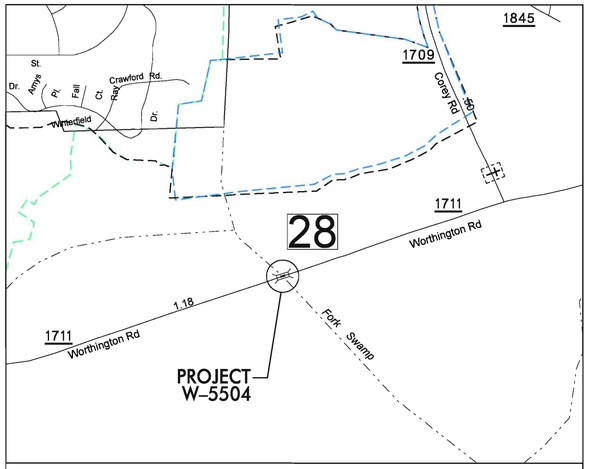
09/08/99

TIP PROJECT: W-5504

CONTRACT:

See Sheet 1-A For Index of Sheets



VICINITY MAP
(NOT TO SCALE)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

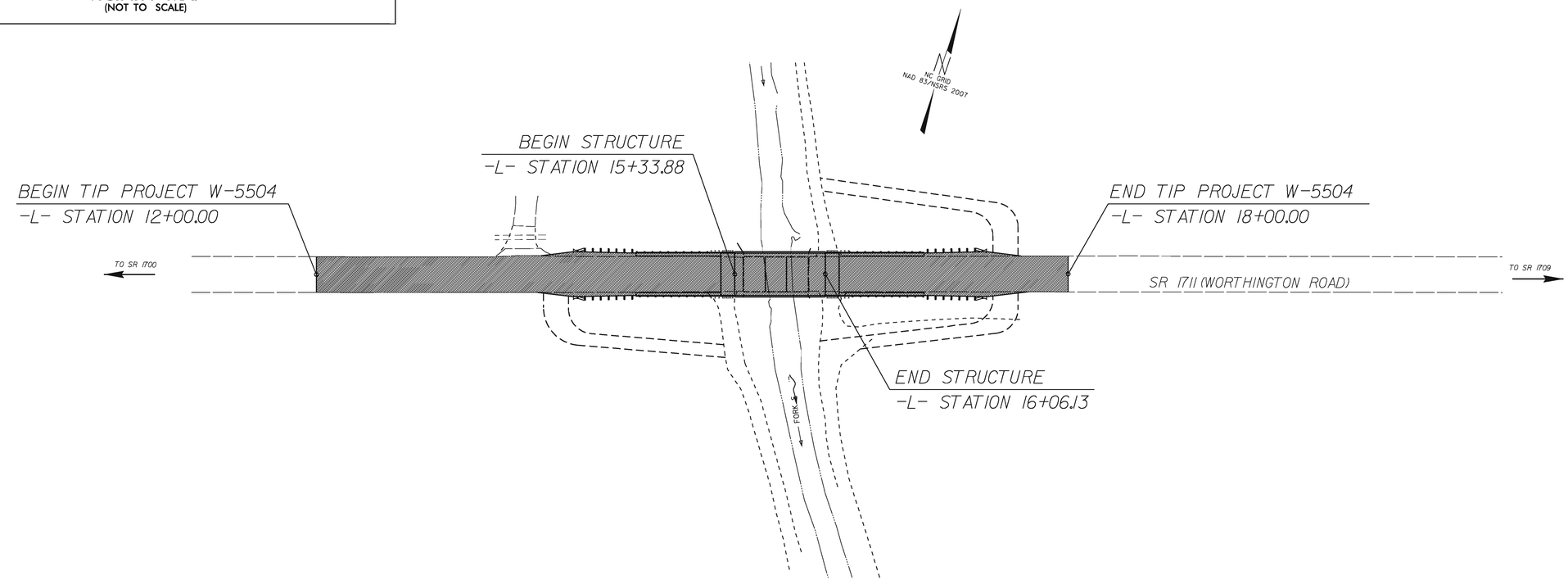
PITT COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5504	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
45476.1.1	HSIP-1711(5)	PE
45476.2.1	HSIP-1711(5)	RW
45476.3.1	HSIP-1711(5)	CONST

LOCATION: BRIDGE #28 OVER FORK SWAMP ON SR 1711 (WORTHINGTON RD)

TYPE OF WORK: BRIDGE REPLACEMENT, GUARDRAIL, PAVING, GRADING AND DRAINAGE



GRAPHIC SCALES

40 20 0 40 80
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT W-5504 = 0.100
LENGTH STRUCTURE TIP PROJECT W-5504 = 0.014
TOTAL LENGTH TIP PROJECT W-5504 = 0.114

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:
MAY 2012

DWAYNE H. ALLIGOOD
PROJECT ENGINEER

LANG JONES
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER DWAYNE H. ALLIGOOD
Dwayne H. Alligood P.E.
SIGNATURE: 05/07/2012

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER DWAYNE H. ALLIGOOD
Dwayne H. Alligood P.E.
SIGNATURE: 05/05/2012

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

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PROJECT REFERENCE NO.	SHEET NO.
W-5504	1A

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2	TYPICAL SECTIONS
3	SUMMARY OF QUANTITIES
3A	SUMMARY OF DRAINAGE QUANTITIES, EARTHWORK, PAVEMENT REMOVAL AND GUARDRAIL
4, 4A	PLAN SHEETS
5	PROFILE SHEET
TCP1-TCP2	TRAFFIC CONTROL PLANS
EC1-EC3	EROSION CONTROL SHEETS
P1-P2	PERMIT DRAWINGS
X1A	CROSS-SECTION SUMMARY
X1-X2	CROSS-SECTIONS
S1-S14	STRUCTURE PLANS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 11/01/11

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

GRADING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED OR FUTURE SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS.

SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

ALL EXISTING UTILITIES SHOWN ON PLANS ARE APPROXIMATE.

UTILITY OWNERS ON THIS PROJECT ARE AS FOLLOWS:

CENTURYLINK (PHONE/FIBER) - CONTACT: RODNEY MEDLIN PHONE: 252-413-7711 EMAIL: ROD.M.MEDLIN@CENTURYLINK.COM

GUC (POWER) - CONTACT: JEFF OAKLEY PHONE: 252-551-1584 EMAIL: OAKLEYCJ@GUC.COM
CONTACT: CHRIS COREY PHONE: SAME EMAIL: COREYCA@GUC.COM

GUC (GAS) - CONTACT: CHARLES BUCK PHONE: 252-551-1593 EMAIL: BUCKCR@GUC.COM
CONTACT: JASON CYPHERS PHONE: SAME EMAIL: CYPHERJA@GUC.COM

SUDDENLINK (CATV) - CONTACT:

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - 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
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets

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PROJECT REFERENCE NO.	SHEET NO.
W-5504	1B

8/13/08

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 (EIP)
- Property Corner
- Property Monument (ECM)
- Parcel/Sequence Number (123)
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary (WLB)
- Proposed Wetland Boundary (WLB)
- Existing Endangered Animal Boundary (EAB)
- Existing Endangered Plant Boundary (EPB)

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign (S)
- Well (W)
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream (JS)
- Buffer Zone 1 (BZ 1)
- Buffer Zone 2 (BZ 2)
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch (FLOW)
- False Sump

RAILROADS:

- Standard Gauge (CSX TRANSPORTATION)
- RR Signal Milepost (MILEPOST 35)
- Switch (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 (R/W)
- Proposed Right of Way Line with Iron Pin and Cap Marker (R/W)
- Proposed Right of Way Line with Concrete or Granite Marker (R/W)
- Existing Control of Access (C/A)
- Proposed Control of Access (C/A)
- Existing Easement Line (E)
- Proposed Temporary Construction Easement (E)
- Proposed Temporary Drainage Easement (TDE)
- Proposed Permanent Drainage Easement (PDE)
- Proposed Permanent Utility Easement (PUE)
- Proposed Temporary Utility Easement (TUE)
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut (C)
- Proposed Slope Stakes Fill (F)
- Proposed Wheel Chair Ramp (WCR)
- 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 (Vineyard)

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert (CONC)
- Bridge Wing Wall, Head Wall and End Wall (CONC WW)

MINOR:

- Head and End Wall (CONC HW)
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB (CB)
- Paved Ditch Gutter
- Storm Sewer Manhole (S)
- Storm Sewer (S)

UTILITIES:

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

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PROJECT REFERENCE NO.	SHEET NO.
W-5504	2
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER DWAYNE H. ALLIGOOD
05/03/2012

PAVEMENT DESIGN ENGINEER

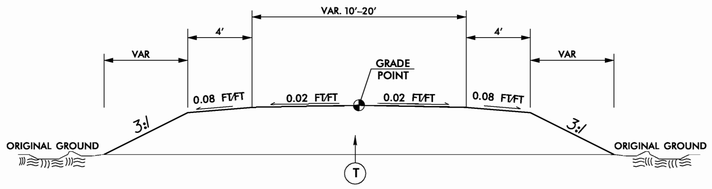
NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER DWAYNE H. ALLIGOOD
05/03/2012

REVISIONS

8/17/99

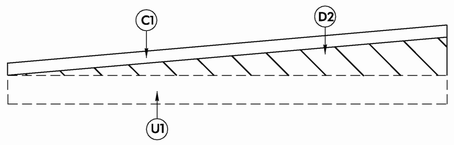
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 336 LBS. PER SQ.YD. IN EACH OF TWO LAYERS.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROPOSED VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
U1	CONCRETE CORED SLABS

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

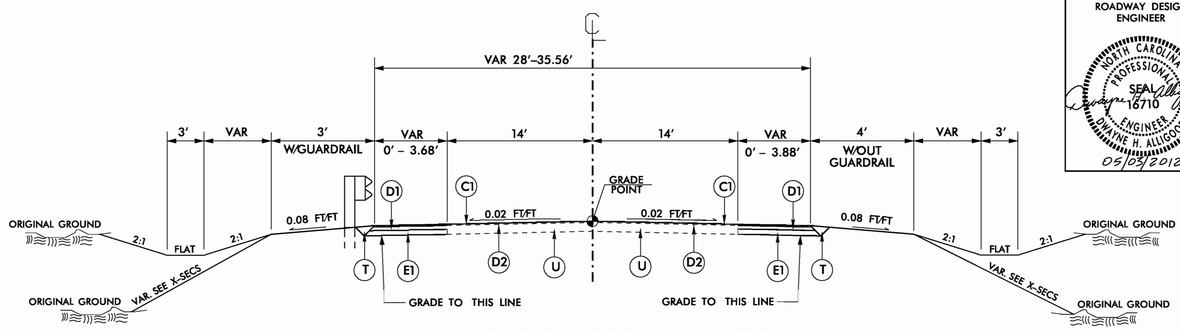


USE TYPICAL SECTION #3

-D- 10+16.18 - 11+82.03
-D1- 10+15.93 - 11+93.32
-D2- 10+16.03 - 11+83.51

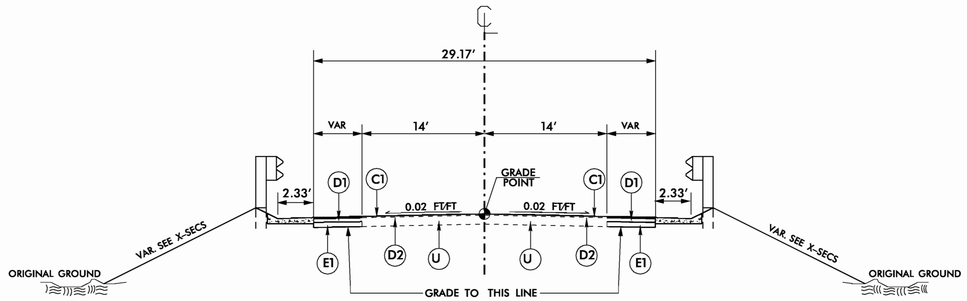


WEDGING DETAIL FOR BRIDGE
NOT TO SCALE



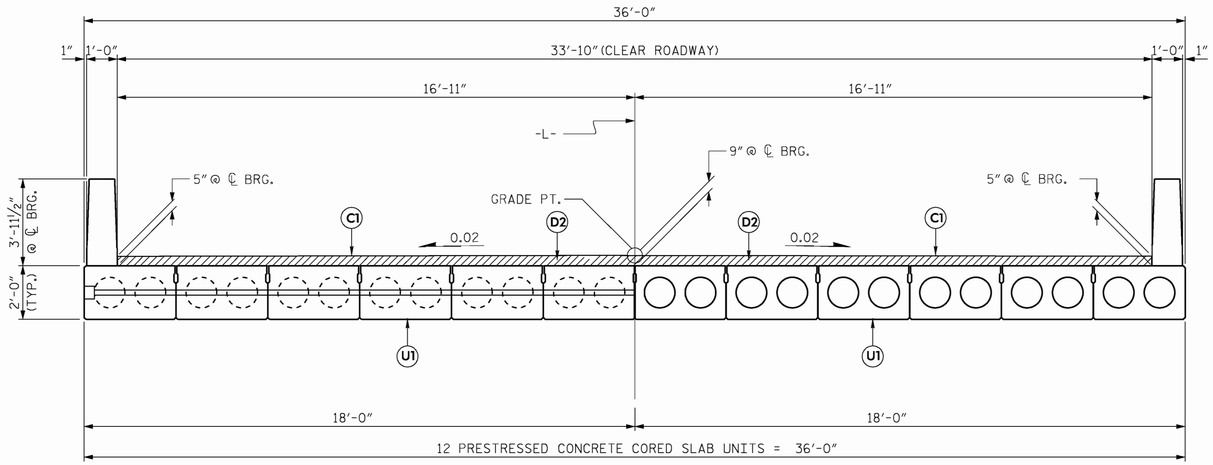
USE TYPICAL SECTION #1 (NTS)

-L- 12+00.00 - 14+55.13
-L- 16+84.88 - 18+00.00



USE TYPICAL SECTION #2 (NTS)

-L- 14+55.13 - 15+22.88
-L- 16+17.13 - 16+84.88



TYPICAL BRIDGE SECTION (NTS)

-L- STA 15+33.88 TO -L- STA 16+06.13

PROJECT REFERENCE NO.	SHEET NO.
W-5504	3

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUMMARY OF QUANTITIES

ITEM	SECT	QUANTITY	UNIT	ITEM DESCRIPTION
1	800	1	LS	MOBILIZATION
2	801	1	LS	CONSTRUCTION SURVEYING
3	SP	1	LS	REINFORCED BRIDGE APPROACH FILL, -L- STA 15+70.00
4	226	1	LS	GRADING
5	226	200	CY	UNDERCUT EXCAVATION
6	300	30	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
7	300	80	SY	FOUNDATION CONDITIONING GEOTEXTILE
8	310	20	LF	15" DRAINAGE PIPE
9	310	64	LF	15" R.C. PIPE CULVERTS, CLASS III
10	310	44	LF	18" DRAINAGE PIPE
11	310	44	LF	36" DRAINAGE PIPE
12	310	30	LF	42" C.A.A. PIPE CULVERT, 0.109" THICK
13	310	1	EA	42" C.A.A. PIPE ELBOWS, 0.109" THICK
14	610	33	TON	ASPHALT CONCRETE BASE COURSE, TYPE B25.0B
15	610	528	TON	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B
16	610	209	TON	ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B
17	620	40	TON	ASPHALT BINDER FOR PLANT MIX
18	840	4	EA	MASONRY DRAINAGE STRUCTURES
19	840	4	EA	FRAME WITH GRATE, STD 840.29
20	846	271	LF	SHOULDER BERM GUTTER
21	862	240	LF	STEEL BEAM GUARDRAIL
22	862	10	EA	ADDITIONAL GUARDRAIL POSTS
23	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
24	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
25	876	5	TON	RIP RAP, CLASS I
26	876	5	TON	RIP RAP, CLASS B
27	1605	1150	LF	TEMPORARY SILT FENCE
28	1610	5	TON	STONE FOR EROSION CONTROL, CLASS B
29	1610	7	TON	SEDIMENT CONTROL STONE
30	1615	1	ACRE	TEMPORARY MULCHING
31	1620	50	LB	SEED FOR TEMPORARY SEEDING
32	1620	0.2	TON	FERTILIZER FOR TEMPORARY SEEDING
33	1622	200	LF	TEMPORARY SLOPE DRAINS
34	SP	575	LF	SAFETY FENCE
35	1630	5	CY	SILT EXCAVATION
36	1631	1850	SY	MATTING FOR EROSION CONTROL
37	1632	190	LF	1/4" HARDWARE CLOTH
38	SP	120	SY	FLOATING TURBIDITY CURTAIN
39	SP	320	LF	WATTLE
40	SP	10	LB	POLYACRYLAMIDE (PAM)
41	1660	1	ACRE	SEEDING AND MULCHING
42	1661	50	LB	SEED FOR REPAIR SEEDING
43	1661	0.2	TON	FERTILIZER FOR REPAIR SEEDING
44	402	1	LS	REMOVAL OF EXISTING STRUCTURE AT -L- STA 15+70.00
45	412	1	LS	UNCLASSIFIED STRUCTURE EXCAVATION AT -L- STA 15+70.00
46	420	30.4	CY	CLASS A CONCRETE (BRIDGE)
47	422	1	LS	BRIDGE APPROACH SLABS AT -L- STA 15+70.00
48	425	4544	LB	REINFORCING STEEL (BRIDGE)
49	450	910	LF	HP 12 X 53 STEEL PILES
50	450	8	EA	PILE REDRIVES
51	460	140.25	LF	VERTICAL CONCRETE BARRIER RAIL
52	876	336	TON	RIP RAP, CLASS II (2'-0" THICK)
53	876	373	SY	GEOTEXTILE FOR DRAINAGE
54	430	1	LS	ELASTOMETRIC BEARINGS
55	430	840	LF	3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLABS

8/17/99

REVISIONS

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COMPUTED BY: VT	DATE: 3–15–11
CHECKED BY: LJ	DATE: 3–15–11

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
W-5504	3A

NOTE: Invert Elevations are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300–5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO.		TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)								DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	CORRUGATED ALUMINUM PIPE							R.C. PIPE (CLASS III)							R.C. PIPE (CLASS IV)							
SIZE		FROM	TO					12"	15"	18"	24"	30"	36"	42"	48"					12"	15"	18"	24"	36"	42"	48"	15"	18"	24"	30"	36"	42"	48"	12"	15"	18"	24"	30"	36"	42"	48"
THICKNESS OR GAUGE																				.064	.064	.064	.064	.079	.109	.109															
–L– 14+62.00	LT	1		50.68	47.68																																				
–L– 14+62.00	RT	2		50.68	47.50																																				
		1	2		47.68	47.50																					32														
		2	OUT		47.50	47.45			8																																
–L– 16+77.00	LT	3		50.74	47.74																																				
–L– 16+77.00	RT	4		50.74	47.58																																				
		3	4		47.74	47.58																					32														
		4	OUT		47.58	47.50			12																														
–L– 13+90.76	LT	5			43.53	43.40																			30																
–L– 14+01.39	RT	6			45.50	44.90				44																													
–L– 17+52.94	LT	7			42.88	42.72							44																										
–L– 15+28.64	RT																																								
–L– 16+06.61	LT																																								
–L– 16+06.79	RT																																								
TOTALS									20	44			44												30		64														

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO.		**" R. C. PIPE (CLASS V)	**" R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	**" R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS.		QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B')			C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE				CONCRETE TRANSITIONAL SECTION			G.D.I. FRAME WITH GRATE STD. 840.22	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.29	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	T.B.D.I. STD. 840.35	CORR. ALUMINUM ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
		FROM	TO						R.C.P.	C.S.P.	PER EACH (0' THRU 5.0')	LIN. *FT. A 5.0' THRU 10.0'	LIN. *FT. B 10.0' AND ABOVE		E	F	G		CATCH BASIN	DROP INLET											
–L– 14+62.00	LT	1									1													1		1					
–L– 14+62.00	RT	2									1													1		1					
		1	2																												
		2	OUT																												
–L– 16+77.00	LT	3									1													1		1					
–L– 16+77.00	RT	4									1													1		1					
		3	4																												
		4	OUT																												
–L– 13+90.76	LT	5																									1, 42"				CONNECT PROP. 42" CAAP TO EXIST. 42" CAAP WITH 10° ELBOW
–L– 14+01.39	RT	6																													
–L– 17+52.94	LT	7																													
–L– 15+28.64	RT																													40	
–L– 16+06.61	LT																													40	
–L– 16+06.79	RT																													40	
TOTALS											4													4		4				160	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED 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 JUNCTION BOX

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON–GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH (WITH ANCHOR DEDUCTIONS)			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS									IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE AND RESET 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	TYPE 350	TYPE III	CAT–1							NO.	PERMITTED G	PERMITTED NG				
–L–	14+06.25	15+35.00	RT	60			15+35.00		2.4	5.33	50		1.0		1	1														
–L–	14+06.25	15+35.00	LT	60				15+35.00	2.4	5.33		50		1.0	1	1														
–L–	17+33.75	16+05.00	LT	60			16+05.00		2.4	5.33	50		1.0		1	1														
–L–	17+33.75	16+05.00	RT	60				16+05.00	2.4	5.33		50		1.0	1	1														
TOTAL				240											4	4														

SUMMARY OF EARTHWORK
IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
–L– 12+50.00 – 15+16.00	182	0	638	456	0
–L– 16+50.00 – 17+00.00	94	0	278	184	0
UNDERCUT (CONTINGENCY)		200	240	240	200
UNCLASSIFIED STRUCTURE EXCAVATION	310	0	0	0	310
SUB TOTAL	586	200	1156	880	510
SAY	590	200	1160	880	510

PAVEMENT REMOVAL SUMMARY
IN SQUARE YARDS

LINE	STATION – STATION	LOCATION	REMOVAL (SY)
–L–	15+22.88 – 15+40.88	CL	55
–L–	15+92.57 – 16+17.13	CL	76
TOTAL			131
		SAY	135

NOTE:

APPROXIMATE QUANTITIES ONLY, UNCLASSIFIED EXCAVATION, STRUCTURE EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, BREAKING OF EXISTING PAVEMENT AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING."

