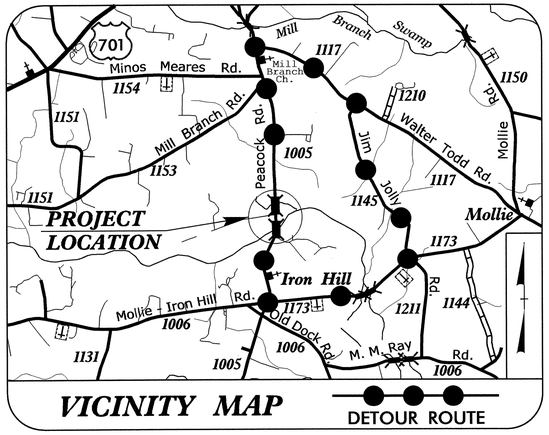
09/08/99

TIP PROJECT: B–5115

CONTRACT: C203251

See Sheet 1–A For Index of Sheets
See Sheet 1–B For Conventional Symbols



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

COLUMBUS COUNTY

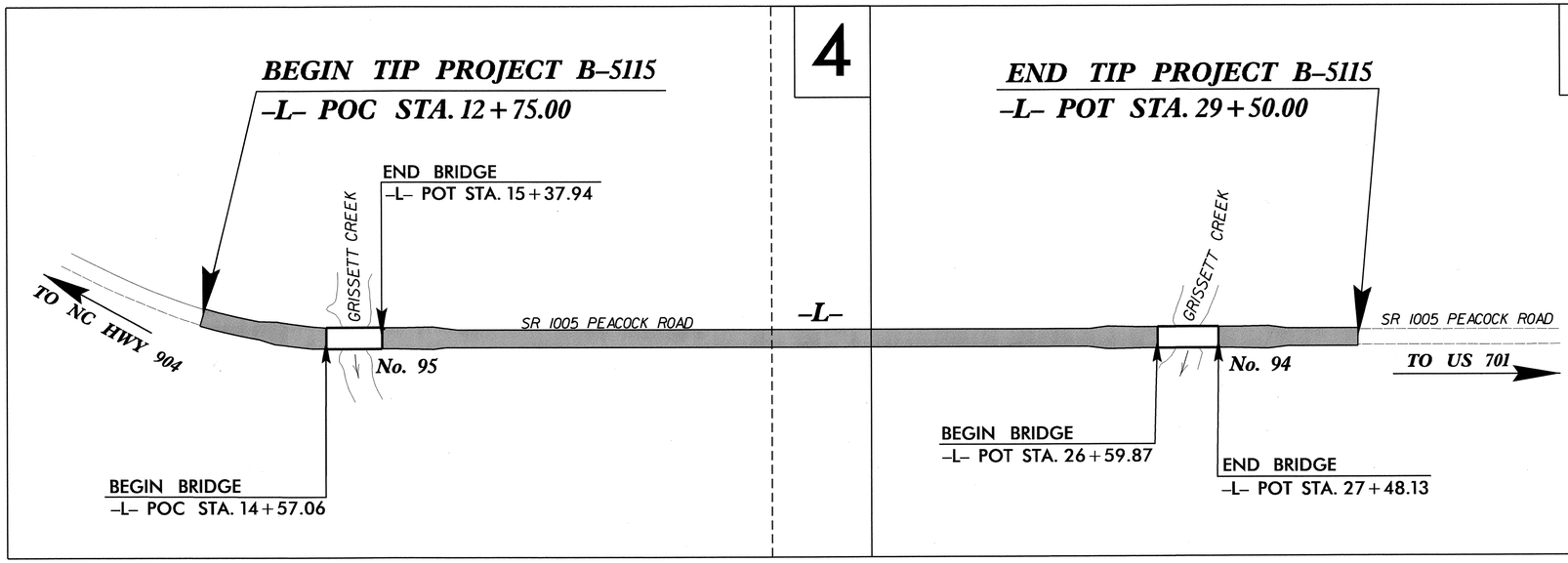
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B–5115	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
42255.1.1	BRSTP–1005(20)	PE
42255.2.1	BRSTP–1005(20)	R/W & UTIL
42255.3.1	BRSTP–1005(20)	CONST.

LOCATION: BRIDGES NO. 94 & 95 OVER GRISSETT CREEK ON SR 1005 (PEACOCK ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES

NAD 83/
NSRS 2007



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2013 = 2100
ADT 2033 = 3100
DHV = 12 %
D = 60 %
T = 5 % *
V = 50 MPH
*(TTST 1% + DUAL 4%)
FUNC CLASS = MINOR COLLECTOR
SUB–REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B–5115 = 0.285 MI
LENGTH STRUCTURE TIP PROJECT B–5115 = 0.032 MI
TOTAL LENGTH TIP PROJECT B–5115 = 0.317 MI

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 27, 2012

LETTING DATE:
OCTOBER 15, 2013

REKHA PATEL, PE
PROJECT ENGINEER

BRIAN P. ROBINSON
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 9334 ENGINEER HENRY E. WELLS, JR.

SIGNATURE: 7/17/13

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 16378 ENGINEER REKHA V. PATEL P.E.

7/17/13

SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

12-JUL-2013 09:19
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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B–5115	1–A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 16378 ENGINEER REKHA V. PATEL

1-24-13

Rekha V. Patel

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1–A	INDEX OF SHEETS, GENERAL NOTES AND LIST OF STANDARDS
1–B	CONVENTIONAL SYMBOLS
1–C	SURVEY CONTROL SHEET
2	TYPICAL SECTION, PAVEMENT SCHEDULE AND WEDGING DETAIL
2–A	DETAIL OF ROCK EMBANKMENTS
2–B	DETAIL OF STRUCTURE ANCHOR UNITS
3	SUMMARY OF QUANTITIES
3–A	SUMMARIES OF DRAINAGE QUANTITIES, ASPHALT PAVEMENT REMOVAL, GUARDRAIL, EARTHWORK, SUBSURFACE DRAINAGE AND PERMANENT SOIL REINFORCEMENT MAT
3–B	PARCEL INDEX SHEET
4–5	PLAN SHEETS
6	PROFILE SHEETS
TCP–1 THRU TCP–4	TRAFFIC CONTROL PLANS
PMP–1 THRU PMP–2	PAVEMENT MARKING PLANS
EC–1 THRU EC–7	EROSION CONTROL PLANS
SIGN–1 THRU SIGN–2	SIGNING PLANS
UC–1 THRU UC–7	UTILITY CONSTRUCTION PLANS
UO–1 THRU UO–3	UTILITIES BY OTHERS PLANS
X–1A	CROSS SECTION SUMMARY SHEET
X–1 THRU X–8	CROSS SECTIONS
S–1 THRU S–47	STRUCTURE PLANS

EFF. 01–17–2012
REV. 10–30–2012

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
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	
815.02	Subsurface Drain
840.00	Concrete Base Pad for Drainage Structures
840.25	Anchorage For Frames – Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet – for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
876.02	Guide for Rip Rap at Pipe Outlets

GENERAL NOTES: 2012 SPECIFICATIONS

EFFECTIVE: 01–17–2012
REVISED: 07–30–2012

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.

CLEARING:

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

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.

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

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.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104–7

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

Power – Brunswick EMC
Television – Time Warner Cable
Water – Columbus County Water

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT–OF–WAY MARKERS:

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

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12/05/11

PROJECT REFERENCE NO.	SHEET NO.
B-5115	1-B

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
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

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 — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- 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 Curb Ramp — CR
- 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 — HH
- 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 — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- 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
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-5115	1-C
Location and Surveys	

SURVEY CONTROL SHEET B-5115

NAD 83/NSRS 2007 NC GRID

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	B5115 BL-1	144830.9502	2065975.6131	54.98	10+72.97	16.07 RT
2	B5115 BL-2	145221.6095	2066071.8022	55.32	14+72.74	13.87 RT
3	B5115 BL-3	145768.3998	2066055.9672	54.23	20+19.26	17.29 RT
4	B5115 BL-4	146139.6806	2066042.4696	54.45	23+90.78	17.22 RT
5	B5115 BL-5	146418.7481	2066029.0800	55.00	26+70.15	13.92 RT
6	B5115 BL-6	146855.4408	2066016.1542	53.27	31+07.03	16.78 RT

BM1 ELEVATION = 54.08
N 145933 E 2066068
L STATION 21+83.00 35 RIGHT
RR SPIKE IN BASE OF 15" PINE

FINAL ROW MARKER IRON PIN AND CAP-E

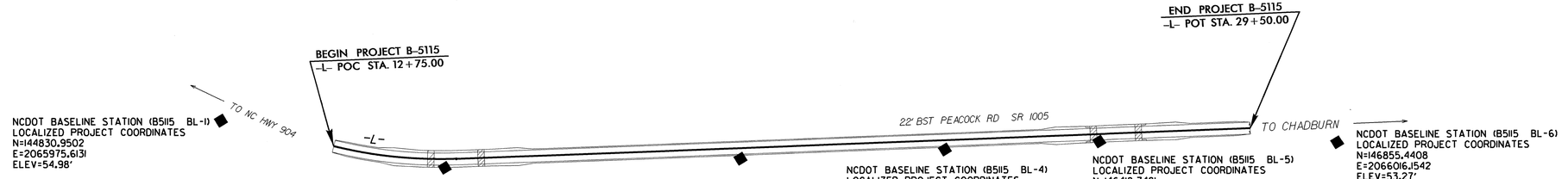
ALIGN	STATION	OFFSET	NORTH	EAST
L	12+75.00	50.00	145013.5563	2066081.9432
L	12+75.00	29.65	145018.5787	2066062.2265
L	12+75.00	-30.00	145033.3039	2066004.4188
L	12+75.00	-50.00	145038.2408	2065985.0377
L	29+50.00	50.00	146899.7158	2066055.0291
L	29+50.00	29.74	146898.9839	2066034.7825
L	29+50.00	-30.26	146896.8164	2065974.8217
L	29+50.00	-50.00	146896.1033	2065955.0944
L	16+50.00	50.00	145400.5643	2066101.9913
L	17+00.00	-50.00	145446.9192	2066000.2503
L	25+12.00	-30.18	146259.1052	2065990.7228
L	25+12.00	-50.00	146258.3892	2065970.9170
L	25+12.00	29.82	146261.2726	2066050.6836
L	25+12.00	50.00	146262.0017	2066070.8518
L	16+50.00	29.97	145399.8409	2066081.9776
L	17+00.00	-30.04	145447.6404	2066020.2015

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	14+08.00	-88.00	145164.0582	2065967.6314
L	14+31.00	-90.00	145184.5541	2065966.9924
L	14+12.00	-50.00	145164.7162	2066005.8006
L	14+35.00	-50.00	145186.2191	2066007.1236
L	18+00.00	-93.00	145545.3006	2065953.6659
L	18+22.00	-93.00	145567.2862	2065952.8712
L	18+00.00	-30.05	145547.5745	2066016.5711
L	18+22.00	-30.06	145569.5600	2066015.7725
L	25+27.00	-50.00	146273.3794	2065970.3752
L	25+48.00	-91.00	146292.8846	2065928.6433
L	25+48.00	-50.00	146294.3657	2065969.6166
L	25+27.00	-90.00	146271.9344	2065930.4013
L	29+03.00	-90.00	146647.6890	2065916.8184
L	29+24.00	-90.00	146668.6753	2065916.0598
L	29+03.00	-50.00	146649.1340	2065956.7923
L	29+24.00	-50.00	146670.1203	2065956.0337

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	144771.5241	2065930.3241
PC	11+28.84	144888.4001	2065984.5539
PT	15+00.59	145249.4446	2066057.4213
POT	31+71.83	146919.5968	2065997.0482



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B5115-2"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 143282.115(ft) EASTING: 2065380.888(ft)
ELEVATION: 76.47(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00002427
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5115-2" TO -L- STATION 12+75.00 IS
N 20° 31' 05.2" E 1861.90 ft
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING NCDOT PROJECT CONTROL DATA AT:*
   HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/PAGES/DEFAULT.ASPX

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   B5115_LS_CONTROL.TXT

   SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

◎ *INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.*
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION
SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

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6/2/99

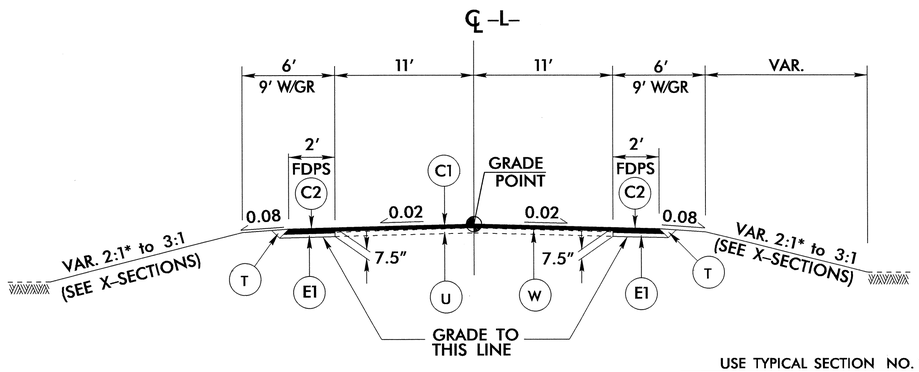
PROJECT REFERENCE NO.	SHEET NO.
B-5115	2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 16378 ENGINEER REKHA V. PATEL

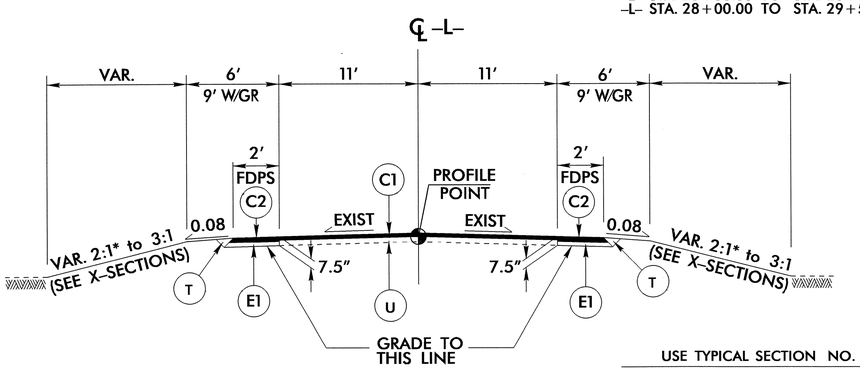
PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 039819 ENGINEER JONATHAN EDWARD WARD JULY 15TH 2013



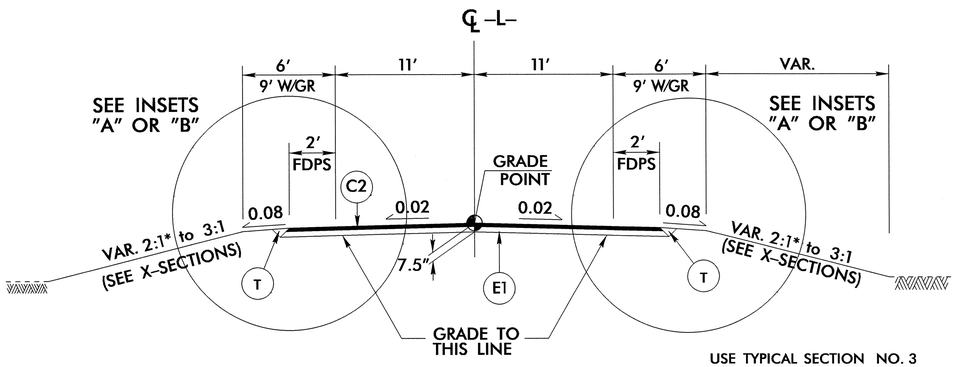
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
–L– STA. 12+75.00 TO STA. 14+00.00
–L– STA. 16+00.00 TO STA. 17+00.00
–L– STA. 25+50.00 TO STA. 26+00.00
–L– STA. 28+00.00 TO STA. 29+50.00



USE TYPICAL SECTION NO. 2
–L– STA. 17+00.00 TO STA. 25+50.00

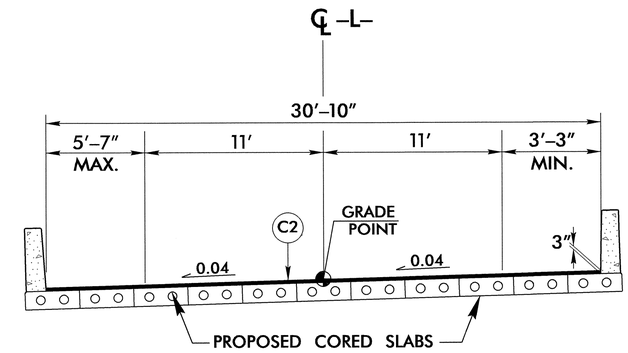
TYPICAL SECTION NO. 2



TYPICAL SECTION NO. 3

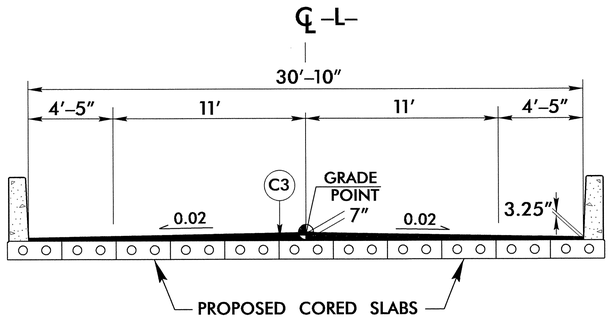
USE TYPICAL SECTION NO. 3
–L– STA. 14+00.00 TO STA. 14+57.06 (BEGIN BRIDGE)
–L– STA. 15+37.94 (END BRIDGE) TO STA. 16+00.00
–L– STA. 26+00.00 TO STA. 26+59.87 (BEGIN BRIDGE)
–L– STA. 27+48.13 (END BRIDGE) TO STA. 28+00.00

