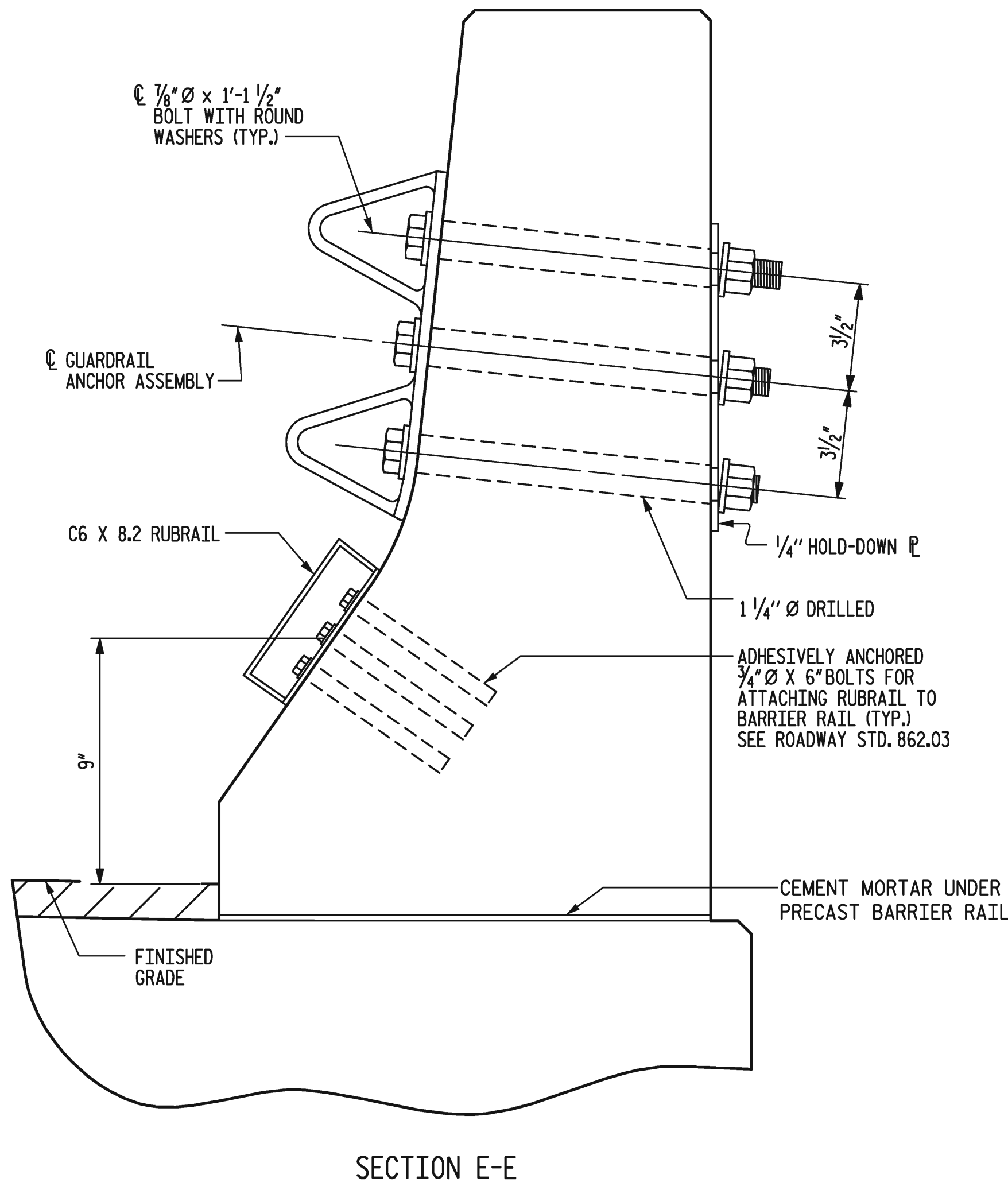
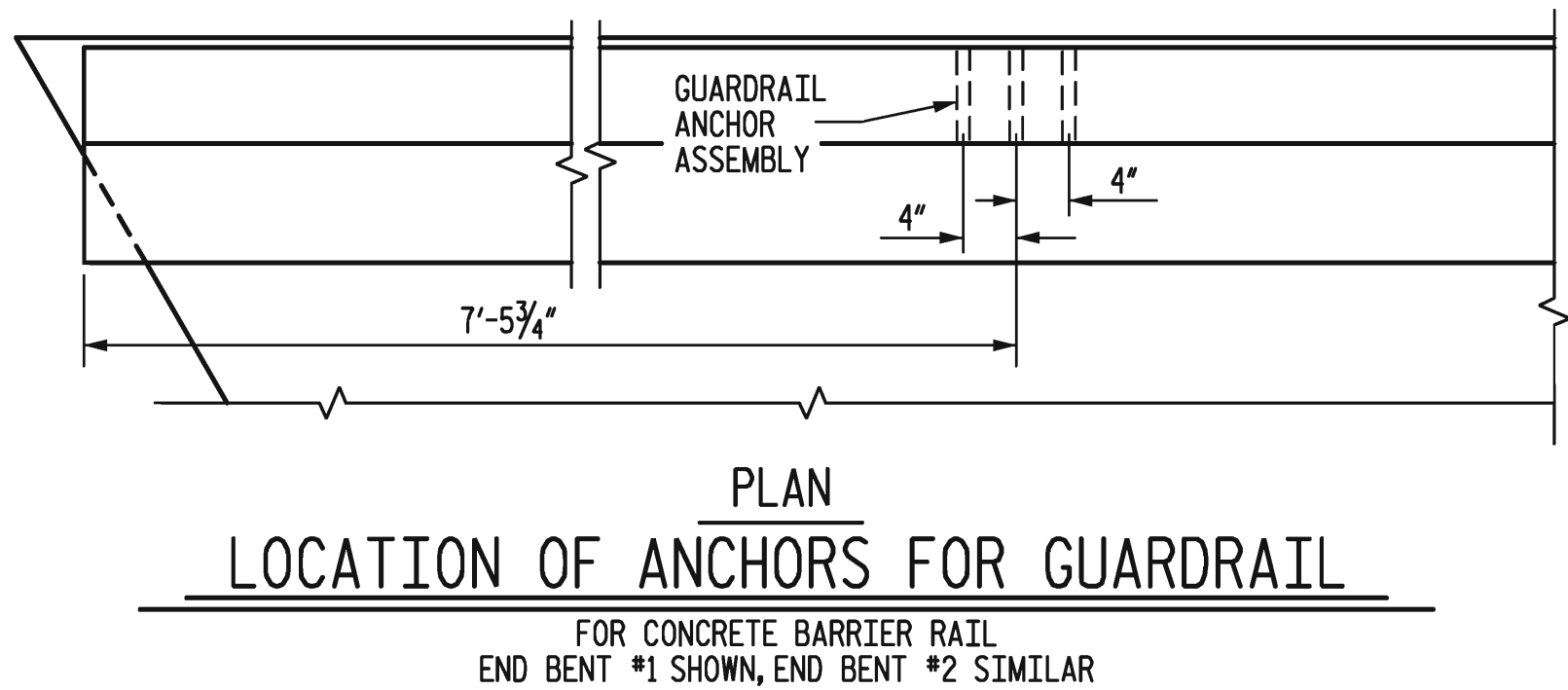
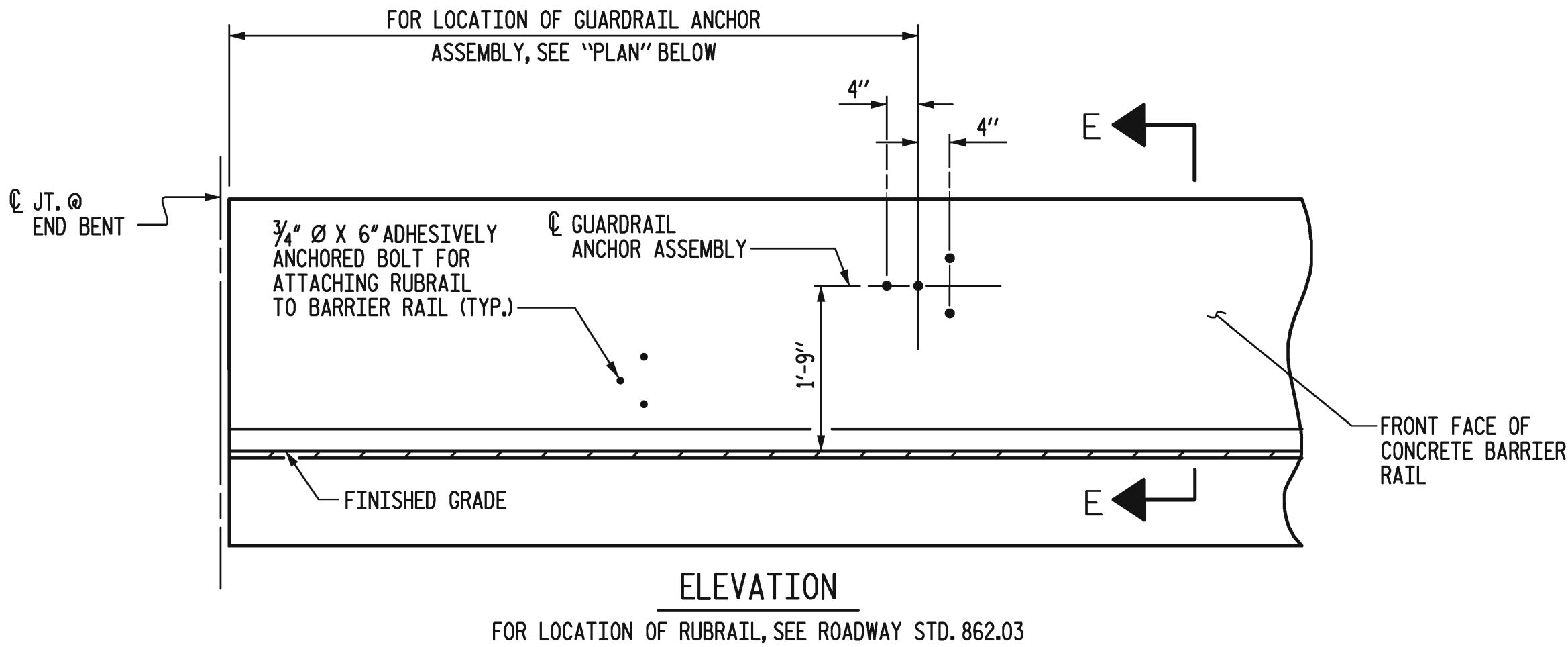
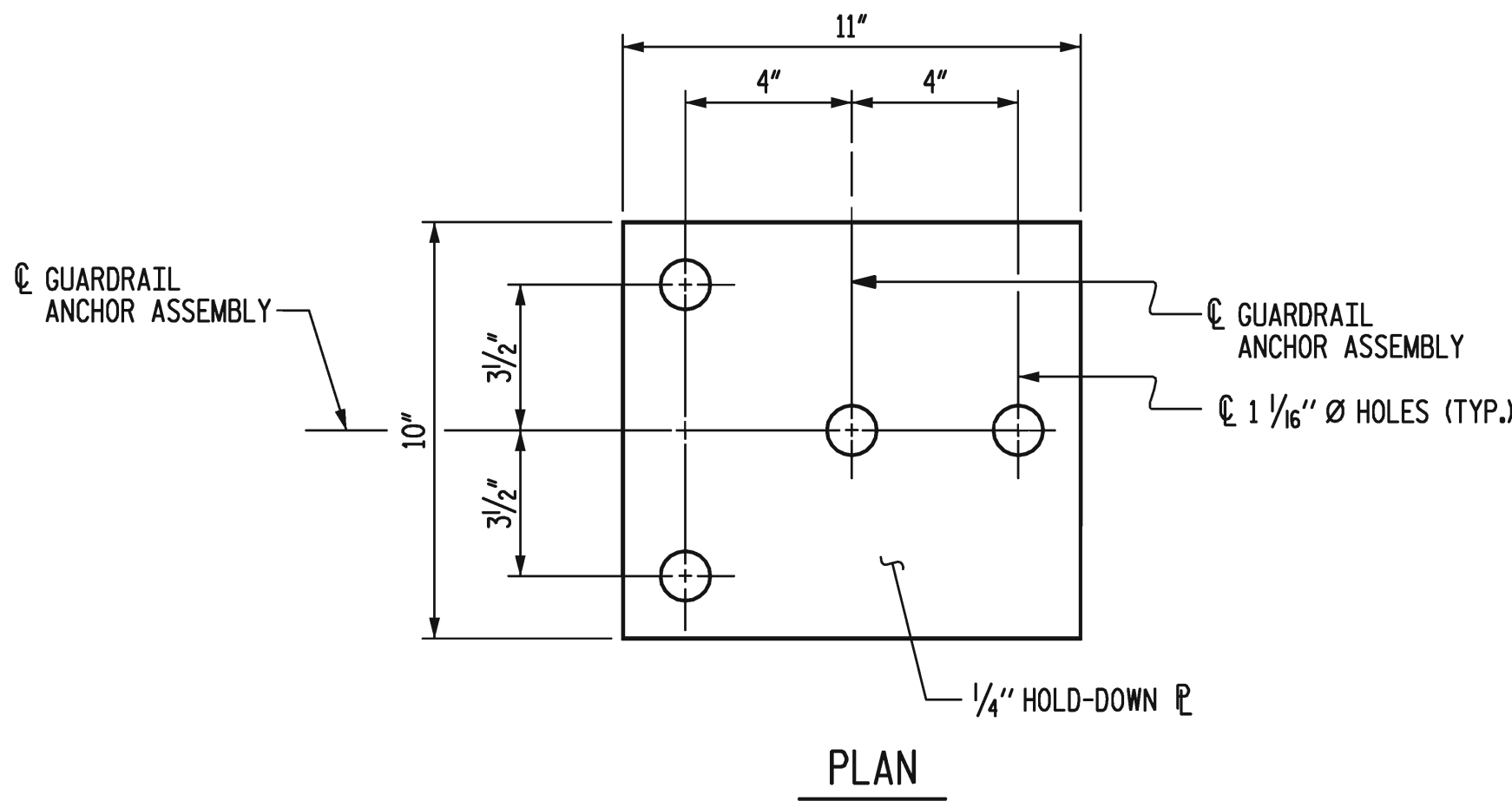
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NC License No: F-0258



REVISIONS						SHEET NO. S-5	TOTAL SHEETS 18
NO.	BY	DATE	NO.	BY	DATE		
1			3				
2			4				







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

**NOTES**

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 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.)

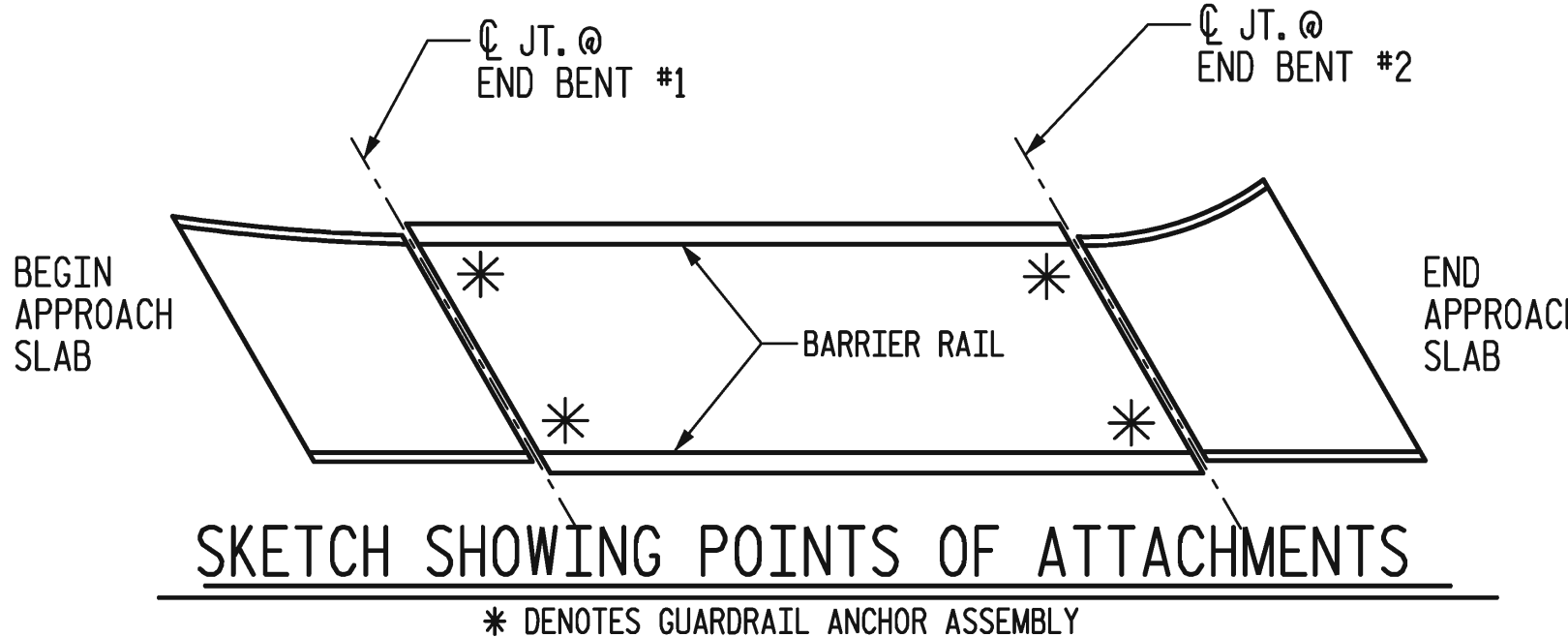
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF CONCRETE BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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 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.



**PROJECT NO. 42577**  
**COUNTY: YANCEY**  
**STATION: 16 + 20.00 -L-**

**STATE OF NORTH CAROLINA**  
**DEPARTMENT OF TRANSPORTATION**  
**RALEIGH**

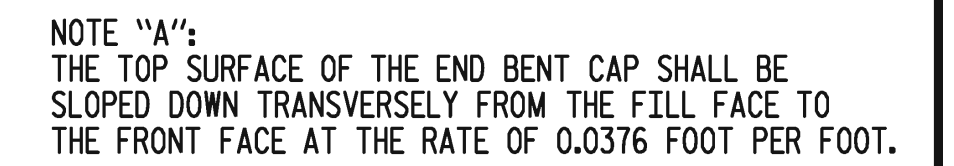
**SUPERSTRUCTURE**  
**GUARDRAIL ANCHORAGE DETAILS**

REVISIONS						SHEET NO. S-7
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 18
2			4			

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NC License No: F-0258







**ELEVATION**

STAGE 2 STAGE 4

WORK LINE

EL. 2828.697 TOP OF WING (END)

EL. 2825.818 TOP OF CAP (FRONT FACE)

EL. 2828.405 TOP OF WING (BEGIN)

6" LATERAL GUIDE (TYP.) POUR #4

EL. 2821.802

#6 B2 (EACH FACE)

SLOPE = -0.00453 FT/FT

EL. 2821.752

EL. 2825.722

CONST. JOINT

EL. 2821.703

5-#9 B3

#6 B4 (EACH FACE)

EL. 2828.259 TOP OF WING (BEGIN)

8 3/4" RECESS

EL. 2828.550 TOP OF WING (END)

EL. 2821.653

EL. 2825.629 TOP OF CAP (FRONT FACE)

EL. 2821.629 BOTT. OF CAP

EL. 2821.634 BOTT. OF WING (LEVEL)

CONST. JOINT (TYP.)

3-#5 S1 & #5 S2 @ 1'-0" CTS. (TYP. EACH BAY, UNLESS OTHERWISE NOTED)

8'-0" (TYP.)

3-#5 S1 & #5 S2 @ 1'-0" CTS. (TYP. EACH END)

EL. 2821.818 BOTT. OF CAP

EL. 2821.822 BOTT. OF WING (LEVEL)

3"

3'-0" Ø

DRILLED PIER (TYP.)

10-#10 M1

CL DRILLED PIER #1

34'-9 5/8" DRILLED PIER #1

POUR #1

SP-1

APPROVED BAR SUPPORT (TYP. EA M1 BAR)

MIN. TIP EL. 2787.000

3"

5-#9 B1

0"

3" HIGH BEAM BOLSTER (B.B.) @ 5'-0" CTS.

