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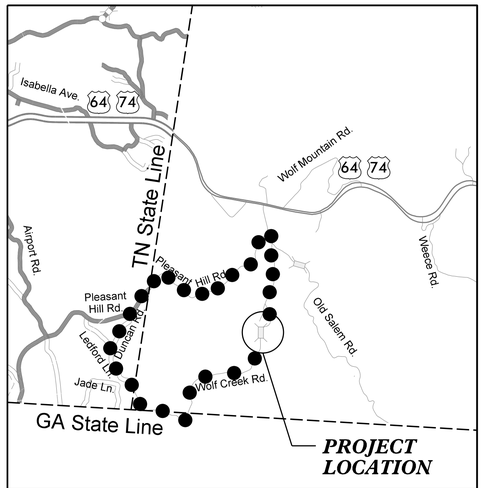
09/08/09

TIP PROJECT: 17BP.14.R.85

CONTRACT: DN00260

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols
See Sheet 1C For Survey Control



VICINITY MAP

OFFSITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

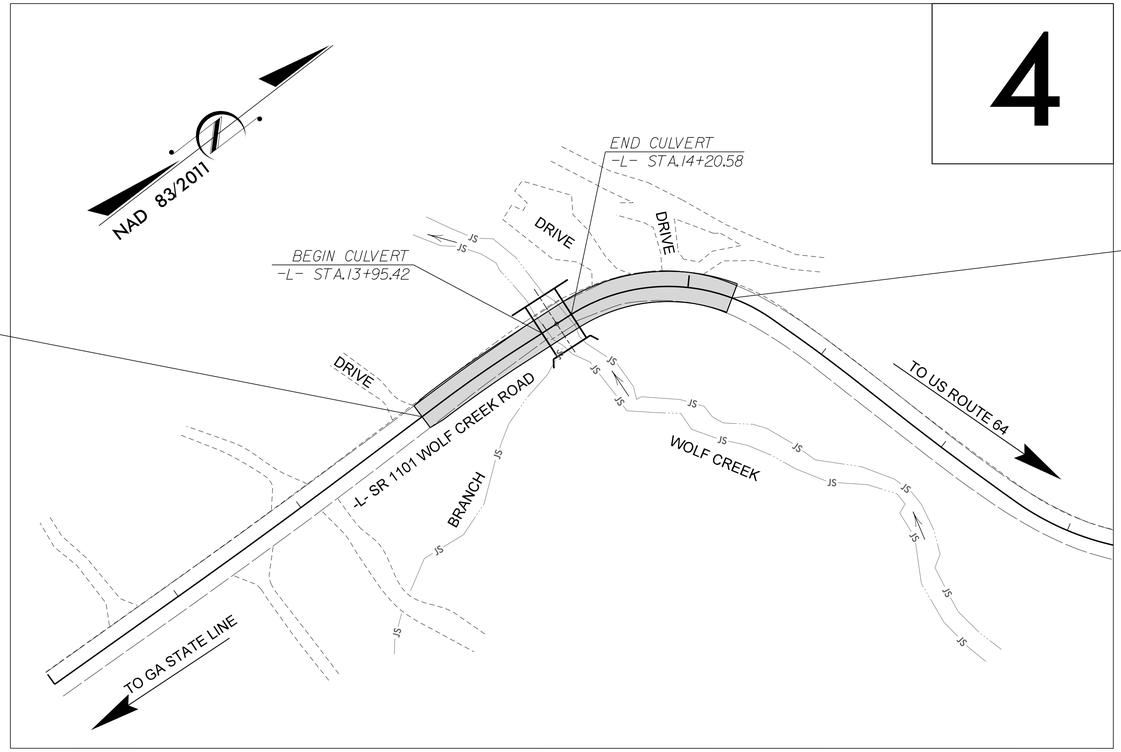
CHEROKEE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.85	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
17BP.14.R.85		P.E., ROW, UTIL
		CONST.

LOCATION: BRIDGE NO. 65 ON WOLF CREEK ROAD (SR 1101) OVER WOLF CREEK 1.1 MILES SOUTH OF JUNCTION OF US ROUTE 64

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



BEGIN PROJECT WBS 17BP.14.R.85
–L– POT STA. 13 + 00.00

END PROJECT WBS 17BP.14.R.85
–L– POC STA. 15 + 30.00

THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2010 = 380
ADT 2023 = 760
K = N/A %
D = N/A %
T = 6 % *
V = 20 MPH
* TTST = DUAL
FUNC CLASS = LOCAL
SUB–REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT 17BP.14.R.85 = 0.040 MILES
LENGTH OF STRUCTURE TIP PROJECT 17BP.14.R.85 = 0.004 MILES
TOTAL LENGTH TIP PROJECT 17BP.14.R.85 = 0.044 MILES

PLANS PREPARED BY:

DRMP
ENGINEERS • SURVEYORS • PLANNERS • SCIENTISTS

DRMP, INC.
4235 SOUTH STREAM BLVD., SUITE 150
CHARLOTTE, NORTH CAROLINA 28217
(704) 332-2289
NC LICENSE NO. C-2213

FOR DIVISION OF HIGHWAYS

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 15, 2015

LETTING DATE:
JANUARY 8, 2019

JAMES E. BECK, P.E.
PROJECT ENGINEER

MICHAEL D. HAGE, P.E.
PROJECT DESIGN ENGINEER

NCDOT CONTACT:
ADAM DOCKERY, PE.
DIVISION 14 PROJECT MANAGER

NORTH CAROLINA PROFESSIONAL SEAL 014455 ENGINEER L BARTED
DocuSigned by: D7945927C456A9F7...
1/3/2019
P.E.
SIGNATURE:

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 026815 ENGINEER JAMES E. BECK
DocuSigned by: James E. Beck
15685C94C5D14AB...
1/3/2019
P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

10/26/2018
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mhage

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.85	1A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 026805 ENGINEER JAMES E. BECK

DocuSigned by: SEAL

1/3/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX OF SHEETS

GENERAL NOTES:

2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
REVISED:

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

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

BLUE RIDGE MOUNTAIN EMC. P.O. BOX 9. EC100. YOUNG HARRIS. GA 30582

AT&T COMMUNICATION - 5390 OVERBEND TRAIL. SUWANEE. GA 30024

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 CONTRACT.

EFF. 01-16-2018
REV.

2018 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, 2018 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 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
876.01	Rip Rap in Channels
876.04	Drainage Ditches with Class 'B' Rip Rap

1/3/2019
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dhope

12/05/11

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.85	1B

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.

PROJECT REFERENCE NO.	SHEET NO.
17BPJ4.R.85	2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

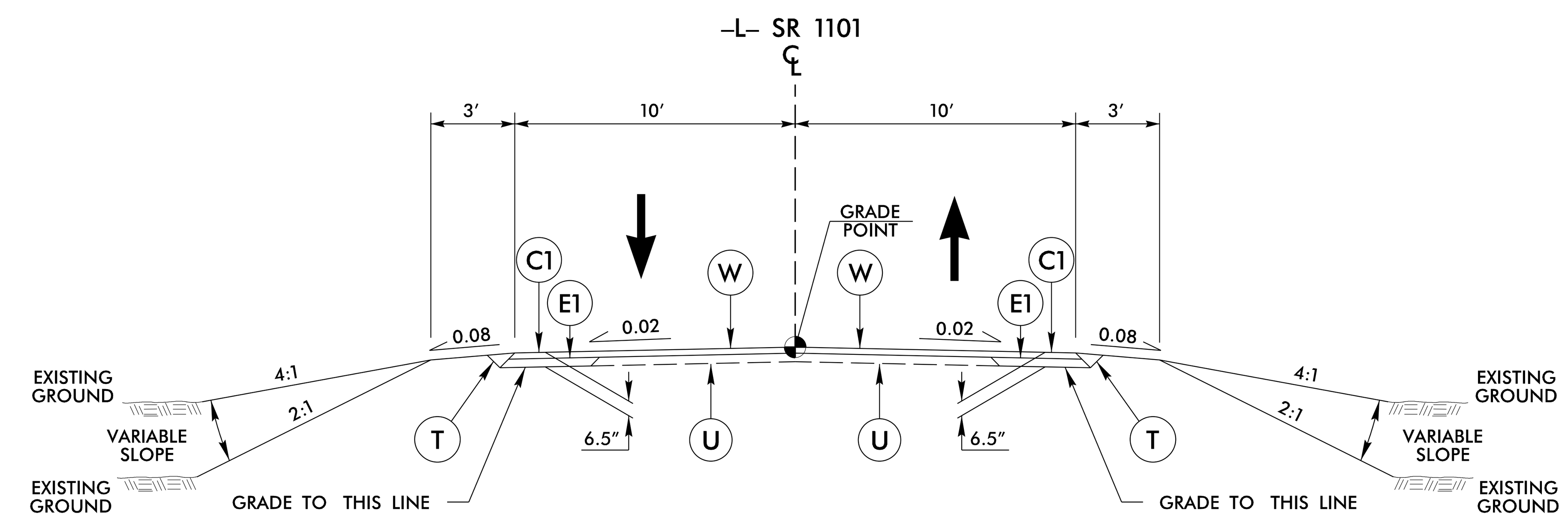
JAMES E. BECK, SEAL 026615, 1/3/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PAVEMENT SCHEDULE

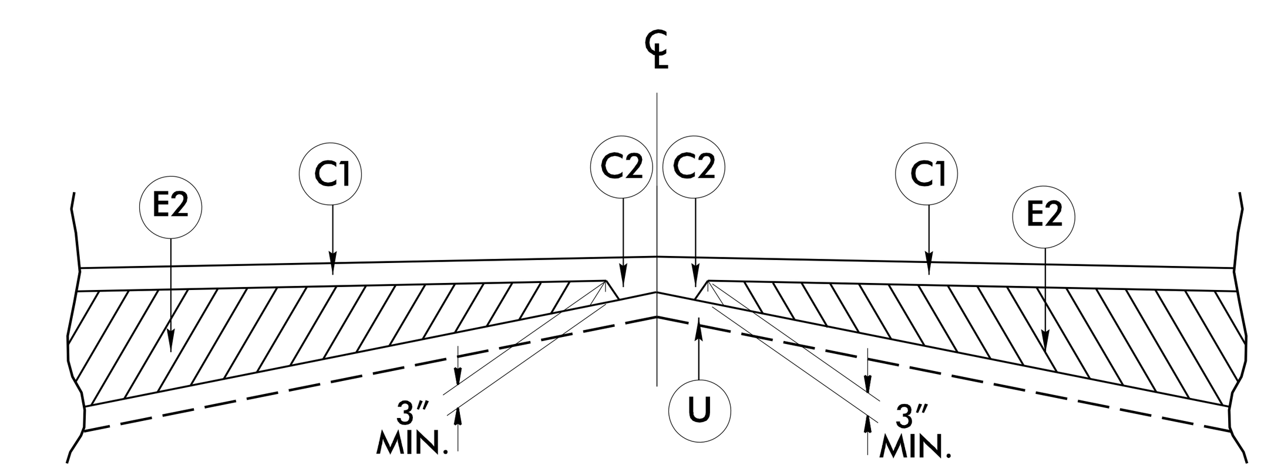
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, 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 5½" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET NO. 2).

