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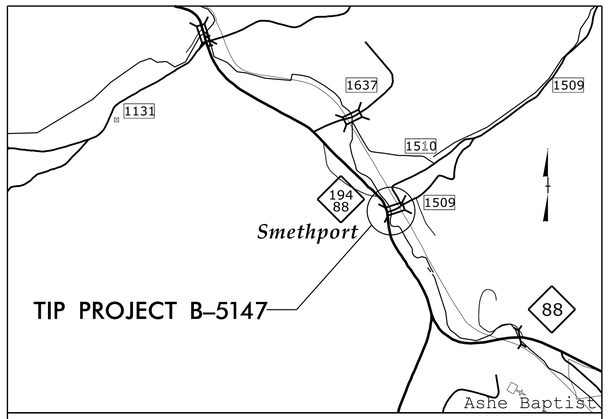
This file or an individual page shall not be considered a certified document.

09/08/99

TIP PROJECT: B-5147

CONTRACT: C203810

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ASHE COUNTY

LOCATION: BRIDGE 327 OVER LITTLE BUFFALO CREEK ON SR 1509 (CLAYBANK ROAD)

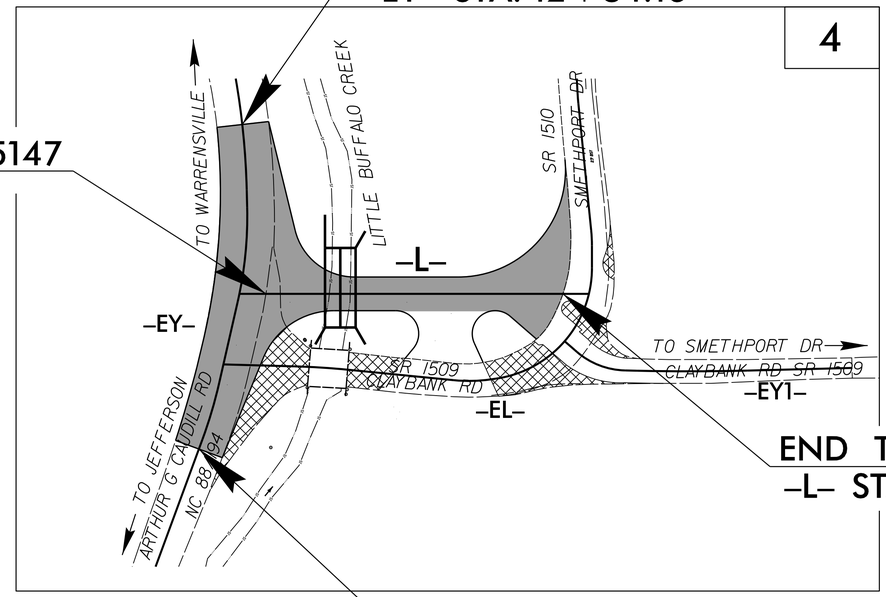
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND CULVERT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5147	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
42308.1.1	BRZ-1509(8)	PE
42308.2.1		ROW
42308.2.2		UTIL.
42308.3.1		CONST.

BEGIN CONSTRUCTION
–EY– STA. 12 + 84.16

BEGIN TIP PROJECT B-5147
–L– STA. 10 + 17.43



END TIP PROJECT B-5147
–L– STA. 12 + 11.55

END CONSTRUCTION
–EY– STA. 15 + 00.30

NC GRID
NAD83/CORS96

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

20 10 0 20 40
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2016 = 1254
ADT 2035 = 1400
K = 10 %
D = 55 %
T = 39 % *
V = 40 MPH
* TTST =1% DUAL 38%
FUNC CLASS = LOCAL
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-5147 = 0.037 MILES
TOTAL LENGTH OF TIP PROJECT B-5147 = 0.037 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: SEPTEMBER 18, 2015

LETTING DATE: MAY 17, 2016

G. E. BREW, PE
PROJECT ENGINEER

BRYAN KEY, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

DocuSigned by: Amy A. Billings 97988B640AB844A...
2/19/2016
NORTH CAROLINA PROFESSIONAL SEAL 020329 ENGINEER AMY A. BILLINGS P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

DocuSigned by: Bryan C. Key 326D39A94F124FC...
2/19/2016
NORTH CAROLINA PROFESSIONAL SEAL 026964 ENGINEER Bryan C. Key P.E.
SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-5147	1A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 026964 ENGINEER Brian C. Pfaff

Docusigned by: 329D39A94F124FC...

3/17/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX OF SHEETS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012
REVISED: 10-31-2014

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED 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.