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PROJECT REFERENCE NO.	SHEET NO.
W-5504	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEAL 16710, NORTH CAROLINA PROFESSIONAL ENGINEER, DWAYNE H. ALLIGOOD, 05/03/2012	SEAL 16710, NORTH CAROLINA PROFESSIONAL ENGINEER, DWAYNE H. ALLIGOOD, 05/03/2012

NC GRID
NAD 83/NSRS 2007
40 20 0 40 80
SCALE
REVISIONS
8/17/99
POT -L- 10+00.00
POT -L- 19+81.99
1
JEANNETTE D WORTHINGTON
2706 FOXFIRE RD
CHARLOTTE, NC 28270
DB 1520, PG 46
21.93 ACRES
2
JEANETTE W DAVIS
WORTHINGTON LIVING TRUST
4912 AYDEN GOLF RD
AYDEN NC 28513
DB 1234, PG 149
32.23 ACRES
3
G & N MINISTORAGE LLC
1030 WORTHINGTON RD
PO BOX 1088
WINTERVILLE, NC 28590
DB 2782, PG 859
10.74 ACRES
4
DAVID N. WORTHINGTON
PO BOX 64
WINTERVILLE, NC 28590
DB 2648, PG 197
14.36 ACRES
5
DAVID N WORTHINGTON
PO BOX 64
WINTERVILLE, NC 28590
DB 715, PG 510
37.92 ACRES
6
LESLIE ALLEN FENNER III
1014 BRANCH RD
WINTERVILLE, NC 28590
DB 1141, PG 665
110.06 ACRES
Control Point #1
N 650,587.649
E 2,484,907.371
Elev. 48.45
Control Point #2
N 650,706.817
E 2,485,243.244
Elev. 47.85
Control Point #3
N 650,764.755
E 2,485,543.394
Elev. 50.05
STRUCTURE
EXCAVATION
FORK SWAMP
BZ 1
BZ 2
N 71° 26' 58.8" E
SR 1711 (WORTHINGTON ROAD)
BEGIN RESURFACING
-L- STATION 12+00.00
END RESURFACING
-L- STATION 18+00.00
42" CAAP
36" PIPE
18" PIPE
15" RCP-III
TB 2GI
TYPE III (TYP)
TYPE 350 (TYP)
REMOVE
29.17'
33.84'
13+79.21 L 14.72 LT
14+05.13 L 17.96 LT
14+55.13 L 16.92 LT
16+84.88 L 16.92 LT
17+34.88 L 17.96 LT
17+62.63 L 14.49 LT
13+75.98 L 14.50 RT
14+05.14 L 17.93 RT
14+55.13 L 16.93 RT
16+84.88 L 16.93 RT
17+34.88 L 17.97 RT
17+68.35 L 13.98 RT
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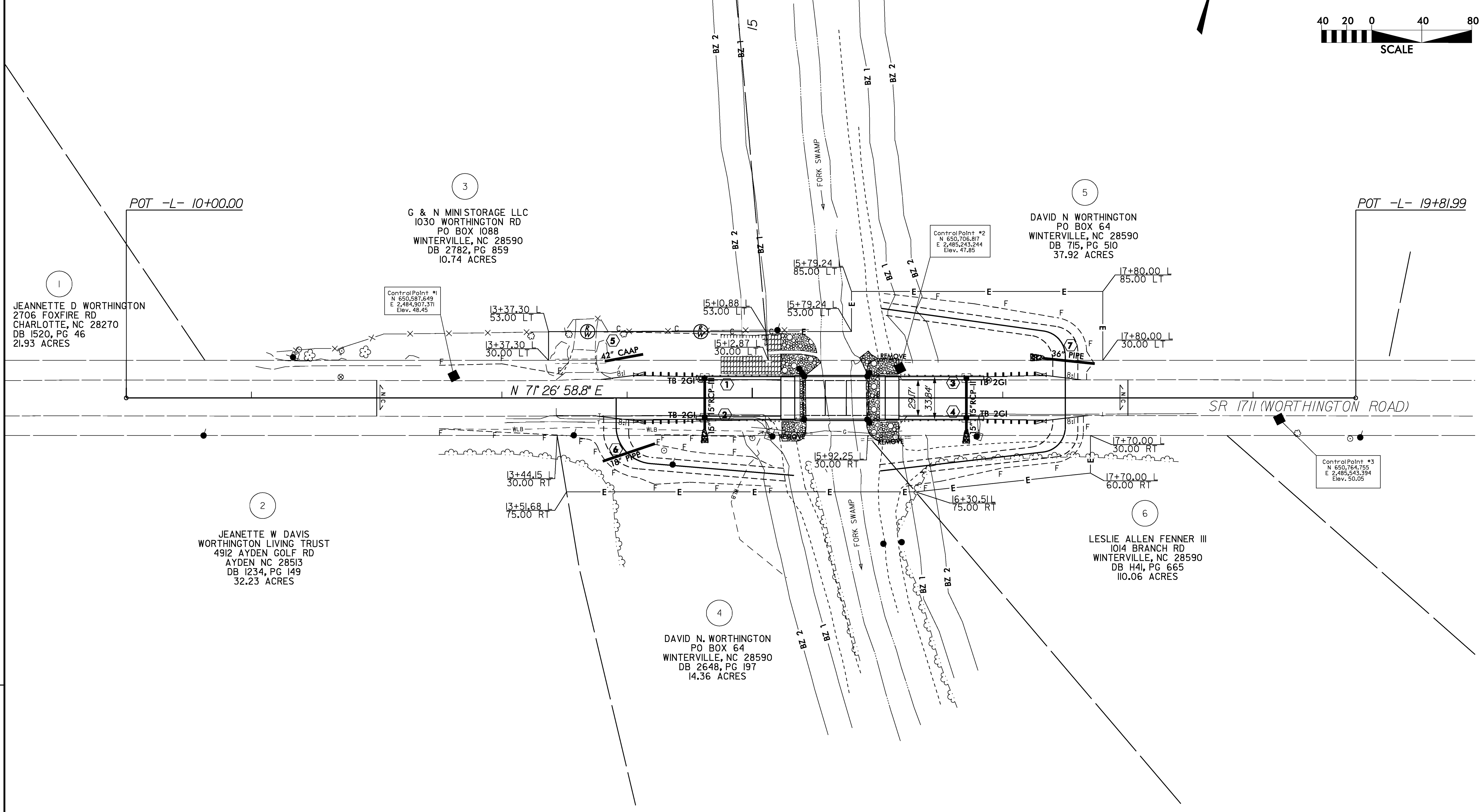
DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "CONTROL PT #2"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 650706.817(ft) EASTING: 2485243.244(ft)
ELEVATION: 47.85(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998874485
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "CONTROL PT #2" TO -L- STATION 12+00.00 IS
S 68° 12' 26" W 418.6088'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

PROJECT REFERENCE NO.	SHEET NO.
W-5504	4A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER DWAYNE H. ALLIGOOD 05/03/2012	NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER DWAYNE H. ALLIGOOD 05/03/2012

RIGHT OF WAY AREA SUMMARY

PARCEL NO.	PROPERTY OWNER NAME	LOCATION	TOTAL PARCEL AREA [ACRES]	AREA TO BE DEDICATED (CONST. EASEMENT) [ACRES]	AREA TO BE PURCHASED (RIGHT OF WAY) [ACRES]	PARCEL AREA REMAINING [ACRES]
3	G & N MINI STORAGE LLC	LT	10.74		0.092	10.65
4	DAVID N. WORTHINGTON	RT	14.36	0.272		14.09
5	DAVID N. WORTHINGTON	LT	37.92	0.289		37.63
6	LESLIE ALLEN FENNER III	RT	110.06	0.140		109.92

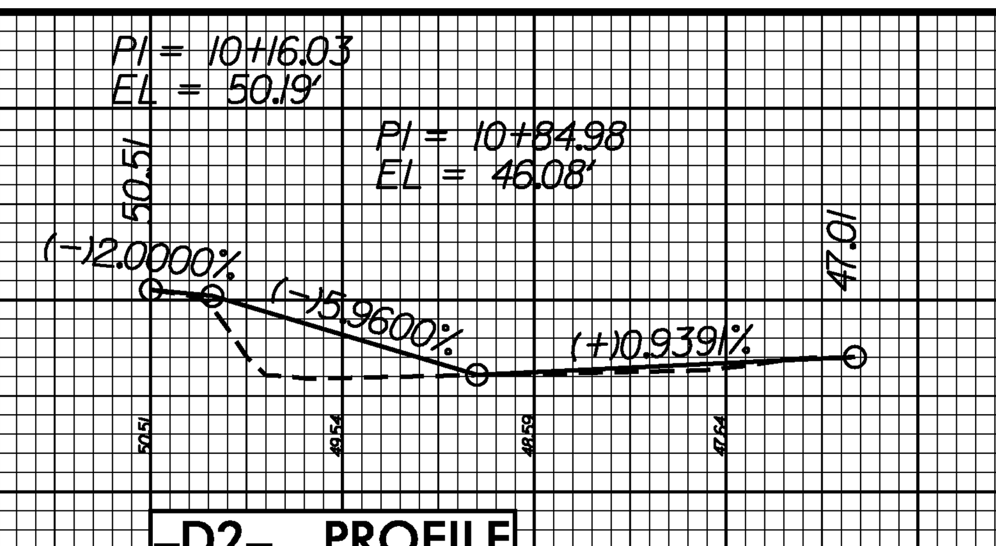


NC GRID
NAD 83/NSRS 2007
40 20 0 40 80
SCALE
POT -L- 10+00.00
POT -L- 19+81.99
1
JEANNETTE D WORTHINGTON
2706 FOXFIRE RD
CHARLOTTE, NC 28270
DB 1520, PG 46
21.93 ACRES
3
G & N MINI STORAGE LLC
1030 WORTHINGTON RD
PO BOX 1088
WINTERVILLE, NC 28590
DB 2782, PG 859
10.74 ACRES
5
DAVID N WORTHINGTON
PO BOX 64
WINTERVILLE, NC 28590
DB 715, PG 510
37.92 ACRES
2
JEANETTE W DAVIS
WORTHINGTON LIVING TRUST
4912 AYDEN GOLF RD
AYDEN NC 28513
DB 1234, PG 149
32.23 ACRES
4
DAVID N. WORTHINGTON
PO BOX 64
WINTERVILLE, NC 28590
DB 2648, PG 197
14.36 ACRES
6
LESLIE ALLEN FENNER III
1014 BRANCH RD
WINTERVILLE, NC 28590
DB 1141, PG 665
110.06 ACRES
Control Point #1
N 650,587.649
E 2,484,907.371
Elev. 48.45
Control Point #2
N 650,706.817
E 2,485,243.244
Elev. 47.85
Control Point #3
N 650,764.755
E 2,485,543.394
Elev. 50.05
N 71° 26' 58.8" E
SR 1711 (WORTHINGTON ROAD)
FORK SWAMP
13+37.30 L
53.00 LT
13+37.30 L
30.00 LT
15+10.88 L
53.00 LT
15+12.87
30.00 LT
15+79.24
85.00 LT
15+79.24 L
53.00 LT
17+80.00 L
85.00 LT
17+80.00 L
30.00 LT
13+44.15 L
30.00 RT
13+51.68 L
75.00 RT
15+92.25 L
30.00 RT
16+30.51 L
75.00 RT
17+70.00 L
30.00 RT
17+70.00 L
60.00 RT
42" CAAP
36" PIPE
18" PIPE
15" RCP-III
TB 2GI
REMOVE
29.17'
33.84'
BZ 1
BZ 2

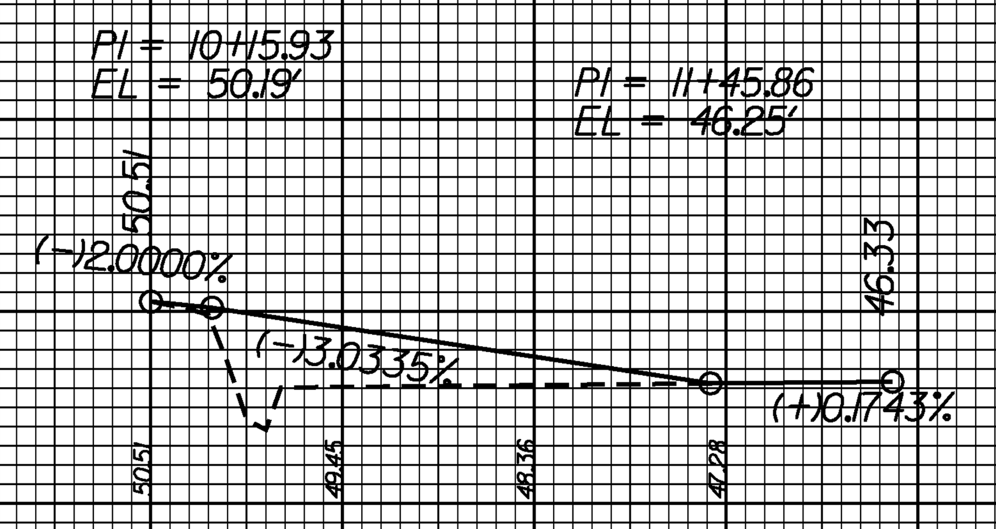
PROJECT REFERENCE NO.	SHEET NO.
W-5504	5

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 16710 DWAYNE H. ALLIGOOD — 05/03/2012

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 16710 DWAYNE H. ALLIGOOD — 05/03/2012



-D2- PROFILE
SCALE: 1" = 50' HORIZ.
1" = 10' VERT.



-D1- PROFILE
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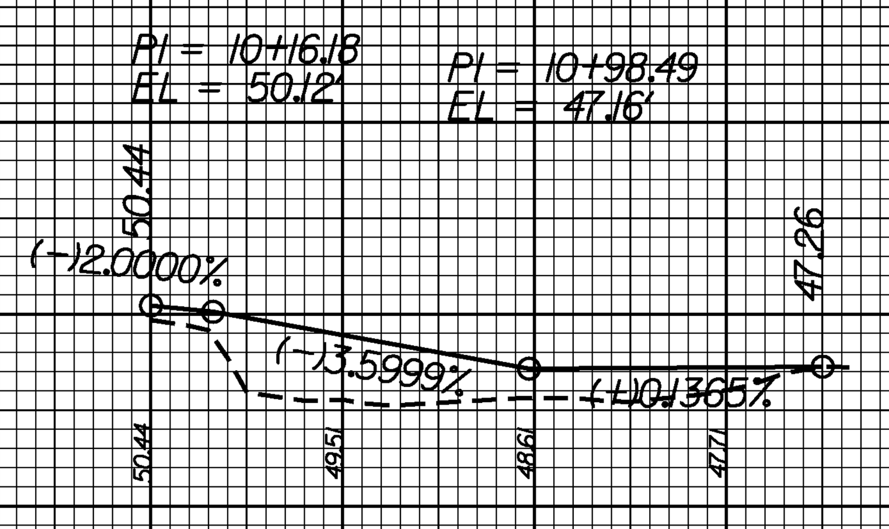
1" = 10' VERT.

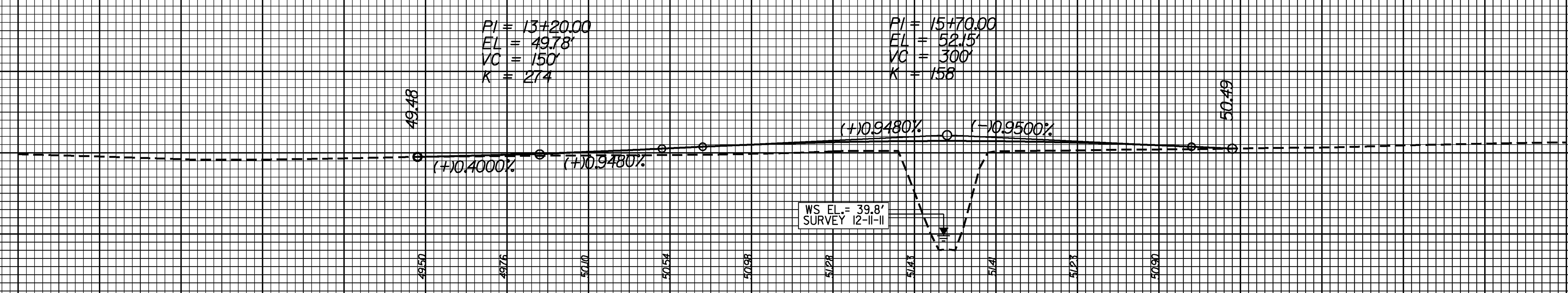


-D- PROFILE
SCALE: 1" = 50' HORIZ.
1" = 10' VERT.

CONTROL POINT #1
-L- STA 12+61.60
17.55' LT
N=650587.649
E=2484907.371
ELEV.= 48.45

CONTROL POINT #2
-L- STA 16+17.94
23.68' LT
N=650706.817
E=2485243.244
ELEV.= 47.85

CONTROL POINT #3
-L- STA 19+20.93
50.05' RT
N=650764.755
E=2485543.394
ELEV.= 50.05



-L- PROFILE
SCALE: 1" = 50' HORIZ.
1" = 10' VERT.

HYDRAULIC DATA

FREQUENCY (YR)	Q (cfs)	WS ELEV (ft.)		
		NATURAL	EXISTING	PROPOSED
5	2100	49.5	50.6	49.7
10	2600	49.9	51.1	50.8
25	3400	50.6	51.7	51.6
50	3900	51.0	52.0	52.0
100	4400	51.3	52.3	52.3
500	9600	54.3	54.7	54.8

*NOTE: ELEVATIONS FROM HEC-RAS v. 4.1.0

STATE PROJECT REFERENCE NO.	SHEET NO.
W-5504	TCP-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED TRAFFIC CONTROL

PITT COUNTY

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"-HIGHWAY DESIGN BRANCH-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
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES (TYPE III)

INDEX OF SHEETS

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- NORTH ARROW
- PROPOSED PVMT. --------- EXIST. PVMT.
- WORK AREA
- REMOVAL OF EXISTING PAVEMENT

TRAFFIC CONTROL DEVICES

- TYPE I BARRICADE
- TYPE II BARRICADE
- TYPE III BARRICADE
- CONE
- DRUM SKINNY DRUM
- FLASHING ARROW PANEL (TYPE C)
- STATIONARY SIGN
- PORTABLE SIGN
- STATIONARY OR PORTABLE SIGN
- CRASH CUSHION
- CHANGEABLE MESSAGE SIGN
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- POLICE
- FLAGGER

PROJECT: W-5504

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APPROVED: Dwayne H. Alligood
DATE: 05/03/2012

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER DWAYNE H. ALLIGOOD

PLAN PREPARED BY: N.C.D.O.T. DIVISION 2 DDC UNIT

D. H. ALLIGOOD, PE	*TRAFFIC CONTROL ENGINEER*
D. H. ALLIGOOD, PE	*TRAFFIC CONTROL PROJECT ENGINEER*
LANG JONES	*TRAFFIC CONTROL PROJECT DESIGN ENGINEER*
V. TRAN	*TRAFFIC CONTROL DESIGN ENGINEER / TECHNICIAN*

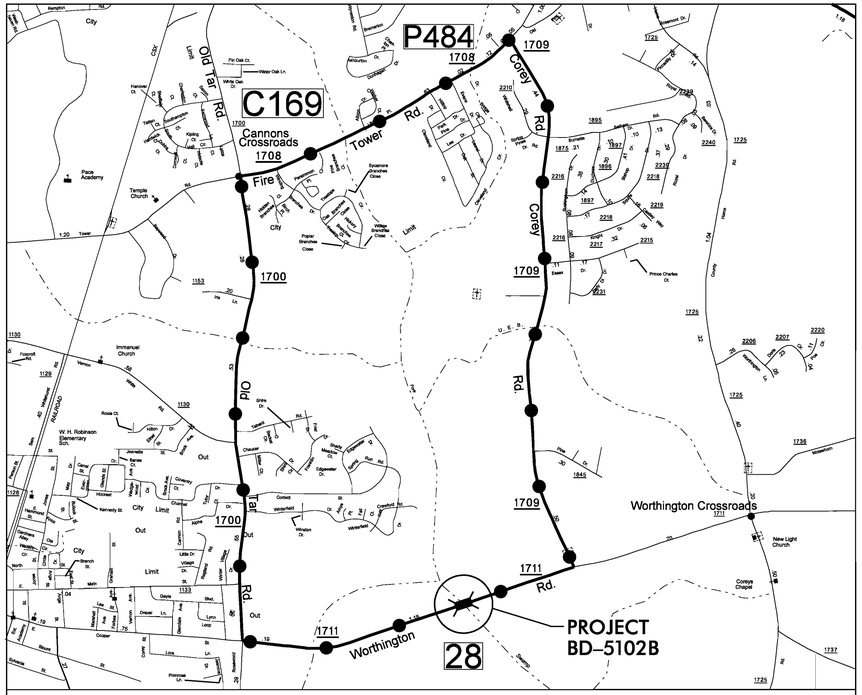
PROJ. REFERENCE NO.	SHEET NO.
W-5504	TCP-2

GENERAL NOTES

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

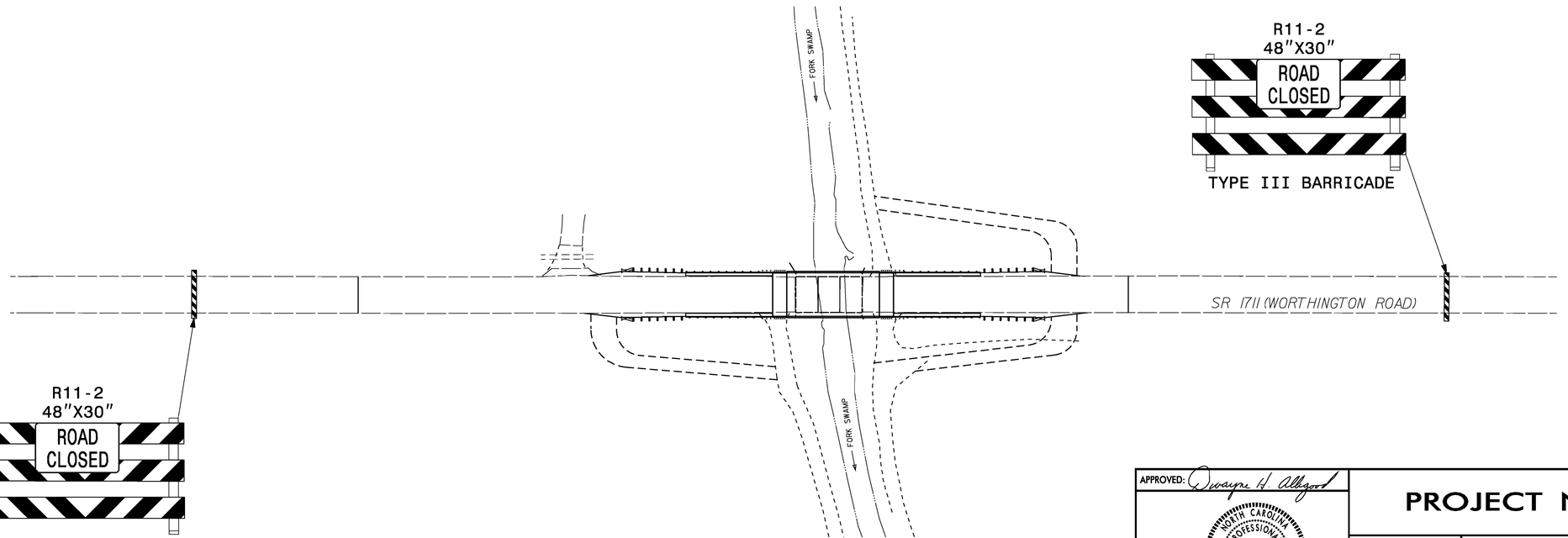
CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED 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 PAINT AND MARKERS ON THE FINISHED PROJECT.
CALL JIM EVANS AT 252-830-3493 FOR COORDINATION.