0"

10-#10 M1

CL DRILLED PIER #2

34'-9 5/8" DRILLED PIER #2

POUR #1

SP-1

MIN. TIP EL. 2787.000

11'-0"

4'-3"

MECHANICAL SPLICE (TYP.) (SEE DETAIL "B" - SHEET NO. S-14)

6-#5 S1 & #5 S2 @ 1'-0" CTS

2'-9"

5'-3"

3-#5 S1 & #5 S2 @ 1'-0" CTS

0"

10-#10 M2

CL DRILLED PIER #3

36'-8 1/2" DRILLED PIER #3

POUR #1

SP-2

4" CLR. TO "SP" (TYP.)

MIN. TIP EL. 2785.000

6'-9"

11'-0"

36'-7 1/8" DRILLED PIER #4

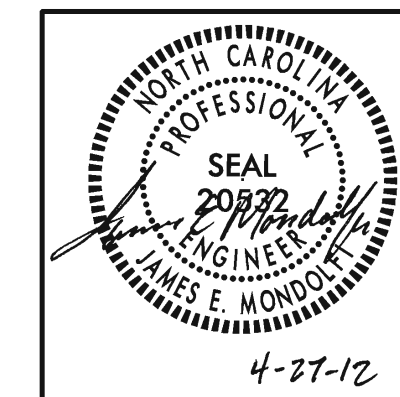
POUR #1

SP-2

3" CLR. TO "SP" (TYP.)

MIN. TIP EL. 2785.000

REVISIONS						SHEET NO. <b>S-8</b>
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS <b>18</b>
2			4			



4/26/2012  
c:\ps\ncma\div13\yancey\_119\ml3007b\structures\bk-5126\_sd\_sht8.dgn  
Florence & Hutcheson, Inc.

**DRAWN BY: M.T.MOBLEY**      **DATE: APR. 2012**  
**CHECKED BY: J.E.MONDOLFI**   **DATE: APR. 2012**

NOTES:

STIRRUPS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO CLEAR DOWELS.

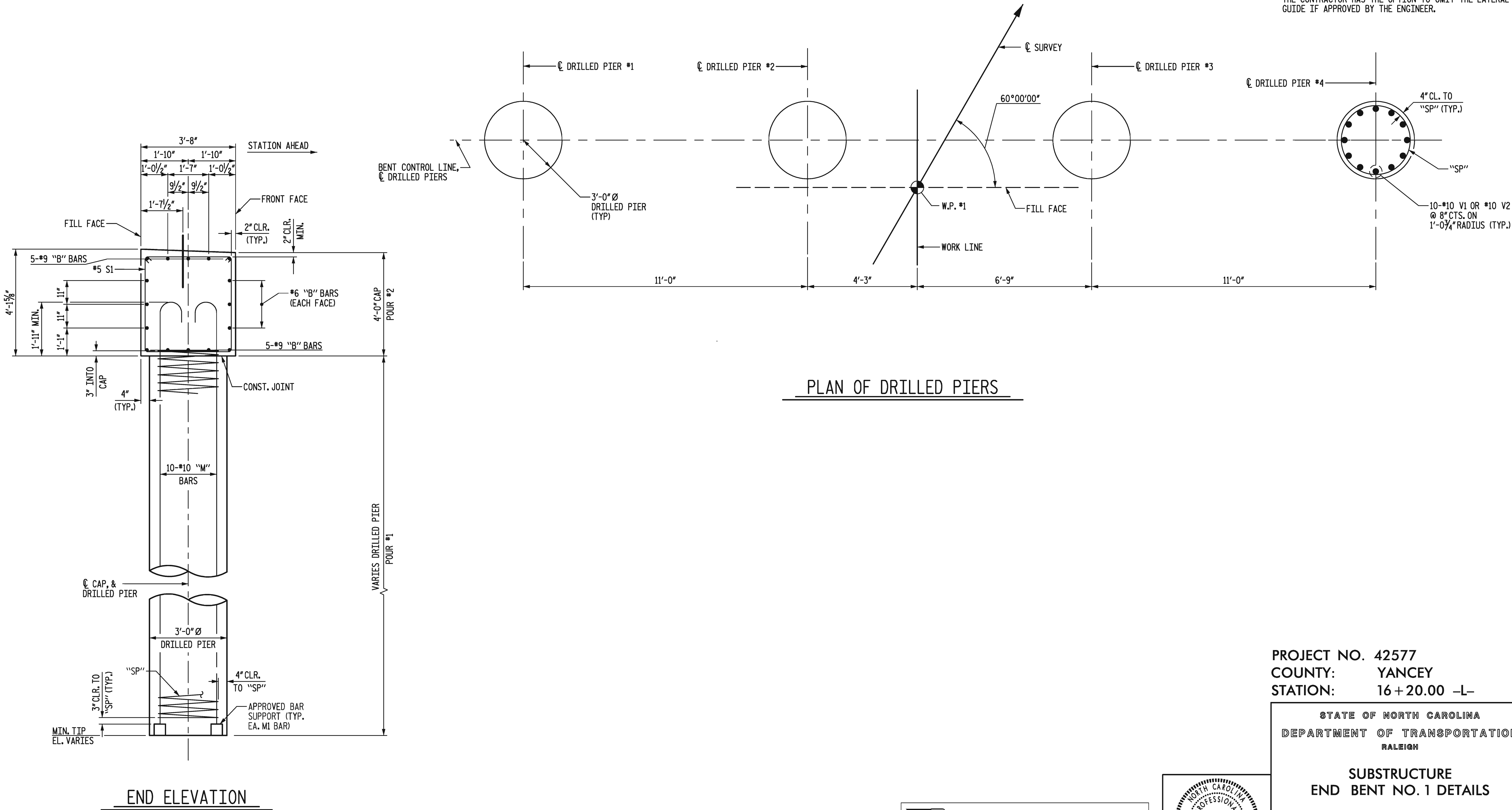
ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR "REINFORCING STEEL" AND "SPIRAL COLUMN REINFORCING STEEL."

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

THE LATERAL GUIDES ARE NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCEMENT FOR THE DRILLED PIERS IS DETAILED WITH 3 FEET OF EXTRA LENGTH.

THE CONTRACTOR HAS THE OPTION TO OMIT THE LATERAL GUIDE IF APPROVED BY THE ENGINEER.



PROJECT NO. 42577  
COUNTY: YANCEY  
STATION: 16 + 20.00 -L-

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

SUBSTRUCTURE  
END BENT NO. 1 DETAILS

REVISIONS						SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE	S-9	
1			3			TOTAL SHEETS	
2			4				
						18	



Florence & Hutcheson

CONSULTING ENGINEERS

5121 Kingdom Way, Suite 100 Raleigh, NC 27607

NC License No: F-0258

NORTH CAROLINA

PROFESSIONAL

SEAL

2017

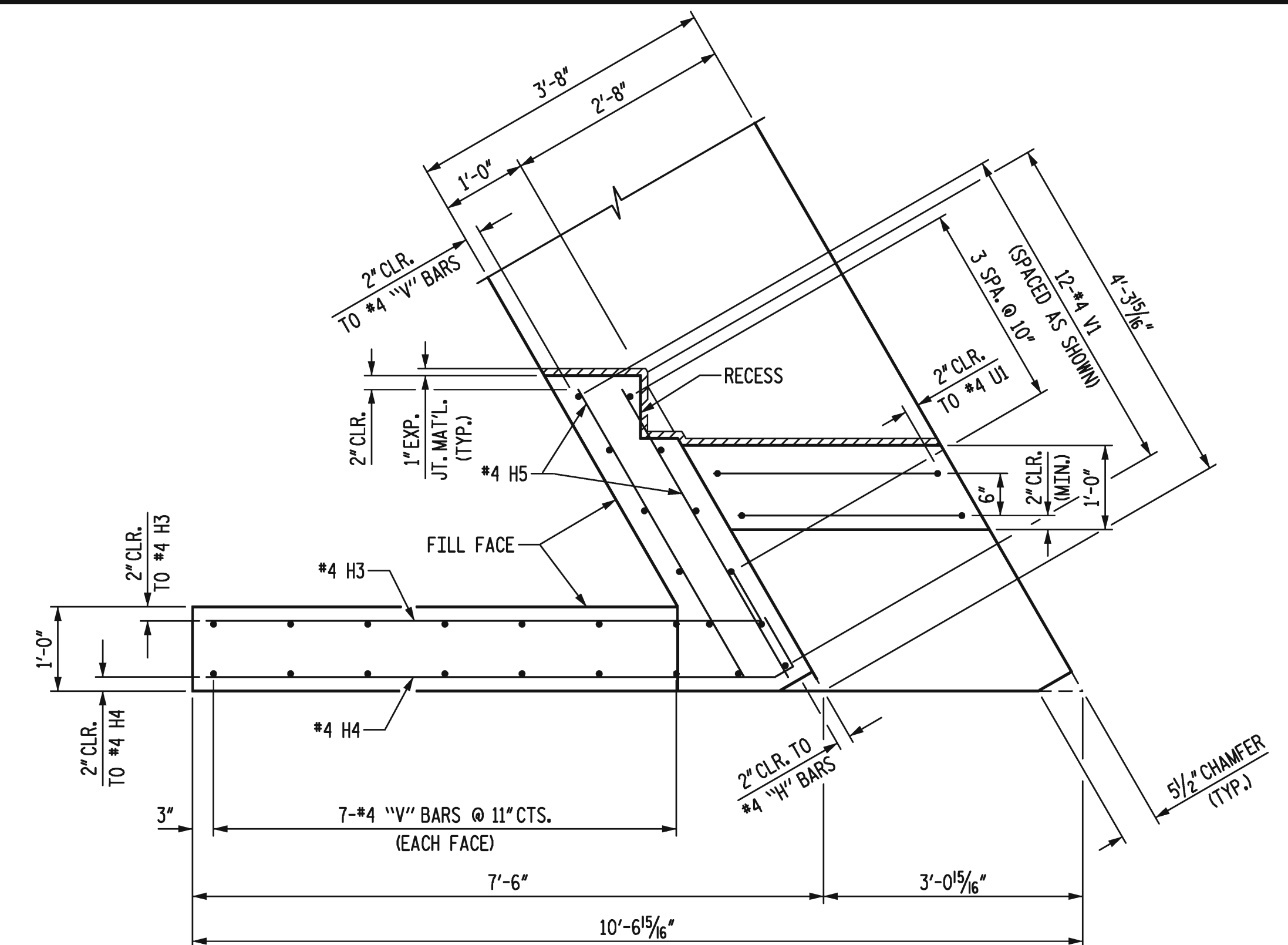
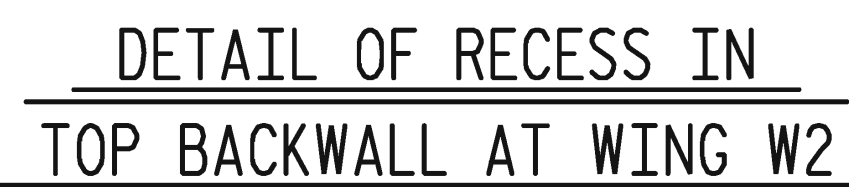
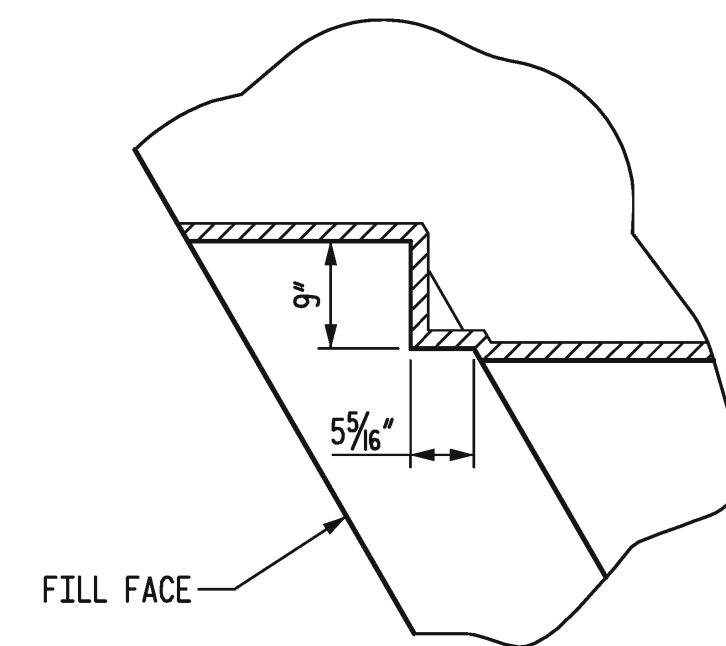
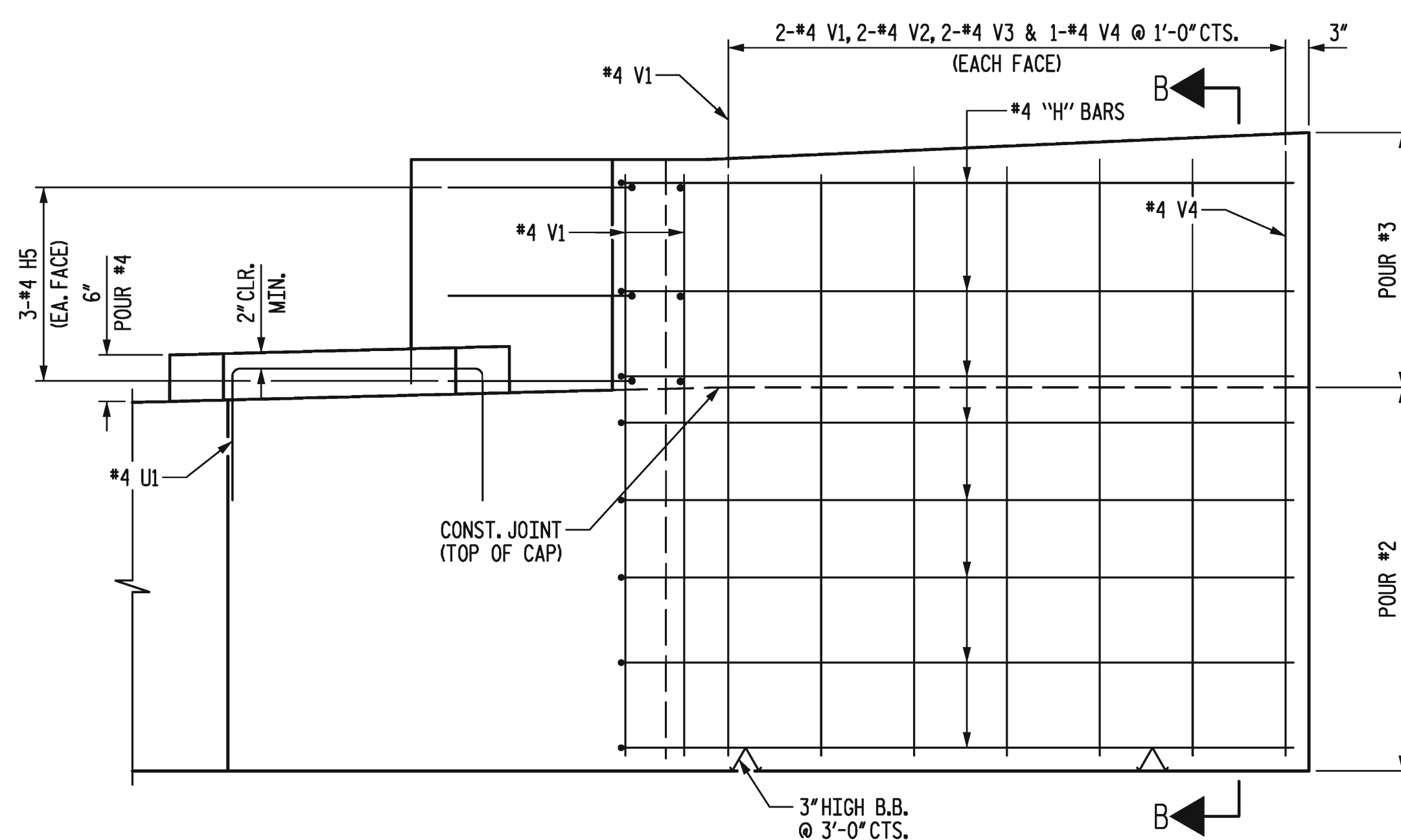
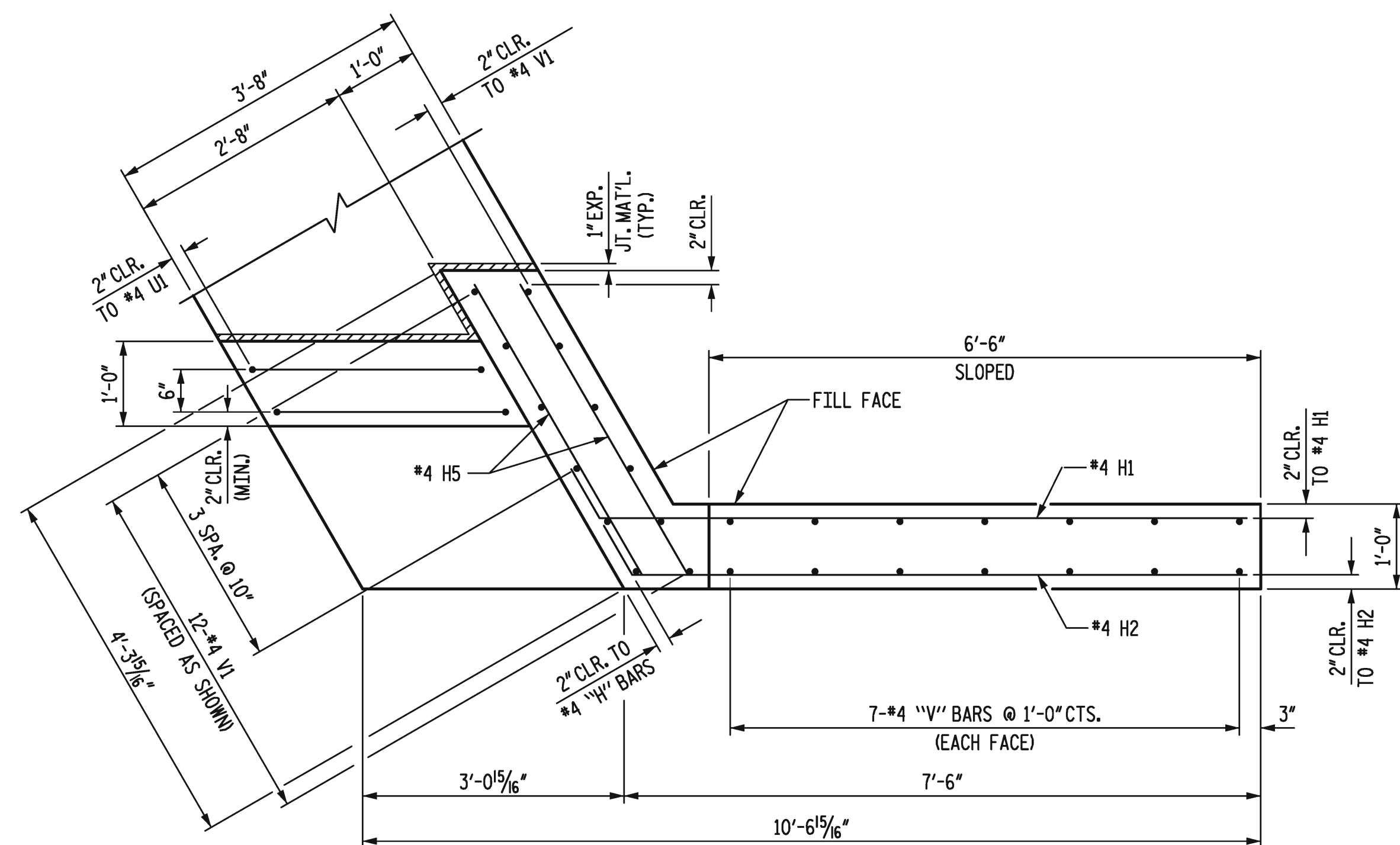
ENGINEER

