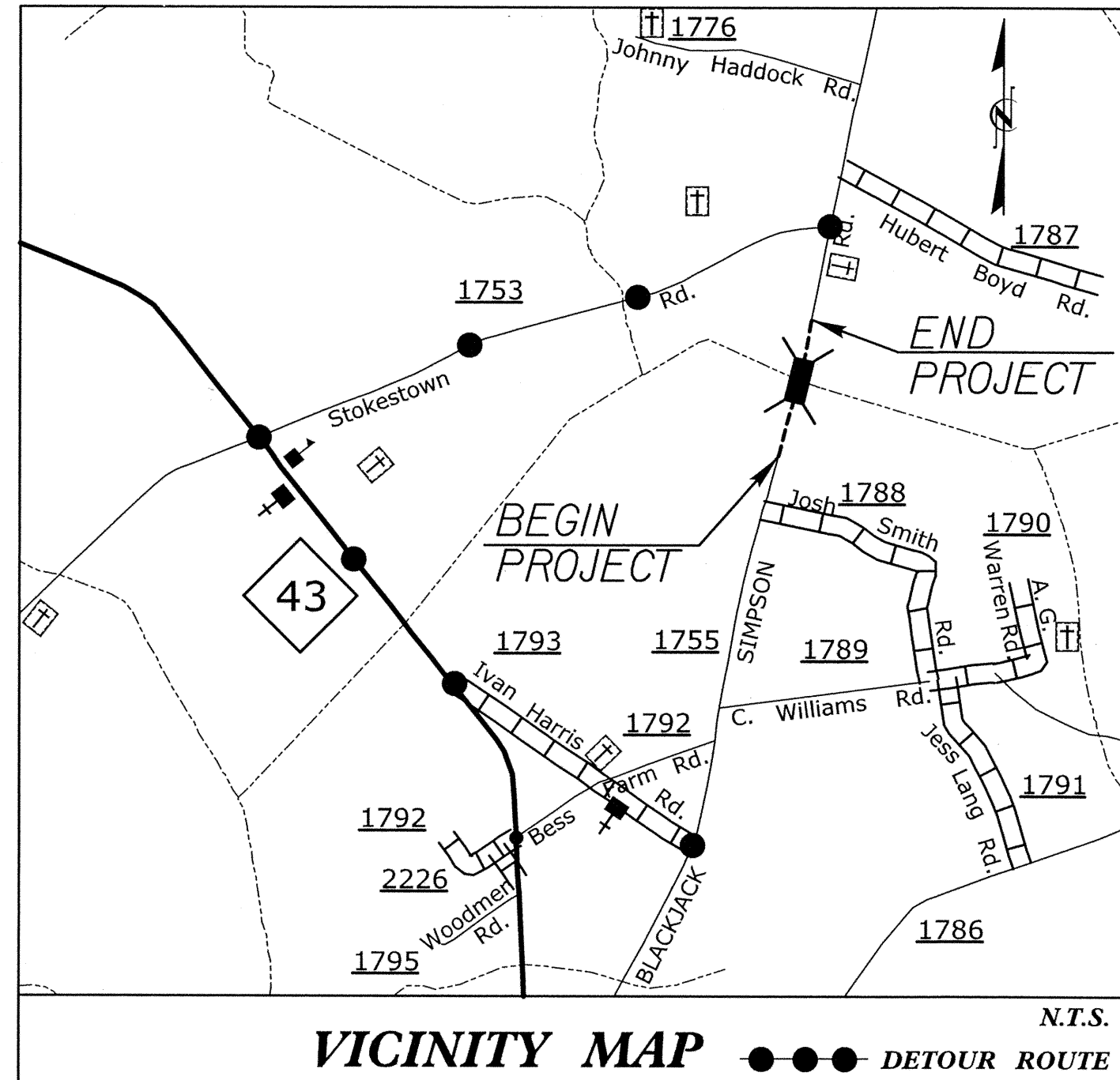


**TIP PROJECT: 17BP.2.R.34**

**CONTRACT:**

See Sheet 1-A For Index of Sheets



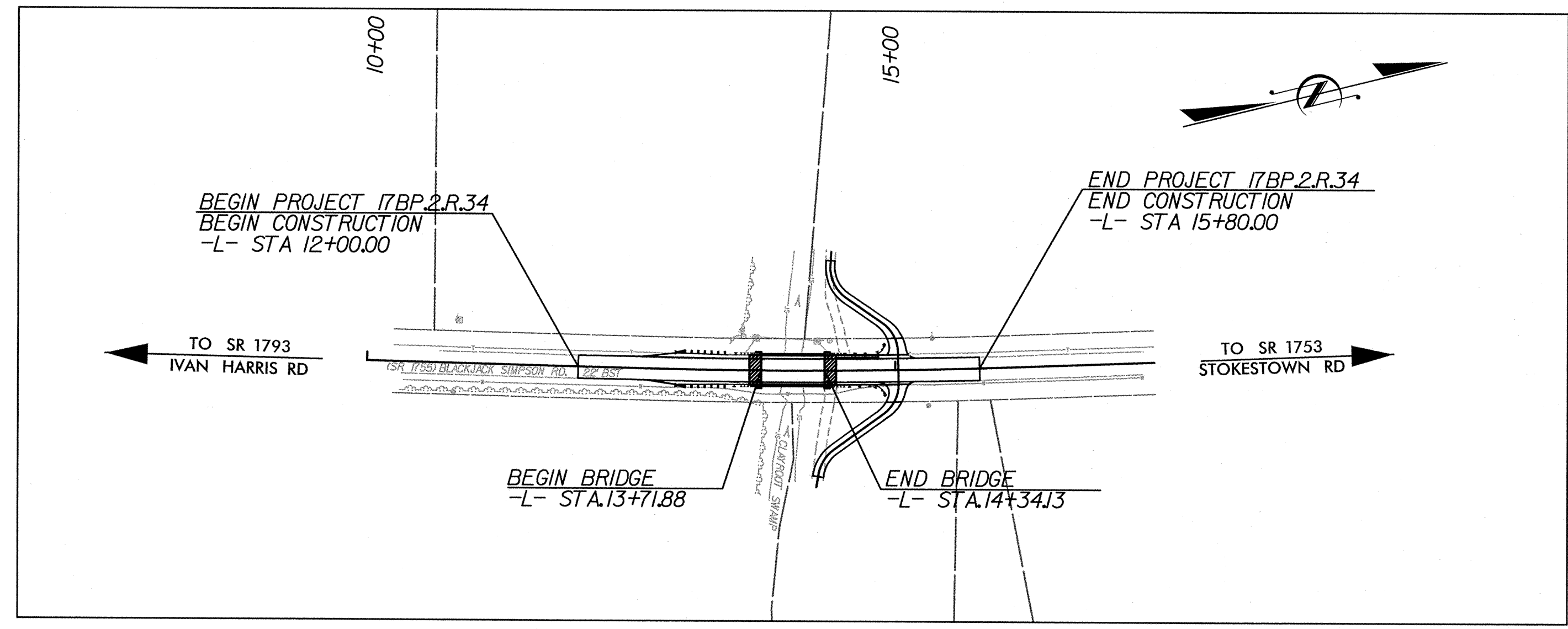
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**PITT COUNTY**

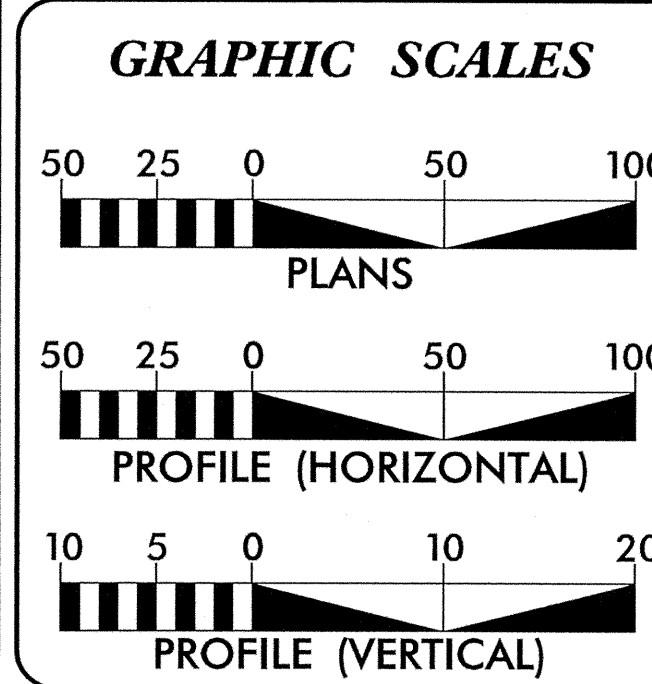
**LOCATION: BRIDGE NO. 012 OVER CLAYROOT SWAMP  
ON SR 1755 (BLACKJACK SIMPSON RD.)**

**TYPE OF WORK: GRADING, PAVING, STRUCTURE,  
DRAINAGE, & GUARDRAIL**

STATE	PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
NC	17BP.2.R.34	1	X
STATE PROJ. NO.	DESCRIPTION		
17BP.2.R.34	CONST		



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.



**DESIGN DATA**

ADT 2008 =	630
ADT 2035 =	1260
DHV =	10%
D =	60%
T =	6% *
V =	60 MPH
* TTST 2%	DUAL 4%

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT 17BP.2.R.34 =	0.06 MI.
LENGTH OF STRUCTURE TIP PROJECT 17BP.2.R.34 =	0.01 MI.
TOTAL LENGTH OF TIP PROJECT 17BP.2.R.34 =	0.07 MI.

Prepared In the Office of:

**HNTB** HNTB NORTH CAROLINA, P.C.  
343 E. Six Forks Road, Suite 200  
Raleigh, North Carolina 27609  
NC License No: C-1954

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: OCTOBER 23, 2012

LETTING DATE: AUGUST 14, 2013

ENRICO A. ROQUE, P.E. PROJECT ENGINEER
ANTHONY THOMPSON, P.E. PROJECT DESIGNER
MARIA ROGERSON, P.E. NCDOT CONTACT

**HYDRAULICS ENGINEER**

Signature: James A. Byrd  
Professional Engineer Seal: 15764, 5/29/13

**ROADWAY DESIGN ENGINEER**

Signature: Maria A. Rogerson  
Professional Engineer Seal: 19824, 5/29/13

**DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA**

STATE HIGHWAY DESIGN ENGINEER

DATE: 5/29/13















**Note: Not to Scale**

\*S.U.E. = *Subsurface Utility Engineering*












STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# CONVENTIONAL PLAN SHEET SYMBOLS

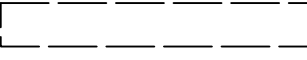









**BOUNDARIES AND PROPERTY:**

State Line	_____
County Line	_____
Township Line	_____
City Line	_____
Reservation Line	_____
Property Line	_____
Existing Iron Pin	_____ 
Property Corner	_____ 
Property Monument	_____ 
Parcel/Sequence Number	_____ 
Existing Fence Line	_____ 
Proposed Woven Wire Fence	_____ 
Proposed Chain Link Fence	_____ 
Proposed Barbed Wire Fence	_____ 
Existing Wetland Boundary	_____ 
Proposed Wetland Boundary	_____ 
Existing Endangered Animal Boundary	_____ 
Existing Endangered Plant Boundary	_____ 

**BUILDINGS AND OTHER CULTURE:**

Gas Pump Vent or U/G Tank Cap	_____ 
Sign	_____ 
Well	_____ 
Small Mine	_____ 
Foundation	_____ 
Area Outline	_____ 
Cemetery	_____ 
Building	_____ 
School	_____ 
Church	_____ 
Dam	_____ 





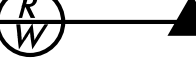








**HYDROLOGY:**

Stream or Body of Water	_____
Hydro, Pool or Reservoir	_____ 
Jurisdictional Stream	_____ 
Buffer Zone 1	_____ 
Buffer Zone 2	_____ 
Flow Arrow	_____ 
Disappearing Stream	_____ 
Spring	_____ 
Wetland	_____ 
Proposed Lateral, Tail, Head Ditch	_____ 
False Sump	_____ 


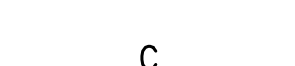





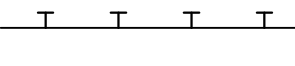
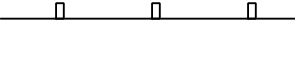
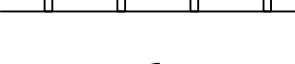



**RAILROADS:**

Standard Gauge	_____ 
RR Signal Milepost	_____ 
Switch	_____ 
RR Abandoned	_____ 
RR Dismantled	_____ 

**RIGHT OF WAY:**

Baseline Control Point	_____ 
Existing Right of Way Marker	_____ 
Existing Right of Way Line	_____ 
Proposed Right of Way Line	_____ 
Proposed Right of Way Line with Iron Pin and Cap Marker	_____ 
Proposed Right of Way Line with Concrete or Granite Marker	_____ 
Existing Control of Access	_____ 
Proposed Control of Access	_____ 
Existing Easement Line	_____ 
Proposed Temporary Construction Easement	_____ 
Proposed Temporary Drainage Easement	_____ 
Proposed Permanent Drainage Easement	_____ 
Proposed Permanent Utility Easement	_____ 

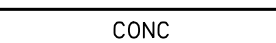


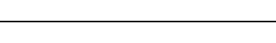

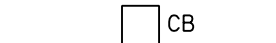
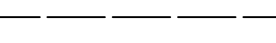

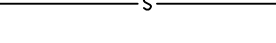
**ROADS AND RELATED FEATURES:**

Existing Edge of Pavement	_____ 
Existing Curb	_____ 
Proposed Slope Stakes Cut	_____ 
Proposed Slope Stakes Fill	_____ 
Proposed Wheel Chair Ramp	_____ 
Proposed Wheel Chair Ramp Curb Cut	_____ 
Curb Cut for Future Wheel Chair Ramp	_____ 
Existing Metal Guardrail	_____ 
Proposed Guardrail	_____ 
Existing Cable Guiderail	_____ 
Proposed Cable Guiderail	_____ 
Equality Symbol	_____ 
Pavement Removal	_____ 












**VEGETATION:**

Single Tree	_____ 
Single Shrub	_____ 
Hedge	_____ 
Woods Line	_____ 
Orchard	_____ 
Vineyard	_____ 














**EXISTING STRUCTURES:**

MAJOR:	
Bridge, Tunnel or Box Culvert	_____ 
Bridge Wing Wall, Head Wall and End Wall	_____ 
MINOR:	
Head and End Wall	_____ 
Pipe Culvert	_____ 
Footbridge	_____ 
Drainage Box: Catch Basin, DI or JB	_____ 
Paved Ditch Gutter	_____ 
Storm Sewer Manhole	_____ 
Storm Sewer	_____ 








**UTILITIES:**

POWER:	
Existing Power Pole	_____ 
Proposed Power Pole	_____ 
Existing Joint Use Pole	_____ 
Proposed Joint Use Pole	_____ 
Power Manhole	_____ 
Power Line Tower	_____ 
Power Transformer	_____ 
U/G Power Cable Hand Hole	_____ 
H-Frame Pole	_____ 
Recorded U/G Power Line	_____ 
Designated U/G Power Line (S.U.E.*)	_____ 









**TELEPHONE:**

Existing Telephone Pole	_____ 
Proposed Telephone Pole	_____ 
Telephone Manhole	_____ 
Telephone Booth	_____ 
Telephone Pedestal	_____ 
Telephone Cell Tower	_____ 
U/G Telephone Cable Hand Hole	_____ 
Recorded U/G Telephone Cable	_____ 
Designated U/G Telephone Cable (S.U.E.*)	_____ 
Recorded U/G Telephone Conduit	_____ 
Designated U/G Telephone Conduit (S.U.E.*)	_____ 
Recorded U/G Fiber Optics Cable	_____ 
Designated U/G Fiber Optics Cable (S.U.E.*)	_____ 






**WATER:**

Water Manhole	_____ 
Water Meter	_____ 
Water Valve	_____ 
Water Hydrant	_____ 
Recorded U/G Water Line	_____ 
Designated U/G Water Line (S.U.E.*)	_____ 
Above Ground Water Line	_____ 







**TV:**

TV Satellite Dish	_____ 
TV Pedestal	_____ 
TV Tower	_____ 
U/G TV Cable Hand Hole	_____ 
Recorded U/G TV Cable	_____ 
Designated U/G TV Cable (S.U.E.*)	_____ 
Recorded U/G Fiber Optic Cable	_____ 
Designated U/G Fiber Optic Cable (S.U.E.*)	_____ 











**GAS:**

Gas Valve	_____ 
Gas Meter	_____ 
Recorded U/G Gas Line	_____ 
Designated U/G Gas Line (S.U.E.*)	_____ 
Above Ground Gas Line	_____ 

**SANITARY SEWER:**

Sanitary Sewer Manhole	_____ 
Sanitary Sewer Cleanout	_____ 
U/G Sanitary Sewer Line	_____ 
Above Ground Sanitary Sewer	_____ 
Recorded SS Forced Main Line	_____ 
Designated SS Forced Main Line (S.U.E.*)	_____ 

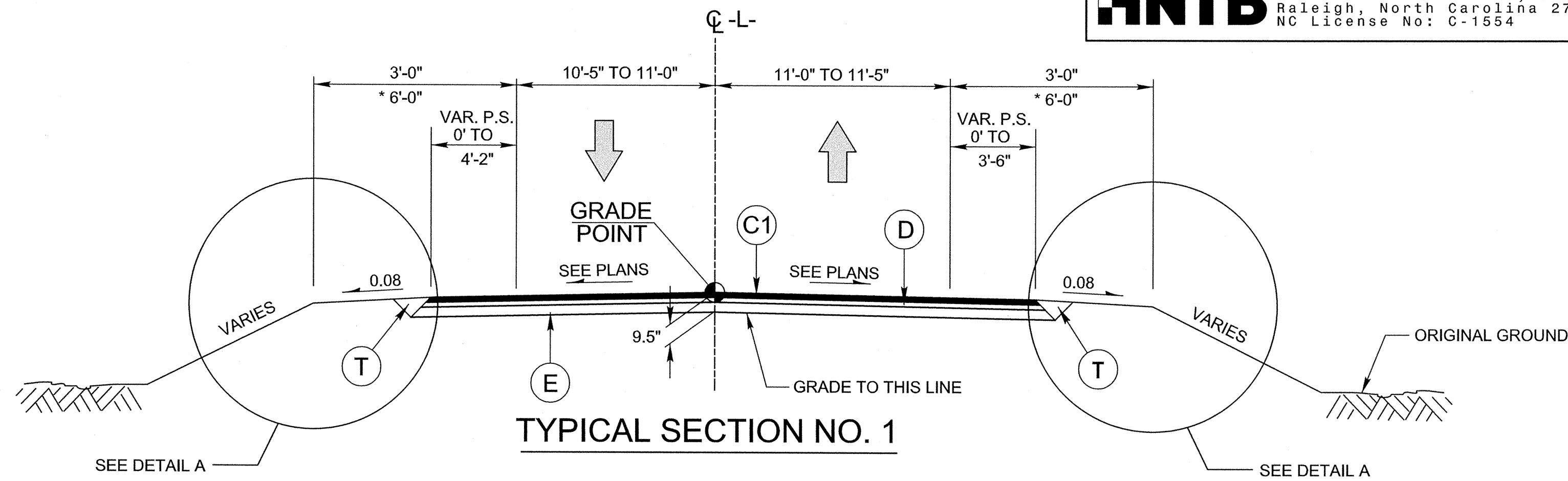
**MISCELLANEOUS:**

Utility Pole	_____ 
Utility Pole with Base	_____ 
Utility Located Object	_____ 
Utility Traffic Signal Box	_____ 
Utility Unknown U/G Line	_____ 
U/G Tank; Water, Gas, Oil	_____ 
A/G Tank; Water, Gas, Oil	_____ 
U/G Test Hole (S.U.E.*)	_____ 
Abandoned According to Utility Records	_____ 
End of Information	_____ 

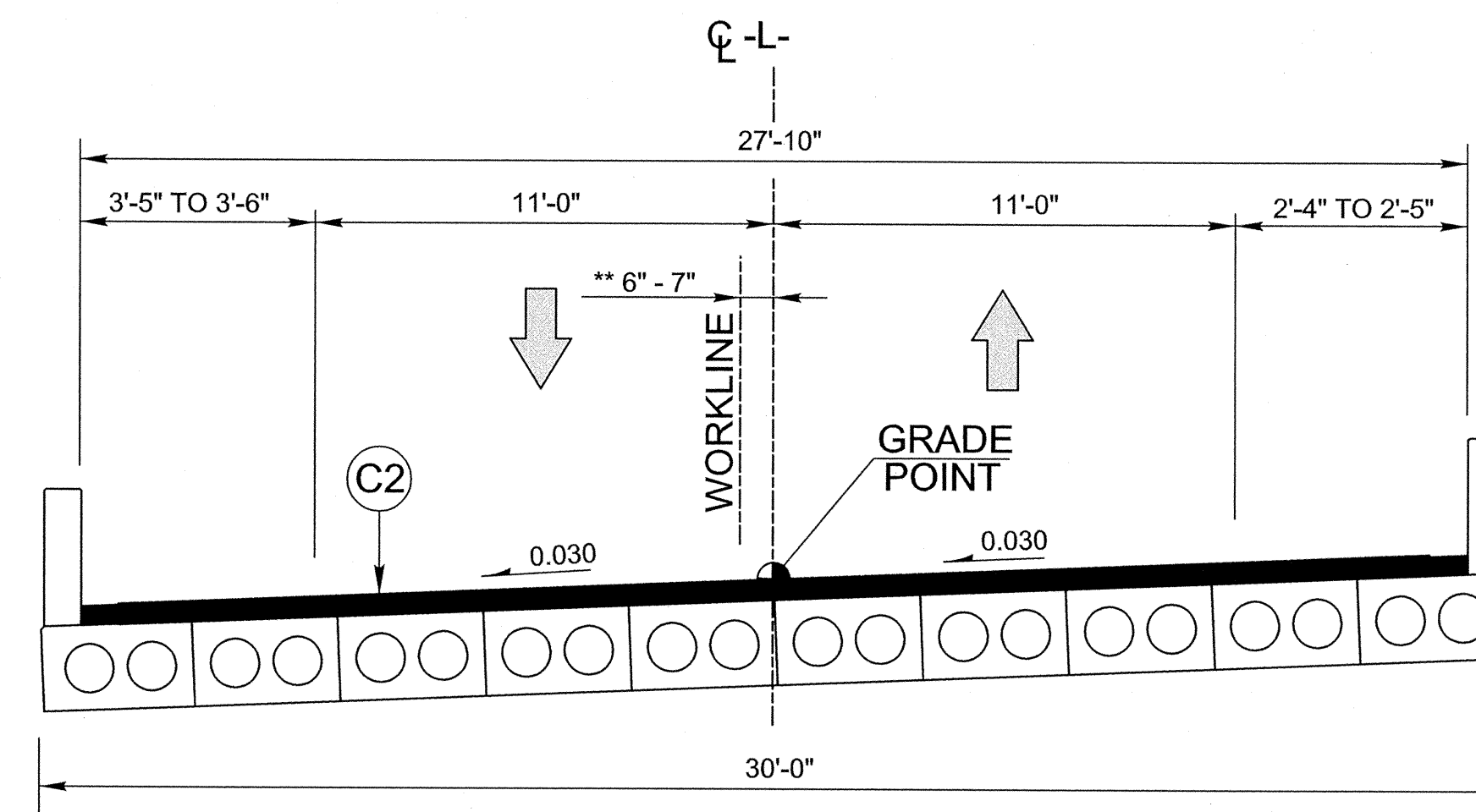


PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 3.75" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 206.25 LBS. PER SQ. YARD IN EACH OF TWO LAYERS.
D	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D1	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.
E1	PROP. VARIABLE DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER INCH DEPTH, TO BE PLACED IN LAYERS NOT GREATER THAN 5.5" IN DEPTH OR LESS THAN 3" IN DEPTH.
J	PROP. 6" AGGREGATE BASE COURSE
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING (SEE DETAIL)

ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

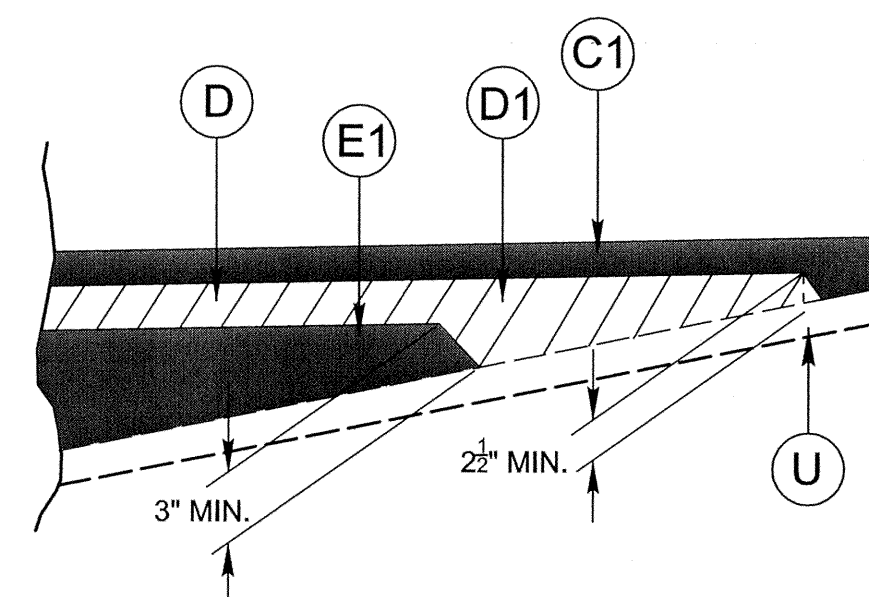


USE TYPICAL SECTION NO. 1 FROM:  
 -L- STA. 12+00.00 TO -L- STA. 13+71.88 (BEGIN BRIDGE)  
 -L- STA. 14+34.13 (END BRIDGE) TO -L- STA. 15+80.00

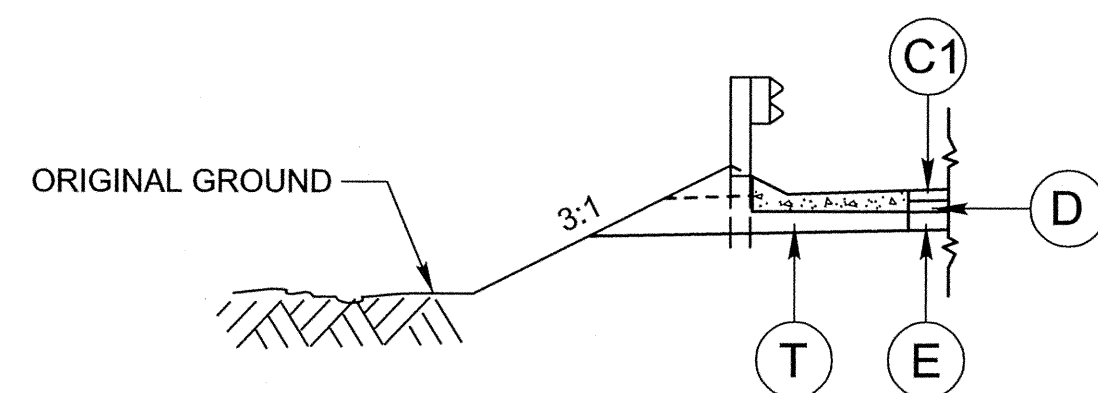


TYPICAL SECTION NO. 2  
 CORED SLAB BRIDGE OVERLAY

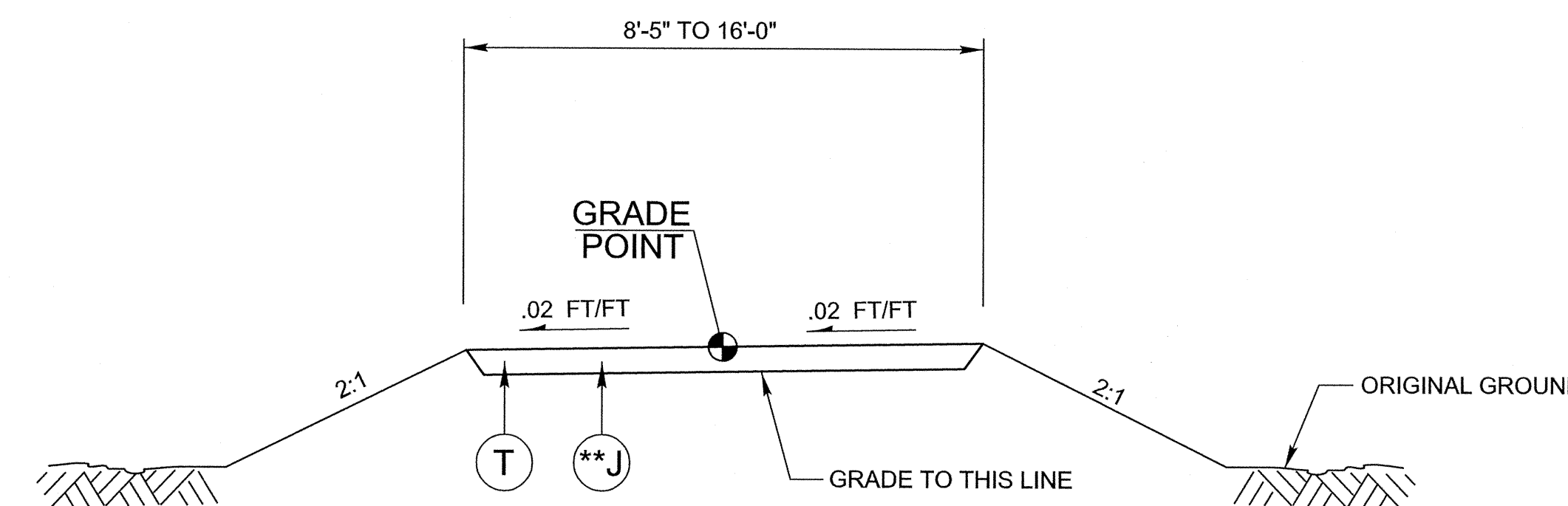
USE TYPICAL SECTION NO. 2 FROM:  
 -L- STA. 13+71.88 TO -L- STA. 14+34.13



DETAIL SHOWING METHOD OF WEDGING  
 SEE TYPICAL SECTIONS



DETAIL A  
 SHOULDER BERM GUTTER LOCATIONS  
 -L- STA. 14+45.2 TO -L- STA. 14+84.2 LT



TYPICAL SECTION NO. 3

\*\* TIE DRIVES TO ROADWAY WITH 6" ABC FROM EXISTING ROW TO PROPOSED EOP

USE TYPICAL SECTION NO. 3 FOR DRIVES

NOTES: \* SHOULDER WIDTH INCREASED 3' WITH THE USE OF GUARDRAIL

REVISIONS

\$\$\$\$DATE\$\$\$\$  
 \$\$\$SYTIME\$\$\$  
 \$\$\$DCN\$\$\$



## ROW AREA DATA SUMMARY

PARCEL NO.	PROPERTY OWNERS NAMES	TOTAL ACREAGE	AREA TAKEN (SQFT)	AREA REMAINING RT.	AREA REMAINING LT.	CONST. EASE.	PERM. UTILITY EASE.	TEMP. DRAIN. EASE.
1	BARBARA S. McLAWHORN					4097.7		
2	JAMES C. SMITH					136.6		
3	TERRY D. SMITH LIFE ESTATE						3820.1	
4	MICHAEL L. WHITE						3137.0	
5	MILLS FAMILY PROPERTIES, LLC						547.4	
6	MICHAEL L. WHITE						40.6	

**HNTB** HNTB NORTH CAROLINA, P.C.  
343 E. Six Forks Road, Suite 200  
Raleigh, North Carolina 27609  
NC License No: C-1554

PROJECT REFERENCE NO. <b>17BP2R34</b>	SHEET NO. <b>3</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	

## PAVEMENT REMOVAL SUMMARY IN SQUARE YARDS

LOCATION	REMOVAL OF ASPHALT PAVEMENT	BREAKING OF ASPHALT PAVEMENT
-L- STA. 12+00 TO 13+77	423	
-L- STA. 14+28 TO 15+80	373	
GRAND TOTAL	796	
SAY	800	

## DRAINAGE SUMMARY

STATION	LOCATION (LT, RT, OR CL)	STRUCTURE NO.	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS IV R.C. PIPE (UNLESS NOTED OTHERWISE)			QUANTITIES FOR DRAINAGE STRUCTURES		SIDE DRAIN PIPE				REMARKS		
							15"	18"	24"	PER EACH (0 THRU 5.0')	TOTAL L.F. FOR PAY QUANTITY SHALL BE COL.'A' + (1.3 X COL.'B')	15"	18"	24"	30"			
-L- 13+82.80	LT															REMOVE 40' OF EXISTING CMP (LT & RT)		
-L- 14+40.00	LT	0401	30.88						1						1	1		
-L- 14+46.60	LT	0402	35.06						1						1	1		
-L- 14+81.15	LT	0403	34.82						1						1	1		
-L- 14+64.00	LT	0402	0403	32.31	32.00	32												
-L- 14+81.00	LT	0403	OUT	32.00	31.00	16												
-L- 14+81.00	LT	IN	0401	30.80	26.13												REMOVE 50' OF EXISTING CMP	
-L- 14+26.00	LT	0401	OUT	26.13	26.00	X												
-L- 14+68.68	RT																REMOVE 40' OF EXISTING CMP	
<b>TOTAL</b>							48		3			24	104	108	2	2	1	1

- ABBREVIATIONS
- C.B. CATCH BASIN
  - N.D.I. NARROW DROP INLET
  - D.I. DROP INLET
  - M.D.I. MEDIAN DROP INLET
  - M.D.I. (N.S.) MEDIAN DROP INLET (NARROW SLOT)
  - J.B. JUNCTION BOX
  - M.H. MANHOLE
  - T.B.D.I. TRAFFIC BEARING DROP INLET
  - T.B.J.B. TRAFFIC BEARING JUCTION BOX

## SUMMARY OF EARTHWORK IN CUBIC YARDS

STATION	STATION	UNCLASSIFIED EXCAVATION	EMBANK. +%	BORROW	WASTE
-L- STA. 12+00.00	-L- STA. 13+88.00	150	138		12
-L- STA. 14+23.00	-L- STA. 15+80.00	146	328	182	
DDE		133			
GRAND TOTALS:		429	466	37	
SAY:		430	470	40	

## GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS								
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GRAU 350	TYPE 350 (TL-3)	XIII	CAT-1	III	BIC	AT-1	EA	G					NG							
-L-	12+90.69	13+71.94	RT	87.5				13+71.94	3	6			1																								
-L-	12+90.54	13+71.79	LT	87.5					3	6		50																									
-L-	14+34.06	14+90.95	RT	50.0	12.5				3	6			50																								
-L-	14+34.21	14+90.95	LT	50.0	12.5				3	6		50																									
LESS ANCHOR DEDUCTIONS																																					
	TYPE 350, TL-3	2 @ 50.00'	=	100.00																																	
	TYPE III	4 @ 18.75'	=	75.00																																	
	AT-1	2 @ 6.25'	=	12.50																																	
			TOTAL	87.5																																	
			SAY	100.00	25.0																																
	(5 ADDITIONAL GUARDRAIL POST)																																				

REVISIONS

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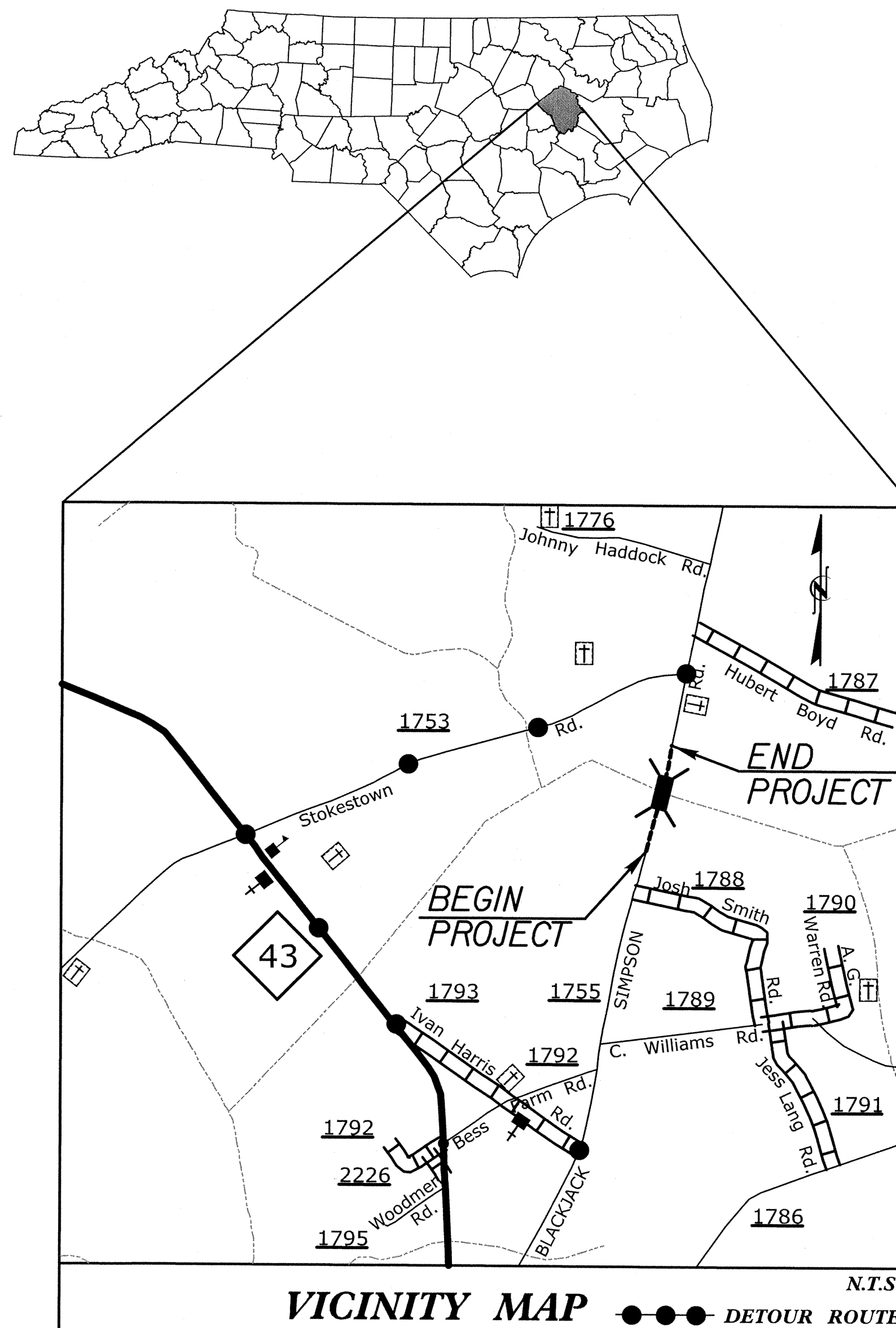




STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**PITT COUNTY**



**INDEX OF SHEETS**

SHEET NO.	TITLE
TMP-1	TITLE SHEET WITH VICINITY MAP, INDEX OF SHEETS, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-2	GENERAL NOTES, DETOUR AND PLAN.