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

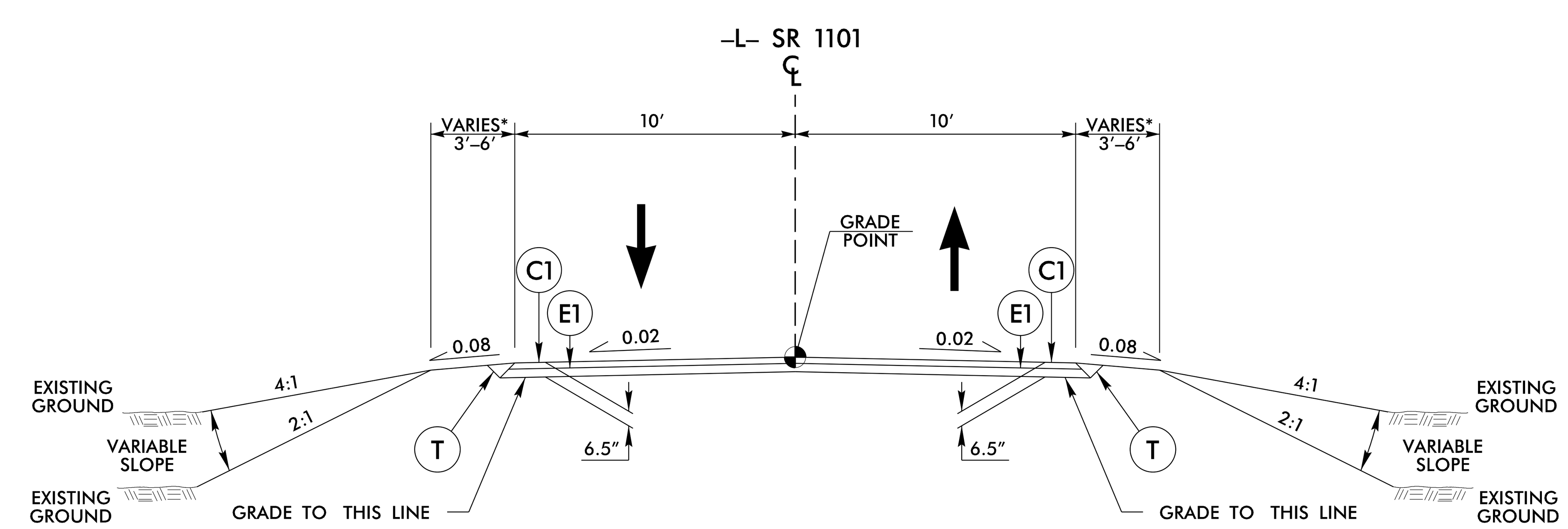


TYPICAL SECTION 1

-L- STA 13+00.00 TO -L- STA 13+54.00
-L- STA 14+60.00 TO -L- STA 15+30.00



DETAIL SHOWING METHOD OF WEDGING (W)



TYPICAL SECTION 2

-L- STA 13+54.00 TO -L- STA 14+60.00

* TRANSITION SHOULDERS FROM 3' TO 6' FROM STA. 13+70 TO 13+90
TRANSITION SHOULDERS FROM 6' TO 3' FROM STA. 14+40 TO 14+60

4/04/06

COMPUTED BY: MDH DATE: 03/06/15
CHECKED BY: JEB DATE: 03/06/15

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.85	3B-1

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	EMBANK. +15%	BORROW	WASTE
-L- 13+00.00	-L- 15+25.00	4	150	146	0
SUBTOTALS:		4	150	146	0
SUBTOTALS:					
SUBTOTALS:					
PROJECT TOTALS:		4	150	146	0
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				7	
GRAND TOTALS:		4	150	153	0
SAY:		5	155	155	0

EST. GRANULAR MATERIAL = 50 CY (CONTINGENCY)
EST. GEOTEXTILE FOR SOIL STABILIZATION = 50 SY (CONTINGENCY)
EST. UNDERCUT EXCAVATION = 50 CY (CONTINGENCY)
EST. INCIDENTAL STONE BASE = 50 TONS (CONTINGENCY)

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.

Approximate quantities only. Unclassified Excavation, Borrow Excavation, Clearing & Grubbing, and Removal & Breakup of existing pavement will be paid at the lump sum price for "Grading".

Excavation for proposed culvert will be paid at the lump sum price for "Culvert Excavation".

RIGHT OF WAY AREA DATA

PARCEL NO.	PROPERTY OWNERS NAMES	TOTAL ACREAGE	AREA TAKEN	AREA REMAINING RT.	AREA REMAINING LT.	CONST. EASE.	DRAINAGE UTILITY EASE.	TEMP. DRAINAGE EASE.
1	WINSTON WESTMORELAND	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	ISIAH NEWMAN & SHARON DAVENPORT	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	LYNDSAY DAVENPORT & SHARON DAVENPORT	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	SHARON DAVENPORT	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	DONALD HELTON	0.054	0.000	0.054	0.000	0.000	0.054	0.000
6	WINSTON WESTMORELAND	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Plans Prepared By:
DRMP
DRMP, INC.
4235 SOUTH TRYON BLVD., SUITE 150
CHARLOTTE, NC 28217
NC LICENSE NO: C-2213 (704) 332-2289

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.85	04

R/W SHEET NO.

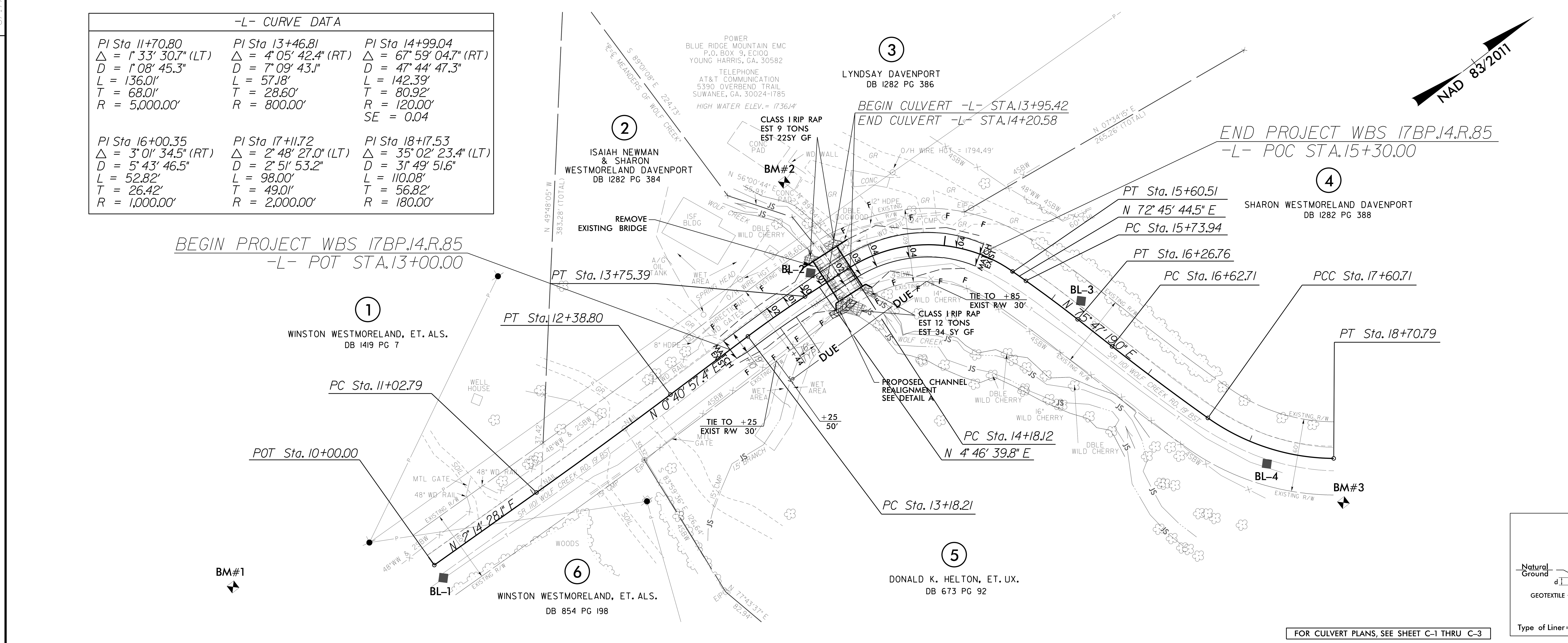
ROADWAY DESIGN ENGINEER — SEAL 026815 — JAMES E. BECK — 1/3/2019

HYDRAULICS ENGINEER — SEAL 014455 — TED L. BARTON — 1/3/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L- CURVE DATA