CLEARING:

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

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 NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

Blue Ridge Electric Membership Corp., Centurylink, Skyline, and Morris Broadband

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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

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	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
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
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units (Beg. March 2013 Letting use detail in lieu of Standard)
876.01	Rip Rap in Channels

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04/06/15

PROJECT REFERENCE NO.	SHEET NO.
B-5147	1B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale **S.U.E. = Subsurface Utility Engineering*

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
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

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
- U/G Power Line LOS B (S.U.E.*) — P
- U/G Power Line LOS C (S.U.E.*) — P
- U/G Power Line LOS D (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- U/G Telephone Cable LOS B (S.U.E.*) — T
- U/G Telephone Cable LOS C (S.U.E.*) — T
- U/G Telephone Cable LOS D (S.U.E.*) — T
- U/G Telephone Conduit LOS B (S.U.E.*) — TC
- U/G Telephone Conduit LOS C (S.U.E.*) — TC
- U/G Telephone Conduit LOS D (S.U.E.*) — TC
- U/G Fiber Optics Cable LOS B (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS C (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS D (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E.*) — W
- U/G Water Line LOS C (S.U.E.*) — W
- U/G Water Line LOS D (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Cable LOS B (S.U.E.*) — TV
- U/G TV Cable LOS C (S.U.E.*) — TV
- U/G TV Cable LOS D (S.U.E.*) — TV
- U/G Fiber Optic Cable LOS B (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS C (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS D (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) — G
- U/G Gas Line LOS C (S.U.E.*) — G
- U/G Gas Line LOS D (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
- SS Forced Main Line LOS B (S.U.E.*) — FSS
- SS Forced Main Line LOS C (S.U.E.*) — FSS
- SS Forced Main Line LOS D (S.U.E.*) — FSS

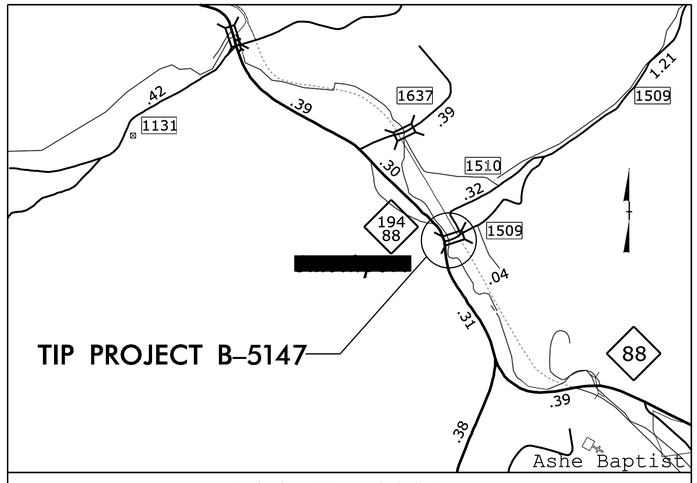
MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line LOS B (S.U.E.*) — ?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 LOS A (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-5147	1C-1
Location and Surveys	

SURVEY CONTROL SHEET B-5147



VICINITY MAP

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
3	BL-3	983564.9889	1263901.9576	2821.03	OUTSIDE PROJECT LIMITS	
4	BL-4	983579.1061	1264217.3353	2820.10	OUTSIDE PROJECT LIMITS	
1	GPS B5147-1	983784.2400	1264030.8120	2817.10	11+93.90	198.34 LT
2	GPS B5147-2	984314.9780	1264890.1120	2838.44	OUTSIDE PROJECT LIMITS	

BY

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
5	BY-5	984013.1664	1263569.4436	2816.63	OUTSIDE PROJECT LIMITS	
30	BY	983564.9889	1263901.9576	2821.03	OUTSIDE PROJECT LIMITS	
6	BY-6	983253.7653	1264012.8072	2825.97	OUTSIDE PROJECT LIMITS	

BY1

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
40	BY-1	983579.1061	1264217.3353	2820.10	OUTSIDE PROJECT LIMITS	
7	BY1-7	983779.9049	1264496.5067	2832.64	OUTSIDE PROJECT LIMITS	

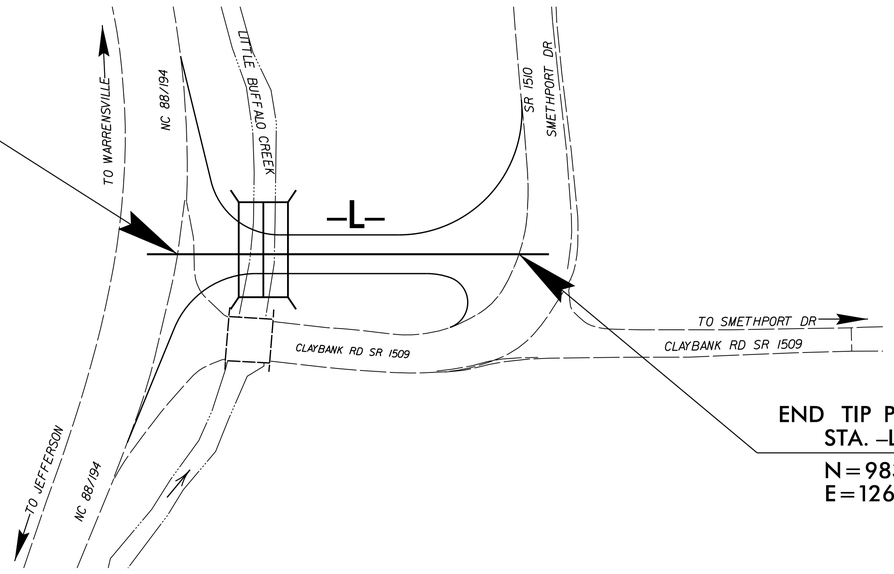
****
BM1 ELEVATION = 2827.58
N 983265 E 1264033
L STATION 12+29.00
S 18°13'34.33" W DIST 376.37
BM #1 RR SPIKE IN 16" PINE
****