**ROADWAY STANDARD DRAWINGS**

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C. DATED JAN 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

TITLE
1101.11 TRAFFIC CONTROL DESIGN TABLES
1110.11 STATIONARY WORK ZONE SIGNS
1145.01 BARRICADES

**LEGEND**

- GENERAL**
- ← DIRECTION OF TRAFFIC FLOW
  - ➡ DIRECTION OF PEDESTRIAN TRAFFIC FLOW
  - EXIST. PVMT.
  - +— NORTH ARROW
  - PROPOSED PVMT.
  - WORK AREA
- TRAFFIC CONTROL DEVICES**
- ▬ BARRICADE (TYPE III)

**HNTB** HNTB NORTH CAROLINA, P.C.  
343 E. Six Forks Road, Suite 200  
Raleigh, North Carolina 27609  
NC License No: C-1554

R. B. EARLY, PE TRAFFIC CONTROL PROJECT ENGINEER  
J. A. PHILLIPS TRAFFIC CONTROL DESIGN ENGINEER

APPROVED: *[Signature]*  
DATE: 5-29-13

SEAL

**WORK ZONE SAFETY & MOBILITY**  
"from the MOUNTAINS to the COAST"

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL  
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561  
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)  
PHONE: (919) 773-2800 FAX: (919) 771-2745

KATHERINE HITE, PE DIVISION TRAFFIC ENGINEER

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
WORK ZONE TRAFFIC CONTROL

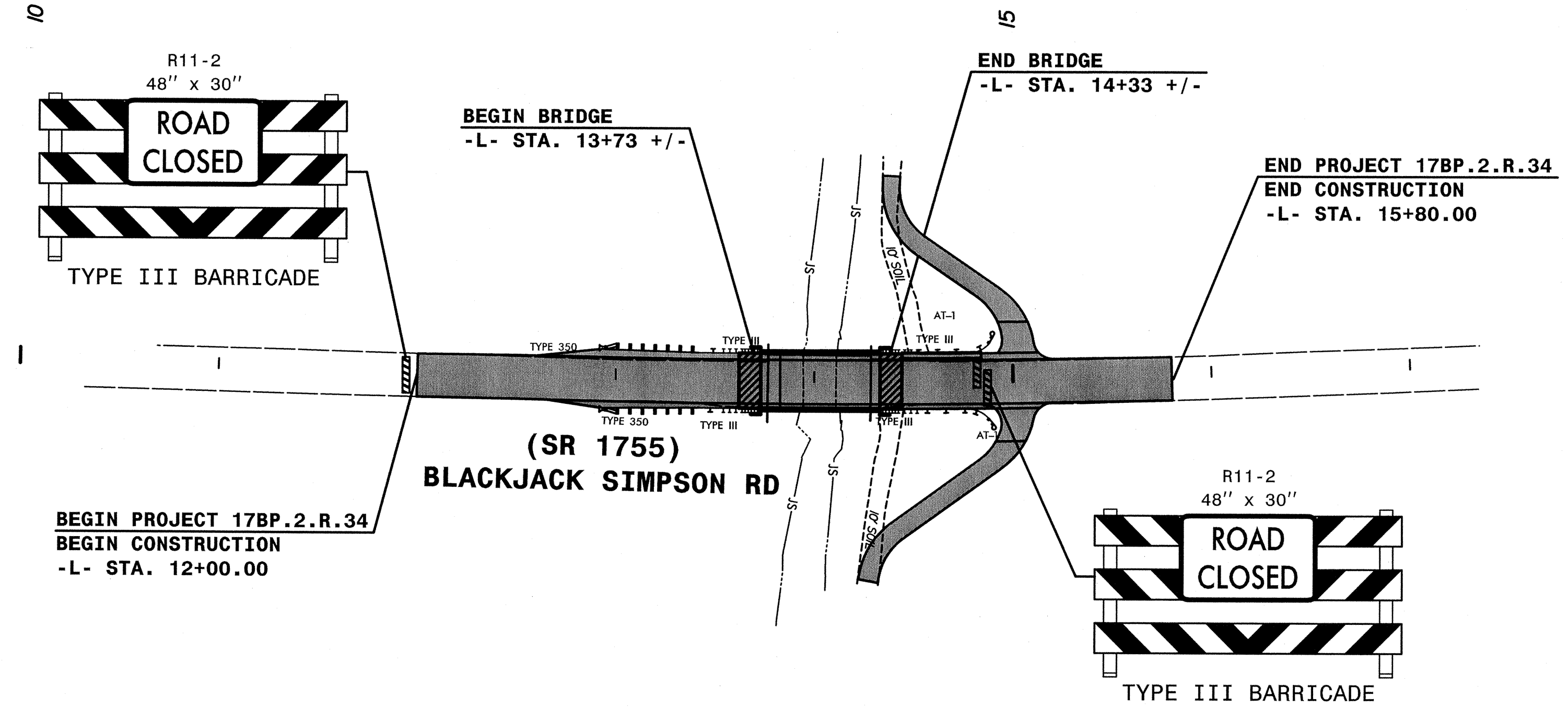
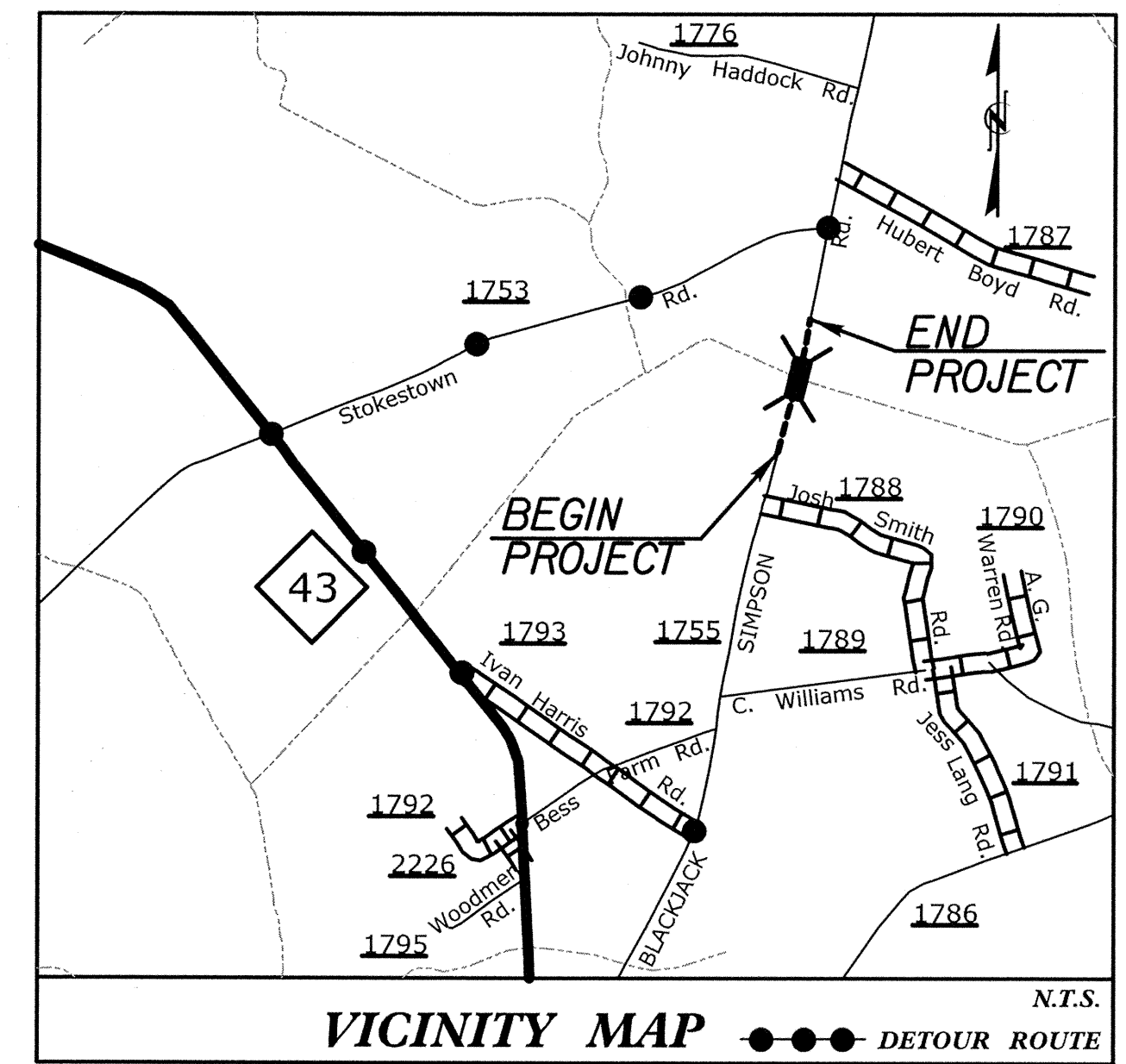


# GENERAL NOTES

IMPLEMENT TRAFFIC CONTROL IN ACCORDANCE WITH THE ROADWAY STANDARD DRAWINGS LISTED ON TMP-1.

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 UNDESIRABLE OVERLAPPING, OF DEVICES. MODIFICATIONS MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

STATE FORCES WILL INSTALL AND MAINTAIN THE PROJECT DETOUR AND THE TYPE III BARRICADES AT THE PROJECT LIMITS.  
 STATE FORCES WILL INSTALL MARKINGS AND MARKERS ON THE FINISHED PROJECT.  
 CALL JIM EVANS AT 252-830-3493 FOR COORDINATION.



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REVISIONS

QA/QC STAGE:	
REVIEW:	
CONCUR:	
REVISE:	
VERIFY:	

**HNTB** HNTB NORTH CAROLINA, P.C.  
 343 E. Six Forks Road, Suite 200  
 Raleigh, North Carolina 27609  
 NC License No: C-1554

APPROVED: *Handwritten Signature* DATE: 5-22-13

SEAL  
 NORTH CAROLINA PROFESSIONAL ENGINEER  
 SEAL 023521  
 RONDA B. EIRLY

DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 WORK ZONE TRAFFIC CONTROL

TRANSPORTATION MANAGEMENT PLAN  
 GENERAL NOTES,  
 DETOUR  
 AND DETAIL

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.2.R.34	EC-1	5
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

**TIP PROJECT: 17BP.2.R.34**

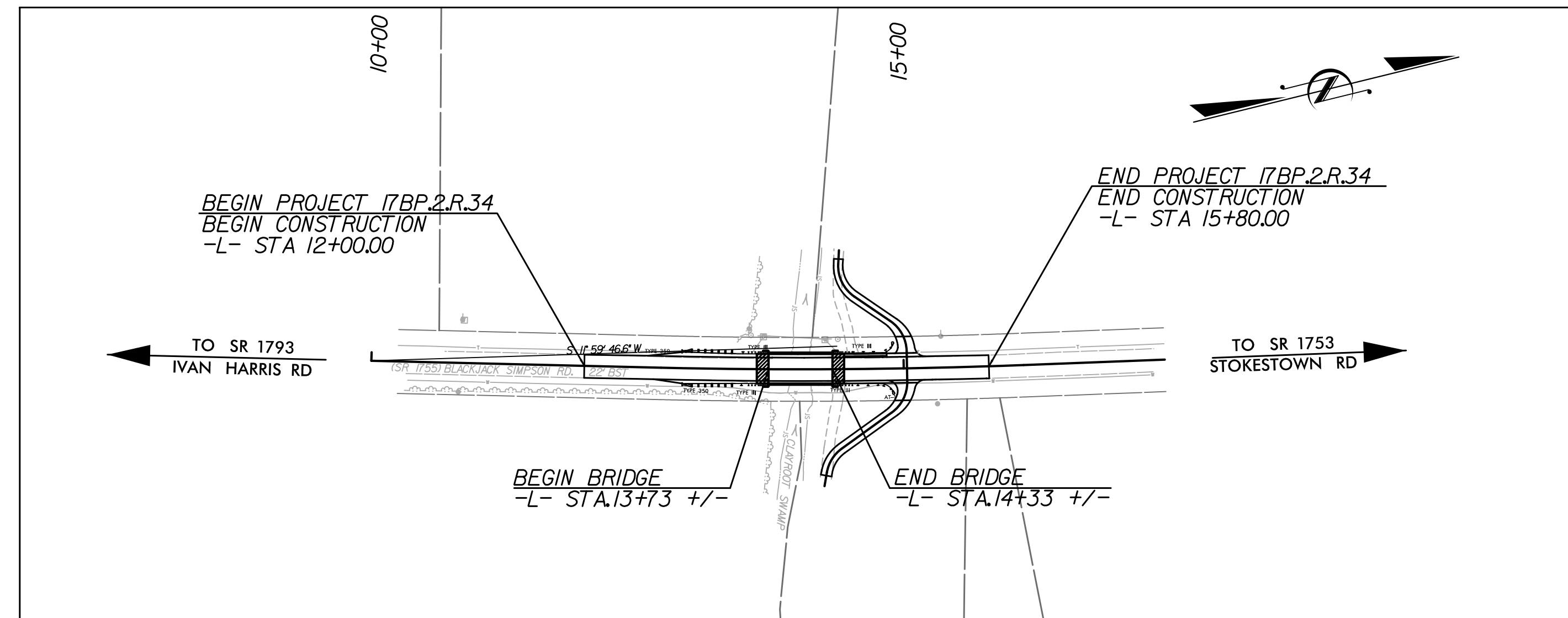
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**PLAN FOR PROPOSED  
HIGHWAY EROSION CONTROL**

**LOCATION: PITT COUNTY BRIDGE NO. 012 OVER CLAYROOT SWAMP  
ON SR 1755 (BLACKJACK SIMPSON RD.)**

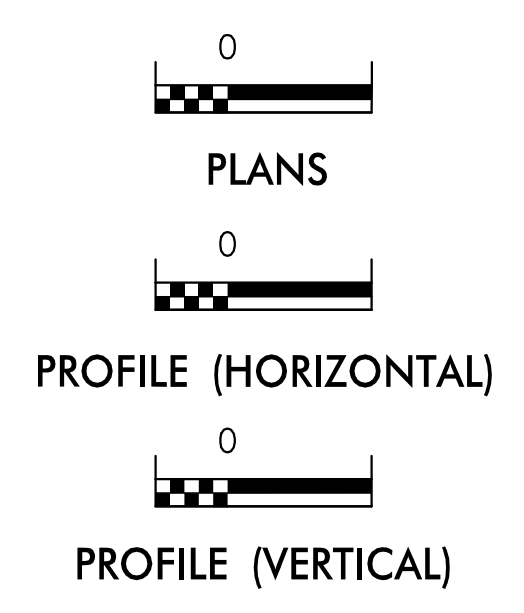
**TYPE OF WORK: GRADING, PAVING, STRUCTURE,  
DRAINAGE, & GUARDRAIL**

**EROSION AND SEDIMENT CONTROL MEASURES**

Sid. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
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/Coir Fiber Wattle	⌒
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	⌒
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**



ROADSIDE ENVIRONMENTAL UNIT  
DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared in the Office of:

**HNTB** HNTB NORTH CAROLINA, P.C.  
343 E. Six Forks Road, Suite 200  
Raleigh, North Carolina 27609  
NC License No: C-1554

**2012 STANDARD SPECIFICATIONS**

BENJAMIN J. HENEGAR, E.I.  
EROSION CONTROL  
LEVEL III-A  
CERTIFICATION #641

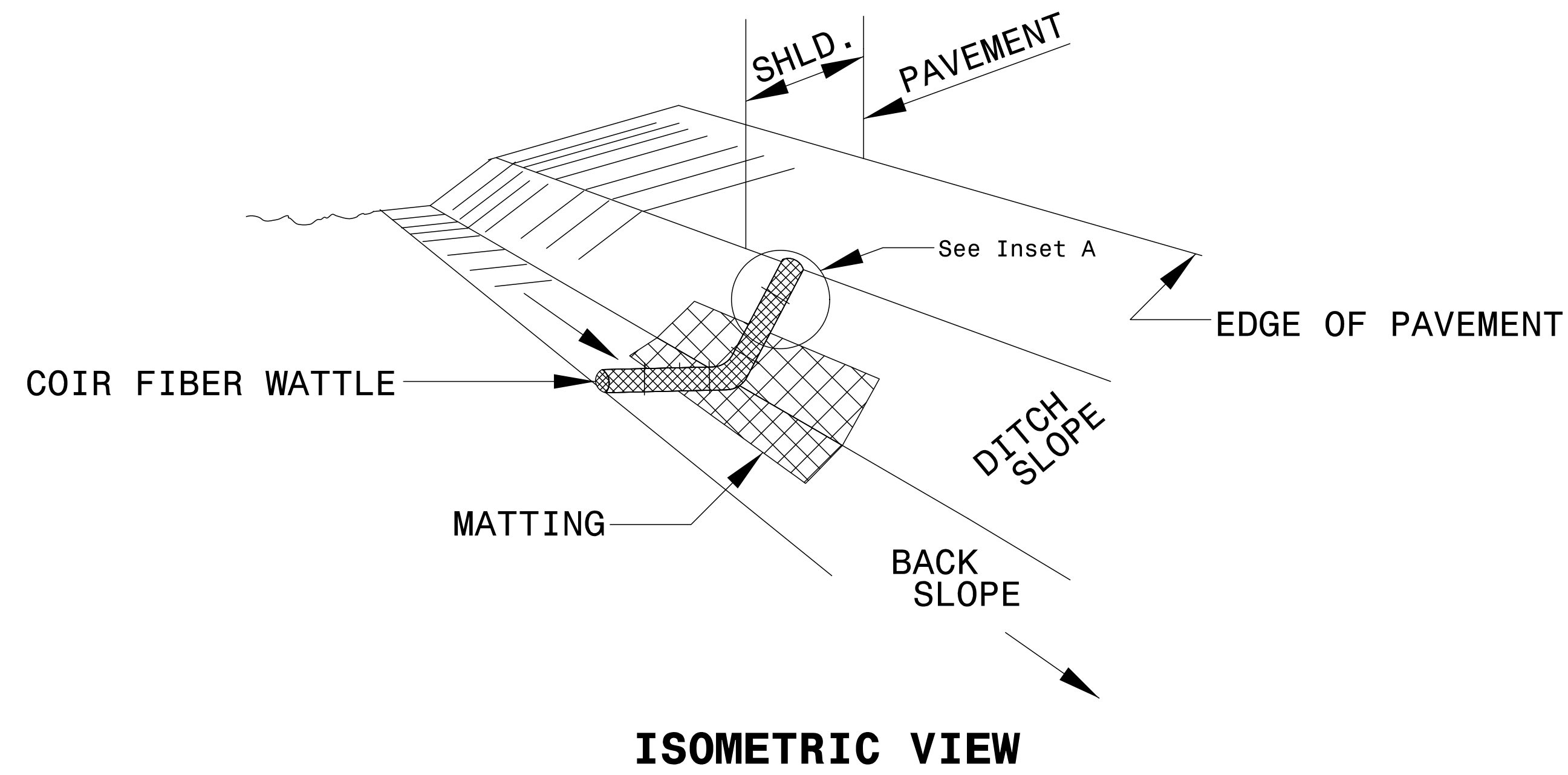
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

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# COIR FIBER WATTLE DETAIL



**NOTES:**

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

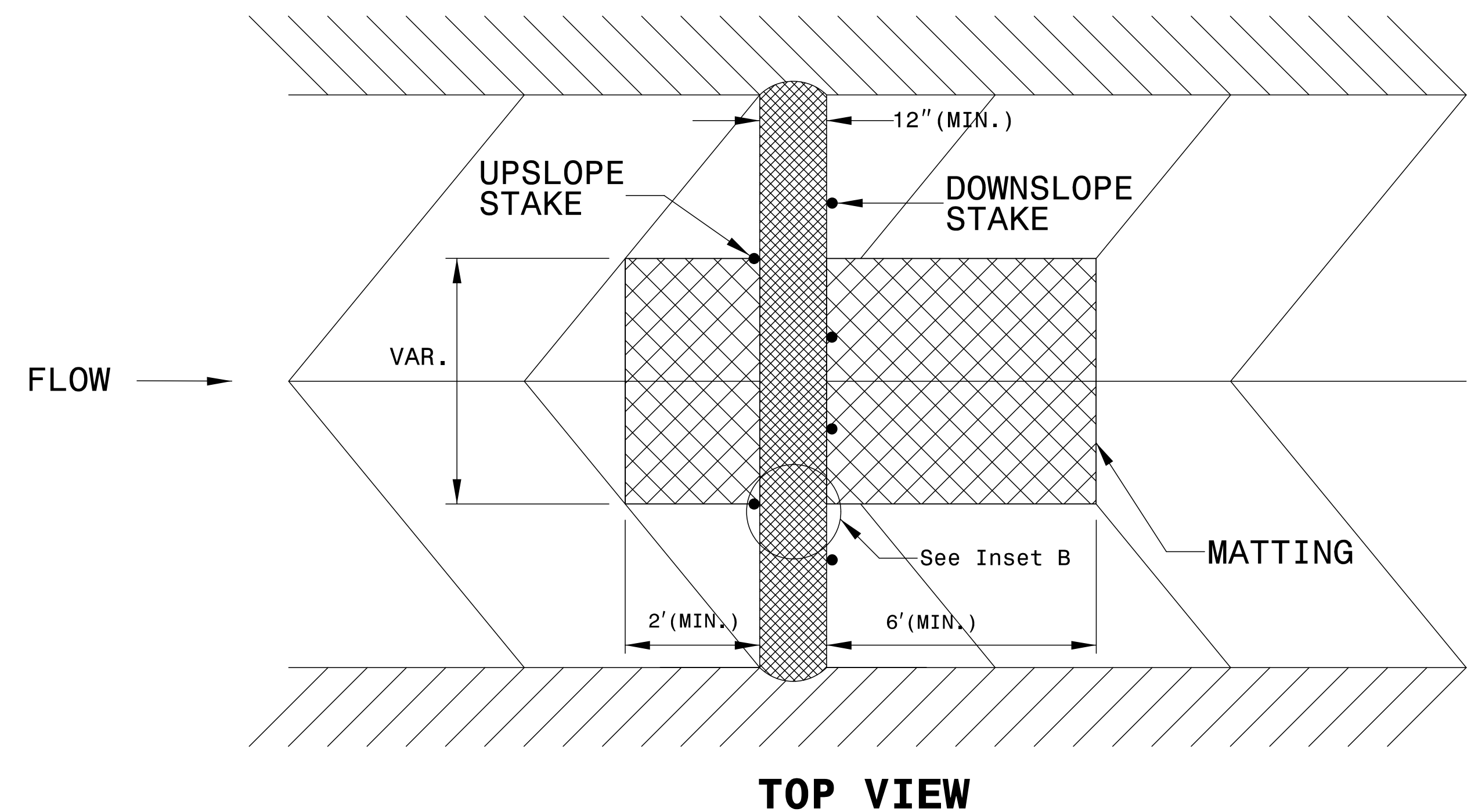
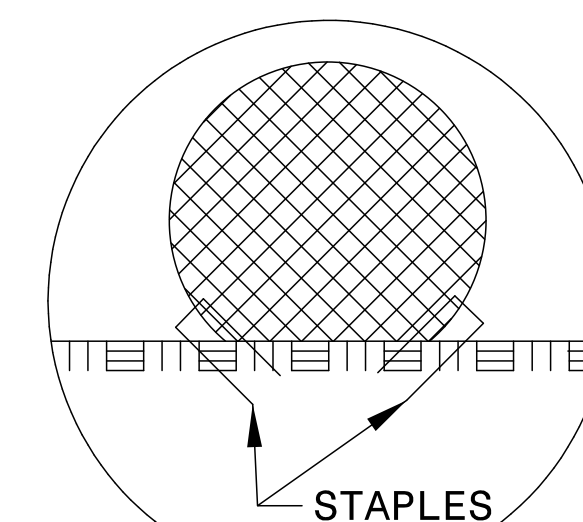
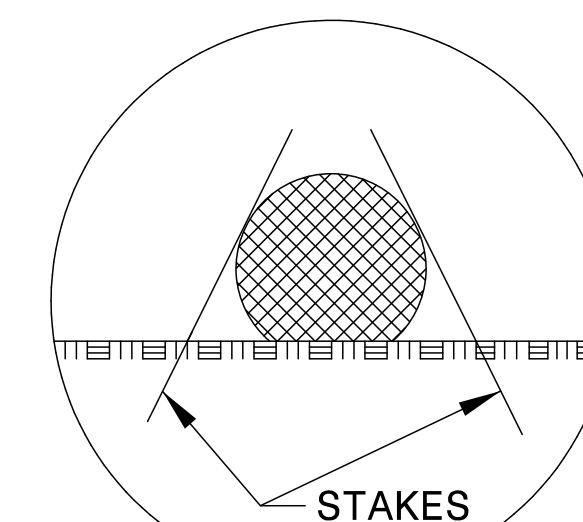
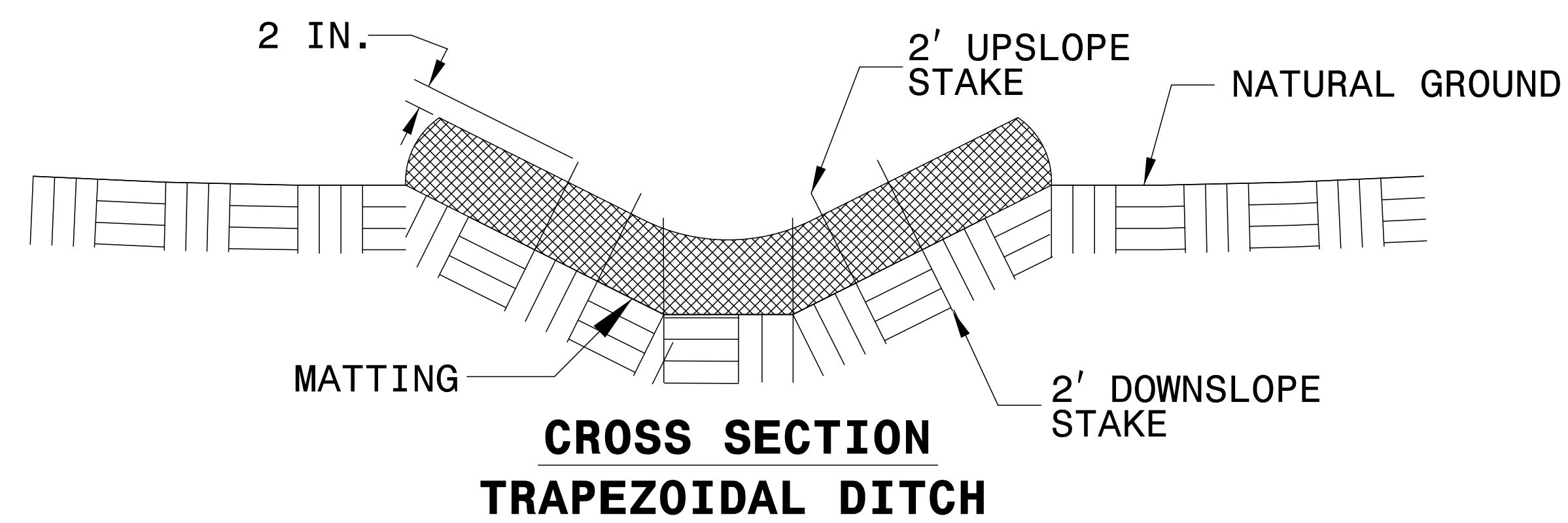
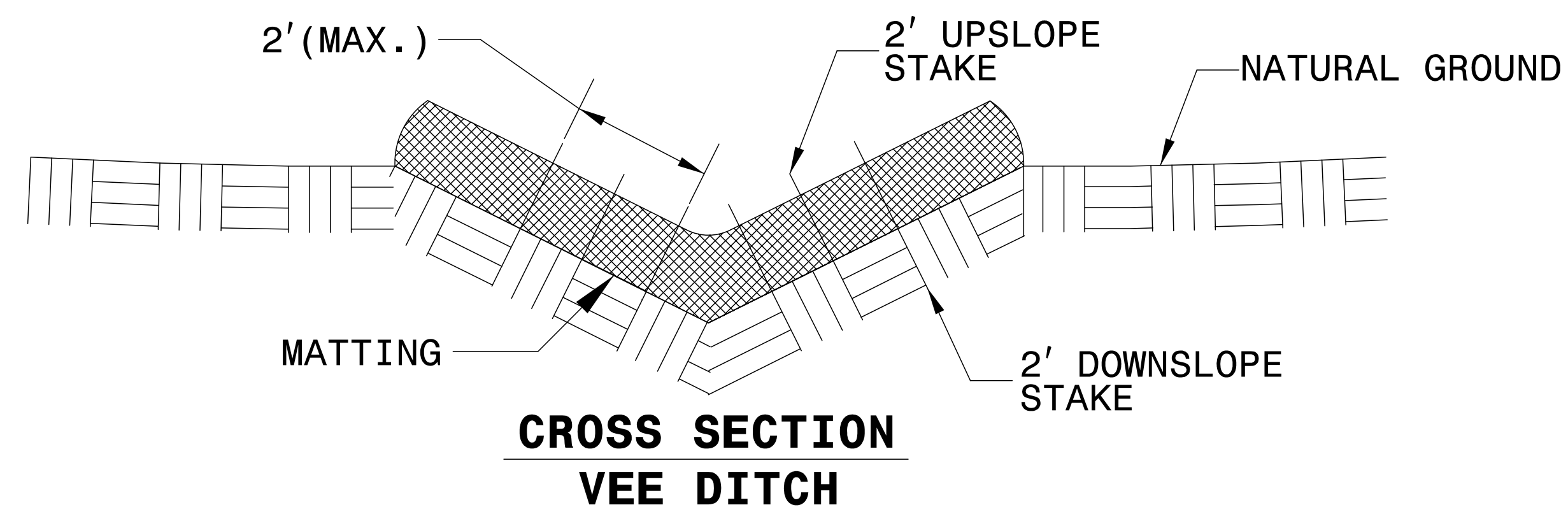
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