PI Sta 11+70.80 Δ = 1° 33′ 30.7″ (LT) D = 1° 08′ 45.3″ L = 136.01′ T = 68.01′ R = 5,000.00′	PI Sta 13+46.81 Δ = 4° 05′ 42.4″ (RT) D = 7° 09′ 43.1″ L = 57.18′ T = 28.60′ R = 800.00′	PI Sta 14+99.04 Δ = 67° 59′ 04.7″ (RT) D = 47° 44′ 47.3″ L = 142.39′ T = 80.92′ R = 120.00′ SE = 0.04
PI Sta 16+00.35 Δ = 3° 01′ 34.5″ (RT) D = 5° 43′ 46.5″ L = 52.82′ T = 26.42′ R = 1,000.00′	PI Sta 17+11.72 Δ = 2° 48′ 27.0″ (LT) D = 2° 51′ 53.2″ L = 98.00′ T = 49.01′ R = 2,000.00′	PI Sta 18+17.53 Δ = 35° 02′ 23.4″ (RT) D = 31° 49′ 51.6″ L = 110.08′ T = 56.82′ R = 180.00′

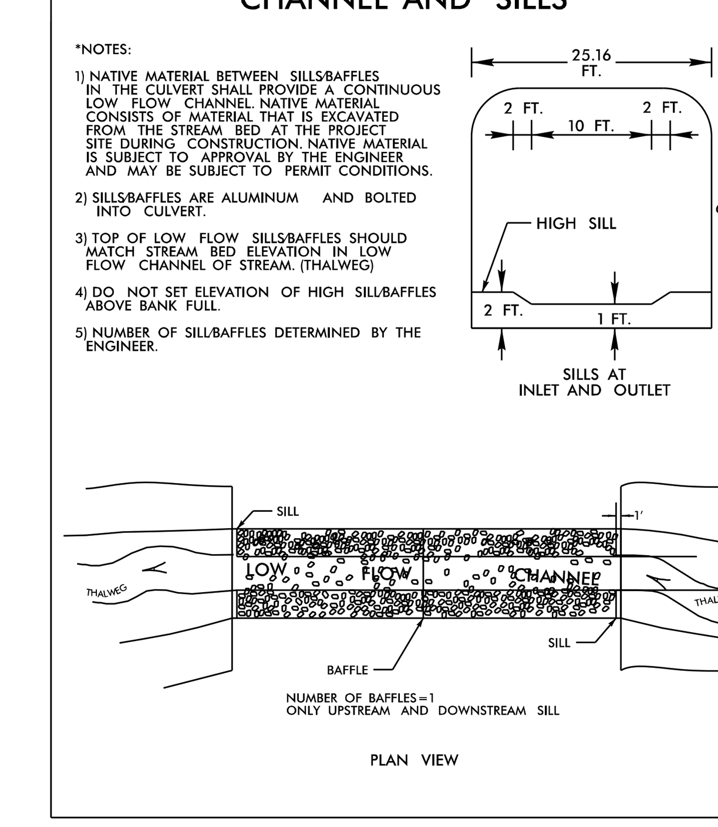


DETAIL B SF-190065
(NOT TO SCALE)

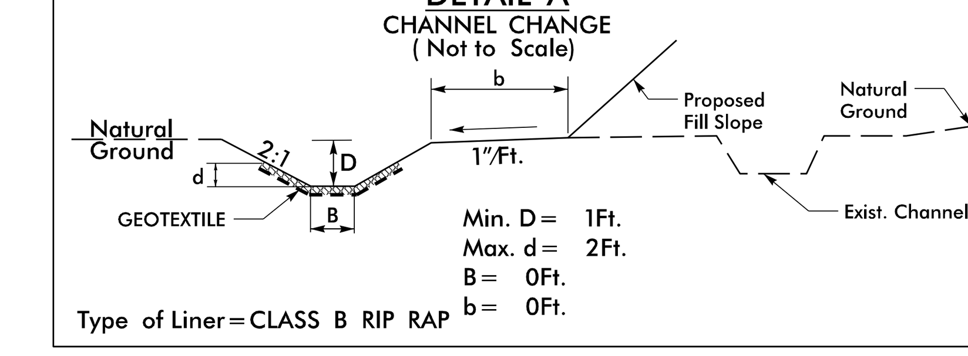
SINGLE BARREL CULVERT SKEWED LOW FLOW CHANNEL AND SILLS

*NOTES:

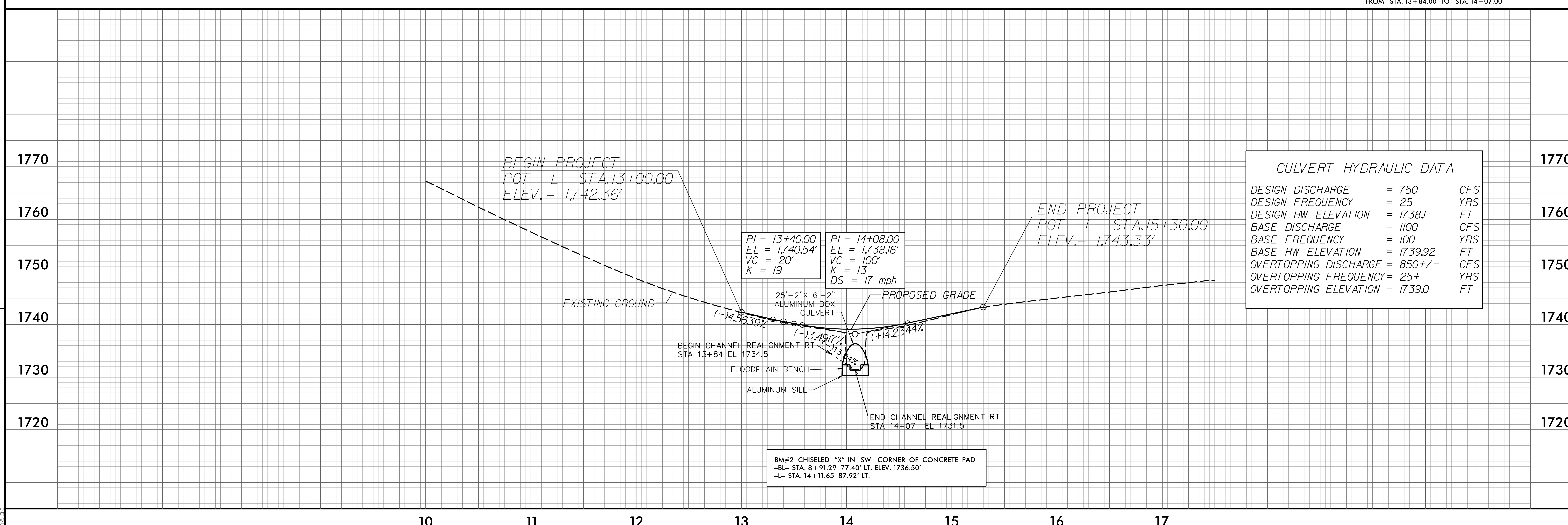
1) NATIVE MATERIAL BETWEEN SILLS/BAFFLES IN THE CULVERT SHALL PROVIDE A CONTINUOUS LOW FLOW CHANNEL. NATIVE MATERIAL CONSISTS OF MATERIAL THAT IS EXCAVATED FROM THE STREAM BED AT THE PROJECT SITE DURING CONSTRUCTION. NATIVE MATERIAL IS SUBJECT TO APPROVAL BY THE ENGINEER AND MAY BE SUBJECT TO PERMIT CONDITIONS.
2) SILLS/BAFFLES ARE ALUMINUM AND BOLTED INTO CULVERT.
3) TOP OF LOW FLOW SILLS/BAFFLES SHOULD MATCH STREAM BED ELEVATION IN LOW FLOW CHANNEL OF STREAM. (THALWEG)
4) DO NOT SET ELEVATION OF HIGH SILL/BAFFLES ABOVE BANK FULL.
5) NUMBER OF SILL/BAFFLES DETERMINED BY THE ENGINEER.



DETAIL A
CHANNEL CHANGE
(Not to Scale)



FROM STA. 13+84.00 TO STA. 14+07.00



CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	=	750	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	1738.1	FT
BASE DISCHARGE	=	1100	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	1739.92	FT
OVERTOPPING DISCHARGE	=	850+/-	CFS
OVERTOPPING FREQUENCY	=	25+	YRS
OVERTOPPING ELEVATION	=	1739.0	FT

BM#2 CHISELED "X" IN SW CORNER OF CONCRETE PAD
-BL- STA. 8+91.29 77.40′ LT. ELEV. 1736.50′
-L- STA. 14+11.65 87.92′ LT.

REVISIONS

SURVEY CONTROL SHEET 19–0065

–FINAL–

BL

POINT	DESC.	NORTH	EAST	ELEVATION	EL STATION	OFFSET
1	-BL-1	496513.4060	412590.4070	1766.80	OUTSIDE PROJECT LIMITS	
2	-BL-2	496904.4420	412576.2590	1738.40	13-89.84	11.27 LT
3	-BL-3	497066.1090	412729.7290	1744.82	16-20.19	13.64 LT
4	-BL-4	497105.2190	412928.4550	1750.12	18-19.32	12.62 RT

BM1 ELEVATION - 1778.09
N 496372 E 412491
BL STATION 5-00.00
S 35°10'05.57" W DIST 172.52
8" SPIKE SET IN THE ROOT OF A 12" MAPLE TREE

BM2 ELEVATION - 1736.50
N 496933 E 412504
BL STATION 8-91.29 77.40 LEFT
CHISELED "X" IN THE SW CORNER OF A CONCRETE PAD

BM3 ELEVATION - 1746.30
N 497135 E 412992
BL STATION 13-17.00
N 64°32'34.12" E DIST 70.43
8" SPIKE SET IN THE BASE OF A 16" WILD CHERRY TREE