DETOUR MAP
(NOT TO SCALE)

DETOUR ROUTE



APPROVED: Dwayne H. Alligood

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER DWAYNE H. ALLIGOOD
05/03/2012

PROJECT NOTES

SCALE:	NONE
DATE:	8/2/11
DWG. BY:	LJ
DESIGN BY:	LJ
REVIEWED BY:	BB

REVISIONS	
CADD FILE	

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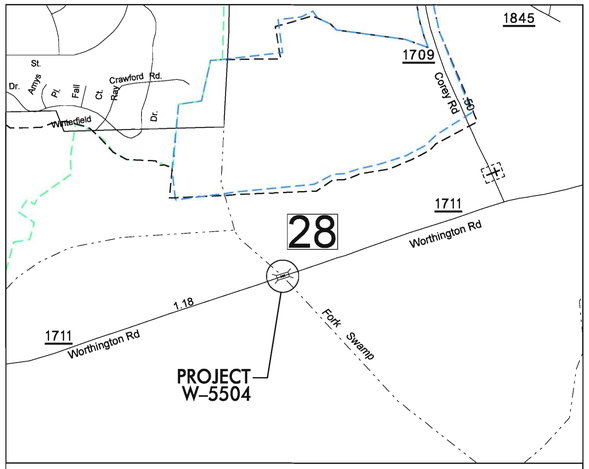
09/08/99

TIP PROJECT: W-5504

CONTRACT:

See Sheet 1-A For Index of Sheets



VICINITY MAP
(NOT TO SCALE)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

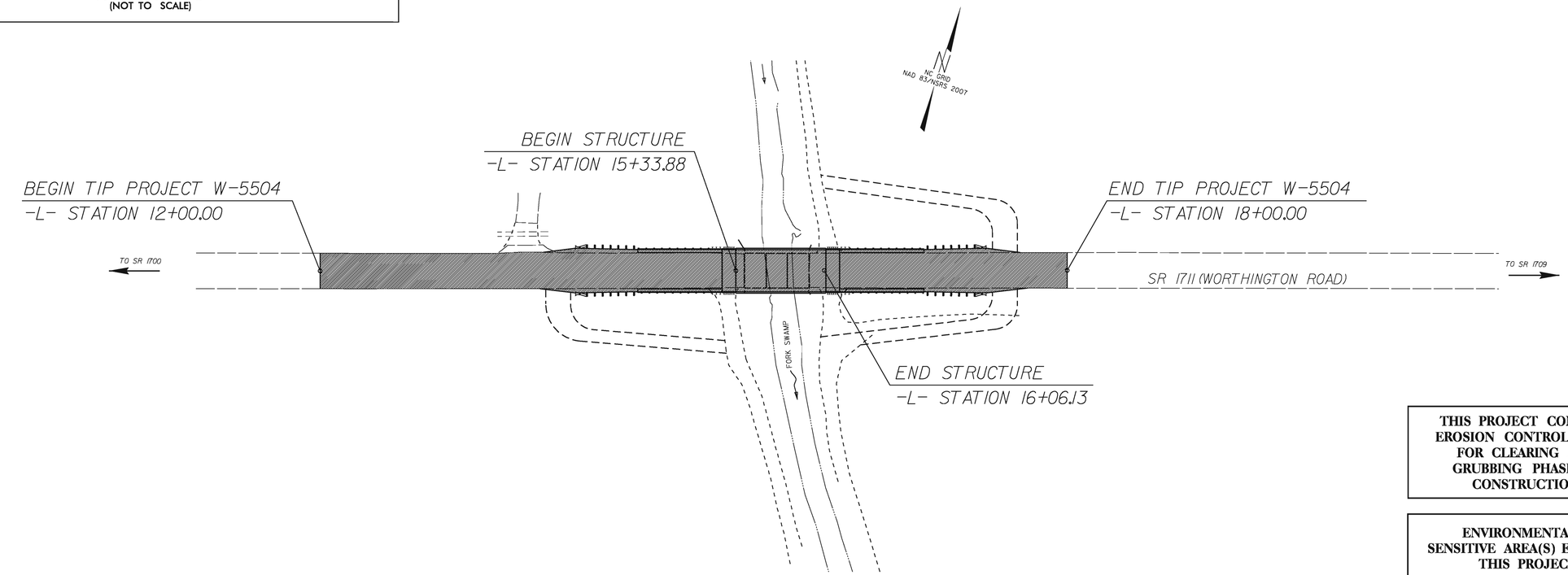
PITT COUNTY

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5504	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
45476.1.1	HSIP-1711(5)	PE
45476.2.1	HSIP-1711(5)	RW
45476.3.1	HSIP-1711(5)	CONST

Std. #	Description	Symbol
1605.01	High Vis Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1632.03	Rock Inlet Sediment Trap Type C	
SP	Wattle with Polyacrylamide	
SP	Wattle	



THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

GRAPHIC SCALES

40 20 0 40 80
PLANS

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT W-5504 = 0.100
LENGTH STRUCTURE TIP PROJECT W-5504 = 0.014
TOTAL LENGTH TIP PROJECT W-5504 = 0.114

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:

DIVISION OF HIGHWAYS

1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:
MAY 2012

DWAYNE H. ALLIGOOD
PROJECT ENGINEER

LANG JONES (#276)
PROJECT DESIGN ENGINEER

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 JAN 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

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

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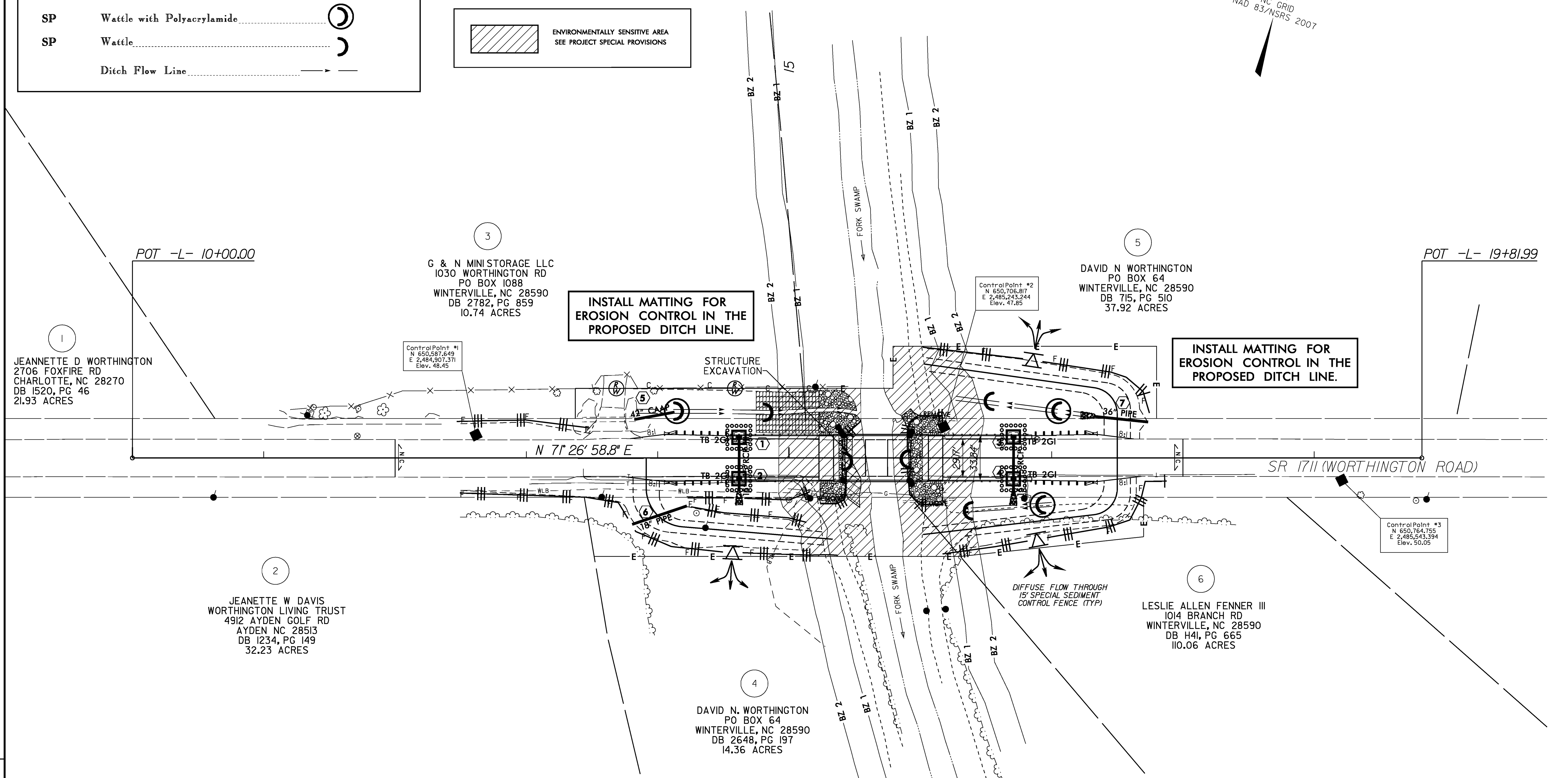
PROJECT REFERENCE NO.	SHEET NO.
W-5504	EC2

Std. #	Description	Symbol
1605.01	High Vis Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1632.03	Rock Inlet Sediment Trap Type C	
SP	Wattle with Polyacrylamide	
SP	Wattle	
	Ditch Flow Line	

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.
CONTRACTOR SHALL INSTALL SPECIAL SEDIMENT CONTROL FENCE OR WATTLES IN LOW AREAS OF SILT FENCE AS NEEDED OR DIRECTED BY THE ENGINEER.

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS



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.

REVISIONS

8/17/99

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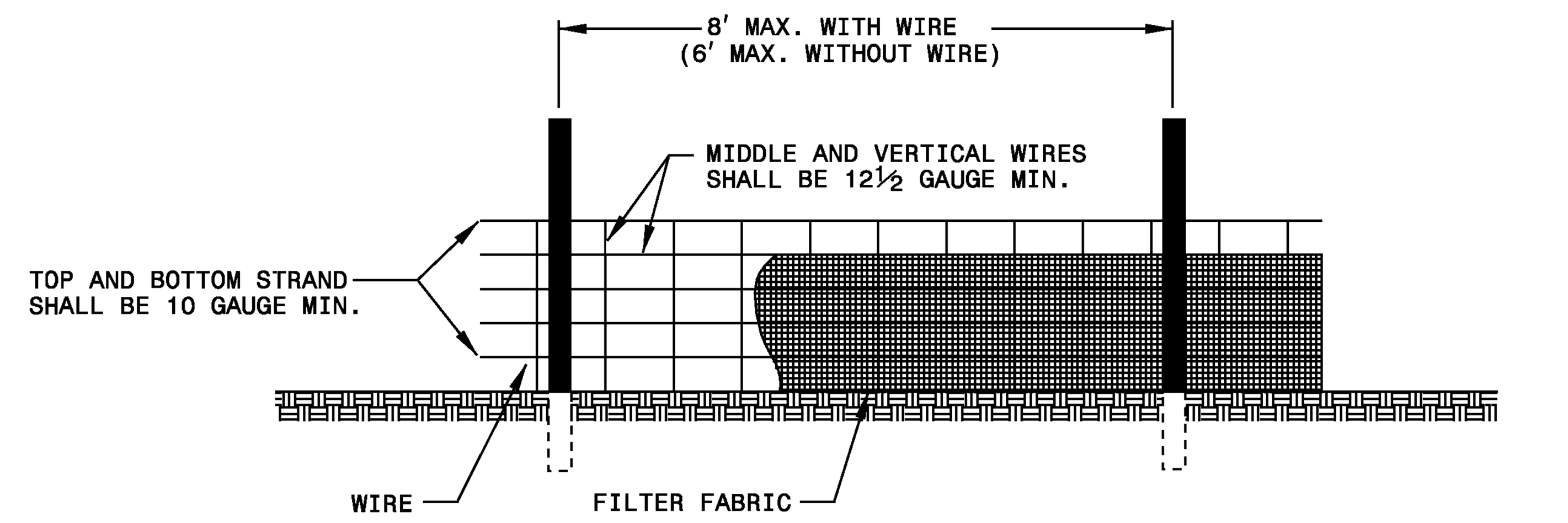
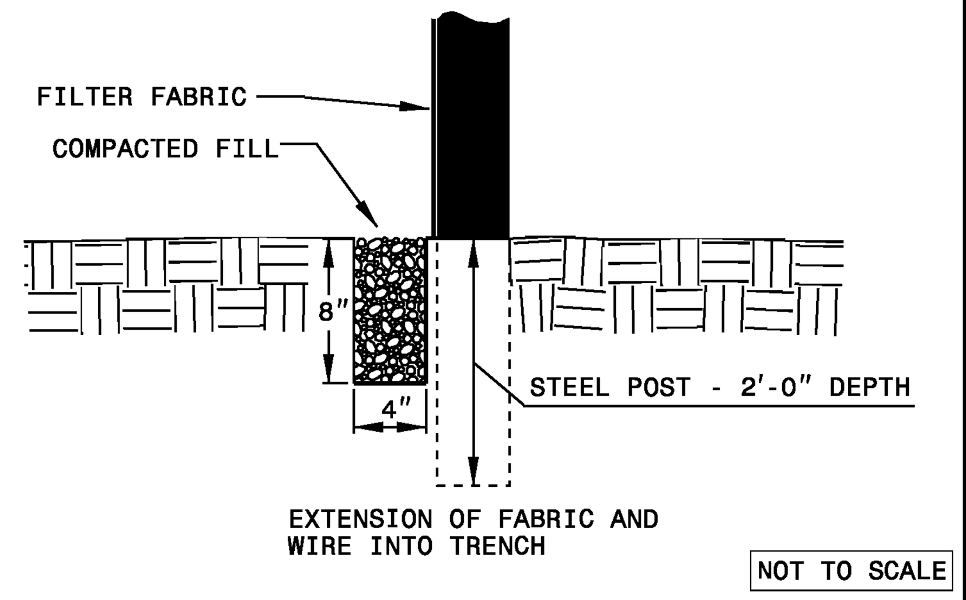
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR **TEMPORARY SILT FENCE**



NOTES
USE WIRE A MINIMUM OF 32" IN WIDTH AND WITH A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
USE FILTER FABRIC A MINIMUM OF 36" IN WIDTH AND FASTEN ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER.
PROVIDE 5'-0" STEEL POST OF THE SELF-FASTENER ANGLE STEEL TYPE.

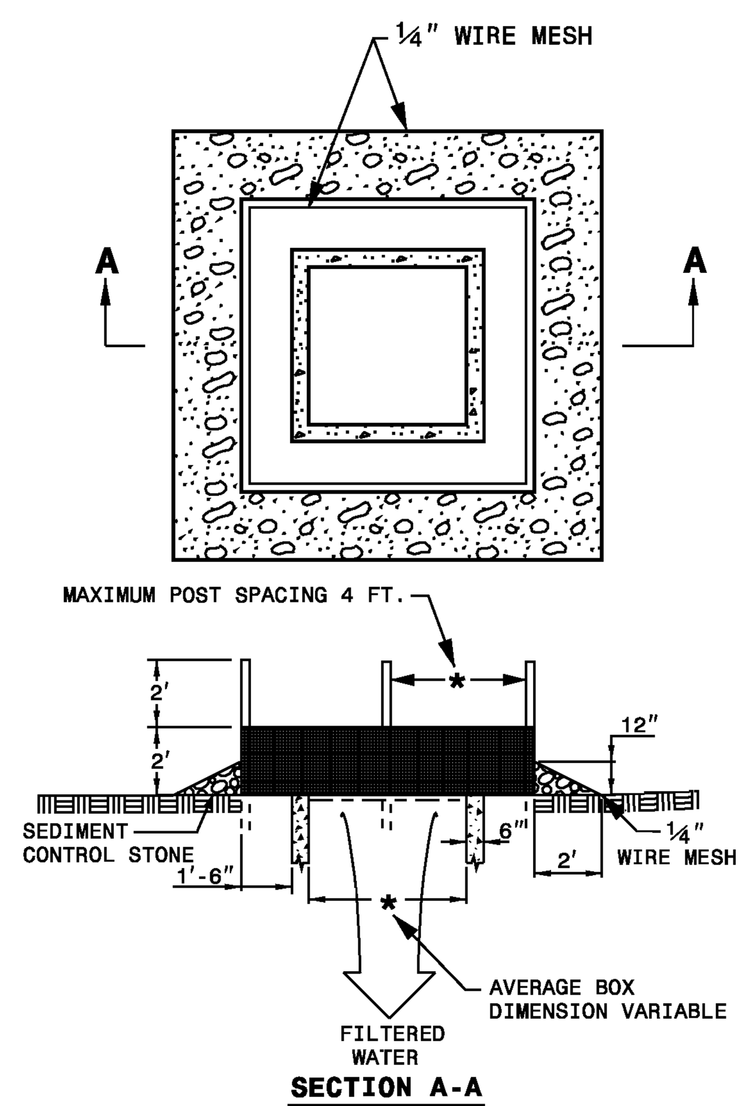


NOT TO SCALE

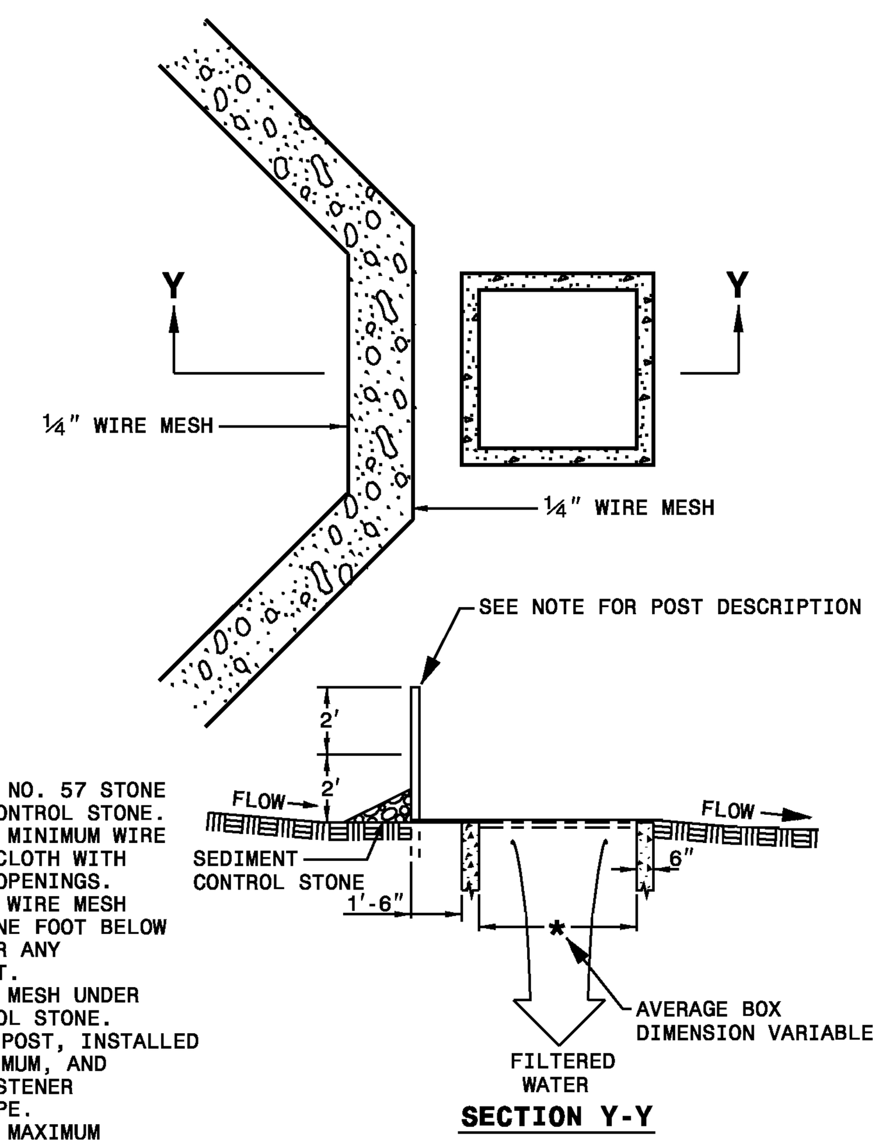
SHEET 1 OF 1 **1605.01**

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

ENGLISH STANDARD DRAWING FOR **ROCK INLET SEDIMENT TRAP TYPE 'C'**



NOTE
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.
USE 24 GAUGE MINIMUM WIRE MESH HARDWARE CLOTH WITH 1/4 INCH MESH OPENINGS.
PLACE TOP OF WIRE MESH A MINIMUM OF ONE FOOT BELOW THE SHOULDER OR ANY DIVERSION POINT.
INSTALL WIRE MESH UNDER SEDIMENT CONTROL STONE.
USE 5' STEEL POST, INSTALLED 1.5' DEEP MINIMUM, AND OF THE SELF-FASTENER ANGLE STEEL TYPE.
SPACE POST A MAXIMUM OF 4'.



NOT TO SCALE

SHEET 1 OF 1 **1632.03**

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

ENGLISH STANDARD DRAWING FOR **SPECIAL SEDIMENT CONTROL FENCE**

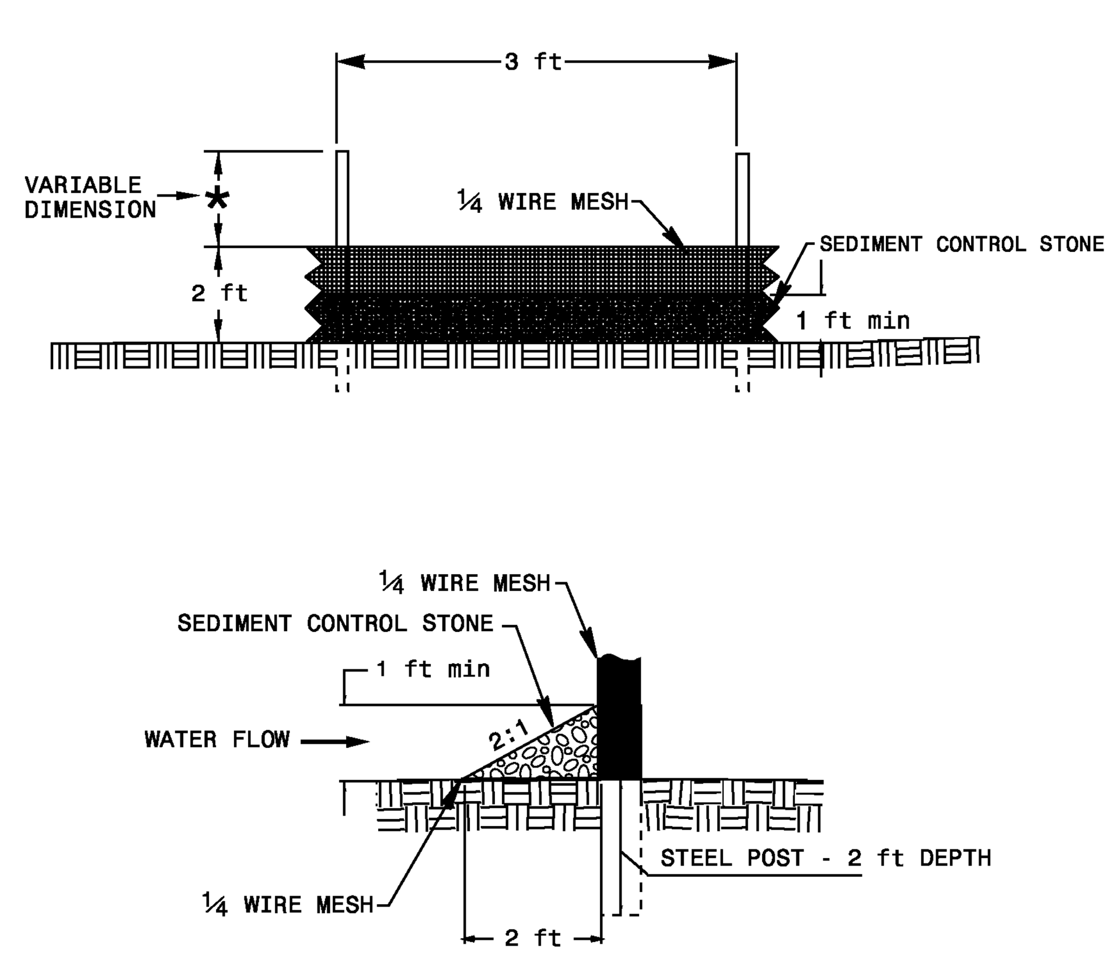
GENERAL NOTES:

USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.

USE HARDWARE CLOTH 24 GAUGE WIRE MESH WITH 1/4 INCH MESH OPENINGS.

INSTALL 5 FT. SELF FASTENER ANGLE STEEL POST 2 FT. DEEP MINIMUM.