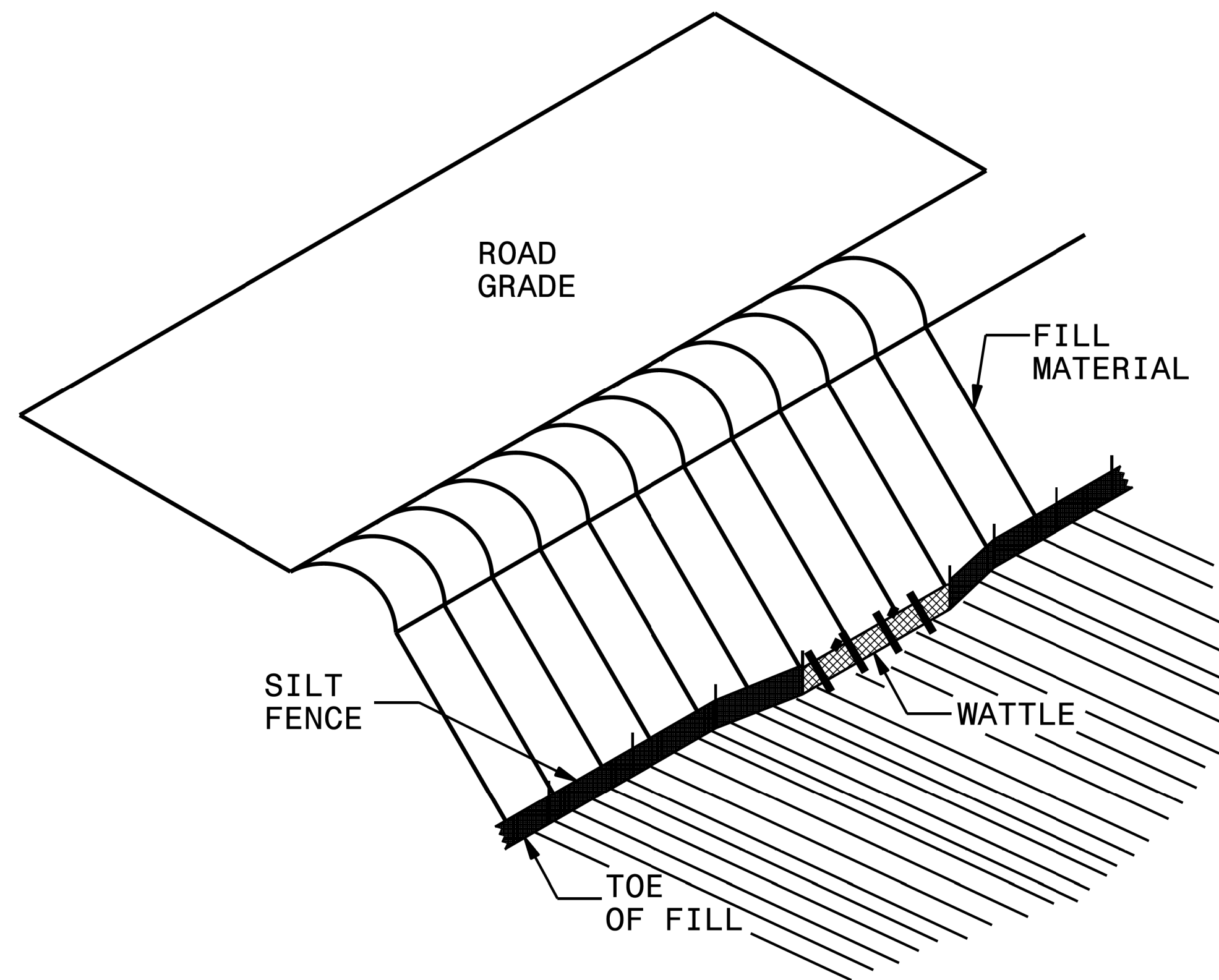
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

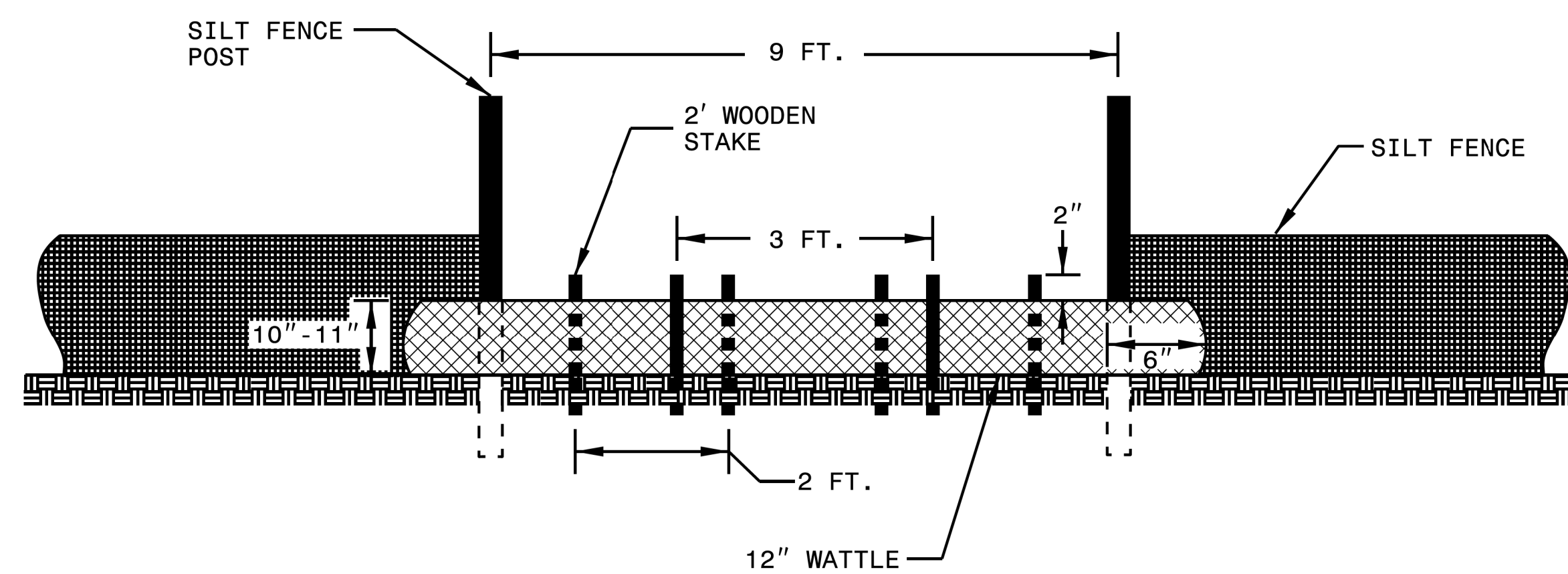




# SILT FENCE COIR FIBER WATTLE BREAK DETAIL



**ISOMETRIC VIEW**



**VIEW FROM SLOPE**

**NOTES:**

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

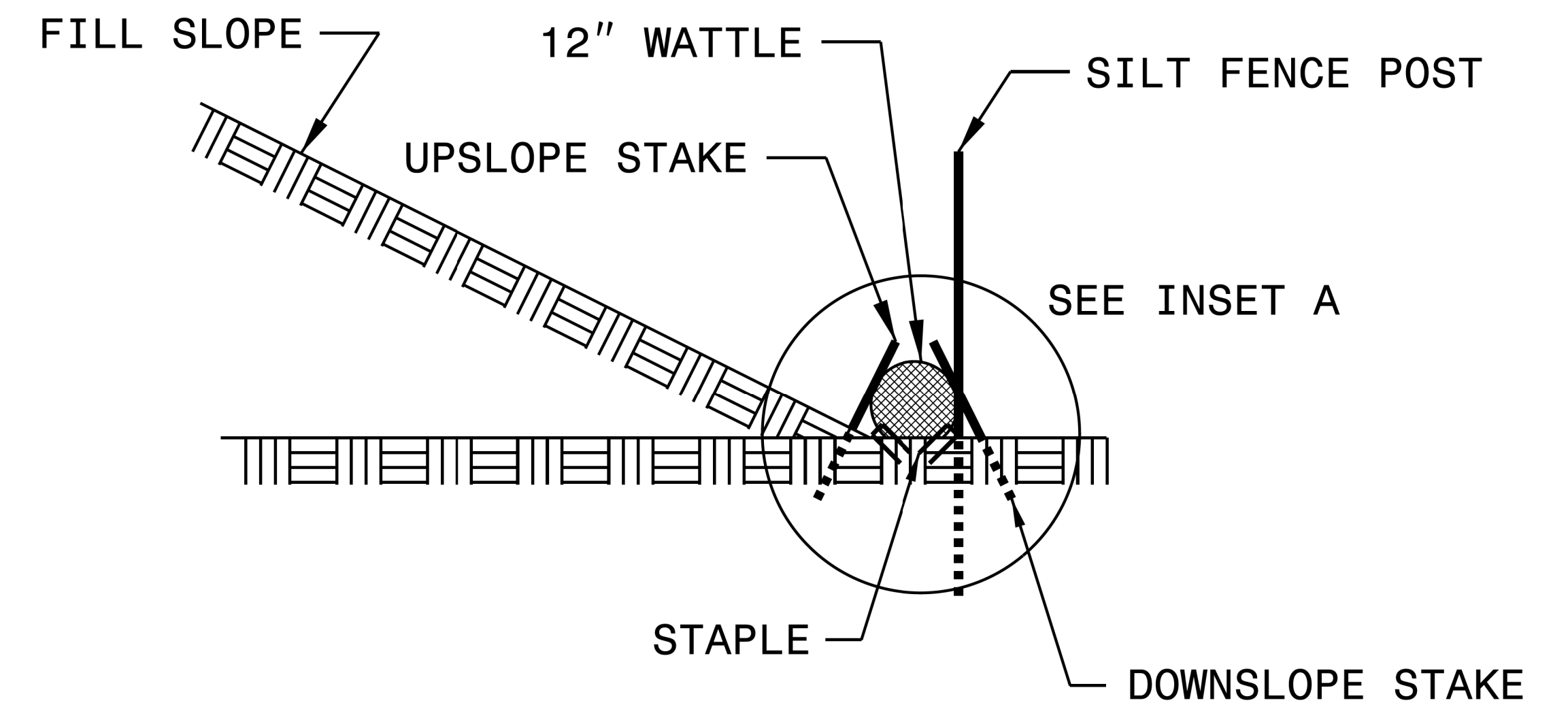
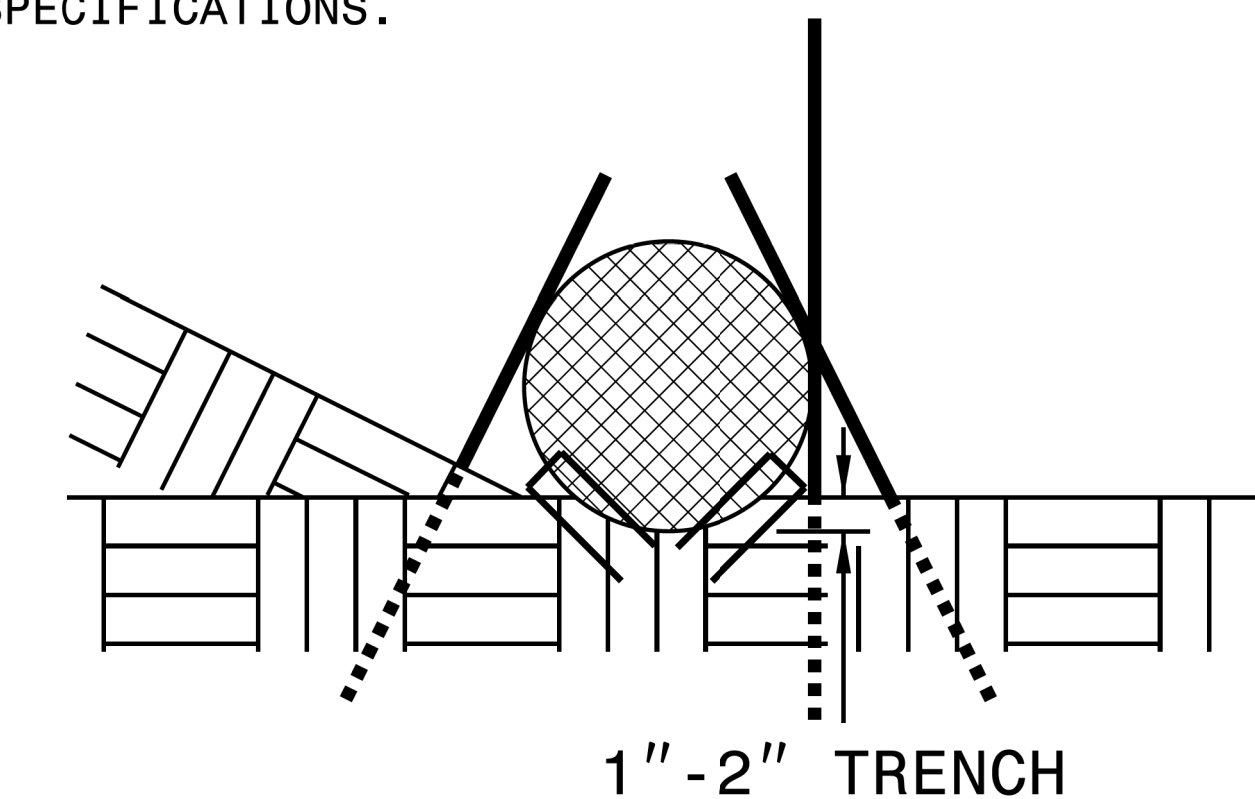
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

**INSET A**



**SIDE VIEW**

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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## ***SOIL STABILIZATION TIMEFRAMES***

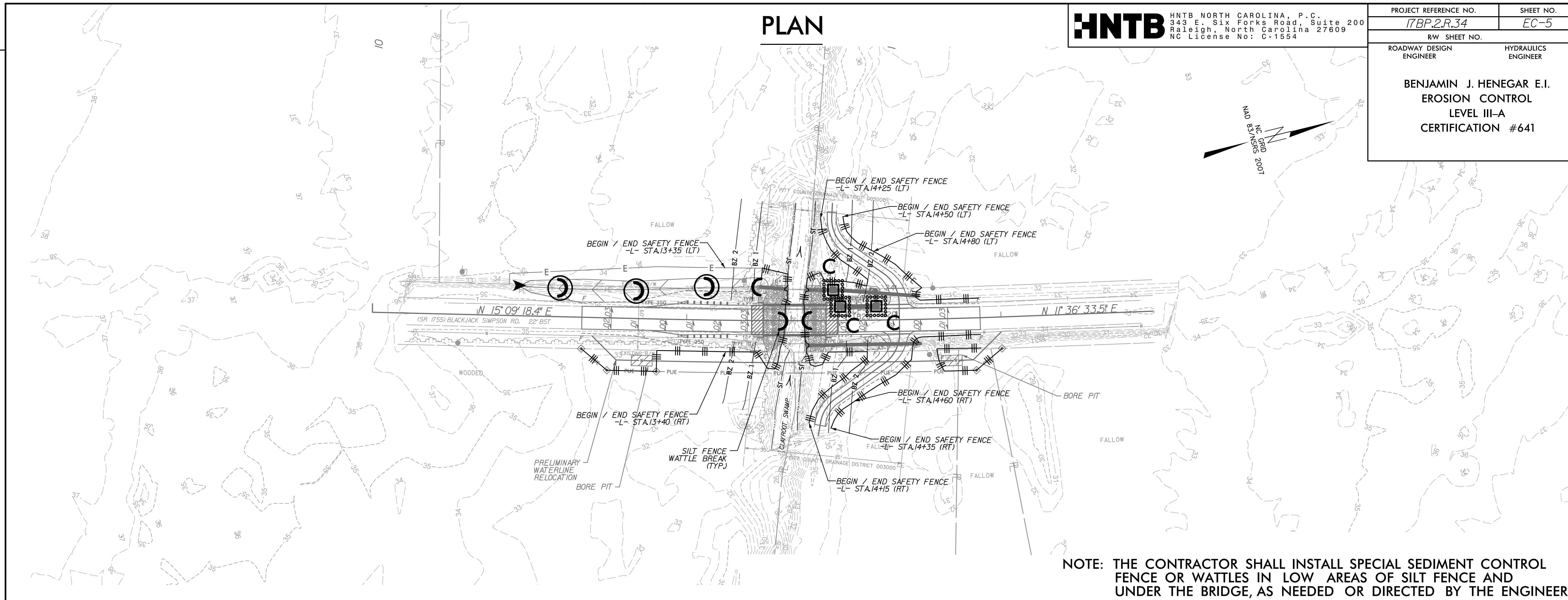
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 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.

# PLAN



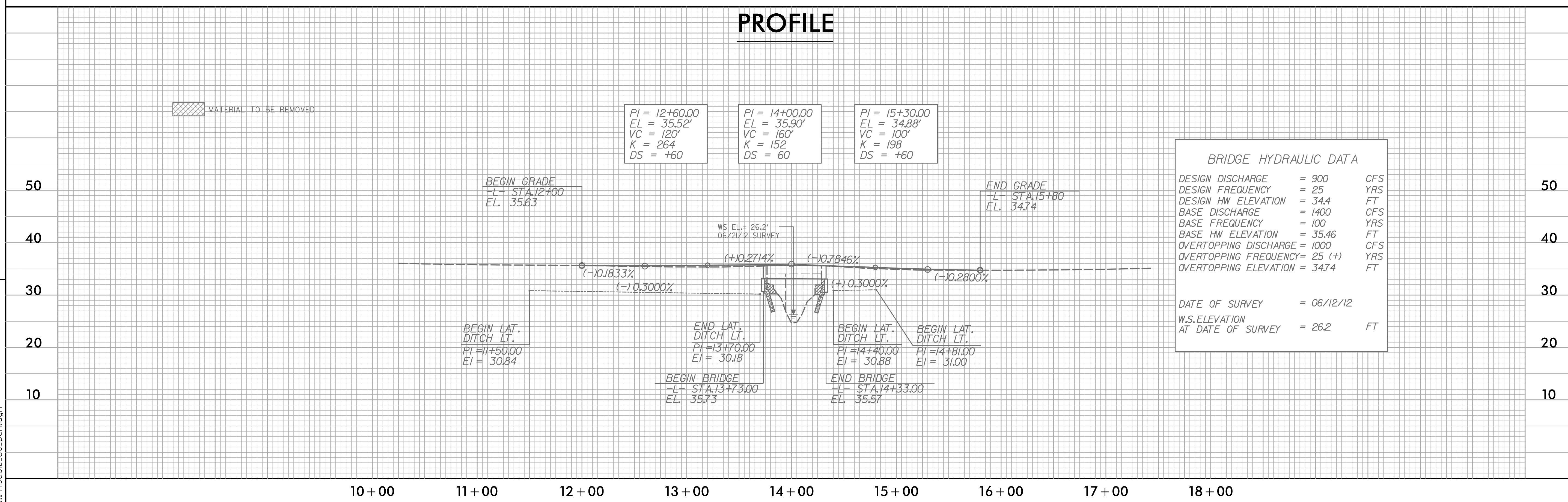
HNTB NORTH CAROLINA, P.C.  
343 E. Six Forks Road, Suite 200  
Raleigh, North Carolina 27609  
NC License No: C-1554

PROJECT REFERENCE NO.	SHEET NO.
17BP.2.R.34	EC-5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
BENJAMIN J. HENEGAR E.I. EROSION CONTROL LEVEL III-A CERTIFICATION #641	



NOTE: THE CONTRACTOR SHALL INSTALL SPECIAL SEDIMENT CONTROL FENCE OR WATTLES IN LOW AREAS OF SILT FENCE AND UNDER THE BRIDGE, AS NEEDED OR DIRECTED BY THE ENGINEER.

# PROFILE



REVISIONS

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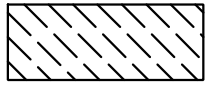
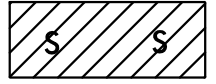
**W2**  
 PERMANENT WETLAND IMPACTS = 0.0 Ac / 0 SF  
 TEMPORARY WETLAND IMPACTS = 0.0 Ac / 0 SF  
 PERMANENT STREAM IMPACTS = 0 LF  
 TEMPORARY STREAM IMPACTS = 0 LF  
 BUFFER ZONE 1 IMPACTS = 957 SF  
 BUFFER ZONE 2 IMPACTS = 627 SF

**W1**  
 PERMANENT WETLAND IMPACTS = 0.0 Ac / 0 SF  
 TEMPORARY WETLAND IMPACTS = 0.0 Ac / 0 SF  
 PERMANENT STREAM IMPACTS = 34 LF  
 TEMPORARY STREAM IMPACTS = 0 LF  
 BUFFER ZONE 1 IMPACTS = 1258 SF  
 BUFFER ZONE 2 IMPACTS = 810 SF

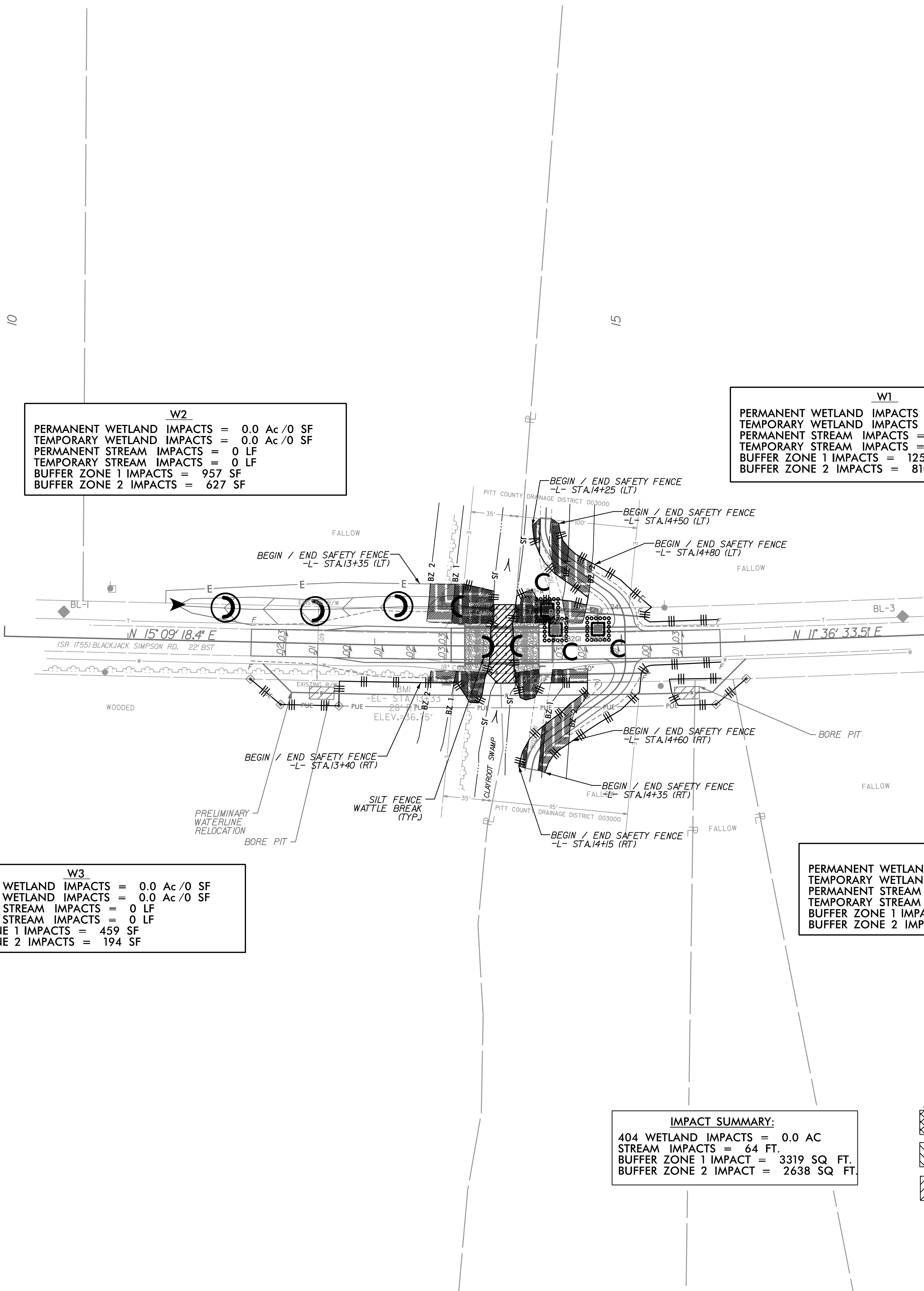
**W3**  
 PERMANENT WETLAND IMPACTS = 0.0 Ac / 0 SF  
 TEMPORARY WETLAND IMPACTS = 0.0 Ac / 0 SF  
 PERMANENT STREAM IMPACTS = 0 LF  
 TEMPORARY STREAM IMPACTS = 0 LF  
 BUFFER ZONE 1 IMPACTS = 459 SF  
 BUFFER ZONE 2 IMPACTS = 194 SF

**W4**  
 PERMANENT WETLAND IMPACTS = 0.0 Ac / 0 SF  
 TEMPORARY WETLAND IMPACTS = 0.0 Ac / 0 SF  
 PERMANENT STREAM IMPACTS = 30 LF  
 TEMPORARY STREAM IMPACTS = 0 LF  
 BUFFER ZONE 1 IMPACTS = 645 SF  
 BUFFER ZONE 2 IMPACTS = 1007 SF

**IMPACT SUMMARY:**  
 404 WETLAND IMPACTS = 0.0 AC  
 STREAM IMPACTS = 64 FT.  
 BUFFER ZONE 1 IMPACT = 3319 SQ. FT.  
 BUFFER ZONE 2 IMPACT = 2638 SQ. FT.

**LEGEND**  
 ALLOWABLE IMPACTS ZONE 1  
 ALLOWABLE IMPACTS ZONE 2  
 DENOTES IMPACTS IN SURFACE WATER

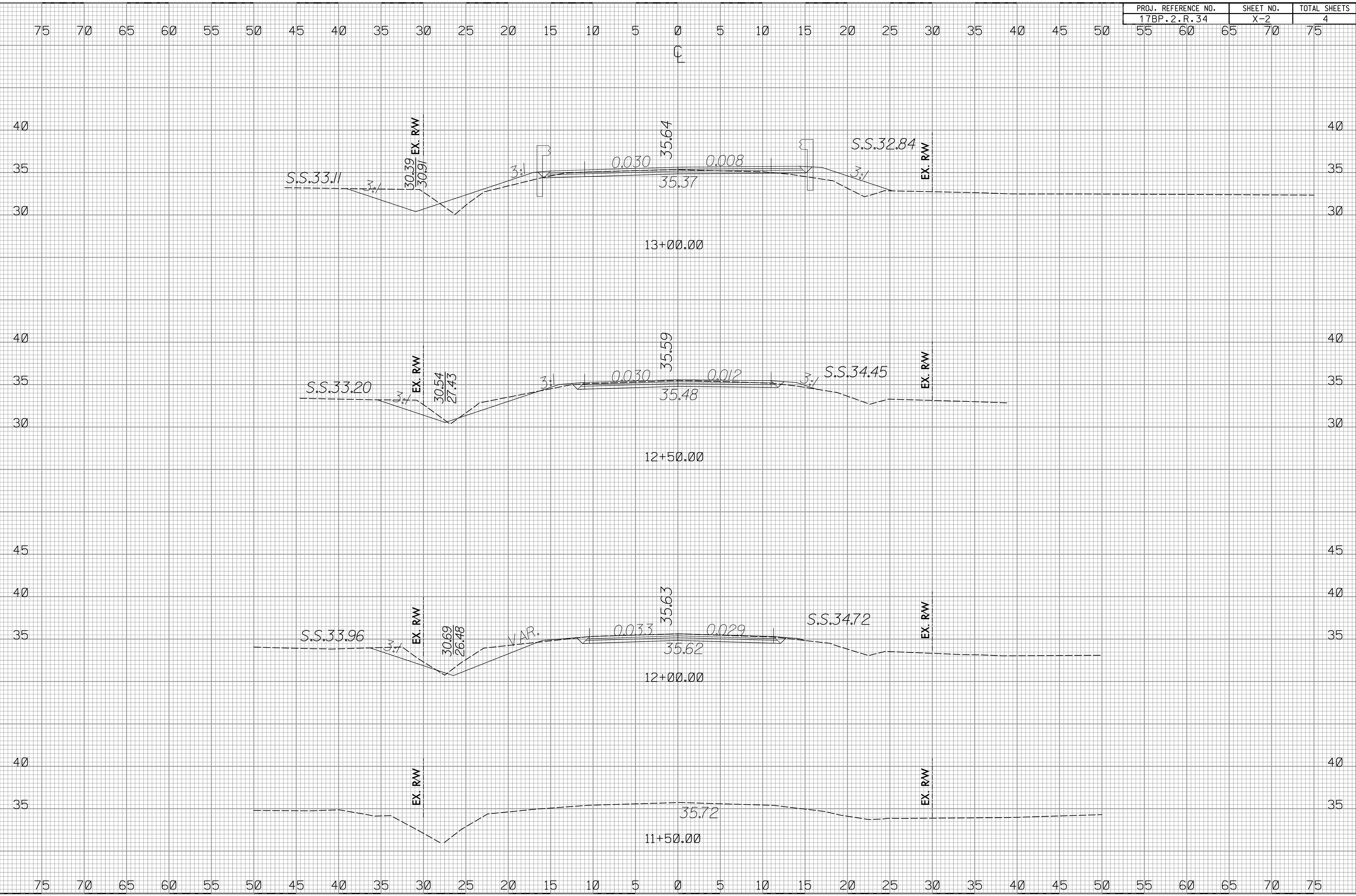
**NCDOT**  
 17BP.2.R.34 PITT COUNTY  
 REPLACE BRIDGE NO. 012  
 SR 1755 (BLACKJACK SIMPSON RD.)  
 OVER CLAYROOT SWAMP  
 BETWEEN SR 1793  
 AND SR 1753  
 SCALE: 1" = 50'  
 APRIL 23, 2013  
 FOR PERMITTING ONLY:  
 NOT FOR CONSTRUCTION





02/03/98

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
17BP.2.R.34	X-2	4



Vertical Curve Data



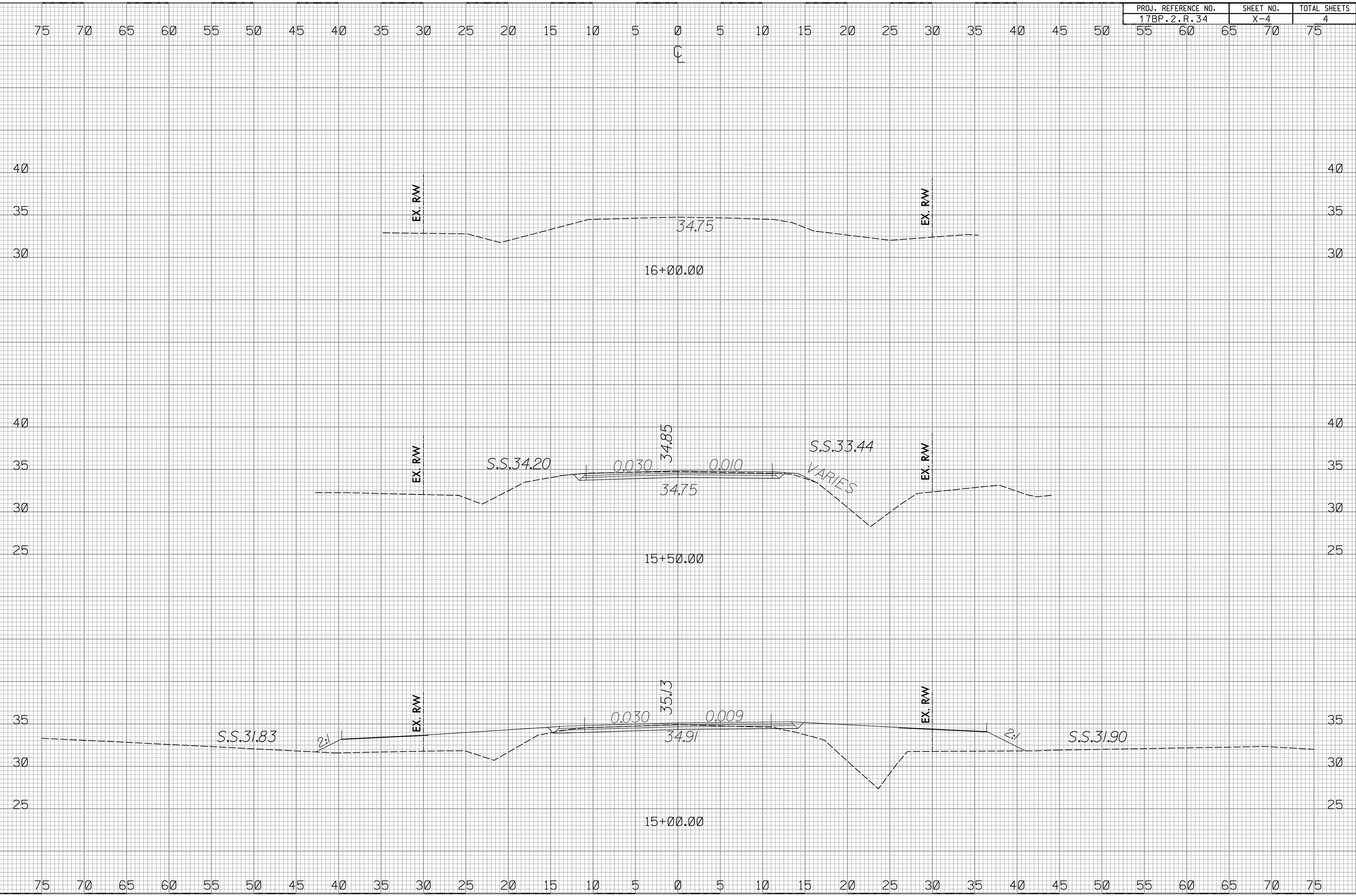
02/03/98

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
17BP.2.R.34	X-3	4



02/03/98

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
17BP.2.R.34	X-4	4



11  
 10  
 9  
 8  
 7  
 6  
 5  
 4  
 3  
 2  
 1  
 0  
 1  
 2  
 3  
 4  
 5  
 6  
 7  
 8  
 9  
 10  
 11

FOR GENERAL NOTES, SEE SHEET 2.

**BRIDGE HYDRAULIC DATA**

DESIGN DISCHARGE	=	900 CFS
FREQUENCY OF DESIGN FLOOD	=	25 YR
DESIGN HIGH WATER ELEVATION	=	34.6 FT.
DRAINAGE AREA	=	8.5 SQ. MI.
BASIC DISCHARGE (0100)	=	1400 CFS
BASIC HIGH WATER ELEVATION	=	35.45 FT.