-L- CURVE DATA

PI Sta 11+70.80 Δ = 1° 33' 30.7" (LT) D = 1° 08' 45.3" L = 136.01' T = 68.01' R = 5,000.00'	PI Sta 13+46.81 Δ = 4° 05' 42.4" (RT) D = 7° 09' 43.1" L = 57.18' T = 28.60' R = 800.00'	PI Sta 14+99.04 Δ = 67° 59' 04.7" (RT) D = 47° 44' 47.3" L = 142.39' T = 80.92' R = 120.00' SE = 0.04
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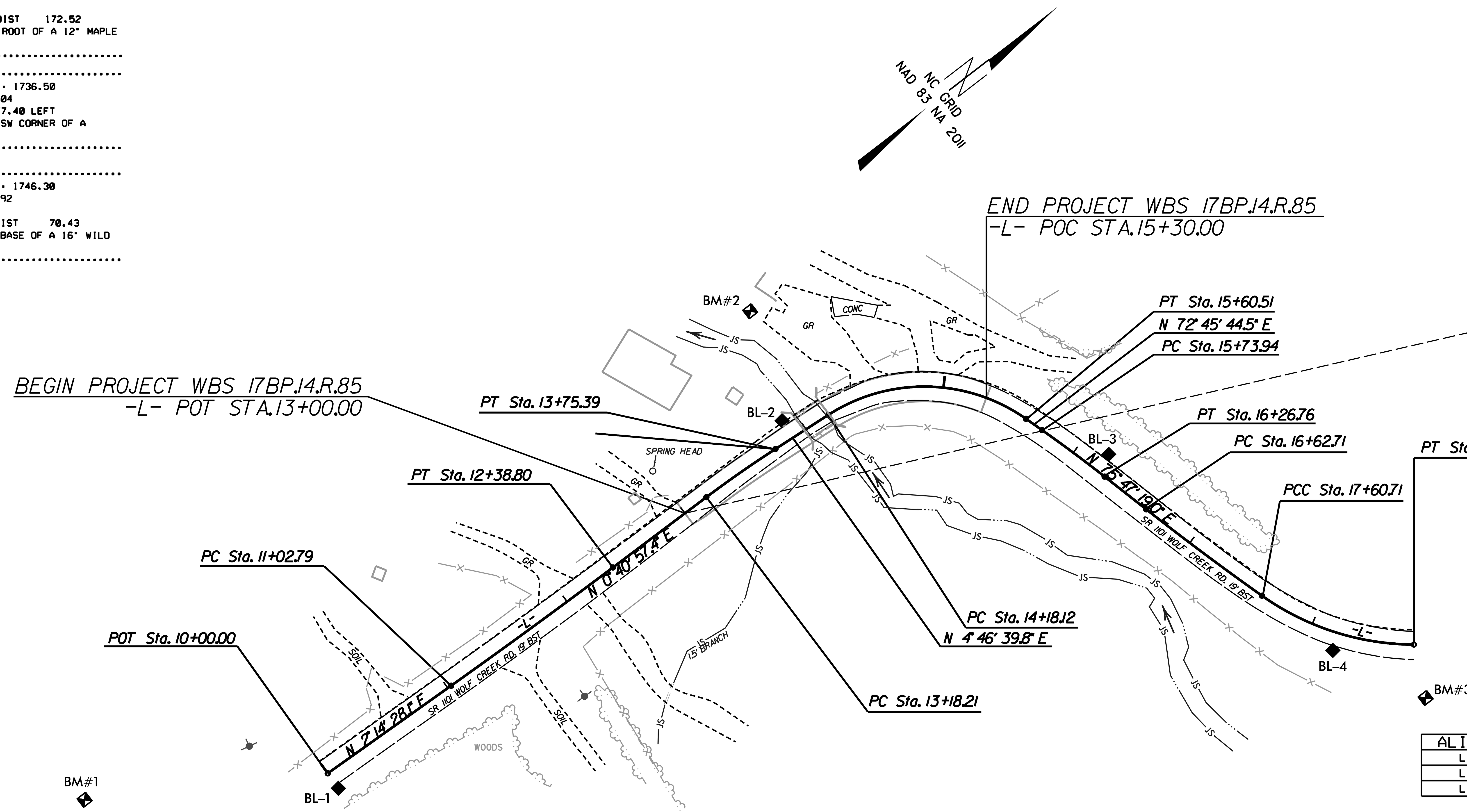


-L- FINAL

TYPE	STATION	NORTH	EAST
POT	10-00.00	496513.9942	412577.5807
PC	11-02.79	496616.7045	412581.6003
PT	12-38.80	496752.6625	412585.0699
PC	13-18.21	496832.0687	412586.0160
PT	13-75.39	496889.1702	412588.7390
PC	14-18.12	496931.7546	412592.2982
PT	15-60.51	497036.3698	412676.3210
PC	15-73.94	497040.3507	412689.1514
PT	16-26.76	497054.6634	412739.9868
PC	16-62.71	497063.4890	412774.8362
PCC	17-60.71	497089.8655	412869.2097
PT	18-70.79	497151.3093	412958.4815

DUE

-FINAL- ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	13-25.00	30.00	496838.2491	412616.0917
L	13-25.00	50.00	496837.8404	412636.1153
L	14-85.00	30.00	496975.5649	412639.7257

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "190065 G-101"
WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 497645.855(ft) EASTING: 412967.436(ft)
ELEVATION: 1773.05(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998024245
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "190065 G-101" TO -L- STATION 13+00.00 IS
S 24°38'27.8" W 915.35'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

GEOID MODEL – G12NC
NOTE: DRAWING NOT TO SCALE

NOTES:

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

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   19–0065_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.

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

CHEROKEE COUNTY

INDEX OF SHEETS

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 JANAUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.03	TEMPORARY ROAD CLOSURES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES - TYPE III
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - DIVIDED AND UNDIVIDED ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

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. E. HUMMER — *STATE TRAFFIC MANAGEMENT ENGINEER*
D. A. PARKER, P.E. — *TRAFFIC CONTROL PROJECT ENGINEER*
_____ — *TRAFFIC CONTROL PROJECT DESIGN ENGINEER*
_____ — *TRAFFIC CONTROL DESIGN ENGINEER*

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

LEGEND

GENERAL

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

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM — SKINNY DRUM — TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW PANEL (TYPE C)
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

SIGNALS

EXISTING — PROPOSED — TEMP TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

wsp
1001 Morehead Square Dr. Ste 610
Charlotte, NC 28203 - 704.342.5401
www.wspusa.com
LICENSE NO. F-0891

APPROVED: DocuSigned by: Richard Odynski 8E04DD32FEE446D... *DATE:* 1/3/2019

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037467 ENGINEER RICHARD A ODYNSKI

SHEET NO.
TMP-1

17BP.14.R.85

TIP PROJECT:

10/12/2018
T:\NCDOT_Div\4_LIBR\Group \Cherokee 65\TCP\17BP.14.R.85_TC_PSH_01.dgn
USR06604942

PROJECT NOTES

PROJ. REFERENCE NO.	SHEET NO.
17BP.14.R.85	TMP-1A

CONSTRUCTION PHASING

STEP 1:

INSTALL WORK ZONE ADVANCE WARNING SIGNS PER RSD 1101.01 AND DETOUR AS SHOWN ON TMP–2. PLACE TYPE III BARRICADES WITH "ROAD CLOSED" SIGNS AND CLOSE S.R. #1101 (WOLF CREEK ROAD) TO THRU TRAFFIC. MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION.

STEP 2:

REMOVE THE EXISTING BRIDGE OVER WOLF CREEK AND BEGIN CONSTRUCTION OF –L– CULVERT OVER WOLF CREEK.

–L– STA. 13+96 +/– TO 14+19 +/– (BRIDGE)

STEP 3:

COMPLETE CONSTRUCTION OF THE FOLLOWING:

–L– STA. 13+96 +/– TO 14+19 +/– (CULVERT)

CONSTRUCT THE FOLLOWING, INCLUDING THE FINAL LAYER OF SURFACE COURSE BETWEEN THE FOLLOWING STATIONS:

–L– STA. 13+00 +/– TO 15+30 +/– (BOTH DIRECTIONS)

STEP 4:

INSTALL PERMANENT PAVEMENT MARKINGS IN THE FOLLOWING LOCATIONS:

–L– STA. 13+00 +/– TO 15+30 +/– (BOTH DIRECTIONS)

STEP 5:

REMOVE TYPE III BARRICADES AND DETOUR, AND OPEN S.R. #1101 (WOLF CREEK ROAD) TO TRAFFIC.

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.

TRAFFIC PATTERN ALTERATIONS

A) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

B) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

C) STATE FORCES WILL BE RESPONSIBLE FOR PERMANENT SIGNING.

D) STATE FORCES WILL BE RESPONSIBLE FOR DETOUR SIGNING OFF THE PROJECT LIMITS.

E) COVER OR REMOVE ALL DETOUR SIGNS WITHIN THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.

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

TRAFFIC CONTROL DEVICES

G) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11–2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
WOLF CREEK RD	PAINT	NONE

I) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.

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

K) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISC.

L) CONTACT GA AND TN DEPARTMENT OF TRANSPORTATION PRIOR TO ROAD CLOSURE.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

WSP
1001 Morehead Square Dr. Ste 610
Charlotte, NC 28203 - 704.342.5401
www.wspusa.com
LICENSE NO. F-0891

APPROVED: Docusigned by: Richard Odinski DATE: 1/3/2019
6E04DD32FEE449D...