JAMES E. MONDOLFI

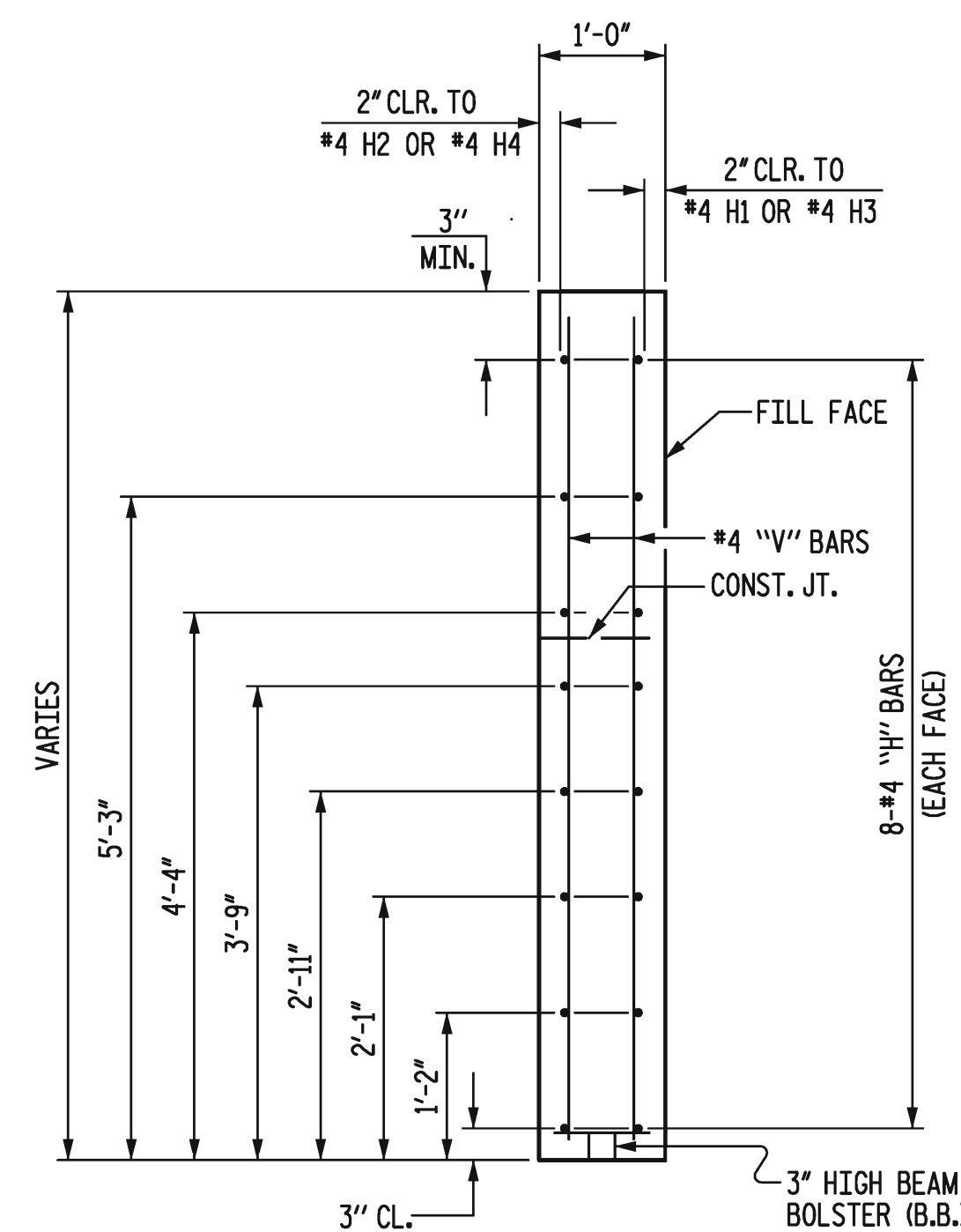
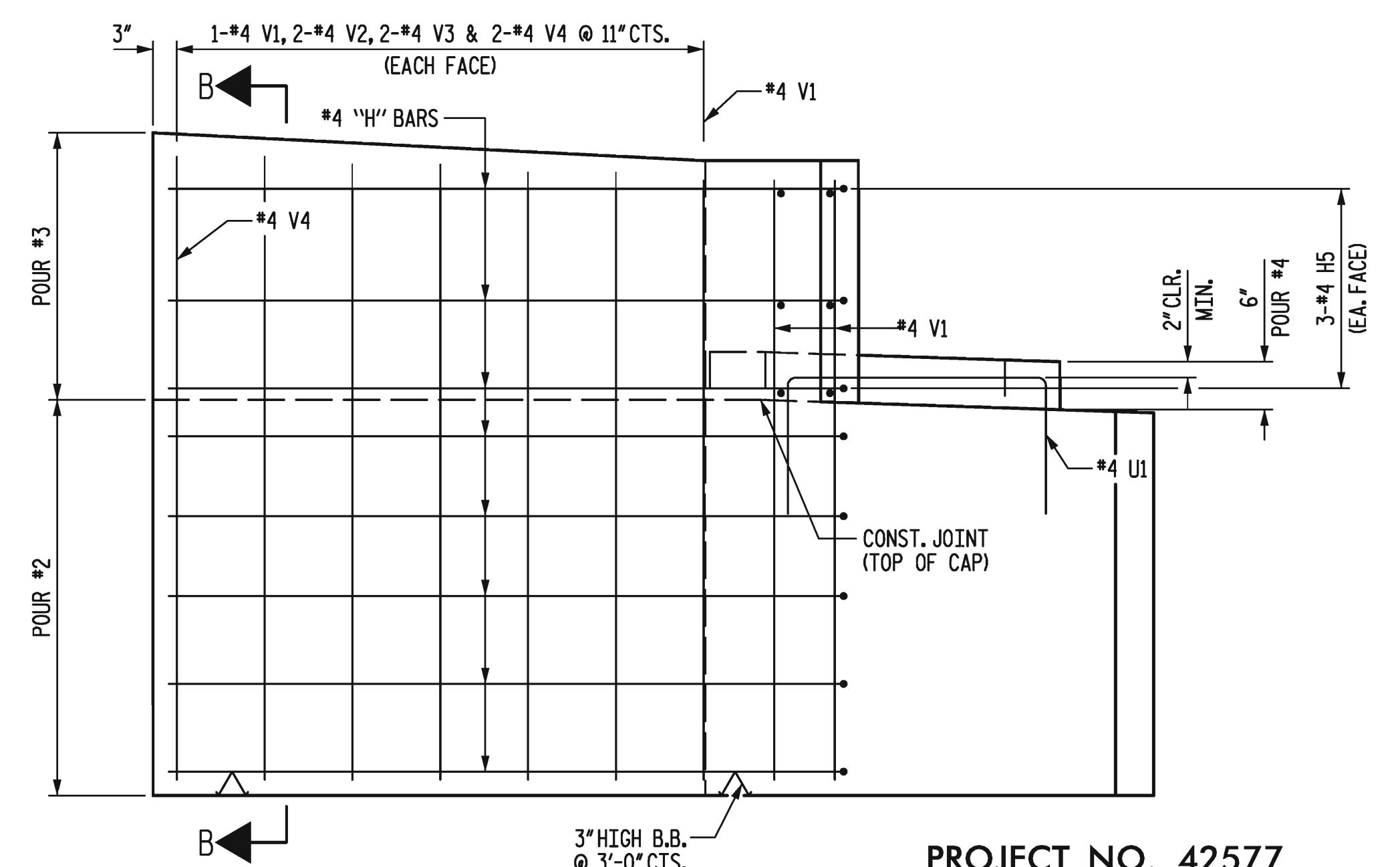
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4/26/2012  
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Florence & Hutcheson, Inc.

DRAWN BY: M.T. MOBLEY DATE: APR. 2012  
CHECKED BY: J.E. MONDOLFI DATE: APR. 2012



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



SECTION B-B

### ELEVATION OF WING - W2

PROJECT NO. 42577  
COUNTY: YANCEY  
STATION: 16 + 20.00 -L-

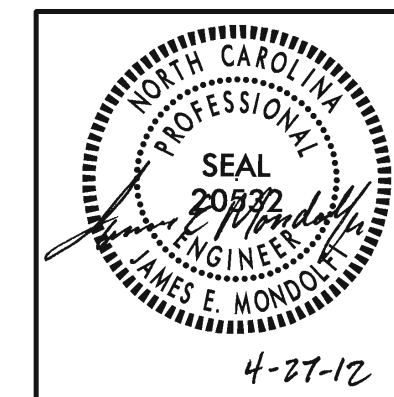
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**SUBSTRUCTURE**  
**END BENT NO. 1 WING DETAILS**

REVISIONS						SHEET NO. <b>S-10</b>
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS
2			4			18

SHEET NO.  
**S-10**

TOTAL SHEETS  
**18**

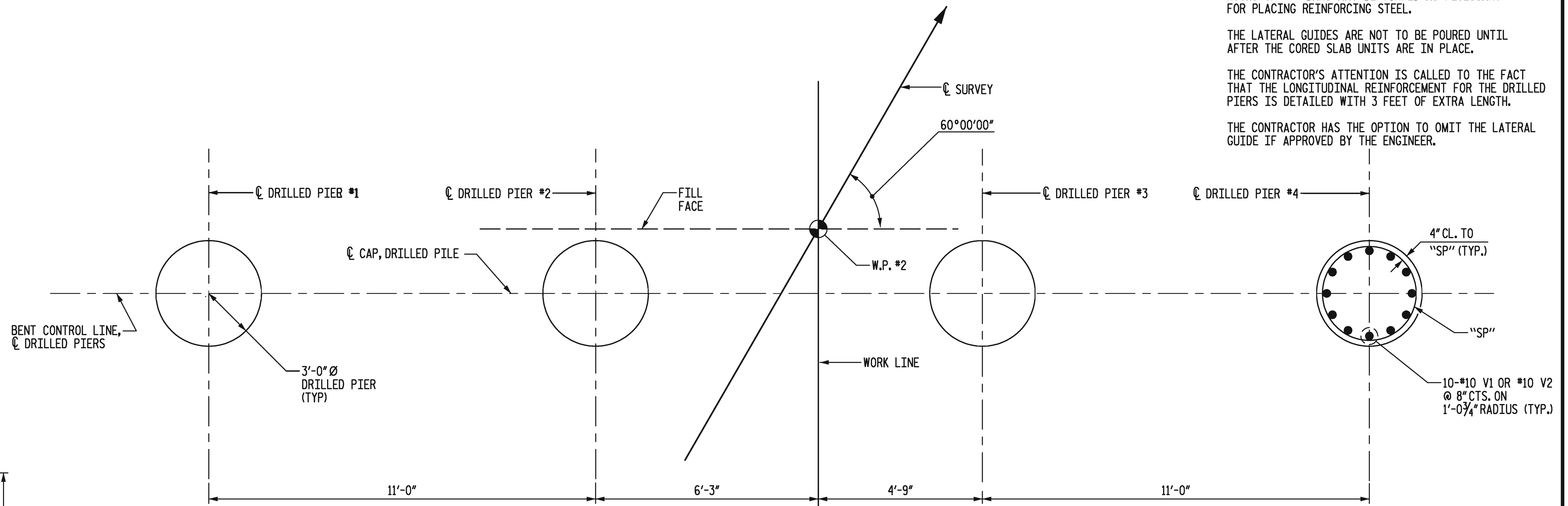
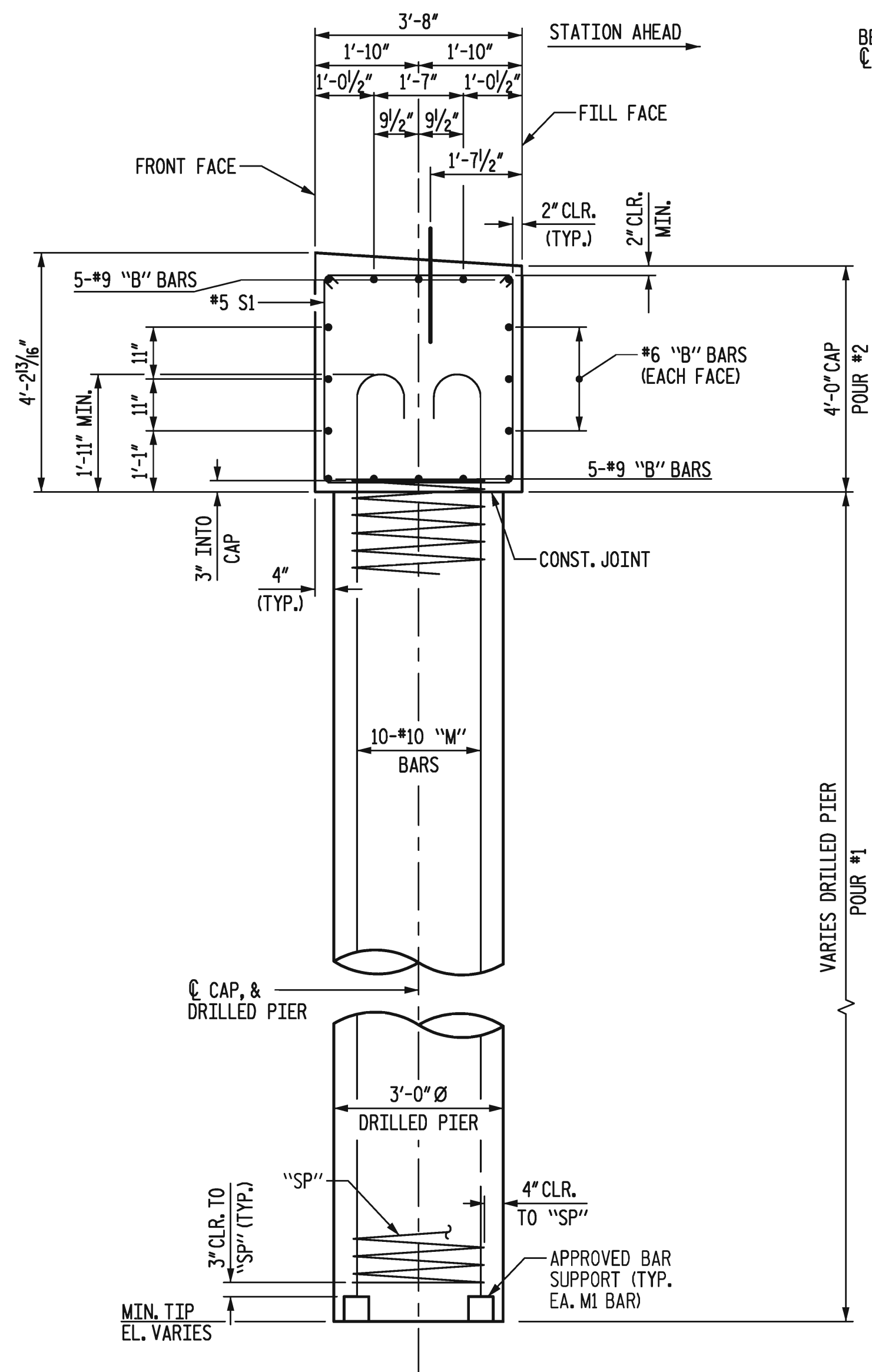






4/26/2012  
P:\Nema\413\Yancey-119\mal3007b\structures\bk-5126\_sd\_sht12.dgn  
Florence & Hutcheson, Inc.

DRAWN BY: M.T. MOBLEY DATE: APR. 2012  
CHECKED BY: J.E. MONDOLFI DATE: APR. 2012



NOTES:

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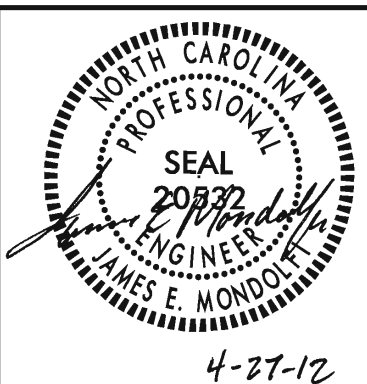
THE CONTRACTOR HAS THE OPTION TO OMIT THE LATERAL GUIDE IF APPROVED BY THE ENGINEER.

PROJECT NO. 42577  
COUNTY: YANCEY  
STATION: 16 + 20.00 -L-

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

SUBSTRUCTURE  
END BENT NO. 2 DETAILS

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CONSULTING ENGINEERS  
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REVISIONS						SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE	S-12	
1			3			TOTAL SHEETS	
2			4			18	



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



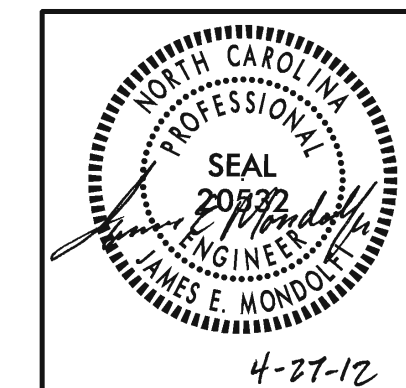
PROJECT NO. 42577  
COUNTY: YANCEY  
STATION: 16 + 20.00 -L-

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**SUBSTRUCTURE**  
**END BENT NO. 2 WING DETAILS**

REVISIONS						SHEET NO. <b>S-13</b>
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS <b>18</b>
2			4			