**OVERTOPPING FLOOD DATA**

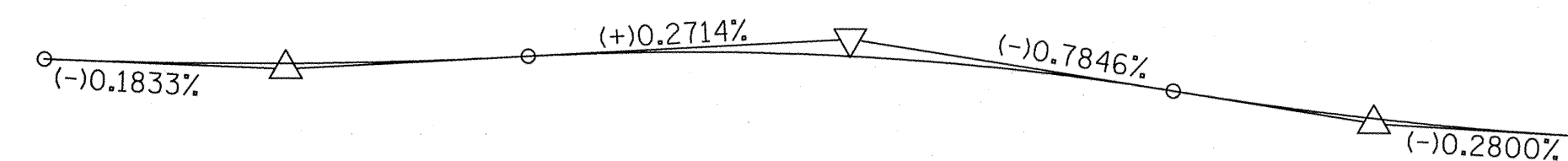
OVERTOPPING DISCHARGE	=	1000 CFS
FREQUENCY OF OVERTOPPING FLOOD	=	25(+)-YR
OVERTOPPING FLOOD ELEVATION	=	34.74 FT.

NOTE: OVERTOPPING OCCURS AT ROADWAY STA. 15+80.00±.

PI STA. = 12+60.00  
ELEV = 35.52  
V.C. = 120'

PI STA. = 14+00.00  
ELEV = 35.90  
V.C. = 160'

PI STA. = 15+30.00  
ELEV = 34.88  
V.C. = 100'

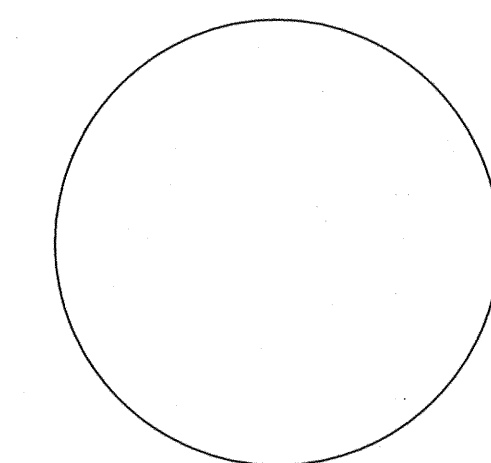


**GRADE DATA -L-**

**CURVE DATA -L-**

PI STA. = 14+42.39  
Δ = 3°32'44.8" (LT)  
D = 1°02'30.3"  
L = 340.37'  
T = 170.24'  
R = 5,500.00'  
SE = .03

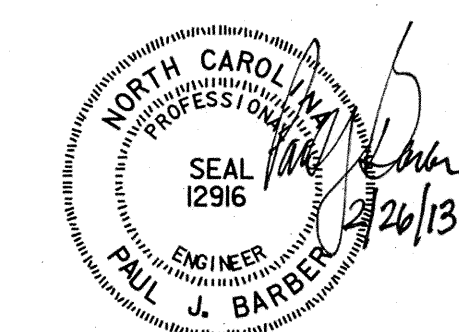
I HEREBY CERTIFY THESE PLANS  
ARE AS-BUILT PLANS



PROJECT NO. 17BP.2.R.34  
PITT COUNTY  
STATION: 14+03.00 -L-

SHEET 1 OF 2 REPLACES BRIDGE NO. 0012

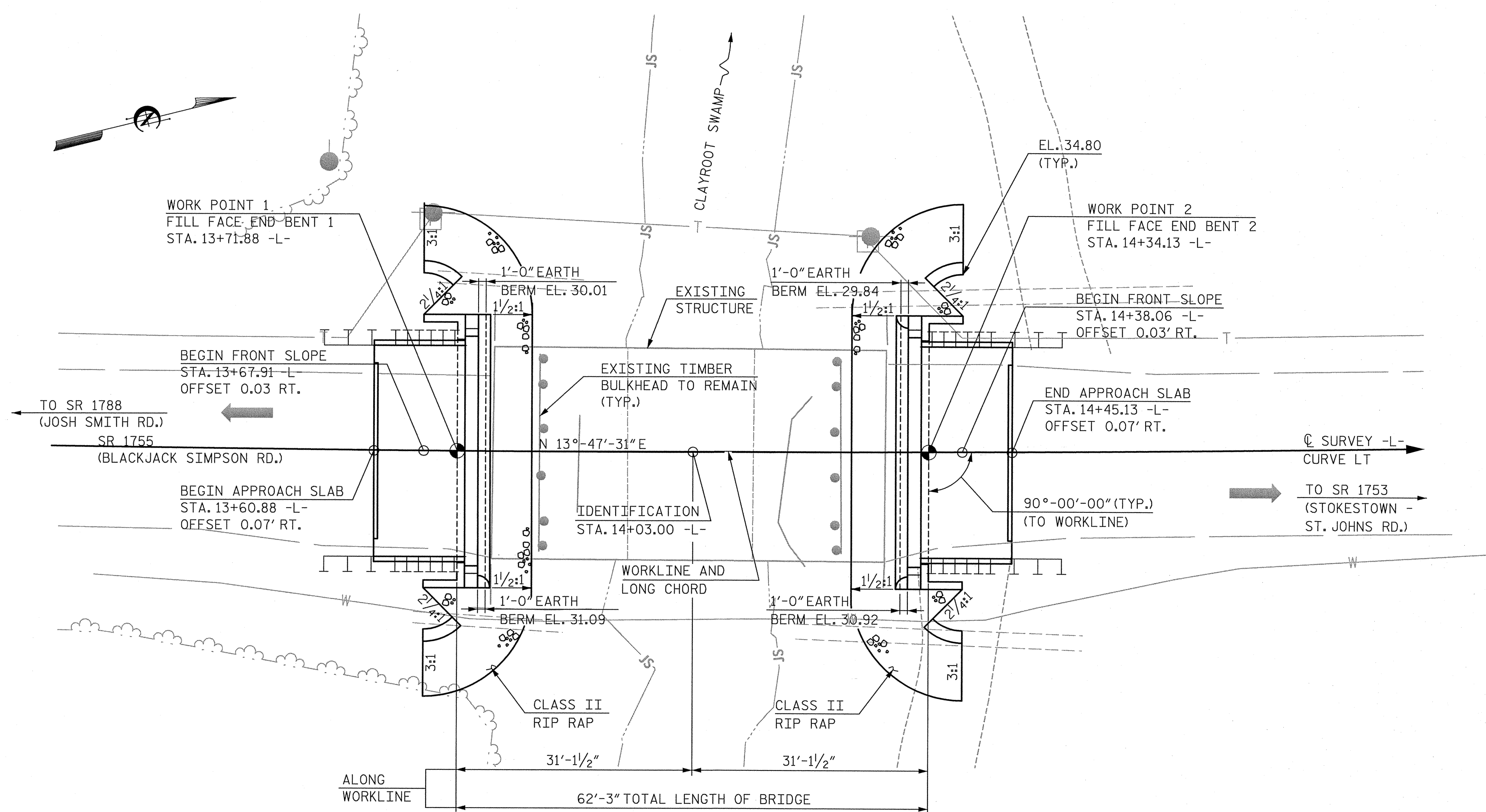
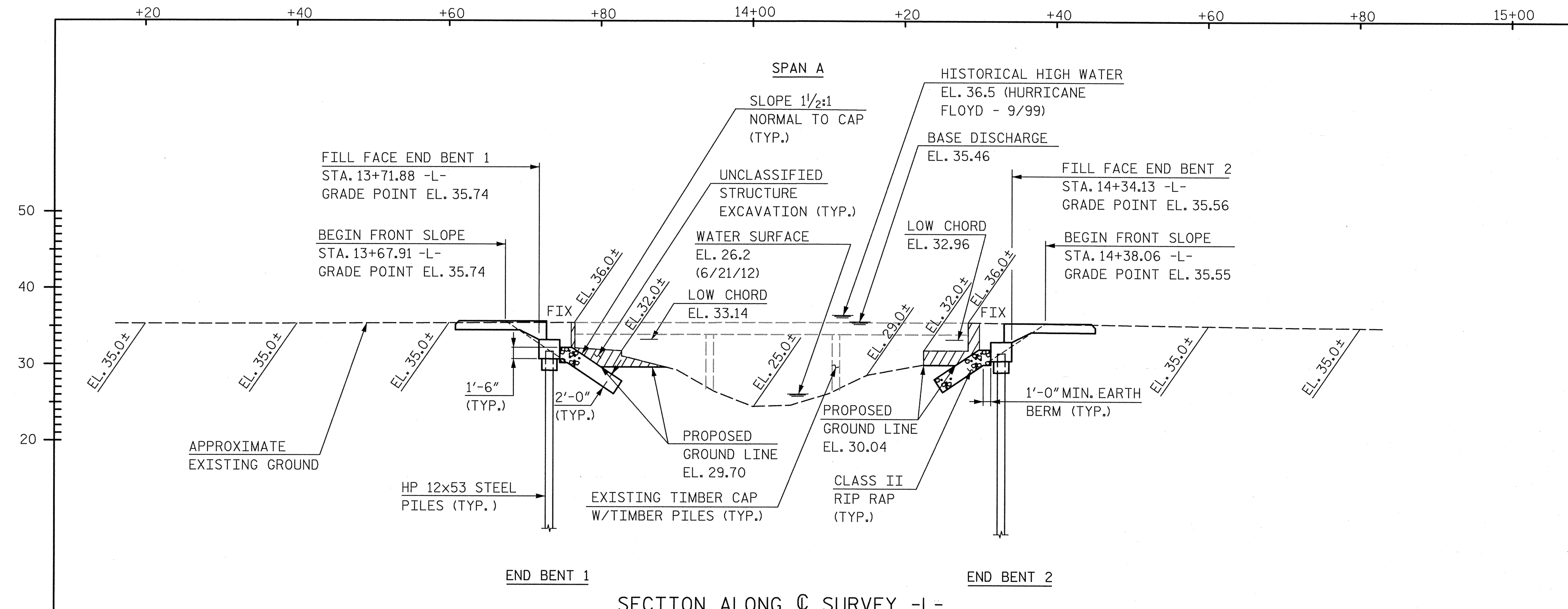
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
GENERAL DRAWING  
FOR BRIDGE ON SR 1755  
OVER CLAYROOT SWAMP  
BETWEEN SR 1788  
AND SR 1753



**HNTB** HNTB NORTH CAROLINA, P.C.  
NC License No. C-1554  
343 E. Six Forks Rd., Suite 200, Raleigh, N.C. 27609

DRAWN BY J. BAYNE DATE 11/12  
CHECKED BY D. RAGAN DATE 11/12  
DWG. NO. 1

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-1
1			3			TOTAL SHEETS
2			4			13

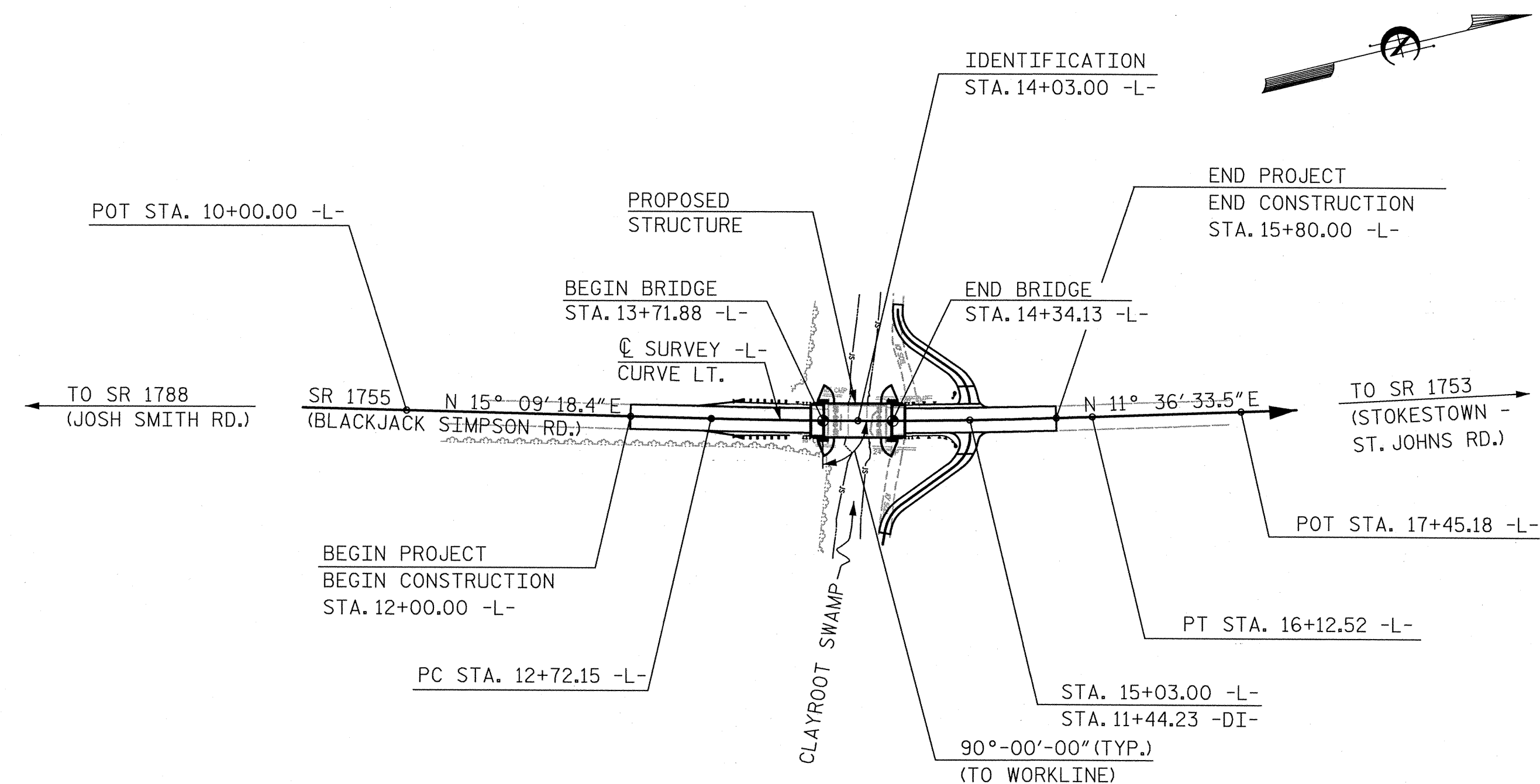


NOTES: SUBSTRUCTURE UNITS ARE PARALLEL

PILES NOT SHOWN FOR CLARITY.

WORKLINE FOR BRIDGE SHALL BE THE ROADWAY LONG CHORD BETWEEN FILL FACE WORK POINTS AND ITS EXTENSION.





LOCATION SKETCH

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

FOUNDATION NOTES:

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

PILES AT END BENT NO.1 AND END BENT NO.2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 90 TONS PER PILE.

DRIVE PILES AT END BENT NO.1 AND END BENT NO.2 TO A REQUIRED DRIVING RESISTANCE OF 150 TONS PER PILE.

IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVALENT RATED ENERGY IN THE RANGE OF 30 TO 50 FT-KIPS PER BLOW WILL BE REQUIRED TO DRIVE PILES AT END BENT NO.1 AND END BENT NO.2. THIS ESTIMATED ENERGY RANGE DOES NOT RELEASE THE CONTRACTOR FROM PROVIDING DRIVING EQUIPMENT IN ACCORDANCE WITH SUBARTICLE 450-3(D)(2) OF THE STANDARD SPECIFICATIONS.

TESTING PILES WITH THE PDA DURING DRIVING, RESTRIKING OR REDRIVING MAY BE REQUIRED. THE ENGINEER WILL DETERMINE THE NEED FOR PDA TESTING. FOR PDA TESTING, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS (AND FOR PILE DRIVING CRITERIA, SEE PILE DRIVING CRITERIA PROVISION.)

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE AT STATION 14+03.00 -L-	PDA TESTING	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION 14+03.00 -L-	CLASS A CONCRETE	BRIDGE APPROACH SLABS AT STATION 14+03.00 -L-	REINFORCING STEEL	HP 12x53 STEEL PILES	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0"x1'-9" PRESTRESSED CONCRETE CORED SLABS
	LUMP SUM	EA.	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	NO. LIN. FT.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	NO. LIN. FT.
SUPERSTRUCTURE	LUMP SUM				LUMP SUM			120.00			LUMP SUM	10 600
END BENT NO. 1			LUMP SUM	13.1		1,977	5 325		73	81		
END BENT NO. 2			LUMP SUM	13.1		1,977	5 325		74	82		
TOTAL	LUMP SUM	1	LUMP SUM	26.2	LUMP SUM	3,954	10 650	120.00	147	163	LUMP SUM	10 600

GENERAL NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

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

FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

THE EXISTING THREE SPAN STRUCTURE WITH SPAN LENGTHS OF 18'-3", 16'-5" AND 17'-8" WITH 22 LINES OF 6x12 TIMBER JOISTS AT VARYING CTS. AND A REINFORCED CONCRETE DECK WITH A 28'-0" CLEAR ROADWAY WIDTH ON TIMBER CAPS AND TIMBER PILES SHALL BE REMOVED. IN ADDITION, ANY CONCRETE REMAINING FROM PREVIOUS BRIDGE CONSTRUCTION OR MAINTENANCE OPERATIONS SHALL BE REMOVED AND INCLUDED IN THE LUMP SUM PAY ITEM FOR "REMOVAL OF EXISTING STRUCTURE AT STATION 14+03.00 -L-". THE EXISTING TIMBER BULKHEADS LOCATED ADJACENT TO EXISTING END BENTS BENEATH BRIDGE SHALL REMAIN IN PLACE.

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

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 18.0 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.

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.

ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.

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 FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

THIS BRIDGE SHALL BE CONSTRUCTED USING TOP-DOWN CONSTRUCTION METHODS. THE USE OF A TEMPORARY CAUSEWAY OR WORK BRIDGE IS NOT PERMITTED. CONTRACTOR SHALL NOT PLACE OR OPERATE A CRANE ON SPAN A.

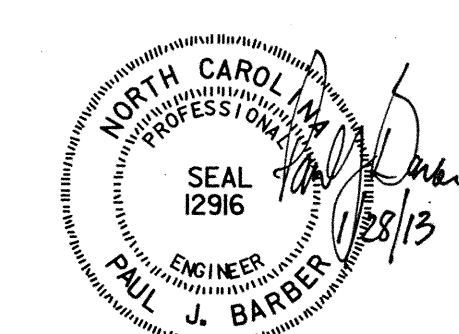
FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

PROJECT NO. 17BP.2.R.34  
PITT COUNTY  
 STATION: 14+03.00 -L-

SHEET 2 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 GENERAL DRAWING  
 FOR BRIDGE ON SR 1755  
 OVER CLAYROOT SWAMP  
 BETWEEN SR 1788  
 AND SR 1753

<b>HNTB</b> HNTB NORTH CAROLINA, P.C. NC License No. C-1554 343 E. Six Forks Rd., Suite 200, Raleigh, N.C. 27609	REVISIONS				SHEET NO. S-2
	NO.	BY	DATE	NO.	
DRAWN BY: J. BAYNE CHECKED BY: D. RAGAN		DATE: 11/12		DATE: 12/12	TOTAL SHEETS 13
DWG. NO. 2					



LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	$\gamma_{DC}$	$\gamma_{DW}$
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

LOAD AND RESISTANCE FACTOR RATING (LRFD) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																								
LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W X RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE								COMMENT NUMBER
						MOMENT					SHEAR					MOMENT								
						LIVELOAD FACTORS	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	LIVELOAD FACTORS	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		
DESIGN LOAD RATING	HL-93(Inv)	N/A	1	1.1	--	1.75	0.275	1.26	A	EL	29.5	0.516	1.58	A	EL	2.95	0.80	0.275	1.10	A	EL	29.500		
	HL-93(0pr)	N/A	--	1.64	--	1.35	0.275	1.64	A	EL	29.5	0.516	2.04	A	EL	2.95	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	2	1.39	49.992	1.75	0.275	1.6	A	EL	29.5	0.516	1.9	A	EL	5.9	0.80	0.275	1.39	A	EL	29.500		
	HS-20(0pr)	36.000	--	2.08	74.698	1.35	0.275	2.07	A	EL	29.5	0.516	2.46	A	EL	5.9	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	2.99	40.358	1.4	0.275	4.31	A	EL	29.5	0.516	5.48	A	EL	5.9	0.80	0.275	2.99	A	EL	29.500	
		SNGARBS2	20.000	--	2.29	45.772	1.4	0.275	3.3	A	EL	29.5	0.516	3.95	A	EL	5.9	0.80	0.275	2.29	A	EL	29.500	
		SNAGRIS2	22.000	--	2.19	48.264	1.4	0.275	3.16	A	EL	29.5	0.516	3.69	A	EL	5.9	0.80	0.275	2.19	A	EL	29.500	
		SNCOTTS3	27.250	--	1.49	40.585	1.4	0.275	2.15	A	EL	29.5	0.516	2.74	A	EL	5.9	0.80	0.275	1.49	A	EL	29.500	
		SNAGGRS4	34.925	--	1.27	44.276	1.4	0.275	1.83	A	EL	29.5	0.516	2.31	A	EL	5.9	0.80	0.275	1.27	A	EL	29.500	
		SNS5A	35.550	--	1.24	44.016	1.4	0.275	1.78	A	EL	29.5	0.516	2.36	A	EL	5.9	0.80	0.275	1.24	A	EL	29.500	
		SNS6A	39.950	--	1.15	45.779	1.4	0.275	1.65	A	EL	29.5	0.516	2.17	A	EL	5.9	0.80	0.275	1.15	A	EL	29.500	
	SNS7B	42.000	--	1.09	45.848	1.4	0.275	1.57	A	EL	29.5	0.516	2.15	A	EL	5.9	0.80	0.275	1.09	A	EL	29.500		
	TTST	TNAGRIT3	33.000	--	1.4	46.210	1.4	0.275	2.02	A	EL	29.5	0.516	2.57	A	EL	5.9	0.80	0.275	1.40	A	EL	29.500	
		TNT4A	33.075	--	1.41	46.610	1.4	0.275	2.03	A	EL	29.5	0.516	2.49	A	EL	5.9	0.80	0.275	1.41	A	EL	29.500	
		TNT6A	41.600	--	1.16	48.336	1.4	0.275	1.67	A	EL	29.5	0.516	2.33	A	EL	5.9	0.80	0.275	1.16	A	EL	29.500	
		TNT7A	42.000	--	1.17	49.265	1.4	0.275	1.69	A	EL	29.5	0.516	2.22	A	EL	5.9	0.80	0.275	1.17	A	EL	29.500	
		TNT7B	42.000	--	1.23	51.459	1.4	0.275	1.77	A	EL	29.5	0.516	2.09	A	EL	5.9	0.80	0.275	1.23	A	EL	29.500	
		TNAGRIT4	43.000	--	1.16	49.755	1.4	0.275	1.67	A	EL	29.5	0.516	2.01	A	EL	5.9	0.80	0.275	1.16	A	EL	29.500	
TNACT5A		45.000	--	1.09	48.892	1.4	0.275	1.57	A	EL	29.5	0.516	2.03	A	EL	5.9	0.80	0.275	1.09	A	EL	29.500		
TNACT5B	45.000	3	1.07	48.121	1.4	0.275	1.54	A	EL	29.5	0.516	1.91	A	EL	5.9	0.80	0.275	1.07	A	EL	29.500			

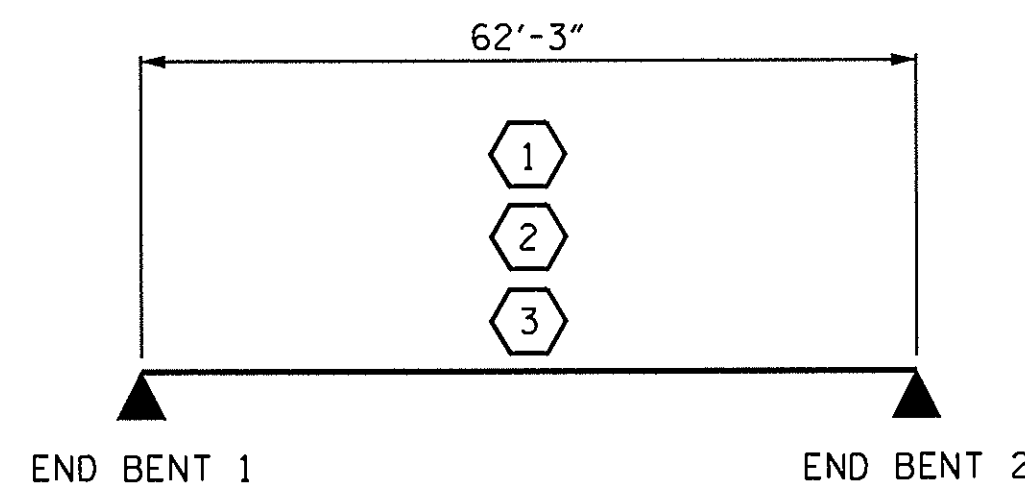
NOTES:

MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.  
ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

- 1.
- 2.
- 3.
- 4.

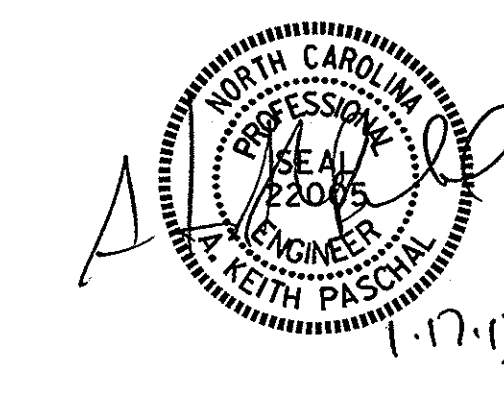
#	CONTROLLING LOAD RATING
1	DESIGN LOAD RATING (HL-93)
2	DESIGN LOAD RATING (HS-20)
3	LEGAL LOAD RATING **
** SEE CHART FOR VEHICLE TYPE	
GIRDER LOCATION	
I - INTERIOR GIRDER EL - EXTERIOR LEFT GIRDER ER - EXTERIOR RIGHT GIRDER	



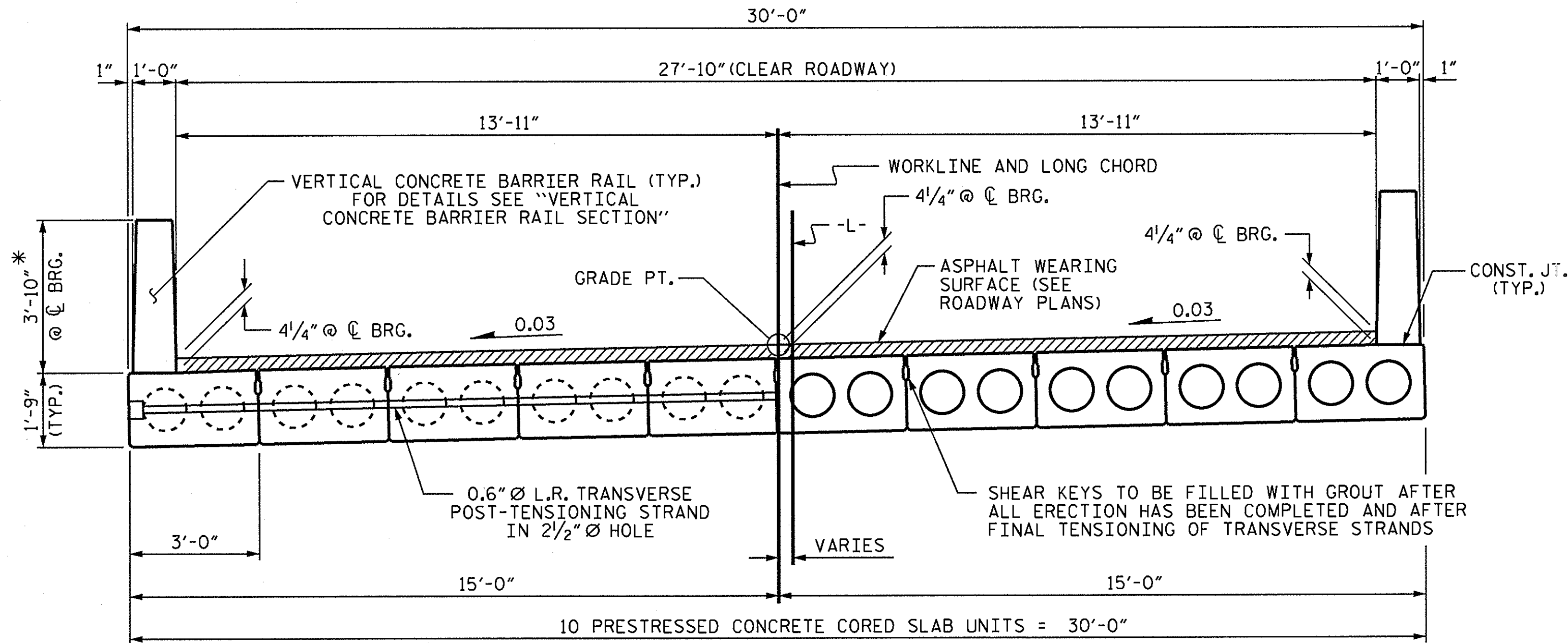
LRFR SUMMARY  
FOR 'SPAN A'

PROJECT NO. 17BP.2.R.34  
PITT COUNTY  
STATION: 14+03.00 -L-

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
LRFR SUMMARY FOR 60' CORED SLAB UNIT 90° SKEW (NON-INTERSTATE TRAFFIC)					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					S-3
TOTAL SHEETS					13

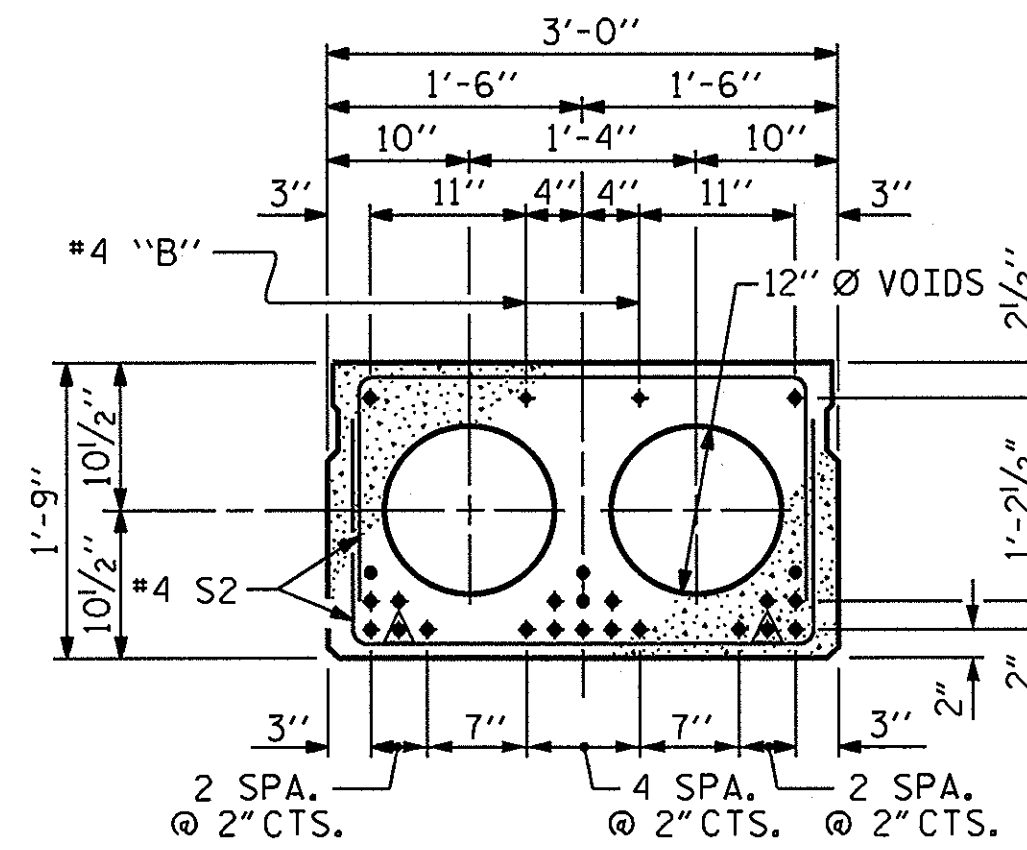


ASSEMBLED BY : O. PUIGSERVER DATE : 1/10/13  
CHECKED BY : K. P. SEDAI DATE : 1/14/13  
DRAWN BY : MAA 1/08  
CHECKED BY : GM/DI 2/08  
REV. 11/12/08RR MAA/GM  
REV. 10/11/11 MAA/GM



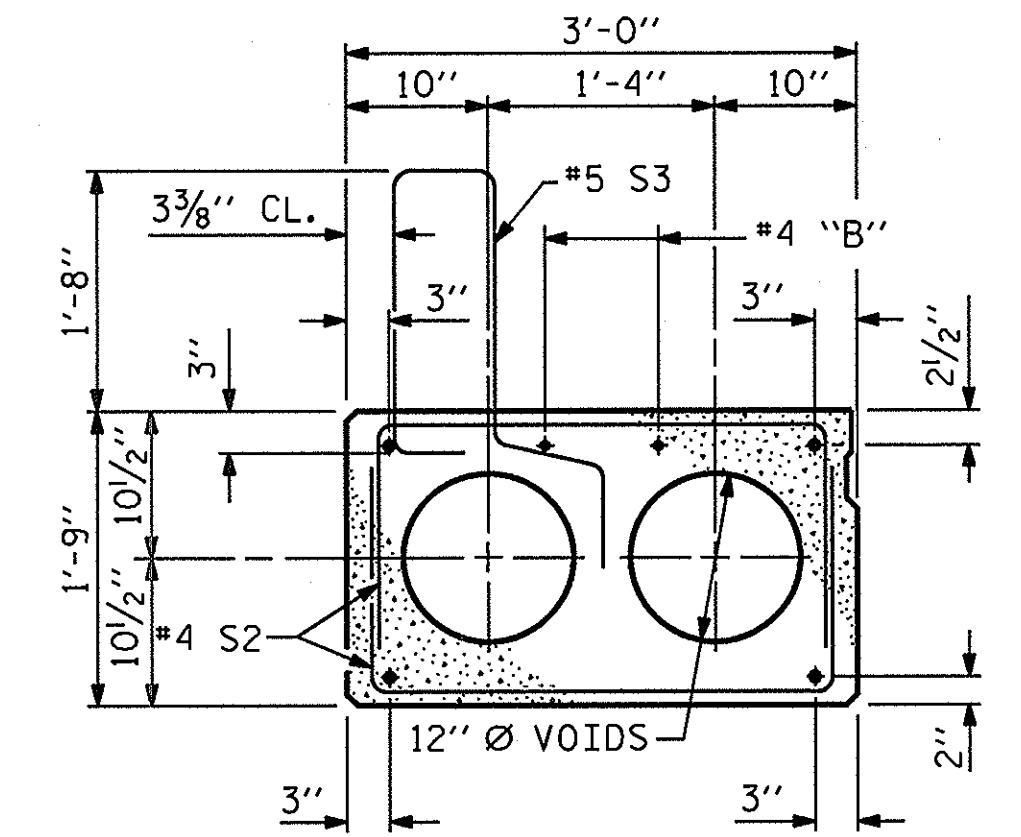
**TYPICAL SECTION**

\* - THE MAXIMUM BARRIER RAIL HEIGHT AND ASPHALT THICKNESS IS SHOWN. THE HEIGHT OF THE BARRIER RAIL AND ASPHALT THICKNESS VARIES WHILE THE TOP OF THE BARRIER RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE. FOR RAIL HEIGHT DETAILS AND ASPHALT THICKNESS SEE THE "VERTICAL CONCRETE BARRIER RAIL SECTION" DETAIL.