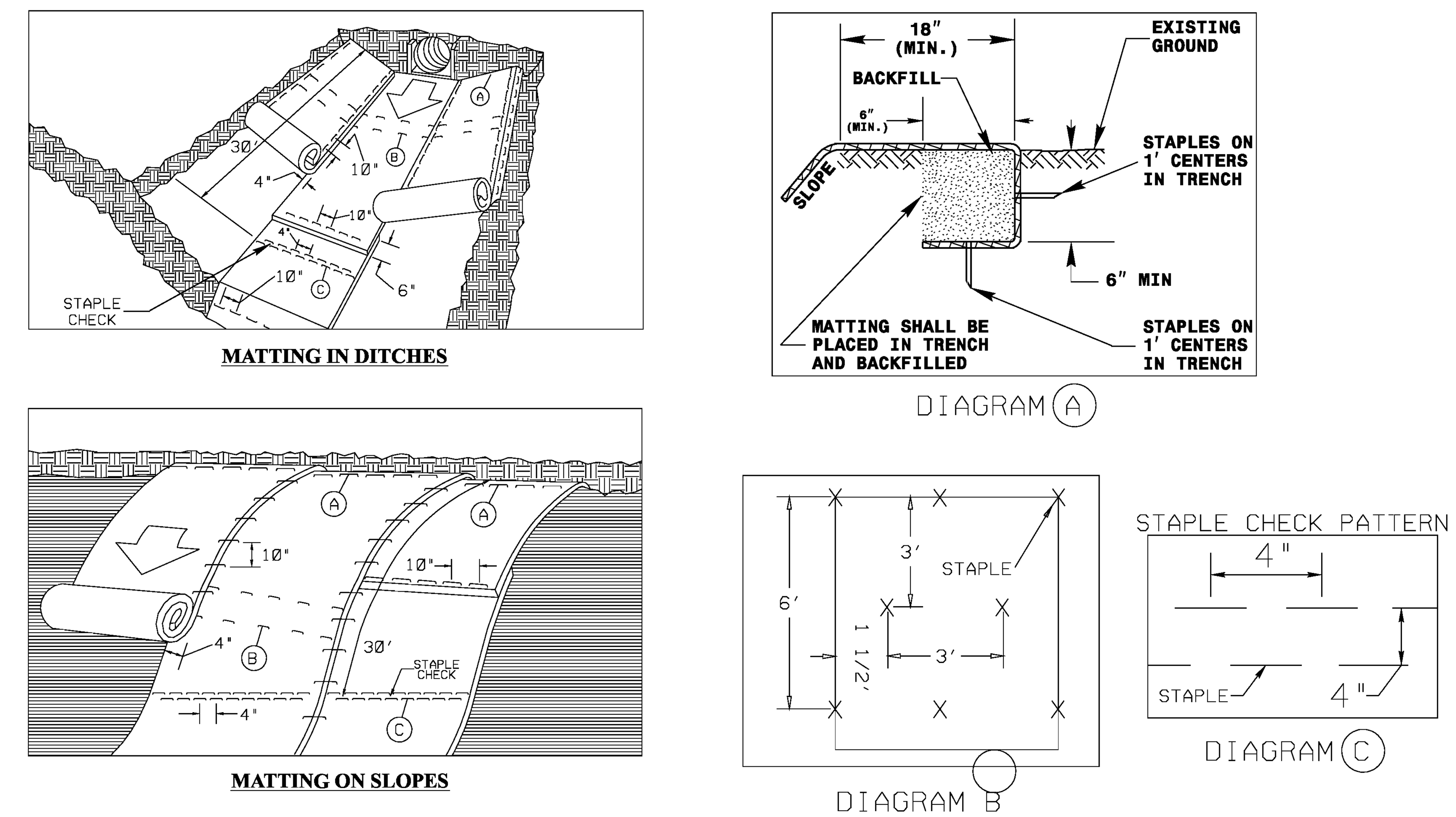
SPACE POST A MAXIMUM OF 3 FT.



NOT TO SCALE

SHEET 1 OF 1 **1606.01**

MATTING INSTALLATION DETAIL



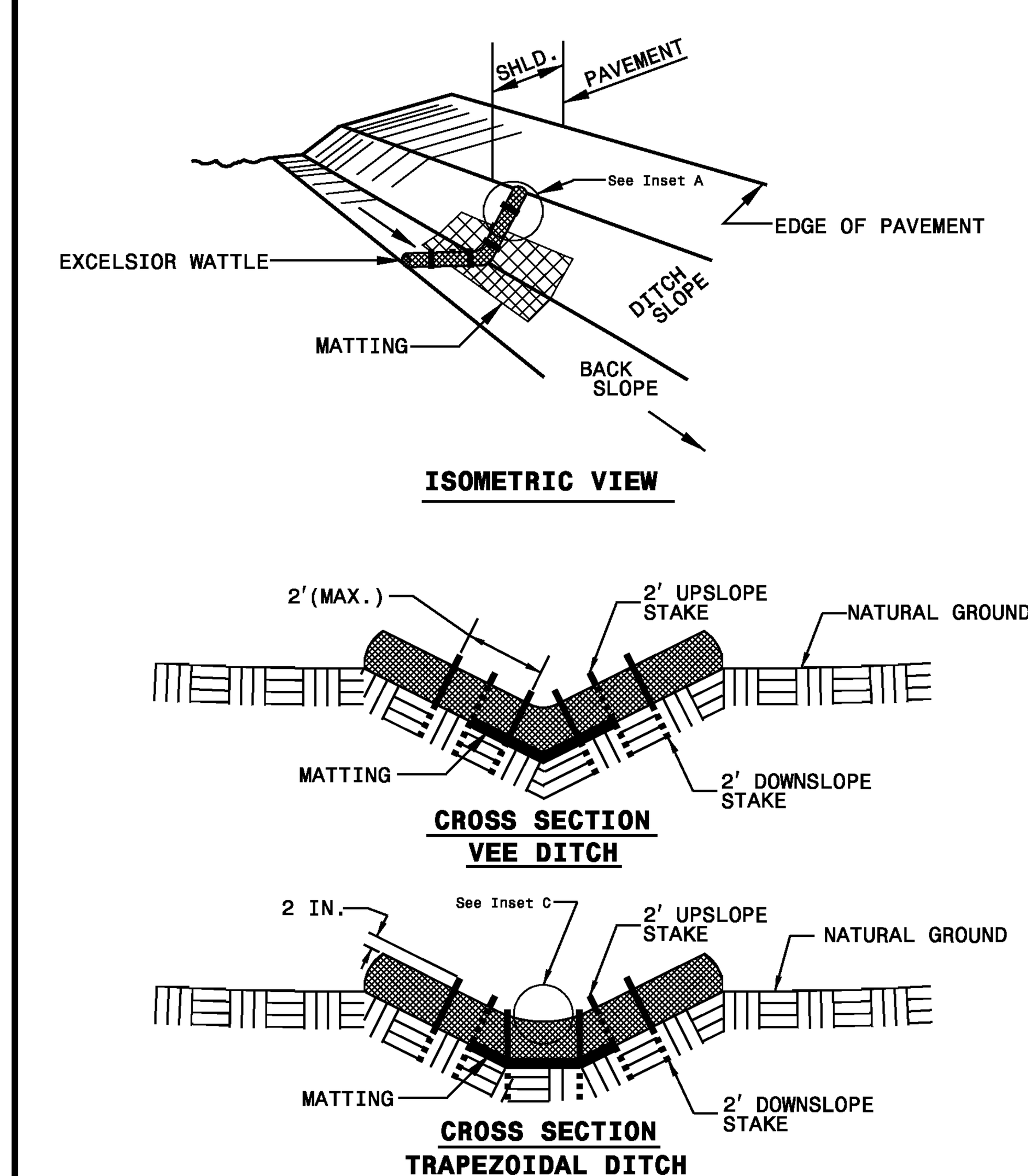
NOTES:

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

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

NOT TO SCALE

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR 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.

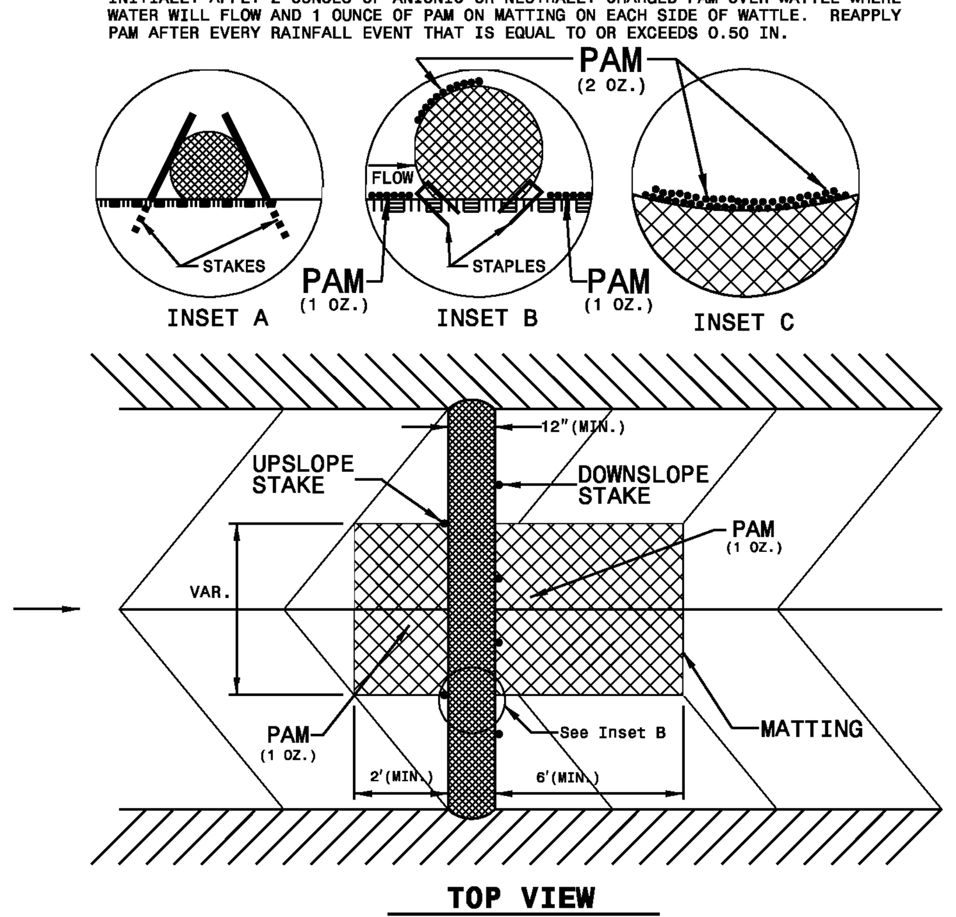
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
W-5504	P1

PITT 28 NWP 3 APPLICATION
SR 1711, WORTHINGTON ROAD
OVER FORK SWAMP
52' LONG BY 26' WIDE TIMBER BRIDGE
TO BE REPLACED WITH 70' LONG x 33'10" CORED SLAB BRIDGE
GREENVILLE, SE USGS QUAD MAP
SHEET NUMBER 56-B OF THE SOIL SURVEY OF PITT COUNTY
MIDDLE NEUSE 03020202
WBS ELEMENT NUMBER 45476.1.1
MARCH 14, 2012
SCALE: 1"=20'
NEUSE RIVER BASIN
NEUSE RIPARIAN BUFFER RULES APPLY
NO MORATORIUM AS PER TRAVIS WILSON, NCWRC DATED MAY 13, 2011

RECOMMENDED STRUCTURE

PROPOSED BRIDGE 70' LONG AND 33'-10" WIDE SPAN 1@70'

NC GRID
NAD 83/NSRS 2007

B1
BUFFER ZONE 1 IMPACTS = 0 Sq.Ft.
BUFFER ZONE 2 IMPACTS = 2 Sq.Ft.
S1
PERMANENT
STREAM IMPACTS = 0 LINEAR FEET

3
G & N MINISTORAGE LLC
1030 WORTHINGTON RD
PO BOX 1088
WINTERVILLE, NC 28590
DB 2782, PG 859
10.74 ACRES

5
DAVID N WORTHINGTON
PO BOX 64
WINTERVILLE, NC 28590
DB 715, PG 510
37.92 ACRES

B2
BUFFER ZONE 1 IMPACTS = 1666 Sq.Ft.
BUFFER ZONE 2 IMPACTS = 1029 Sq.Ft.
S2
TEMPORARY
STREAM IMPACTS = 38 LINEAR FEET
(PILINGS BEING REMOVED FROM STREAM)

14+05.13 L
17.96 LT
14.72 LT
14+55.13 L
16.92 LT
16+84.88 L
16.92 LT
17+34.88 L
17.96 LT
17+62.63 L
14.49 LT
17+68.35 L
13.98 RT
13+75.98 L
14.50 RT
14+05.14 L
17.93 RT
14+55.13 L
16.93 RT
16+84.88 L
16.93 RT
17+34.88 L
17.97 RT

BZ 2
BZ 1
BUFFER ZONE 2
20'
30'
BUFFER ZONE 1
EXISTING WATER LINE TO BE ABANDONED
STRUCTURE EXCAVATION
42" CAAP
36" PIPE
18" PIPE
REMOVE
TYPE III (TYP)
TYPE 350 (TYP)
TB 2GI
15"RCP-III
N 71° 26' 58.8" E
END RE. -L- STA
29.7'
33.84'
WLB
FORK SWAMP

4
DAVID N. WORTHINGTON
PO BOX 64
WINTERVILLE, NC 28590
DB 2648, PG 197
14.36 ACRES

6
LESLIE ALLEN FENNER III
1014 BRANCH RD
WINTERVILLE, NC 28590
DB H41, PG 665
110.06 ACRES

B3
BUFFER ZONE 1 IMPACTS = 1222 Sq.Ft.
BUFFER ZONE 2 IMPACTS = 760 Sq.Ft.

B4
BUFFER ZONE 1 IMPACTS = 1478 Sq.Ft.
BUFFER ZONE 2 IMPACTS = 936 Sq.Ft.

TOTAL BUFFER ZONE 1 IMPACTS = 4366 Sq.Ft. (0.10 ACRES)
TOTAL BUFFER ZONE 2 IMPACTS = 2727 Sq.Ft. (0.06 ACRES)
TOTAL PERMANENT STREAM IMPACTS = 0 LINEAR FEET
TOTAL TEMPORARY STREAM IMPACTS = 38 LINEAR FEET

BUFFER ZONE 1 IMPACTS
BUFFER ZONE 2 IMPACTS

HAZARDOUS SPILL BASIN CHECKLIST

RIVER BASIN: NEUSE
STREAM CLASSIFICATION: C, SW, NSW

WATER QUALITY CRITERIA:

	YES	NO
STREAM CROSSING BLUE LINE ON USGS	☒	☐
ORW	☐	☒
WSI	☐	☒
WS II, III OR IV, CROSSING WITHIN 0.5mi OF W.S. CRITICAL AREA	☐	☒

ROADWAY CRITERIA:

ROUTE DESIGNATION-	YES	NO
ARTERIAL URBAN	☐	☒
ATERIAL RURAL	☐	☒

IS A HAZARDOUS SPILL BASIN REQUIRED? YES ☐ NO ☒

REVISIONS 8/17/99

03-MAY-2012 11:38
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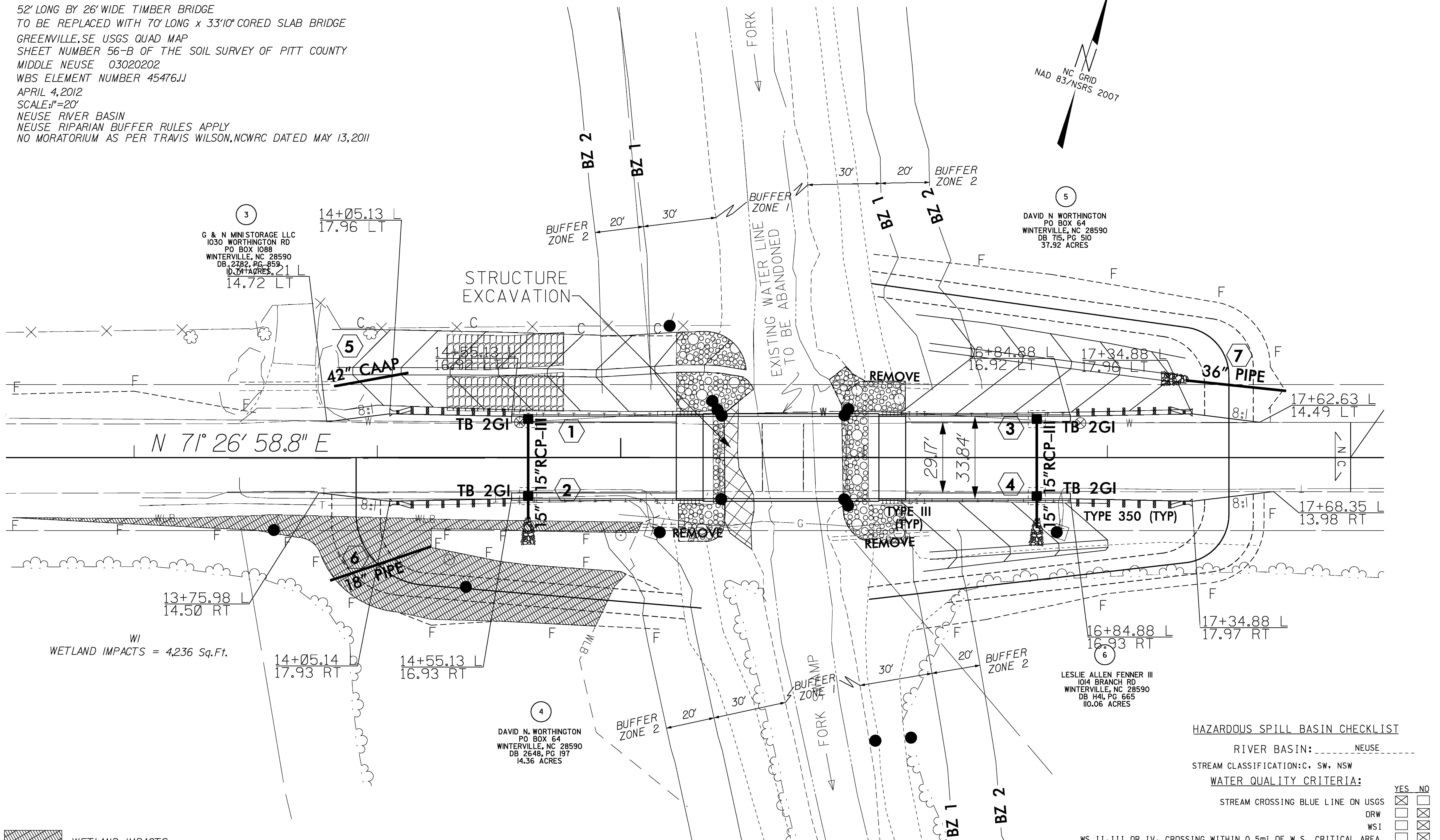
PROJECT REFERENCE NO.	SHEET NO.
W-5504	P2

PITT 28 NWP 3 APPLICATION
SR 1711,WORTHINGTON ROAD
OVER FORK SWAMP
52' LONG BY 26' WIDE TIMBER BRIDGE
TO BE REPLACED WITH 70' LONG x 33'10" CORED SLAB BRIDGE
GREENVILLE,SE USGS QUAD MAP
SHEET NUMBER 56-B OF THE SOIL SURVEY OF PITT COUNTY
MIDDLE NEUSE 03020202
WBS ELEMENT NUMBER 45476JJ
APRIL 4,2012
SCALE:1"=20'
NEUSE RIVER BASIN
NEUSE RIPARIAN BUFFER RULES APPLY
NO MORATORIUM AS PER TRAVIS WILSON,NCWRC DATED MAY 13,2011

RECOMMENDED STRUCTURE
PROPOSED BRIDGE 70' LONG AND 33'-10" WIDE SPAN 1@70'



WETLAND IMPACTS

WETLAND PERMIT IMPACT SUMMARY

WETLAND IMPACTS					SURFACE WATER IMPACTS				
Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlanmds (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW Impacts (ac)	Temp. SW Impacts (ac)	Exisiting Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
0.097								38	

HAZARDOUS SPILL BASIN CHECKLIST

RIVER BASIN: NEUSE

STREAM CLASSIFICATION:C, SW, NSW

WATER QUALITY CRITERIA:

	YES	NO
STREAM CROSSING BLUE LINE ON USGS	☒	☐
ORW	☐	☒
WSI	☐	☒
WS II,III OR IV, CROSSING WITHIN 0.5mi OF W.S. CRITICAL AREA	☐	☒

ROADWAY CRITERIA:

ROUTE DESIGNATION-	YES	NO
ARTERIAL URBAN	☐	☒
ATERIAL RURAL	☐	☒

	YES	NO
IS A HAZARDOUS SPILL BASIN REQUIRED?	☐	☒

REVISIONS

8/17/99

03-MAY-2012 11:38
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NOTE: Approximate quantities only. Unclassified excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, Removal of Existing Pavement and Breaking of Existing Pavement will be paid for at the contract Lump Sum price for "Grading".

PROJ. REFERENCE NO.	SHEET NO.
W-5504	X-1A

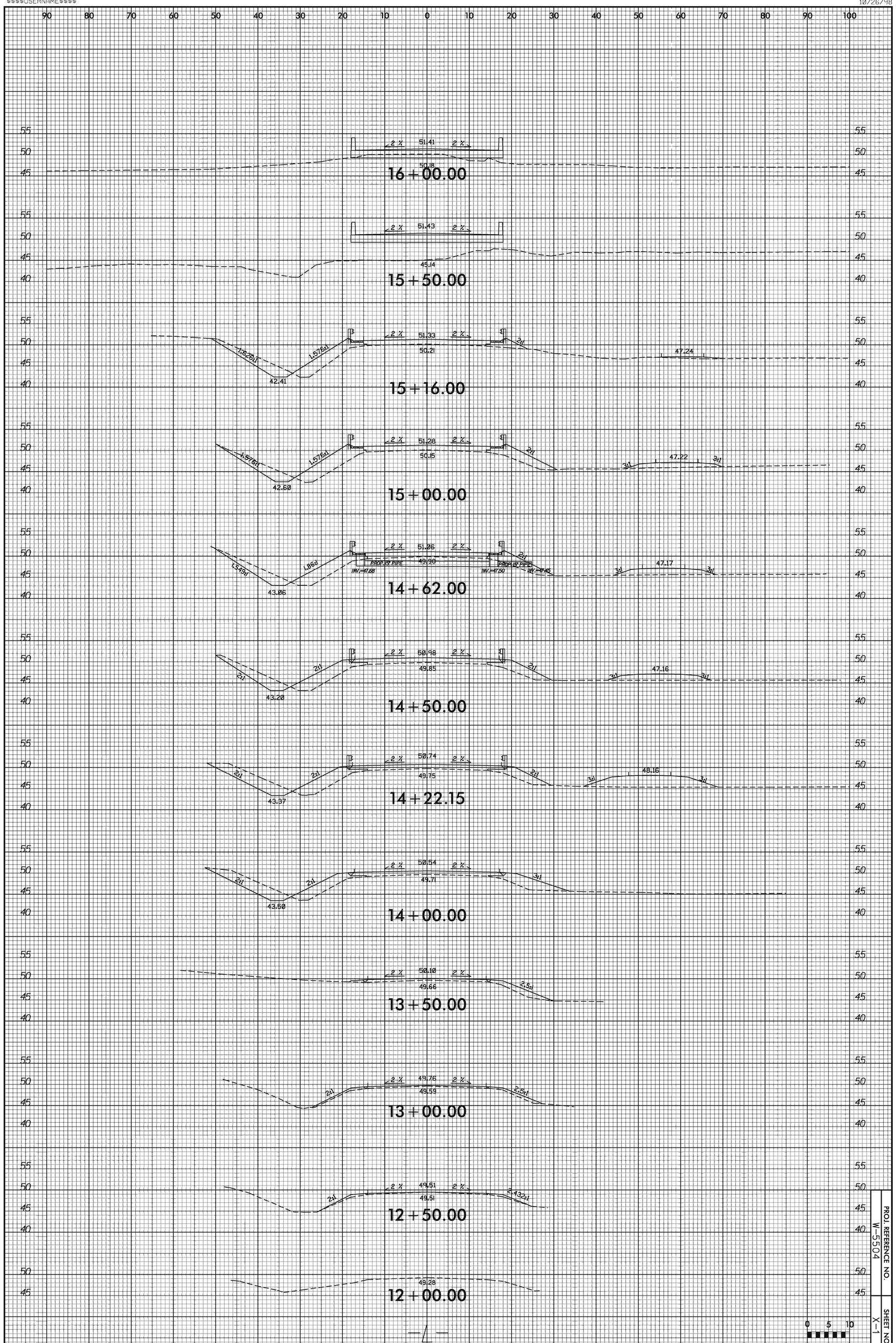
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

CROSS–SECTION SUMMARY

IN CUBIC YARDS

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT.