*USE PERMANENT SOIL REINFORCEMENT MAT AT LOCATIONS WHERE ROADWAY SIDE SLOPES ARE STEEPER THAN 3:1 (H:V)



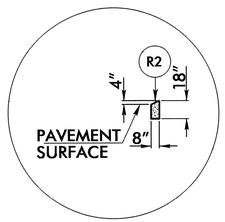
TYPICAL SECTION NO. 4
(SEE STRUCTURE PLANS)

USE TYPICAL ON STRUCTURE
–L– STA. 14+57.06 (BEGIN BRIDGE) TO
–L– STA. 15+37.94 (END BRIDGE)



TYPICAL SECTION NO. 5
(SEE STRUCTURE PLANS)

USE TYPICAL ON STRUCTURE
–L– STA. 26+59.87 (BEGIN BRIDGE) TO
STA. 27+48.13 (END BRIDGE)

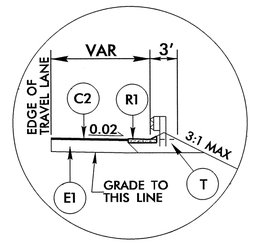


DIMENSIONS FOR SPECIAL SHOULDER BERM CURB

FINAL PAVEMENT SCHEDULE

C1	PROP. APPROX. 1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1 ½" IN DEPTH.
E1	PROP. APPROX. 4 ½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 ½" IN DEPTH.
R1	SHOULDER BERM GUTTER.
R2	SPECIAL SHOULDER BERM CURB. (8" X 18")
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT. (SEE WEDGING DETAIL)

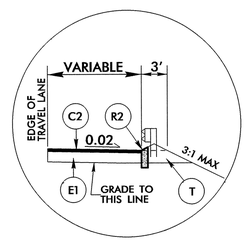
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



INSET NO. A

USE WITH TYPICAL SECTION NO. 3

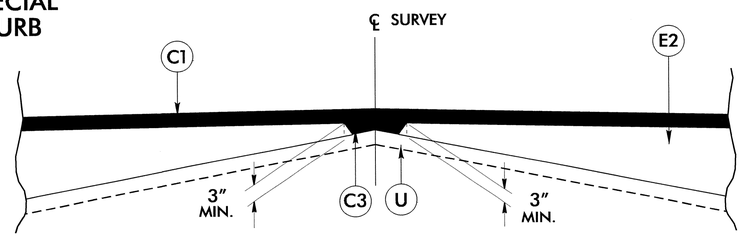
–L– STA. 14+26.00 TO 14+45.40 (LT)
–L– STA. 26+30.00 TO 26+49.31 (LT/RT)



INSET NO. B

USE WITH TYPICAL SECTION NO. 3

–L– STA. 14+39.16 TO 14+47.51 (RT)
–L– STA. 15+48.50 TO 15+55.84 (RT/LT)
–L– STA. 27+58.69 TO 27+66.03 (RT/LT)



DETAIL SHOWING METHOD OF WEDGING

12-JUL-2013 07:28
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PROJECT REFERENCE NO.	SHEET
B-5115	2-A

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 30948 ENGINEER THEIN TUN ZAN

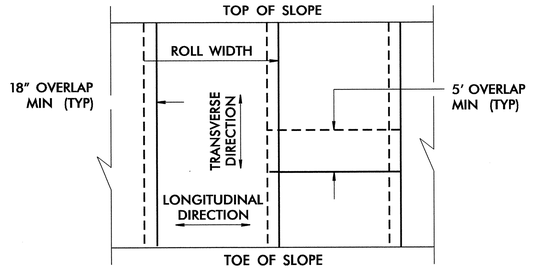
6/17/13
SIGNATURE DATE

ENGINEER

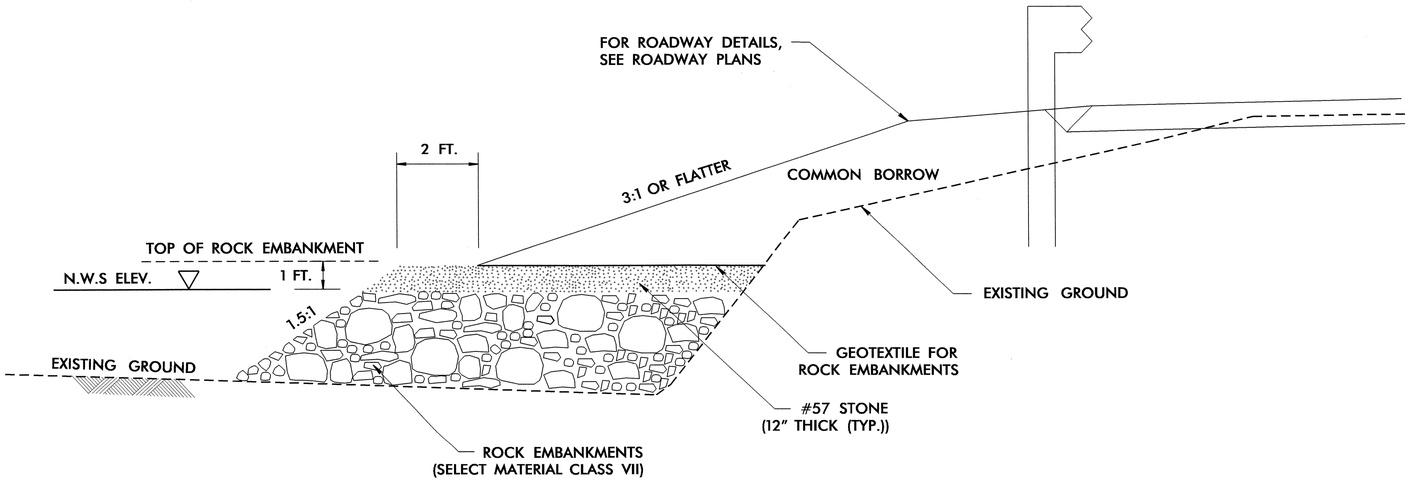
SIGNATURE DATE

USE ROCK EMBANKMENTS AT FOLLOWING LOCATIONS:

NO.	APPROX. BEGIN STA.	APPROX. END STA.	LOCATION	TOP OF ROCK EMBANKMENTS
1	13+75 +/- -L-	14+70 +/- -L-	LEFT	ELEV. 53 FT.
2	12+75 +/- -L-	14+70 +/- -L-	RIGHT	ELEV. 53 FT.
3	15+25 +/- -L-	16+25 +/- -L-	LEFT	ELEV. 53 FT.
4	15+25 +/- -L-	15+75 +/- -L-	RIGHT	ELEV. 53 FT.
5	25+75 +/- -L-	26+75 +/- -L-	LEFT	ELEV. 52 FT.
6	26+25 +/- -L-	26+75 +/- -L-	RIGHT	ELEV. 52 FT.
7	27+30 +/- -L-	29+25 +/- -L-	LEFT	ELEV. 52 FT.
8	27+30 +/- -L-	29+25 +/- -L-	RIGHT	ELEV. 52 FT.



GEOTEXTILE OVERLAP DETAIL
(PLAN VIEW)



ROCK EMBANKMENT TYPICAL SECTION
NOT TO SCALE

FOR ROCK EMBANKMENTS, SEE ROCK EMBANKMENTS SPECIAL PROVISION.

CONSTRUCT ROCK EMBANKMENTS TO THE ELEVATION SHOWN IN THE ROCK EMBANKMENTS TABLE AND ACCORDING TO THE ROCK EMBANKMENT SPECIAL PROVISION.

CLASS VII SELECT MATERIAL SHALL MEET THE GRADATION REQUIREMENTS AS INDICATED IN SECTION 1016 OF THE STANDARD SPECIFICATIONS WITH THE EXCEPTION THAT THE MAXIMUM DIAMETER OF THE ROCK DOES NOT EXCEED TWO FEET.

FOR ROCK EMBANKMENTS NEAR BRIDGE END BENTS, USE SELECT MATERIAL CLASS VI ONLY WITHIN FIVE FEET OF PILES.

ESTIMATED MATERIAL QUANTITIES

ROCK EMBANKMENTS (SELECT MATERIAL, CLASS VII) = 1,240 TONS

#57 STONE (SELECT MATERIAL, CLASS VI) = 980 TONS

GEOTEXTILE FOR ROCK EMBANKMENTS = 780 SY

PROJECT NO.: B-5115

COLUMBUS **COUNTY**

STATION: SEE TABLE

SHEET 1 OF 1

PREPARED BY: THEIN T ZAN, PE	DATE: 1/2013
REVIEWED BY: JAMES R BATTS, PE	DATE: 1/2013

GEOTECHNICAL ENGINEERING UNIT

■ EASTERN REGIONAL OFFICE

☐ WESTERN REGIONAL OFFICE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

ROCK EMBANKMENTS

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

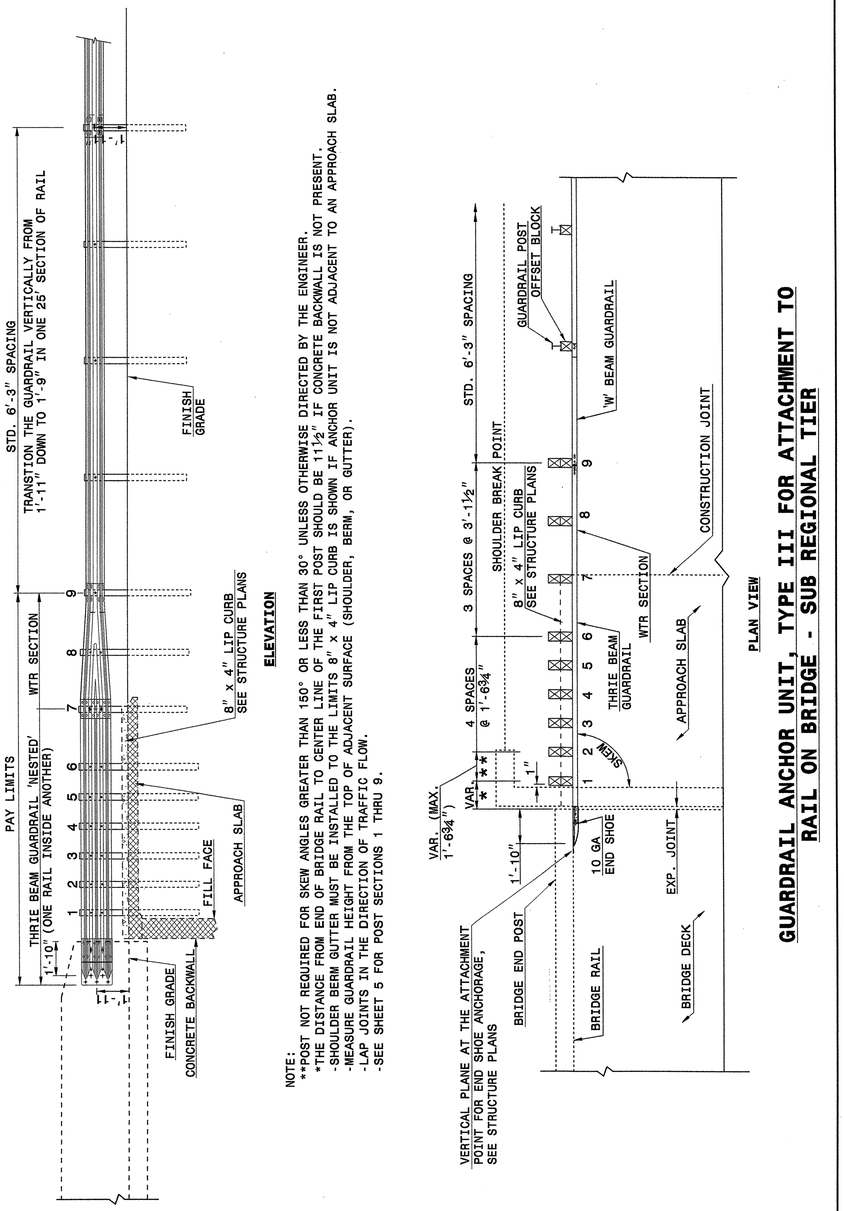
GEJ266083 6/17/2013 B5115_GEO_Rock Embankments tzan RD-Oce860-34

PROJECT REFERENCE NO.	SHEET NO.
B-5115	2-B

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

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03



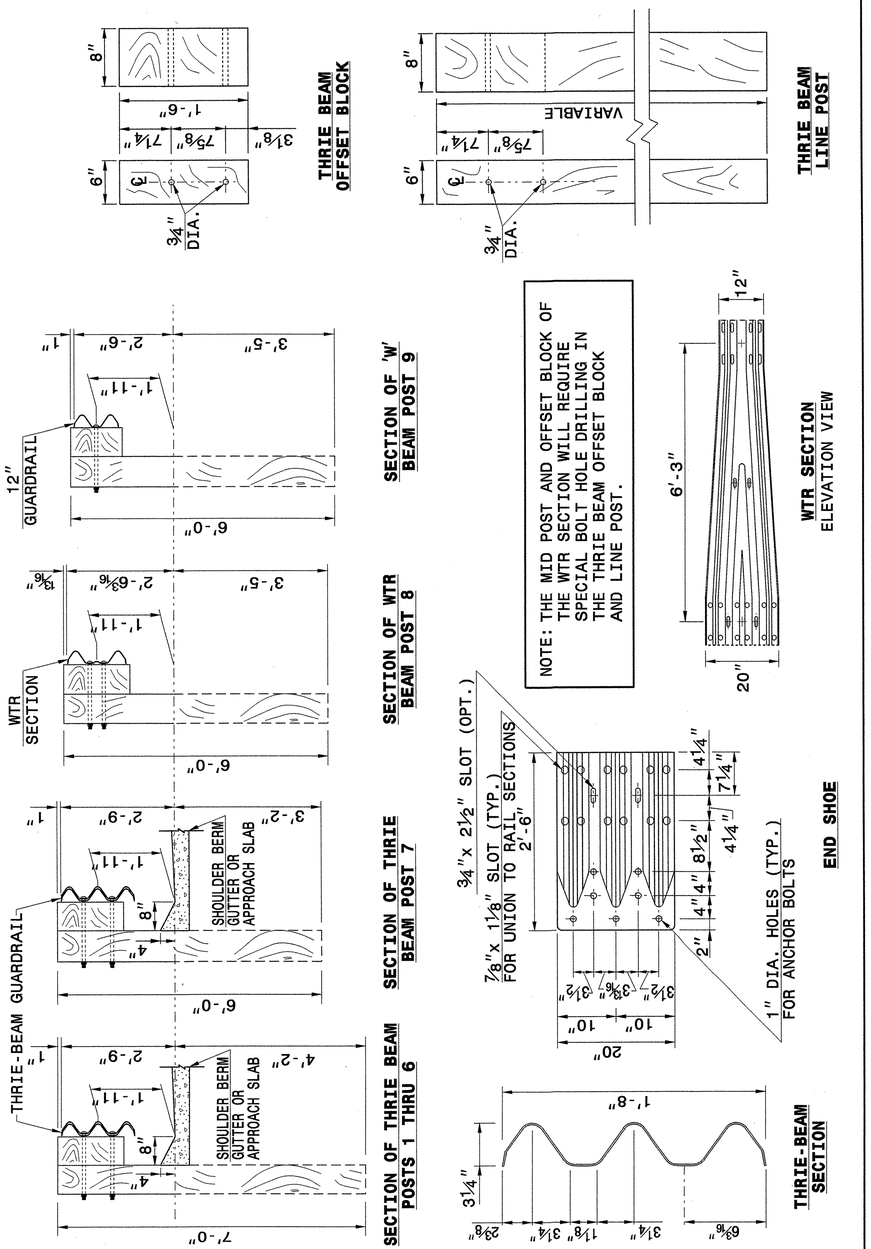
NOTE:
**POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
*THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 1'-1½" IF CONCRETE BACKWALL IS NOT PRESENT.
-SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
-MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
-LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
-SEE SHEET 5 FOR POST SECTIONS 1 THRU 9.

GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

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

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7
862d03



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

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03

CONTRACT STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: J HOWERTON DATE: 06-22-12
MODIFIED BY: DATE:
CHECKED BY: DATE: 11/3/12
FILE SPEC.:

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER J HOWERTON 7/22/13

$$$$SYSTIME$$$$
$$$$USERNAME$$$$

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
B-5115	3

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203251

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ********** (14+97.50 -L-)
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ********** (27+04.00 -L-)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
0057000000-E	226	600	CY	UNDERCUT EXCAVATION
0194000000-E	SP	1,400	CY	SELECT GRANULAR MATERIAL, CLASS III
0196000000-E	270	700	SY	GEOTEXTILE FOR SOIL STABILIZATION
0220000000-E	SP	1,240	TON	ROCK EMBANKMENTS
0222000000-E	SP	780	SY	GEOTEXTILE FOR ROCK EMBANKMENTS
0318000000-E	300	108	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
0320000000-E	300	305	SY	FOUNDATION CONDITIONING GEOTEXTILE
0335200000-E	305	48	LF	15" DRAINAGE PIPE
0335850000-E	305	4	EA	**" DRAINAGE PIPE ELBOWS (15")
0448200000-E	310	32	LF	15" RC PIPE CULVERTS, CLASS IV
1077000000-E	SP	980	TON	#57 STONE
1220000000-E	545	20	TON	INCIDENTAL STONE BASE
1330000000-E	607	250	SY	INCIDENTAL MILLING
1489000000-E	610	500	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1525000000-E	610	700	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1575000000-E	620	70	TON	ASPHALT BINDER FOR PLANT MIX
2022000000-E	815	23	CY	SUBDRAIN EXCAVATION
2026000000-E	815	100	SY	GEOTEXTILE FOR SUBSURFACE DRAINS
2036000000-E	815	17	CY	SUBDRAIN COARSE AGGREGATE
2044000000-E	815	100	LF	6" PERFORATED SUBDRAIN PIPE
2070000000-N	815	1	EA	SUBDRAIN PIPE OUTLET
2077000000-E	815	6	LF	6" OUTLET PIPE
2286000000-N	840	3	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	60	LF	SHOULDER BERM GUTTER
2752000000-E	SP	60	LF	GENERIC PAVING ITEM SPECIAL SHOULDER BERM CURB
3030000000-E	862	75	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3215000000-N	862	8	EA	GUARDRAIL ANCHOR UNITS, TYPE III
3270000000-N	SP	8	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3649000000-E	876	2	TON	RIP RAP, CLASS B
3656000000-E	876	730	SY	GEOTEXTILE FOR DRAINAGE
4025000000-E	901	18	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (E)
4072000000-E	903	35	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4102000000-N	904	4	EA	SIGN ERECTION, TYPE E
4155000000-N	907	15	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4400000000-E	1110	465	SF	WORK ZONE SIGNS (STATIONARY)
4410000000-E	1110	144	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4445000000-E	1145	112	LF	BARRICADES (TYPE III)
4685000000-E	1205	3,350	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
4686000000-E	1205	3,350	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
4900000000-N	1251	22	EA	PERMANENT RAISED PAVEMENT MARKERS
5325800000-E	1510	946	LF	8" WATER LINE
5546000000-E	1515	4	EA	8" VALVE
5801000000-E	1530	935	LF	ABANDON 8" UTILITY PIPE
5871500000-E	1550	383	LF	TRENCHLESS INSTALLATION OF 8" IN SOIL
5871510000-E	1550	383	LF	TRENCHLESS INSTALLATION OF 8" NOT IN SOIL
6000000000-E	1605	4,700	LF	TEMPORARY SILT FENCE
6006000000-E	1610	150	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	75	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	145	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	2	ACR	TEMPORARY MULCHING
6018000000-E	1620	100	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	2,000	LF	SAFETY FENCE
6030000000-E	1630	150	CY	SILT EXCAVATION
6036000000-E	1631	4,800	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	525	SY	COIR FIBER MAT
6038000000-E	SP	250	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	115	LF	1/4" HARDWARE CLOTH
6048000000-E	SP	800	SY	FLOATING TURBIDITY CURTAIN
6070000000-N	1639	4	EA	SPECIAL STILLING BASINS
6071012000-E	SP	210	LF	COIR FIBER WATTLE
6084000000-E	1660	2	ACR	SEEDING & MULCHING
6087000000-E	1660	1	ACR	MOWING
6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	1.5	TON	FERTILIZER TOPDRESSING
6114500000-N	1667	10	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL

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COMPUTED BY: MJD DATE: 06-14-2013
CHECKED BY: SKR DATE: 07-2-2013

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-5115	3-A

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".

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

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
SIZE																			
THICKNESS OR GAUGE																			
-L-																			
14+33.00	LT	0401		55.54															
14+33.00	LT	0401	0402		52.79	50.82			24							*	*		
26+37.00	LT	0501		55.86															
26+37.00	LT/RT	0501	0502		53.11	53.01													
26+37.00	RT	0502		55.86															
26+37.00	RT	0502	0503		53.01	49.85			24							*	*		
PROJECT TOTAL									48										

STATION	C.S. PIPE 12"	15"	18"	24"	36"	42"	48"	R.C. PIPE (CLASS III) 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE (CLASS IV) 12"	15"	18"	24"	30"	36"	42"	48"
SIZE																						
THICKNESS OR GAUGE	.064	.064	.064	.079	.109	.109																
-L-																						
14+33.00																						
14+33.00																						
26+37.00																						
26+37.00																32						
26+37.00																						
26+37.00																						
PROJECT TOTAL																32						

STATION	*** 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. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. *FT. A (5.0' THRU 10.0')	B (10.0' AND ABOVE)	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION CATCH BASIN	DROP INLET	J.B. STD. 840.31 OR 840.32	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. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	T.B.D.I. STD. 840.35 OR STD. 840.46	DRAINAGE PIPE 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
SIZE																						
THICKNESS OR GAUGE																						
-L-																						
14+33.00								1														TB2GI
14+33.00																					2@15"	
26+37.00								1												1	1	TB2GI
26+37.00																						
26+37.00								1												1	1	TB2GI
26+37.00																					2@15"	
PROJECT TOTAL								3												3	3	4@15"

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 STRAIGHT	LENGTH SHOP CURVED	LENGTH DOUBLE FACED	WARRANT POINT APPROACH END	WARRANT POINT TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS XI MOD	ANCHORS TYPE III	ANCHORS GRAU 350 TL-3	ANCHORS M-350	ANCHORS XIII	ANCHORS CAT-1	ANCHORS VI MOD	ANCHORS BIC	ANCHORS AT-1	IMPACT ATTENUATOR TYPE 350 EA	IMPACT ATTENUATOR TYPE 350 G	IMPACT ATTENUATOR TYPE 350 NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
-L-	13+76.18	14+56.18	LT	80.00'				BRIDGE	4.42'	9.00'		61.25'		1.22'		1	1														
-L-	13+82.06	14+57.89	RT	75.83'			BRIDGE		4.42'	9.00'	57.08		1.14'			1	1														
-L-	15+37.94	16+12.94	LT	75.00'			BRIDGE		5.58'	9.00'	56.25'		1.12'			1	1														
-L-	15+37.94	16+12.94	RT	75.00'				BRIDGE	3.25'	9.00'		56.25'		1.12'		1	1														
-L-	25+81.18	26+59.87	LT	78.69'				BRIDGE	4.42'	9.00'		59.94'		1.20'		1	1														
-L-	25+81.18	26+59.87	RT	78.69'			BRIDGE		4.42'	9.00'	59.94'		1.20'			1	1														
-L-	27+48.13	28+23.13	LT	75.00'			BRIDGE		4.42'	9.00'	56.25'		1.12'			1	1														
-L-	27+48.13	28+23.13	RT	75.00'				BRIDGE	4.42'	9.00'		56.25'		1.12'		1	1														
TOTAL				613.21'												8	8														
DEDUCTION FOR ANCHORS				-550.00'											DEDUCTION FOR ANCHORS:															
PROJECT TOTAL				63.21'											(GRAU 350 TL-3) 8 @ 50' = 400'															
SAY				75'											(TYPE IIII) 8 @ 18.75' = 150'															
ADDITIONAL GUARDRAIL POST = 5 EACH															TOTAL DEDUCTIONS = 550'															

SUMMARY OF EARTHWORK
IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
-L-					
12+75.00 TO 14+57.06 (BEGIN BRIDGE NO. 95)	7		226	219	
15+37.94 (END BRIDGE NO. 95) TO 26+59.87 (BEGIN BRIDGE NO. 94)	88		526	437	
27+48.13 (END BRIDGE NO. 94) TO 29+50.00	1		445	444	
SUB-TOTAL	96		1196	1100	
PROJECT TOTAL	96		1196	1100	
5% TO REPLACE TOP SOIL ON BORROW PIT				55	
GRAND TOTAL	96			1155	
SAY	100			1200	

EST. UNDERCUT EXCAVATION = 600 CY
EST. SELECT GRANULAR MATERIAL, CLASS III = 1400 CY

NOTE: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

NOTE: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading".

REMOVAL OF EXISTING ASPHALT PAVEMENT SUMMARY

LINE	BEGIN STATION	END STATION	LOCATION	SQ. YD.
-L-	14+00.00	14+79.68	CL	198.55
-L-	15+17.50	16+00.00	CL	202.01
-L-	26+00.00	26+84.62	CL	211.47
-L-	27+22.24	28+00	CL	189.21
			TOTAL	801.24
			SAY	810

SUMMARY OF SUBSURFACE DRAINAGE

LINE	BEGIN STATION	END STATION	LOCATION	DRAIN TYPE * UD /BD /SD	LENGTH (FT.)
	CONTINGENCY			SD	100
				TOTAL	100

* UD = UNDERDRAIN
* BD = BLIND DRAIN
* SD = SUBSURFACE DRAIN

SUMMARY OF PERMANENT SOIL REINFORCEMENT MAT

BEGIN STATION	END STATION	LOCATION
12+75.00 -L-	13+75.00 -L-	LT
12+75.00 -L-	13+75.00 -L-	RT
16+25.00 -L-	17+25.00 -L-	LT
15+75.00 -L-	16+25.00 -L-	RT
22+75.00 -L-	24+25.00 -L-	LT

EST. PERMANENT SOIL REINFORCMENT MAT - 250 SY

26-JUL-2013 10:25
R:\Roadway\Projects\b5115_rdy_sum.dgn
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
B-5115	3-B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4	FAYE R. LARRIMORE
2	4 and 5	SOUTHERN DIVERSIFIED TIMBER LLC
3	4	DIANA GASKINS HARDWICK

PARCEL No.	SHEET No.	PROPERTY OWNER NAME

PROJECT REFERENCE NO.	SHEET NO.
B-5115	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 16378 ENGINEER REKHA V. PATEL
7/15/13
Rekha V. Patel

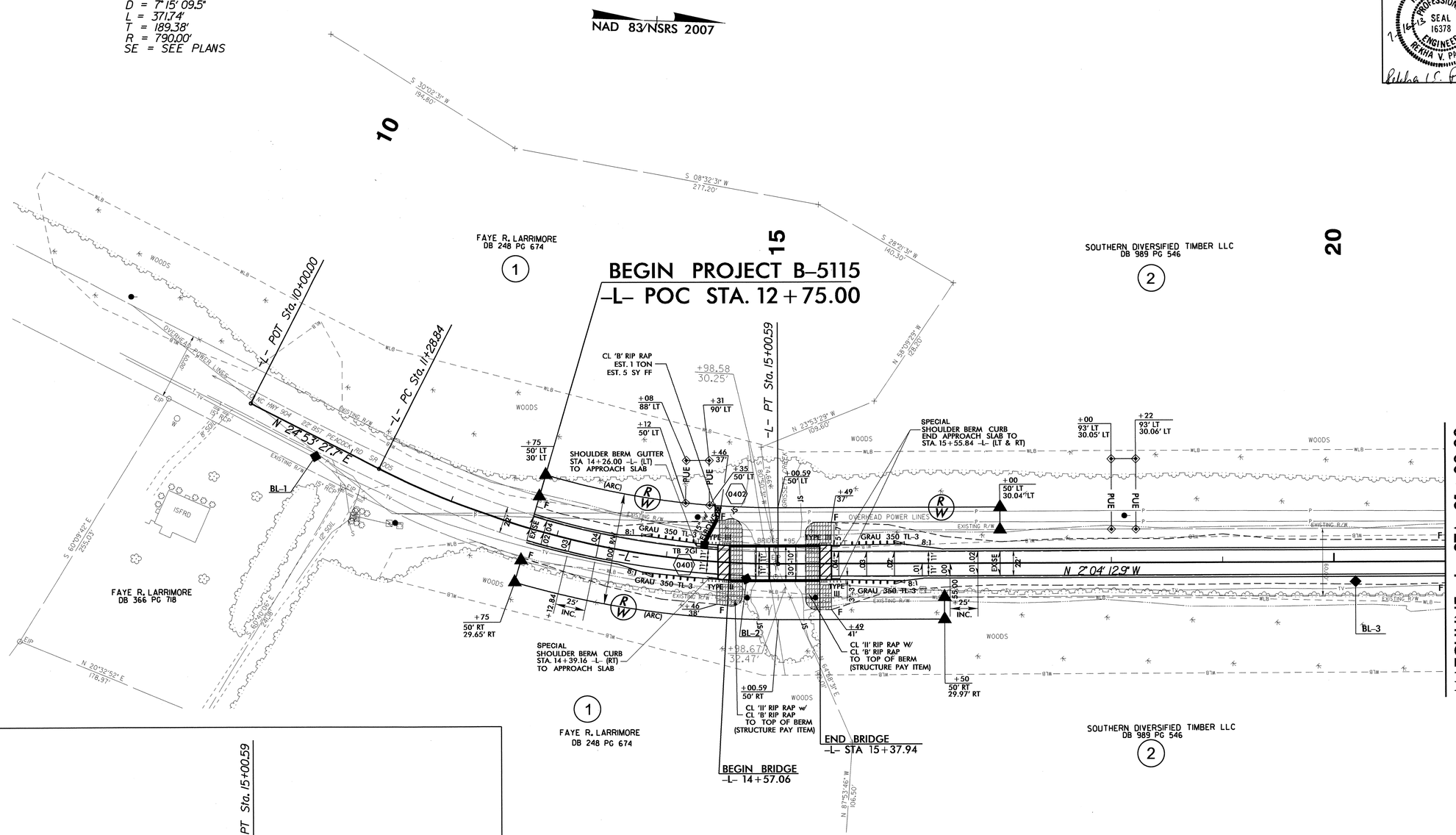
HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 9334 ENGINEER H. HENRY WELLS, JR.
7/17/13

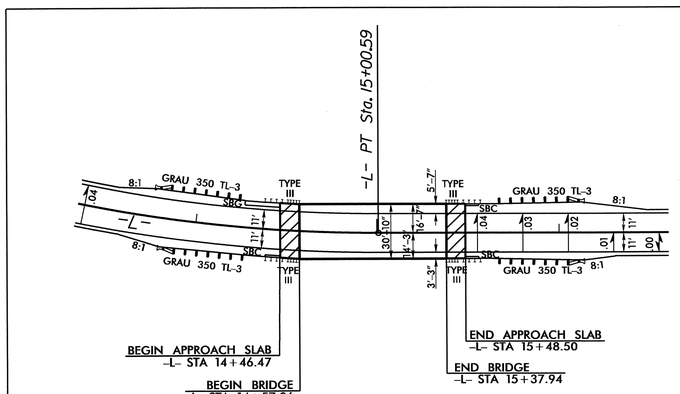
REVISIONS

8/17/99

-L-
PI Sta 13+18.22
Δ = 26° 57' 40.6" (LT)
D = 7° 15' 09.5"
L = 371.74'
T = 189.38'
R = 790.00'
SE = SEE PLANS

NAD 83/NSRS 2007





(NOT TO SCALE)
DETAIL SHOWING PAVEMENT AND BRIDGE RELATIONSHIP

FOR -L- PROFILE, SEE SHEET 6
FOR STRUCTURE PLANS, SEE SHEETS S-1 TO S-47
FOR LOCATION OF ROCK EMBANKMENTS, SEE SHEET 2-A

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$$$$ USER NAME = $$$$

PROJECT REFERENCE NO.	SHEET NO.
B–5115	5
R/W SHEET NO.	

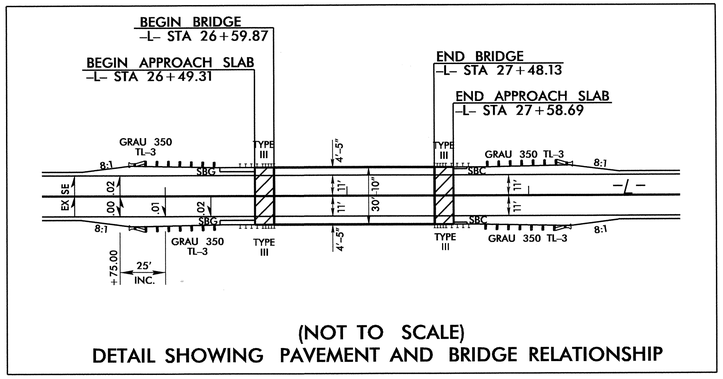
ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 16378 ENGINEER KEYUR V. PATEL — 7/17/13

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 9334 ENGINEER HENRY WELLS, JR. — 7/17/13

REVISIONS

8/17/99

NAD 83/NSRS 2007



(NOT TO SCALE)
DETAIL SHOWING PAVEMENT AND BRIDGE RELATIONSHIP

MATCHLINE –L– STA 21+00.00
SEE SHEET 4

2
SOUTHERN DIVERSIFIED TIMBER LLC
DB 989 PG 546

25

30

N 80°00'30" E
691.90'

N 11°59'27" E
138.76'

S 82°25'10" W
63.31'

BEGIN BRIDGE
–L– STA 26+59.87

END BRIDGE
–L– STA 27+48.13

SHOULDER BERM GUTTER
STA 26+30 –L– RT & LT
TO BEGIN BRIDGE

3
DIANA GASKINS HARDWICK
DB 809 PG 681

+27 90' LT 50' LT WOODS
+48 91' LT 50' LT
+12 50' LT 30.18' LT
+03 90' LT 50' LT
+24 90' LT 50' LT
+50 50' LT 30.26' LT WOODS
+03.72 34.69'
+51 38'
+58 42'
+51 39'
+12 50' RT 29.82' RT
+50 50' RT 29.74' RT

GRIBBETT CREEK
BRIDGE #94
S 82°19'27" E
293.83'
N 82°19'27" W
293.83'

OVERHEAD POWER LINES
EXISTING R/W
22' BST\ PEACOCK RD SR 1005
N 2°04'12.9" W
TO CHADBURN
WOODS
CULTIVATED
BM #1
BL–4
BL–5
BL–6
(050) (0501) (0502) (0503)

GRAU 350 TL–3
TYPE III
8:1
15" RCP–IV
2G
1B
2G
EXSE
SBC
100 RW
+75.00
25' INC.
+25.00

CL 'B' RIP RAP
EST. 1 TON
EST. 5 SY FF

CL 'II' RIP RAP w/
CL 'B' RIP RAP
TO TOP OF BERM
(STRUCTURE PAY ITEM)

SPECIAL
SHOULDER BERM CURB
END APPROACH SLAB TO
STA. 27+66.03 –L– (LT & RT)

2
SOUTHERN DIVERSIFIED TIMBER LLC
DB 989 PG 546

3
DIANA GASKINS HARDWICK
DB 809 PG 681

–L– POT Sta. 31+71.83

END PROJECT B–5115
–L– POT STA. 29+50.00

EIP
EXISTING R/W
ISFRD
6' WD
WD DECK
POOL
S
N 85°56'53" E
286.00'
N 85°56'53" E
286.00'
N 02°08'03" W
165.00'
RICHARD CALVIN &
IDA S CARTRETTE
DB 399 PG 113

FOR –L– PROFILE, SEE SHEET 6
FOR STRUCTURE PLANS, SEE SHEETS S–1 TO S–47
FOR LOCATION OF ROCK EMBANKMENTS, SEE SHEET 2–A

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5/26/99

PROJECT REFERENCE NO.	SHEET NO.
B-5115	6

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 16378 ENGINEER REKHA V. PATEL

7/16/13

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 9334 ENGINEER W. HENRY WELLS, JR.