****
BM2 ELEVATION = 2822.55
N 983945 E 1264211
L STATION 12+29.00
N 10°39'14.80" E DIST 328.35
BM #2 RR SPIKE IN 18" PINE
****

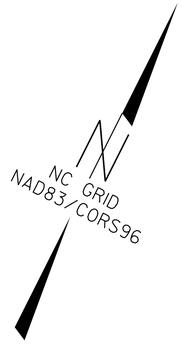
NC DOT GPS STATION B5147-2
LOCALIZED PROJECT COORDINATES
N= 984314.9780
E= 1264890.1120
ELEVATION= 2838.4400.

NC DOT GPS STATION B5147-1
LOCALIZED PROJECT COORDINATES
N= 983784.2400
E= 1264030.8120
ELEVATION= 2817.1040'

BEGIN TIP PROJECT B-5147
STA. -L- 10+17.43
N=983527.7909
E=1263962.1353



END TIP PROJECT B-5147
STA. -L- 12+11.55
N=983614.9160
E=1264135.6051



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B5147-1"
WITH NAD 83/CORS96 STATE PLANE GRID COORDINATES OF
NORTHING: 983784.2398(ft) EASTING: 1264030.8118(ft)
ELEVATION: 2817.1040(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: .9999534122
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5147-1" TO -L- STATION 10+17.43 IS
S 14°59'31" W 265.49'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

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PROJECT REFERENCE NO.	SHEET NO.
B-5147	1C-2
Location and Surveys	

SURVEY CONTROL SHEET B-5147

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	10+85.00	-40.00	983593.8626	1264004.5645
L	11+75.00	-40.00	983634.2564	1264084.9904

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
EL	10+47.56	16.00	983479.7155	1264007.7323
EL	10+81.84	16.00	983492.6743	1264038.2780
EL	11+51.15	16.00	983517.5393	1264102.9716
EL	11+75.13	16.00	983530.5203	1264127.4953
EL	11+78.76	16.00	983532.5897	1264130.4770
EL	12+01.07	16.00	983551.2468	1264150.1279
EL	12+56.39	17.00	983614.6203	1264169.3127
EL	12+83.22	17.00	983646.2090	1264160.1468
EL	12+97.85	17.00	983659.2761	1264153.5734
EL	13+07.85	17.00	983669.4489	1264147.8017
EL	13+60.00	-17.00	983695.2276	1264091.1362
EL	13+60.00	17.00	983713.4630	1264119.8324

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
EY	12+60.00	-23.00	983653.1410	1263903.5276
EY	15+50.00	-18.00	983370.0633	1263991.8977

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	10+62.33	-75.00	983614.9645	1263968.5973
L	10+77.00	-75.00	983621.5488	1263981.7068
L	10+90.50	-51.00	983606.1609	1264004.5424
L	10+90.50	-40.00	983596.3311	1264009.4794

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	983519.9679	1263946.5594
POT	12+28.55	983622.5441	1264150.7930

EL

TYPE	STATION	NORTH	EAST
POT	10+00.00	983474.0496	1263957.9165
PC	10+46.27	983493.6762	1263999.8133
PT	10+81.84	983507.6091	1264032.5378
PC	11+51.15	983532.4741	1264097.2314
PT	11+75.13	983543.6646	1264118.3725
PC	11+78.76	983545.7341	1264121.3542
PT	12+83.22	983638.5694	1264144.9600
PC	12+97.85	983651.6365	1264138.3867
PT	13+07.85	983660.3312	1264133.4536
PC	13+91.05	983730.5509	1264088.8316
PT	13+97.93	983736.4446	1264085.2736
PC	14+36.05	983769.5178	1264066.3290
PT	14+44.81	983777.2443	1264062.1980
PC	14+59.71	983790.5820	1264055.5605
PT	15+13.55	983841.2044	1264061.2277
PC	15+17.55	983844.3070	1264063.7610
PT	15+49.78	983864.5476	1264088.5535
PC	15+84.78	983880.8125	1264119.5476
PT	16+03.79	983889.4846	1264136.4618
POT	16+54.12	983912.0227	1264181.4690