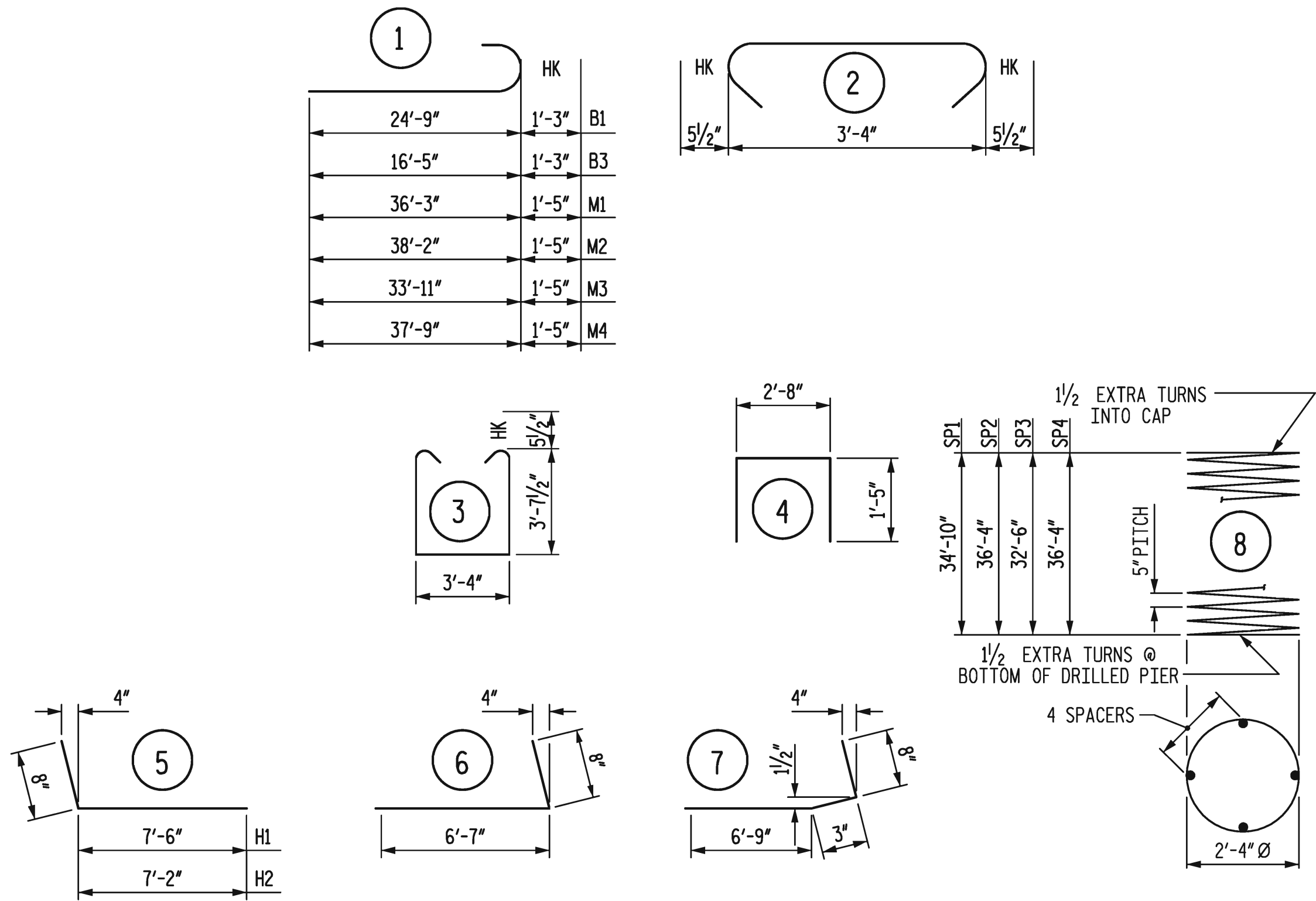
SHEET NO.  
S-13  
TOTAL SHEETS  
18



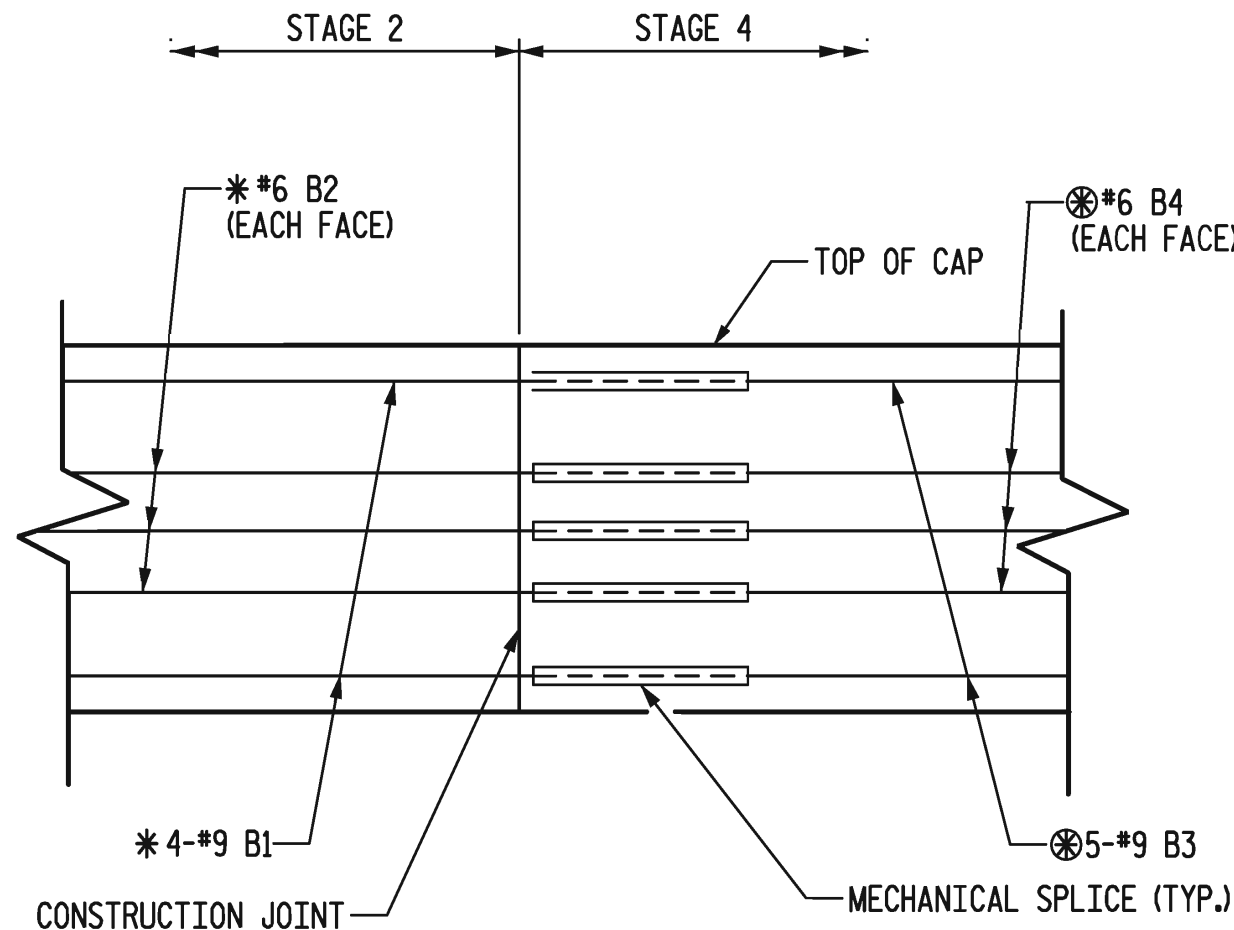


4/26/2012  
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BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

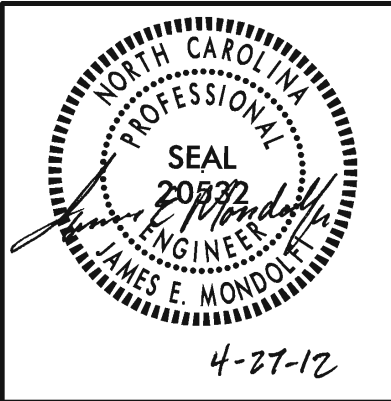


DETAIL "B"

- \* EXTEND ALL BARS IN STAGE 2 1'-6" MIN. BEYOND CONST. JOINT
- ⊗ PLACE ALL BARS IN STAGE 4 AT OR NEAR THE END OF BARS EXTENDING FROM STAGE 2

BILL OF MATERIAL

END BENT #1 STAGE 2						END BENT #1 STAGE 4						END BENT #2 STAGE 2						END BENT #2 STAGE 4					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	10	#9	1	26'-0"	884	B3	10	#9	1	17'-8"	601	B1	10	#9	1	26'-0"	884	B3	10	#9	1	17'-8"	601
B2	6	#6	STR	24'-9"	223	B4	6	#6	STR	16'-5"	148	B2	6	#6	STR	24'-9"	223	B4	6	#6	STR	16'-5"	148
D1	11	#6	STR	1'-6"	25	D1	9	#6	STR	1'-6"	20	D1	11	#6	STR	1'-6"	25	D1	9	#6	STR	1'-6"	20
H1	8	#4	5	8'-2"	44	H3	8	#4	6	7'-3"	39	H3	8	#4	6	7'-3"	39	H1	8	#4	5	8'-2"	44
H2	8	#4	5	7'-10"	42	H4	8	#4	7	7'-8"	41	H4	8	#4	7	7'-8"	41	H2	8	#4	5	7'-10"	42
H5	6	#4	STR	3'-11"	16	H5	6	#4	STR	3'-11"	16	H5	6	#4	STR	3'-11"	16	H5	6	#4	STR	3'-11"	16
M1	20	#10	1	37'-8"	3,242	M2	20	#10	1	39'-7"	3,407	M3	20	#10	1	35'-4"	3,041	M4	20	#10	1	39'-2"	3,371
S1	18	#5	3	11'-6"	216	S1	15	#5	3	11'-6"	180	S1	18	#5	3	11'-6"	216	S1	15	#5	3	11'-6"	180
S2	18	#5	2	4'-3"	80	S2	15	#5	2	4'-3"	66	S2	18	#5	2	4'-3"	80	S2	15	#5	2	4'-3"	66
U1	2	#4	4	5'-6"	7	U1	2	#4	4	5'-6"	7	U1	2	#4	4	5'-6"	7	U1	2	#4	4	5'-6"	7
V1	16	#4	STR	6'-3"	67	V1	14	#4	STR	6'-3"	58	V5	16	#4	STR	6'-1"	65	V5	14	#4	STR	6'-1"	57
V2	4	#4	STR	6'-4"	17	V2	4	#4	STR	6'-4"	17	V6	6	#4	STR	6'-0"	24	V6	4	#4	STR	6'-0"	16
V3	4	#4	STR	6'-5"	17	V3	4	#4	STR	6'-5"	17	V7	4	#4	STR	5'-10"	16	V7	4	#4	STR	5'-10"	16
V4	2	#4	STR	6'-6"	9	V4	4	#4	STR	6'-6"	17							V8	4	#4	STR	5'-11"	16
REINFORCING STEEL 4,889 LB.						REINFORCING STEEL 4,634 LB.						REINFORCING STEEL 4,677 LB.						REINFORCING STEEL 4,600 LB.					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
SP-1	2	*	8	621'-8"	1,296	SP-2	2	*	8	647'-6"	1,366	SP-3	2	*	8	581'-6"	1,212	SP-4	2	*	8	647'-6"	1,350
SPIRAL COLUMN REINFORCING STEEL (FOR ONE BENT) 1,296 LB.						SPIRAL COLUMN REINFORCING STEEL (FOR ONE BENT) 1,366 LB.						SPIRAL COLUMN REINFORCING STEEL (FOR ONE BENT) 1,212 LB.						SPIRAL COLUMN REINFORCING STEEL (FOR ONE BENT) 1,350 LB.					
* THE "SP" SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR						* THE "SP" SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR						* THE "SP" SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR						* THE "SP" SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR					
CLASS A CONCRETE BREAKDOWN						CLASS A CONCRETE BREAKDOWN						CLASS A CONCRETE BREAKDOWN						CLASS A CONCRETE BREAKDOWN					
POUR #2 (CAP)					12.1 C.Y.	POUR #2 (CAP)					10.5 C.Y.	POUR #2 (CAP)					12.3 C.Y.	POUR #2 (CAP)					10.3 C.Y.
POUR #3 (WING)					2.1 C.Y.	POUR #3 (WING)					1.7 C.Y.	POUR #3 (WING)					1.7 C.Y.	POUR #3 (WING)					2.1 C.Y.
POUR #4 (LATERAL GUIDE)					0.1 C.Y.	POUR #4 (LATERAL GUIDE)					0.1 C.Y.	POUR #4 (LATERAL GUIDE)					0.1 C.Y.	POUR #4 (LATERAL GUIDE)					0.1 C.Y.
TOTAL CLASS A CONCRETE					14.3 C.Y.	TOTAL CLASS A CONCRETE					12.3 C.Y.	TOTAL CLASS A CONCRETE					14.1 C.Y.	TOTAL CLASS A CONCRETE					12.5 C.Y.
DRILLED PIERS:						DRILLED PIERS:						DRILLED PIERS:						DRILLED PIERS:					
DRILLED PIER CONCRETE					18.2 C.Y.	DRILLED PIER CONCRETE					19.2 C.Y.	DRILLED PIER CONCRETE					17.0 C.Y.	DRILLED PIER CONCRETE					19.0 C.Y.
POUR #1 (DRILLED PIERS)						POUR #1 (DRILLED PIERS)						POUR #1 (DRILLED PIERS)						POUR #1 (DRILLED PIERS)					
3'-0"Ø DRILLED PIER					70 LIN.FT.	3'-0"Ø DRILLED PIER					74 LIN.FT.	3'-0"Ø DRILLED PIER					65 LIN.FT.	3'-0"Ø DRILLED PIER					73 LIN.FT.
SPT TESTING					2 EACH	SPT TESTING					2 EACH	SPT TESTING					2 EACH	SPT TESTING					2 EACH
SID INSPECTION					1 EACH	CSL TUBES					627 LIN.FT.	SID INSPECTION					1 EACH	CSL TUBES					621 LIN.FT.
CROSSHOLE SONIC LOGGING					1 EACH							CROSSHOLE SONIC LOGGING					1 EACH						
CSL TUBES					597 LIN.FT.							CSL TUBES					559 LIN.FT.						



PROJECT NO. 42577  
COUNTY: YANCEY  
STATION: 16 + 20.00 -L-

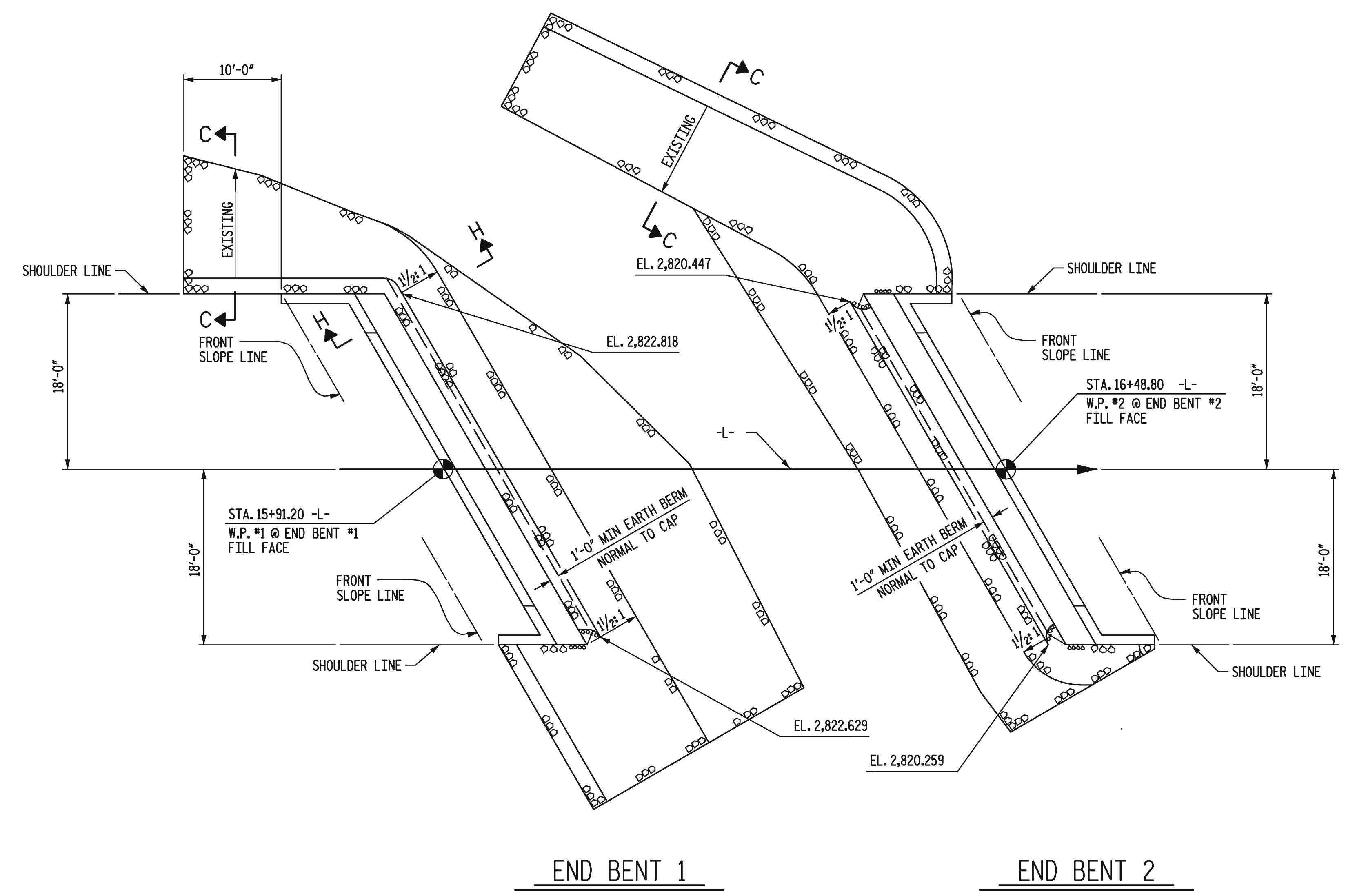
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

SUBSTRUCTURE  
END BENT NO. 1 & 2 DETAILS

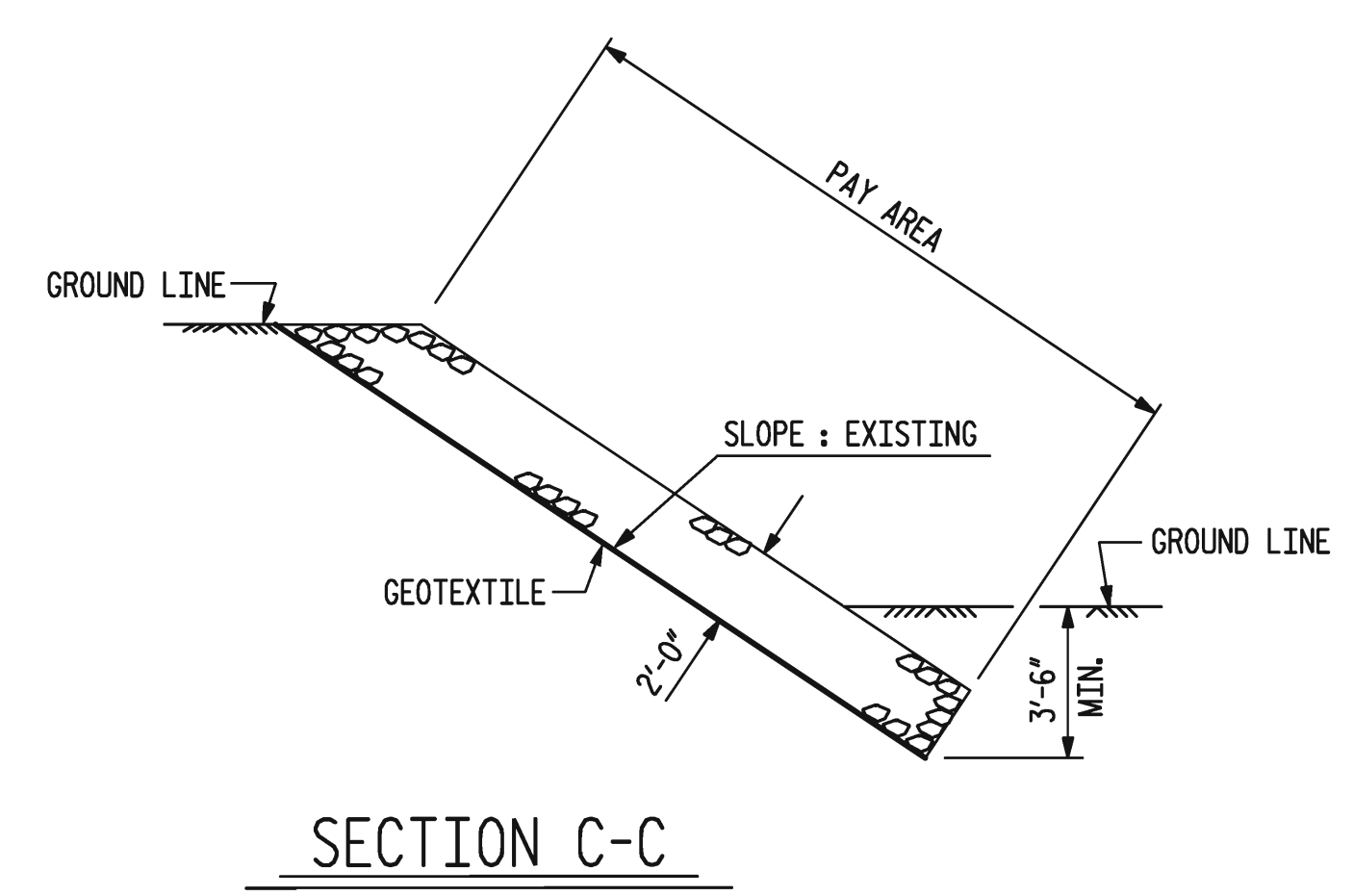
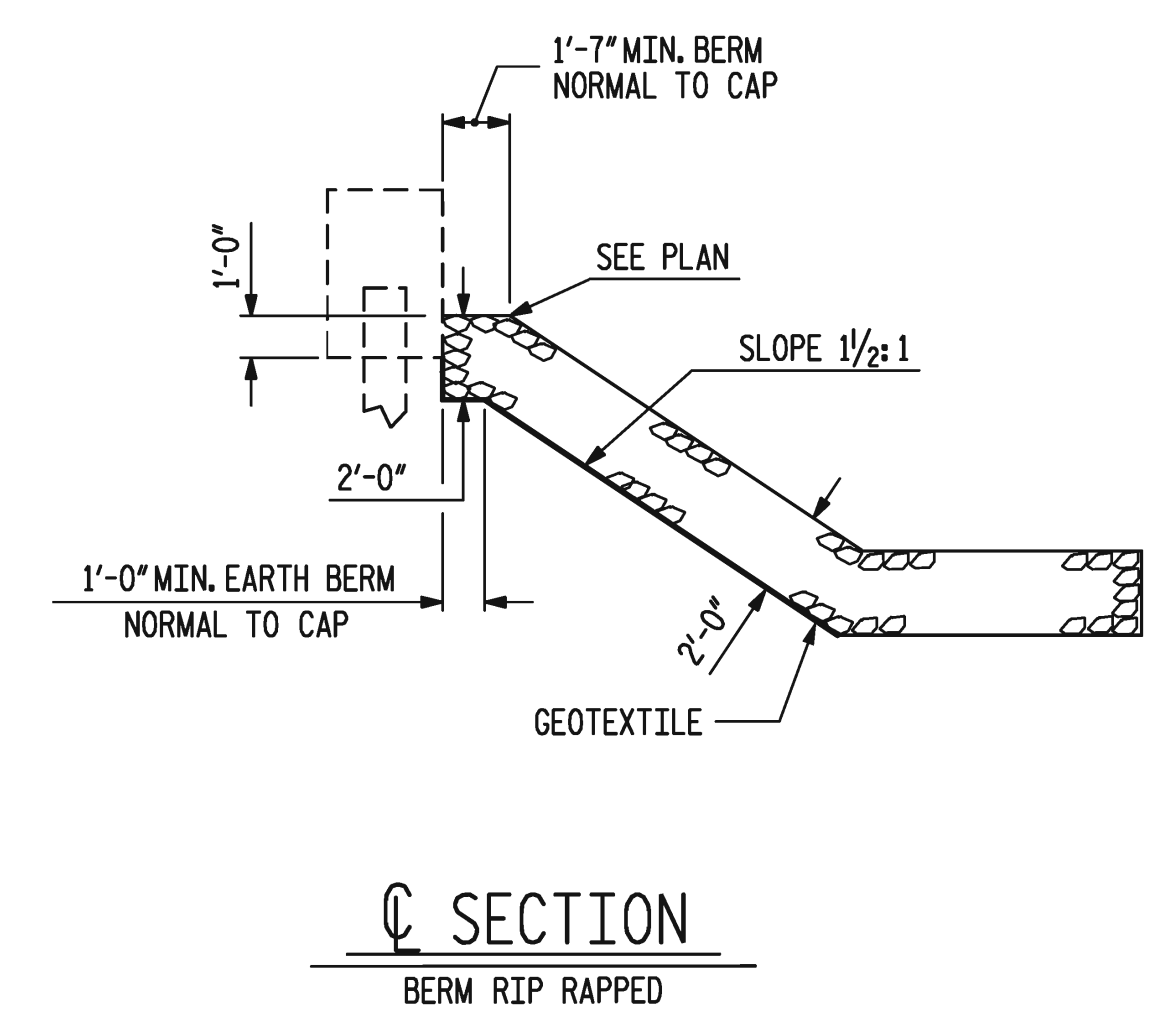
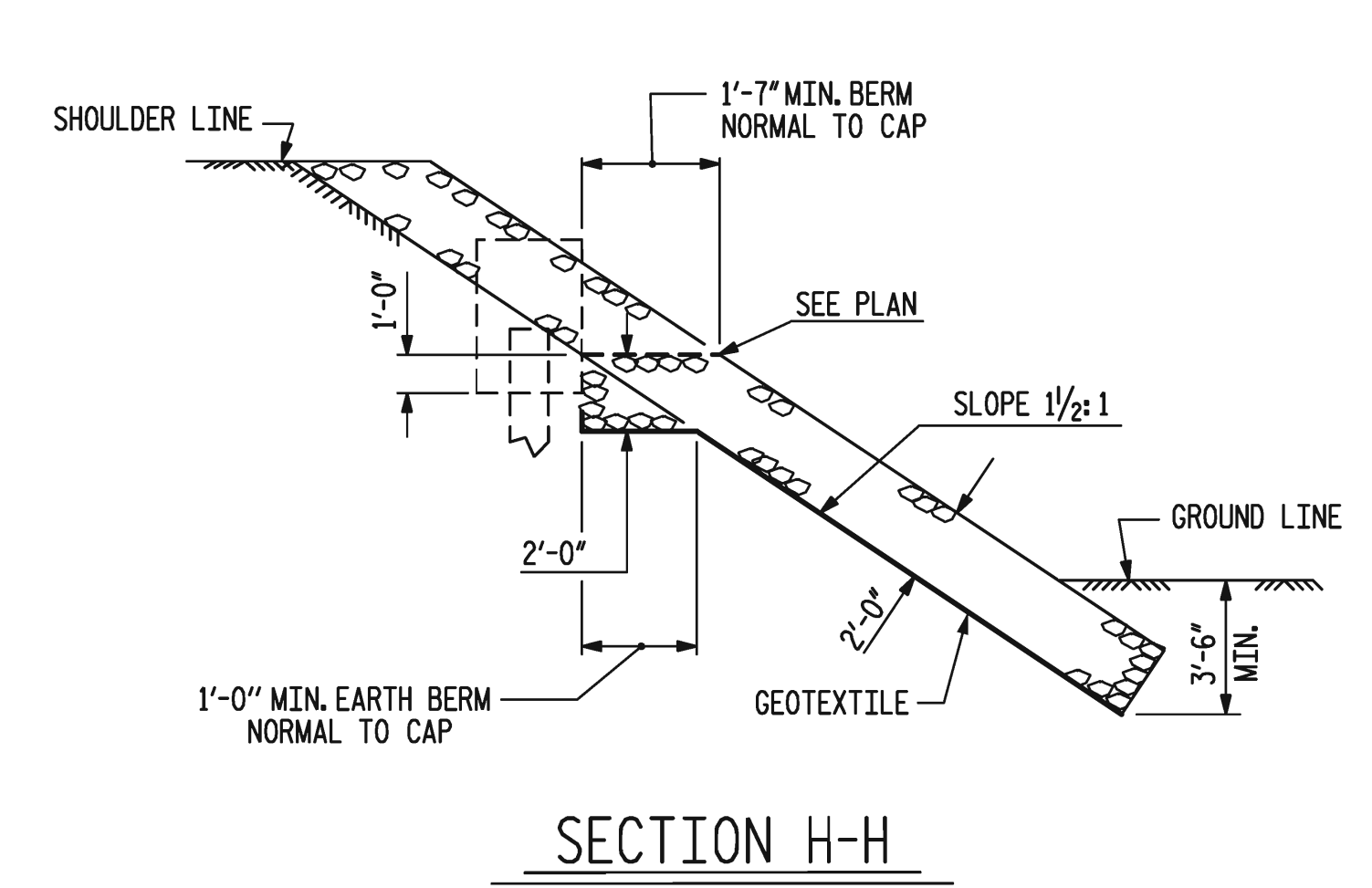
REVISIONS						SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE	S-14	
1			3			TOTAL SHEETS	
2			4			18	