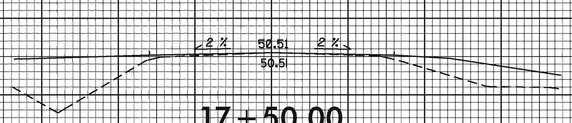
LOCATION (–L–)	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBANKMENT
12+50.00	*0*	*0*	*0*
13+00.00	*0*	*0*	*18*
13+50.00	*0*	*0*	*26*
14+00.00	*39*	*0*	*72*
14+22.15	*35*	*0*	*75*
14+50.00	*39*	*0*	*110*
14+62.00	*13*	*0*	*43*
15+00.00	*38*	*0*	*141*
15+16.00	*18*	*0*	*46*
BRIDGE			
16+50.00	*0*	*0*	*0*
16+77.00	*62*	*0*	*136*
17+00.00	*32*	*0*	*96*



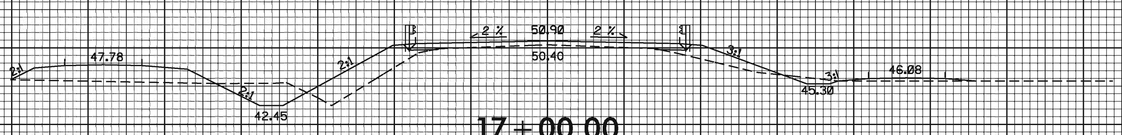
PROJ. REFERENCE NO. W-5504

SHEET NO. X-1

0 5 10



17+50.00



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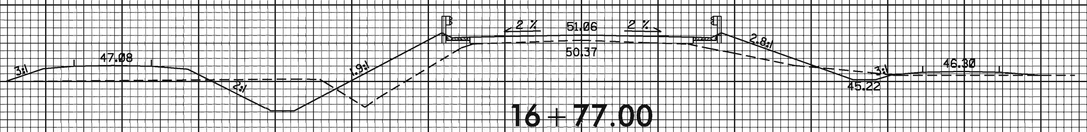

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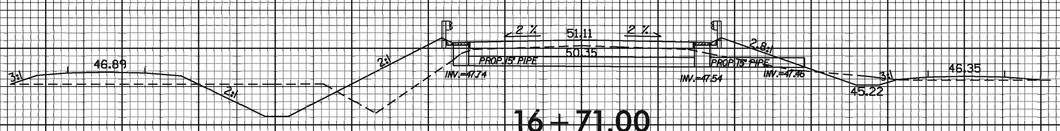

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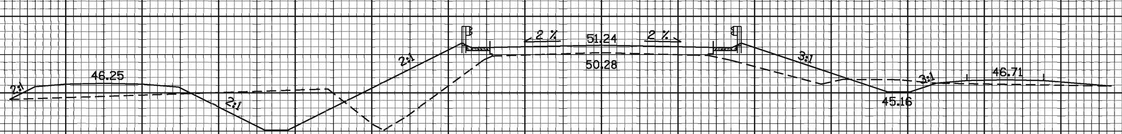

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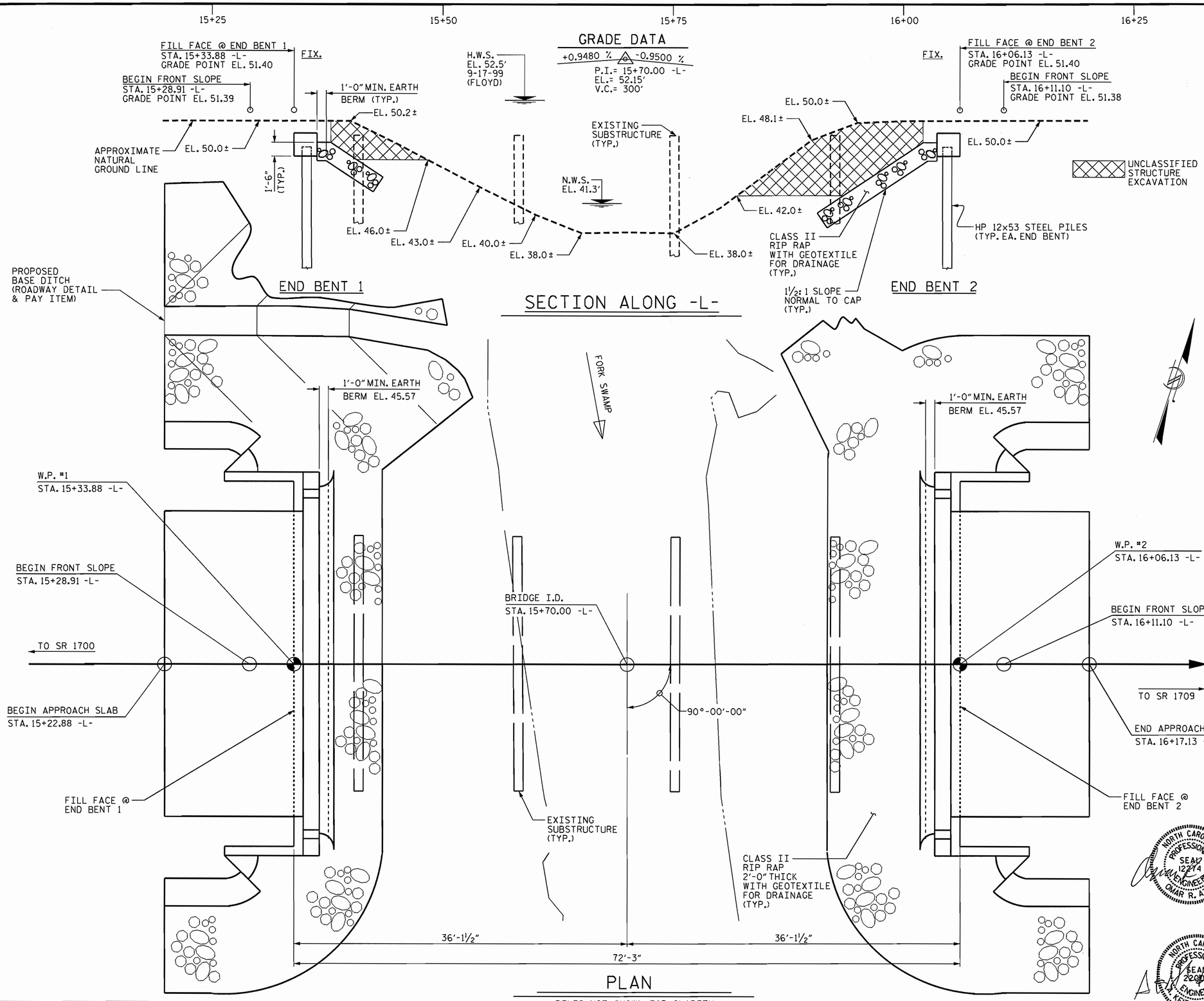
PROJ. REFERENCE NO. W-5504

SHEET NO. X-2

0 5 10



PLAN

PILES NOT SHOWN FOR CLARITY.

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

PROJECT NO. W-5504

PITT COUNTY

STATION: 15+70.00 -L-

SHEET 1 OF 3 REPLACES BRIDGE NO. 28

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE OVER FORK SWAMP ON SR 1711 BETWEEN SR 1700 AND SR 1709

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

NORTH CAROLINA PROFESSIONAL SEAL 12214 ENGINEER OMAR R. AZIZ 4/27/12

NORTH CAROLINA PROFESSIONAL SEAL 22005 ENGINEER KEITH PASCHAL 4/27/12

DRAWN BY : E. K. POPE DATE : 4-16-12
CHECKED BY : PEGGY PARISI DATE : 4-25-12

27-APR-2012 10:00
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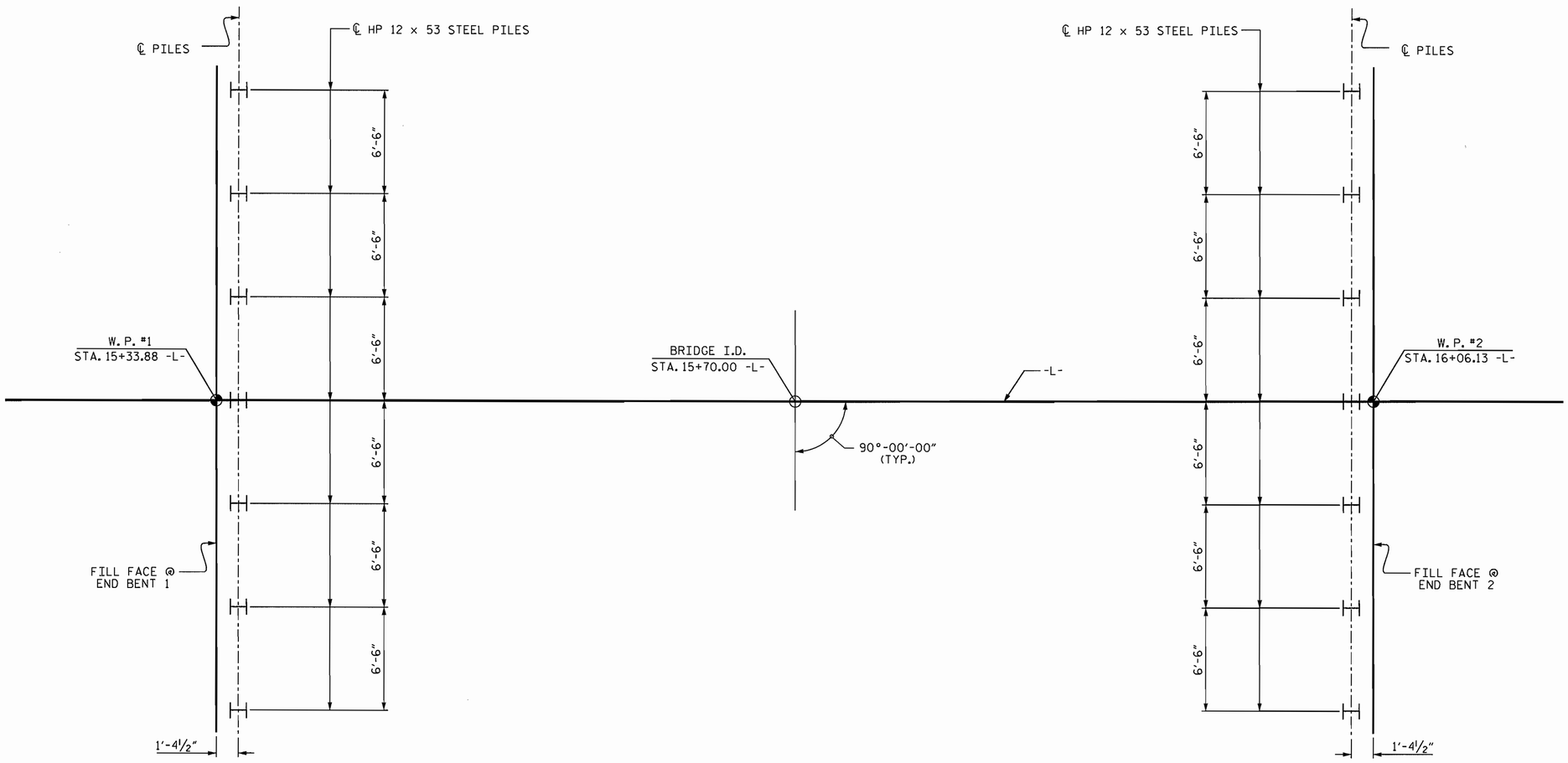
kpaschal



END BENT 1

END BENT 2

FOUNDATION LAYOUT

(DIMINSIONS LOCATING END BENT PILES ARE SHOWN TO CENTERLINE OF PILES)

FOUNDATION NOTES :

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

PILES AT END BENT 1 AND END BENT 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 85 TONS PER PILE. DRIVE PILES TO A REQUIRED DRIVING RESISITANCE OF 145 TONS PER PILE.

IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVALENT RATED ENERGY IN THE RANGE OF 35 TO 55 FT-KIPS PER BLOW WILL BE REQUIRED TO DRIVE PILES AT END BENT 1 AND END BENT 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.

PROJECT NO. W-5504

PITT COUNTY

STATION: 15+70.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

BRIDGE OVER FORK SWAMP ON SR 1711 BETWEEN SR 1700 AND SR 1709

NORTH CAROLINA PROFESSIONAL SEAL 22005 ENGINEER KEITH PASCHAL
4/27/12

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

DRAWN BY : E. K. POPE DATE : 4-16-12
CHECKED BY : PEGGY PARISI DATE : 4-25-12

27-APR-2012 10:00
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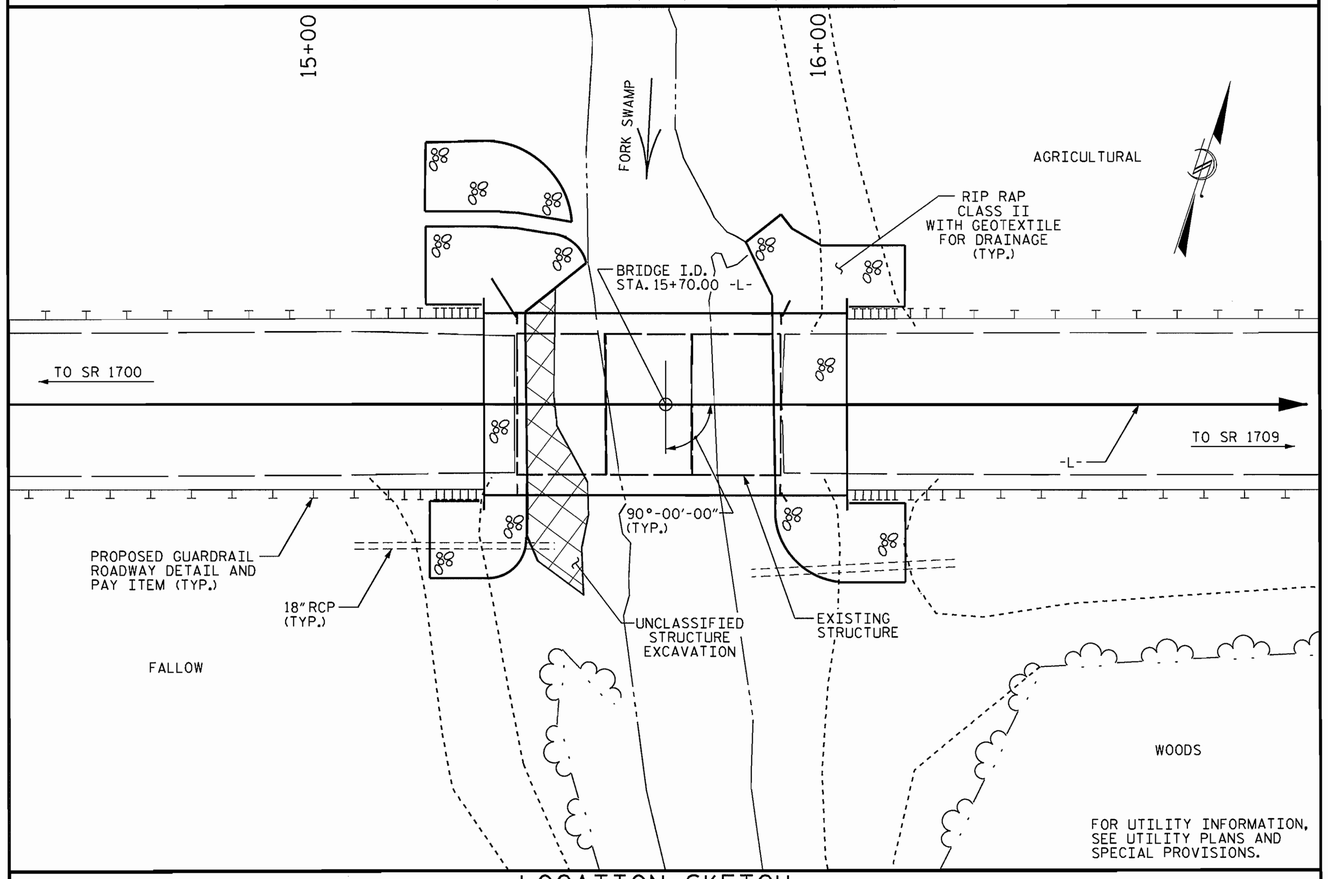
CP-#2: N 650,706.817 E 2,485,243.244; EL 47.85', NAVD 88.



LOCATION SKETCH

HYDRAULIC DATA

DESIGN DISCHARGE	= 2,100 CFS
FREQUENCY OF DESIGN FLOOD	= 5- YR.
DESIGN HIGH WATER ELEVATION	= 49.7'
DRAINAGE AREA	= 11.4 SQ MILES
BASE DISCHARGE (Q100)	= 4,400 CFS
BASE HIGH WATER ELEVATION	= 52.3'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 2,490 CFS
FREQUENCY OF DESIGN FLOOD	= 10± YR.
OVERTOPPING FLOOD ELEVATION	= 50.5'

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 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

THE EXISTING STRUCTURE CONSISTING OF 3 SPANS, 1 @ 17'-8", 1 @ 16'-10" AND 1 @ 17'-8" WITY A CLEAR ROADWAY WIDTH OF 26 FT ON REINFORCED CONCRETE DECK ON TIMBER JOISTS ON TIMBER PILES AND TIMBER CAPS AND LOCATED AT PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

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

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

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

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 x 53 STEEL PILES		PILE REDRIVES	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" x 2'-0" PRESTRESSED CONCRETE CORED SLABS	
	LUMP SUM	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	NO.	LIN. FT.	EACH	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	NO.	LIN. FT.
SUPERSTRUCTURE				LUMP SUM					140.25			LUMP SUM	12	840.00
END BENT 1		LUMP SUM	15.2		2272	7	455	4		157	174			
END BENT 2		LUMP SUM	15.2		2272	7	455	4		179	199			
TOTAL	LUMP SUM	LUMP SUM	30.4	LUMP SUM	4544	14	910	8	140.25	336	373	LUMP SUM	12	840.00

PROJECT NO. W-5504

PITT COUNTY

STATION: 15+70.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
BRIDGE OVER FORK SWAMP ON SR 1711 BETWEEN SR 1700 AND SR 1709

NORTH CAROLINA PROFESSIONAL SEAL 22005 ENGINEER KEITH PASCHAL
4/27/12

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

DRAWN BY : E. K. POPE DATE : 4-16-12
CHECKED BY : PEGGY PARISI DATE : 4-25-12

27-APR-2012 10:00
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kpaschal

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**	1.006	--	1.75	0.273	1.03	70'	EL	34.5	0.507	1.32	70'	EL	6.9	0.80	0.273	**1.01**	70'	EL	**34.5**	
		HL-93(Opr)	N/A	--	1.341	--	1.35	0.273	1.34	70'	EL	34.5	0.507	1.72	70'	EL	6.9	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	**2**	1.306	47.02	1.75	0.273	1.34	70'	EL	34.5	0.507	1.65	70'	EL	6.9	0.80	0.273	**1.31**	70'	EL	**34.5**	
		HS-20(Opr)	36.000	--	1.74	62.64	1.35	0.273	1.74	70'	EL	34.5	0.507	2.14	70'	EL	6.9	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	2.917	39.379	1.4	0.273	3.75	70'	EL	34.5	0.507	4.87	70'	EL	6.9	0.80	0.273	2.92	70'	EL	34.5	
		SNGARBS2	20.000	--	2.187	43.741	1.4	0.273	2.81	70'	EL	34.5	0.507	3.47	70'	EL	6.9	0.80	0.273	2.19	70'	EL	34.5	
		SNAGRIS2	22.000	--	2.077	45.69	1.4	0.273	2.67	70'	EL	34.5	0.507	3.23	70'	EL	6.9	0.80	0.273	2.08	70'	EL	34.5	
		SNCOTTS3	27.250	--	1.452	39.565	1.4	0.273	1.87	70'	EL	34.5	0.507	2.43	70'	EL	6.9	0.80	0.273	1.45	70'	EL	34.5	
		SNAGGRS4	34.925	--	1.218	42.554	1.4	0.273	1.57	70'	EL	34.5	0.507	2.03	70'	EL	6.9	0.80	0.273	1.22	70'	EL	34.5	
		SNS5A	35.550	--	1.191	42.346	1.4	0.273	1.53	70'	EL	34.5	0.507	2.06	70'	EL	6.9	0.80	0.273	1.19	70'	EL	34.5	
		SNS6A	39.950	--	1.095	43.747	1.4	0.273	1.41	70'	EL	34.5	0.507	1.88	70'	EL	6.9	0.80	0.273	1.10	70'	EL	34.5	
		SNS7B	42.000	--	1.043	43.801	1.4	0.273	1.34	70'	EL	34.5	0.507	1.85	70'	EL	6.9	0.80	0.273	1.04	70'	EL	34.5	
	TTST	TNAGRIT3	33.000	--	1.336	44.087	1.4	0.273	1.72	70'	EL	34.5	0.507	2.23	70'	EL	6.9	0.80	0.273	1.34	70'	EL	34.5	
		TNT4A	33.075	--	1.342	44.401	1.4	0.273	1.72	70'	EL	34.5	0.507	2.17	70'	EL	6.9	0.80	0.273	1.34	70'	EL	34.5	
		TNT6A	41.600	--	1.1	45.746	1.4	0.273	1.41	70'	EL	34.5	0.507	1.98	70'	EL	6.9	0.80	0.273	1.10	70'	EL	34.5	
		TNT7A	42.000	--	1.106	46.462	1.4	0.273	1.42	70'	EL	34.5	0.507	1.94	70'	EL	6.9	0.80	0.273	1.11	70'	EL	34.5	
		TNT7B	42.000	--	1.147	48.18	1.4	0.273	1.47	70'	EL	34.5	0.507	1.8	70'	EL	6.9	0.80	0.273	1.15	70'	EL	34.5	
		TNAGRIT4	43.000	--	1.089	46.838	1.4	0.273	1.4	70'	EL	34.5	0.507	1.74	70'	EL	6.9	0.80	0.273	1.09	70'	EL	34.5	
		TNAGT5A	45.000	--	1.026	46.175	1.4	0.273	1.32	70'	EL	34.5	0.507	1.74	70'	EL	6.9	0.80	0.273	1.03	70'	EL	34.5	
		TNAGT5B	45.000	**3**	1.013	45.579	1.4	0.273	1.3	70'	EL	34.5	0.507	1.66	70'	EL	6.9	0.80	0.273	**1.01**	70'	EL	**34.5**	

LOAD FACTORS:

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

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.