EY

TYPE	STATION	NORTH	EAST
POT	10+00.00	983829.1964	1263707.2531
PC	11+54.61	983719.4885	1263816.1894
PT	11+81.03	983700.2526	1263834.3061
PC	12+08.99	983679.4030	1263852.9278
PT	13+26.97	983582.8992	1263920.3120
PC	13+38.36	983572.8453	1263925.6758
PT	14+00.56	983514.9129	1263947.8596
PC	14+55.05	983462.0034	1263960.8811
PT	14+93.62	983424.0611	1263967.6690
POT	16+35.64	983282.9457	1263983.6463

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B5147-1" WITH NAD 83/CORS96 STATE PLANE GRID COORDINATES OF NORTHING: 983784.2398(ft) EASTING: 1264030.8118(ft) ELEVATION: 2817.1040(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: .9999534122 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5147-1" TO -L- STATION 10+17.43 IS S 14°59'31" W 265.49' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

FINAL

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/*

   THE FILES TO BE FOUND ARE AS FOLLOWS: B-5147_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. SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

NOTE: DRAWING NOT TO SCALE

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PROJECT REFERENCE NO.	SHEET NO.
B-5147	2A-1

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 026964 ENGINEER Brian C. Key

Docusigned by: 529D39A94F124FC... 2/19/2016

PAVEMENT DESIGN ENGINEER

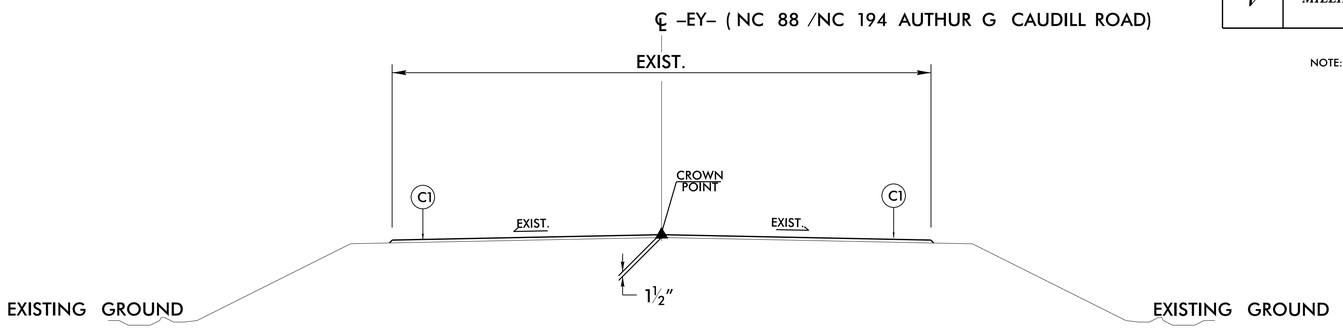
NORTH CAROLINA PROFESSIONAL SEAL 022896 ENGINEER CLARK S. MORRISON

Docusigned by: 80A110DD1E004C4... 2/18/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
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.*
V	*MILLING ASPHALT PAVEMENT, VARIABLE DEPTH*

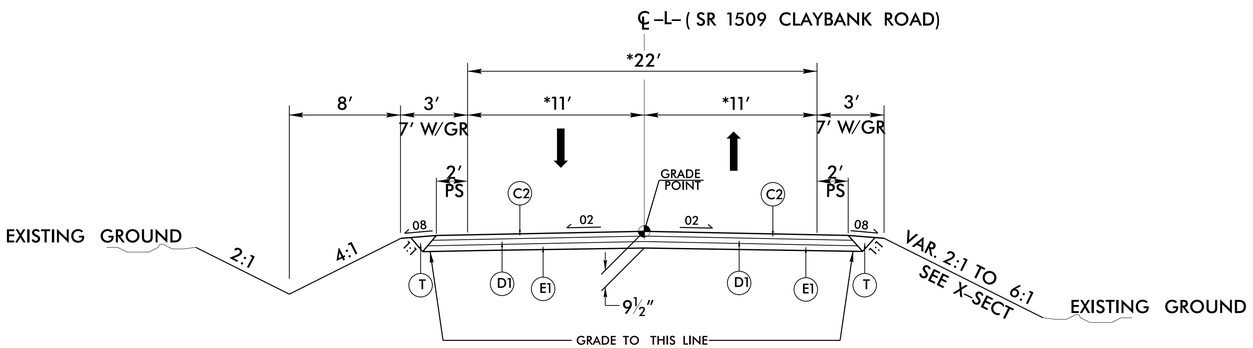
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 AS FOLLOWS:

–EY– STA 12+84.16 TO STA 15+00.30

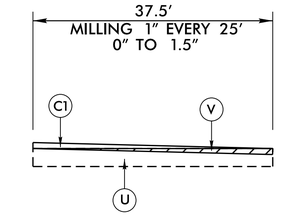


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 AS FOLLOWS:

–L– STA 10+17.43 TO STA 12+11.55

*VARIABLE WIDTHS AT INTERSECTIONS SEE PLANS



INCIDENTAL MILLING DETAIL

USE MILLING DETAIL AT RESURFACING TIES

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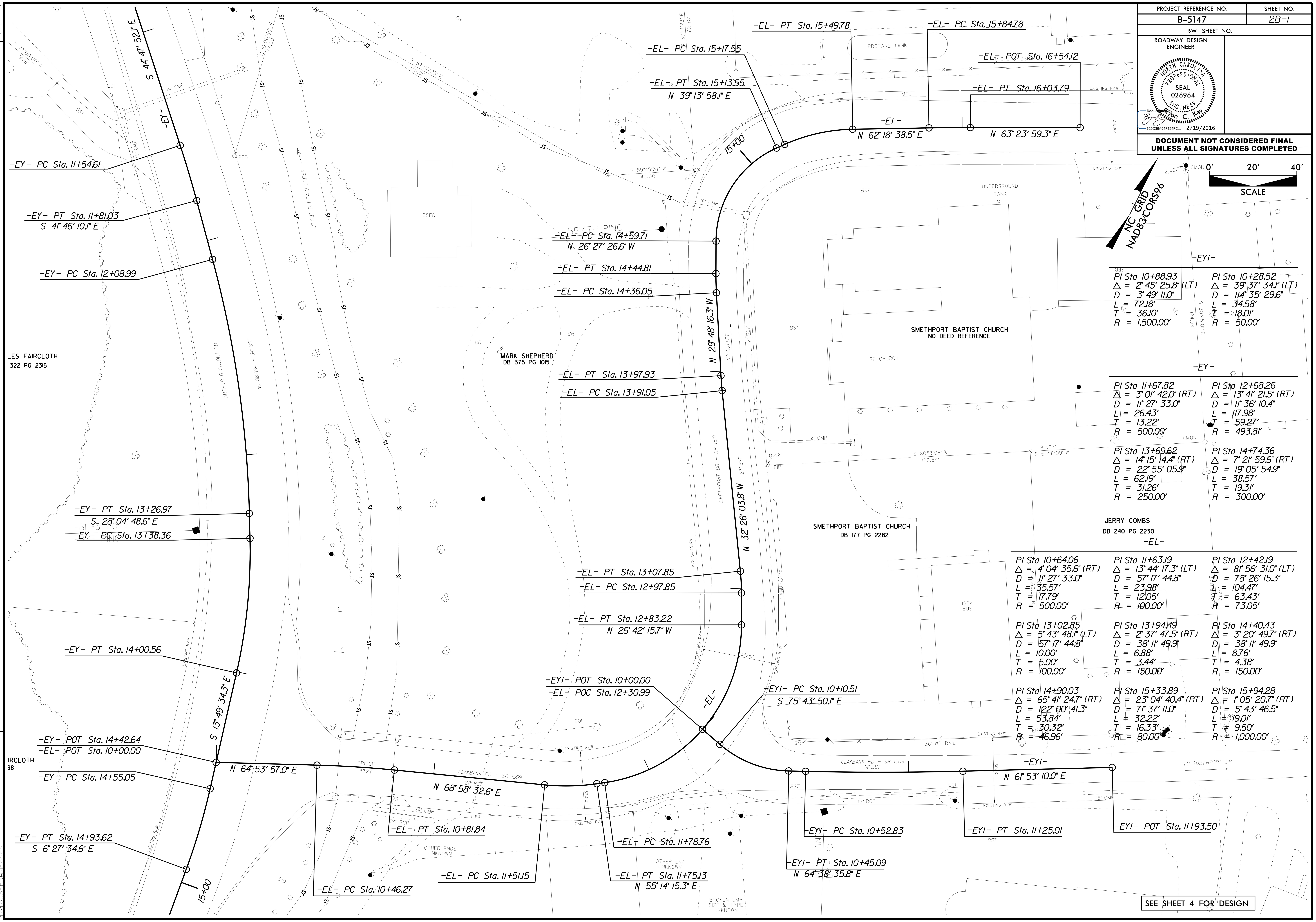
-EY- PC Sta. 11+54.61
-EY- PT Sta. 11+81.03
S 41° 46' 10.1" E
-EY- PC Sta. 12+08.99
-EY- PT Sta. 13+26.97
S 28° 04' 48.6" E
-EY- PC Sta. 13+38.36
-EY- PT Sta. 14+00.56
S 13° 49' 34.3" E
-EY- POT Sta. 14+42.64
-EL- POT Sta. 10+00.00
-EY- PC Sta. 14+55.05
-EY- PT Sta. 14+93.62
S 6° 27' 34.6" E
S 44° 47' 52.1" E
-EY-
15+00
N 64° 53' 57.0" E
N 68° 58' 32.6" E
-EL- PC Sta. 10+46.27
-EL- PT Sta. 10+81.84
-EL- PC Sta. 11+51.15
-EL- PT Sta. 11+75.13
N 55° 14' 15.3" E
-EL- PC Sta. 11+78.76
-EY1- POT Sta. 10+00.00
-EL- POC Sta. 12+30.99
-EL-
-EL- PT Sta. 12+83.22
N 26° 42' 15.7" W
-EL- PC Sta. 12+97.85
-EL- PT Sta. 13+07.85
N 32° 26' 03.8" W
-EL- PC Sta. 13+91.05
-EL- PT Sta. 13+97.93
N 29° 48' 16.3" W
-EL- PC Sta. 14+36.05
-EL- PT Sta. 14+44.81
-EL- PC Sta. 14+59.71
N 26° 27' 26.6" W
-EL- PT Sta. 15+13.55
N 39° 13' 58.1" E
-EL- PC Sta. 15+17.55
15+00
-EL- PT Sta. 15+49.78
N 62° 18' 38.5" E
-EL- PC Sta. 15+84.78
-EL- POT Sta. 16+54.12
-EL- PT Sta. 16+03.79
N 63° 23' 59.3" E
-EY1- PC Sta. 10+10.51
S 75° 43' 50.1" E
-EY1- PT Sta. 10+45.09
N 64° 38' 35.8" E
-EY1- PC Sta. 10+52.83
-EY1- PT Sta. 11+25.01
-EY1- POT Sta. 11+93.50
-EY1-
N 61° 53' 10.0" E
PROPANE TANK
UNDERGROUND TANK
2SFD
ISF CHURCH
ISBK BUS
MARK SHEPHERD
DB 375 PG 1015
SMETHPORT BAPTIST CHURCH
NO DEED REFERENCE
SMETHPORT BAPTIST CHURCH
DB 177 PG 2282
JERRY COMBS
DB 240 PG 2230
LITTLE BUFFALO CREEK
ARTHUR G CAUDILL RD
CLAYBANK RD - SR 1509
SMETHPORT DR - SR 1510
TO SMETHPORT DR
OTHER ENDS UNKNOWN
OTHER END UNKNOWN
BROKEN CMP SIZE & TYPE UNKNOWN
NO OUTLET
LANDSCAPE
36" WD RAIL
EXISTING R/W
NC GRID NAD83/CORS96
0' 20' 40'
SCALE
REVISIONS
SEE SHEET 4 FOR DESIGN
16-FEB-2016 08:34
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PROJECT REFERENCE NO.	SHEET NO.
B-5147	2B-1