7/17/13

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 1600	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 53.6	FT
BASE DISCHARGE	= 2400	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 53.9	FT
OVERTOPPING DISCHARGE	= 2800	CFS
OVERTOPPING FREQUENCY	= +100	YRS
OVERTOPPING ELEVATION	= 54.1	FT

-L-

#95
CL STA 14+97.50 -L-
1@35'5¼", 1@45'5¼" 18" CORED SLAB (OAL=80'10½")
SKEW=90°
CR GR EL=56.47

PI = 15+20.00
EL = 56.67'
VC = 130'
K = 146

BEGIN GRADE
-L- STA 12+75.00
EL = 55.24'

BEGIN BRIDGE
-L- STA 14+57.06

END BRIDGE
-L- STA 15+37.94

END GRADE
BEGIN RESURFACING
-L- STA 17+00.00
EL=56.11'

(+)0.5825%

(-)0.3095%

EXCAVATE EXISTING ROAD FILL TO NATURAL GROUND (STRUCTURE PAY ITEM)

CL 'II' w/ CL 'B' RIP RAP (STRUCTURE PAY ITEM)

EXCAVATE EXISTING ROAD FILL TO NATURAL GROUND (STRUCTURE PAY ITEM)

CL 'II' w/ CL 'B' RIP RAP (STRUCTURE PAY ITEM)

NOTE: SEE SHEET NO. 4 FOR PLAN VIEW

60 50 40 30 20

10+00 11 12 13 14 15 16 17 18 19 20 21

BM #1
RR SPIKE IN BASE OF 15" PINE
ELEV=54.08'
-BL- STA. 16+13.00 18' RT
-L- STA. 21+83.32 34.80' RT

-L-

#94
CL STA 27+04 -L-
1@51°7½", 1@36° 7½" 21" CORED SLAB (OAL=88'3")
SKEW=90°
CR GR EL=56.43

END RESURFACING
BEGIN GRADE
-L- STA 25+50.00
EL=55.62'

BEGIN BRIDGE
-L- STA 26+59.87

END BRIDGE
-L- STA 27+48.73

PI = 27+90.00
EL = 56.78'
VC = 130'
K = 87

END GRADE
-L- STA 29+50.00
EL=55.01'

(+)0.3987%

(-)1.1016%

EXCAVATE EXISTING ROAD FILL TO NATURAL GROUND (STRUCTURE PAY ITEM)

CL 'II' w/ CL 'B' RIP RAP (STRUCTURE PAY ITEM)

EXCAVATE EXISTING ROAD FILL TO NATURAL GROUND (STRUCTURE PAY ITEM)

CL 'II' w/ CL 'B' RIP RAP (STRUCTURE PAY ITEM)

NOTE: SEE SHEET NO. 5 FOR PLAN VIEW

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 1600	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 53.6	FT
BASE DISCHARGE	= 2400	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 53.9	FT
OVERTOPPING DISCHARGE	= 2800	CFS
OVERTOPPING FREQUENCY	= +100	YRS
OVERTOPPING ELEVATION	= 54.1	FT

60 50 40 30 20

21+00 22 23 24 25 26 27 28 29 30 31

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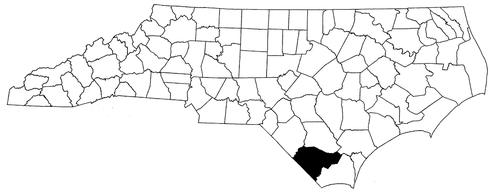
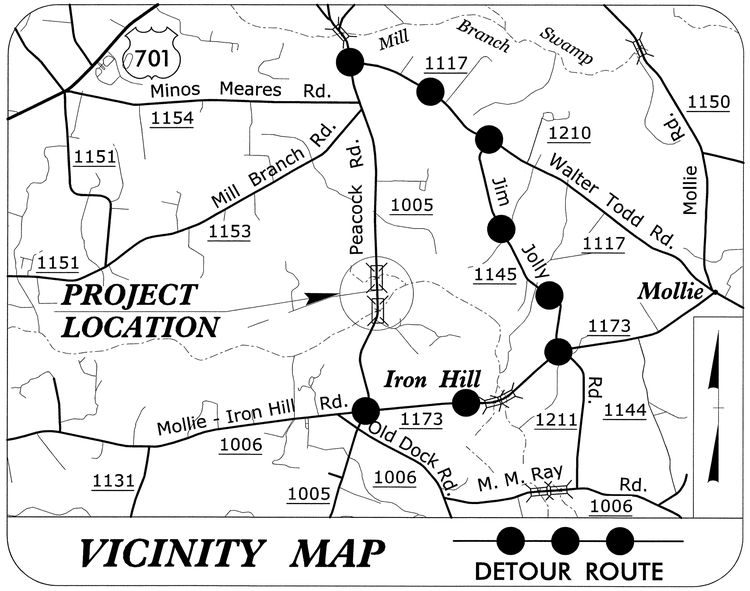
Roadway Design
USER: rkpatel

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

COLUMBUS COUNTY





LOCATION: ***BRIDGES NO. 94 & 95 ON SR 1005 (PEACOCK ROAD) OVER GRISSETT CREEK***

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURES

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND PHASING)
TMP-2	SPECIAL SIGN DESIGN
TMP-3	OFF-SITE DETOUR
TMP-4	ROAD CLOSURE

SHEET NO.
TMP-1

B-5115

TIP PROJECT:

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

J. S. BOURNE, P.E. — *STATE TRAFFIC MANAGEMENT ENGINEER*
J. S. KITE, P.E. — *TRAFFIC CONTROL PROJECT ENGINEER*
D. W. BISSETTE, P.E. — *TRAFFIC CONTROL PROJECT DESIGN ENGINEER*
_____ — *TRAFFIC CONTROL DESIGN ENGINEER*

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

SEPI ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel:919-789-9977
Fax:919-789-9591
License: C-2197

APPROVED: _____
DATE: 6-17-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER SEVEN D. MILLER

6/17/2013
G:\Transportation\TRIL023.00 NCDOT Traffic LSA\TRIL023.ll\B-5115 Columbus\Traffic\TrafficControl\B-5115 TMP-1.dgn
User:SMiller

PROJ. REFERENCE NO.	SHEET NO.
B-5115	TMP-1A

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

STD. NO.	TITLE
1101.03	TEMPORARY ROAD CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES-TYPE III

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA
- REMOVAL
- USER DEFINED (IF NEEDED)
- USER DEFINED (IF NEEDED)

SIGNALS

EXISTING PROPOSED TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

APPROVED: *Steven D. Miller* DATE: *6-17-13*

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

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

ROADWAY STANDARD DRAWINGS & LEGEND

$$$$$$SYSTIME$$$$$$
$$$$$$USERNAME$$$$$$

PROJ. REFERENCE NO.	SHEET NO.
B-5115	TMP-1B

MANAGEMENT STRATEGIES

-CLOSE SR 1005 (PEACOCK ROAD) AND DETOUR TRAFFIC OFF-SITE

-LOCAL ACCESS TO ALL RESIDENCES AND BUSINESSES WILL BE MAINTAINED BETWEEN CLOSURE POINTS AT ALL TIMES DURING CONSTRUCTION

GENERAL NOTES

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

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

SIGNING

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

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC MANAGEMENT PLANS.

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

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

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

LOCAL NOTES

1. NOTIFY THE ENGINEER AT LEAST ONE MONTH PRIOR TO ANY TRAFFIC PATTERN ALTERATION.
2. NOTIFY COLUMBUS COUNTY SCHOOLS AT LEAST ONE MONTH PRIOR TO ROAD CLOSURE.
3. NOTIFY COLUMBUS COUNTY EMERGENCY SERVICES AT LEAST ONE MONTH PRIOR TO ROAD CLOSURE.

PHASING

STEP 1 USING RSD 1101.03 SHEET 1 OF 9, CLOSE PEACOCK ROAD (SR 1005) AND DETOUR TRAFFIC OFF-SITE AS SHOWN ON TMP-3. MAINTAIN ACCESS TO THE TIMBER ROAD BETWEEN CLOSURE POINTS.

STEP 2 REMOVE ONE OF THE EXISTING STRUCTURES (A).

STEP 3 CONSTRUCT ONE PROPOSED STRUCTURE (A).

STEP 4 REMOVE THE OTHER EXISTING STRUCTURE (B).

STEP 5 CONSTRUCT PROPOSED STRUCTURE (B) AND ROADWAY.

STEP 6 PLACE FINAL PAVEMENT MARKINGS ACCORDING TO THE PAVEMENT MARKING PLANS.

STEP 7 OPEN PEACOCK ROAD (SR 1005) TO TRAFFIC AND REMOVE ALL TRAFFIC CONTROL DEVICES.

APPROVED: [signature] DATE: 6-17-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

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

TRANSPORTATION OPERATIONS PLAN

$$$$$$SYSTIME$$$$$$
$$$$$$DGN$$$$$$
$$$$$$USERNAME$$$$$$

PROJ. REFERENCE NO.	SHEET NO.
B-5115	TMP-2

SEPI ENGINEERING & CONSTRUCTION
Sepi Engineering Group
1025 Wade Avenue
Raleigh, NC 27605
Phone: (919)-789-9977
Fax: (919)-789-9591

TRANSPORTATION TRAFFIC SURVEYING ENVIRONMENTAL SITE CIVIL INSPECTIONS CONSTRUCTION

SIGN NUMBER: SP-1 BACKG COLOR: Fluorescent Orange
TYPE: STATIONARY COPY COLOR: Black
QUANTITY: SEE PLANS

SIGN WIDTH: 36"
HEIGHT: 24"
TOTAL AREA: 6.0 Sq.Ft.

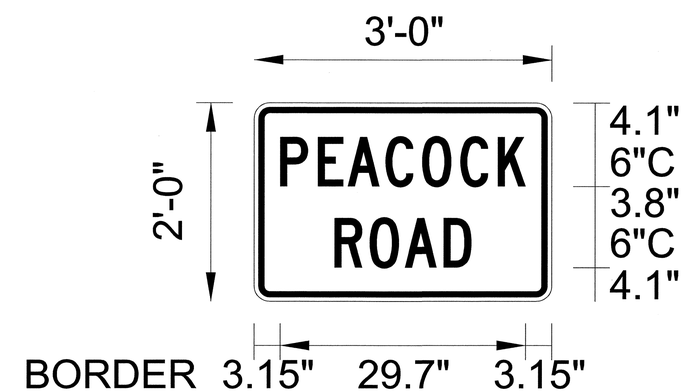
BORDER TYPE: RECESSED
RECESS: 0.5"
WIDTH: 0.63"
RADII: 1.5"

MAT'L: 0.125" (3.2 mm) ALUMINUM
0.079" COMPOSITE

DESIGN BY: R DRAYTON CHECKED BY: S MILLER
PROJECT ID: B-5115 DIV: 6 DATE: Feb 11, 2013

USE NOTES

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be Type VII, VIII, or IX (prismatic) fluorescent orange retroreflective sheeting.



R=1.5"
TH=0.63"
IN=0.5"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

																										Series/Size Text Length
	P	E	A	C	O	C	K																			C 2000
	3.2	7.7	11.3	15.9	20.3	24.9	29.5																			29.7
	R	O	A	D																						C 2000
	9.7	14	18.2	22.9																						16.6

FILENAME: B-5115 TMP-2

SEPI ENGINEERING & CONSTRUCTION SIGN DETAIL

APPROVED: [signature] DATE: 6-17-13

SEAL NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

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

SPECIAL SIGN DESIGN

$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
B-5115	TMP-3

$$$$SYSTIME$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

APPROVED: [signature] DATE: 6-17-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

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

OFF-SITE DETOUR

PROJ. REFERENCE NO.	SHEET NO.
B-5115	TMP-4

INSET A

APPROVED: [signature] DATE: 6-17-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

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

ROAD CLOSURE

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

T.I.P.: B-5115

CONTRACT: C203251

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
B-5115	PMP-1

APPROVED: Ayman Alqudwah

DATE: 6-24-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028387 ENGINEER AYMAN I. ALQUDWAH

PAVEMENT MARKING PLAN
COLUMBUS COUNTY
LOCATION: BRIDGE 94 AND 95 ON SR 1005 (PEACOCK ROAD) OVER GRISSETT CREEK

ROADWAY STANDARD DRAWING

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

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

GENERAL NOTES

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

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

ROAD NAME	MARKING	MARKER
SR 1005	THERMOPLASTIC	RAISED

B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

PAVEMENT MARKING SCHEDULE

THERMOPLASTIC(4")

SYMBOL	DESCRIPTION
TA	WHITE EDGELINE (90 MILS)
TI	YELLOW DOUBLE CENTER (120 MILS)

PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

AYMAN ALQUDWAH, P.E. SIGNING & DELINEATION REGIONAL ENGINEER

BARRY NOWLIN SIGNING & DELINEATION PROJECT DESIGN TECHNICIAN

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN COVER SHEET NOTES & SCHEDULE
PMP-2	PAVEMENT MARKING DETAIL

TIP NO.	SHEET NO.
B-5115	PMP-2

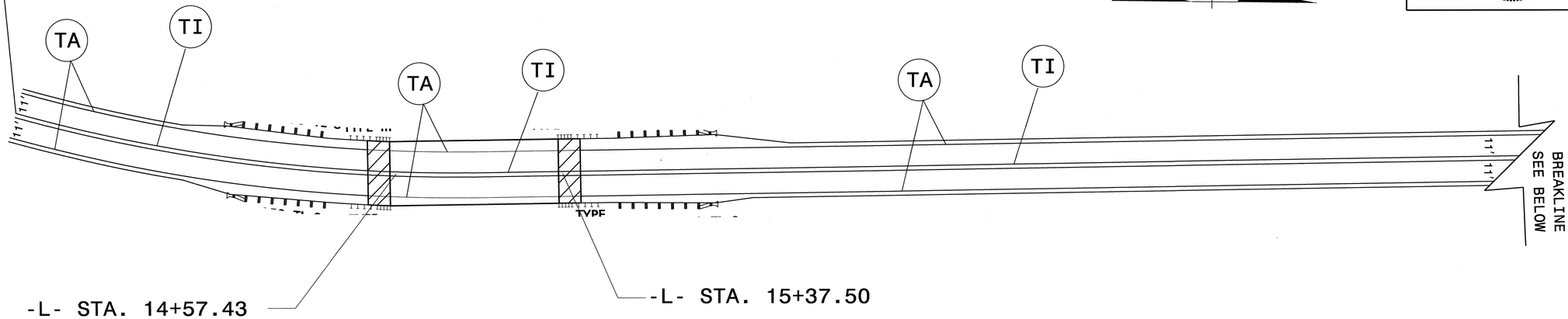
APPROVED: Ayman Alquidwah

DATE: 6-24-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028387 ENGINEER AYMAN I. ALQUIDWAH

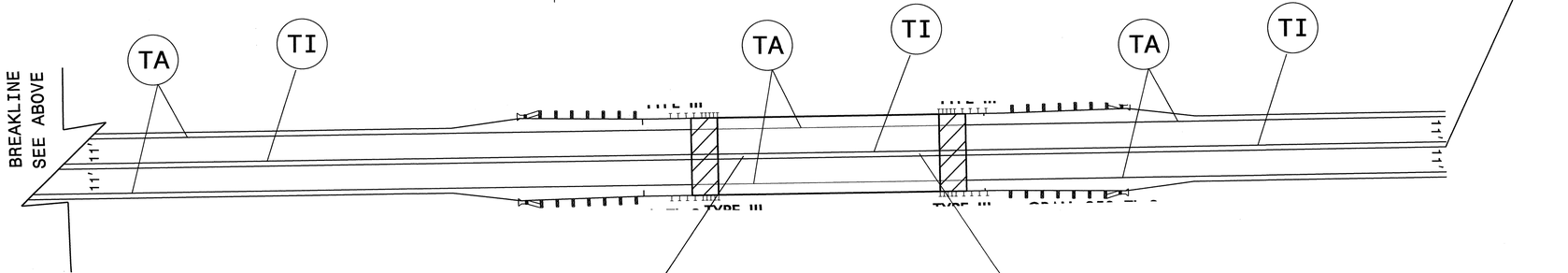
BEGIN PROJECT -L- STA. 12+75.00
TIE PAVEMENT MARKINGS TO EXISTING