**INTERIOR SLAB SECTION**  
(23 STRANDS REQUIRED)

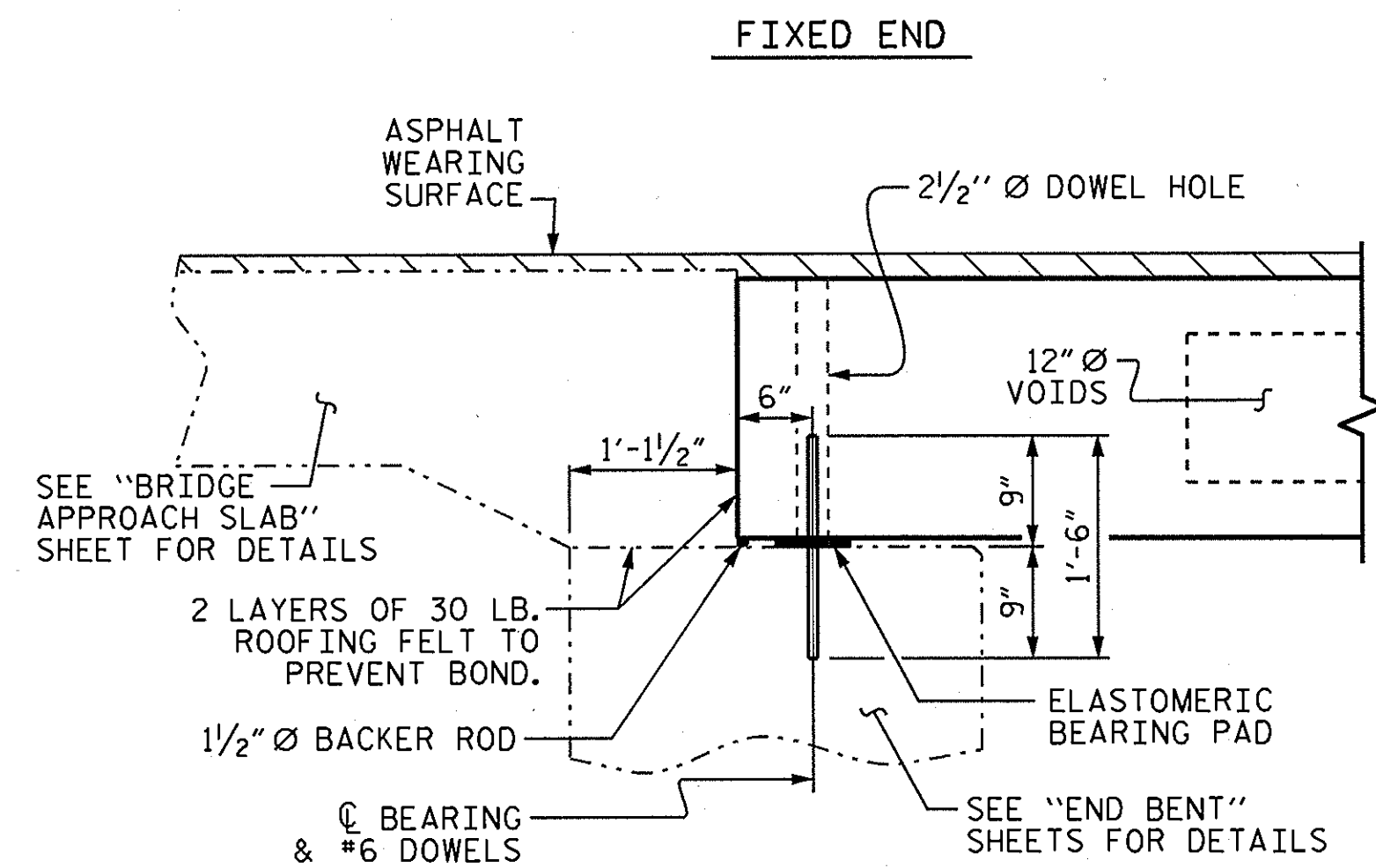
**0.6" Ø LOW RELAXATION STRAND LAYOUT**



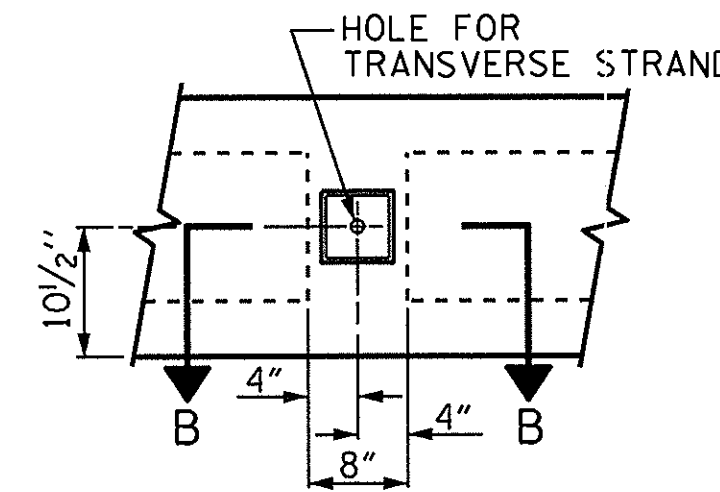
**EXT. SLAB SECTION**  
(FOR PRESTRESSED STRAND LAYOUT, SEE INTERIOR SLAB SECTION.)

▲ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 6'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

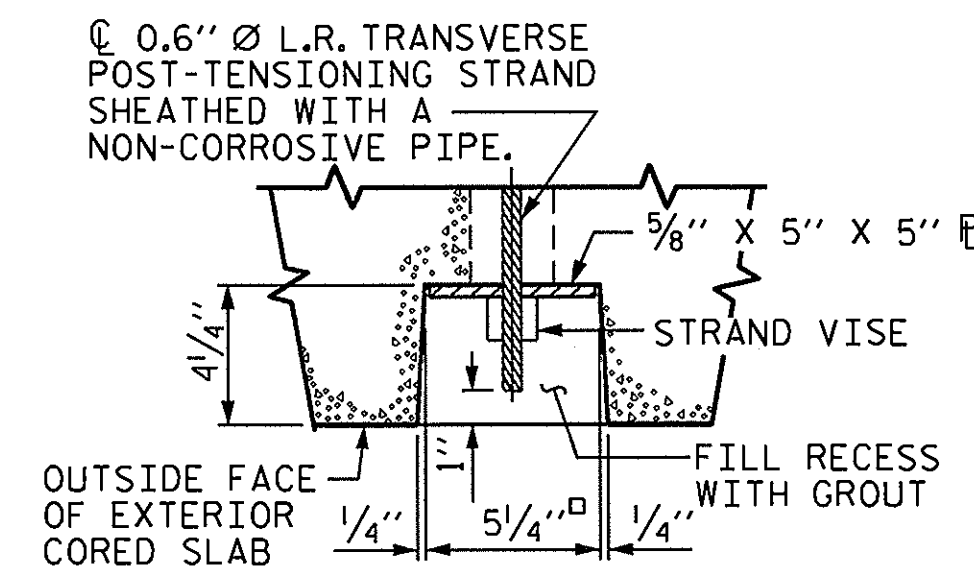
**DEBONDING LEGEND**



**SECTION AT END BENT**

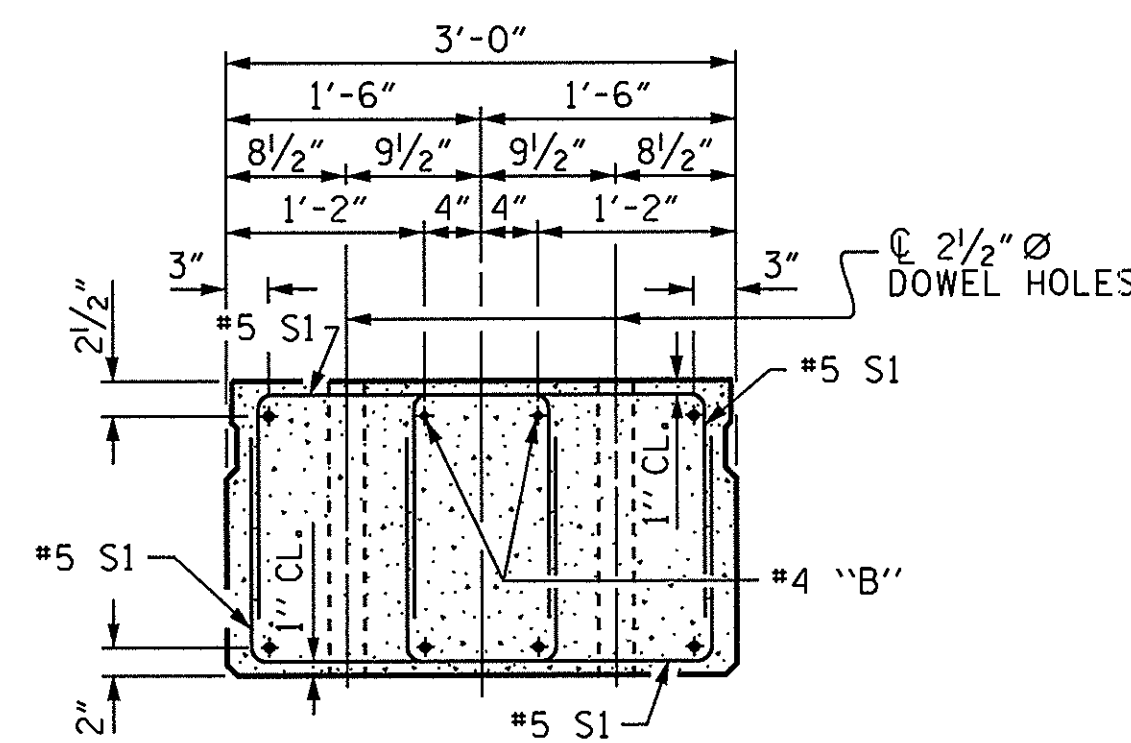


**ELEVATION VIEW**



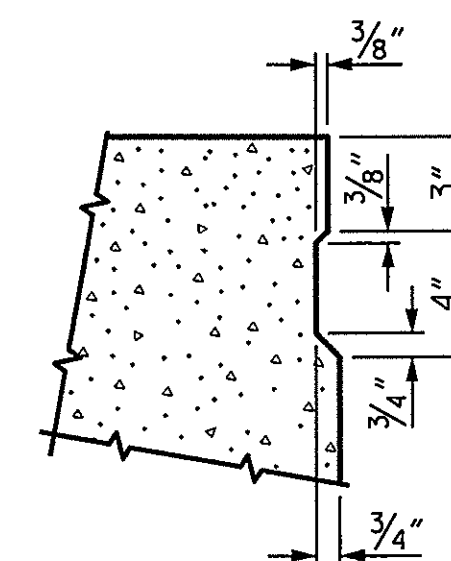
**SECTION B-B**

**GROUTED RECESS AT END OF POST-TENSIONED STRAND OF CORED SLABS**



**END ELEVATION**

SHOWING PLACEMENT OF DOUBLE STIRRUPS AND LOCATION OF DOWEL HOLES. (STRAND LAYOUT NOT SHOWN.) INTERIOR SLAB UNIT SHOWN-EXTERIOR SLAB UNIT SIMILAR EXCEPT SHEAR KEY LOCATION.



**SHEAR KEY DETAIL**

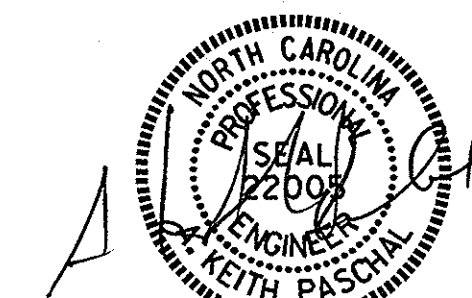
NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR CORED SLABS.

PROJECT NO. 17BP.2.R.34  
PITT COUNTY  
STATION: 14+03.00 -L-

SHEET 1 OF 3

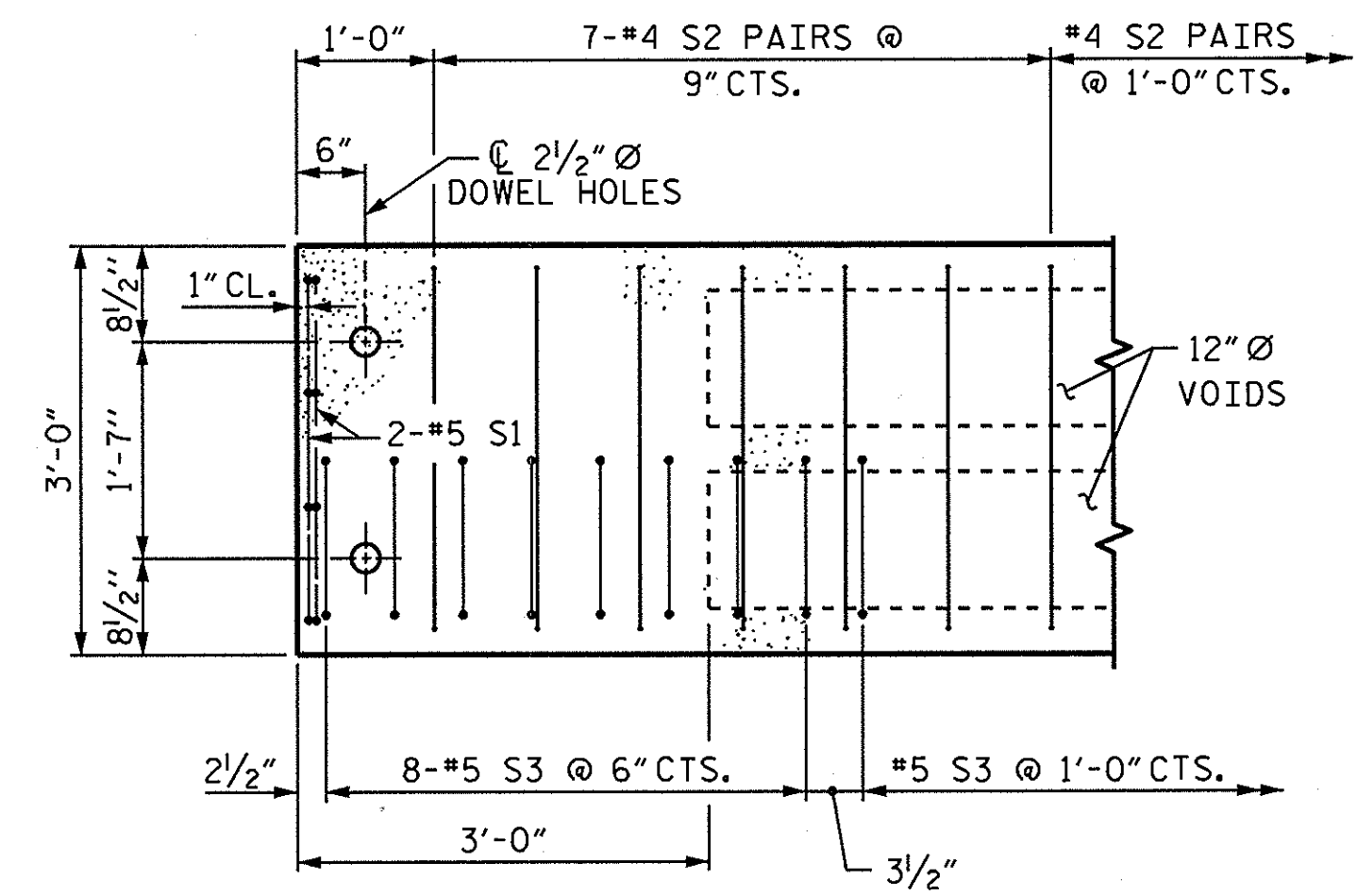
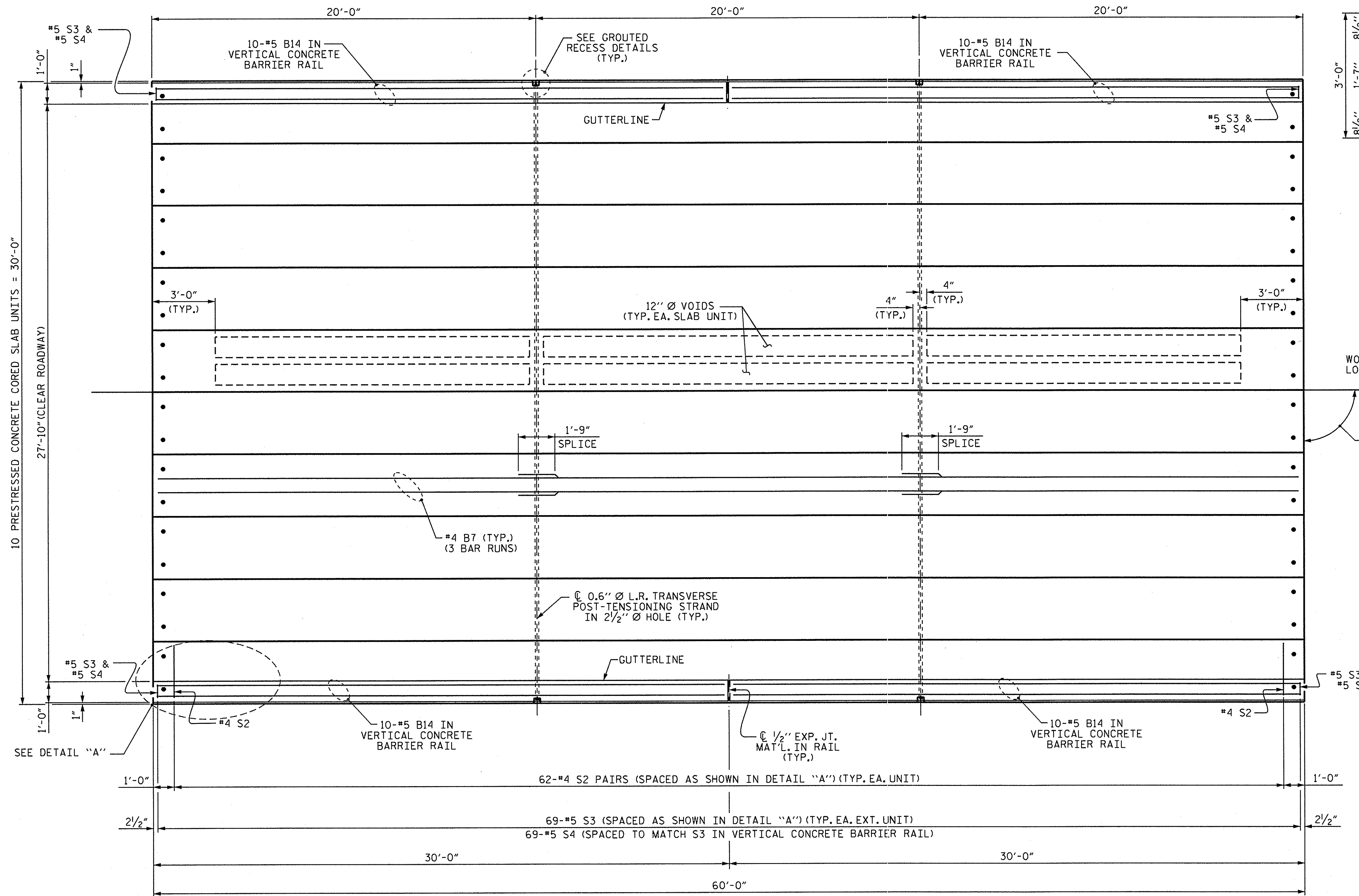
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

3'-0" X 1'-9"  
PRESTRESSED CONCRETE  
CORED SLAB UNIT  
90° SKEW



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			13

ASSEMBLED BY : O. PUIGSERVER DATE : 1/10/13  
CHECKED BY : K. P. SEDAI DATE : 1/14/13  
DRAWN BY : DGE 5/09 REV. 12/11 MAA/AAC  
CHECKED BY : BCH 6/09

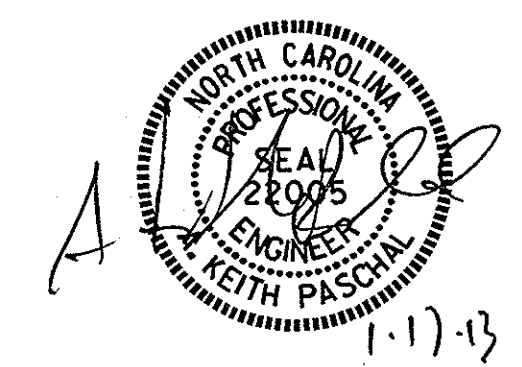


DETAIL "A"  
 NOTE: EXTERIOR UNIT SHOWN - INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S3 BARS.

PLAN OF UNIT

PROJECT NO. 17BP.2.R.34  
 PITT COUNTY  
 STATION: 14+03.00 -L-

SHEET 2 OF 3  
 STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 PLAN OF 60' UNIT  
 27'-10" CLEAR ROADWAY  
 90° SKEW



ASSEMBLED BY : O. PUIGSERVER	DATE : 1/10/13
CHECKED BY : K. P. SEDAI	DATE : 1/14/13
DRAWN BY : DCE 3/09	REV. 12/5/11 MAA/AAC
CHECKED BY : BCH 3/09	

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			13







NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 7 - 7/8" Ø BOLTS WITH NUTS AND WASHERS.

THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

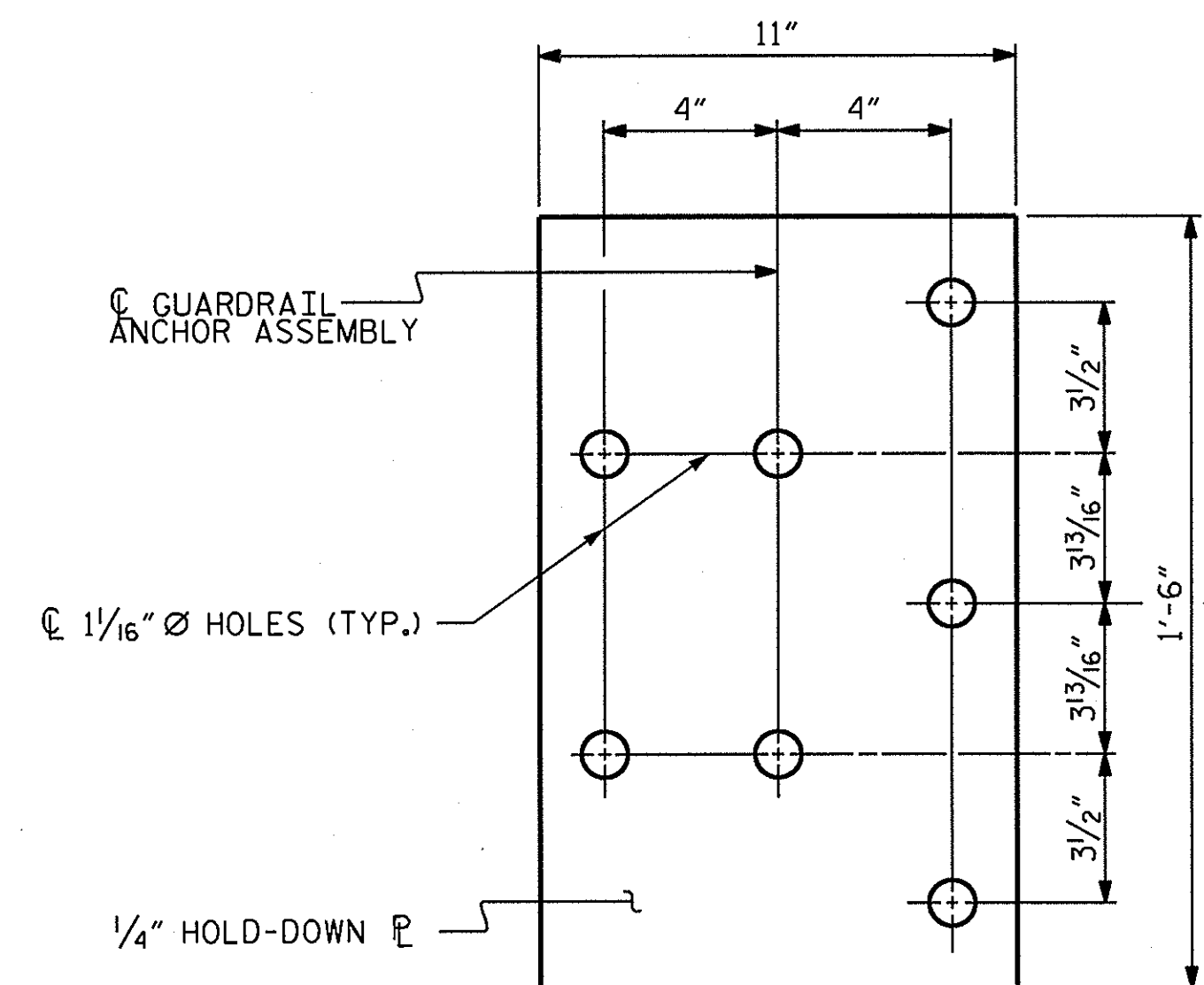
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR VERTICAL CONCRETE BARRIER RAIL.

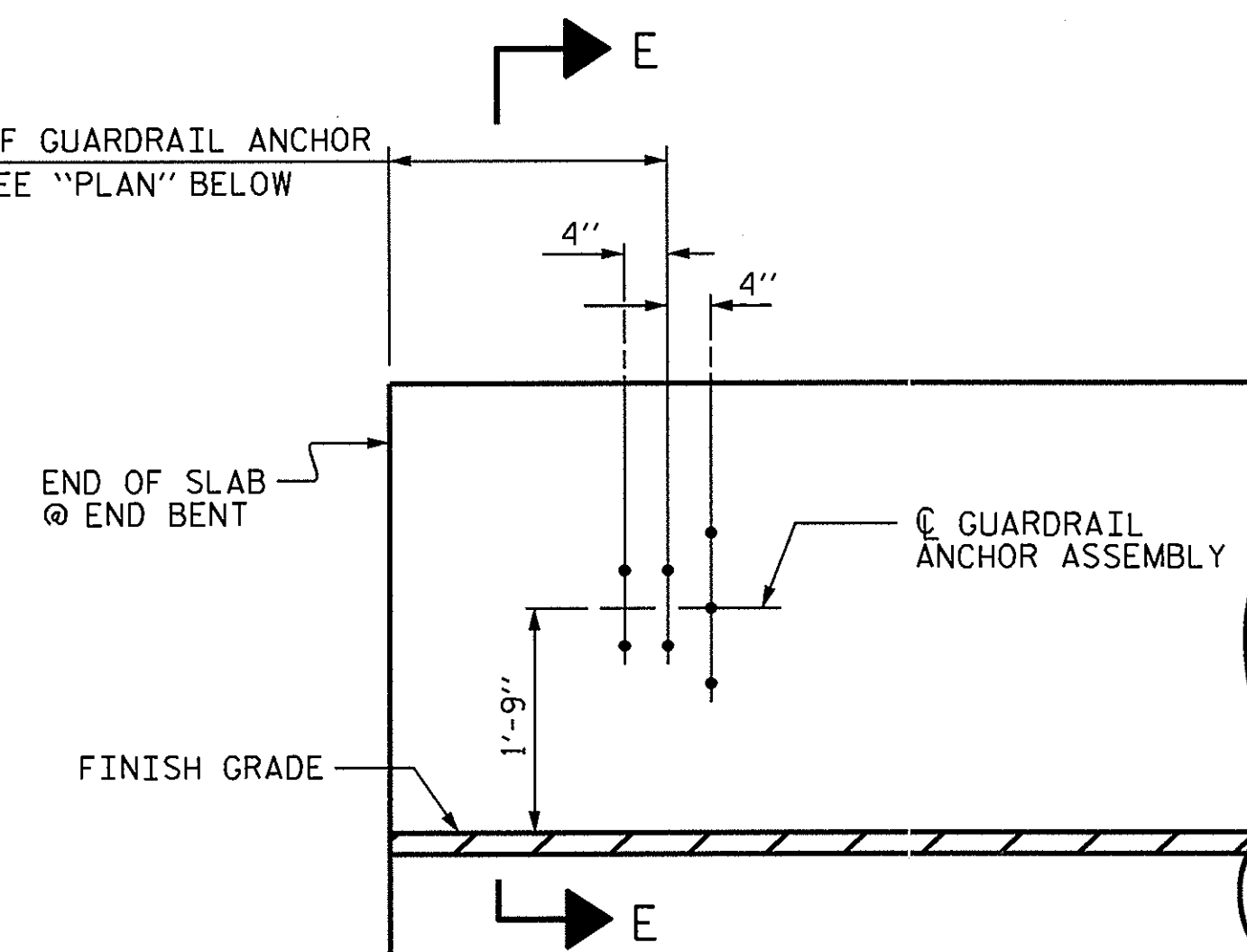
THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.

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.

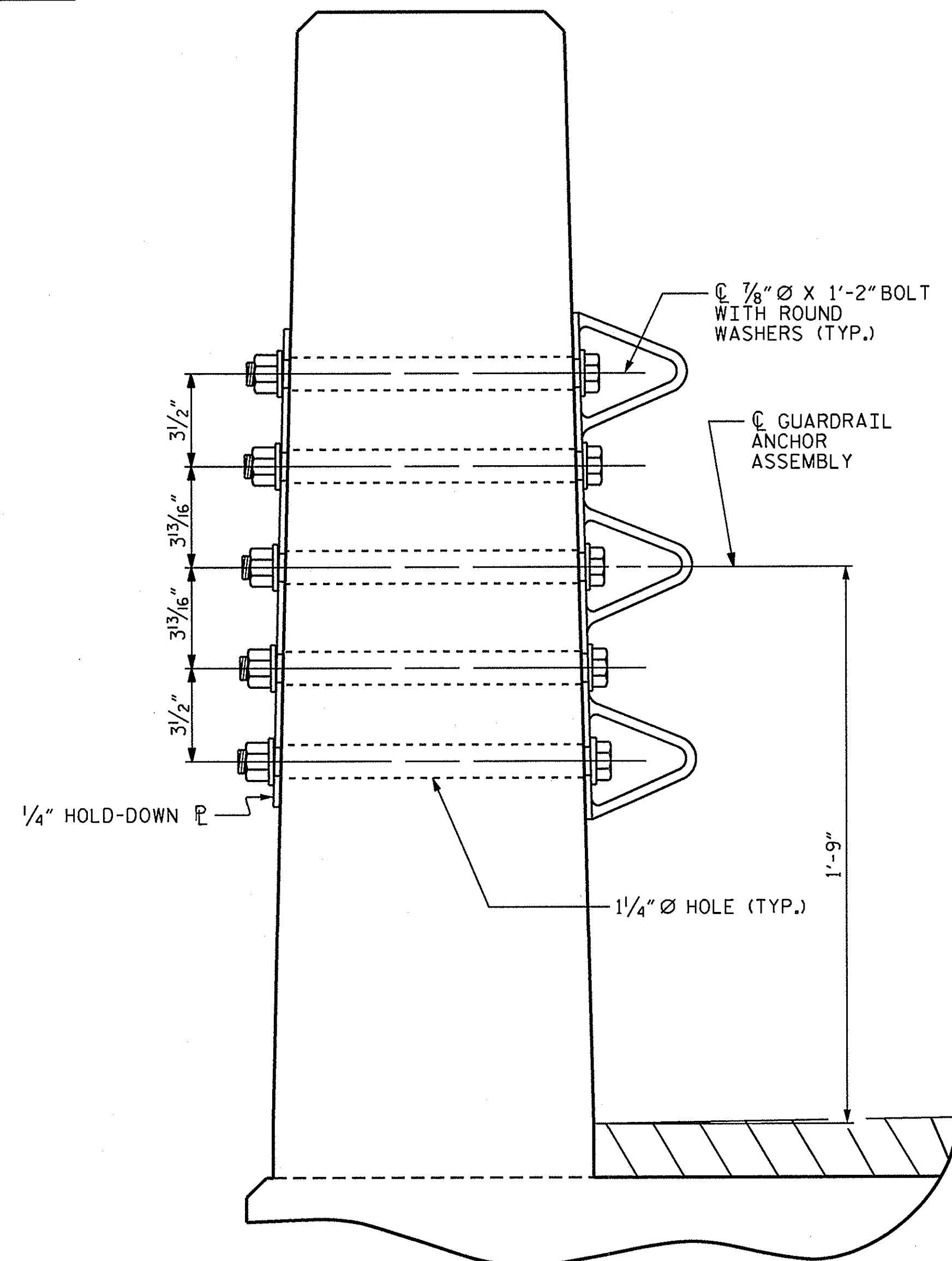


PLAN

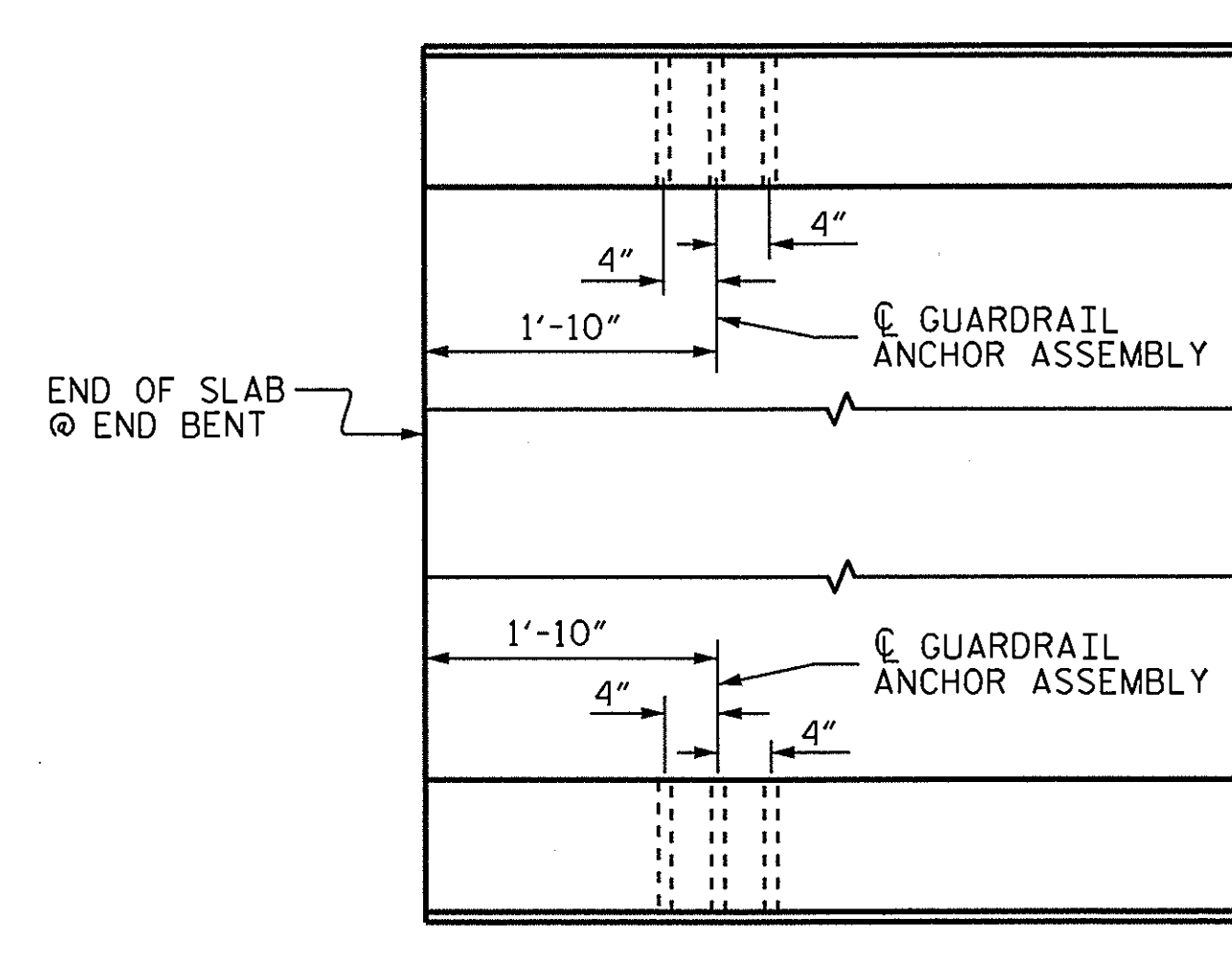
FOR LOCATION OF GUARDRAIL ANCHOR ASSEMBLY, SEE "PLAN" BELOW



ELEVATION



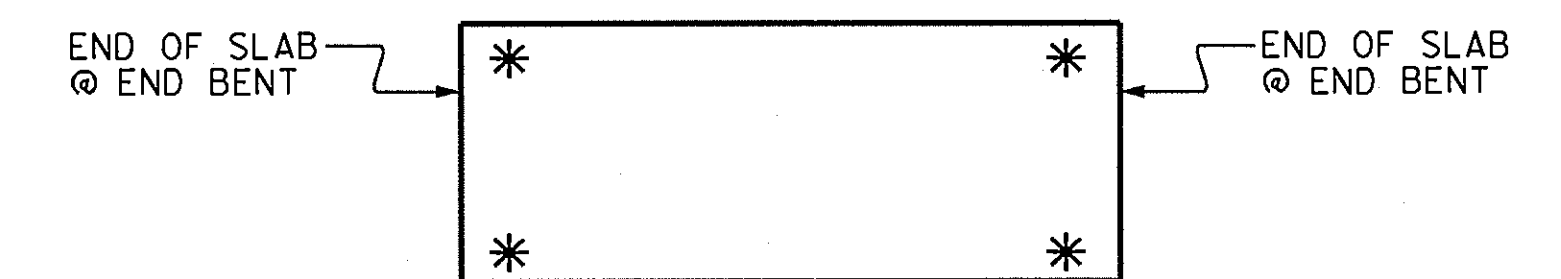
SECTION E-E  
GUARDRAIL ANCHOR ASSEMBLY DETAILS



PLAN

LOCATION OF ANCHORS FOR GUARDRAIL

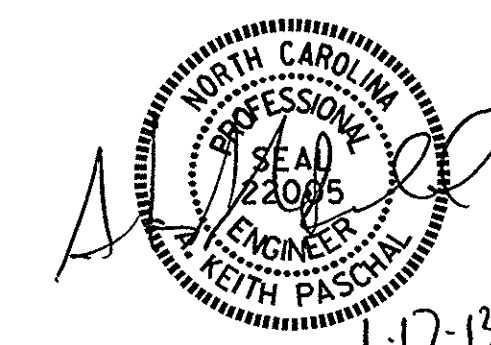
END BENT #1 SHOWN, END BENT #2 SIMILAR.