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026964 — Bryan C. Key — 2/19/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-EY1-

PI Sta 10+88.93	PI Sta 10+28.52
Δ = 2° 45' 25.8" (LT)	Δ = 39° 37' 34.1" (LT)
D = 3° 49' 11.0"	D = 114° 35' 29.6"
L = 72.18'	L = 34.58'
T = 36.10'	T = 18.01'
R = 1,500.00'	R = 50.00'

-EY-

PI Sta 11+67.82	PI Sta 12+68.26
Δ = 3° 01' 42.0" (RT)	Δ = 13° 41' 21.5" (RT)
D = 11° 27' 33.0"	D = 11° 36' 10.4"
L = 26.43'	L = 117.98'
T = 13.22'	T = 59.27'
R = 500.00'	R = 493.81'
PI Sta 13+69.62	PI Sta 14+74.36
Δ = 14° 15' 14.4" (RT)	Δ = 7° 21' 59.6" (RT)
D = 22° 55' 05.9"	D = 19° 05' 54.9"
L = 62.19'	L = 38.57'
T = 31.26'	T = 19.31'
R = 250.00'	R = 300.00'

-EL-

PI Sta 10+64.06	PI Sta 11+63.19	PI Sta 12+42.19
Δ = 4° 04' 35.6" (RT)	Δ = 13° 44' 17.3" (LT)	Δ = 81° 56' 31.0" (LT)
D = 11° 27' 33.0"	D = 57° 17' 44.8"	D = 78° 26' 15.3"
L = 35.57'	L = 23.98'	L = 104.47'
T = 17.79'	T = 12.05'	T = 63.43'
R = 500.00'	R = 100.00'	R = 73.05'
PI Sta 13+02.85	PI Sta 13+94.49	PI Sta 14+40.43
Δ = 5° 43' 48.1" (LT)	Δ = 2° 37' 47.5" (RT)	Δ = 3° 20' 49.7" (RT)
D = 57° 17' 44.8"	D = 38° 11' 49.9"	D = 38° 11' 49.9"
L = 10.00'	L = 6.88'	L = 8.76'
T = 5.00'	T = 3.44'	T = 4.38'
R = 100.00'	R = 150.00'	R = 150.00'
PI Sta 14+90.03	PI Sta 15+33.89	PI Sta 15+94.28
Δ = 65° 41' 24.7" (RT)	Δ = 23° 04' 40.4" (RT)	Δ = 1° 05' 20.7" (RT)
D = 122° 00' 41.3"	D = 71° 37' 11.0"	D = 5° 43' 46.5"
L = 53.84'	L = 32.22'	L = 19.01'
T = 30.32'	T = 16.33'	T = 9.50'
R = 46.96'	R = 80.00'	R = 1,000.00'