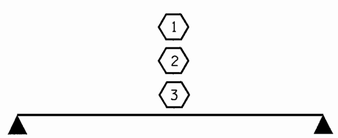
⬡ CONTROLLING LOAD RATING

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. W-5504

PITT COUNTY

STATION: 15+70.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
LRFR SUMMARY FOR 70' CORED SLAB UNIT 90° SKEW
(NON-INTERSTATE TRAFFIC)

NORTH CAROLINA PROFESSIONAL SEAL 22905 ENGINEER KEITH PASCHAL

4/27/12

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

ASSEMBLED BY :	E. K. POPE	DATE : 3-29-12
CHECKED BY :	K. P. SEDAI	DATE : 4-12-12
DRAWN BY : CVC	6/10	
CHECKED BY : DNS	6/10	

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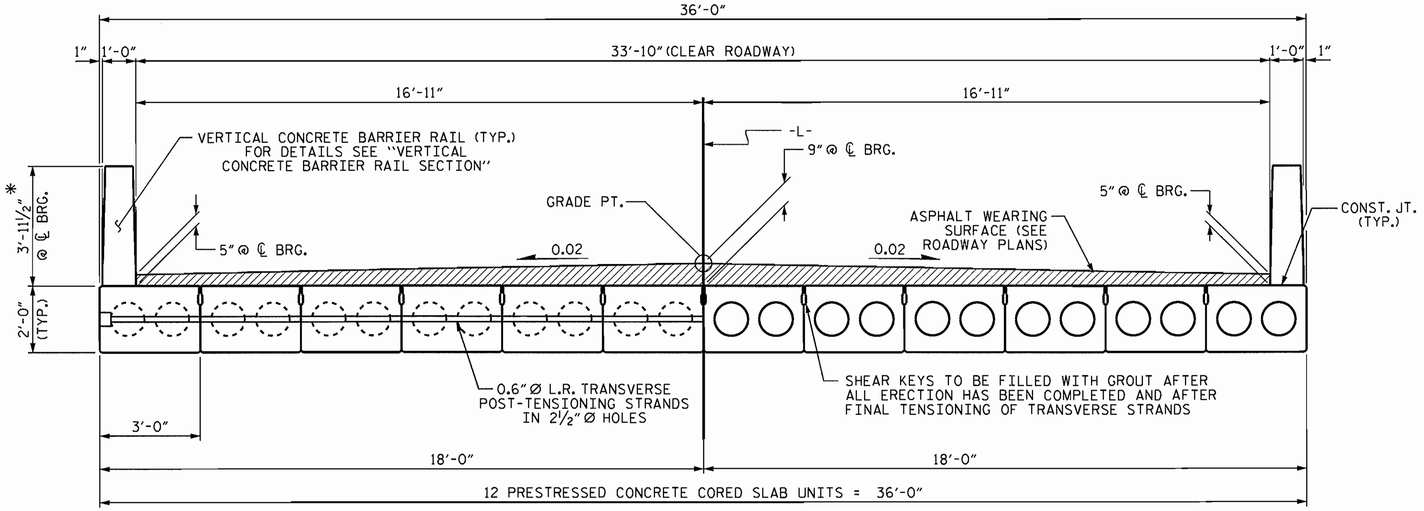
kpaschal

STD. NO. 24LRFR1_90S_70L



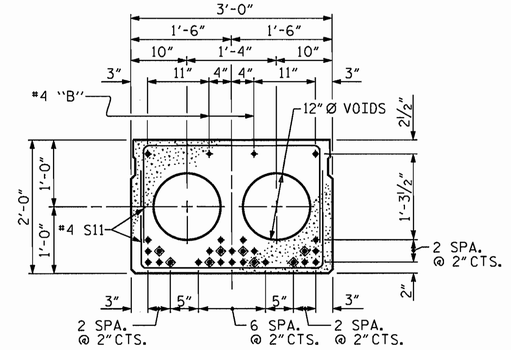
HALF SECTION
AT INTERMEDIATE DIAPHRAGMS

HALF SECTION
THROUGH VOIDS

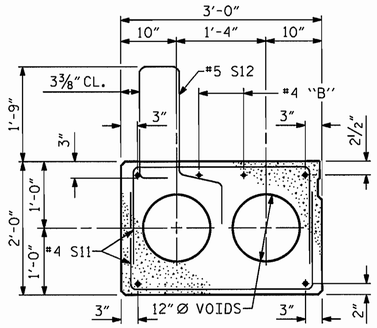
TYPICAL SECTION

* - 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.

FIXED END



INTERIOR SLAB SECTION (70' UNIT)
(28 STRANDS REQUIRED)

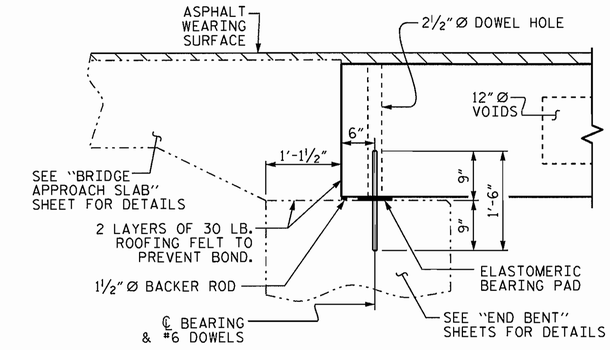


EXTERIOR SLAB SECTION
(FOR PRESTRESSED STRAND LAYOUT. SEE INTERIOR SLAB SECTION.)

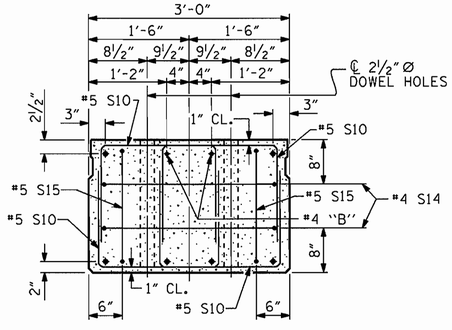
0.6'' Ø LOW RELAXATION STRAND LAYOUT

◈ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 12'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

DEBONDING LEGEND

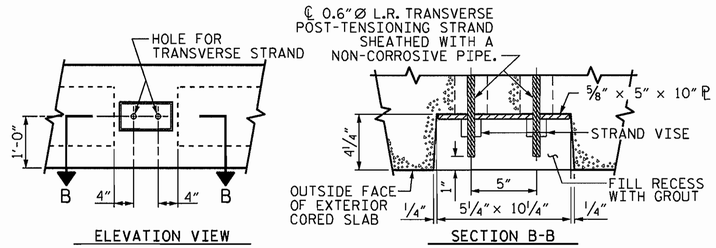


SECTION AT END BENT

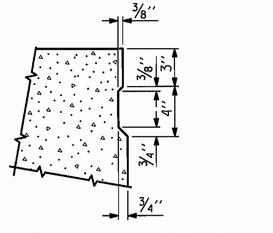


END ELEVATION

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.



GROUTED RECESS AT END OF POST-TENSIONED STRAND CORED SLABS



SHEAR KEY DETAIL

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

PROJECT NO. W-5504
PITT COUNTY
STATION: 15+70.00 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD

3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLAB UNIT

ASSEMBLED BY : E. K. POPE	DATE : 3-29-12
CHECKED BY : K. P. SEDAI	DATE : 4-12-12
DRAWN BY : MAA 6/10	REV. 12/11 MAA/AAC
CHECKED BY : MKT 7/10	

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

NORTH CAROLINA PROFESSIONAL SEAL 22005 ENGINEER KEITH PASCHAL
4/27/12

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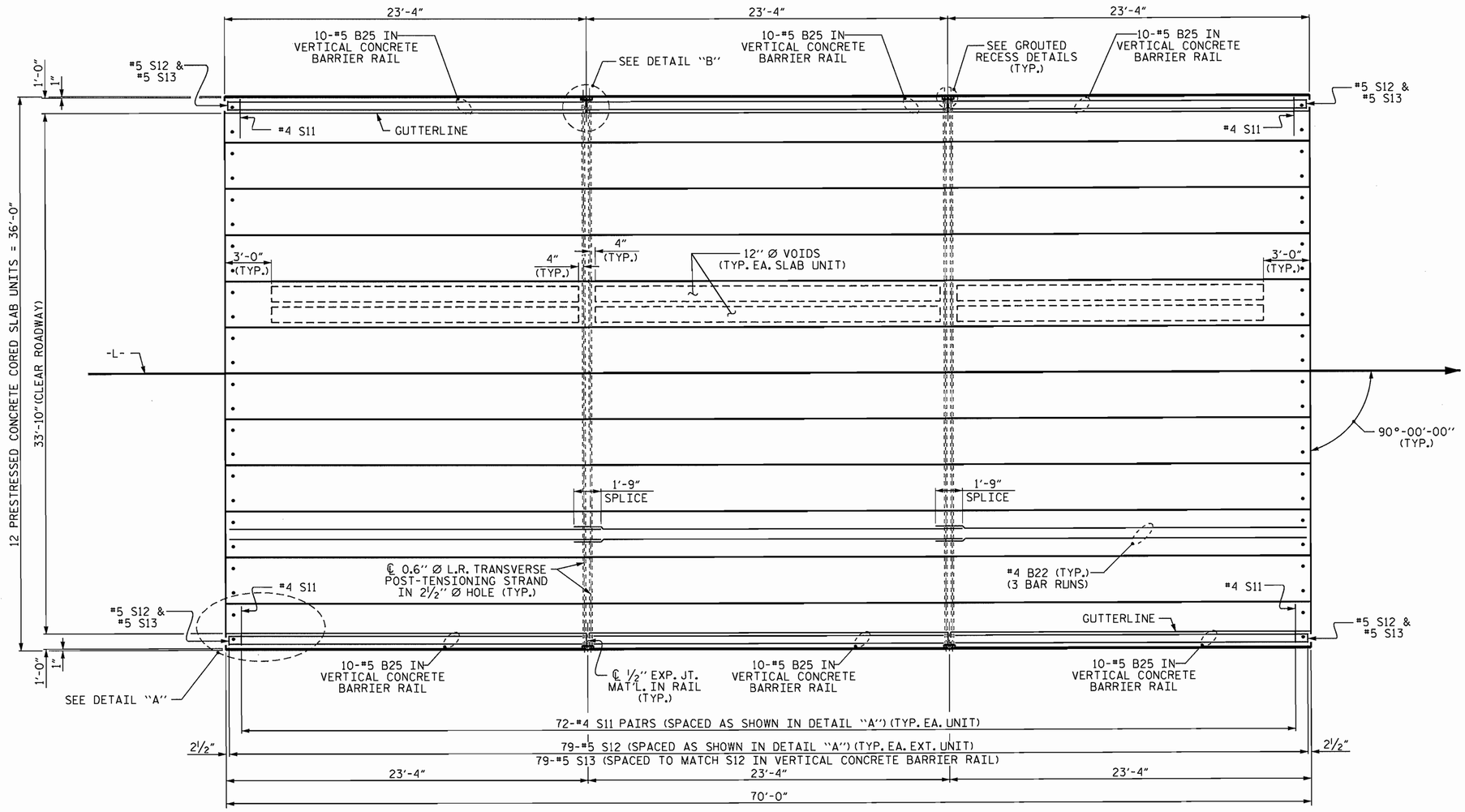
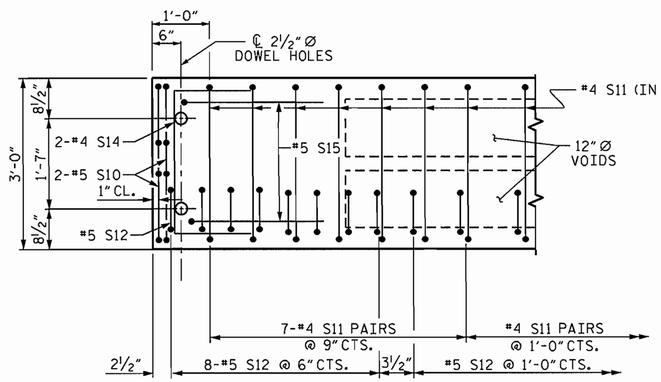
kpaschal

STD. NO. 24PCS4_36_90S

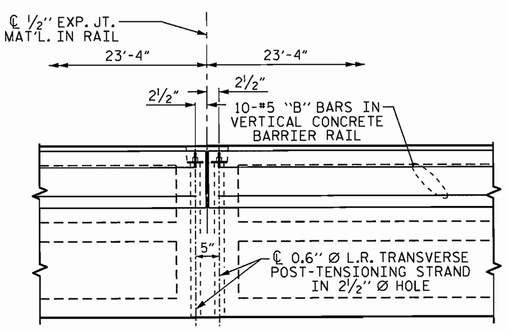


PLAN OF UNIT



DETAIL "A"

NOTE: EXTERIOR UNIT SHOWN - INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S12 BARS.



DETAIL "B"

#4 S11 BARS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO GROUTED RECESS AND 2½" Ø TRANSVERSE POST-TENSIONING STRAND HOLES

ASSEMBLED BY :	E. K. POPE	DATE :	3-29-12
CHECKED BY :	K. P. SEDAI	DATE :	4-12-12
DRAWN BY : MAA	6/10	REV. 12/5/11	MAA/AAC
CHECKED BY : MKT	7/10		

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kpaschal

PROJECT NO. W-5504
PITT COUNTY
STATION: 15+70.00 -L-

SHEET 2 OF 3

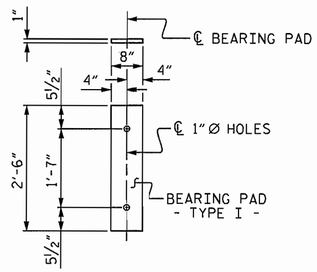
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF 70' UNIT 33'-10" CLEAR ROADWAY 90° SKEW

NORTH CAROLINA PROFESSIONAL SEAL 20005 ENGINEER KEITH PASCHAL
4/27/12

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

STD. NO. 24PCS_36_90S_70L



FIXED END
(TYPE I - 24 REQ'D)

ELASTOMERIC BEARING DETAILS

ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

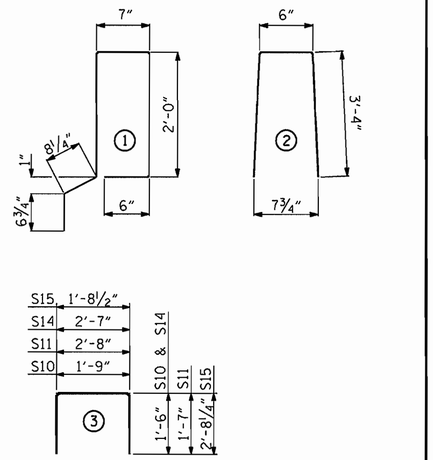
GRADE 270 STRANDS	
	0.6" Ø L.R.
AREA (SQUARE INCHES)	0.217
ULTIMATE STRENGTH (LBS. PER STRAND)	58,600
APPLIED PRESTRESS (LBS. PER STRAND)	43,950

CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
70' UNIT			
EXTERIOR C.S.	2	70'-0"	140'-0"
INTERIOR C.S.	10	70'-0"	700'-0"
TOTAL	12		840'-0"

DEAD LOAD DEFLECTION AND CAMBER	
	3'-0" x 2'-0"
70' CORED SLAB UNIT	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	4 5/16" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	13/16" ↓
FINAL CAMBER	3½" ↑

** INCLUDES FUTURE WEARING SURFACE

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

NOTES

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL REINFORCING STEEL CAST WITH THE CORED SLAB SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.

RECESSES FOR TRANSVERSE STRANDS SHALL BE GROUTED AFTER THE TENSIONING OF THE STRANDS.

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

THE BACKER RODS SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER. SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

WHEN CORED SLABS ARE CAST, AN INTERNAL HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDEWAYS. AT LEAST SIX WEEKS PRIOR TO CASTING CORED SLABS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND COMMENT, DETAILED DRAWINGS OF THE PROPOSED HOLD-DOWN SYSTEM. IN ADDITION TO STRUCTURAL DETAILS, LOCATION AND SPACING OF THE HOLD-DOWNS SHALL BE INDICATED.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE CORED SLAB UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN THE REQUIRED STRENGTH SHOWN IN THE "CONCRETE RELEASE STRENGTH" TABLE.

ALL REINFORCING STEEL IN VERTICAL CONCRETE BARRIER RAILS SHALL BE EPOXY COATED.

PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE CORED SLAB UNIT ENDS.

APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS.

GROOVED CONTRACTION JOINTS, ½" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF BARRIER RAIL SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

TRANSVERSE POST TENSIONING OF THE CORED SLAB UNITS SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

MAINTAIN A SYMMETRIC TENSION FORCE BETWEEN EACH PAIR OF TRANSVERSE POST TENSIONING STRANDS IN THE DIAPHRAGM.

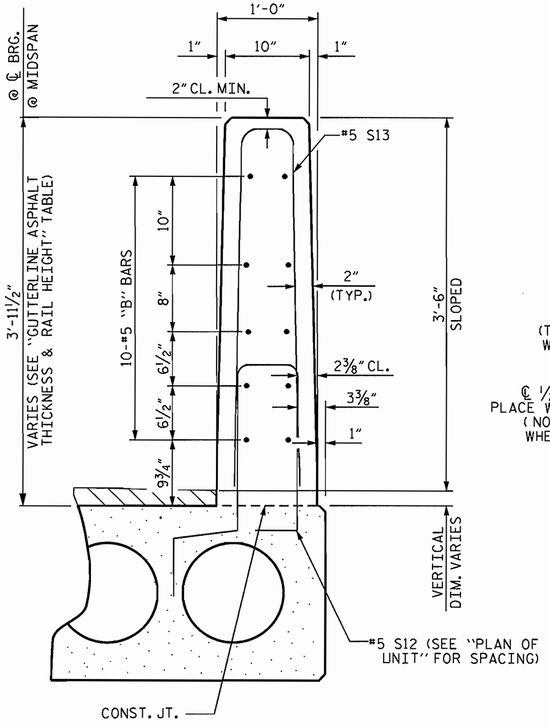
THE #4 S11 STIRRUPS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO THE GROUTED RECESS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

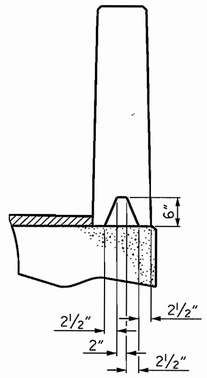
BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	70' UNIT					
*B25	60	60	#5	STR	22'-11"	1434
*S13	158	158	#5	2	7'-2"	1181
*EPOXY COATED REINFORCING STEEL				LBS.		2615
CLASS AA CONCRETE				CU.YDS.		18.9
TOTAL VERTICAL CONCRETE BARRIER RAIL				LN. FT.		140.25

GUTTERLINE ASPHALT THICKNESS & RAIL HEIGHT		
	ASPHALT OVERLAY THICKNESS @ MID-SPAN	RAIL HEIGHT @ MID-SPAN
70' UNITS	1½"	3'-8"

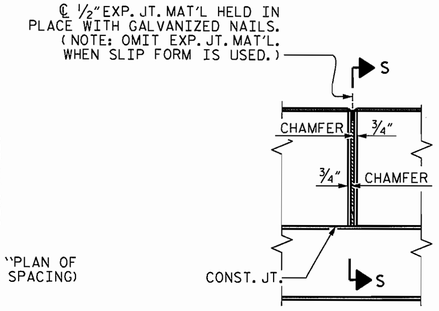
CONCRETE RELEASE STRENGTH	
UNIT	PSI
70' UNITS	5500



SECTION THRU RAIL



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



ELEVATION AT EXPANSION JOINTS

VERTICAL CONCRETE BARRIER RAIL DETAILS

BILL OF MATERIAL FOR ONE 70' CORED SLAB UNIT							
				EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B22	6	#4	STR	24'-6"	98	24'-6"	98
S10	8	#5	3	4'-9"	40	4'-9"	40
S11	144	#4	3	5'-10"	561	5'-10"	561
*S12	79	#5	1	6'-4"	522		
S14	4	#4	3	5'-7"	15	5'-7"	15
S15	4	#5	3	7'-1"	30	7'-1"	30
REINFORCING STEEL			LBS.		744		744
*EPOXY COATED REINFORCING STEEL			LBS.		522		
7000 P.S.I. CONCRETE			CU. YDS.		11.8		11.8
0.6" Ø L.R. STRANDS			No.		28		28

PROJECT NO. W-5504
PITT COUNTY
STATION: 15+70.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
3'-0" X 2-0"
PRESTRESSED CONCRETE
CORED SLAB UNIT

NORTH CAROLINA PROFESSIONAL SEAL 32005 ENGINEER KEITH PASCHAL
4/27/12

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

ASSEMBLED BY :	E. K. POPE	DATE :	3-29-12
CHECKED BY :	K. P. SEDAI	DATE :	4-12-12
DRAWN BY :	MAA 6/10	REV. 12/11	MAA/AAC
CHECKED BY :	MKT 7/10		

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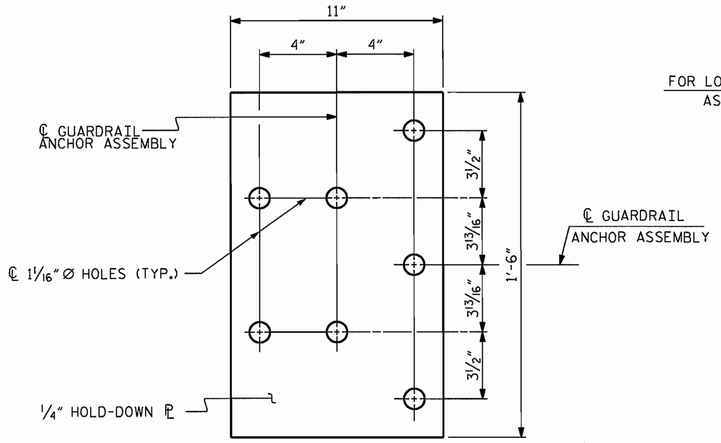
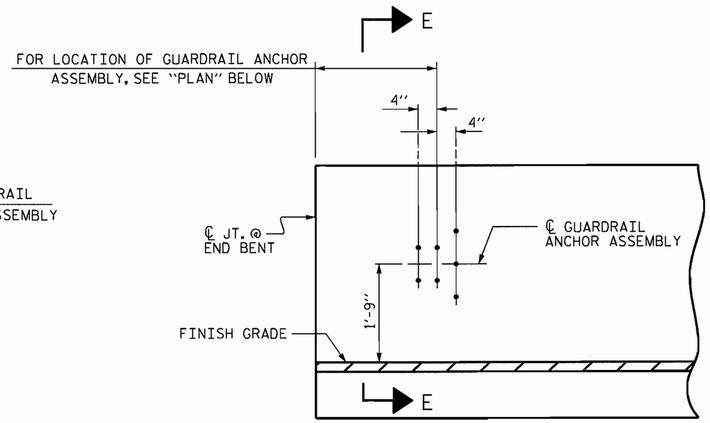
kpaschal

STD. NO. 24PCS3_36_90S



PLAN



ELEVATION

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.)