SKETCH SHOWING POINTS OF ATTACHMENT

\* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. 17BP.2.R.34  
PITT COUNTY  
STATION: 14+03.00 -L-



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

ASSEMBLED BY : O. PUTIGSERVER	DATE : 1/10/13
CHECKED BY : K. P. SEDA	DATE : 1/14/13
DRAWN BY : MAA 5/10	ADDED 5/6/10
CHECKED BY : GM 5/10	REV. 10/1/11
	REV. 12/5/11

17-JAN-2013 08:08  
S:\DPC\Keith\17BP.2.R.34\kseda\NCBDS\17BP.2.R.34\_Plans.dgn  
kpaschal

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-7
1			3			TOTAL SHEETS
2			4			13

(SHT 1) STD. NO. GRA3



NOTES

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

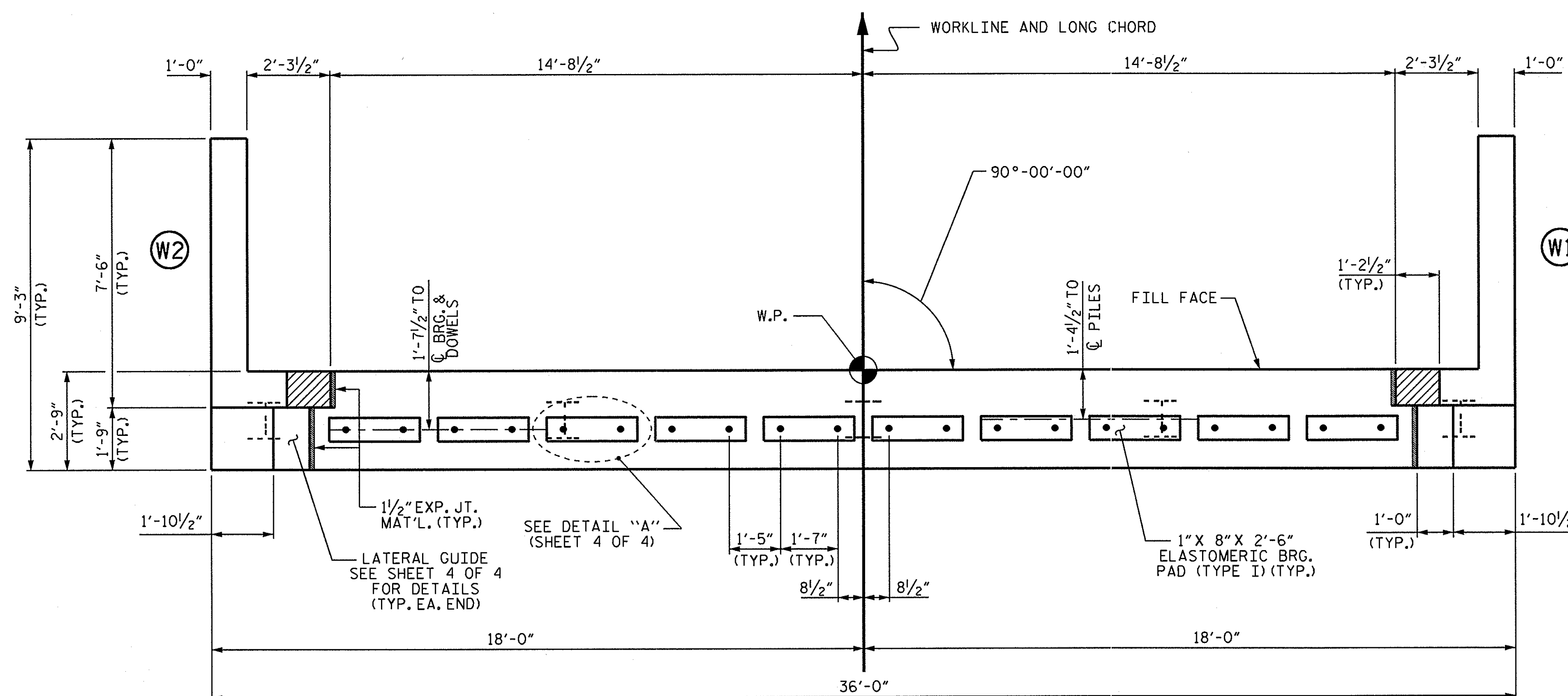
THE LATERAL GUIDES ARE NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.

THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

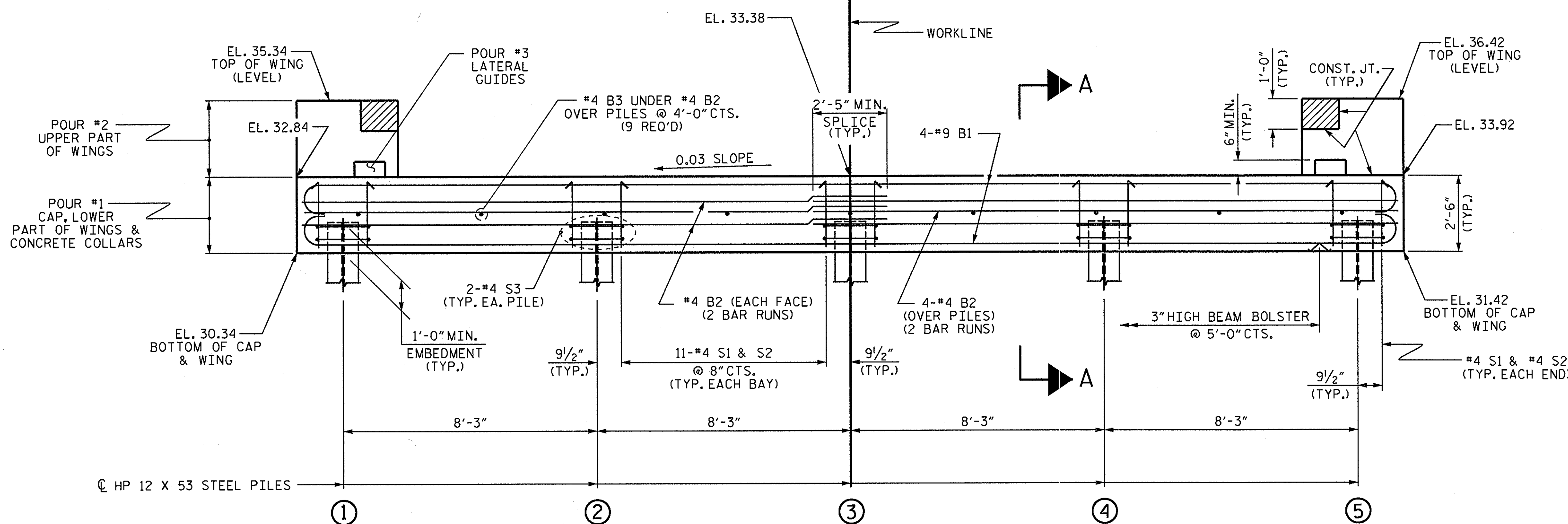
FOR PILE SPLICE DETAILS, SEE SHEET 4 OF 4.

FOR WING DETAILS, SEE SHEET 3 OF 4.

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



PLAN



ELEVATION

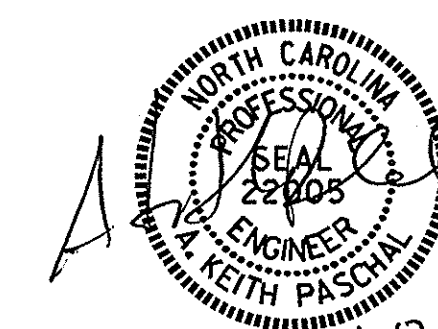
TOP OF PILE ELEVATIONS	
①	31.39
②	31.64
③	31.88
④	32.13
⑤	32.38

PROJECT NO. 17BP.2.R.34  
 PITT COUNTY  
 STATION: 14+03.00 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUBSTRUCTURE  
 END BENT No. 2

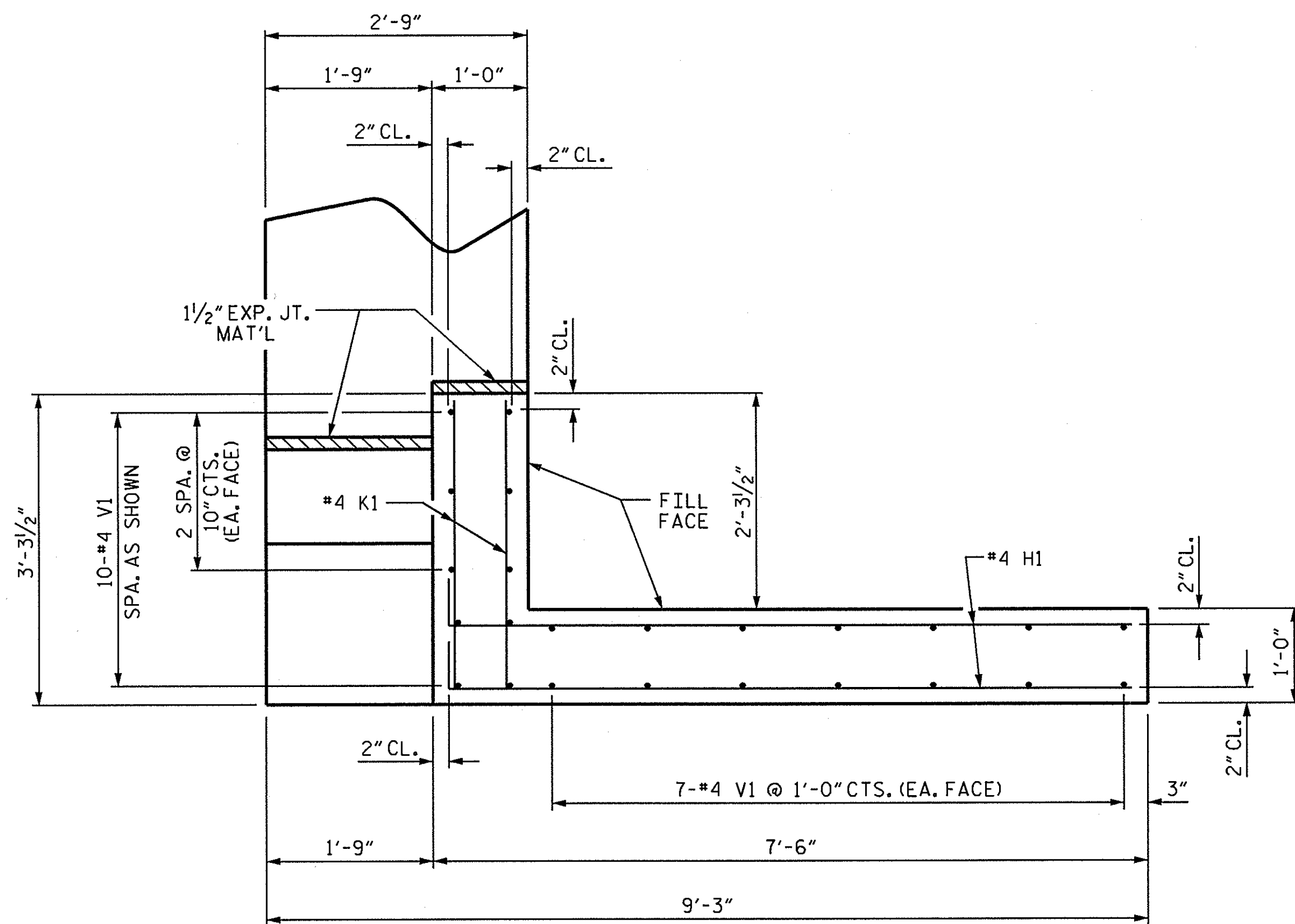


ASSEMBLED BY : O. PUTIGSERVER DATE : 1/10/13  
 CHECKED BY : K. P. SEDAİ DATE : 1/14/13

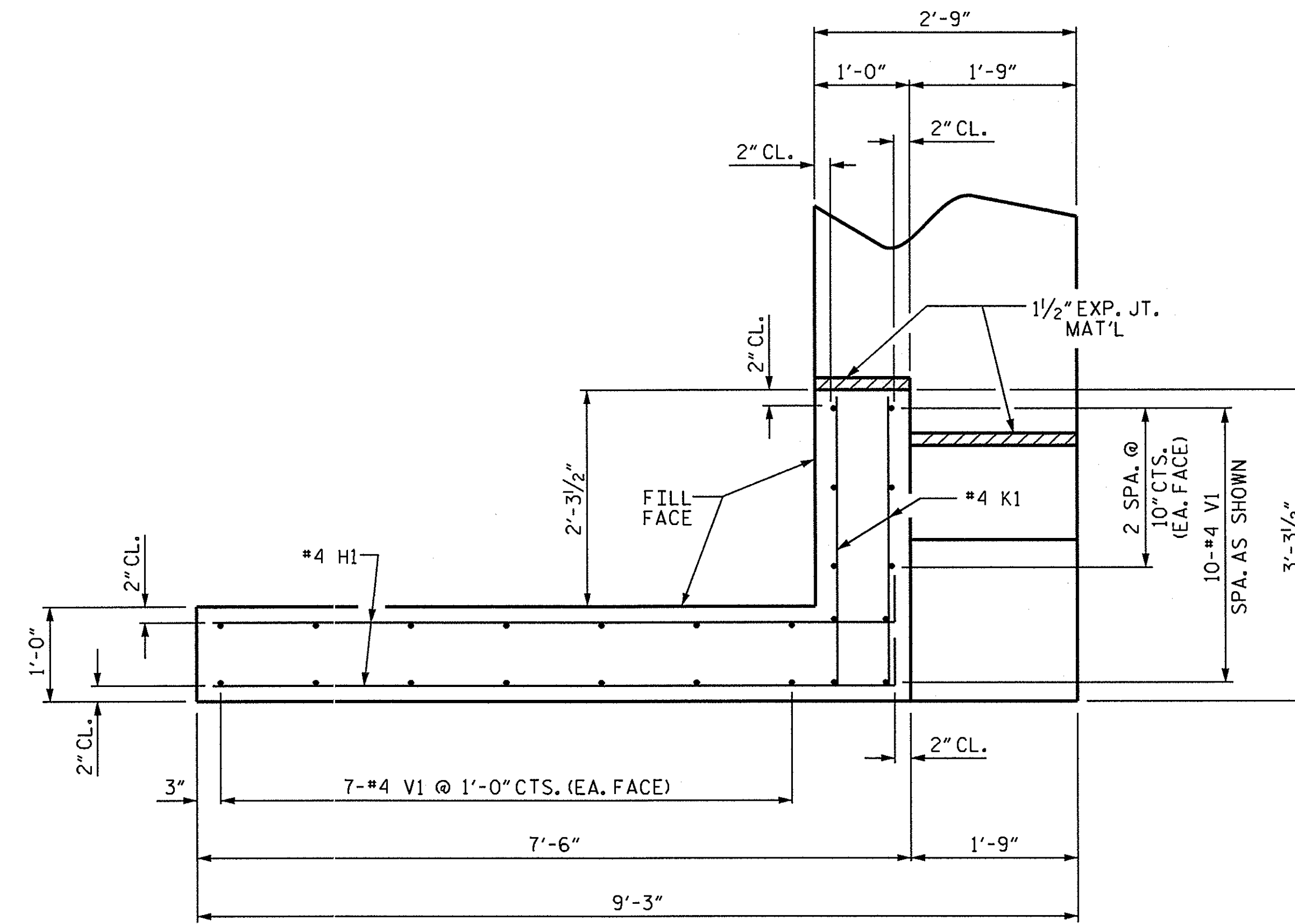
DRAWN BY : DGE 02/10  
 CHECKED BY : MKT 02/10

WINGS NOT SHOWN FOR CLARITY.  
 FOR SECTION A-A, SEE SHEET 4 OF 4.  
 CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.  
 SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 4 OF 4.

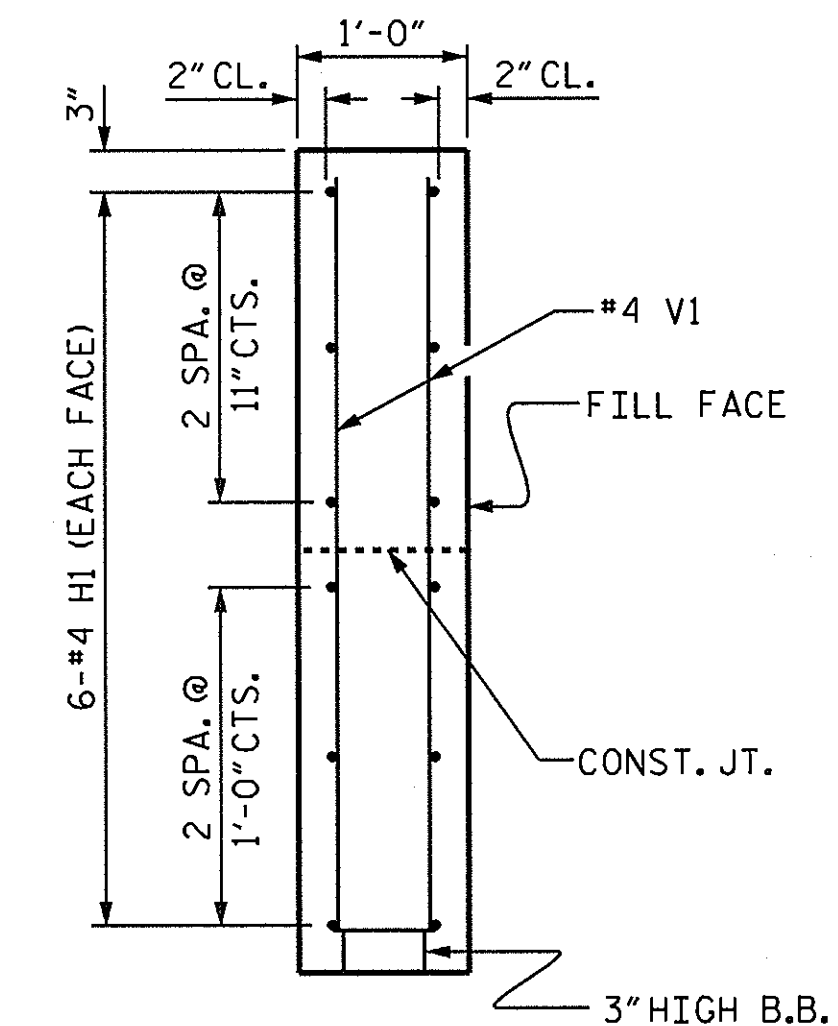
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9	
1			3			TOTAL	13
2			4			SHEETS	



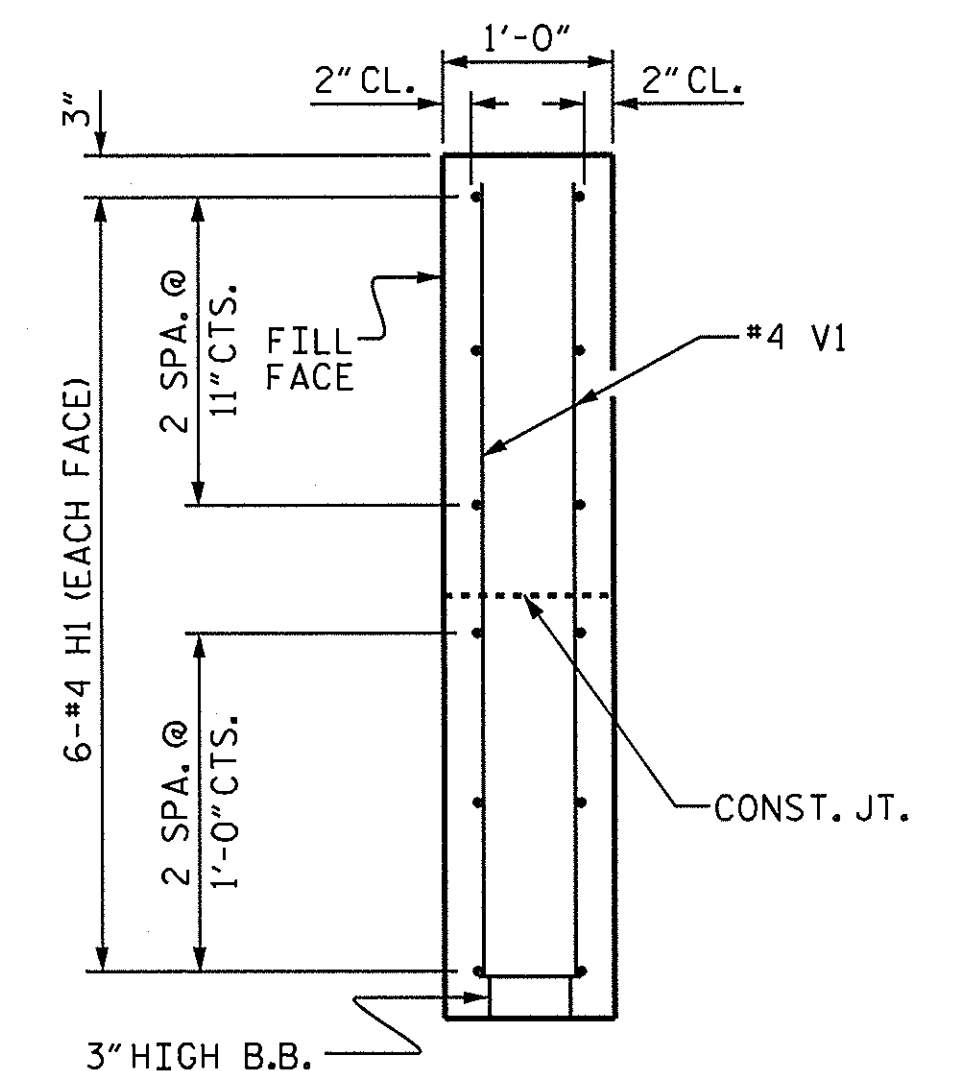
PLAN OF WING (W1)



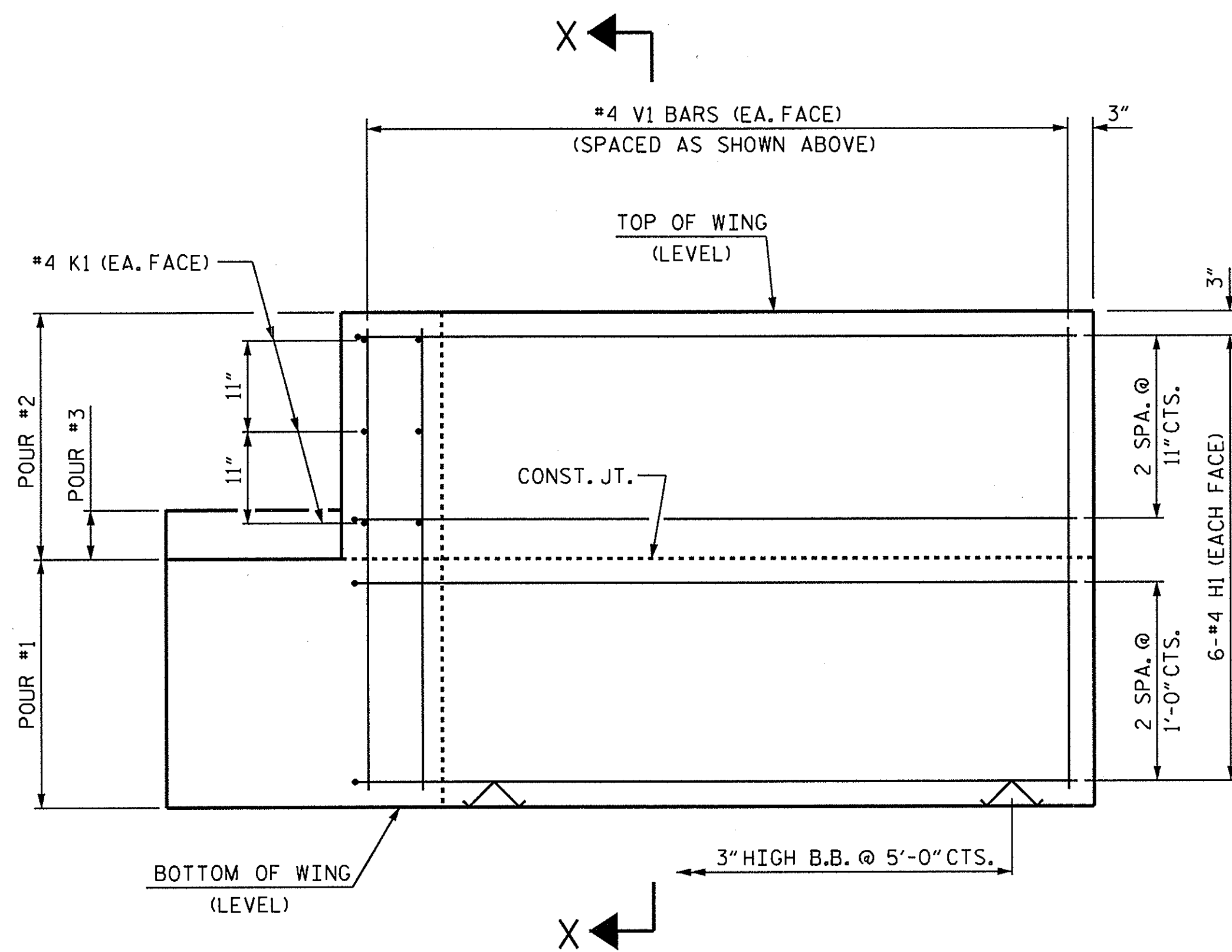
PLAN OF WING (W2)



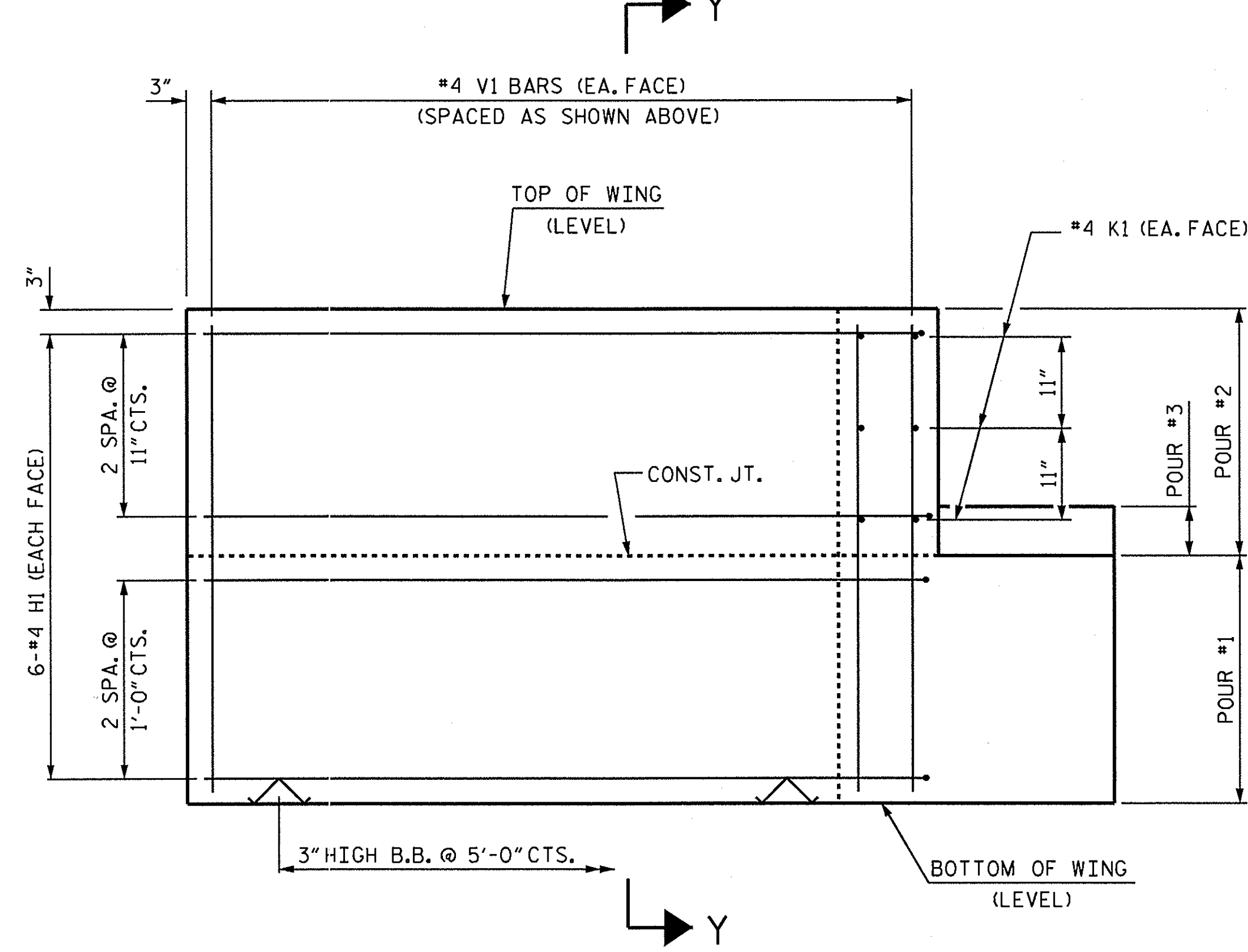
SECTION X-X



SECTION Y-Y



ELEVATION OF WING (W1)

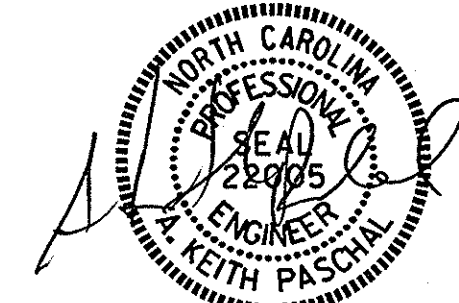


ELEVATION OF WING (W2)

WING DETAILS

ASSEMBLED BY : O. PUTIGCERVER DATE : 1/10/13  
 CHECKED BY : K. P. SEDAI DATE : 1/14/13  
 DRAWN BY : DGE 02/10  
 CHECKED BY : MKT 02/10

17-JAN-2013 08:07  
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 Kpaschal