12/06/07

COMPUTED BY: JRH DATE: 1-19-16
CHECKED BY: DK DATE: 2-2-16

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-5147	3B-1

SUMMARY OF EARTHWORK

IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
10+17.43	12+11.55	123	362	239	
10+66.00 LT	CULVERT INLET	96			96
10+66.00 RT	CULVERT OUTLET	100			100
10+45.00 RT	10+80.00 RT	49	81	81	49
(CHANNEL IMPROVEMENT)					
SUBTOTALS:		368	443	320	245
PROJECT TOTALS:		368	443	320	245
EST 5% TO REPL TOPSOIL ON BORR PIT				16	
GRAND TOTALS:		368	443	336	245
SAY:		400		375	

SELECT GRANULAR MATERIAL = 100 CY
GEOTEXTILE FOR SOIL STABILIZATION = 150 SY
UNDERCUT = 100 CY

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

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.

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD^2
EL	10+18	10+56	CL	291.37
EL	10+82	11+18	CL	71.86
EL	11+71	12+17	CL	158.67
EL	12+41	12+53	CL	54.29
EL	12+77	13+12	CL	15.35
			TOTAL:	591.53
			SAY:	600

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

PIPE REMOVAL SUMMARY

SURVEY LINE	STATION	24" RCP	24" CMP
L	10+62.77 RT.	10'	
L	10+62.77 RT.		10'
TOTAL PIPE REMOVAL: 20'			

"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			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS (EA.)								IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GRAU 350 TL-3	GRAU 350 TL-2	XIII	CAT-1	VI MOD	BIC	AT-1	EA	G	NG				
-L-	10+00.32	11+09.00	RT	100'	54'		10+56.00	10+76.00	4'	7'	50'		1'				1	1											
-L-	10+30.15	11+25.00	LT	100'	48'		10+76.00	10+56.00	4'	7'		50'		1'			1	1											
			TOTAL	200'	102'												2	2											
DEDUCTIONS: GRAU 350 TL-3 - 2 @ 50' = 100'			LESS ANCHORS:	150'																									
GRAU 350 TL-2 - 2 @ 25' = 50'			TOTAL	50'																									
TOTAL = 150'																													
5 ADDITIONAL GUARDRAIL POST																													
			SAY	50'	112.5'												2	2											

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COMPUTED BY: DMM DATE: 2/2/16
CHECKED BY: SCC DATE: 2/2/16

PROJECT NO.	SHEET NO.
B5147	3G-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				SD	250
				TOTAL LF:	250

***UD = Underdrain**
***BD = Blind Drain**
***SD = Subsurface Drain**

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU/AST	Aggregate Thickness INCHES	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY			ASU		50	80	50		
			TOTAL CY/TONS/SY:		50	80	50**	0	0

***ASU = Aggregate Subgrade**
***AST = Aggregate Stabilization**
****Total square yards of "Geotextile for Soil Stabilization" is only the estimated quantity for ASU/AST and may only represent a portion of the geotextile quantity shown in the Item Sheets of the Proposal.**

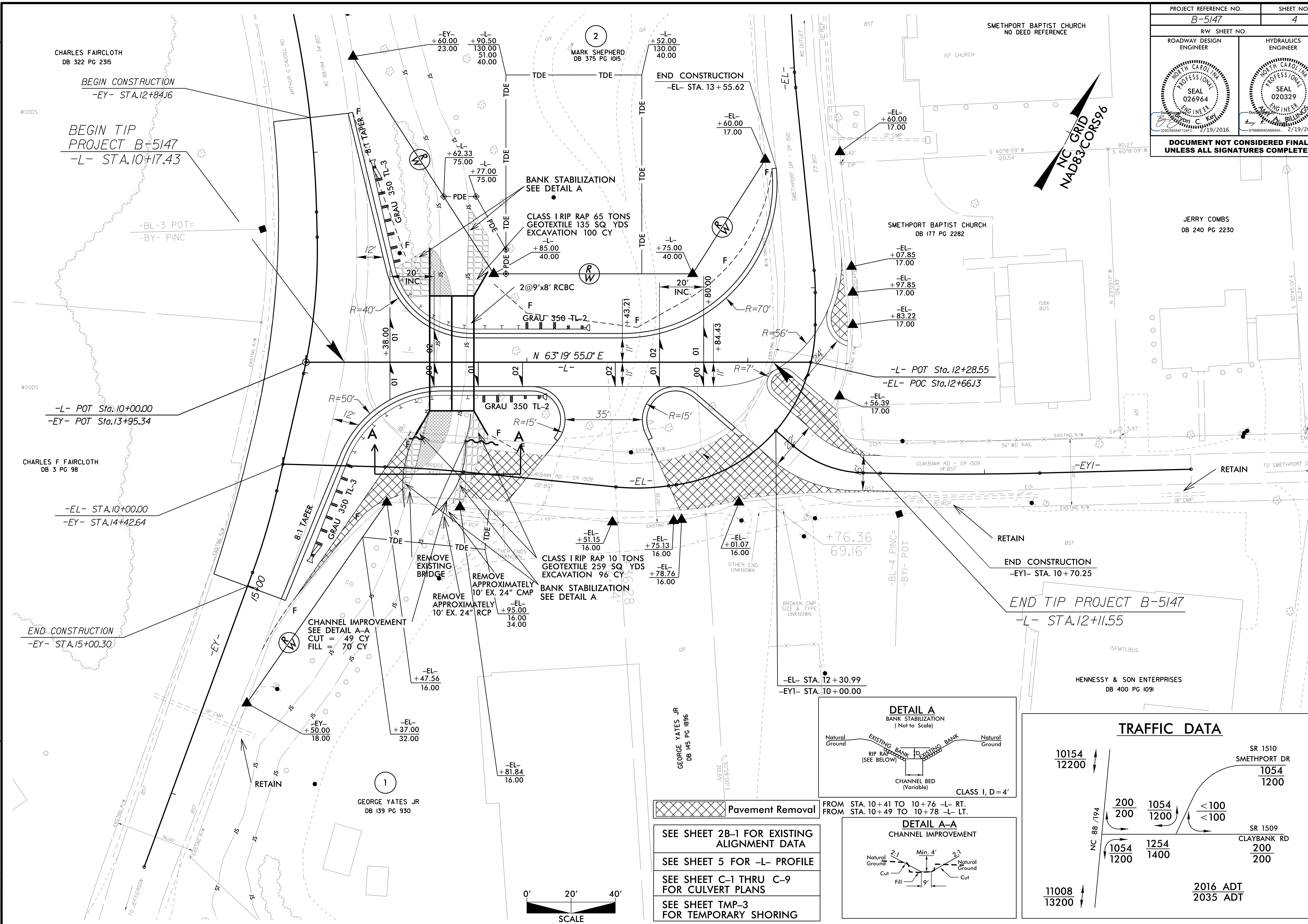
PROJECT REFERENCE NO.	SHEET NO.
B-5147	4