-L- STA. 14+57.43

-L- STA. 15+37.50

END PROJECT -L- STA. 29+50.00
TIE PAVEMENT MARKINGS TO EXISTING



-L- STA. 26+60.31

-L- STA. 27+47.69

PAVEMENT MARKING DETAIL

TIP PROJECT: B-5115

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5115	EC-1	

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

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

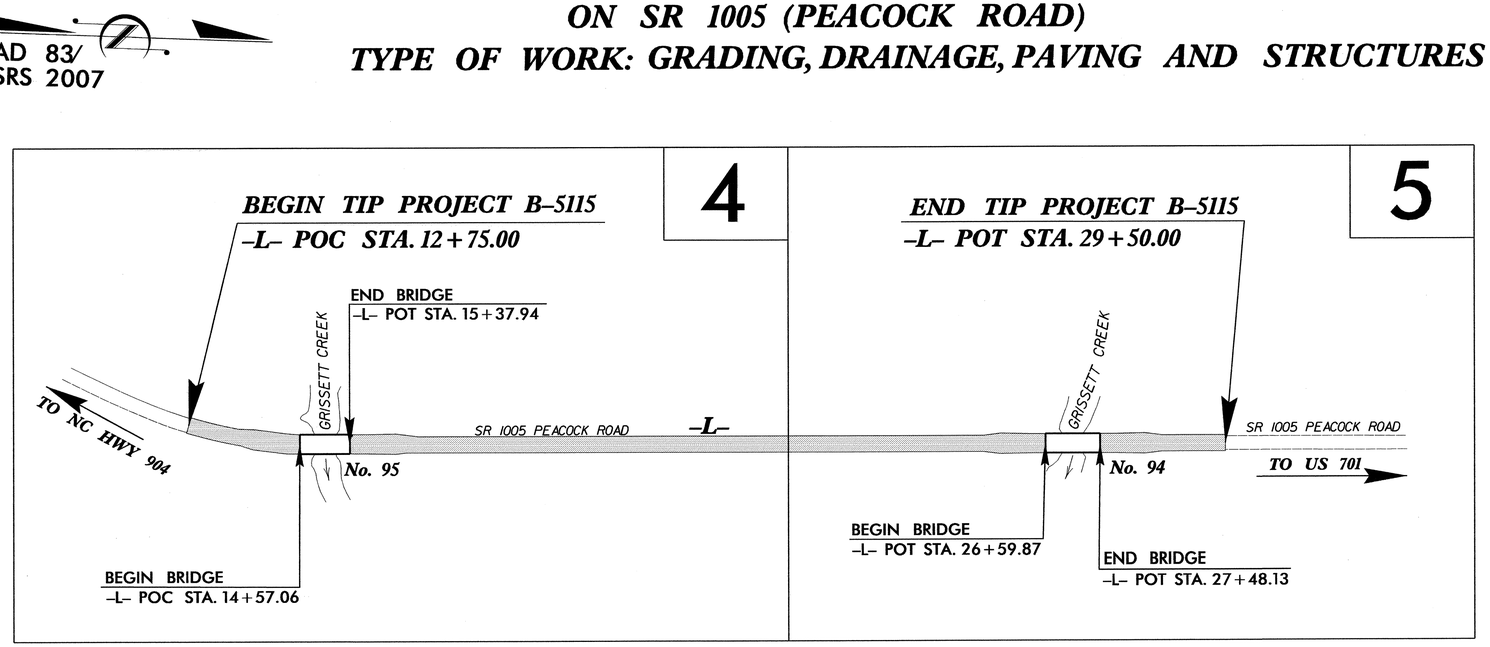
PLAN FOR PROPOSED

HIGHWAY EROSION CONTROL

COLUMBUS COUNTY

LOCATION: BRIDGES NO. 94 & 95 OVER GRISSETT CREEK
ON SR 1005 (PEACOCK ROAD)
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES

NAD 83/
NSRS 2007



EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	EW CFW
	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	

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

GRAPHIC SCALE

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

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:

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

2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 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	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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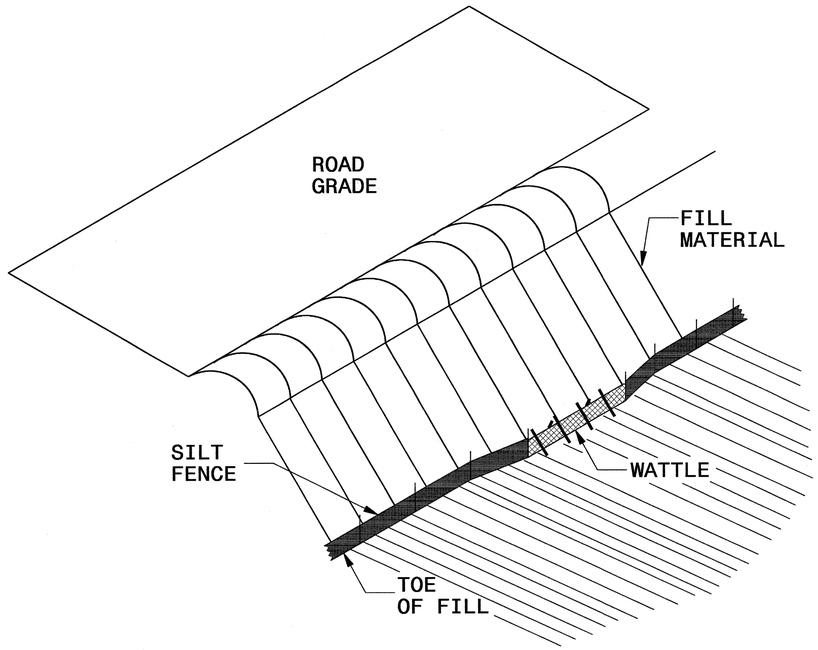
User: jchandler1 RT REN247778

SILT FENCE COIR FIBER WATTLE BREAK DETAIL

PROJECT REFERENCE NO.	SHEET NO.
B-5115	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



ISOMETRIC VIEW

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.

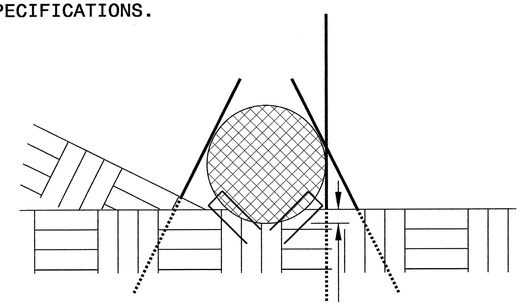
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

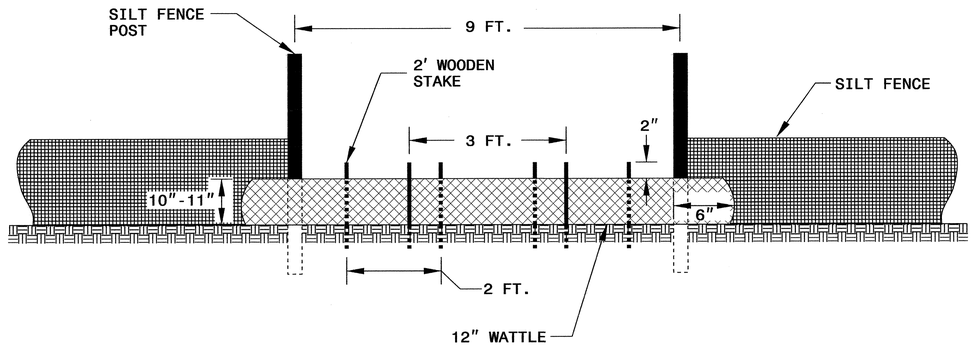
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

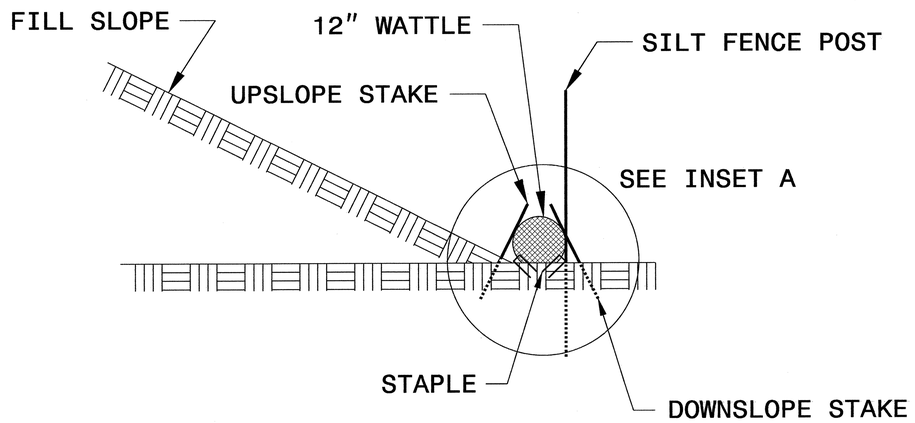
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A





VIEW FROM SLOPE



SIDE VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-5115	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

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

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-5115	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

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

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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8/17/99

NOTE:
UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 5

PROJECT REFERENCE NO.	SHEET NO.
B–5115	EC-5/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007

MATCHLINE –L– STA 21+00.00
SEE SHEET 4

2
SOUTHERN DIVERSIFIED TIMBER LLC
DB 989 PG 546

25

30

N 80°00'20" E
156.50'

N 7°59'21" E
136.16'

BEGIN BRIDGE
–L– STA 26+59.87

BEGIN APPROACH SLAB
–L– STA 26+49.31

END BRIDGE
–L– STA 27+48.13

END APPROACH SLAB
–L– STA 27+58.69

3
DIANA GASKINS HARDWICK
DB 809 PG 681

S 83°25'05" W
63.36'

SBG
STA 26+30 –L– RT & LT
TO BEGIN BRIDGE

FLOATING TURBIDITY CURTAIN

+27 90' LT 50' LT WOODS
+48 91' LT 50' LT
+12 50' LT 30.18' LT
+03.72 34.69'
+03 90' LT 50' LT
+24 90' LT 50' LT
+50 50' LT 30.26' LT WOODS
+58 42'
+51 38'
+51 39'
+12 50' RT 29.82' RT
+50 50' RT 29.74' RT

–L– POT Sta. 31+71.83

22' BST | PEABODY RD SR 1005

N 2°04'12.9" W

TO CHADBURN

OVERHEAD POWER LINES

EXISTING R/W

CFW

GRAU 350 TL-3 8:1

TYPE III BRIDGE RAIL

15" RCP-IV

TYPE 1B 2G 1B 2G

0503

25' INC.

BM #1

WOODS

CULTIVATED

ISFRD

6' WD

WD DECK

POOL

RICHARD CALVIN & IDA S CARTRETTE
DB 399 PG 113

N 02°08'03" W
165.00'

CL 'B' RIP RAP
EST. 1 TON
EST. 5 SY FF

CL 'II' RIP RAP w/
CL 'B' RIP RAP
TO TOP OF BERM
(STRUCTURE PAY ITEM)

SBC
END APPROACH SLAB TO
STA. 27+66.03 –L– (LT & RT)

CL 'II' RIP RAP w/
CL 'B' RIP RAP
TO TOP OF BERM
(STRUCTURE PAY ITEM)

END PROJECT B–5115
–L– POT STA. 29+50.00

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wbandler ATRENV24778

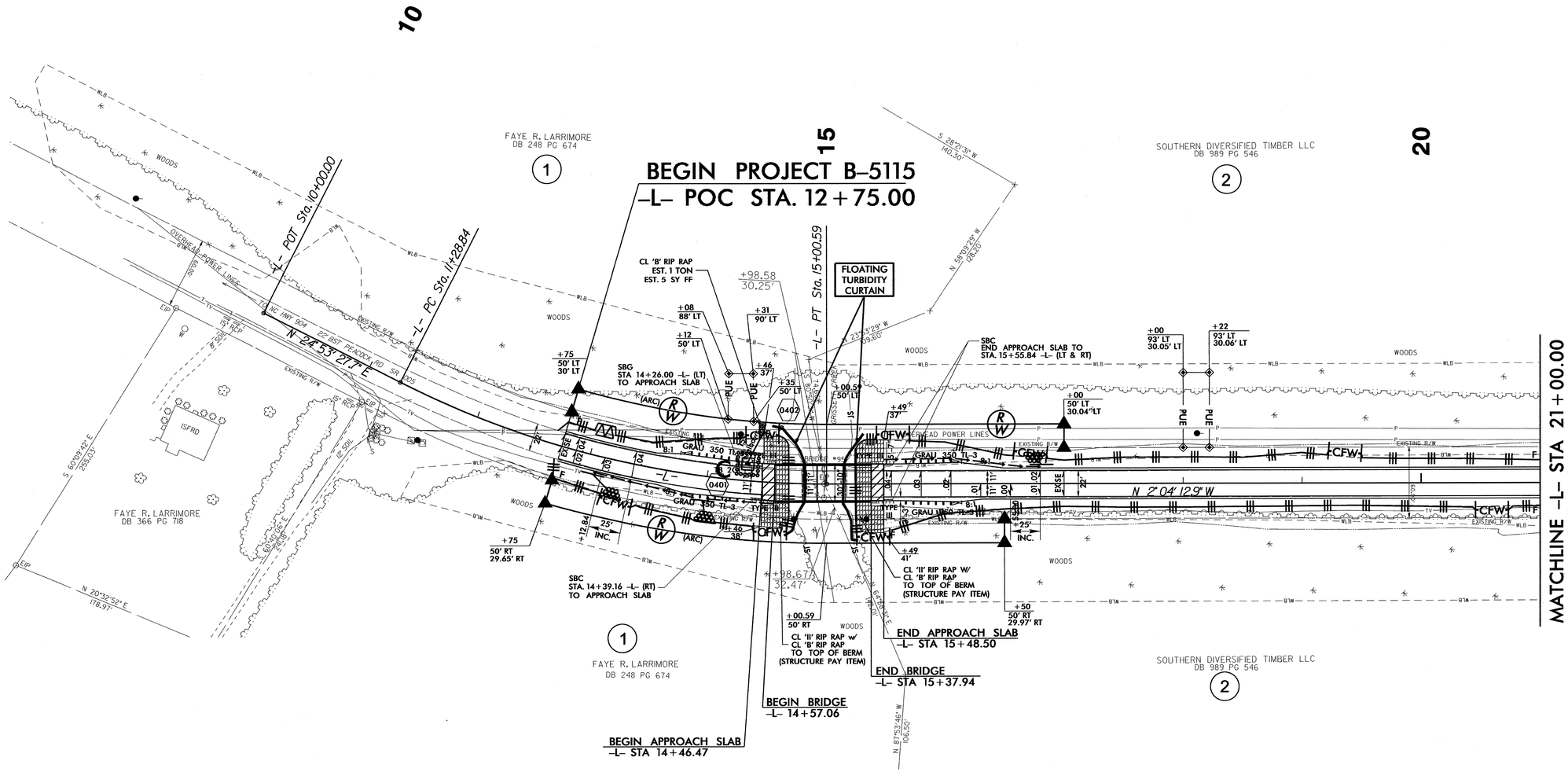
8/17/99

NOTE:
UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

PROJECT REFERENCE NO.	SHEET NO.
B-5115	EC-6/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007



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Richandler1 (Richandler1 at RENVSA17778)

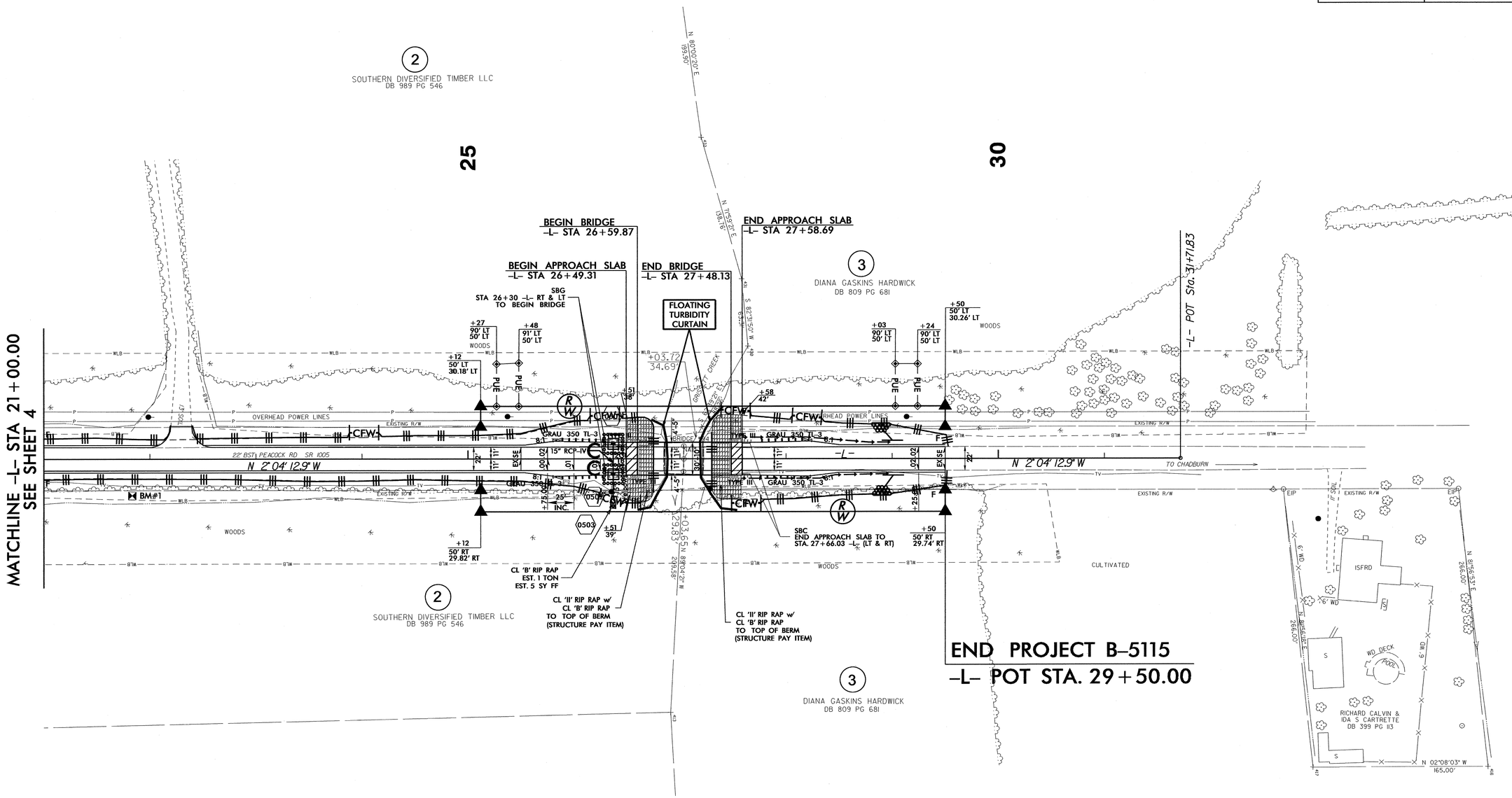
8/17/99

NOTE:
UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

PROJECT REFERENCE NO.	SHEET NO.
B-5115	EC-7/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007



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Richandler At REN/247728

T.I.P.: B-5115

CONTRACT: C203251

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
B-5115	SIGN-1

APPROVED: Ayman Alqudwah

DATE: 6-24-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028387 ENGINEER AYMAN I. ALQUDWAH

SIGNING PLAN
COLUMBUS COUNTY
LOCATION: BRIDGE 94 AND 95 ON SR 1005 (PEACOCK ROAD) OVER GRISSETT CREEK

ROADWAY STANDARD DRAWING

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

STD. NO.	TITLE
903.10	GROUND MOUNTED SIGN SUPPORTS
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

GENERAL NOTES

. IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.