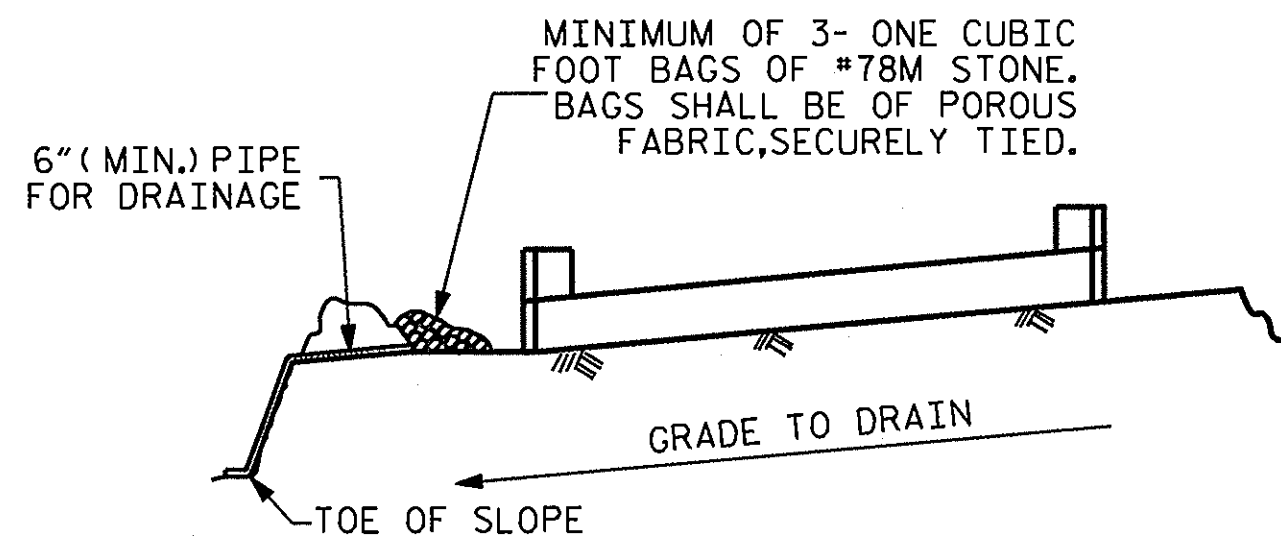
PROJECT NO. 17BP.2.R.34  
 PITT COUNTY  
 STATION: 14+03.00 -L-

SHEET 3 OF 4

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10	
1			3			TOTAL SHEETS	
2			4			13	

STD. NO. EB-30-90S



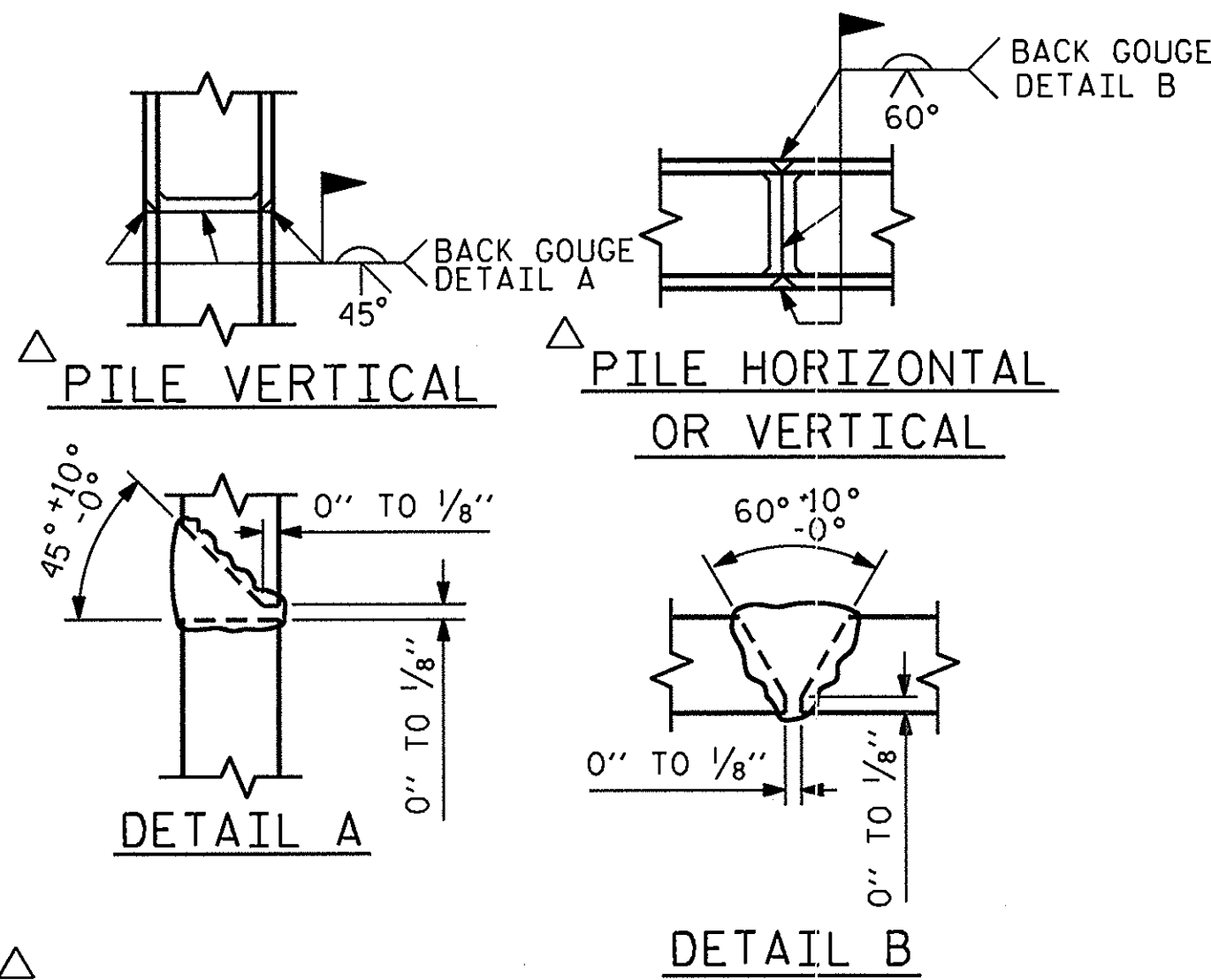


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

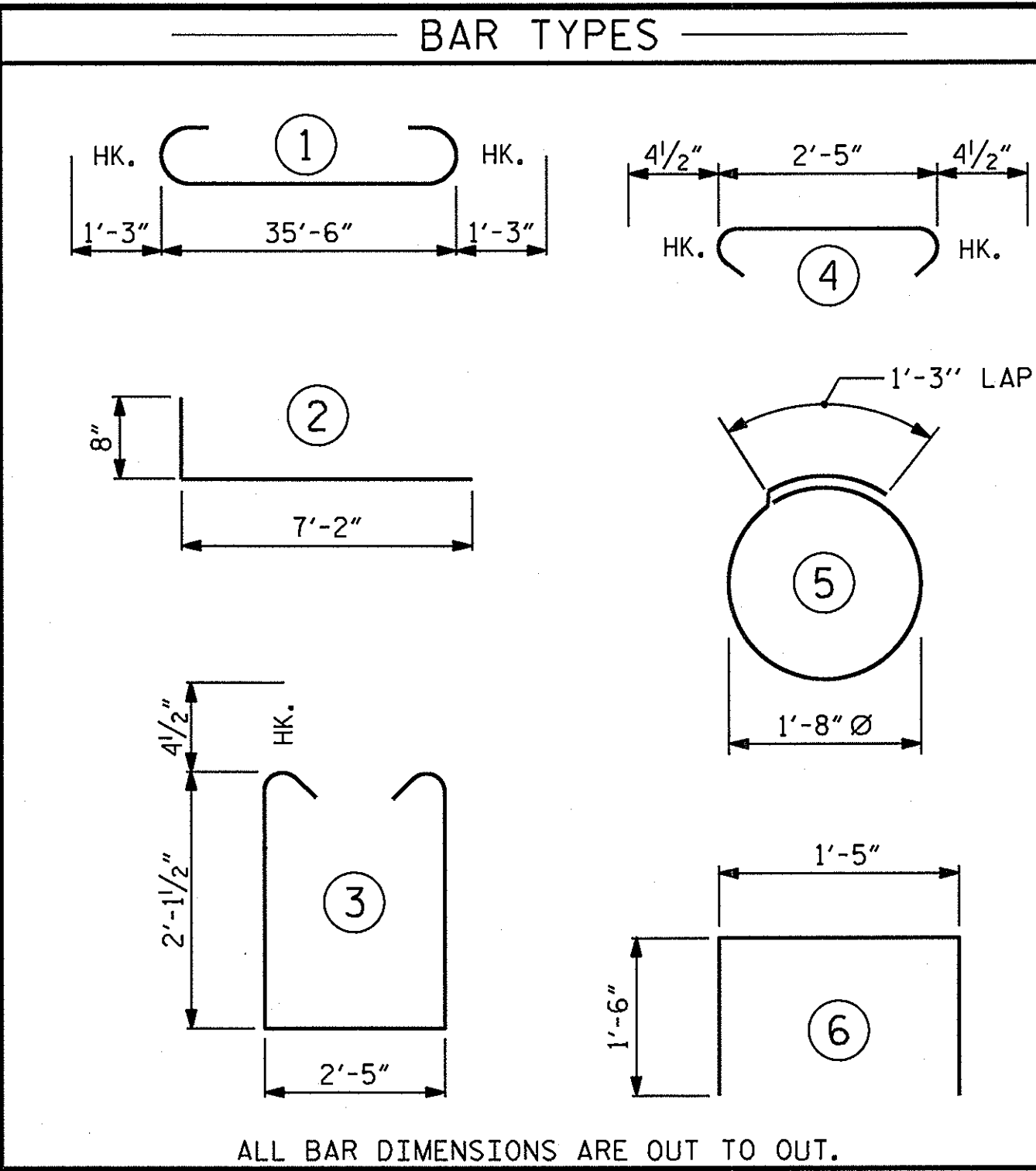
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

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

### TEMPORARY DRAINAGE AT END BENT

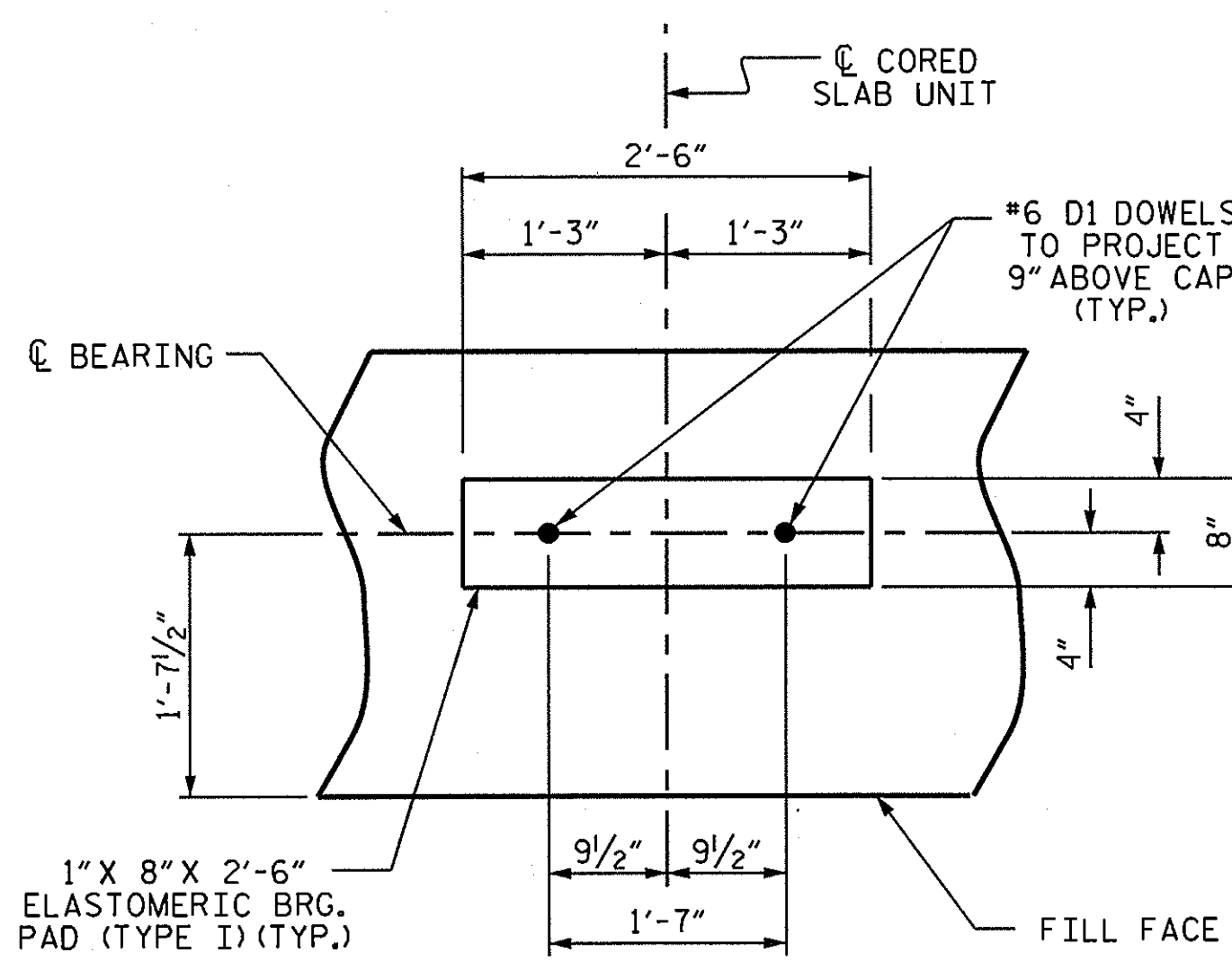


### PILE SPLICE DETAILS



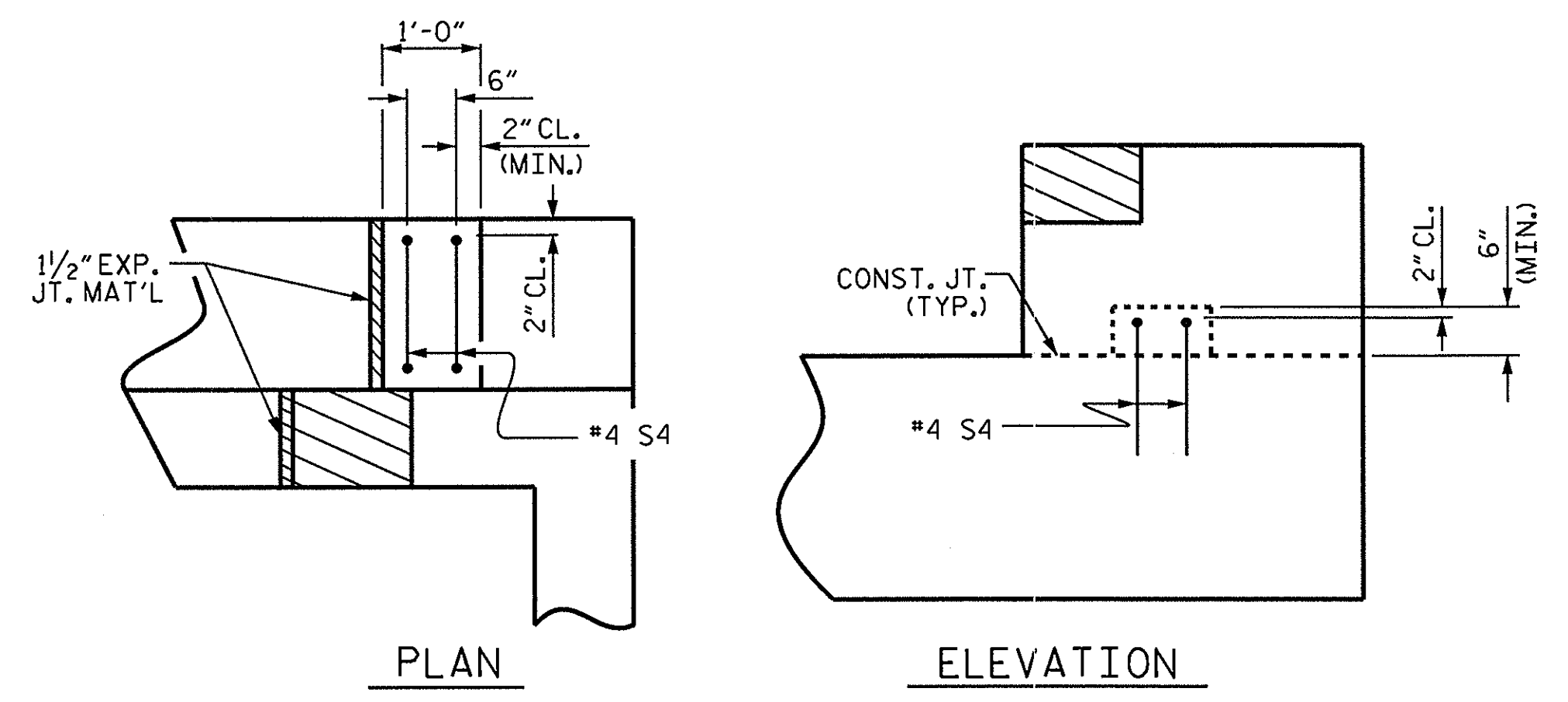
BILL OF MATERIAL FOR ONE END BENT					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	38'-0"	1034
B2	16	#4	STR	19'-1"	204
B3	9	#4	STR	2'-5"	15
D1	20	#6	STR	1'-6"	45
H1	24	#4	2	7'-10"	126
K1	12	#4	STR	2'-11"	23
S1	46	#4	3	7'-5"	228
S2	46	#4	4	3'-2"	97
S3	10	#4	5	6'-6"	43
S4	4	#4	6	4'-5"	12
V1	48	#4	STR	4'-8"	150
REINFORCING STEEL (FOR ONE END BENT)					1977 LBS.
CLASS A CONCRETE BREAKDOWN (FOR ONE END BENT)					
POUR #1 CAP, LOWER PART OF WINGS & COLLARS					11.2 C.Y.
POUR #2 UPPER PART OF WINGS					1.8 C.Y.
POUR #3 LATERAL GUIDES					0.1 C.Y.
TOTAL CLASS A CONCRETE					13.1 C.Y.

END BENT No. 1	END BENT No. 2
HP 12 X 53 STEEL PILES	HP 12 X 53 STEEL PILES
NO: 5	NO: 5
LIN. FT. = 325.0	LIN. FT. = 325.0



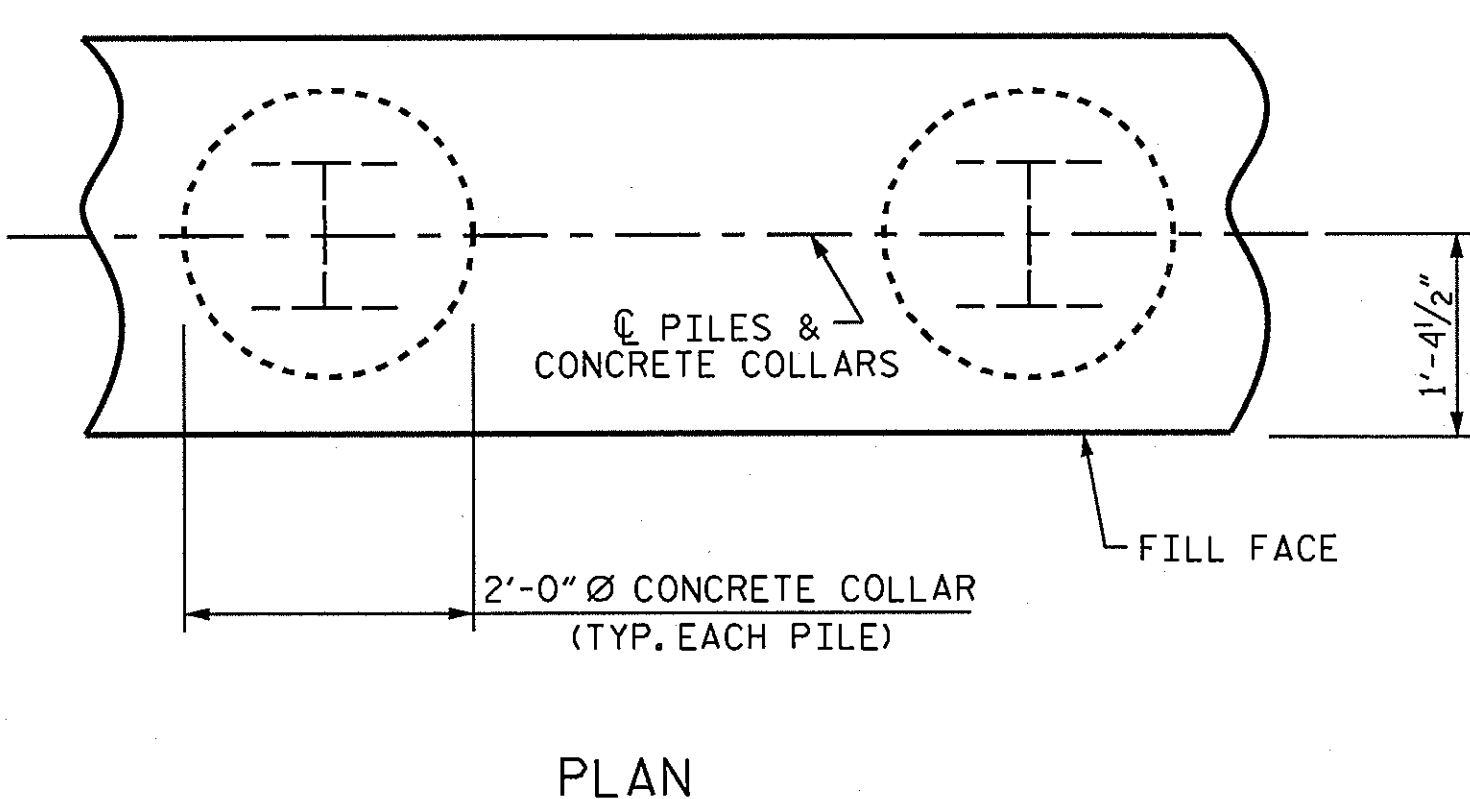
### DETAIL "A"

(END BENT No. 1 SHOWN, END BENT No. 2 SIMILAR BY ROTATION)



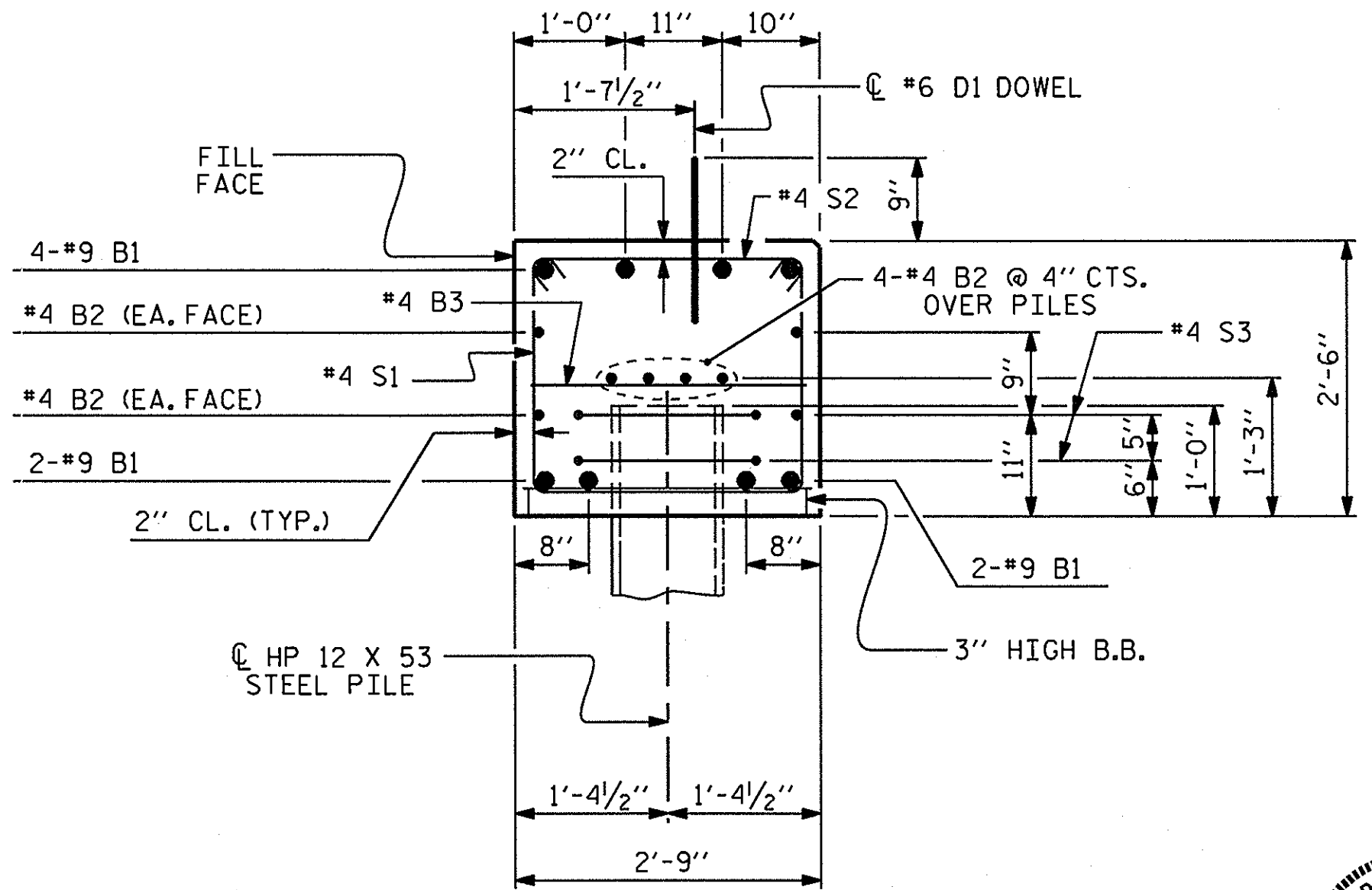
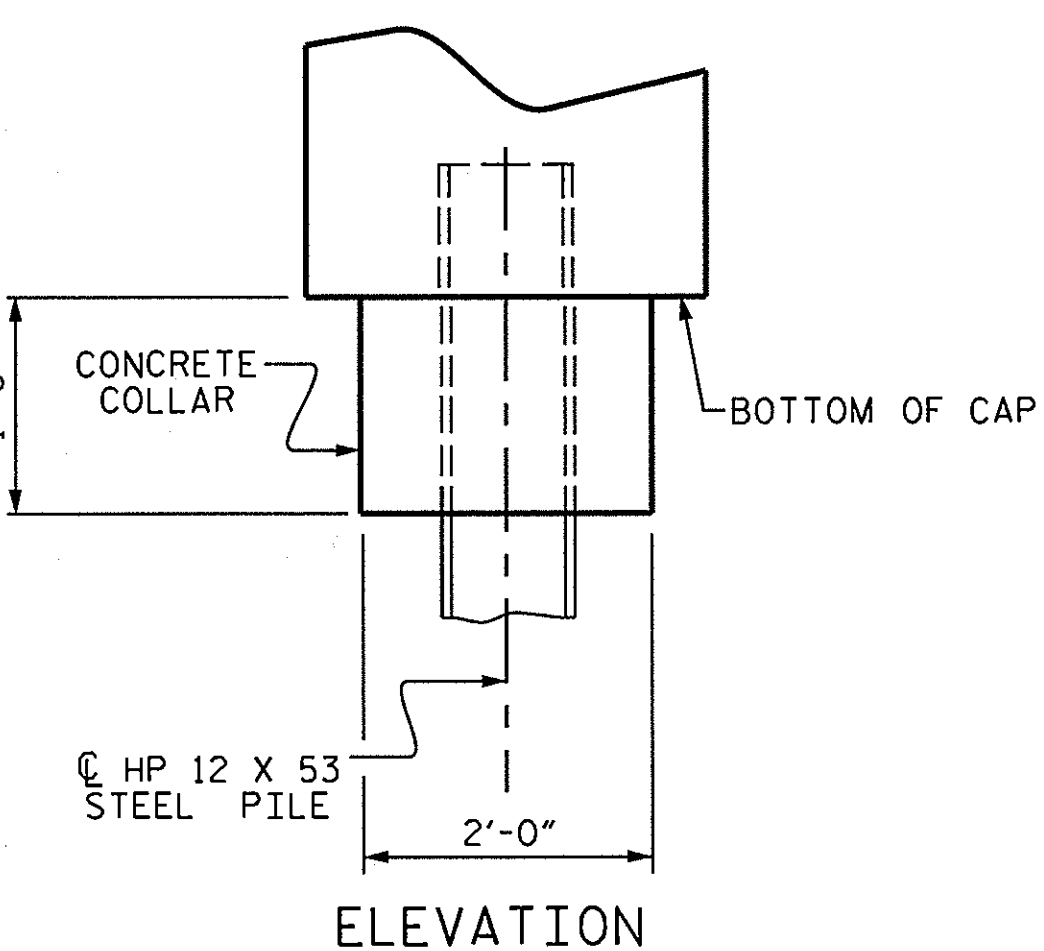
### LATERAL GUIDE DETAILS

(RIGHT LATERAL GUIDE SHOWN, LEFT END SIMILAR)



### CORROSION PROTECTION FOR STEEL PILES DETAIL

(END BENT No. 1 SHOWN, END BENT No. 2 SIMILAR BY ROTATION)



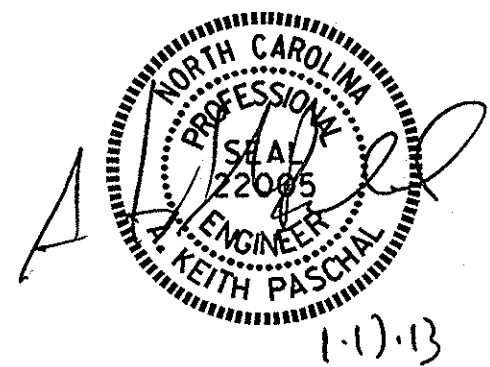
(CONCRETE COLLAR NOT SHOWN FOR CLARITY. SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL.")

PROJECT NO. 17BP.2.R.34  
 PITT COUNTY  
 STATION: 14+03.00 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

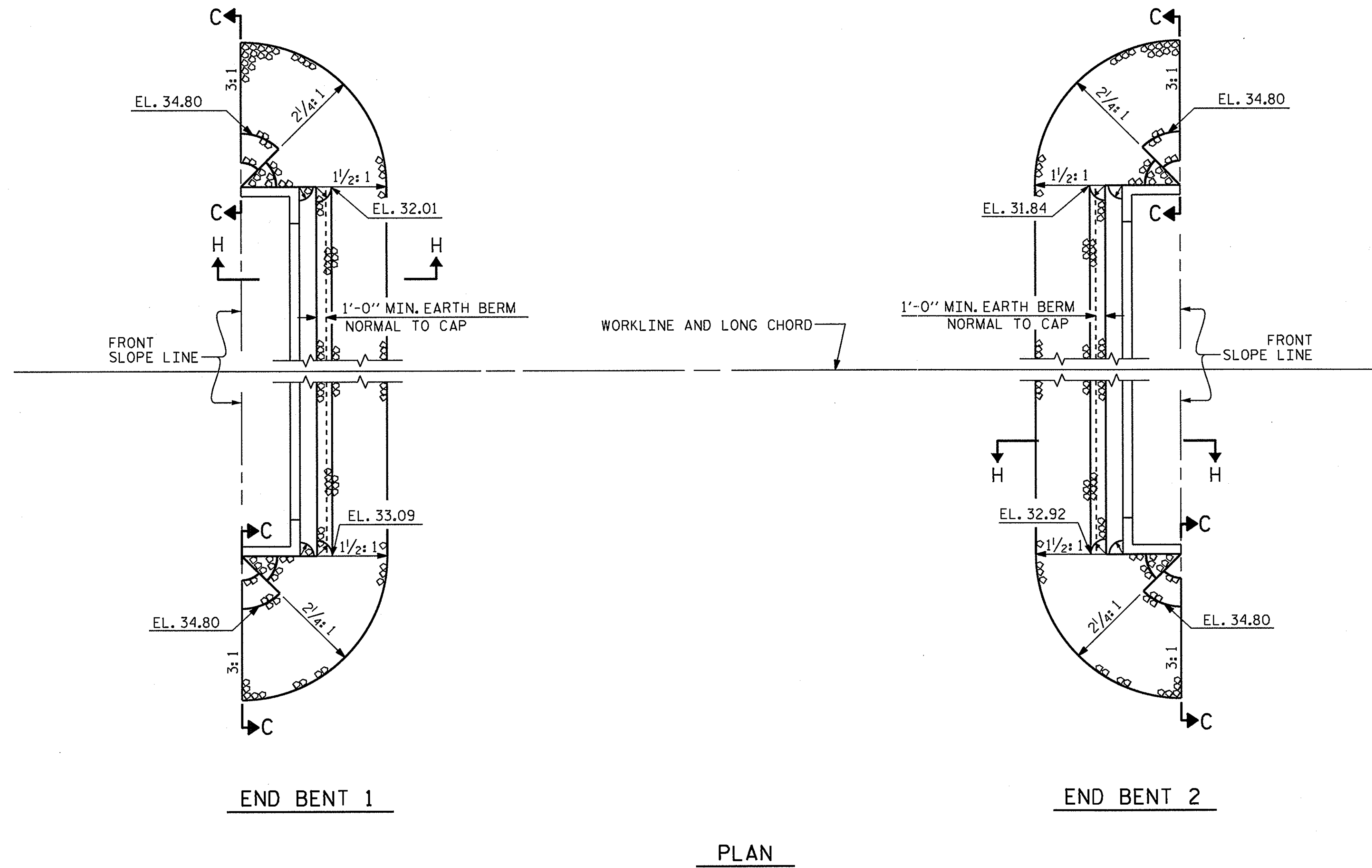
SUBSTRUCTURE  
 END BENT No. 1 & 2  
 DETAILS



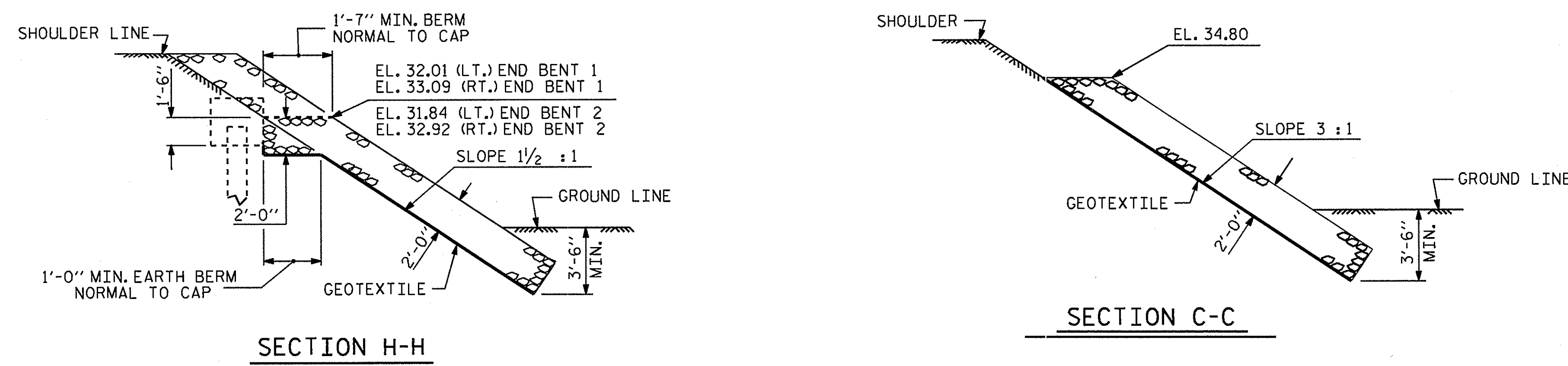
ASSEMBLED BY: O. PUTIGSERVER	DATE: 1/10/13
CHECKED BY: K. P. SEDAI	DATE: 1/14/13
DRAWN BY: DGE	02/10
CHECKED BY: MKT	02/10

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			13

NOTES :  
FOR BERM WIDTH DIMENSIONS, SEE GENERAL DRAWING.