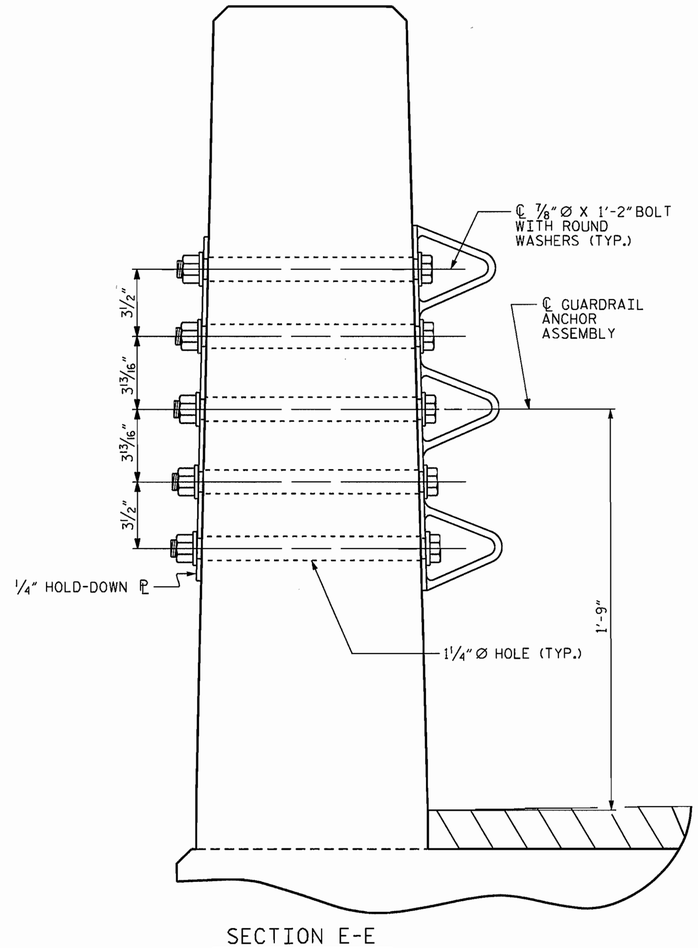
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

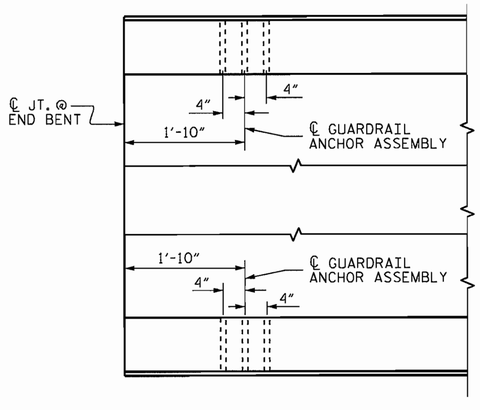
THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR VERTICAL CONCRETE BARRIER RAIL.

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.



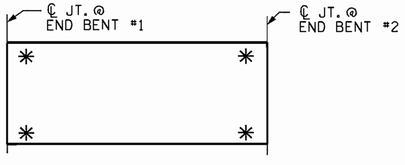
SECTION E-E



PLAN

LOCATION OF ANCHORS FOR GUARDRAIL

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



SKETCH SHOWING POINTS OF ATTACHMENT

✳ DENOTES GUARDRAIL ANCHOR ASSEMBLY

GUARDRAIL ANCHOR ASSEMBLY DETAILS

ASSEMBLED BY : E. K. POPE	DATE : 3-29-12
CHECKED BY : K. P. SEDAI	DATE : 4-12-12
DRAWN BY : MAA 5/10	ADDED 5/6/10
CHECKED BY : GM 5/10	REV. 10/1/11 MAA/GM
	REV. 12/5/11 MAA/GM

27-APR-2012 10:09
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kpaschal

PROJECT NO. W-5504
PITT COUNTY
STATION: 15+70.00 -L-

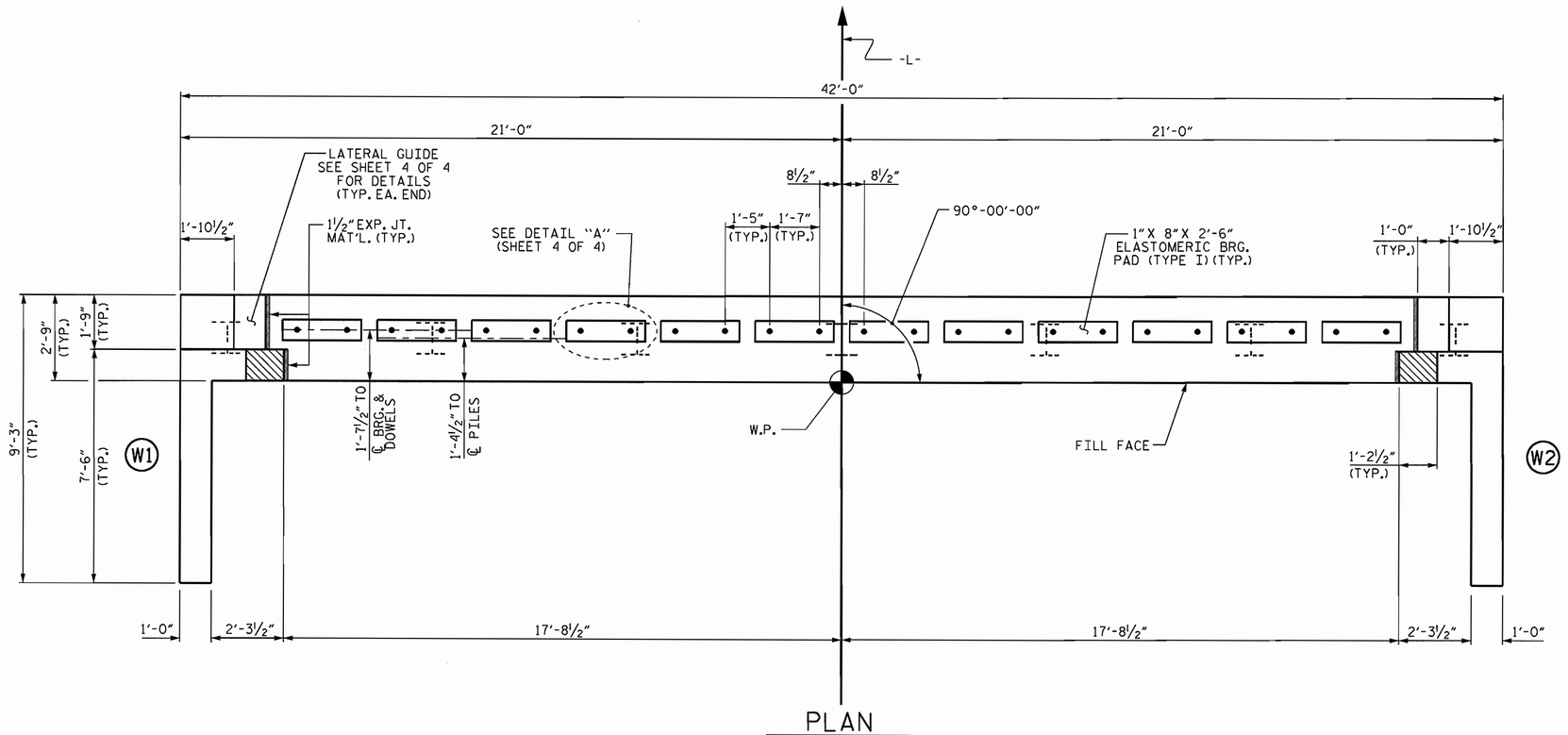
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
GUARDRAIL ANCHORAGE FOR VERTICAL CONCRETE BARRIER RAIL

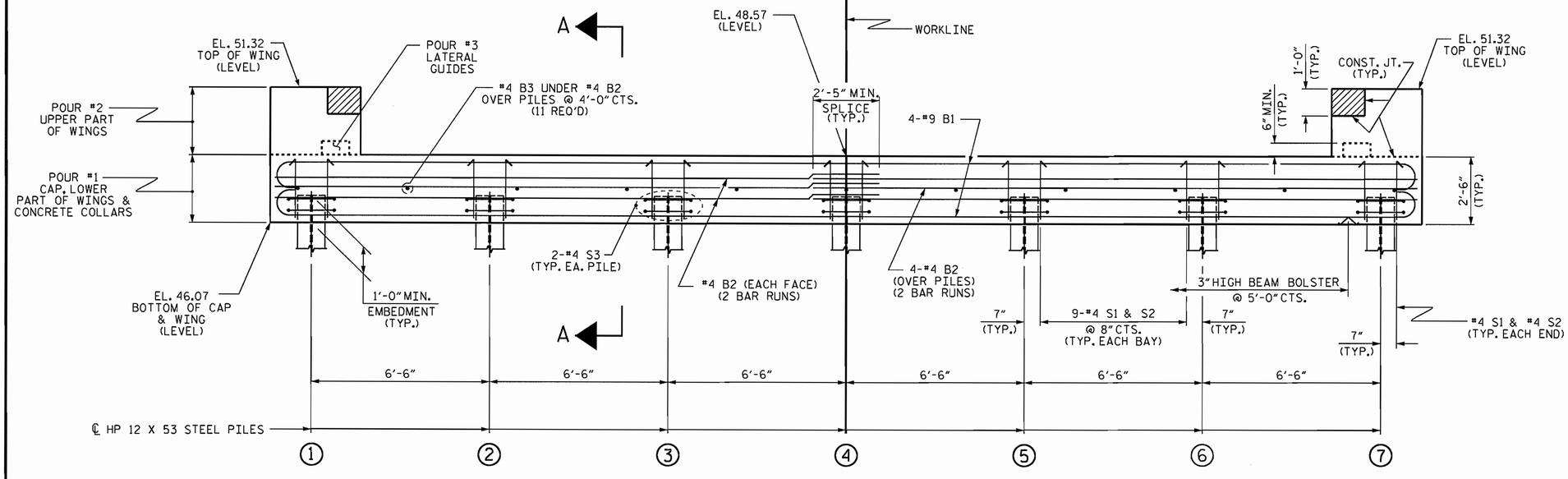
NORTH CAROLINA PROFESSIONAL SEAL 23008 ENGINEER KEITH PASCHAL
4/27/12

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

(SHT 1) STD. NO. GRA3



PLAN



ELEVATION

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.

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.

INSTALL THE 4"Ø DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS, SEE THE ROADWAY PLANS. REINFORCING STEEL IN WING WALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.

PROJECT NO. W-5504
PITT COUNTY
STATION: 15+70.00 -L-

SHEET 1 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT No. 1

ASSEMBLED BY :	E. K. POPE	DATE : 3-29-12
CHECKED BY :	K. P. SEDAI	DATE : 4-12-12
DRAWN BY :	DGE	02/10
CHECKED BY :	MKT	02/10

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

NORTH CAROLINA PROFESSIONAL SEAL 22005 ENGINEER KEITH PASCHAL
4/27/12

27-APR-2012 10:09
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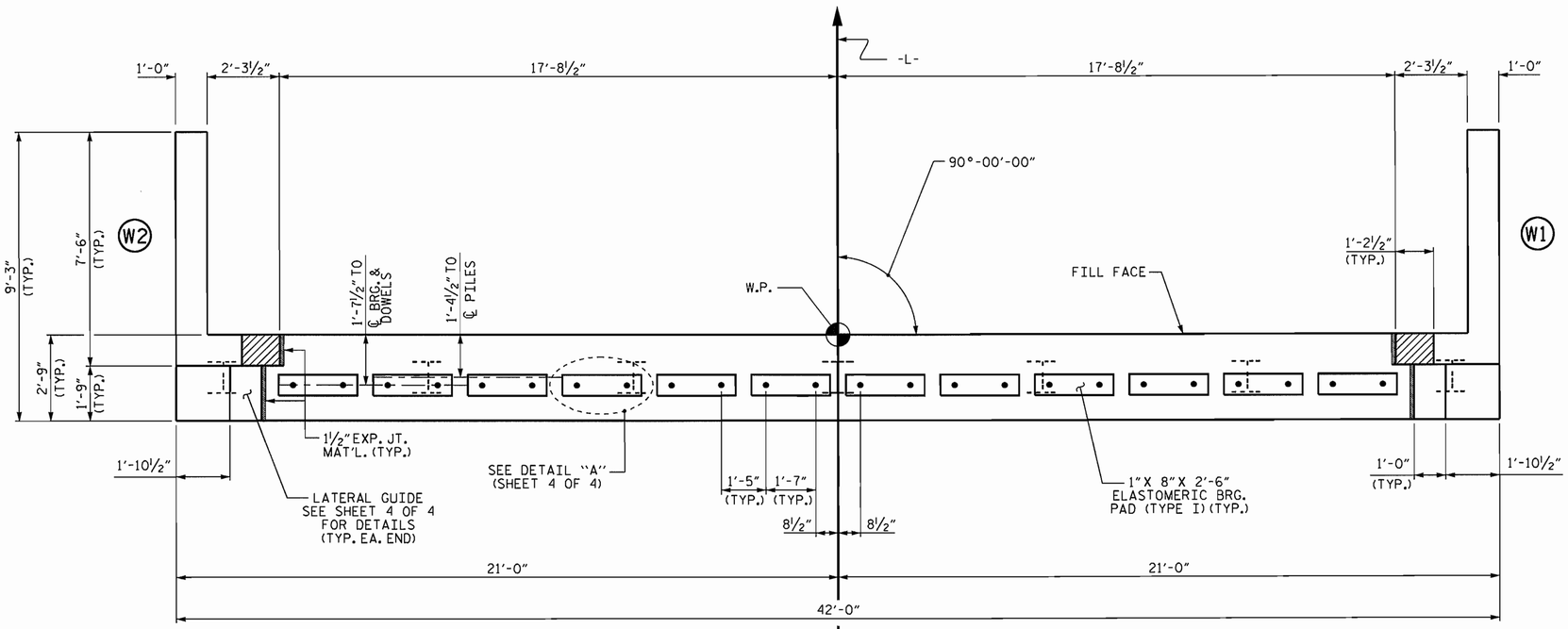
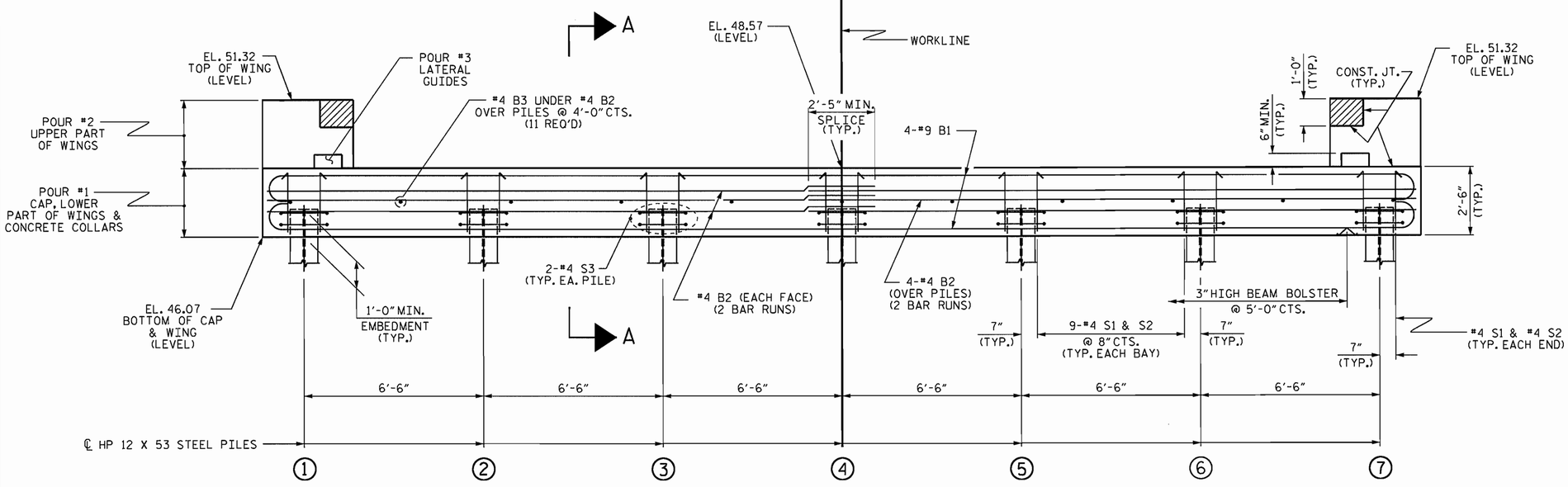
kpaschal

STD. NO. EB_36_90S



PLAN



ELEVATION

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.

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.

INSTALL THE 4"Ø DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS, SEE THE ROADWAY PLANS. REINFORCING STEEL IN WING WALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.

PROJECT NO. W-5504
PITT COUNTY
STATION: 15+70.00 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT No. 2

ASSEMBLED BY :	E. K. POPE	DATE : 3-29-12
CHECKED BY :	K. P. SEDAI	DATE : 4-12-12
DRAWN BY : DGE	02/10	
CHECKED BY : MKT	02/10	

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

NORTH CAROLINA PROFESSIONAL SEAL 42005 ENGINEER KEITH PASCHAL
4/27/12

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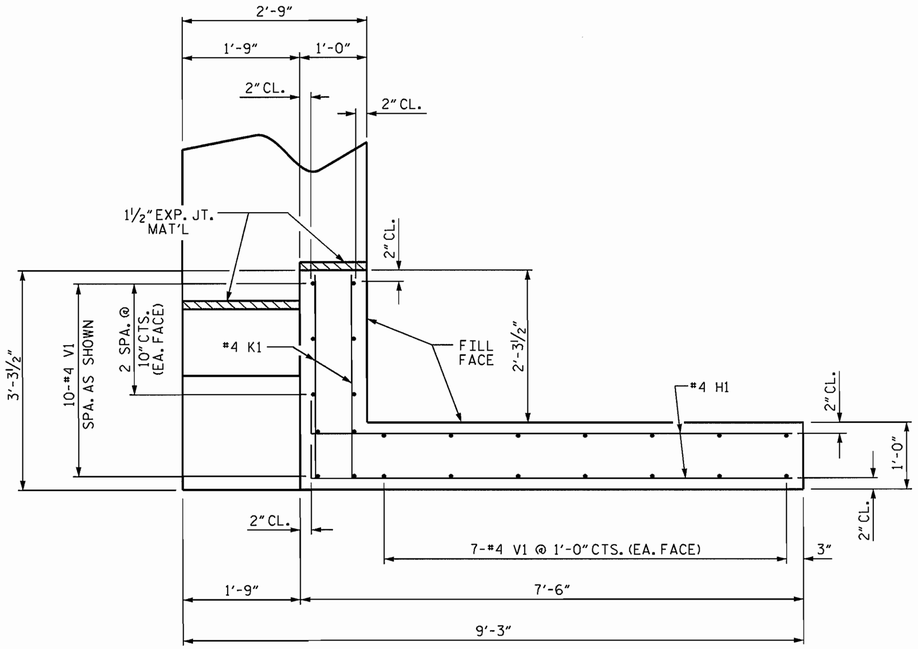
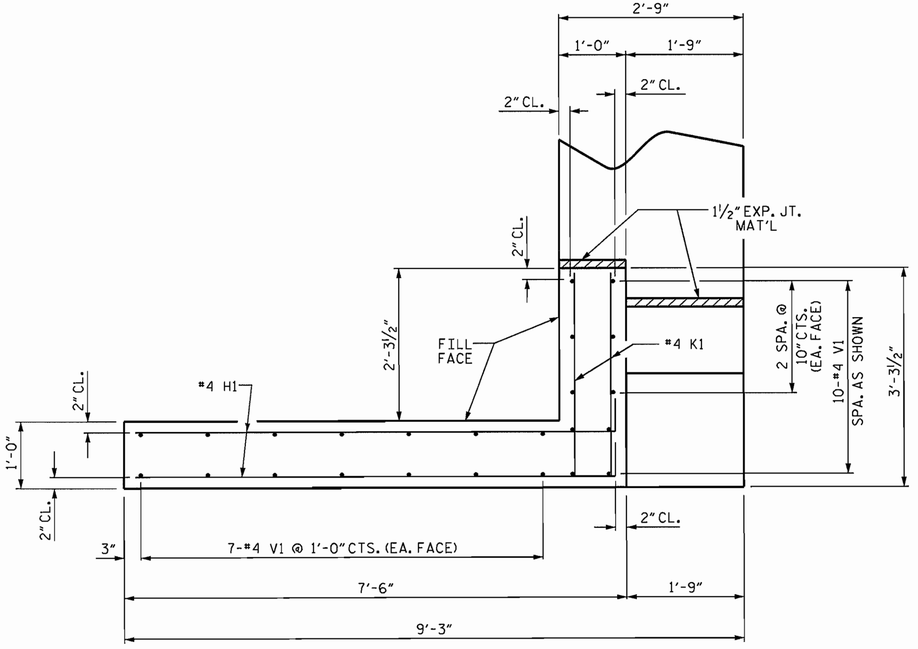
kpaschal

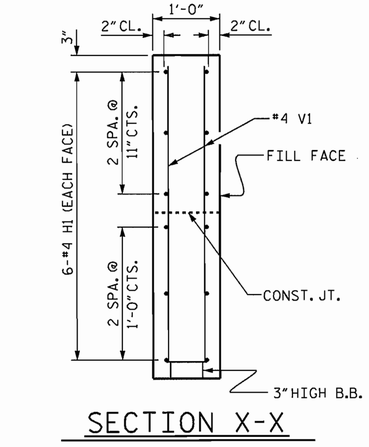
STD. NO. EB_36_90S



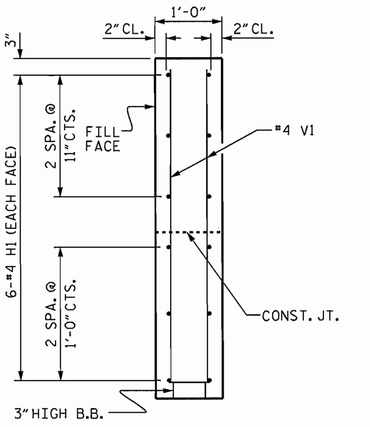
PLAN OF WING (W1)



PLAN OF WING (W2)

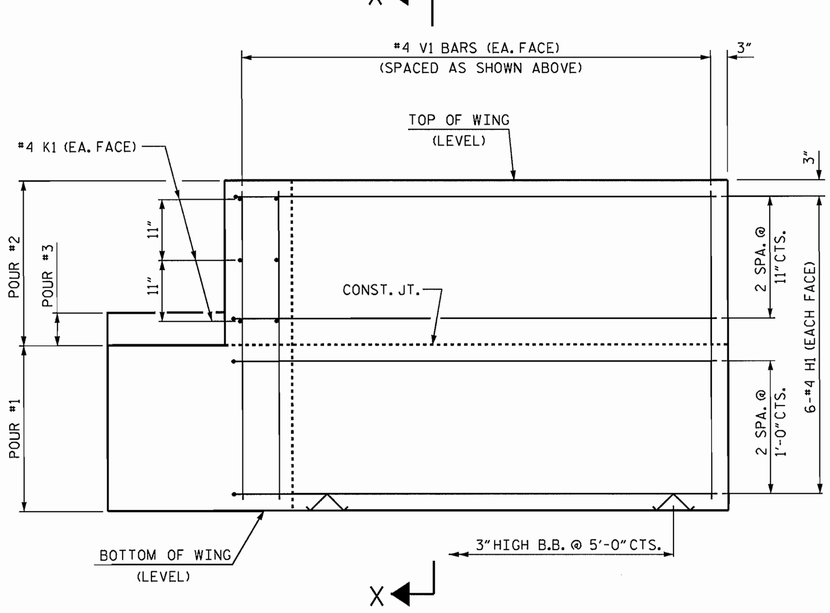


SECTION X-X



SECTION Y-Y

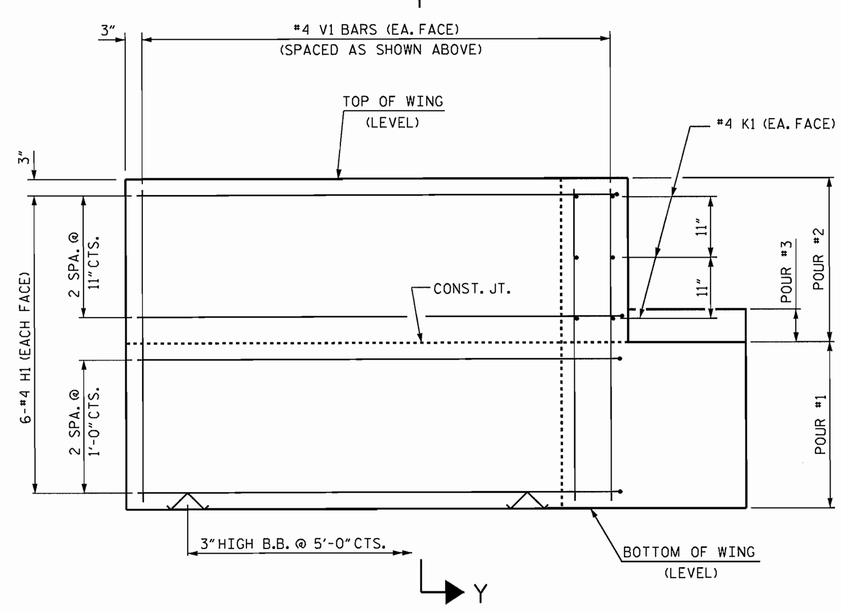
X



X

ELEVATION OF WING (W1)

Y



Y

ELEVATION OF WING (W2)

WING DETAILS

ASSEMBLED BY : E. K. POPE	DATE : 3-29-12		
CHECKED BY : K. P. SEDAI	DATE : 4-12-12		
DRAWN BY : DGE	02/10		
CHECKED BY : MKT	02/10		

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kpaschal

PROJECT NO. W-5504
PITT COUNTY
STATION: 15+70.00 -L-

SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

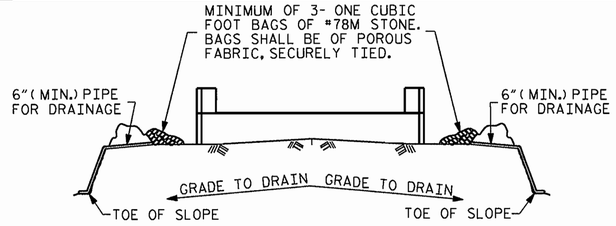
SUBSTRUCTURE

END BENT
WING DETAILS

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

NORTH CAROLINA PROFESSIONAL SEAL 22005 ENGINEER KEITH PASCHAL
4/27/12

STD. NO. EB_36_90S

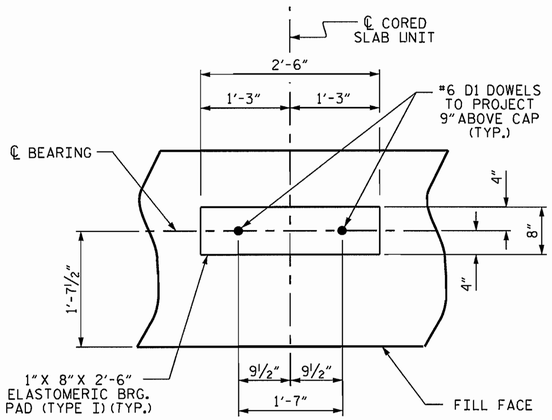


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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.