. SIGNING PLANS DO NOT INCLUDE TEMPORARY CONSTRUCTION SIGNING OR PAVEMENT MARKINGS. SEE TRAFFIC CONTROL PLANS.

. WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER

. ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.

. SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	35	L.F.
4102000000	904	SIGN ERECTION, TYPE E	4	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	15	EA.

TYPE E SIGNS

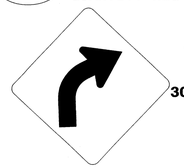
401 QUANTITY REQ'D 1 EA.

45 M.P.H.

W13-1P

18" X 18"

402 QUANTITY REQ'D 1 EA.



W1-2

30" X 30"

403 QUANTITY REQ'D 2 EA.

W1-8

18" X 24"

PROJECT NOTES

1	DISPOSAL OF SIGN SYSTEM, U-CHANNEL

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET, QUANTITIES, NOTES, AND TYPE E SIGNS
SIGN-2	SIGN DETAIL SHEET

PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

AYMAN ALQUDWAH, P.E. SIGNING & DELINEATION REGIONAL ENGINEER

BARRY NOWLIN SIGNING & DELINEATION DESIGN TECHNICIAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

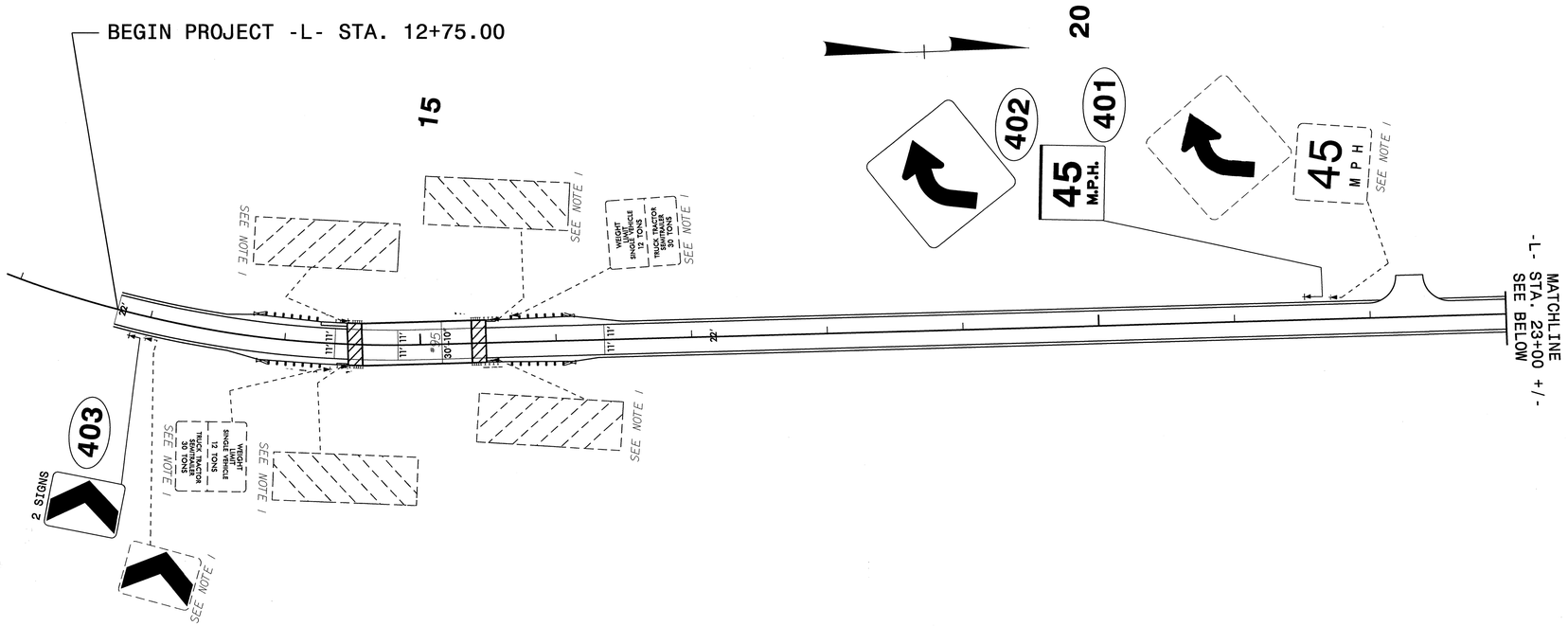
TIP NO.	SHEET NO.
B-5115	SIGN-2

APPROVED: [signature]

DATE: 6-24-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028387 ENGINEER AIMAN J. ALQUDWAH



PROJECT NOTES

1	DISPOSAL OF SIGN SYSTEM, U-CHANNEL

SIGN DETAIL SHEET

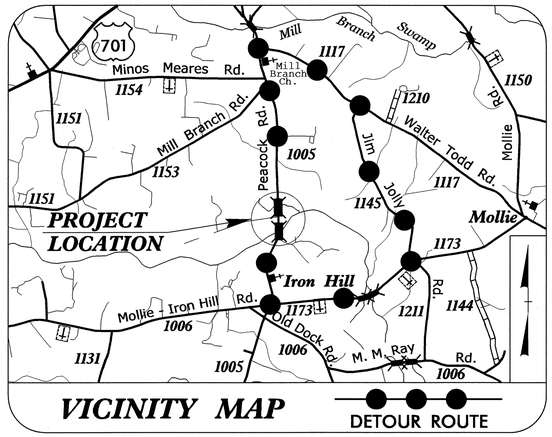
09/08/99

TIP PROJECT: B-5115

T.I.P. NO.	SHEET NO.
B-5115	UC-1

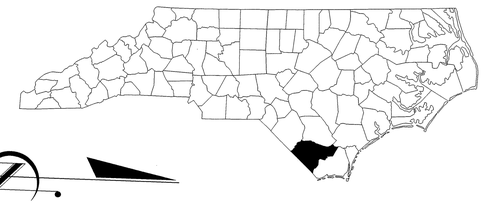
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS
COLUMBUS COUNTY

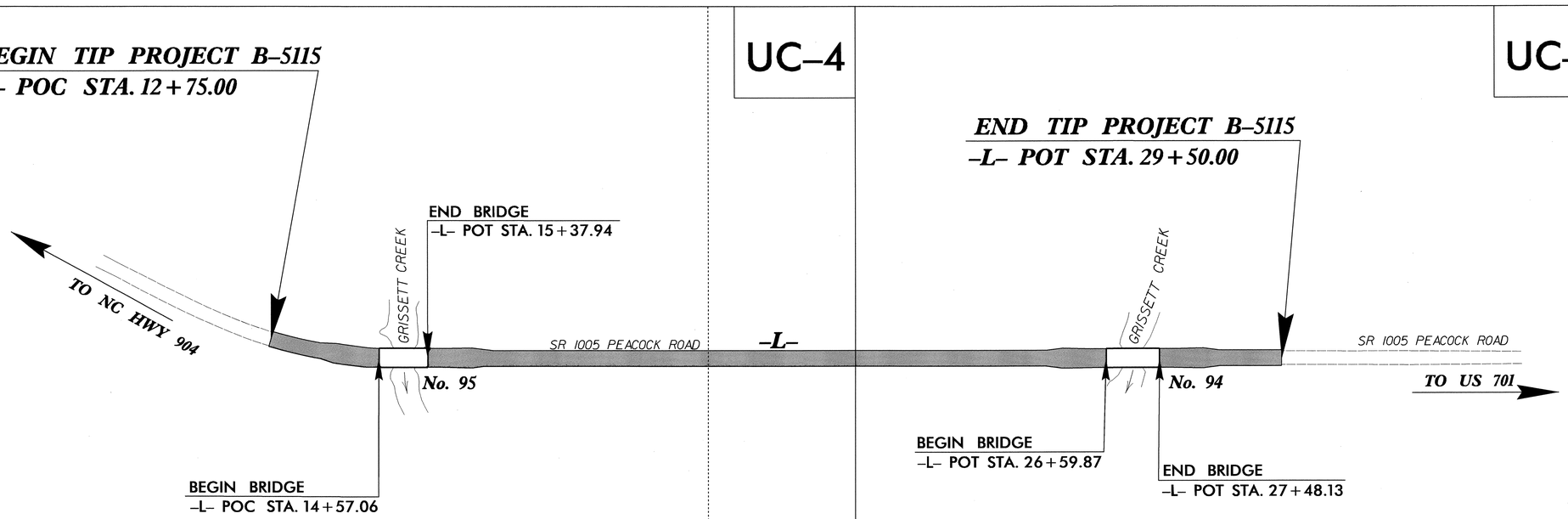


LOCATION: BRIDGES NO. 94 & 95 OVER GRISSETT CREEK ON SR 1005 (PEACOCK ROAD)

TYPE OF WORK: UTILITIES RELOCATION

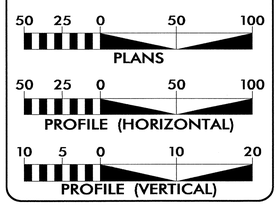


NAD 83/
NSRS 2007



2012 STANDARD SPECIFICATIONS

GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.	*DESCRIPTION*
UC-1	*TITLE SHEET*
UC-2	*UTILITY SYMBOLOGY*
UC-3	*NOTES*
UC-3A	*DETAILS*
UC-4 THRU UC-5	*UTILITY CONSTRUCTION SHEETS*
UC-6 THUR UC-7	*PROFILE SHEETS*

WATER AND SEWER OWNERS ON PROJECT

(1) Columbus County Water (WATER)

SEAL

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING

1555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E.	*UTILITIES SECTION ENGINEER*
Corey Bousquet, P.E.	*UTILITIES SQUAD LEADER PROJECT ENGINEER*
Nabil Hamdan	*UTILITIES PROJECT DESIGNER*

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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-5115	UC-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

- Water Line (Sized as Shown) — 12" WL
- 11¼ Degree Bend
- 22½ Degree Bend
- 45 Degree Bend
- 90 Degree Bend
- Plug
- Tee
- Cross
- Reducer
- Gate Valve — GV
- Butterfly Valve — BV
- Tapping Valve — TGV
- Line Stop — LS
- Line Stop with Bypass — LS/BP
- Blow Off — BO
- Fire Hydrant — PFH
- Relocate Fire Hydrant — RFH
- Remove Fire Hydrant — REM FH
- Water Meter — PWM
- Relocate Water Meter — RWM
- Remove Water Meter — REM WM
- Water Pump Station — PS(W)
- RPZ Backflow Preventer — PRPZ
- DCV Backflow Preventer — PBFP
- Relocate RPZ Backflow Preventer — RRPZ
- Relocate DCV Backflow Preventer — RBFP

PROPOSED SEWER SYMBOLS

- Gravity Sewer Line (Sized as Shown) — 12" SS
- Force Main Sewer Line (Sized as Shown) — 12" FSS
- Manhole (Sized per Note)
- Sewer Pump Station — PS(SS)

PROPOSED MISCELLANOUS UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Telephone Pedestal — TEL PED
- Utility Line by Others (Type as Shown) — PROP O/H POW LINES
- Trenchless Installation — 12" TL INSTALL
- Encasement by Open Cut — 24" ENCAS BY OC
- Encasement — 24" ENCASEMENT
- Thrust Block
- Air Release Valve — AR
- Utility Vault — UV
- Concrete Pier — CP
- Steel Pier — SP
- Plan Note — NOTE
- Pay Item Note — PAY ITEM

EXISTING UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Utility Pole
- Utility Pole with Base
- H-Frame Pole
- Power Transmission Line Tower
- Water Manhole
- Power Manhole
- Telephone Manhole
- Sanitary Sewer Manhole
- Hand Hole for Cable
- Power Transformer
- Telephone Pedestal
- CATV Pedestal
- Gas Valve
- Gas Meter
- Located Miscellaneous Utility Object
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

- *Underground Power Line — P
- *Underground Telephone Cable — T
- *Underground Telephone Conduit — TC
- *Underground Fiber Optics Telephone Cable — T FO
- *Underground TV Cable — TV
- *Underground Fiber Optics TV Cable — TV FO
- *Underground Gas Pipeline — G
- Aboveground Gas Pipeline — A/G Gas
- *Underground Water Line — W
- Aboveground Water Line — A/G Water
- *Underground Gravity Sanitary Sewer Line — SS
- Aboveground Gravity Sanitary Sewer Line — A/G Sanitary Sewer
- *Underground SS Forced Main Line — FSS
- Underground Unknown Utility Line — ?UTL
- SUE Test Hole
- Water Meter
- Water Valve
- Fire Hydrant
- Sanitary Sewer Cleanout

*For Existing Utilities

- Utility Line Drawn from Record (Type as Shown) — W
- Designated Utility Line (Type as Shown) — W

REV: 2/1/2012

5/14/99

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5115	UC-3
DESIGNED BY: NSH	
DRAWN BY: NSH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 23041 ENGINEER CORREY D. BOUSQUET 07/02/13

UTILITY CONSTRUCTION

UTILITY CONSTRUCTION

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.

2. THE EXISTING UTILITIES BELONG TO
Columbus County Water.

3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF ENVIRONMENTAL HEALTH. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF WATER QUALITY. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.

4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.

5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPROTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITONAL COST TO THE DEPARTMENT.

7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.

9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

PROJECT SPECIFIC NOTES:

1. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES.

2. IF HDPE PIPE IS INSTALLED BY DIRECTIONAL DRILL. IT SHALL BE FILLED WITH WATER AND NOT BE CONNECTED TO ANY OTHER PIPE OR FITTINGS FOR ONE WEEK FROM THE TIME OF INSTALLATION.

02-JUL-2013 09:33
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$$$$USERNAME$$$$

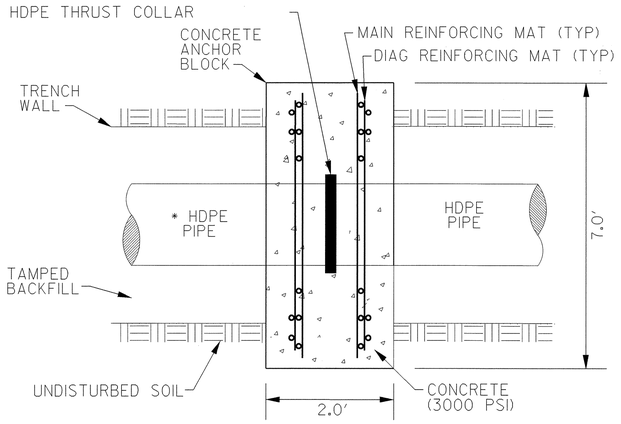
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5115	UC-3A
DESIGNED BY: NSH	
DRAWN BY: NSH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 23041 ENGINEER CASEY D. BOUSQUET 07/02/13

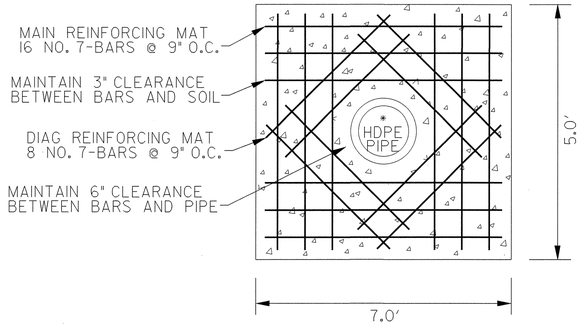
UTILITY CONSTRUCTION

CONCRETE ANCHOR BLOCK - PLAN VIEW FOR HDPE AND DIPIPE - THREE LOCATIONS



NOTE: BOTTOM OF TRENCH NEEDS TO BE STABILIZED TO SUPPORT THE WIEIGHT OF THE THJRUST COLLAR

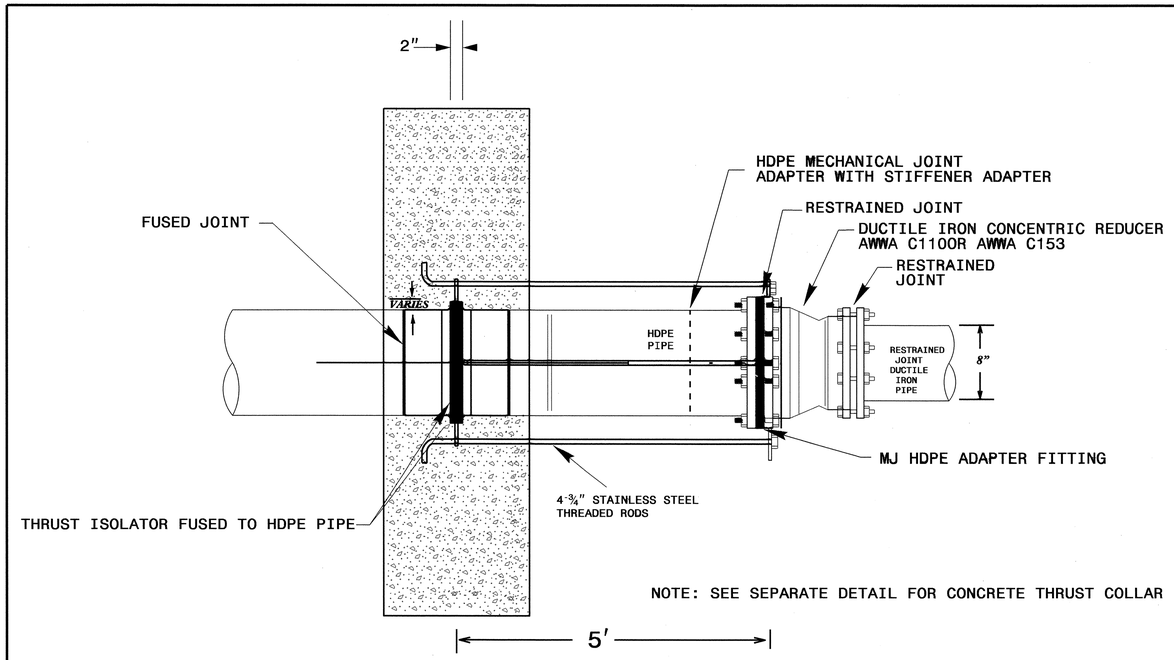
CONCRETE ANCHOR BLOCK - SECTION VIEW FOR HDPE PIPE



