

09/08/99

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

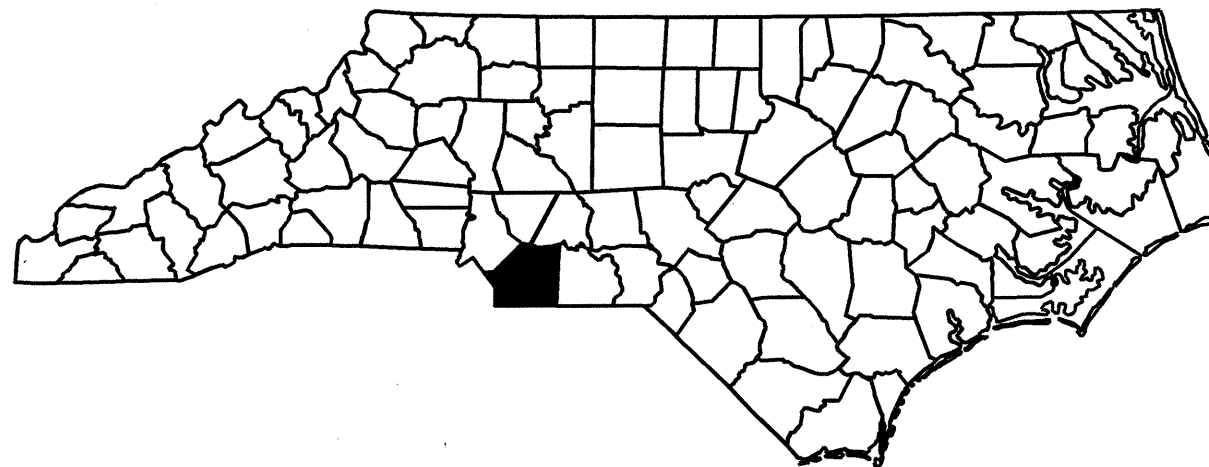
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UNION COUNTY

**LOCATION: BRIDGE No. 453 ON SR 1003 (WHITE STORE RD.)
OVER NORKETT BRANCH**

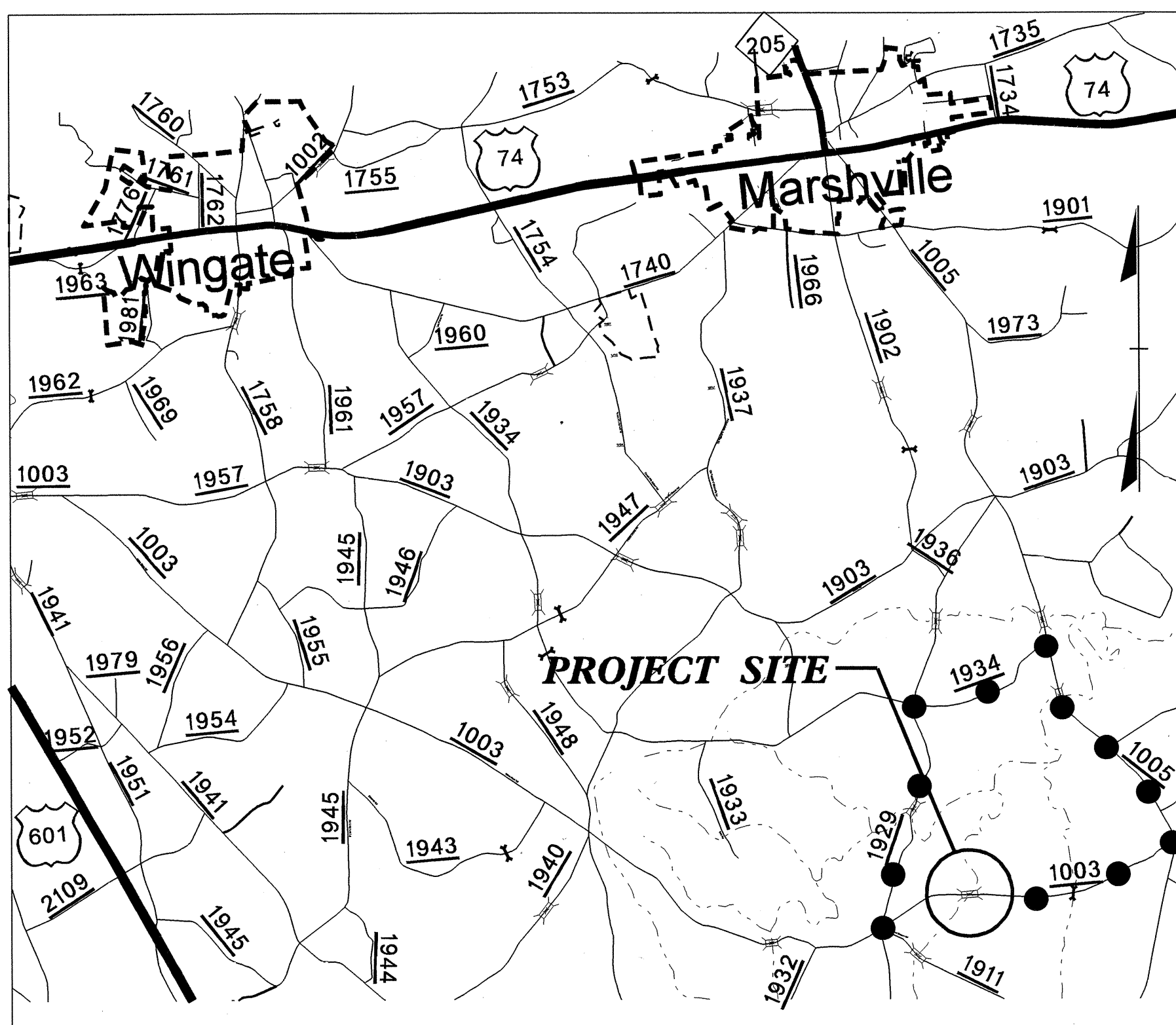
TYPE OF WORK: GRADING, DRAINAGE, PAVING & CULVERT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4824	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38594.1.1	BRSTP-1003(40)	PE	
38594.2.1	BRSTP-1003(40)	ROW /UTL.	
38594.3.1	BRSTP-1003(40)	CONST.	