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037467 ENGINEER RICHARD A ODINSKI

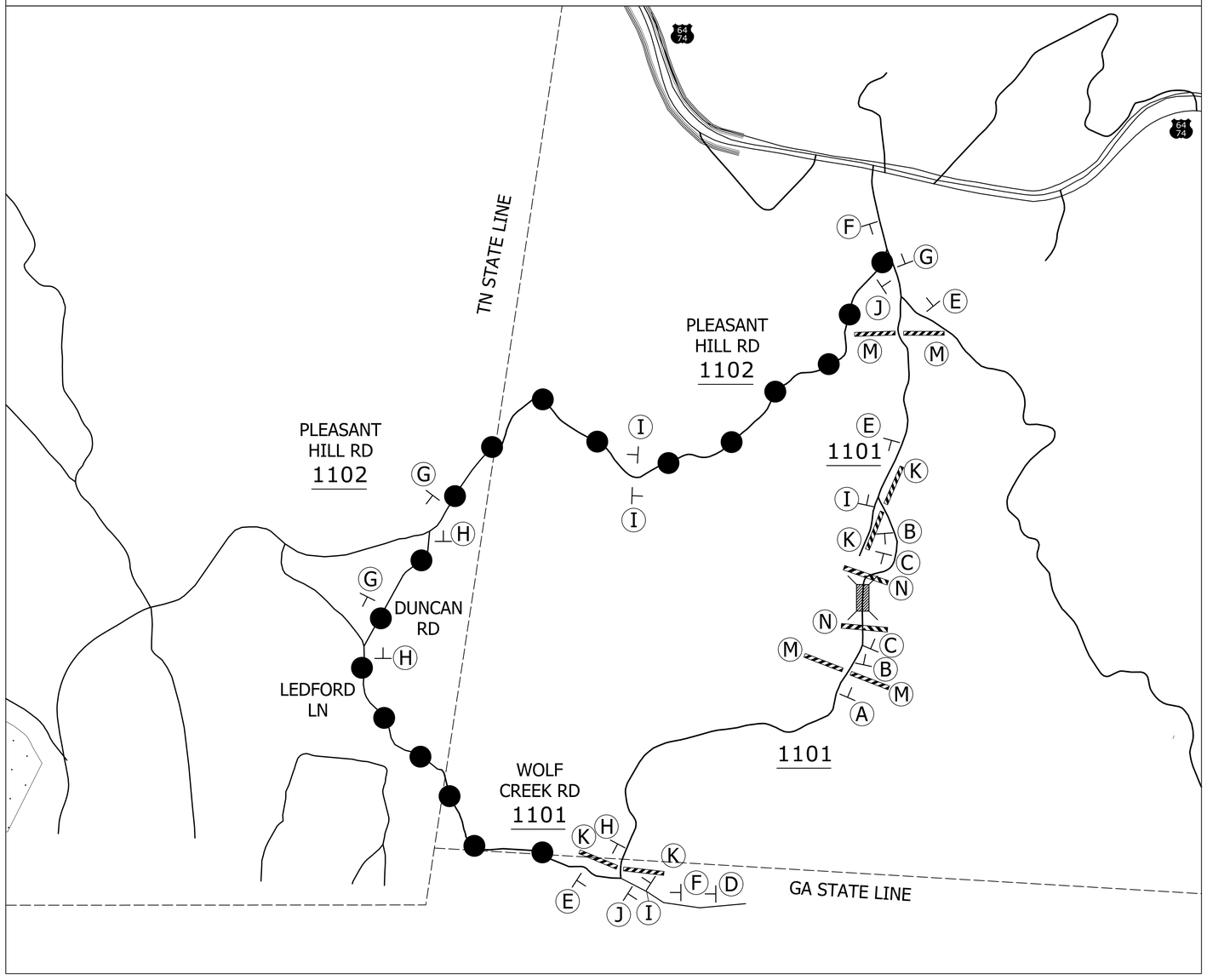
DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

CONSTRUCTION PHASING AND GENERAL NOTES

PROJ. REFERENCE NO.	SHEET NO.
17BP.14.R.85	TMP-2

PROPOSED DETOUR ROUTE

DETOUR



A
ROAD CLOSED AHEAD
W20-3
48″ x 48″

B
ROAD CLOSED 1000 FT
W20-3
48″ x 48″

C
ROAD CLOSED 500 FT
W20-3
48″ x 48″

D
ROAD CLOSED AHEAD
W20-3
48″ x 48″
NEXT RIGHT
SP-4R
42″ X 12″

E
ROAD CLOSED AHEAD
W20-3
48″ x 48″
NEXT LEFT
SP-4L
42″ X 12″

F
DETOUR AHEAD
W20-2
48″ x 48″

G
Wolf Creek Rd
SP–1
48″ x 18″
DETOUR
M4–8
24″ x 12″
M6–1
21″ x 15″

H
Wolf Creek Rd
SP–1
48″ x 18″
DETOUR
M4–8
24″ x 12″
M6–1
21″ x 15″

I
Wolf Creek Rd
SP–1
48″ x 18″
DETOUR
M4–8
24″ x 12″
M6-3
21″ x 15″

J
END DETOUR
M4-8 A
48″ x 18″

K
R11-4
60″ x 30″
ROAD CLOSED TO THRU TRAFFIC
DETOUR
M4-10L
48″ x 18″
TYPE III BARRICADE

M
R11-4
60″ x 30″
ROAD CLOSED TO THRU TRAFFIC
TYPE III BARRICADE

N
R11-2
48″ x 30″
ROAD CLOSED
TYPE III BARRICADE(S)

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LICENSE NO. F-0891

APPROVED: Richard Odgarski DATE: 1/3/2019
6E04D032FEE446D

SEAL
NORTH CAROLINA PROFESSIONAL
SEAL 037467 ENGINEER
RICHARD A ODGARSKI

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

OFFSITE DETOUR PLAN

10/12/2018
T:\NCDOT_Div\4_LIBR\Group 1\Cherokee 65\TCP\17BP.14.R.85_TC_PSH_02.dgn
USR0604942

PROJ. REFERENCE NO.	SHEET NO.
17BP.14.R.85	SP-1

SIGN NUMBER: SP-1
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 4′-0″
HEIGHT: 1′-6″
TOTAL AREA: 6.0 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0.47″
WIDTH: 0.63″
RADII: 1.5″

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

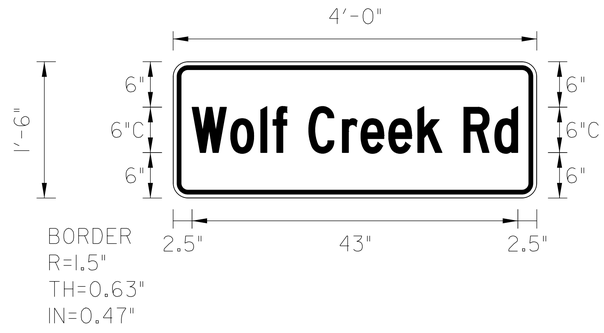
SYMBOL	X	Y	WID	HT

MAT′L: 0.080″ (2.0 mm) ALUMINUM

DESIGN BY: Z. ″ Gavin″ Teng
PROJECT ID: 17BP.14.R.85
CHECKED BY: J. Barcomb
DIV: 14
DATE: Mar 18, 2015

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluoresent orange retroreflective sheeting.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

Series/Size: C 2000

		W	o	l	f		C	r	e	e	k		R	d													Text Length
	2.5	5.1	4	1.6	1.9	2.8	4.4	2.5	3.7	3.8	3.2	2.8	4.1	3.1	2.5												43

FILENAME: Wolf Creek Rd

NORTH CAROLINA D.O.T. SIGN DETAIL

1001 Morehead Square Dr. Ste 610
Charlotte, NC 28203 - 704.342.5401
www.wspusa.com
LICENSE NO. F-0891

APPROVED: DocuSigned by: Richard Dziurski DATE: 1/3/2019

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037467 ENGINEER RICHARD A DZIURSKI

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SPECIAL SIGN DESIGN

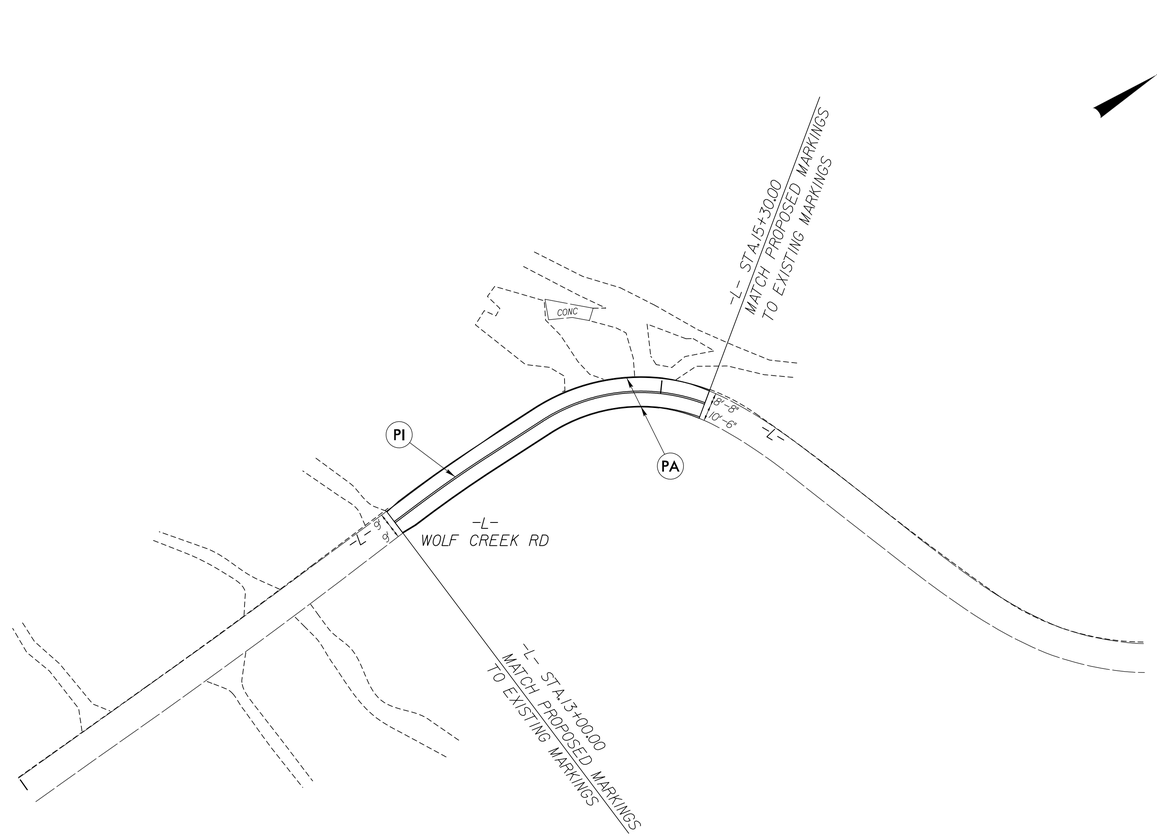
10/29/2018
T:\NCDOT_Div4_LIBR\Group 1\Cherokee 65\TCP\Wolf Creek Rd.dgn
USR0604942

PROJ. REFERENCE NO.	SHEET NO.
17BP.14.R.85	PMP-1

PAVEMENT MARKING SCHEDULE
TIP PROJECT # 17BP.14.R.85

SYMBOL	DESCRIPTION	FINAL PAVEMENT MARKINGS	PAY ITEM QUANTITY BREAKDOWN	TOTAL QUANTITY
PI	YELLOW DOUBLE CENTER	PAINT (4", 2 COATS)	460 LF	920 LF
PA	WHITE EDGELINE	PAINT (4", 2 COATS)	460 LF	920 LF

NOTES:
1. WHITE EDGE TO MATCH EXISTING LANE WIDTHS THROUGHOUT NEWLY CONSTRUCTED AREA.