DRAWN BY: J. L. MONDOL DATE: APR. 2012  
CHECKED BY: J. L. MONDOL DATE: APR. 2012

NOTES  
FOR BERM WIDTH DIMENSIONS, SEE GENERAL DRAWING.



ESTIMATED QUANTITIES		
BRIDGE @ STA. 16+20.00 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	139	154
END BENT 2	125	139



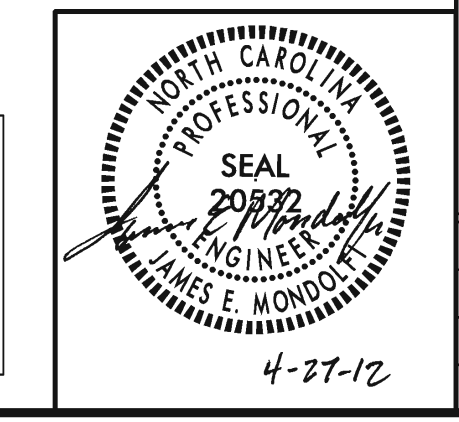
PROJECT NO. 42577  
COUNTY: YANCEY  
STATION: 16 + 20.00 -L-

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

RIP RAP DETAILS

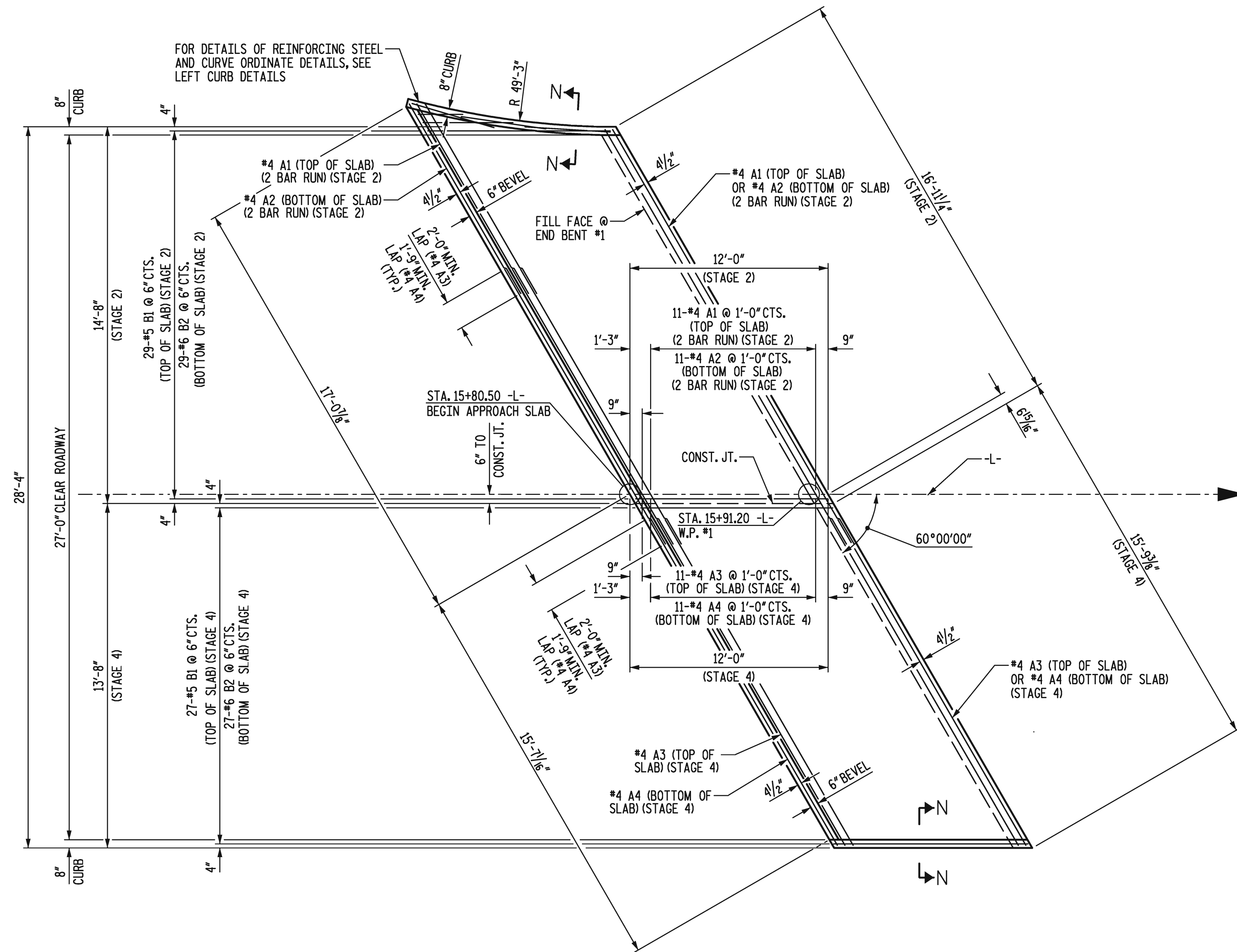
REVISIONS						SHEET NO. S-15 TOTAL SHEETS 18
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			

**Florence & Hutcheson**  
CONSULTING ENGINEERS  
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NC License No: F-0268

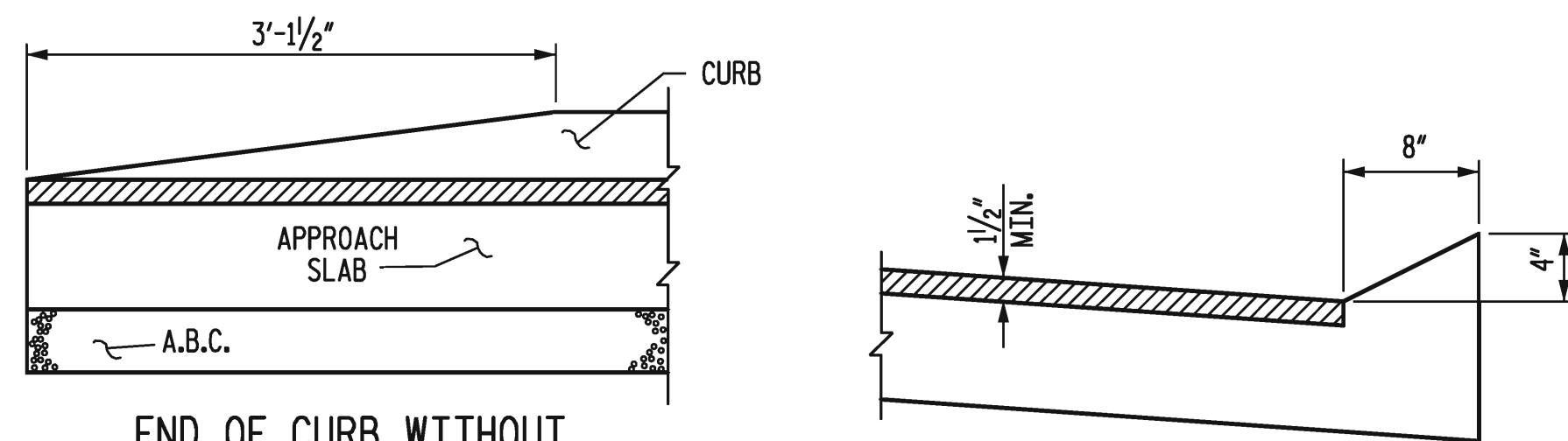


4/26/2012  
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Florence & Hutcheson, Inc.

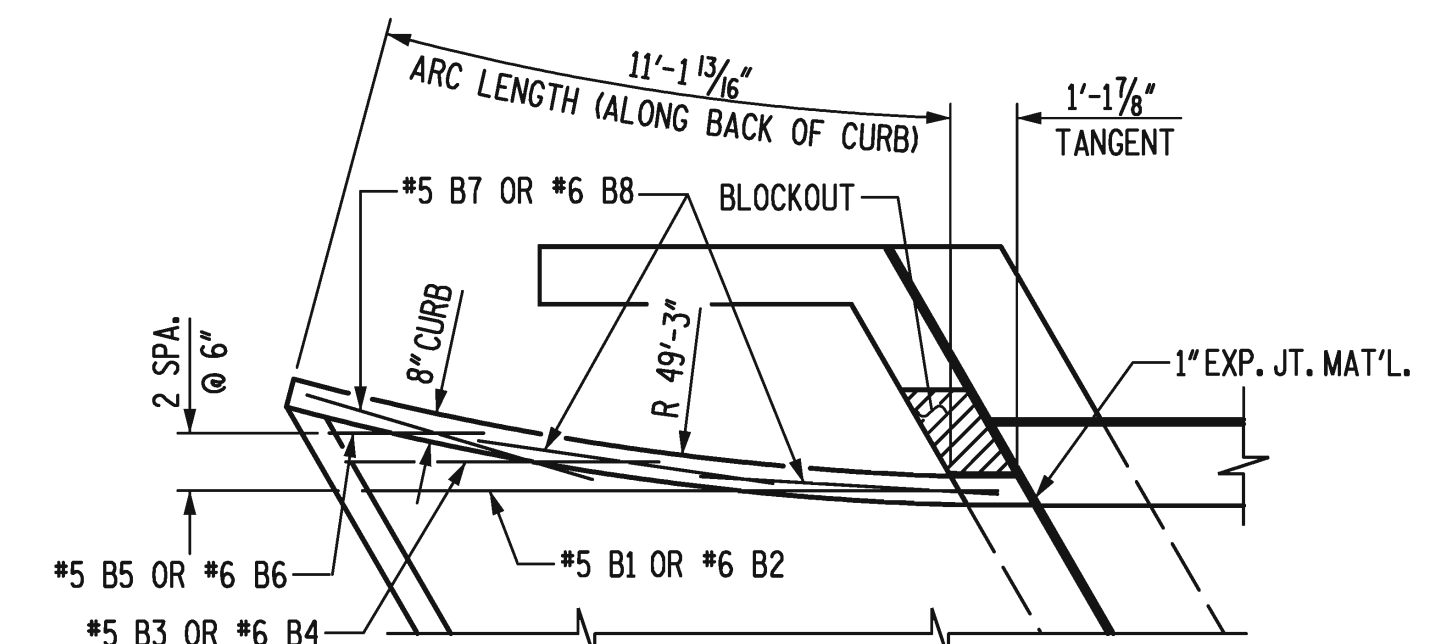
DRAWN BY: M.T. MOBLEY DATE: APR. 2012  
CHECKED BY: J.E. MONDOLFI DATE: APR. 2012



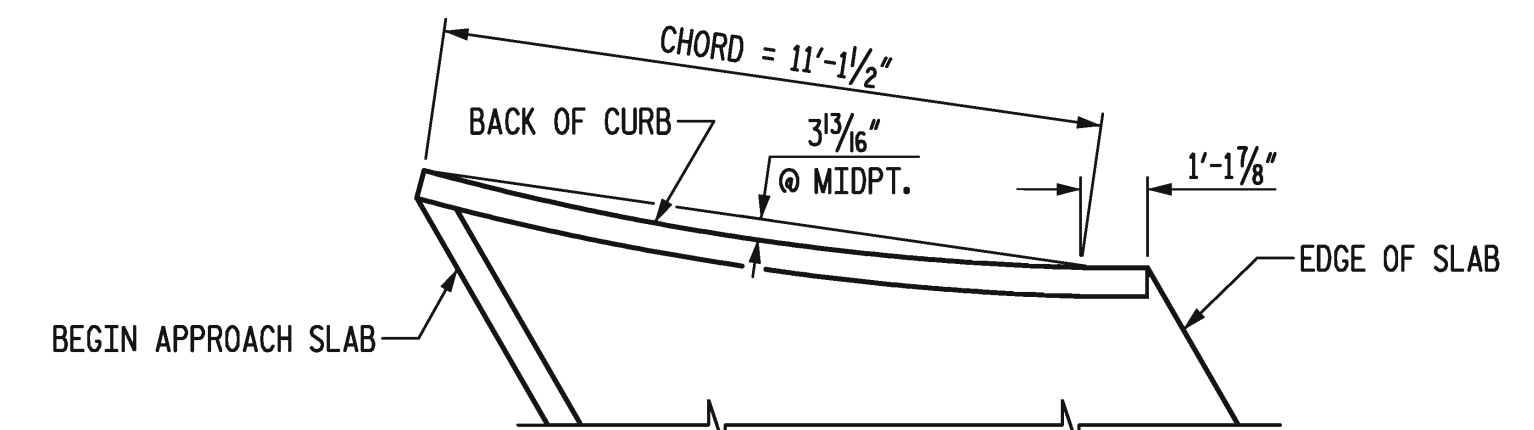
PLAN OF APPROACH SLAB AT END BENT #1



CURB DETAILS



PLAN



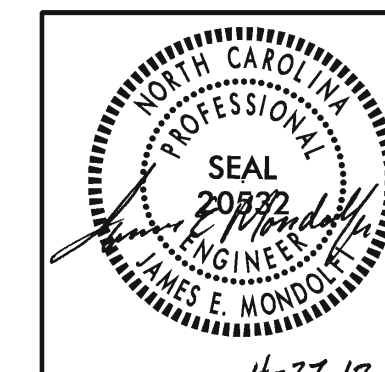
CURVE ORDINATE  
LEFT CURB DETAILS

"A" BARS NOT SHOWN FOR CLARITY

4/26/2012  
P:\Noma\13\Yancey-119\mal3007b\structures\bk-5126\_sd\_sht16.dgn  
Florence & Hutcheson, Inc.