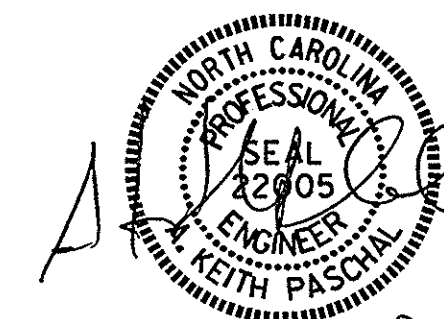
ESTIMATED QUANTITIES		
BRIDGE @ STA. 14+03.00 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	73	81
END BENT 2	74	82



PROJECT NO. 17BP.2.R.34  
PITT COUNTY  
STATION: 14+03.00 -L-

SHEET 1 OF 1

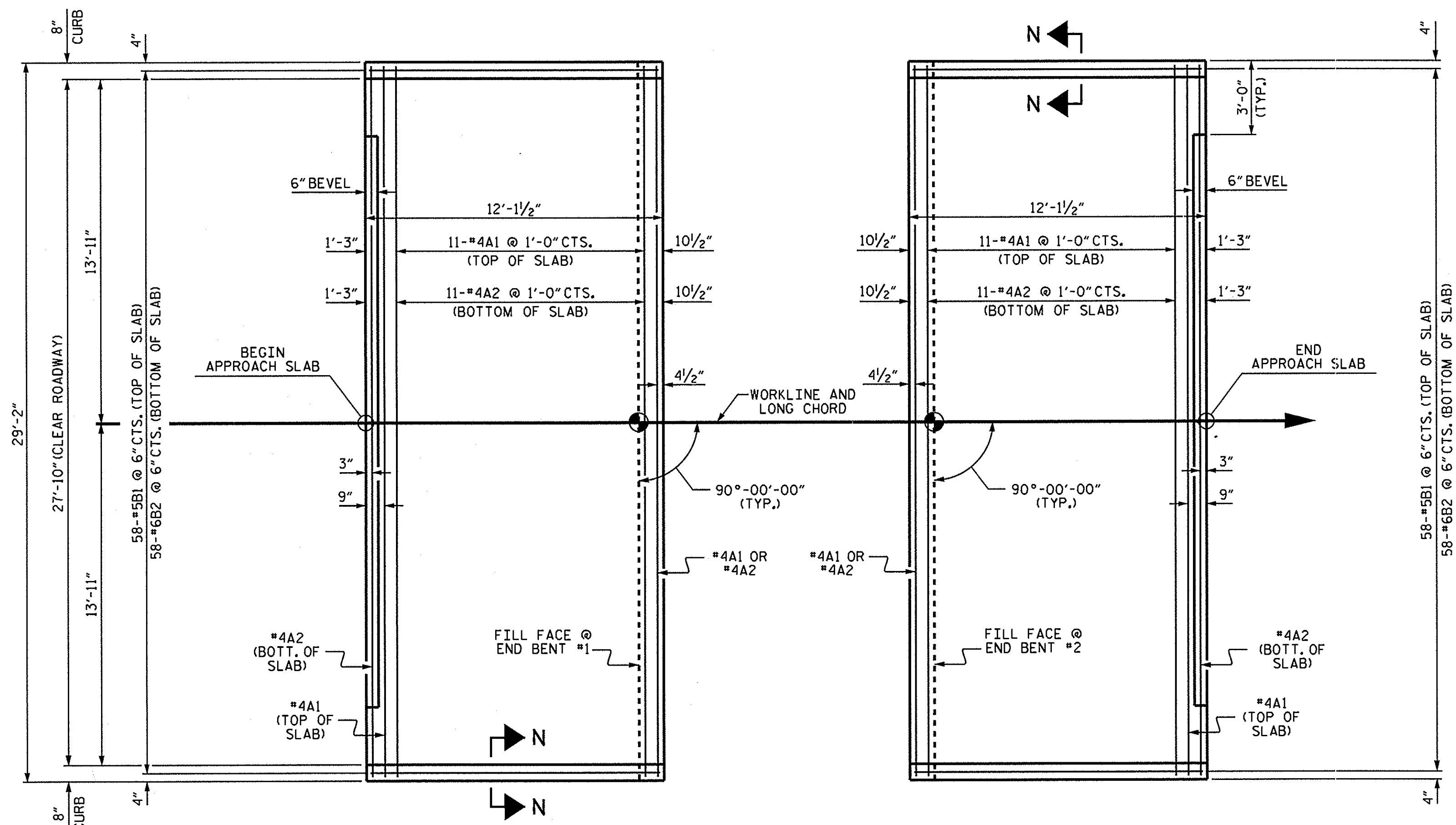
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
STANDARD  
= RIP RAP DETAILS =



1-17-13

ASSEMBLED BY : O. PUTIGSERVER DATE : 1/10/13  
CHECKED BY : K. P. SEDAI DATE : 1/14/13  
DRAWN BY : REK 1/84 REV. 5/1/06R TLA/GM  
CHECKED BY : RDU 1/84 REV. 10/1/11 MAA/GM  
REV. 12/21/11 MAA/GM

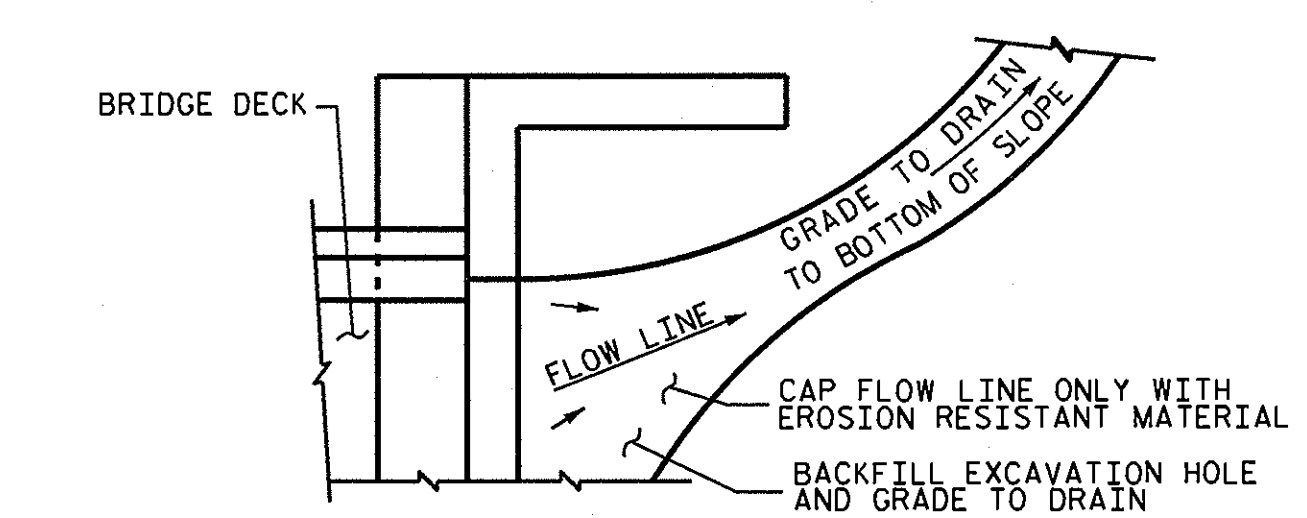
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12
1			3			TOTAL SHEETS
2			4			13



**NOTES**

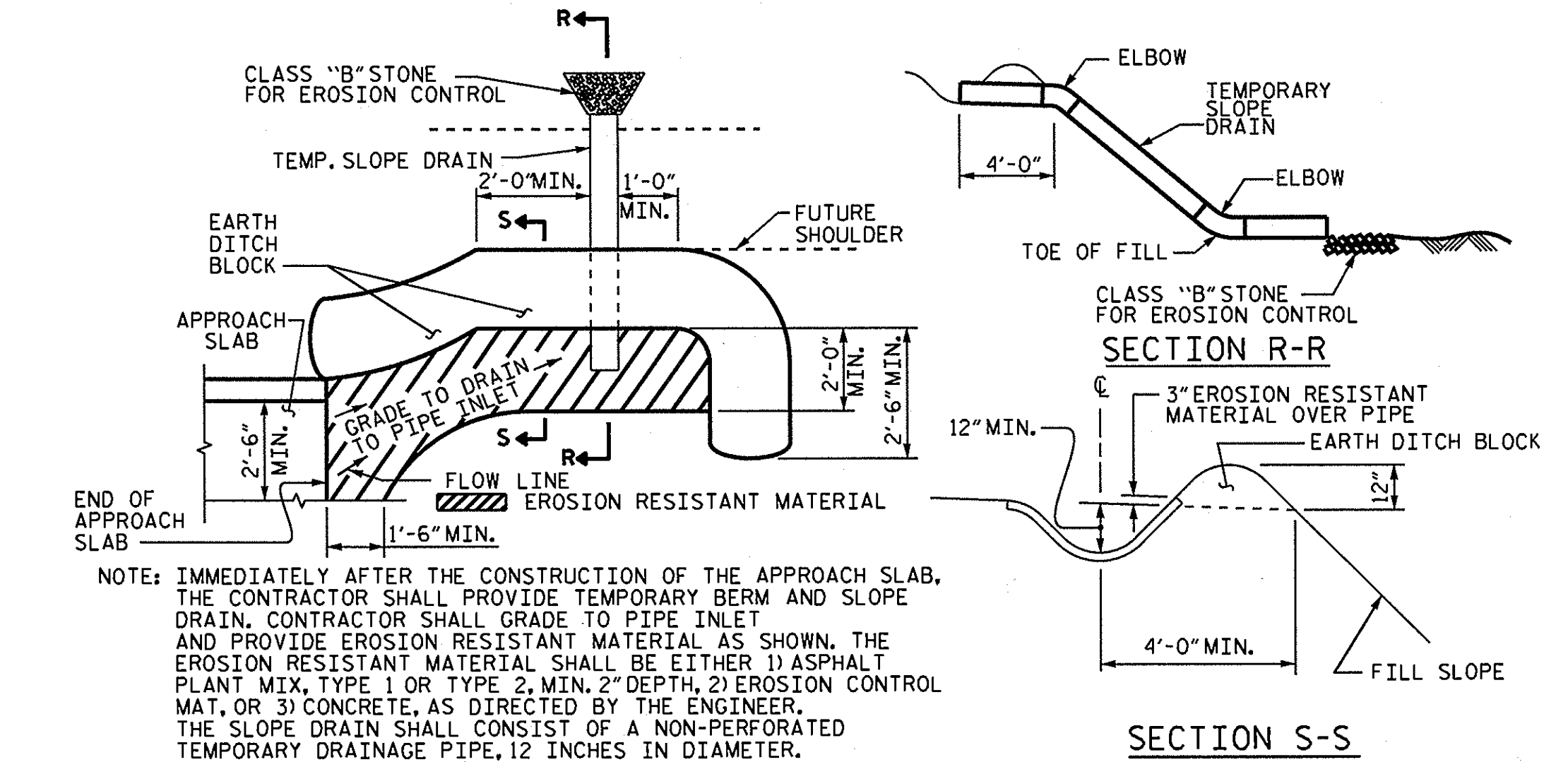
FOR REINFORCED BRIDGE APPROACH FILL INCLUDING GEOTEXTILE, IMPERMEABLE GEOMEMBRANE, 4" Ø DRAINAGE PIPE, #78M STONE, AND SELECT MATERIAL, SEE ROADWAY PLANS.  
 AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.  
 APPROACH SLAB GROOVING IS NOT REQUIRED.

BILL OF MATERIAL						
APPROACH SLAB AT EB #1						
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
*A1	13	#4	STR	28'-10"	250	
A2	13	#4	STR	28'-10"	250	
*B1	58	#5	STR	11'-2"	676	
B2	58	#6	STR	11'-8"	1016	
REINFORCING STEEL					LBS.	1266
* EPOXY COATED REINFORCING STEEL					LBS.	926
CLASS AA CONCRETE					C. Y.	16.9
APPROACH SLAB AT EB #2						
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
*A1	13	#4	STR	28'-10"	250	
A2	13	#4	STR	28'-10"	250	
*B1	58	#5	STR	11'-2"	676	
B2	58	#6	STR	11'-8"	1016	
REINFORCING STEEL					LBS.	1266
* EPOXY COATED REINFORCING STEEL					LBS.	926
CLASS AA CONCRETE					C. Y.	16.9



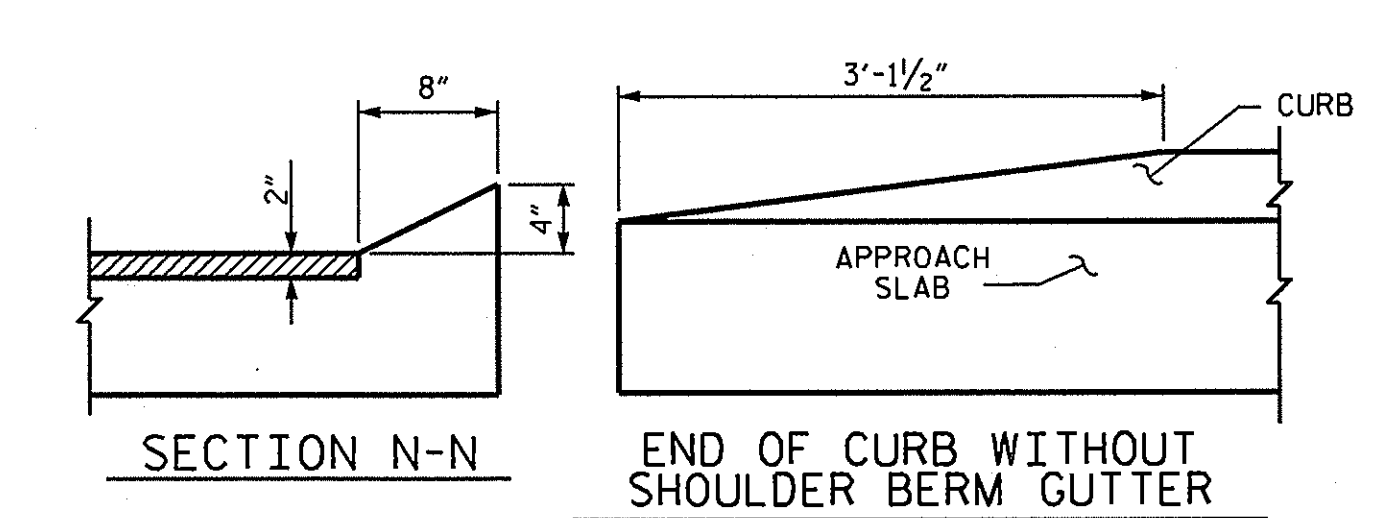
NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT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

**TEMPORARY DRAINAGE DETAIL**



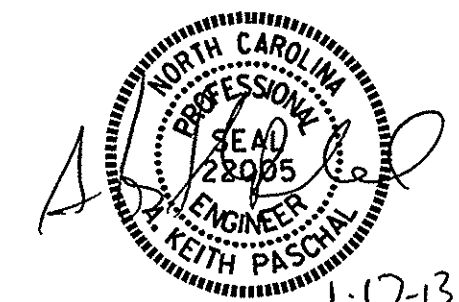
NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN.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

**TEMPORARY BERM AND SLOPE DRAIN DETAILS**  
 (TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



**CURB DETAILS**

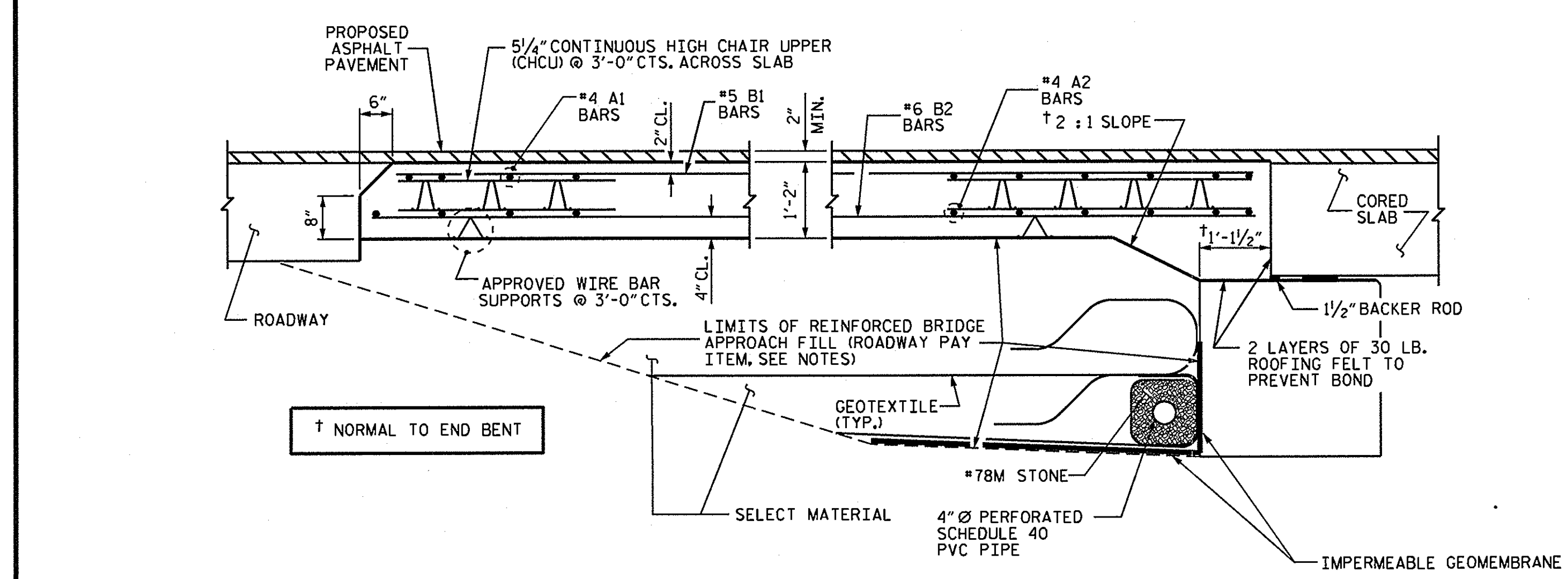
SPlice LENGTHS		
BAR SIZE	EPOXY COATED	UNCOATED
#4	2'-0"	1'-9"
#5	2'-6"	2'-2"
#6	3'-10"	2'-7"



PROJECT NO. 17BP.2.R.34  
 PITT COUNTY  
 STATION: 14+03.00-L-

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 STANDARD BRIDGE APPROACH SLAB FOR PRESTRESSED CONCRETE CORED SLAB UNIT (SUB-REGIONAL TIER) 90° SKEW

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-13	
1			3			TOTAL SHEETS	
2			4			13	



ASSEMBLED BY: O. PUIGCERVER DATE: 1/10/13  
 CHECKED BY: K. P. SEDAI DATE: 1/14/13  
 DRAWN BY: SHS/MAA 5-09 REV. 12-11 MAA/AAC  
 CHECKED BY: BCH 5-09



## 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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**TIP PROJECT: 17BP.2.R.34**

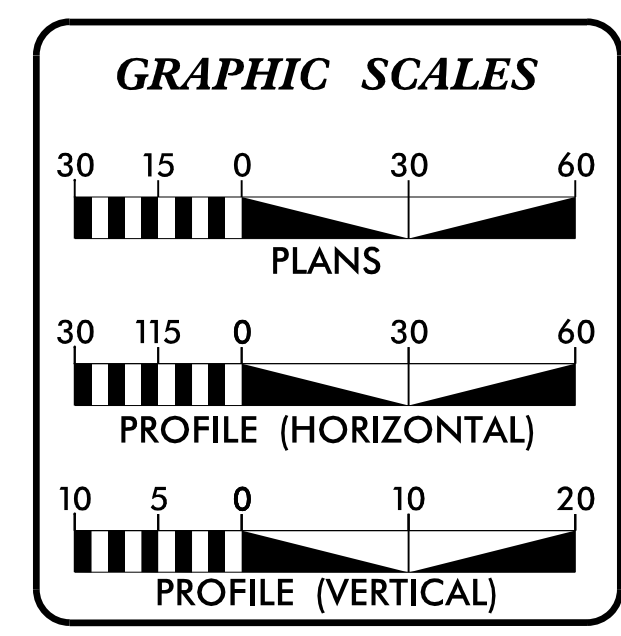
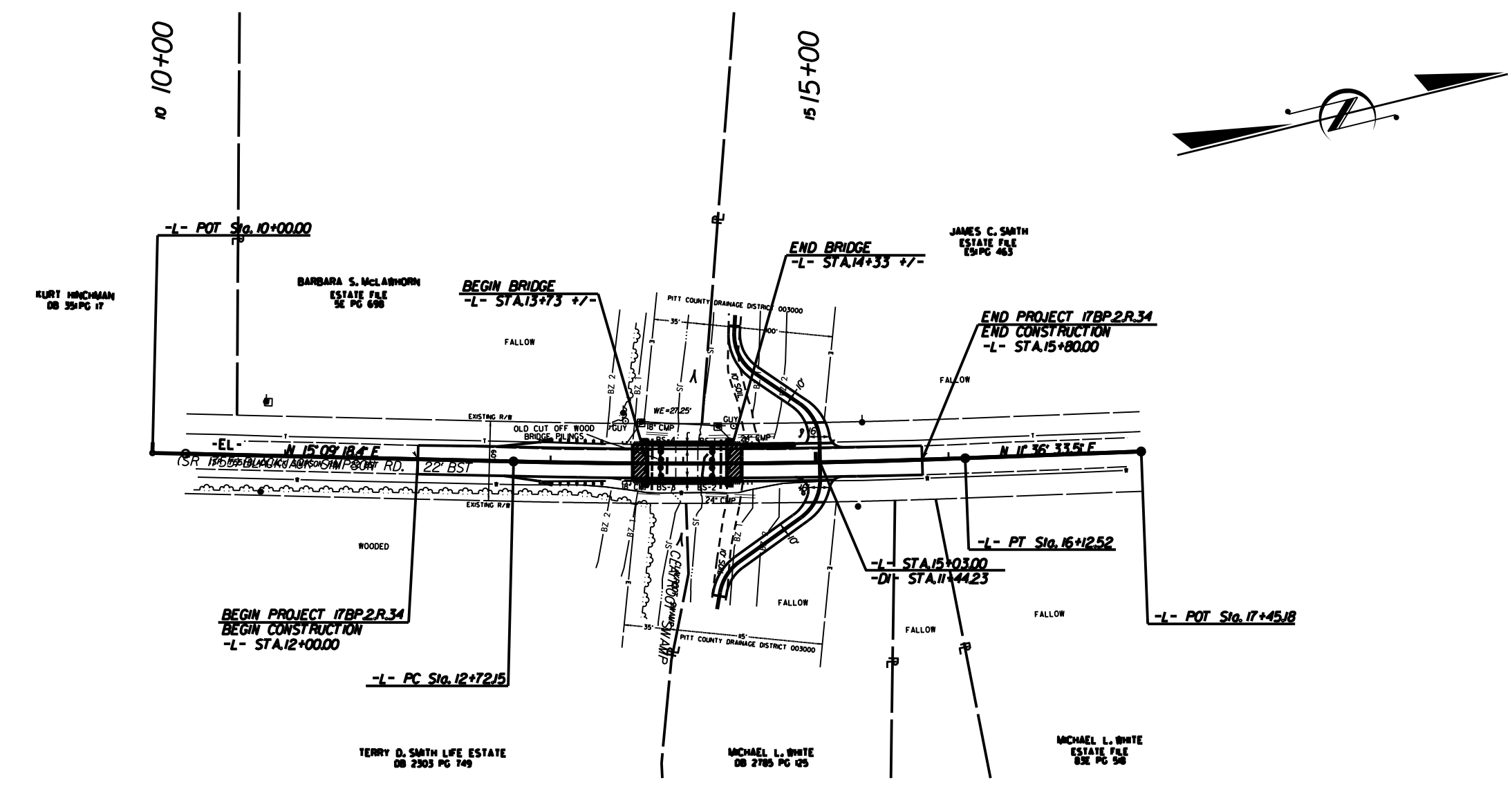
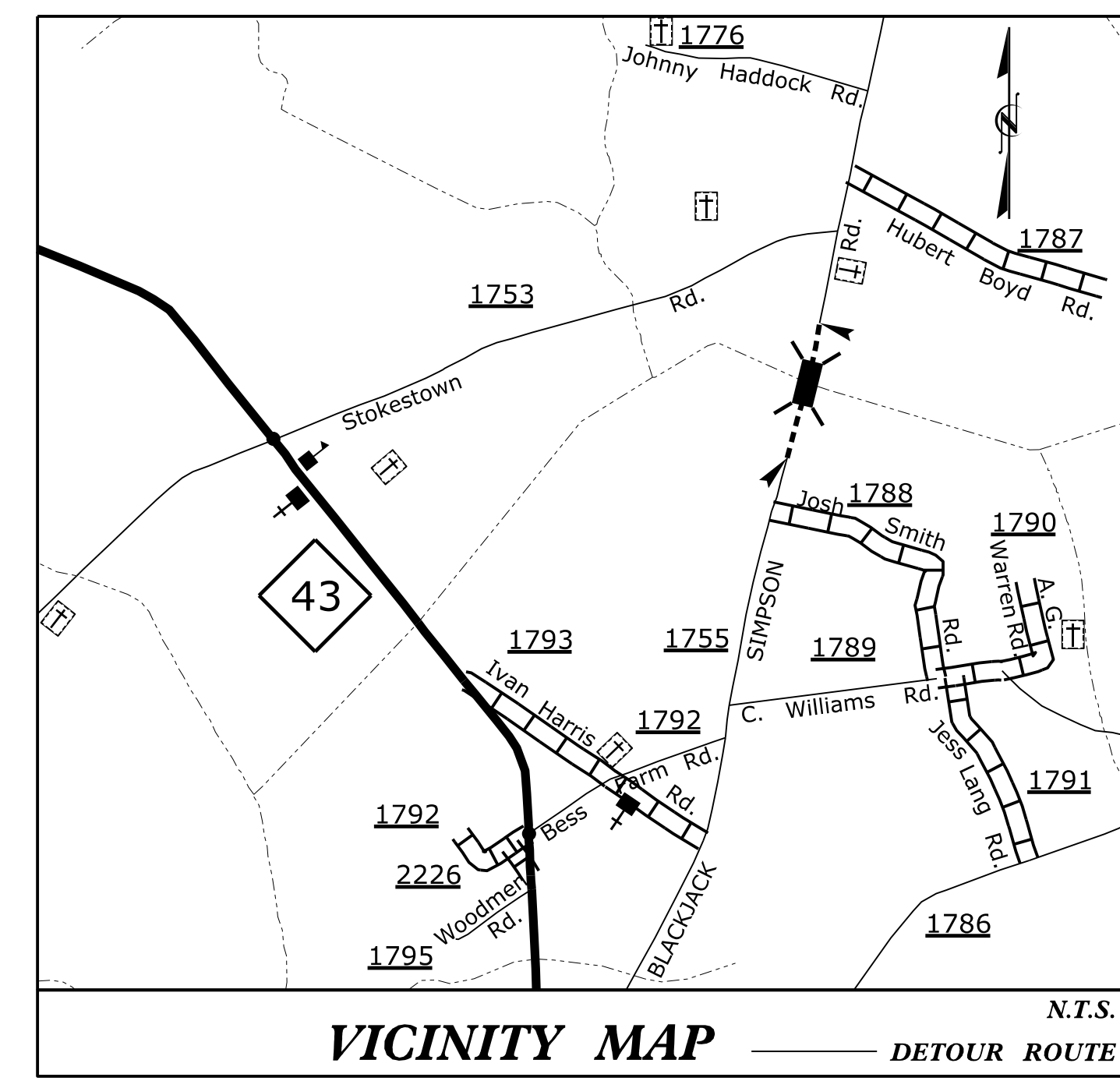
**CONTRACT:**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
17BP.2.R.34	UO-1

**UTILITIES BY OTHERS PLANS  
PITT COUNTY**

**LOCATION: BRIDGE NO. 012 OVER CLAYROOT SWAMP  
ON SR 1755 (BLACKJACK SIMPSON RD.)**  
**TYPE OF WORK: UTILITY BY OTHERS RELOCATION**




**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	PLAN SHEET

**UTILITY OWNERS ON PROJECT**

(1) WATER - EASTERN PINES WATER CORPORATION
(2) TELEPHONE - CENTURYLINK

**UTILITY PLANS BY:**  
  
**MA Engineering**  
 CONSULTANTS, INC.  
 598 East Chatham Street Suite 137 Cary, NC 27511  
 Phone: 919 297 0220 Fax: 919 297 0221

**NCDOT PROJECT ENGINEER:**  
 MARIA ROGERSON, P.E.  
**PREPARED FOR:**  
 NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION BRIDGE PROGRAM

### UTILITIES BY OTHERS

NOTE:  
ALL PROPOSED UTILITY WORK  
SHOWN ON THIS SHEET WILL  
BE DONE BY OTHERS

**MA Engineering**  
CONSULTANTS, INC. 598 E. Chatham Street,  
Suite 127  
Cary, N. C. 27511

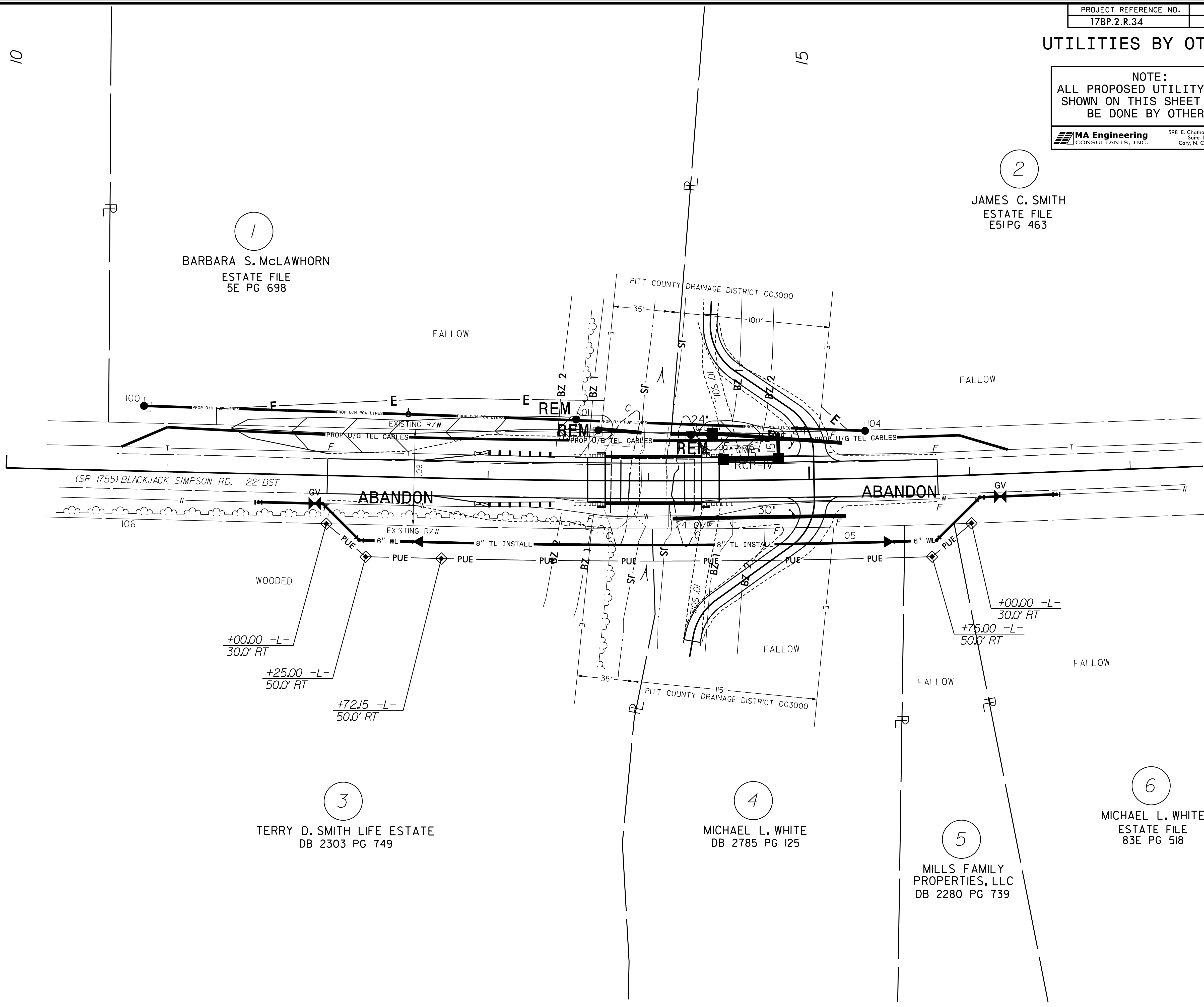
2

JAMES C. SMITH  
ESTATE FILE  
E51 PG 463

1

BARBARA S. McLAWHORN  
ESTATE FILE  
5E PG 698

KURT HINCHMAN  
DB 351 PG 17



3

TERRY D. SMITH LIFE ESTATE  
DB 2303 PG 749

4

MICHAEL L. WHITE  
DB 2785 PG 125

5

MILLS FAMILY  
PROPERTIES, LLC  
DB 2280 PG 739

6

MICHAEL L. WHITE  
ESTATE FILE  
83E PG 518

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