TIP PROJECT: B-4824

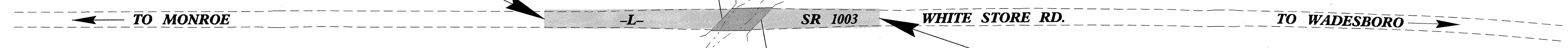
CONTRACT: C203084



VICINITY MAP
OFF-SITE DETOUR ●—●—●—●—●

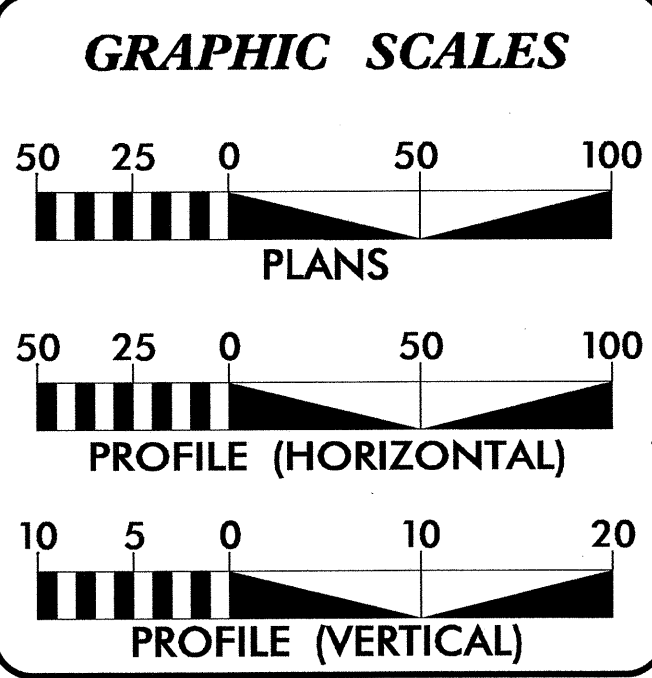
BEGIN T.I.P. PROJECT B-4824
-L- STA. 13+00.00

BEGIN CULVERT
-L- STA. 14+97.11



END CULVERT
-L- STA. 15+38.89

END T.I.P. PROJECT B-4824
-L- STA. 17+50.00



DESIGN DATA

ADT 2013 =	656
ADT 2035 =	900
DHV =	13 %
D =	65 %
T =	8 % *
V =	50 MPH
* TTST 2% DUAL 6%	
FUNC CLASS=RURAL COLL.	
SUB-REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY T.I.P. PROJECT =	0.077 MI.
LENGTH STRUCTURE T.I.P. PROJECT =	0.008 MI.
TOTAL LENGTH OF T.I.P. PROJECT =	0.085 MI.