DRAWN BY: M.T. MOBLEY DATE: APR. 2012  
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CONSULTING ENGINEERS  
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NC License No: F-0258



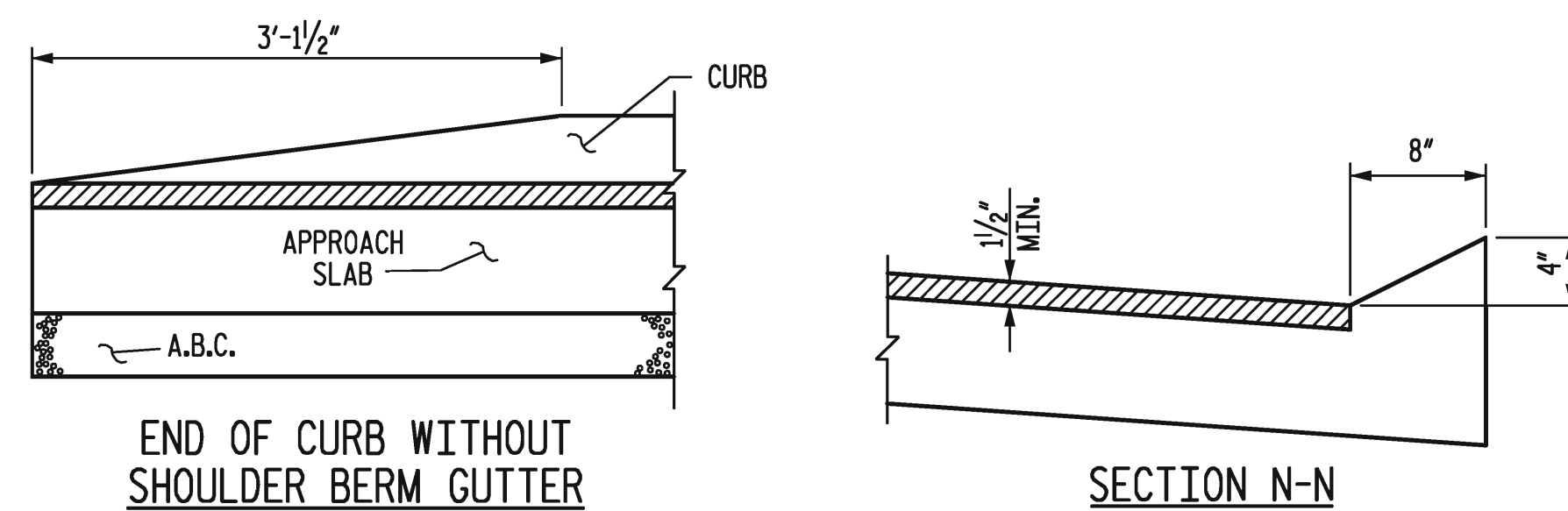
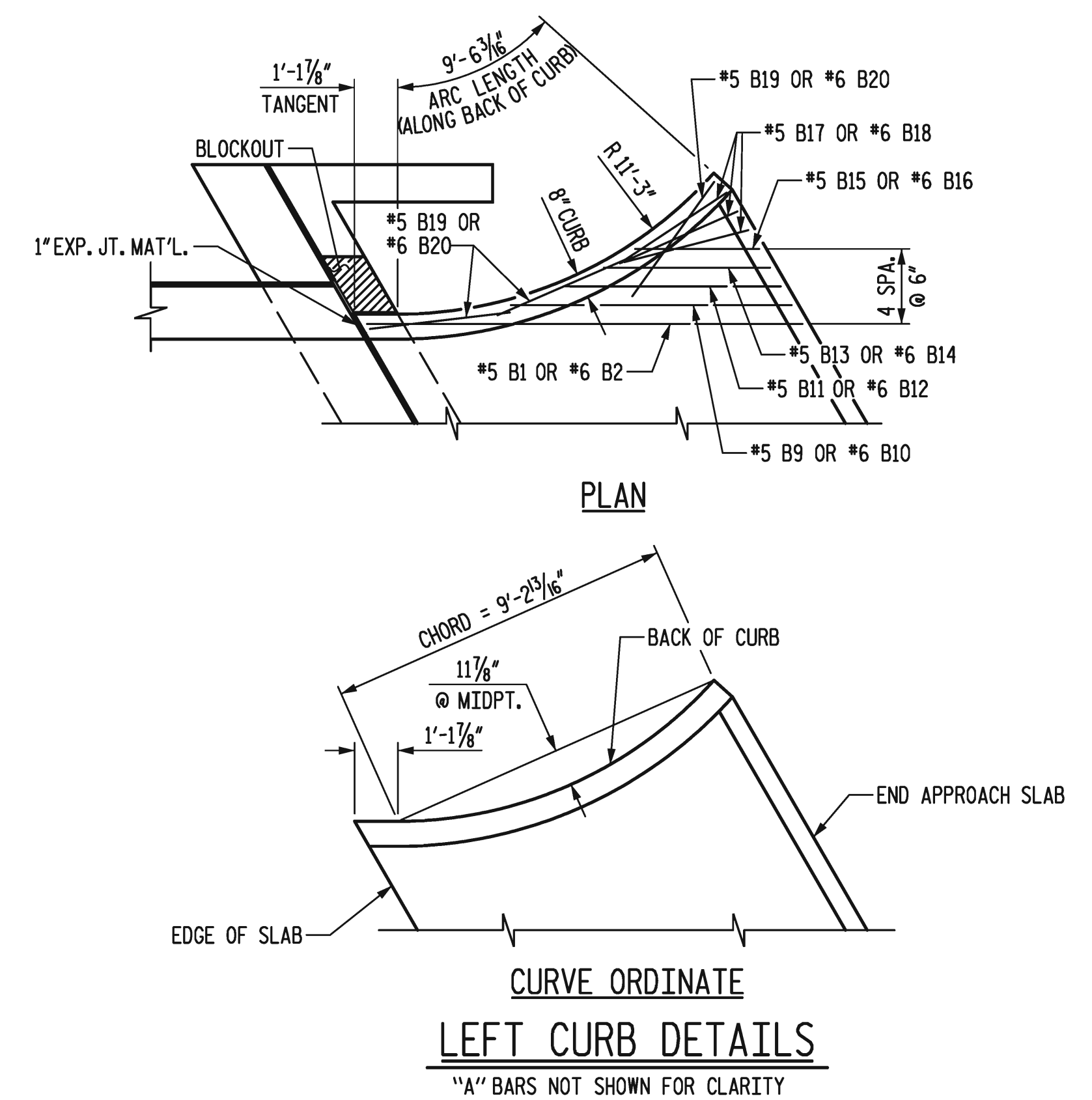
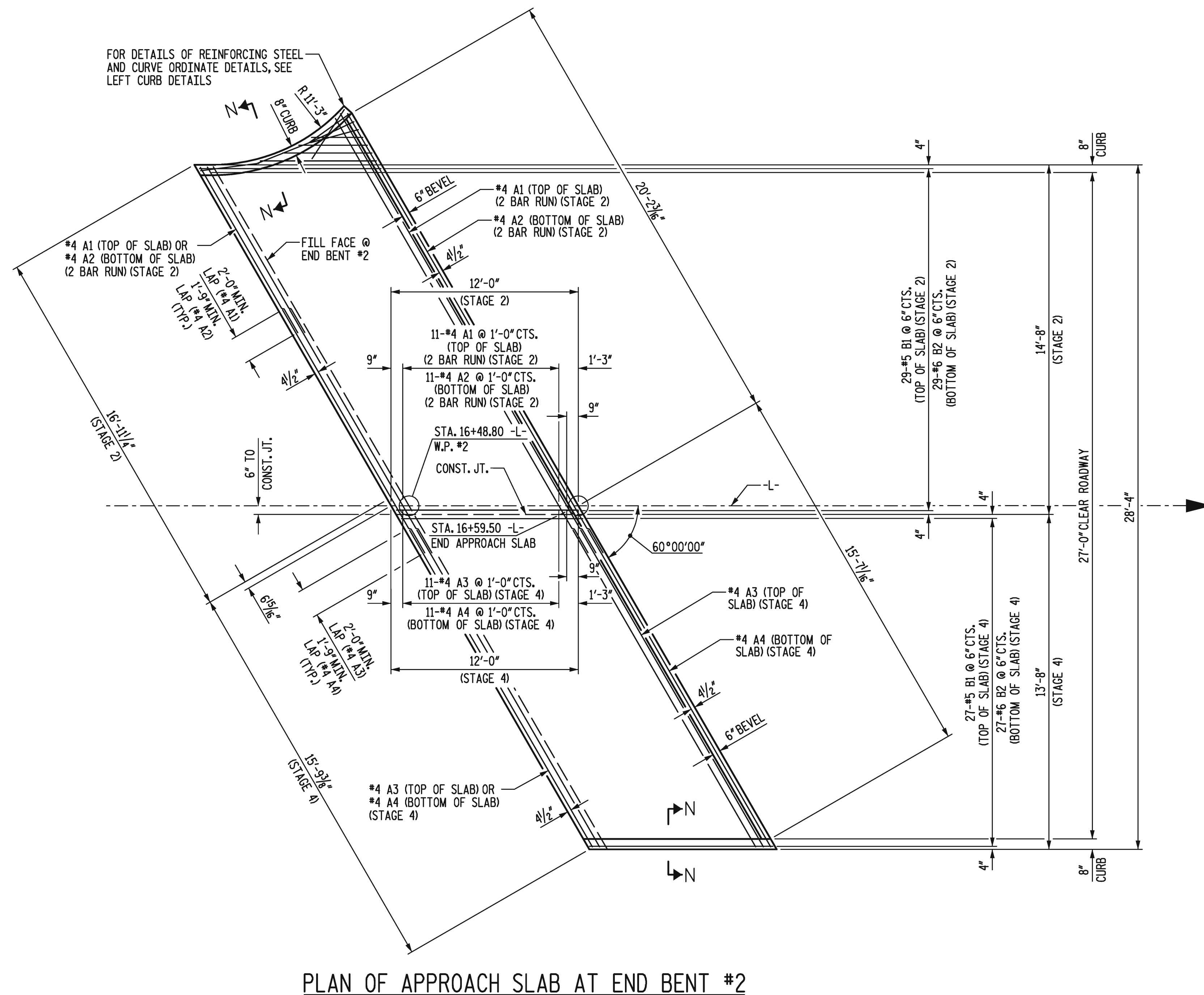
PROJECT NO. 42577  
COUNTY: YANCEY  
STATION: 16+20.00 -L-

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

APPROACH SLAB  
AT END BENT NO. 1

REVISIONS						SHEET NO. S-16	TOTAL SHEETS 18
NO.	BY	DATE	NO.	BY	DATE		
1			3				
2			4				





4/26/2012  
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 Florence & Hutcheson, Inc.

**DRAWN BY: M.T. MOBLEY**      **DATE: APR. 2012**  
**CHECKED BY: J.E. MONDOLFI**   **DATE: APR. 2012**

**CHECKED BY: J.E. MONDOLFI DATE: APR. 2012**

PROJECT NO. 42577  
COUNTY: YANCEY  
STATION: 16 + 20.00 -L-

COUNTY: YANCEY

STATION: 16+20.00 -L-

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

DEPARTMENT OF TRANSPORTATION  
RALEIGH

RALEIGH

APPROACH SLAB  
AT END BENT NO. 2

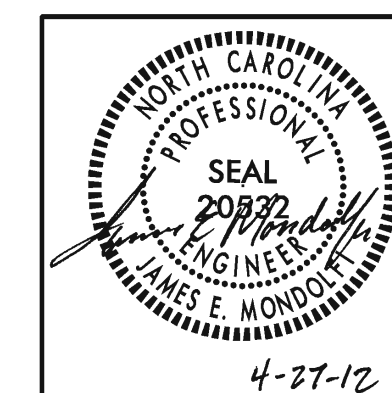
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-17
1			3			TOTAL SHEETS
2			4			18

HEET NO.  
17

-17-

18

10



BILL OF MATERIAL

BILL OF MATERIAL																									
APPROACH SLAB AT END BENT #1 STAGE 2						APPROACH SLAB AT END BENT #1 STAGE 4						APPROACH SLAB AT END BENT #2 STAGE 2						APPROACH SLAB AT END BENT #2 STAGE 4							
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT		
*A1	26	*4	STR	10'-10"	188	*A3	13	*4	STR	15'-7"	135	*A1	26	*4	STR	12'-1"	210	*A3	13	*4	STR	15'-7"	135		
A2	26	*4	STR	10'-7"	184	A4	13	*4	STR	15'-7"	135	A2	26	*4	STR	11'-10"	206	A4	13	*4	STR	15'-7"	135		
*B1	29	*5	STR	11'-1"	335	*B1	27	*5	STR	11'-1"	312	*B1	29	*5	STR	11'-1"	335	*B1	27	*5	STR	11'-1"	312		
B2	29	*6	STR	11'-7"	505	B2	27	*6	STR	11'-7"	470	B2	29	*6	STR	11'-7"	505	B2	27	*6	STR	11'-7"	470		
*B3	1	*5	STR	5'-3"	5							*B9	1	*5	STR	7'-7"	8								
B4	1	*6	STR	5'-9"	9	REINFORCING STEEL					LB.	605	B10	1	*6	STR	8'-1"	12	REINFORCING STEEL					LB.	605
*B5	1	*5	STR	1'-11"	2	* EPOXY COATED REINFORCING STEEL					LB.	447	*B11	1	*5	STR	5'-8"	6	* EPOXY COATED REINFORCING STEEL					LB.	447
B6	1	*6	STR	2'-5"	4								B12	1	*6	STR	6'-2"	9							
* B7	3	*5	STR	5'-2"	16								*B13	1	*5	STR	4'-3"	4							
B8	3	*6	STR	5'-2"	23								B14	1	*6	STR	4'-9"	7							
						CLASS AA CONCRETE					C. Y.	7.0	*B15	1	*5	STR	3'-1"	3	CLASS AA CONCRETE					C. Y.	7.0
													B16	1	*6	STR	3'-7"	5							
REINFORCING STEEL													*B17	3	*5	STR	3'-9"	12							
* EPOXY COATED REINFORCING STEEL													B18	3	*6	STR	4'-3"	19							
													*B19	3	*5	STR	4'-8"	15							
CLASS AA CONCRETE													B20	3	*6	STR	4'-8"	21							

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 2012 "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; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

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. 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. 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:

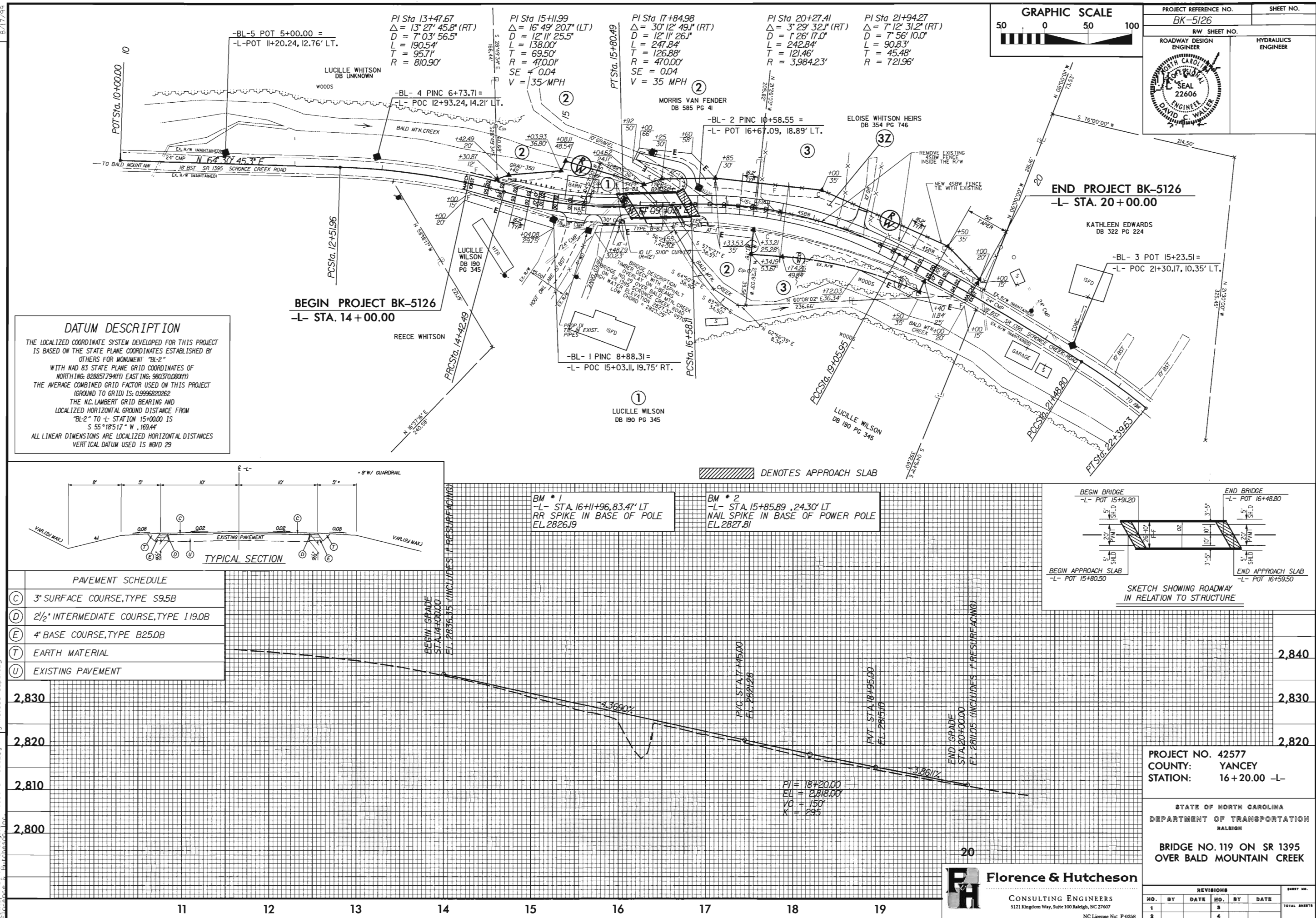
GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH


JANUARY, 1990

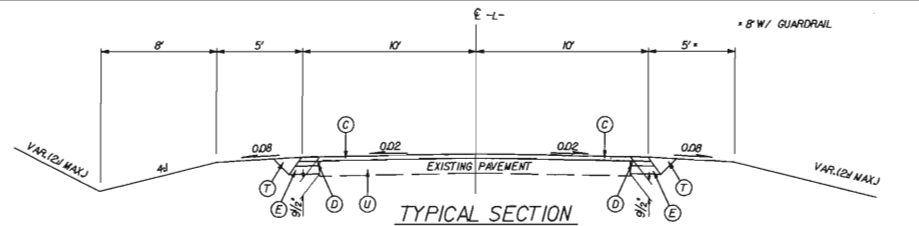
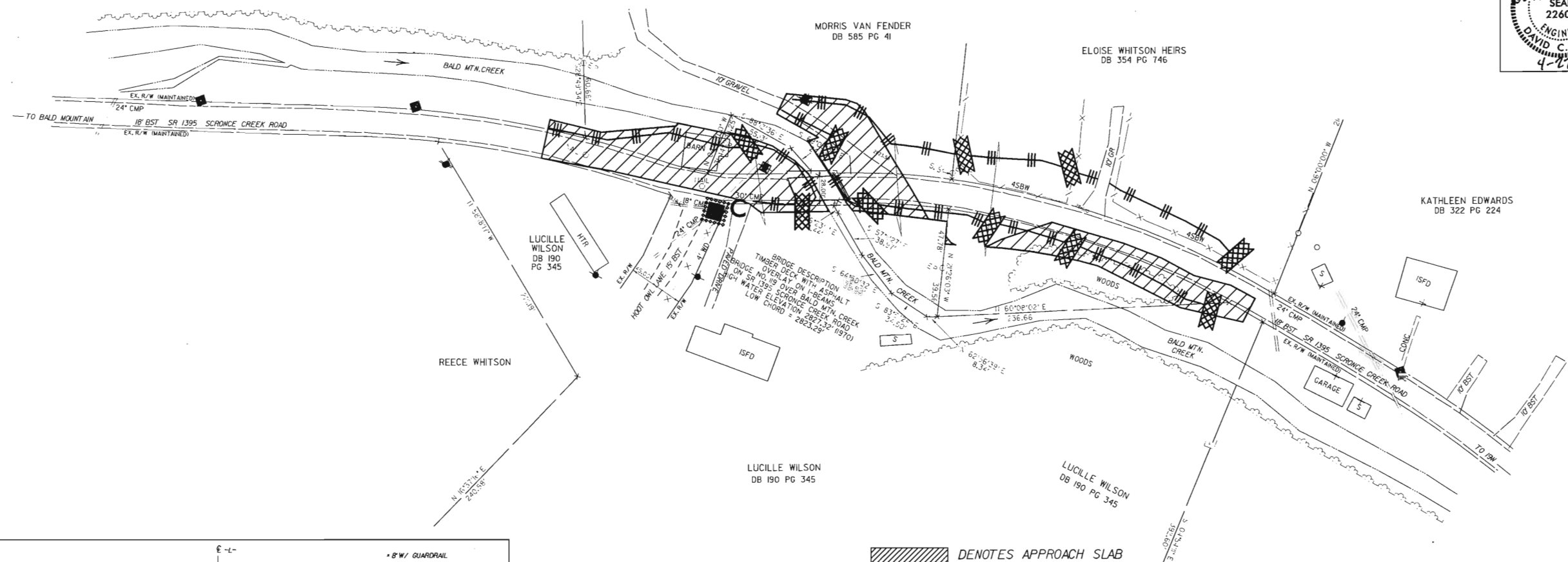


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Tutorance & Hutcheson, Inc.