10/29/2018
T:\NCDOT_Div14_LIBR\Group I\Cherokee 65\TCP\17BP.14.R.85_TC_PSH_PMP.dgn
USR0604942

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LICENSE NO, F-0891

APPROVED: DocuSigned by: Richard Odjenski DATE: 1/3/2019
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 037467 ENGINEER RICHARD A ODJENSKI

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

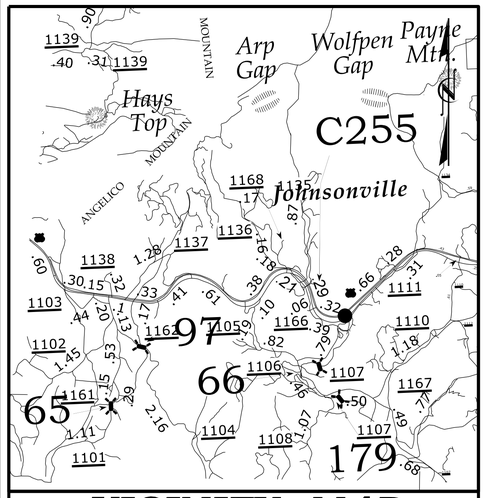
PAVEMENT MARKING PLAN

09/80/60

TIP PROJECT: 17BP.14.R.85

CONTRACT: DN0260

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

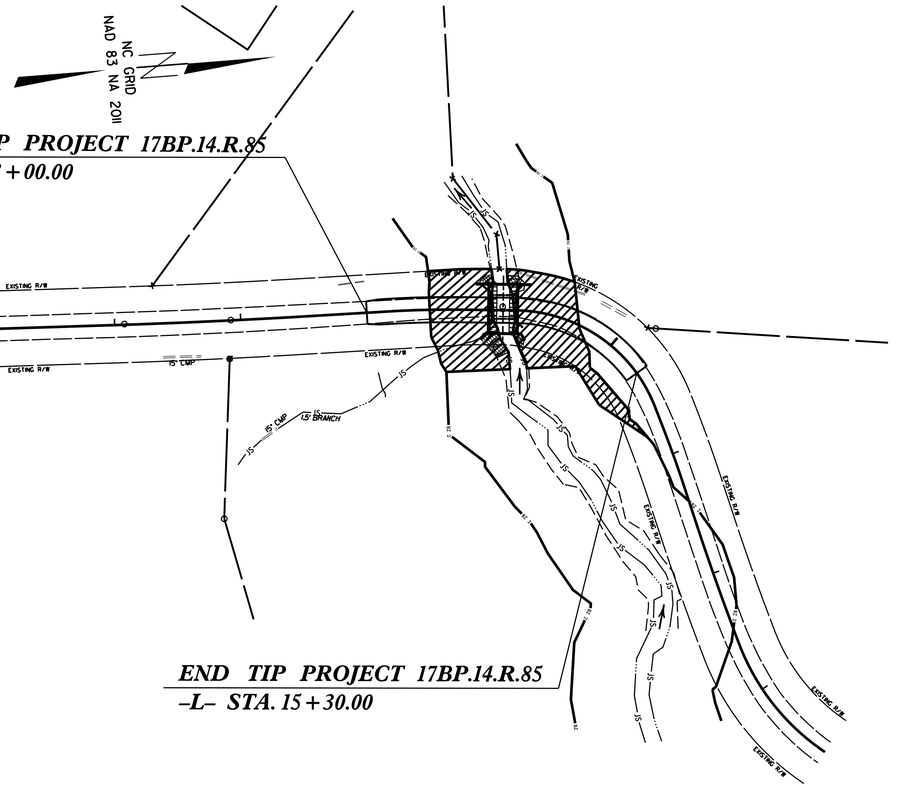
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

CHEROKEE COUNTY

LOCATION: BRIDGE NO. 65 OVER WOLF CREEK
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND CULVERT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.85	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
17BP.14.R.85		P.E., ROW, UTIL



BEGIN TIP PROJECT 17BP.14.R.85
–L– STA. 13+00.00

END TIP PROJECT 17BP.14.R.85
–L– STA. 15+30.00

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	
	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	

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS. ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THE PROJECT.

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

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

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

GRAPHIC SCALE

10 0 20
PLANS

10 0 20
PROFILE (HORIZONTAL)

1 0 2
PROFILE (VERTICAL)

JEFFREY D. GOODIN
LEVEL IIIA NAME

3023
LEVEL IIIA CERTIFICATION NO.

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG–010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 1, 2016 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared In the Office of:

1998 20 2018
ALPHA & OMEGA GROUP
CIVIL | STRUCTURAL | WATER RESOURCES

4601 Lake Boone Trail Suite 3C Raleigh, NC 27607
Phone 919 981 0310 Fax 919 981 0451
www.aogroup.com Firm License No. C-1684

2018 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 2018 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		

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.85	EC-2
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.

1998 20 2018
ALPHA & OMEGA GROUP
CIVIL | STRUCTURAL | WATER RESOURCES

4601 Lake Boone Trail Suite 3C Raleigh, NC 27607
Phone 919 981 0310 Fax 919 981 0451
www.aogroup.com Firm License No. C-1684

A&O PROJECT NO. 2013.060

PROJECT NO. 17BP.14.R.85
CHEROKEE COUNTY
STATION: 14+08.00 -L-
SHEET _ OF _

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CULVERT NO. 190065
ON SR 1101 OVER
WOLF CREEK

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

STR. NO. 190065

PROJECT REFERENCE NO.	SHEET NO.
17BPJ4.R.85	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

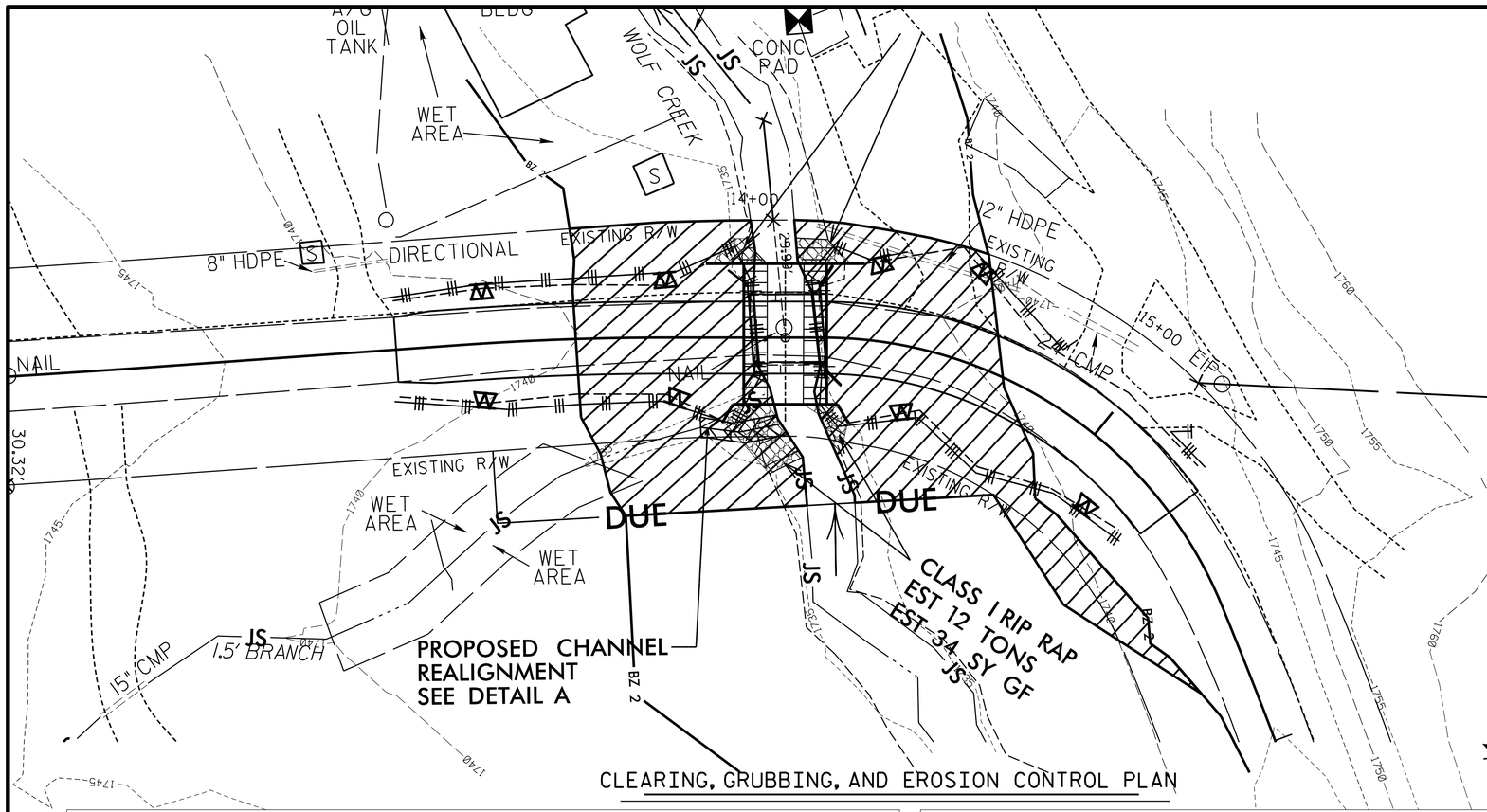
MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	13+00	13+95	LT	53
4	-L-	13+00	13+95	RT	53
4	-L-	14+25	14+35	LT	3
4	-L-	14+25	15+25	RT	56
4	-L-	14+45	14+75	LT	3
				SUBTOTAL	168
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					
				TOTAL	168
				SAY	170

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)

CLEARING, GRUBBING, AND EROSION CONTROL PLAN



NAD 83

DETAIL B SF-190065

(NOT TO SCALE)

SINGLE BARREL CULVERT SKEWED LOW FLOW CHANNEL AND SILLS

*NOTES:

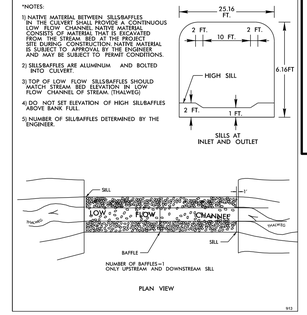
1) NATIVE MATERIAL BETWEEN SILLS/BAFFLES IN THE CULVERT SHALL PROVIDE A CONTINUOUS LOW FLOW CHANNEL NATIVE MATERIAL CONSISTS OF MATERIAL THAT IS EXCAVATED FROM THE CULVERT AND/OR MATERIAL FROM SITE DURING CONSTRUCTION. NATIVE MATERIAL IS SUBJECT TO APPROVAL BY THE ENGINEER AND MAY BE SUBJECT TO PERMIT CONDITIONS.