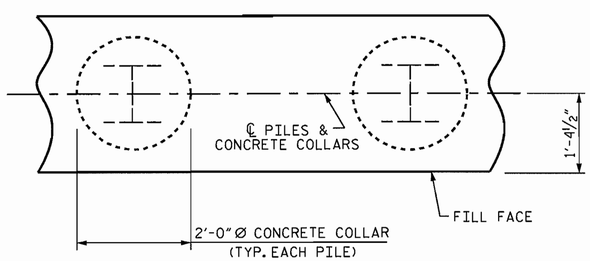
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT

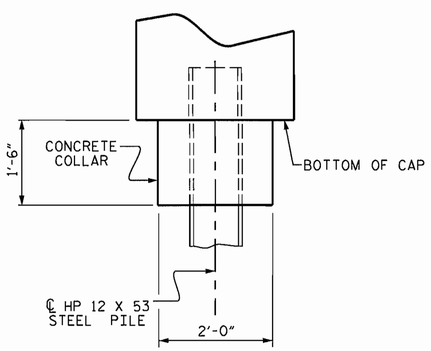


DETAIL "A"

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



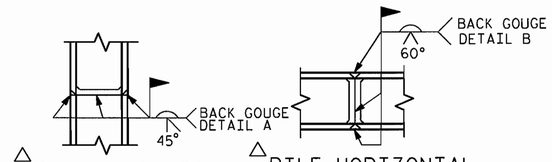
PLAN



ELEVATION

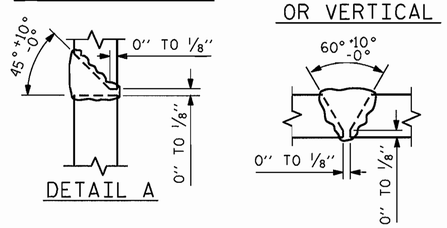
CORROSION PROTECTION FOR STEEL PILES DETAIL

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



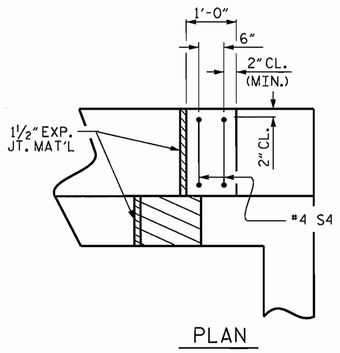
△ PILE VERTICAL

△ PILE HORIZONTAL OR VERTICAL

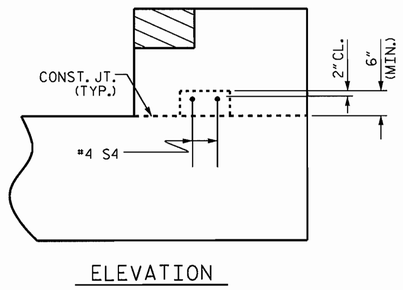


△ POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS



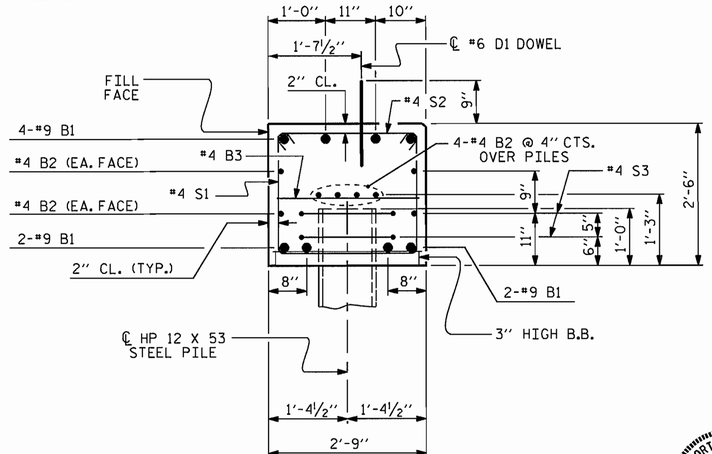
PLAN



ELEVATION

LATERAL GUIDE DETAILS

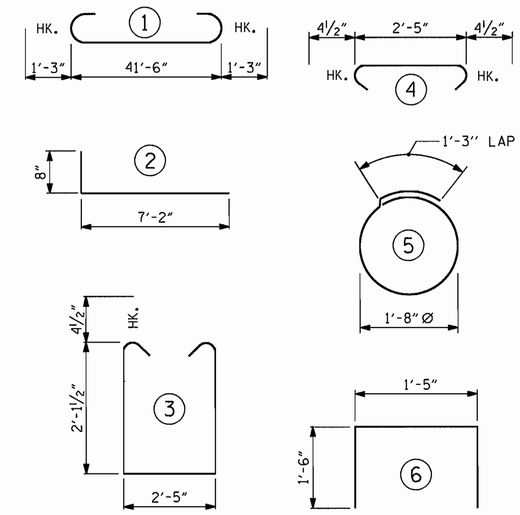
(RIGHT LATERAL GUIDE SHOWN, LEFT END SIMILAR)



SECTION A-A

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

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

END BENT No. 1	END BENT No. 2
HP 12 X 53 STEEL PILES	HP 12 X 53 STEEL PILES
NO: 7 LIN. FT.= 455	NO: 7 LIN. FT.= 455
PILE REDRIVES EA. NO. 4	PILE REDRIVES EA. NO. 4

BILL OF MATERIAL

FOR ONE END BENT

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	44'-0"	1197
B2	16	#4	STR	22'-1"	236
B3	11	#4	STR	2'-5"	18
D1	24	#6	STR	1'-6"	54
H1	24	#4	2	7'-10"	126
K1	12	#4	STR	2'-11"	23
S1	56	#4	3	7'-5"	277
S2	56	#4	4	3'-2"	118
S3	14	#4	5	6'-6"	61
S4	4	#4	6	4'-5"	12
V1	48	#4	STR	4'-8"	150

REINFORCING STEEL (FOR ONE END BENT) 2272 LBS.

CLASS A CONCRETE BREAKDOWN (FOR ONE END BENT)

POUR #1	CAP, LOWER PART OF WINGS & COLLARS	13.1 C.Y.
POUR #2	UPPER PART OF WINGS	2.0 C.Y.
POUR #3	LATERAL GUIDES	0.1 C.Y.
TOTAL CLASS A CONCRETE		15.2 C.Y.

ASSEMBLED BY : E. K. POPE	DATE : 3-29-12
CHECKED BY : K. P. SEDAI	DATE : 4-12-12
DRAWN BY : DGE 02/10	
CHECKED BY : MKT 02/10	

27-APR-2012 10:10
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kpaschal

PROJECT NO. W-5504

PITT COUNTY

STATION: 15+70.00 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT No. 1 & 2 DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 22005 ENGINEER KEITH PASCHAL

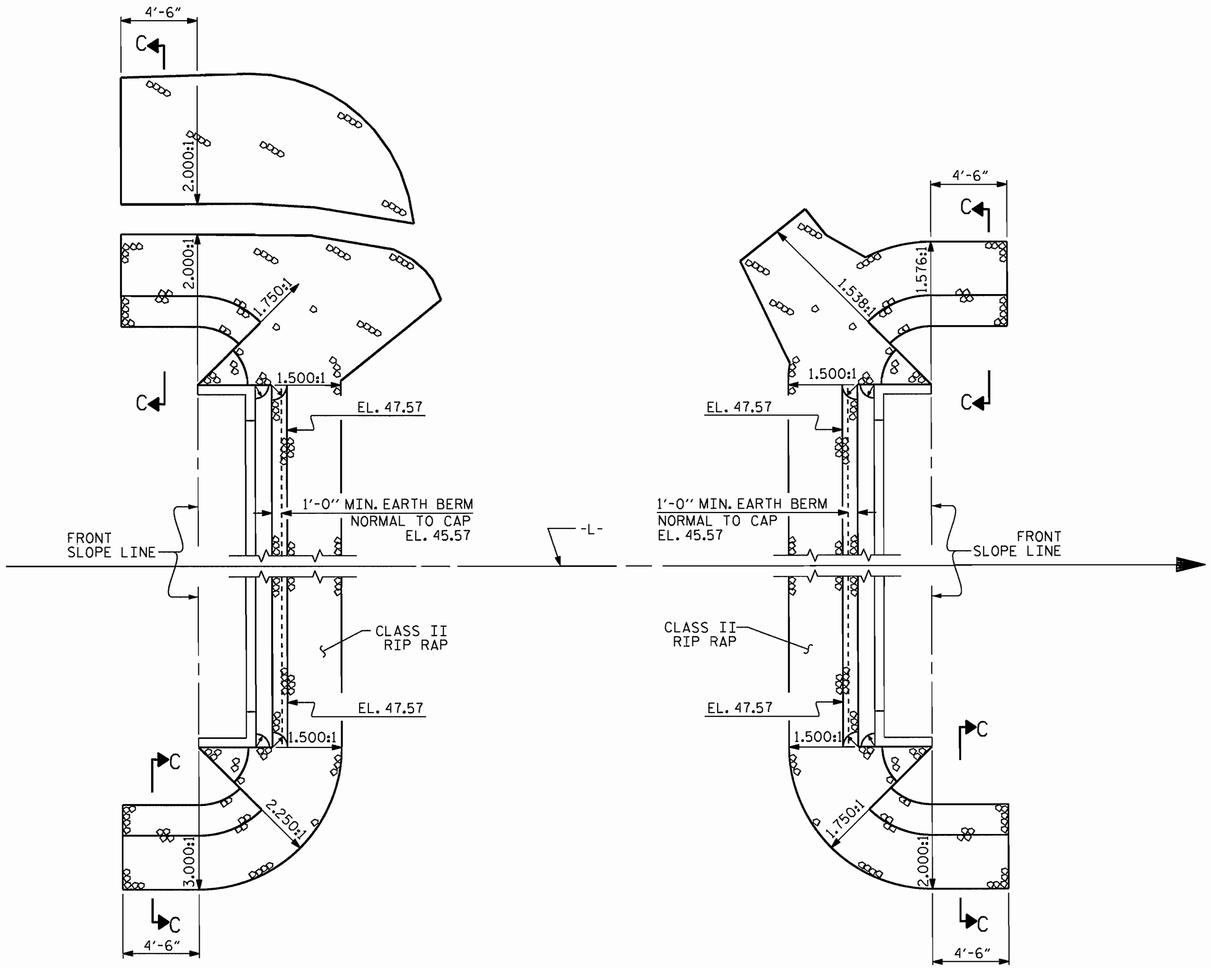
4/27/12

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

STD. NO. EB_36_90S

NOTES :

FOR BERM WIDTH DIMENSIONS, SEE GENERAL DRAWING.

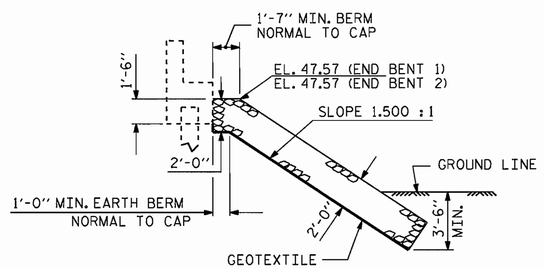


END BENT 1

END BENT 2

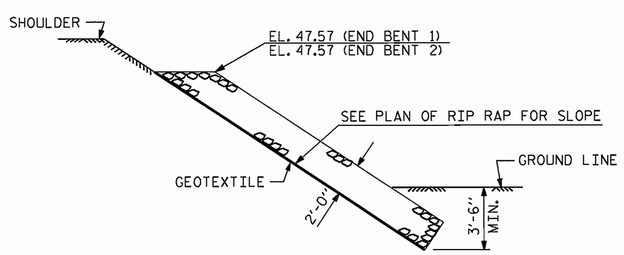
PLAN OF RIP RAP

ESTIMATED QUANTITIES		
BRIDGE @ STA. 15+70.00 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	157	174
END BENT 2	179	199



℄ SECTION

BERM RIP RAPPED



SECTION C-C

PROJECT NO. W-5504

PITT COUNTY

STATION: 15+70.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

RIP RAP DETAILS

ASSEMBLED BY : E. K. POPE	DATE : 3-29-12
CHECKED BY : K. P. SEDAI	DATE : 4-12-12
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:	
1			3			TOTAL SHEETS
2			4			

NORTH CAROLINA PROFESSIONAL SEAL 22005 ENGINEER KEITH PASCHAL

4/27/12

STD. NO. RR1 (Sht 2)

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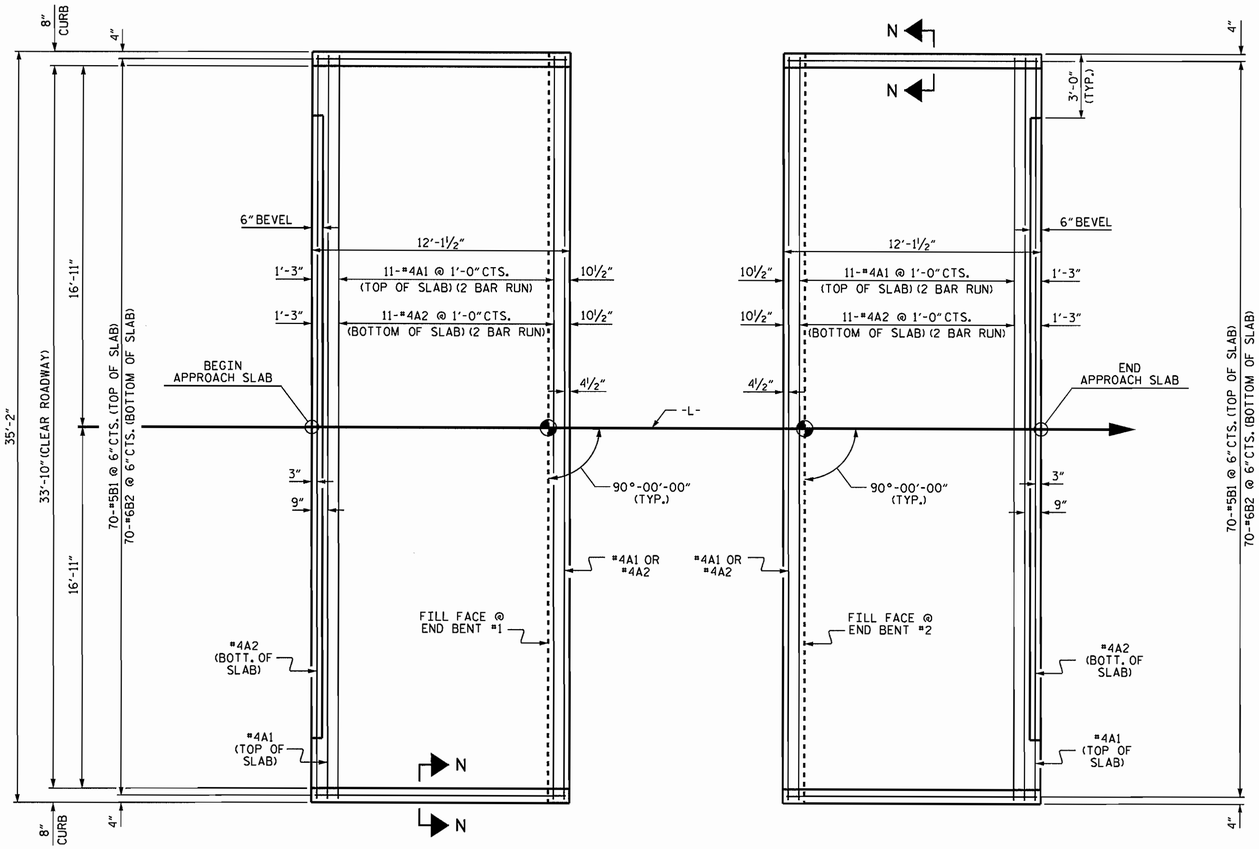
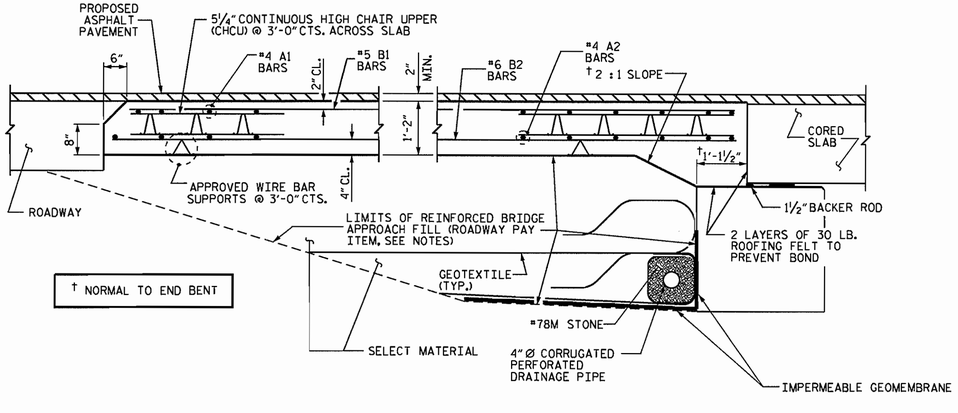
kpaschal



PLAN @ END BENT #1

PLAN @ END BENT #2

DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS



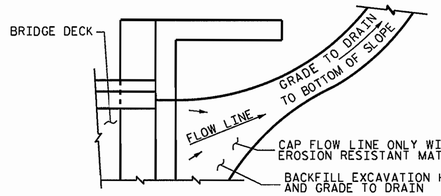
SECTION THRU SLAB

NOTES

FOR REINFORCED BRIDGE APPROACH FILL INCLUDING GEOTEXTILE, IMPERMEABLE GEOMEMBRANE, 4" Ø DRAINAGE PIPE, #78M STONE, AND SELECT MATERIAL, SEE ROADWAY PLANS.

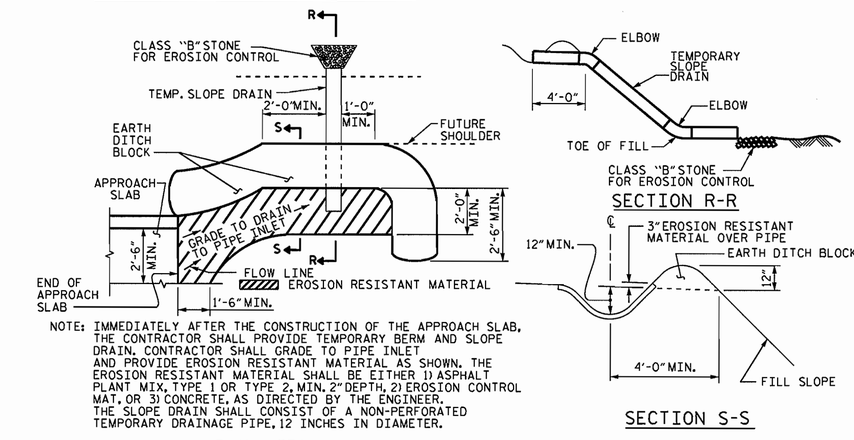
AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.

APPROACH SLAB GROOVING IS NOT REQUIRED.



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

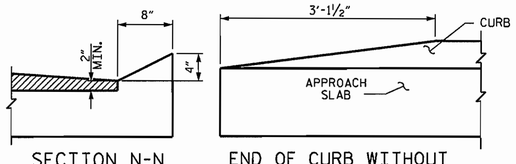


NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN.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

PLAN VIEW

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"

BILL OF MATERIAL					
APPROACH SLAB AT EB #1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	26	#4	STR	18'-6"	321
A2	26	#4	STR	18'-4"	318
* B1	70	#5	STR	11'-2"	815
B2	70	#6	STR	11'-8"	1227
REINFORCING STEEL				LBS.	1545
* EPOXY COATED REINFORCING STEEL				LBS.	1136
CLASS AA CONCRETE				C.Y.	21.8
APPROACH SLAB AT EB #2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	26	#4	STR	18'-6"	321
A2	26	#4	STR	18'-4"	318
* B1	70	#5	STR	11'-2"	815
B2	70	#6	STR	11'-8"	1227
REINFORCING STEEL				LBS.	1545
* EPOXY COATED REINFORCING STEEL				LBS.	1136
CLASS AA CONCRETE				C.Y.	21.8

PROJECT NO. W-5504

PITT COUNTY

STATION: 15+70.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD BRIDGE APPROACH SLAB FOR PRESTRESSED CONCRETE CORED SLAB UNIT (SUB-REGIONAL TIER) 90° SKEW

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

NORTH CAROLINA PROFESSIONAL SEAL 22005 ENGINEER KEITH PASCHAL

4/27/12

ASSEMBLED BY : E. K. POPE	DATE : 3-29-12	
CHECKED BY : K. P. SEDAI	DATE : 4-12-12	
DRAWN BY : SHS/MAA 5-09	REV. 12-11	MAA/AAC
CHECKED BY : BCH 5-09		

27-APR-2012 10:10
S:\DPG1\Keith\W-5504\ekpope\W5504_SD_CS.dgn
kpaschal

STD. NO. BAS_36_90S