REINFORCING BARS (PER ANCHOR BLOCK):
MAIN MATS = 24 (#7 BARS) @ 78" LONG
DIAG MATS = 16 (#7 BARS) @ 58" LONG

FORCE MAIN AND WATER MAIN PROFILE NOTES:

(1) ELEVATIONS OF EXISTING UTILITIES SHOWN ON PROFILE NEED TO BE VERIFIED IN THE FIELD.
(2) CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE PATH DESIGNED AND SEALED BY A NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER OR BUFFER ZONES.
(3) CONTRACTOR'S ENGINEER SHALL PROVIDE ON-SITE OVERSIGHT FOR HDD OPERATION.
(4) THE HDPE WATER LINE INSIDE DIAMETER SHALL BE EQUIVALENT TO THE DI WATER LINE INSIDE DIAMETER. *

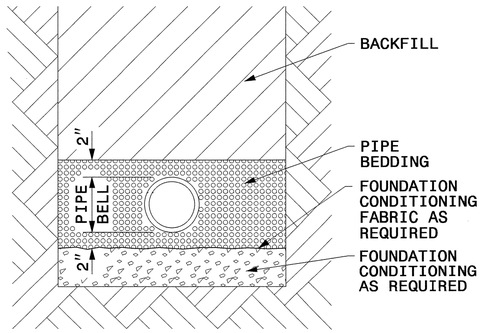


TRANSITION DETAIL FROM HDPE TO DI WATER PIPE

MAXIMUM TRENCH WIDTH AT TOP OF PIPE

NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)	NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78
18	42		

TRENCH DETAIL



PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

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02-JUL-2013 14:24
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PROJECT REFERENCE NO.	SHEET NO.
B-5115	UC-4
DESIGNED BY: NSH	
DRAWN BY: NSH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23041 07/02/13 CAREY D. BOUSQUET

UTILITY CONSTRUCTION

NAD 83/NSRS 2007

10

S 30°02'31" W 194.80'

S 08°32'31" W 277.20'

S 28°27'31" W 140.30'

N 58°02'29" W 128.20'

N 23°57'29" W 109.60'

15

20

FAYE R. LARRIMORE
DB 248 PG 674
(1)

SOUTHERN DIVERSIFIED TIMBER LLC
DB 989 PG 546
(2)

BEGIN PROJECT B-5115
-L- POC STA. 12+75.00

POP. 490' OF 8" WATER LINE
2- PROP. 8" GATE VALVE
480' - ABANDON 8" UTILITY PIPE
204' TRENCHLESS INSTALLATION OF 8" IN SOIL
204' TRENCHLESS INSTALLATION OF 8" NOT IN SOIL

-L- POT Sta. 10+00.00

-L- PC Sta. 11+28.84

-L- PT Sta. 15+00.59

WOODS

WLB

OVERHEAD POWER LINES

EXISTING R/W

1ST RCD

2ND RCD

N 24°53'21" E

BL-1

ISFRD

FAYE R. LARRIMORE
DB 366 PG 718

S 60°09'42" E 255.03'

S 65°08'35" E 63.97'

S 59°22'46" E 73.86'

N 20°32'52" E 178.97'

EIP

TV POWER SUPPLY

INNERDUCT

PLUG

+75 50' LT 30' LT

SHOULDER BERM GUTTER STA 14+26.00 -L- (LT) TO APPROACH SLAB

(ARC)

CL 'B' RIP RAP EST. 1 TON EST. 5 SY FF

+08 88' LT

+12 50' LT

+98.58 30.25'

+31 90' LT

+46 37'

+35 50' LT

+00.59 50' LT

+49 37'

(0402)

(0401)

PUE

8" DI RJ

8" CI

8:1 GRAU 350 TL-3

TYPE III

TB 2GI

ABANDON

+75 50' RT 29.65' RT

+12.84

25' INC.

+46 38

+88.67 32.47

+00.59 50' RT

CL 'II' RIP RAP W/ CL 'B' RIP RAP TO TOP OF BERM (STRUCTURE PAY ITEM)

SHOULDER BERM CURB STA. 14+39.16 -L- (RT) TO APPROACH SLAB

BL-2

5'

+42 41'

+25' INC.

+50 50' RT 29.97' RT

SHOULDER BERM CURB END APPROACH SLAB TO STA. 15+55.84 -L- (LT & RT)

+00 93' LT 30.05' LT

+22 93' LT 30.06' LT

+00 50' LT 30.04' LT

N 2°04'12.9" W 109.09'

BL-3

END BRIDGE
-L- STA 15+37.94

BEGIN BRIDGE
-L- 14+57.06

N 87°53'46" W 106.50'

S 64°58'31" E 106.50'

WL-1
8" TRENCHLESS INSTALLATION

OPEN CUT 8" DI RJ PIPE

STA 0+19

STA 4+26

MATCHLINE SEE SHEET "5" STA 21+00

02-JUL-2013 14:21
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PROJECT REFERENCE NO.	SHEET NO.
B-5115	UC-5

DESIGNED BY:	NSH
DRAWN BY:	NSH
CHECKED BY:	CDB
APPROVED BY:	CDB
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23041 07/02/13 COREY D. BOUSQUET

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

5/14/99

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PROJECT REFERENCE NO.	SHEET NO.
B-5115	UC-6

DESIGNED BY: NSH
DRAWN BY: NSH
CHECKED BY: CDB
APPROVED BY: CDB
REVISED:

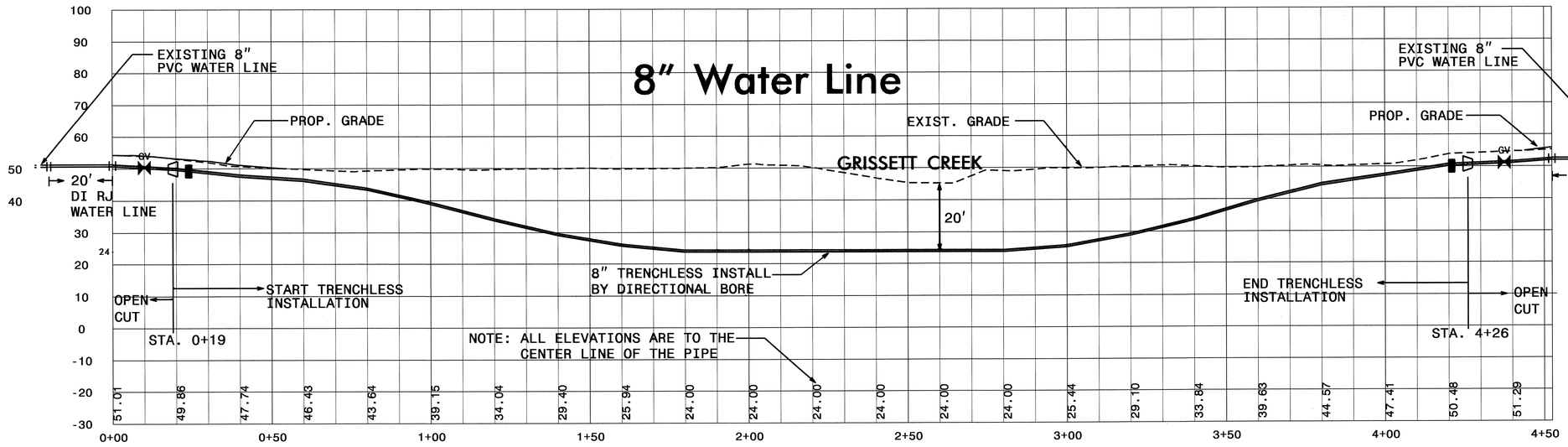
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 23041 07/02/13 ENGINEER COREY D. BOUSQUET

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

WL-1



5/14/99

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5115	UC-7
DESIGNED BY: NSH	
DRAWN BY: NSH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	

NORTH CAROLINA PROFESSIONAL SEAL 23041 ENGINEER CAREY D. BOUSQUET

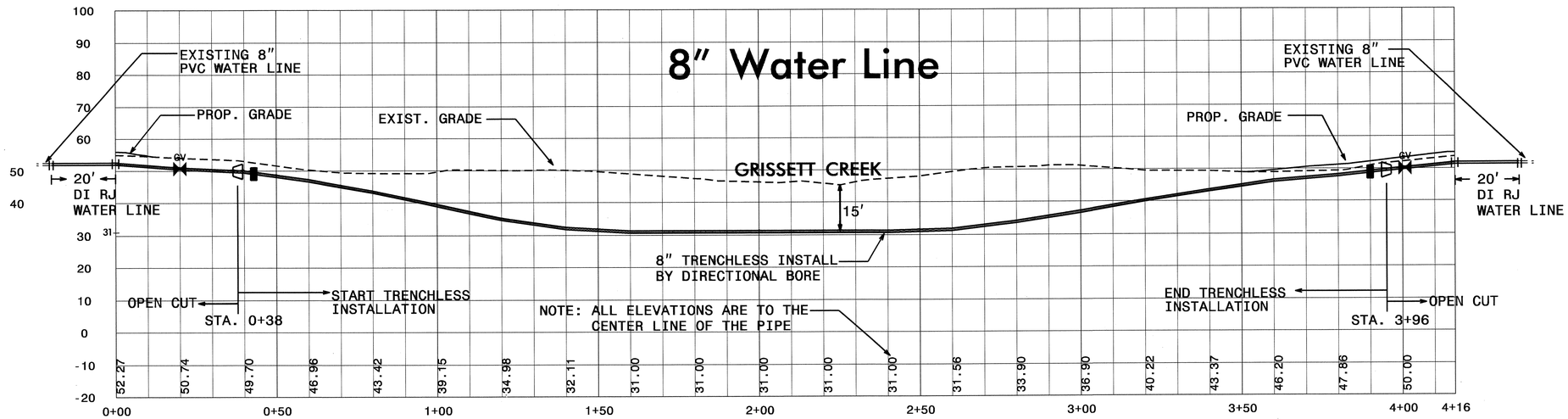
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

WL-2



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09/08/99

TIP PROJECT: B-5115

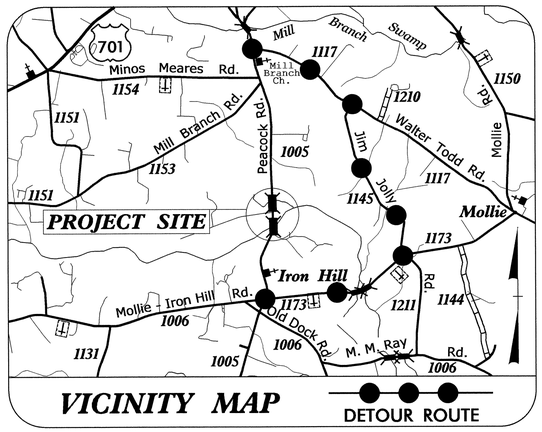
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
B-5115	UO-1

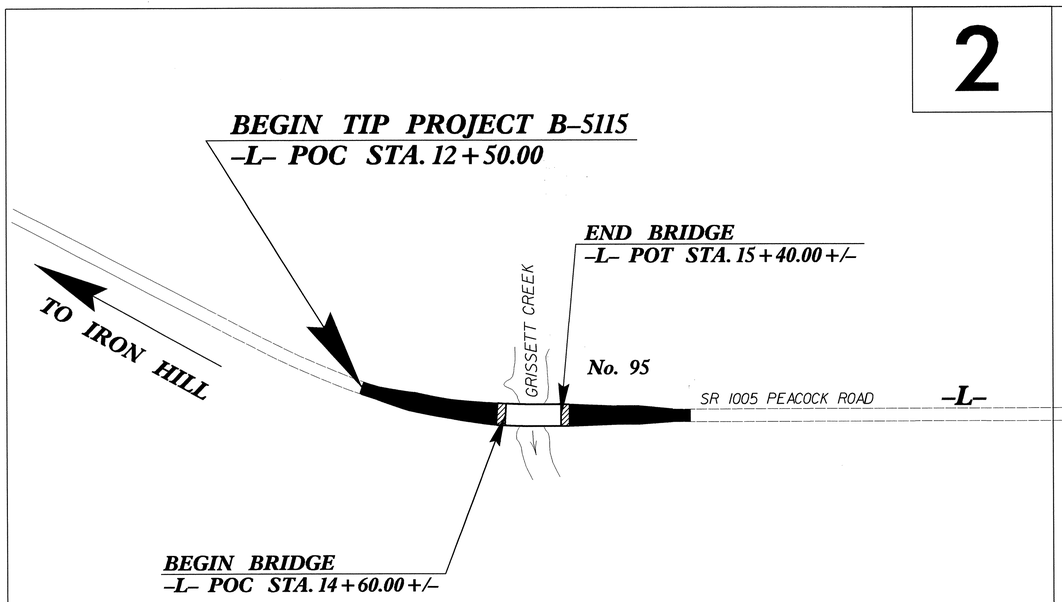
UTILITIES BY OTHERS PLANS
COLUMBUS COUNTY

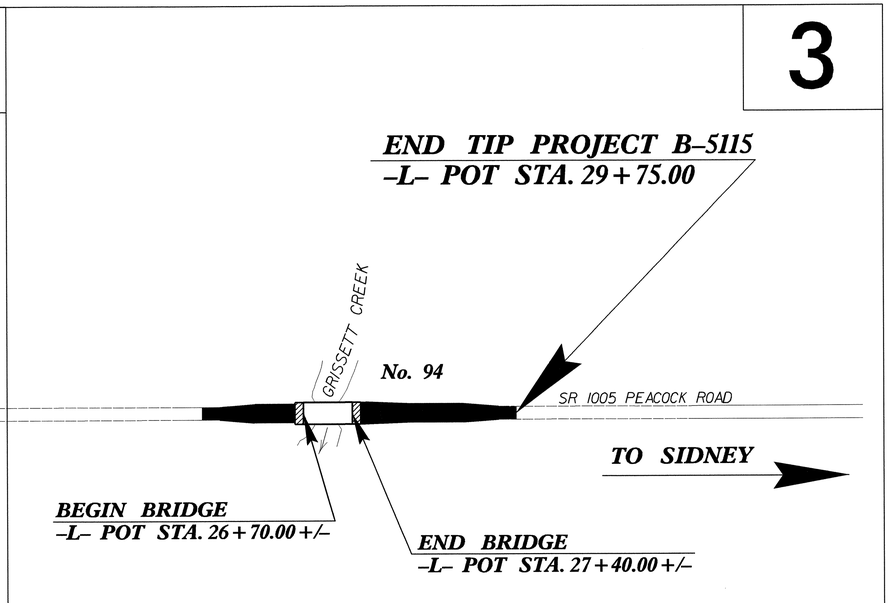
LOCATION: BRIDGE NO. 94 & 95 ON SR 1005 OVER GRISSETT CREEK

TYPE OF WORK: UTILITY BY OTHERS RELOCATION

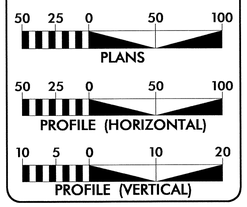


VICINITY MAP — DETOUR ROUTE





GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2 & UO-3	PLAN SHEET

UTILITY OWNERS ON PROJECT

(1) POWER – BRUNSWICK EMC

(2) TELEVISION – TIME WARNER CABLE

UTILITY DESIGN 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:
COREY BOUSQUET, P.E.
PREPARED FOR:
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
UTILITIES UNIT
RALEIGH, NC

27-JUN-2013 11:04
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$$$$USERNAME$$$$

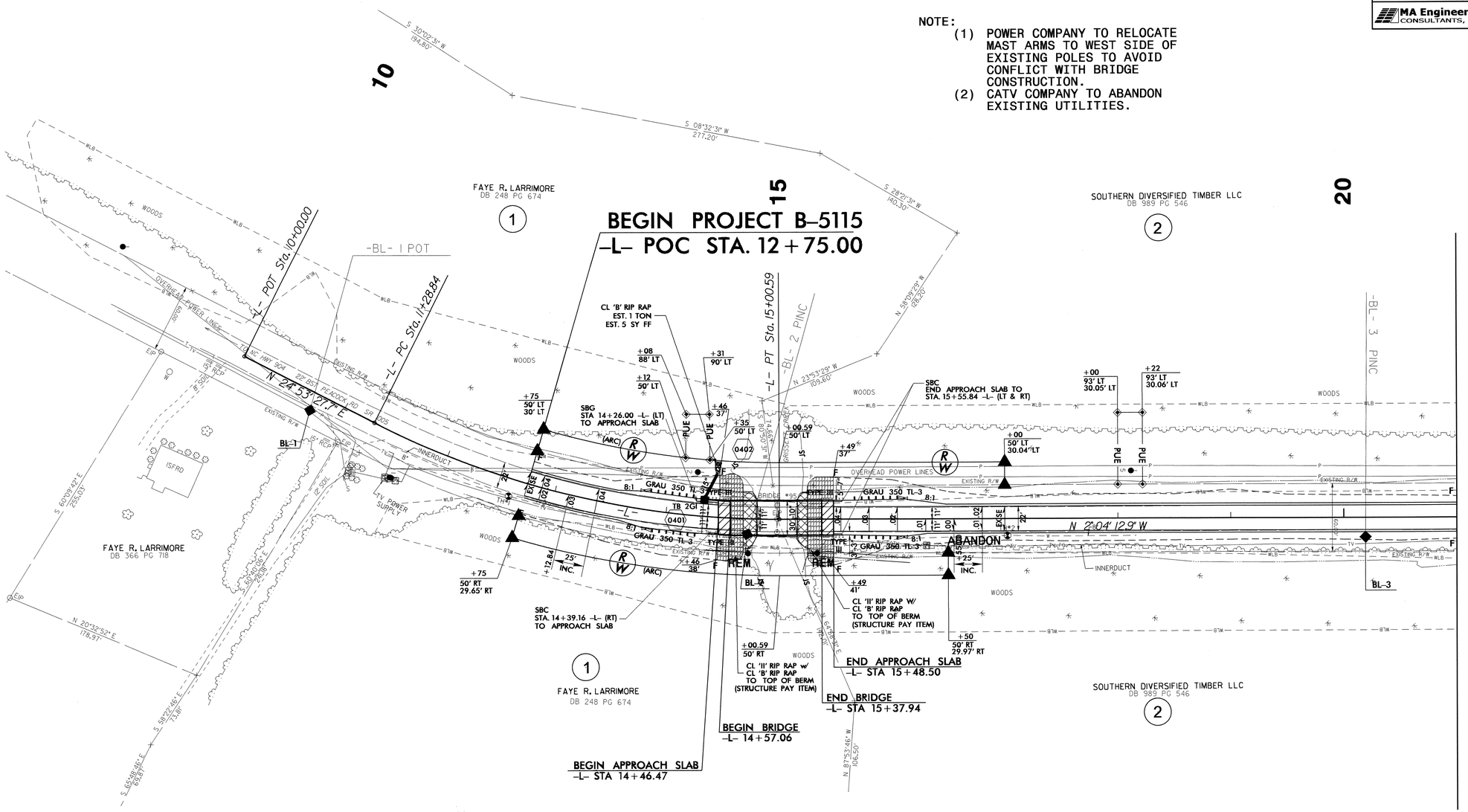
PROJECT REFERENCE NO.	SHEET NO.
B-5115	UO-2

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 137 Cary, N. C. 27511

NOTE:
(1) POWER COMPANY TO RELOCATE MAST ARMS TO WEST SIDE OF EXISTING POLES TO AVOID CONFLICT WITH BRIDGE CONSTRUCTION.
(2) CATV COMPANY TO ABANDON EXISTING UTILITIES.