RW SHEET NO.

ROADWAY DESIGN ENGINEER — SEAL 026964 — Bryan C. Key — 2/19/2016

HYDRAULICS ENGINEER — SEAL 020329 — Billings — 2/19/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DETAIL A
BANK STABILIZATION
(Not to Scale)

Natural Ground — EXISTING BANK — RIP RAP (SEE BELOW) — CHANNEL BED (Variable) — D — EXISTING BANK — Natural Ground

CLASS I, D = 4'

Pavement Removal
FROM STA. 10+41 TO 10+76 -L- RT.
FROM STA. 10+49 TO 10+78 -L- LT.

DETAIL A-A
CHANNEL IMPROVEMENT

Natural Ground — 2:1 — Min. 4' — 2:1 — Natural Ground — Cut — Fill — 9'

SEE SHEET 2B-1 FOR EXISTING ALIGNMENT DATA

SEE SHEET 5 FOR -L- PROFILE

SEE SHEET C-1 THRU C-9 FOR CULVERT PLANS

SEE SHEET TMP-3 FOR TEMPORARY SHORING

TRAFFIC DATA

NC 88/194: 10154/12200 ; 11008/13200

SR 1510 SMETHPORT DR: 1054/1200

SR 1509 CLAYBANK RD: 200/200

200/200 ; 1054/1200 ; <100/<100 ; 1054/1200 ; 1254/1400

2016 ADT
2035 ADT

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
B-5147	5

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 026964 ENGINEER

DocuSigned by: Bryan C. Key 32603B40AF124FC... 2/19/2016

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 020329 ENGINEER

DocuSigned by: Amy A. BILLINGS 079888640AB84A... 2/19/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 590	CFS
DESIGN FREQUENCY	= 5+	YRS
DESIGN HW ELEVATION	= 2818.1	FT
BASE DISCHARGE	= 1500	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 2820.88	FT
OVERTOPPING DISCHARGE	= 602	CFS
OVERTOPPING FREQUENCY	= 5+	YRS
OVERTOPPING ELEVATION	= 2818.1	FT

–L–

–EY–

PI = 10+46.00
EL = 2,823.59'
VC = 52'
K = 12
20= mph

PI = 11+56.00
EL = 2,817.56'
VC = 110'
K = 17
15= mph

END GRADE
–L– STA 12+11.55
EL = 2818.15'

END RESURFACING
–EY– STA 15+00.30

℄
STA 10+66 –L–
2@ 9'X8' RCBC EMBEDDED 1 FT
SKEW 90
ELEVATION=2822.48

(–)1.0903%
(–)5.4849%
(+)1.0708%

BEGIN RESURFACING
–EY– STA 12+84.16

BEGIN GRADE
–L– STA 10+17.43
EL = 2823.90'

SEE SHEET 4 FOR PLAN VIEW
SEE SHEET C–1 THRU C–9 FOR CULVERT PLANS

2,830 2,820 2,810 2,800 2,790 2,780 2,770 2,760 2,750

10+00 11+00 12+00 11 12 13 14 15 16

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