2) SILLS/BAFFLES ARE ALUMINUM AND BOLTED INTO CULVERT.

3) TOP OF LOW FLOW SILLS/BAFFLES SHOULD MATCH STREAM BED ELEVATION IN LOW FLOW CHANNEL OF STREAM. (THALWEG)

4) DO NOT SET ELEVATION OF HIGH SILL/BAFFLES ABOVE BANK FULL.

5) NUMBER OF SILLS/BAFFLES DETERMINED BY THE ENGINEER.



PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.85	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

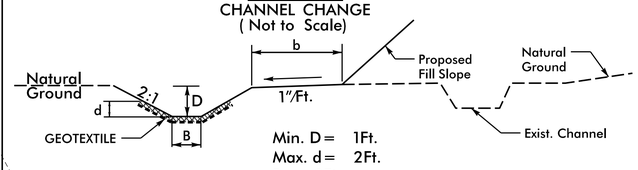
10 0 20

SCALE: 1" = 20'

DETAIL A

CHANNEL CHANGE

(Not to Scale)



Min. D = 1Ft.
Max. d = 2Ft.
B = 0Ft.
b = 0Ft.

Type of Liner = CLASS B RIP RAP

FROM STA. 13 + 84.00 TO STA. 14 + 07.00

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

DISTURBED AREA 12,000 SF

BRIDGE REMOVAL AND CULVERT CONSTRUCTION SHALL BE PER REQUIREMENTS IN THE NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL

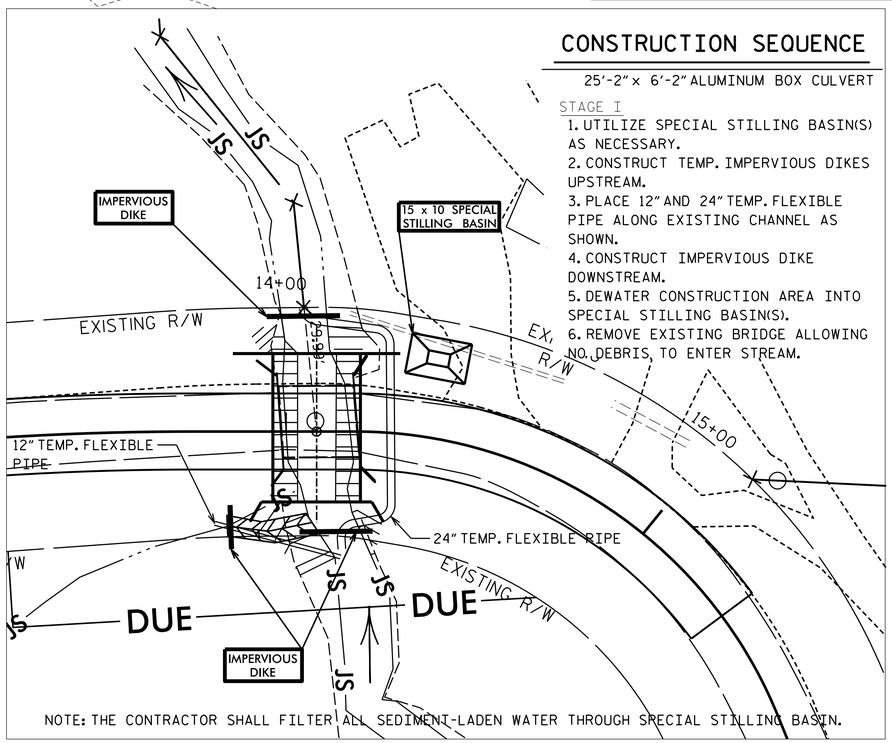
ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS

CONSTRUCTION SEQUENCE

25'-2" x 6'-2" ALUMINUM BOX CULVERT

STAGE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NECESSARY.
2. CONSTRUCT TEMP. IMPERVIOUS DIKES UPSTREAM.
3. PLACE 12" AND 24" TEMP. FLEXIBLE PIPE ALONG EXISTING CHANNEL AS SHOWN.
4. CONSTRUCT IMPERVIOUS DIKE DOWNSTREAM.
5. DEWATER CONSTRUCTION AREA INTO SPECIAL STILLING BASIN(S).
6. REMOVE EXISTING BRIDGE ALLOWING NO DEBRIS TO ENTER STREAM.



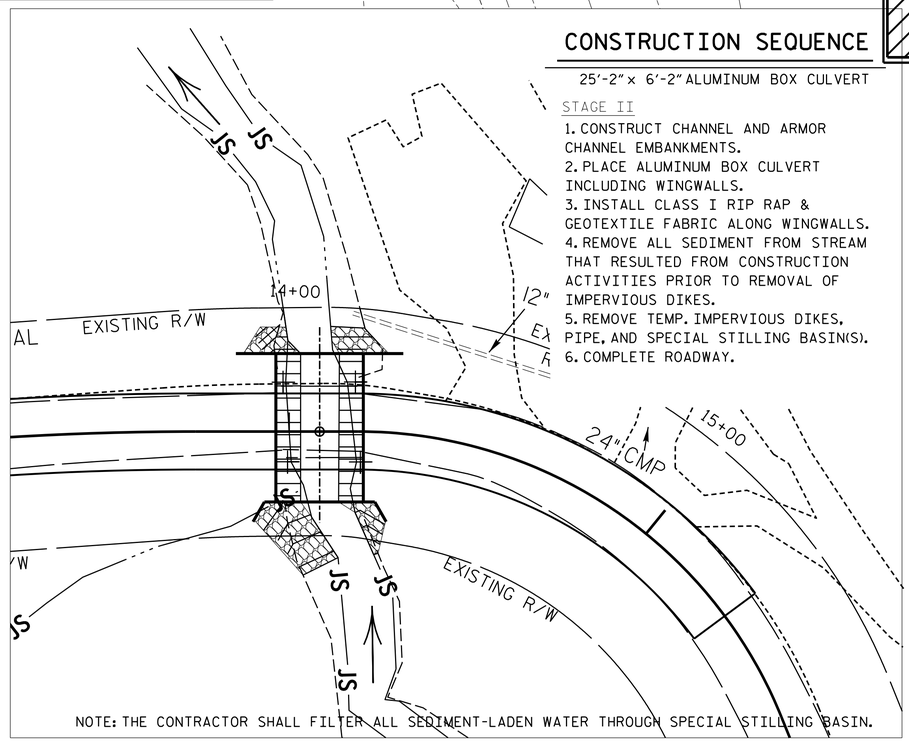
NOTE: THE CONTRACTOR SHALL FILTER ALL SEDIMENT-LADEN WATER THROUGH SPECIAL STILLING BASIN.

CONSTRUCTION SEQUENCE

25'-2" x 6'-2" ALUMINUM BOX CULVERT

STAGE II

1. CONSTRUCT CHANNEL AND ARMOR CHANNEL EMBANKMENTS.
2. PLACE ALUMINUM BOX CULVERT INCLUDING WINGWALLS.
3. INSTALL CLASS I RIP RAP & GEOTEXTILE FABRIC ALONG WINGWALLS.
4. REMOVE ALL SEDIMENT FROM STREAM THAT RESULTED FROM CONSTRUCTION ACTIVITIES PRIOR TO REMOVAL OF IMPERVIOUS DIKES.
5. REMOVE TEMP. IMPERVIOUS DIKES, PIPE, AND SPECIAL STILLING BASIN(S).
6. COMPLETE ROADWAY.



NOTE: THE CONTRACTOR SHALL FILTER ALL SEDIMENT-LADEN WATER THROUGH SPECIAL STILLING BASIN.

1998 20 2018
ALPHA & OMEGA GROUP
CIVIL | STRUCTURAL | WATER RESOURCES
4601 Lake Boone Trail Suite 3C Raleigh, NC 27607
Phone 919 981 0310 Fax 919 981 0451
www.aogroup.com Firm License No. C-1684
A&O PROJECT NO. 2013.060

PROJECT NO. 17BP.14.R.85

CHEROKEE COUNTY

STATION: 14+08.00 -L-

SHEET _ OF _

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

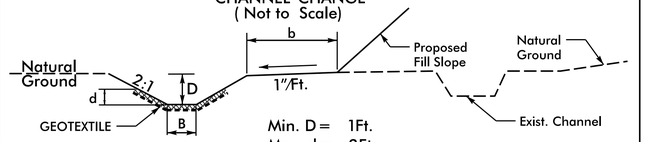
CULVERT NO. 190065 ON SR 1101 OVER WOLF CREEK

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

STR. NO. 190065

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.85	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DETAIL A
CHANNEL CHANGE
(Not to Scale)