# EROSION CONTROL PLAN

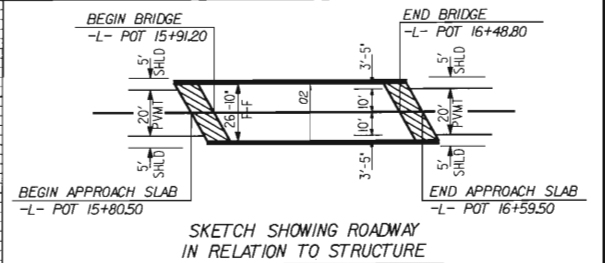
PROJECT REFERENCE NO.	SHEET NO.
BK-5126	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	



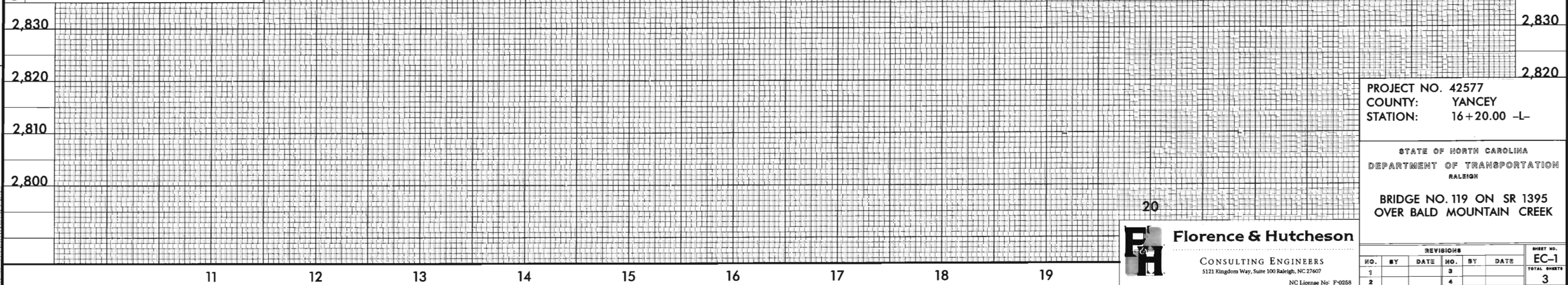
/// DENOTES APPROACH SLAB

BM \* 1  
-L- STA. 16+11+96.83.47' LT  
RR SPIKE IN BASE OF POLE  
EL. 2826.19

BM \* 2  
-L- STA. 15+85.89, 24.30' LT  
NAIL SPIKE IN BASE OF POWER POLE  
EL. 2827.81



PAVEMENT SCHEDULE	
(C)	3" SURFACE COURSE, TYPE S9.5B
(D)	2 1/2" INTERMEDIATE COURSE, TYPE I19.0B
(E)	4" BASE COURSE, TYPE B25.0B
(T)	EARTH MATERIAL
(U)	EXISTING PAVEMENT



PROJECT NO. 42577  
COUNTY: YANCEY  
STATION: 16+20.00 -L-

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

BRIDGE NO. 119 ON SR 1395  
OVER BALD MOUNTAIN CREEK

20



**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	TOTAL SHEETS	
1			3			3	
2			4				

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT NO. 42577  
COUNTY: YANCEY  
STATION: 16+20.00 -L-

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
  
BRIDGE NO. 119 ON SR 1395  
OVER BALD MOUNTAIN CREEK

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



NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL  
REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY  
NEED TO BE INSTALLED AS DIRECTED BY THE  
ENGINEER.

PLANTING DETAILS  
SEEDLING / LINER BARERROOT PLANTING DETAIL

HEALING IN

1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.
4. Place a single layer of plants against the sloping end so that the root collar is at ground level.
5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.
6. Repeat layers of plants and sawdust as necessary and water thoroughly.

DIBBLE PLANTING METHOD  
USING THE KBC PLANTING BAR

1. Insert planting bar as shown and pull handle toward planter.
2. Remove planting bar and place seedling at correct depth.
3. Insert planting bar 2 inches toward planter from seedling.
4. Pull handle of bar toward planter, firming soil at bottom.
5. Push handle forward firming soil at top.
6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG  
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.

KBC PLANTING BAR  
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.

ROOT PRUNING  
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.



REFORESTATION

- ☐ TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

30% PLATANUS OCCIDENTALIS	SYCAMORE	12 in - 18 in BR
30% FRAXINUS PENNSYLVANICA	GREEN ASH	12 in - 18 in BR
40% BETULA NIGRA	RIVER BIRCH	12 in - 18 in BR

REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

PROJECT NO. 42577  
COUNTY: YANCEY  
STATION: 16+20.00 -L-

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

BRIDGE NO. 119 ON SR 1395  
OVER BALD MOUNTAIN CREEK

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

7/2/99

4/27/2012  
Florence & Hutcheson, Inc.

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 JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE  
CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMOPRARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGERS
1160.01	TEMPORARY CRASH CUSHION
1170.01	POSITIVE PROTECTION
1180.01	SKINNY DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS (TEMPORARY & PERMANENT)
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

INDEX OF SHEETS

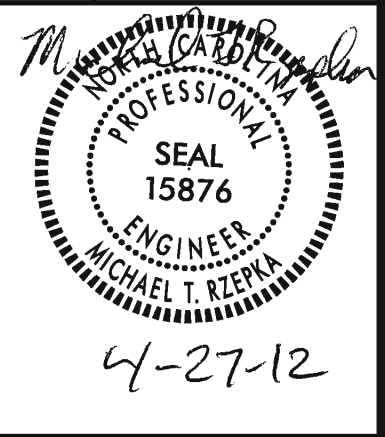
SHEET NO.	TITLE
TCP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, PAV'T MARKING SCHEDULE AND INDEX OF SHEETS
TCP-2	GENERAL NOTES
TCP-3	PHASE I PHASING AND OVERVIEW
TCP-4	PHASE II PHASING AND OVERVIEW

PAV'T MARKING SCHEDULE

DESCRIPTION	PAY ITEM
WHITE EDGELINE 2X	PAINT (4")
YELLOW DOUBLE CENTER LINE 2X	PAINT (4")
WHITE STOP BAR 2X	PAINT (24")
YELLOW AND YELLOW	TEMPORARY RAISED MARKERS

DRAWN BY: GE PARKER      DATE: FEBRUARY 2012  
CHECKED BY: MT RZEPKA      DATE: FEBRUARY 2012

PROJECT REFERENCE NO.	SHEET NO.
BK-5126	TCP-1



LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- NORTH ARROW
- PROPOSED PVMT.
- EXIST. PVMT.
- PROPOSED CONSTRUCTION
- REMOVAL OF EXIST. PAVEMENT AND BRIDGE

TRAFFIC CONTROL DEVICES

- TYPE I BARRICADE
- TYPE II BARRICADE
- TYPE III BARRICADE
- CONE
- DRUM
- FLASHING ARROW PANEL (TYPE C)
- TYPE 'B' WARNING LIGHT
- STATIONARY SIGN
- PORTABLE SIGN
- WARNING FLAGS
- CRASH CUSHION
- CHANGEABLE MESSAGE SIGN
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- POLICE
- FLAGGER
- DRUM (PROFILE)

PAVEMENT MARKINGS

- CRYSTAL PAVEMENT MARKER
- YELLOW/YELLOW PAVEMENT MARKER
- CRYSTAL/RED PAVEMENT MARKER
- PAVEMENT MARKING SYMBOLS

PROJECT NO. 37580  
COUNTY: YANCEY  
STATION: 16 + 42.50

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

BRIDGE NO. 119 ON SR 1395  
OVER BALD MOUNTAIN 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	TCP-1
1			3			TOTAL SHEETS
2			4			

7/2/99

4/27/2002  
Florence & Hutcheson, Inc.

## 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.

### LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.
- B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

### PAVEMENT EDGE DROP OFF REQUIREMENTS

- D) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPEN TRAVEL LANE THAT HAS A DROP-OFF AS FOLLOWS:
- BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.
- BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.
- BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.
- E) DO NOT EXCEED A DIFFERENCE OF 2 inches IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NORMAL LIFTS OF 1.5 inches. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500 FT IN ADVANCE AND A MINIMUM OF ONCE EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

### TRAFFIC PATTERN ALTERATIONS

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

## PROJECT NOTES

### SIGNING

- G) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- H) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

### TRAFFIC BARRIER

- I) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRAFFIC CONTROL PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION, PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS OR AS DIRECTED BY THE ENGINEER.
- DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.
- ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE/RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.
- INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWN STREAM SIDE OF TRAFFIC.
- INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.
- J) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED IMPACT ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.
- PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS.

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45-50	20 FT
55	25 FT
60 MPH OR GREATER	30 FT

### TRAFFIC CONTROL DEVICES

- K) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTERS IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), FOR ADDITIONAL REQUIREMENTS.

### PAVEMENT MARKINGS AND MARKERS

- L) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
SR 1395 (BALD MOUNTAIN ROAD)	PAINT	PERMANENT RAISED

- M) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
SR 1395 (BALD MOUNTAIN ROAD)	PAINT	TEMPORARY RAISED

- N) PLACE AT LEAST TWO APPLICATIONS 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.
- O) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- P) PLACE ONE APPLICATIONS OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

### TEMPORARY SIGNALS

- Q) TEMPORARY TRAFFIC SIGNALS SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR.

## LOCAL NOTES

- 1) CONTRACTOR TO MAINTAIN DRIVEWAY ACCESS AT ALL TIMES.

FH

Florence & Hutcheson

CONSULTING ENGINEERS

5121 Kingdom Way, Suite 100 Raleigh, NC 27607

NC License No. F-4258

PROJECT NO. 37580 COUNTY: YANCEY STATION: 16+42.50					
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BRIDGE NO. 119 ON SR 1395 OVER BALD MOUNTAIN CREEK					
REVISIONS					SHEET NO.
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
TOTAL SHEETS					TCP-2

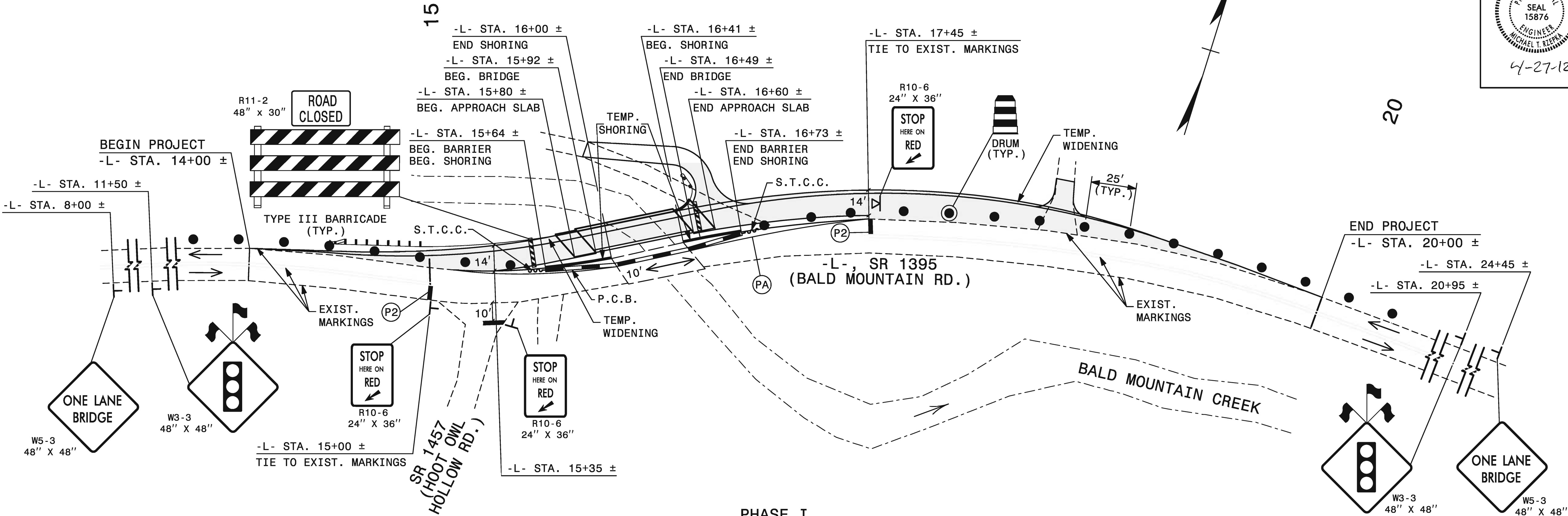
PHASE I OVERVIEW

PROJECT REFERENCE NO.  
BK-5126

SHEET NO.  
TCP-3

Seal and Signature

4-27-12



PHASE I

- STEP 1: - USING ROADWAY STANDARD DRAWING NUMBER 1101.04, SHEET 1 OF 1, INSTALL ADVANCE WARNING SIGNS (SEE ROADWAY STANDARD DRAWING NUMBER 1101.01).
- STEP 2: - USING ROADWAY STANDARD DRAWING NUMBER 1101.02, SHEET 1 OF 15, INSTALL TEMPORARY SIGNAL, KEEPING SIGNAL HEADS COVERED (SEE SIGNAL PLANS).
- STEP 3: - USING ROADWAY STANDARD DRAWING NUMBER 1101.04, SHEET 1 OF 1, INSTALL SIGNAL AHEAD SIGNS, "STOP HERE ON RED" SIGNS AND "ONE LANE BRIDGE" SIGNS AS SHOWN, KEEPING SIGNS COVERED.

WORKING IN A CONTINUOUS MANNER COMPLETE THE FOLLOWING WORK IN PHASE I, STEP 4, AS SHOWN, USING ROADWAY STANDARD DRAWING NUMBER 1101.02, SHEET 1 OF 15.

- STEP 4: - REMOVE EXISTING DOUBLE YELLOW CENTER LINES, LEFT EDGE LINE AND PAVEMENT MARKERS FROM -L- STA. 15+00 ± TO -L- STA. 17+45 ±.
- PLACE TEMPORARY MARKINGS (PAINT) AND MARKERS (TEMPORARY RAISED), FROM -L- STA. 15+00 ± TO -L- STA. 17+45 ±, AS SHOWN.
- UNCOVER TEMPORARY SIGNAL, SIGNAL AHEAD SIGNS, "STOP HERE ON RED SIGNS" AND ONE LANE BRIDGE SIGNS", ACTIVATE TEMPORARY SIGNAL AND PLACE SR 1395 (BALD MOUNTAIN RD.) TRAFFIC IN A ONE-LANE, TWO-WAY PATTERN FROM -L- STA. 15+00 ± TO -L- STA. 17+45 ±.

WORKING IN A CONTINUOUS MANNER, COMPLETE THE FOLLOWING WORK IN PHASE I, STEP 5, AS SHOWN, USING FLAGGERS, FLAGGER AHEAD SIGNS AND DRUMS. (SEE LOCAL NOTE 1)

- STEP 5: - REMOVE EXISTING NORTH RAIL.
- REMOVE BEAM 1 AND PLACE IN BETWEEN BEAMS 3 AND 4 (SEE SHEET 2, STAGE 1).
- PLACE TEMPORARY BARRIER LEFT OF -L- FROM -L- STA. 15+64 ± TO -L- STA. 16+73 ±, KEEPING ENDS PROTECTED BY TEMPORARY CRASH CUSHIONS.
- STEP 6: - BEHIND TEMPORARY BARRIER, PLACE SHORING BARRIER-SUPPORTED, LEFT OF -L- AT THE FOLLOWING LOCATIONS AS SHOWN:
- L- STA. 15+64 ± TO -L- STA. 16+00 ±  
-L- STA. 16+41 ± TO -L- STA. 16+73 ±
- STEP 7: - BEHIND TEMPORARY BARRIER REMOVE PORTION OF EXISTING STRUCTURE (SEE SHEET 2, STAGE 1).

- STEP 8: - BEHIND TEMPORARY BARRIER, BEGIN CONSTRUCTION OF PROPOSED STRUCTURE LEFT OF -L- FROM -L- STA. 15+80 ± TO -L- STA. 16+60 ±, AS SHOWN (SEE STRUCTURE PLANS AND SHEET 2, STAGE 2).

COMPLETE THE FOLLOWING WORK IN PHASE I, STEPS 9 AND 10, USING ROADWAY STANDARD DRAWING NUMBER 1101.02, SHEET 1 OF 15. (SEE LOCAL NOTE 1)

- STEP 9: - CONSTRUCT LEFT OF -L- 14' MIN. OF PROPOSED -L- INCLUDING GUARDRAIL AND TEMPORARY WIDENING, UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, FROM -L- STA. 15+35 ± TO -L- STA. 17+45 ±, AS SHOWN (SEE ROADWAY PLANS).
- CONSTRUCT PROPOSED DRIVEWAYS LEFT OF -L-, AS SHOWN (SEE ROADWAY PLANS).
- STEP 10: - CONSTRUCT LEFT OF -L-, UP TO THE EXISTING EDGE AND ELEVATION, INCLUDING TEMPORARY WIDENING AT THE FOLLOWING LOCATIONS, AS SHOWN (SEE ROADWAY PLANS):
- L- STA. 14+00 ± TO -L- STA. 15+35 ±  
-L- STA. 17+45 ± TO -L- STA. 20+00 ±
- STEP 11: - BEHIND TEMPORARY BARRIER, COMPLETE CONSTRUCTION OF PROPOSED STRUCTURE, LEFT OF -L- FROM -L- STA. 15+80 ± TO -L- STA. 16+60 ±, AS SHOWN (SEE STRUCTURE PLANS AND SHEET 2, STAGE 2).

NOTE:

- 1) PLACE TEMPORARY RAISED PAVEMENT MARKERS ON THE PROP. BRIDGE AND APPROACHES IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NUMBER 1205.12, SHEET 1 OF 1 (ONE LANE BRIDGE).

LEGEND

PROPOSED CONSTRUCTION

PROJECT NO. 37580  
COUNTY: YANCEY  
STATION: 16+42.50

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

BRIDGE NO. 119 ON SR 1395  
OVER BALD MOUNTAIN CREEK

FH

Florence & Hutcheson

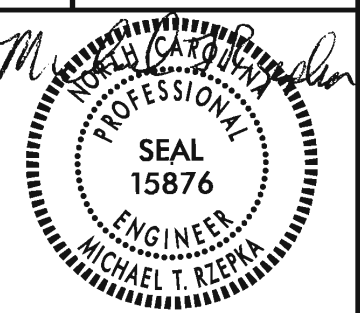
CONSULTING ENGINEERS

5121 Kingdom Way, Suite 100 Raleigh, NC 27607

NC License No. F-8258

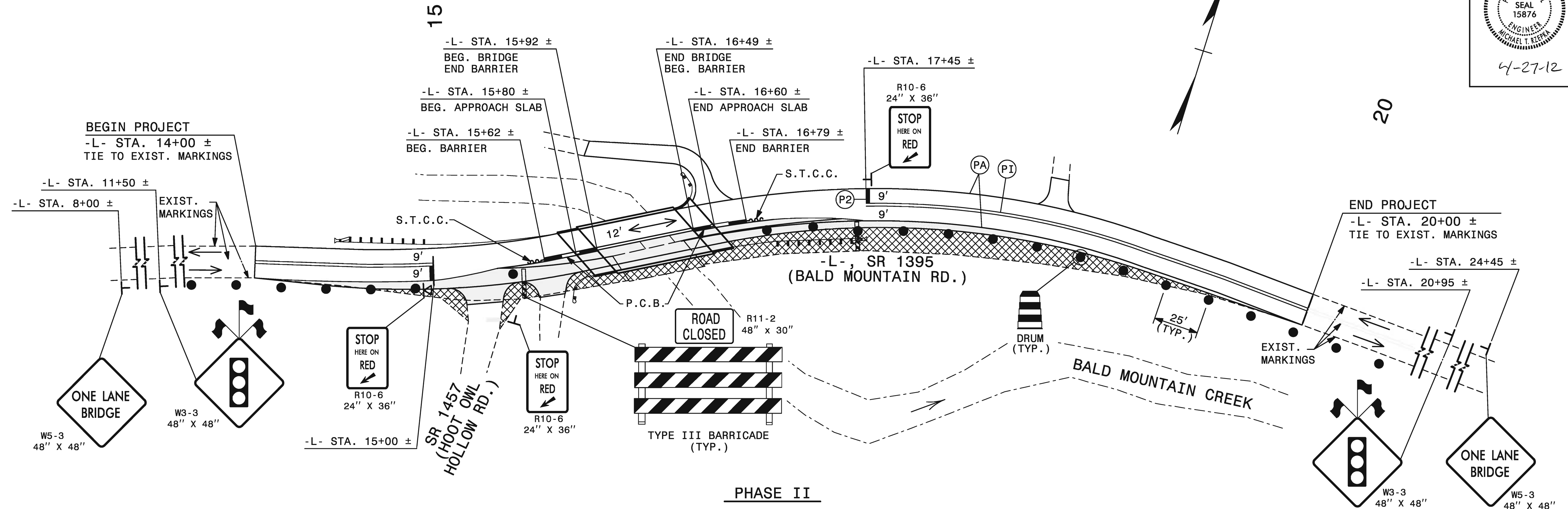
REVISIONS						SHEET NO. TCP-3
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS
2			4			





4-27-12

## PHASE II OVERVIEW



WORKING IN A CONTINUOUS MANNER, COMPLETE THE FOLLOWING WORK IN PHASE II, STEP 1, USING  
FLAGGERS, FLAGGER AHEAD SIGNS AND DRUMS. (SEE LOCAL NOTE 1)

STEP 1: - RESET BARRIER TO THE FOLLOWING LOCATIONS, AS SHOWN:

- L- STA. 15+62 ± TO -L- STA. 15+92 ±
- L- STA. 16+49 ± TO -L- STA. 16+79 ±
- REMOVE ALL EXISTING PAVEMENT MARKINGS AND MARKERS FROM -L- STA. 14+00 ± TO -L- STA. 20+00 ±.
- PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) AND MARKERS (TEMPORARY RAISED), FROM -L- STA. 14+00 ± TO -L- STA. 20+00 ±, AS SHOWN.
- ADJUST TEMPORARY SIGNAL HEADS AS NECESSARY AND PLACE -L-, SR 1395 (BALD MOUNTAIN RD.) TRAFFIC IN A ONE-LANE, TWO-WAY PATTERN, AS SHOWN.