MATCHLINE SEE SHEET UO-3 STA 21+00

5/14/99

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$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5115	UO-3

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 137
Cary, N. C. 27511

NAD 83/NSRS 2007

NOTE:
(1) POWER COMPANY TO RELOCATE MAST ARMS TO WEST SIDE OF EXISTING POLES TO AVOID CONFLICT WITH BRIDGE CONSTRUCTION.
(2) CATV COMPANY TO ABANDON EXISTING UTILITIES.

MATCHLINE SEE SHEET UO-2 STA 21+00

25

30

2 SOUTHERN DIVERSIFIED TIMBER LLC
DB 989 PG 546

3 DIANA GASKINS HARDWICK
DB 809 PG 681

BEGIN BRIDGE -L- STA 26+59.87

BEGIN APPROACH SLAB -L- STA 26+49.31

END BRIDGE -L- STA 27+48.13

END APPROACH SLAB -L- STA 27+58.69

SBG STA 26+30 -L- RT & LT TO BEGIN BRIDGE

-BL- 4 PINC

-BL- 5 PINC

-BL- 6 POT

-L- POT Sta. 31+71.83

N 8°00'07" E 95.90

N 71°59'25" E 138.76

S 82°16'50" W 43.25

N 8°00'07" W 24.58

+27 90' LT 50' LT

+48 91' LT 50' LT

+12 50' LT 30.18' LT

+03 90' LT 50' LT

+24 90' LT 50' LT

+50 50' LT 30.26' LT

+51 38'

+58 42'

WOODS

OVERHEAD POWER LINES

EXISTING R/W

22' BST, PEACOCK RD - SR 1005

N 2° 04' 12.9" W

GRAU 350 TL-3 TYPE II

GRAU 350 TL-3 TYPE III

15" RCP-IV

ABANDON

REM

INC.

0501

0502

0503

BM #1

INNERDUCT

BL-4

BL-5

BL-6

+12 50' RT 29.82' RT

+50 50' RT 29.74' RT

+75.00

+25.00

SBC END APPROACH SLAB TO STA. 27+66.03 -L- (LT & RT)

CL 'B' RIP RAP EST. 1 TON EST. 5 SY FF

CL 'II' RIP RAP w/ CL 'B' RIP RAP TO TOP OF BERM (STRUCTURE PAY ITEM)

CL 'II' RIP RAP w/ CL 'B' RIP RAP TO TOP OF BERM (STRUCTURE PAY ITEM)

CULTIVATED

TO CHADBURN

TO INNERDUCT

ISFRD

WD. DECK

POOL

6' WD

RICHARD CALVIN & IDA S CARTRETTE
DB 399 PG 113

N 02°08'03" W 165.00'

N 87°55'57" E 266.00'

S 87°55'57" W 266.00'

END PROJECT B-5115
-L- POT STA. 29+50.00

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27-JUN-2013 11:08
USER: kkhatri
PSELECTRONIC MAPPING

CSD265813,7/3/2013,S:\Records\Plot_Rooms\Plotter_room_A\Print_Jobs\07-03-13\SRagland\XSC Earthwork Volumes.xls

PROJ. REFERENCE NO.	SHEET NO.
B-5115	X-1A

Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, clearing and grubbing, and removal of existing pavement will be paid for at the lump sum price for "Grading".

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based inpart on subsurface data provided by the Geotechnical Engineering Unit.

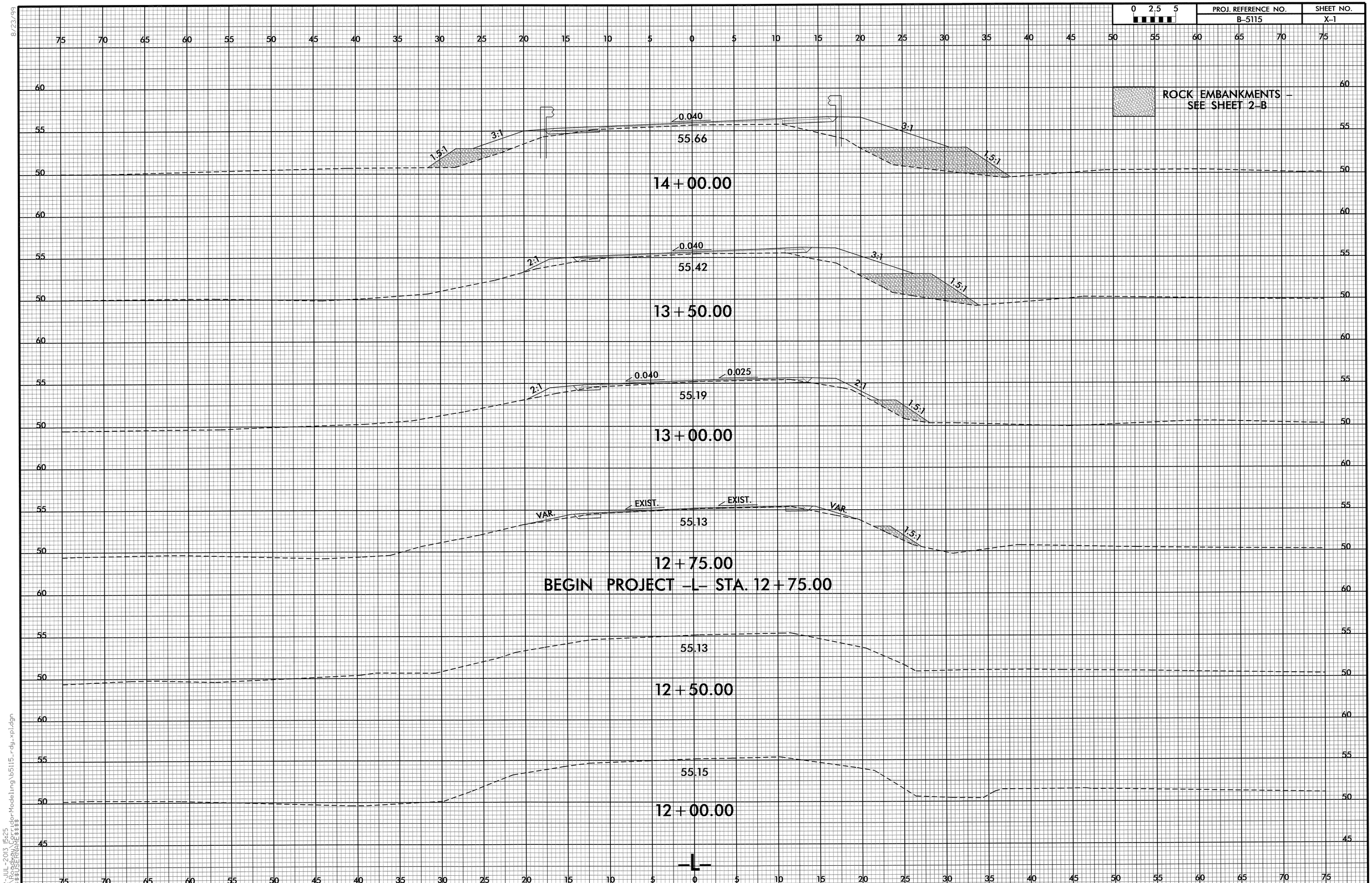
NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

CROSS-SECTION SUMMARY

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
12+75.00	0	0
13+00.00	1	5
13+50.00	2	28
14+00.00	2	59
14+57.06	2	89

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
15+37.94	0	0
15+50.00	1	26
16+00.00	2	81
16+50.00	1	36
17+00.00	3	13
17+50.00	4	9
18+00.00	4	11
18+50.00	4	11
19+00.00	4	13
19+50.00	4	11
20+00.00	4	7
20+50.00	4	8
21+00.00	4	7
21+50.00	4	6
22+00.00	4	5
22+50.00	3	6
23+00.00	3	8
23+50.00	4	11
24+00.00	4	13
24+50.00	4	11
25+00.00	4	11
25+50.00	4	14
26+00.00	4	31
26+50.00	8	56
26+59.87	3	13

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
27+48.13	0	0
28+00.00	0	146
28+50.00	0	111
29+00.00	0	67
29+50.00	1	32



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$$$$USERNAME$$$$

ROCK EMBANKMENTS – SEE SHEET 2-B

0.040
3:1
1.5:1
55.86
3:1
1.5:1
15+50.00

0.040
3:1
1.5:1
55.87
3:1
1.5:1
15+37.94
END BRIDGE –L– STA. 15+37.94

0.040
41.63
15+00.59

0.040
3:1
1.5:1
55.78
3:1
1.5:1
14+57.06
BEGIN BRIDGE –L– STA. 14+57.06

–L–

8/23/99
02-JUL-2013 15:21
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-5115	X-3

ROCK EMBANKMENTS – SEE SHEET 2-B

EXIST. EXIST.
3:1 3:1
55.77

18+00.00

EXIST. EXIST.
3:1 3:1
55.89

17+50.00

EXIST. EXIST.
2:1 3:1
56.00

17+00.00

BEGIN RESURFACING –L– STA. 17+00.00

0.020 0.002
2:1 3:1
56.02

16+50.00

0.022
1.5:1 3:1 3:1
55.93

16+00.00

–L–

02-JUL-2013 15:18
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$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-5115	X-4

54.92

21+00.00

54.97

20+50.00

55.06

20+00.00

55.22

19+50.00

55.48

19+00.00

55.65

18+50.00

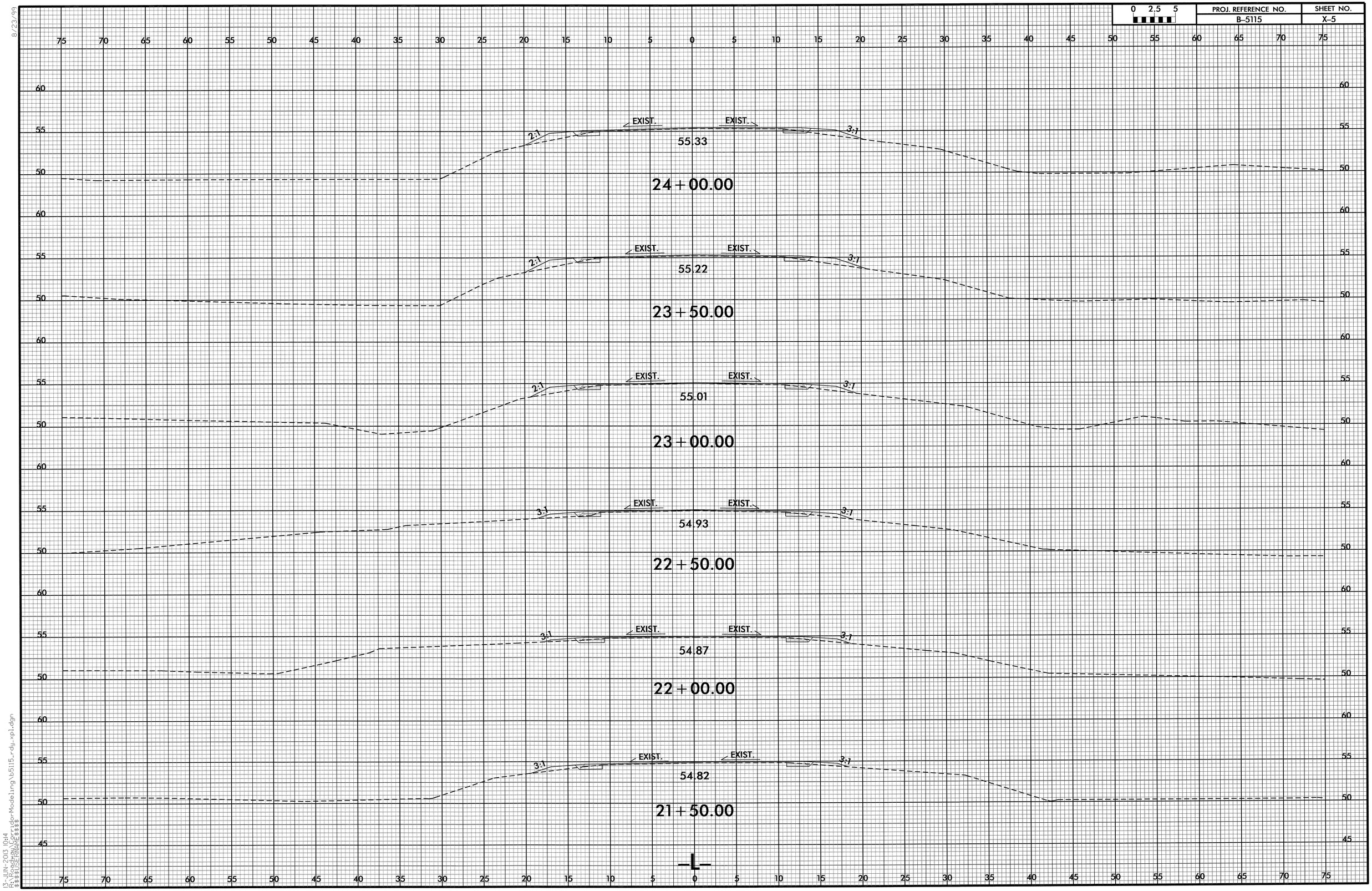
-L-

EXIST.

3:1

13-JUN-2013 10:14
R:\Projects\Roadway\Corridor Modeling\b5115_rdy_xpl.dgn
$$$$USERNAME$$$$

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-5115	X-5



8/23/99
13-JUN-2013 10:14
R:\Roadway\Corridor Modeling\b5115_rdy_xp1.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-5115	X-6

ROCK EMBANKMENTS –
SEE SHEET 2-B

0.020 0.020
55.82
3:1 3:1
1.5:1 1.5:1
26+50.00

0.020 0.010
55.82
3:1 3:1
1.5:1
26+00.00

EXIST. EXIST.
55.72
3:1 3:1
25+50.00

END RESURFACING –L– STA. 25+50.00

EXIST. EXIST.
55.51
3:1 3:1
25+00.00

EXIST. EXIST.
55.40
3:1 3:1
24+50.00

–L–

02-JUL-2013 15:03
R:\Roadway\Corridor Modeling\b5115_rdy_xpl.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-5115	X-7

ROCK EMBANKMENTS –
SEE SHEET 2-B

0.020 0.020
55.82
3:1 3:1
1.5:1 1.5:1

28 + 00.00

0.020 0.020
55.88
3:1 3:1
1.5:1 1.5:1

27 + 48.13
END BRIDGE –L– STA. 27 + 48.13

0.020 0.020

45.83

27 + 00.00

0.020 0.020
55.81
3:1 3:1
1.5:1 1.5:1

BEGIN BRIDGE –L– STA. 26 + 59.87
26 + 59.87

–L–

02-JUL-2013 14:55
R:\Roadway\CorridorModeling\b5115_rdy_xpl.dgn
$$$$USERNAME$$$$

ROCK EMBANKMENTS – SEE SHEET 2-B

54.66

30+00.00

54.76

29+75.00

END PROJECT -L- STA. 29+50.00

EXIST. EXIST. VAR. VAR.

54.91

29+50.00

0.020 0.020 3:1 3:1 1.5:1 1.5:1

55.11

29+00.00

0.020 0.020 3:1 3:1 1.5:1 1.5:1

55.34

28+50.00

-L-

8/23/99

18-JUN-2013 13:39
R:\Roadway\Corridor Modeling\b5115_rdy_xpl.dgn
$$$$USERNAME$$$$