Min. D = 1Ft.
Max. d = 2Ft.
B = 0Ft.
b = 0Ft.
Type of Liner = CLASS B RIP RAP

FROM STA. 13+84.00 TO STA. 14+07.00 RT

10 0 20

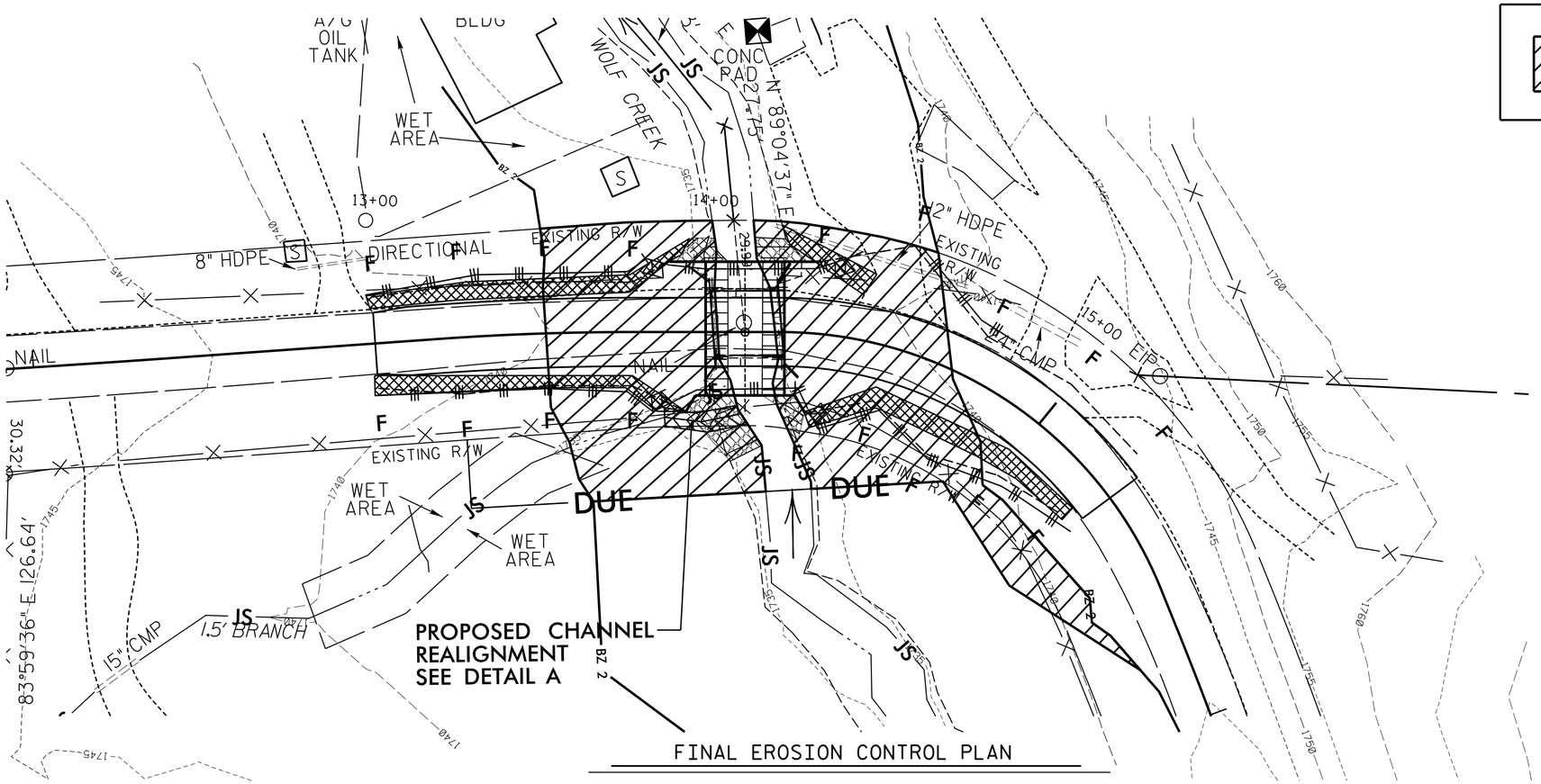
SCALE: 1" = 20'

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 13+00 to Sta. 15+25

BRIDGE REMOVAL AND CULVERT CONSTRUCTION SHALL BE PER REQUIREMENTS IN THE NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL

DISTURBED AREA
12,000 SF



FINAL EROSION CONTROL PLAN

NOTE: ALL EROSION CONTROL MEASURES SHOWN ARE TO BE PLACED WITHIN EXISTING / PROPOSED RIGHT OF WAY OR EASEMENT.
SCALE: 1" = 20'

NAD 83

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PROJECT NO. 17BP.14.R.85
CHEROKEE COUNTY
STATION: 14+08.00 -L-
SHEET _ OF _

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CULVERT NO. 190065 ON SR 1101 OVER WOLF CREEK

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

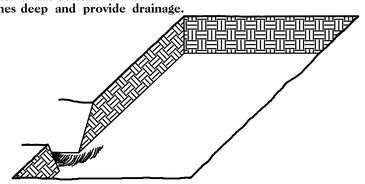
STR. NO. 190065

PLANTING DETAILS

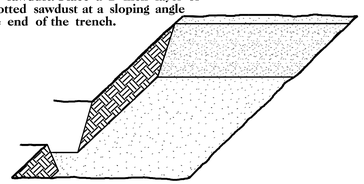
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

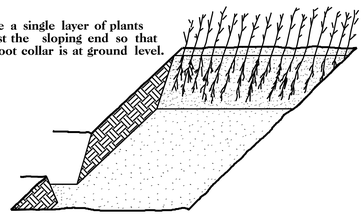
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



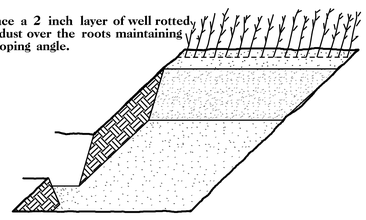
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

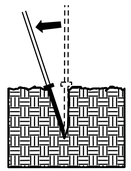


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

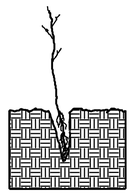


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

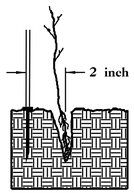
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



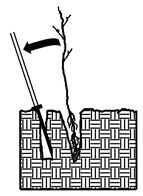
1. Insert planting bar as shown and pull handle toward planter.



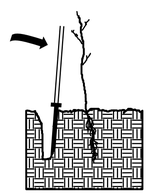
2. Remove planting bar and place seedling at correct depth.



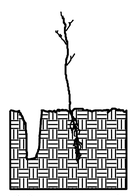
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

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

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

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17.3P.14.R.85	RF-1	

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

REFORESTATION MAY BE UTILIZED ON THIS PROJECT AT THE DISCRETION OF THE NCDOT FIELD OPERATIONS ENGINEER.

REFORESTATION

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

REFORESTATION

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

25% LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in – 18 in BR
25% PLATANUS OCCIDENTALIS	SYCAMORE	12 in – 18 in BR
25% FRAXINUS PENNSYLVANICA	GREEN ASH	12 in – 18 in BR
25% BETULA NIGRA	RIVER BIRCH	12 in – 18 in BR

REFORESTATION DETAIL SHEET

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

PROJECT REFERENCE NO.	SHEET NO.
17BP.14.R.85	U0-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

14

15

POWER
BLUE RIDGE MOUNTAIN EMC
P.O. BOX 9, ECIOG
YOUNG HARRIS, GA. 30582

TELEPHONE
AT&T COMMUNICATION
5390 OVERBEND TRAIL
SUWANEE, GA. 30024-1785

HIGH WATER ELEV.= 1736.14'

"E'LY MEANDERS OF WOLF CREEK"

S 89°01'08" E 224.73'

SHARON WESTMORELAND DAVENPORT
DB 1282 PG 388

ISAIAH NEWMAN
& SHARON
WESTMORELAND DAVENPORT
DB 1282 PG 384

N 49°48'05" W
383.28' (TOTAL)

N 56°00'44" E
55.93'

N 89°04'41" E
275.25'

N 07°34'15" E
265.26' (TOTAL)

LYNDSAY DAVENPORT
SHARON WESTMORELAND DAVENPORT
DB 1282 PG 386

EXIST TELEPHONE LINE
TO BE REMOVED

INSTALL 6" PEDESTAL
24' FROM C/L

EXIST TELEPHONE LINE
TO BE REMOVED

WINSTON WESTMORELAND, ET. ALS.
DB 1419 PG 7

RETAIN EXISTING
TELEPHONE LINE

PROPOSED CHANNEL
REALIGNMENT
SEE DETAIL A

TIE TO +85
EXIST R/W 30'

TIE TO +25
EXIST R/W 30'

+25
50'

PROPOSED TELEPHONE
LINE

EXIST. TELEPHONE PEDESTAL
TO REMOVED

RETAIN EXISTING
TELEPHONE LINE

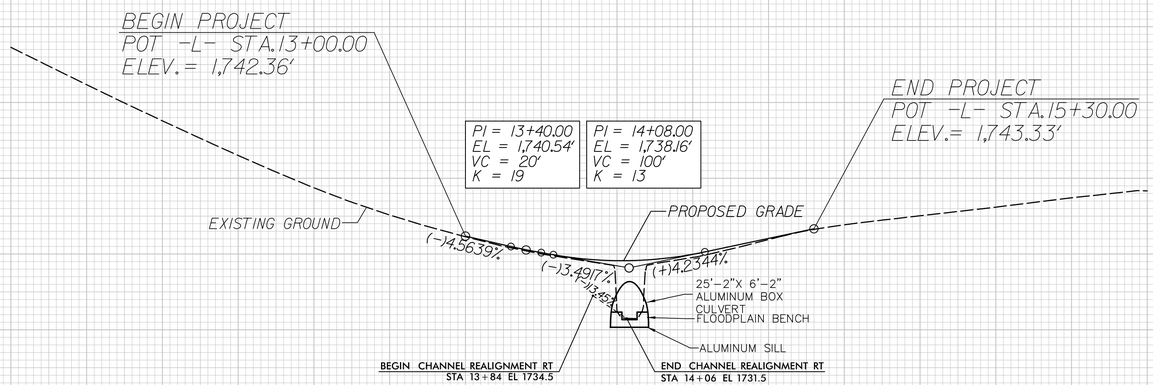
DONALD K. HELTON, ET. UX.
DB 673 PG 92

WINSTON WESTMORELAND, ET. ALS.
DB 854 PG 198

S 67°56'26" E 106.64'

N 77°43'37" E
85.34'

INSTALL 6" PEDESTAL
27' FROM C/L



REVISIONS

8/17/99

4/18/2016
R:\Roadway Design Office NCDOT\17BP GROUP 1\17BP.14.R.85_190065\Utilities\190065_UTL_psh.dgn
psh 04497