STEP 2: - BEHIND TEMPORARY BARRIER REMOVE EXISTING STRUCTURE, AS SHOWN.

STEP 3: - BEHIND TEMPORARY BARRIER, BEGIN CONSTRUCTION OF PROPOSED STRUCTURE, RIGHT OF  
-L- FROM -L- STA. 15+80 ± TO -L- STA. 16+60 ±, AS SHOWN (SEE STRUCTURE PLANS AND  
SHEET 2, STAGE 4).

STEP 4: - BEHIND BARRIER AND USING FLAGGERS, FLAGGER AHEAD SIGNS AND DRUMS, REMOVE EXISTING PAVEMENT RIGHT OF -L- FROM -L- STA. 14+00 ± TO -L- STA. 20+00 ±, AS SHOWN.

STEP 5: - BEHIND BARRIER AND USING FLAGGERS, FLAGGER AHEAD SIGNS AND DRUMS, CONSTRUCT RIGHT OF -L-, PROPOSED -L- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, INCLUDING DRIVEWAYS RIGHT OF AT THE FOLLOWING LOCATIONS, AS SHOWN (SEE ROADWAY PLANS).

- L- STA. 14+00 ± TO -L- STA. 15+80 ±  
-L- STA. 16+60 ± TO -L- STA. 20+00 ±

STEP 6: - BEHIND TEMPORARY BARRIER, COMPLETE CONSTRUCTION OF PROPOSED STRUCTURE, RIGHT OF -L-, FROM -L- STA. 15+80 ± TO -L- STA. 16+60 ± AS SHOWN (SEE STRUCTURE PLANS AND SHEET 2 STAGE 4).

WORKING IN A CONTINUOUS MANNER, COMPLETE THE FOLLOWING WORK IN PHASE II, STEP 7, AS SHOWN, USING FLAGGERS, FLAGGER AHEAD SIGNS AND DRUMS (SEE STRUCTURE PLANS, ROADWAY PLANS AND SHEET 2, STAGE 4).

STEP 7: - REMOVE TEMPORARY BARRIER FROM THE FOLLOWING LOCATIONS:

- L- STA. 15+62 ± TO -L- STA. 15+92 ±
- L- STA. 16+49 ± TO -L- STA. 16+79 ±
- RESET RIGHT PRECAST BRIDGE RAIL FROM THE TEMPORARY LOCATION TO THE FINAL LOCATION.
- INSTALL GUARDRAIL RIGHT OF -L-.
- REMOVE ALL PAVEMENT MARKINGS FROM -L- STA. 14+00 ± TO -L- STA. 20+00 ±.
- PLACE PAVEMENT MARKINGS (PAINT) AND MARKERS (TEMPORARY RAISED) IN THE FINAL PATTERN FROM -L- STA. 14+00 ± TO -L- STA. 20+00 ±. COVER OR REMOVE TEMPORARY SIGNAL, "ONE LANE BRIDGE" SIGNS, SIGNAL AHEAD SIGNS AND "STOP HERE ON RED" SIGNS AND PLACE -L-, SR 1395, (BALD MOUNTAIN RD.) TRAFFIC IN THE FINAL TWO-LANE, TWO-WAY PATTERN.

COMPLETE THE FOLLOWING WORK IN PHASE II STEPS 8 AND 9, USING ROADWAY STANDARD DRAWING NUMBER 1101.02, SHEET 1 OF 15.

STEP 8: - REMOVE TEMPORARY WIDENING LEFT OF -L-.



STEP 9: - PLACE THE FINAL LAYER OF SURFACE COURSE, FINAL MARKINGS (PAINT) AND MARKERS (PERMANENT RAISED) IN THE FINAL PATTERN, AND OPEN -L-, SR 1395 (BALD MOUNTAIN ROAD) TO THE FINAL TWO-LANE, TWO-WAY PATTERN (SEE ROADWAY PLANS).

STEP 10: - REMOVE ALL TRAFFIC CONTROL DEVICES.

**NOTE:**

- 1) PLACE TEMPORARY RAISED PAVEMENT MARKERS ON THE PROP. BRIDGE AND APPROACHES IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NUMBER 1205.12, SHEET 1 OF 1 (ONE LANE BRIDGE).

## LEGEND

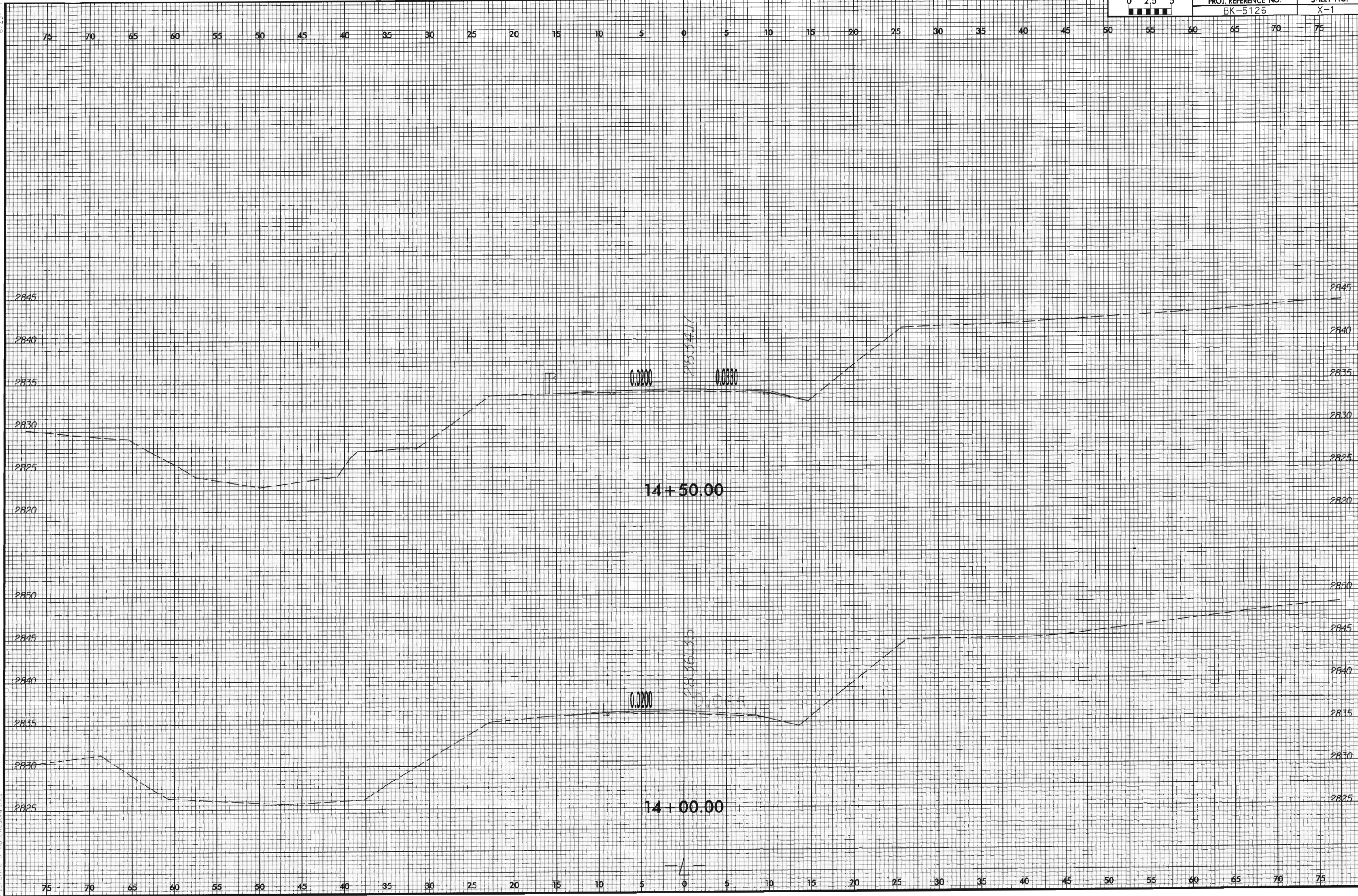
-  PROPOSED CONSTRUCTION  
 REMOVAL OF EXIST. PAVEMENT  
 AND BRIDGE



PROJECT NO. 37580						
COUNTY:		YANCEY				
STATION:		16 + 42.50				
STATE OF NORTH CAROLINA						
DEPARTMENT OF TRANSPORTATION						
RALEIGH						
BRIDGE NO. 119 ON SR 1395						
OVER BALD MOUNTAIN CREEK						
REVISIONS						
NO.	BY	DATE	NO.	BY	DATE	SHEET NO. TCP-4  TOTAL SHEETS
1			2			
2			3			

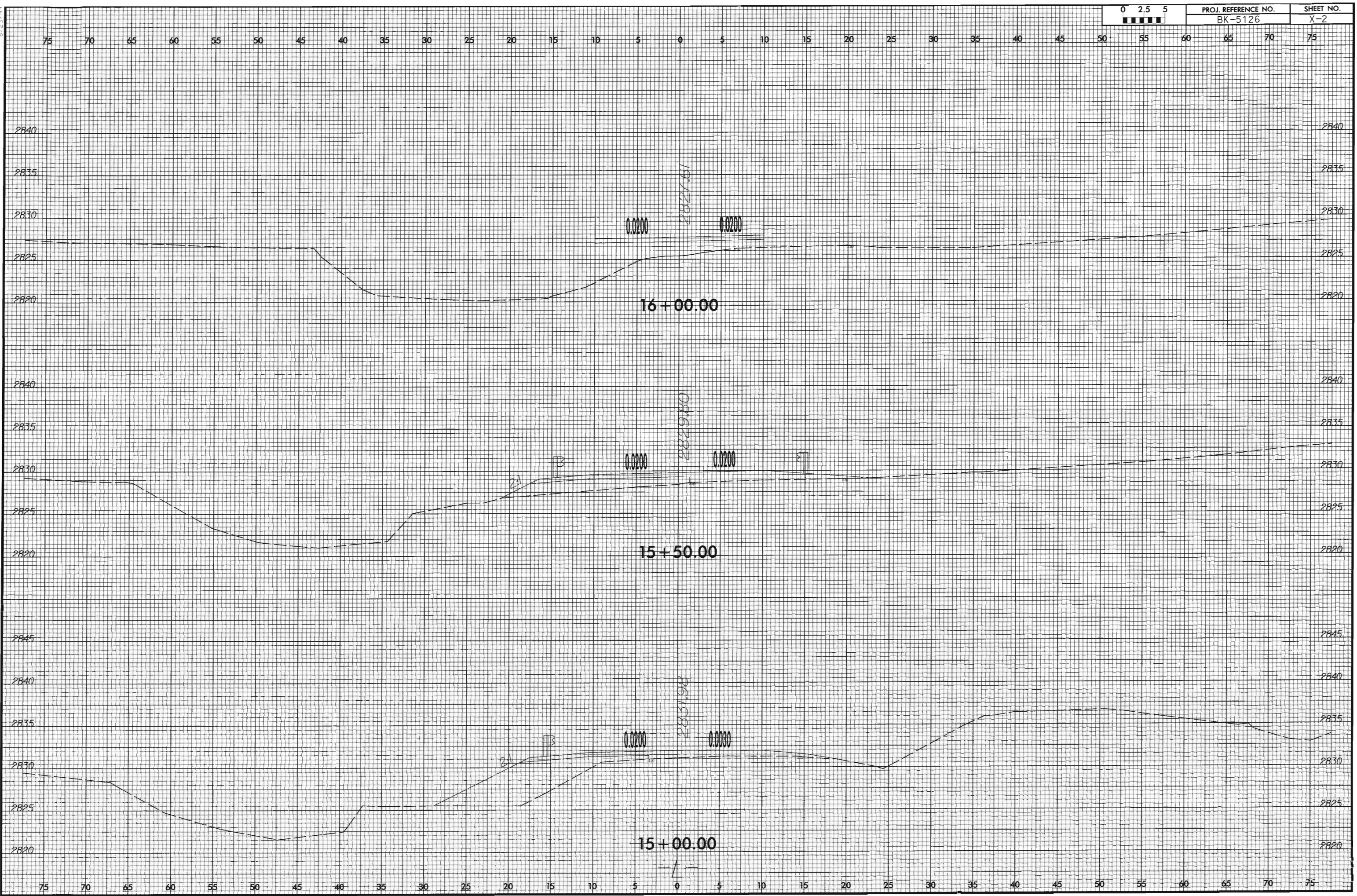


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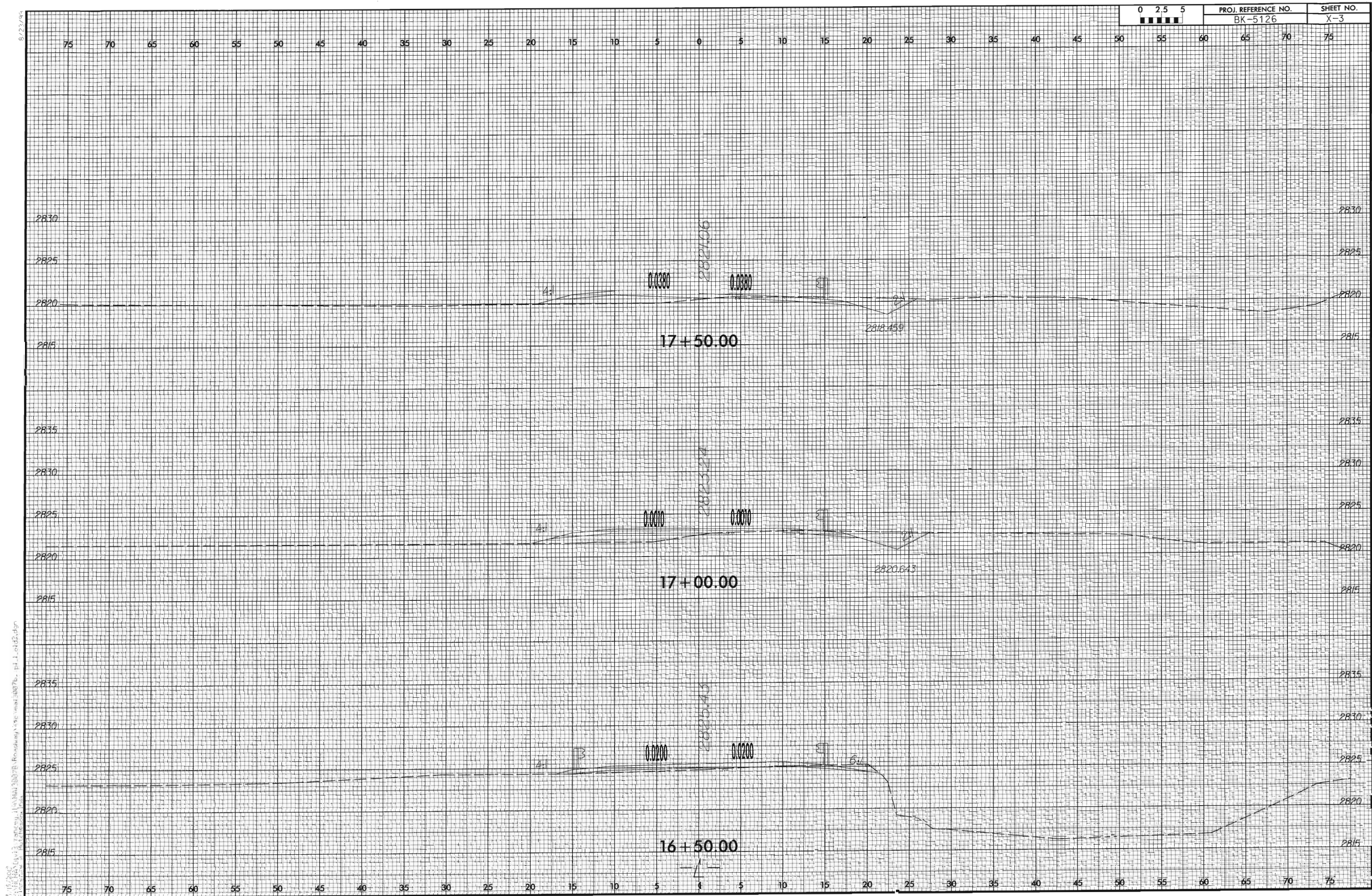




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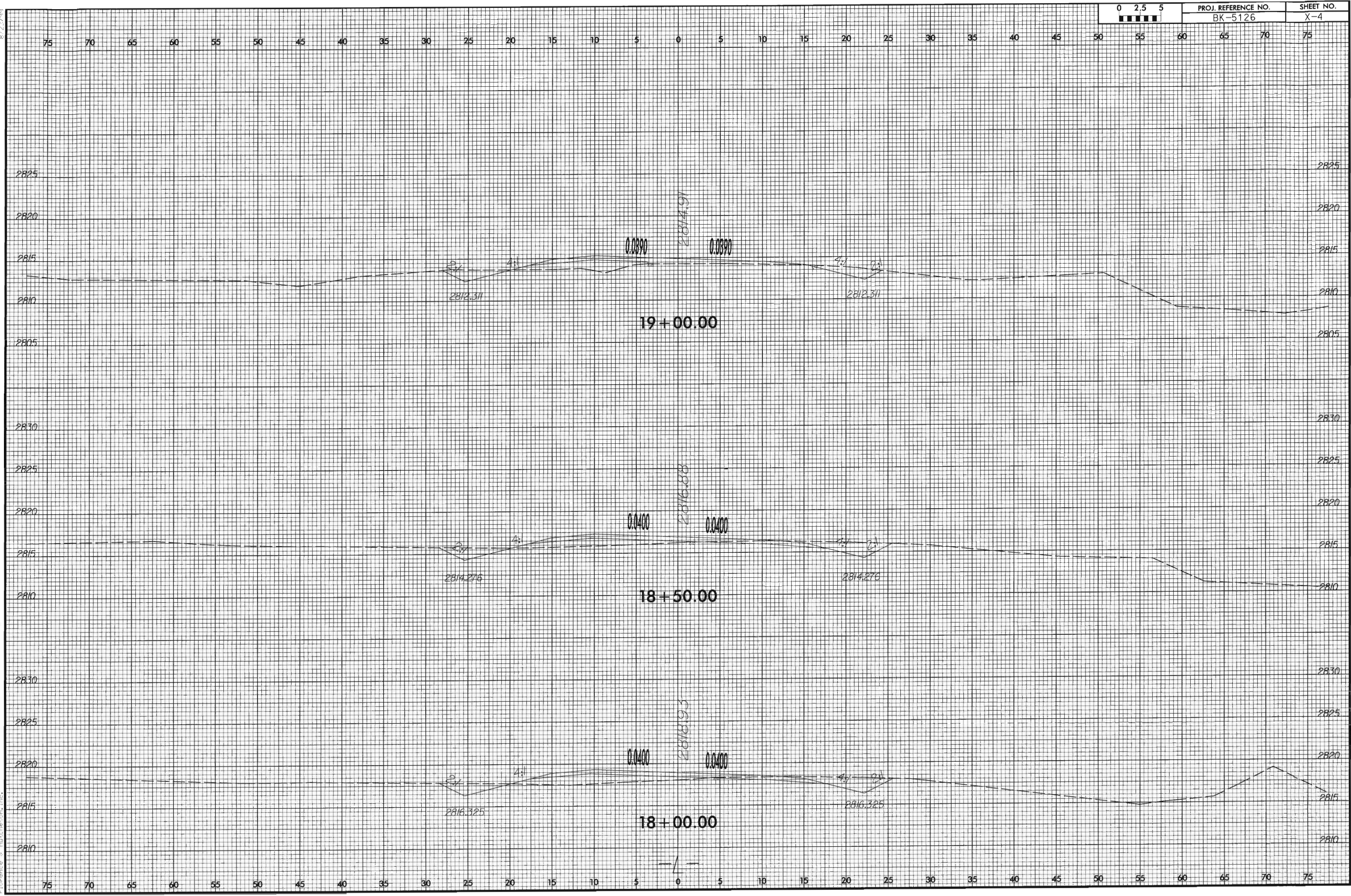








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8/22/99

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■■■■■	BK-5126	X-5