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 16, 2012

LETTING DATE:
MARCH 19, 2013

JASON MOORE, PE
PROJECT ENGINEER

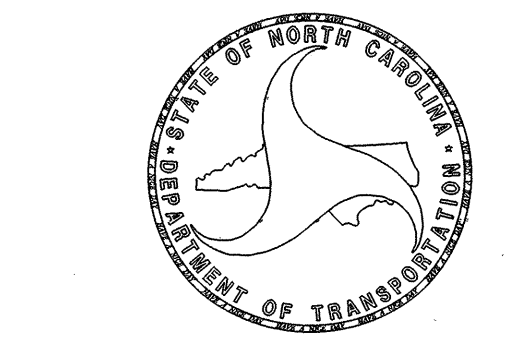
BRYAN C. KEY, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

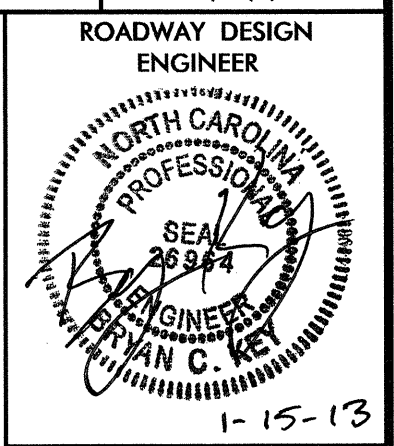
Linna M. Joins
SIGNATURE: _____

ROADWAY DESIGN ENGINEER

Bryan C. Key
SIGNATURE: _____ 12-17-12



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SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE AND TYPICAL SECTION
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND ASPHALT PAVEMENT REMOVAL SUMMARY
4	PLAN AND PROFILE SHEET
TMP-1 THRU TMP-1B	TRANSPORTATION MANAGEMENT PLANS
EC-1 THRU EC-6	EROSION CONTROL PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-0	CROSS-SECTION SUMMARY
X-1 THRU X-4	CROSS-SECTIONS
C-1 THRU C-4	CULVERT PLANS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 07/30/12

**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.

UNDERDRAINS

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 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

Pee Dee EMC and Windstream Communications

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.

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 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
815.03	Pipe Underdrain and Blind Drain
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
866.04	Barbed Wire Fence with Wood Posts (2 - 7 Strands)

04/16/11

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	✕
Property Monument	□
Parcel/Sequence Number	⑫③
Existing Fence Line	-x-x-x-
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	○
Well	○
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	▬
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	□
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	○
Proposed Right of Way Line with Concrete or Granite R/W Marker	△
Proposed Control of Access Line with Concrete C/A Marker	○
Existing Control of Access	○
Proposed Control of Access	○
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	○
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	▨
Single Tree	⋆
Single Shrub	⋆
Hedge	-----
Woods Line	-----

VEGETATION:

Orchard	⋆
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	⊕
Storm Sewer	-----

UTILITIES:

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

TELEPHONE:

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

WATER:

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

TV:

TV Satellite Dish	⊕
TV Pedestal	□
TV Tower	⊗
U/G TV Cable Hand Hole	○
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

GAS:

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

SANITARY SEWER:

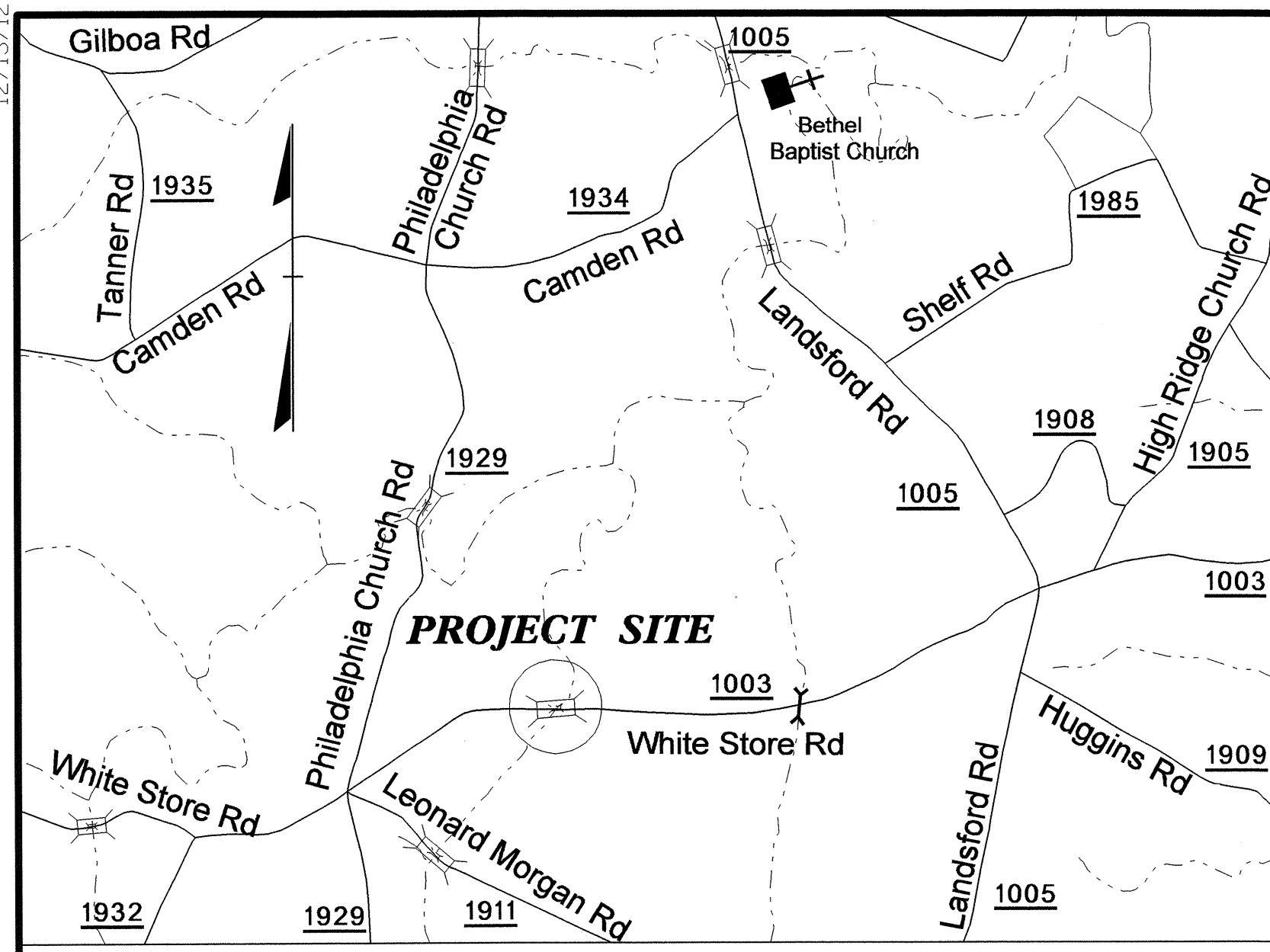
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
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.

SURVEY CONTROL SHEET

- Final -



VICINITY MAP

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4824-1"

WITH NAD 83/2001 STATE PLANE GRID COORDINATES OF
 NORTHING: 422153.073(±ft) EASTING: 1592202.103(±ft)
 ELEVATION: 470.38(±ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999874

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4824-1" TO -L- STATION 10+00.00 IS
 S 83°28'48.7" E 617.143

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION](https://connect.ncdot.gov/resources/location)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 B4824_LS_CONTROL.TXT
 B4824_LS_LOCAL.TXT
2. SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
3. PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM. NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

MONUMENTS USED OR SET FOR PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT:

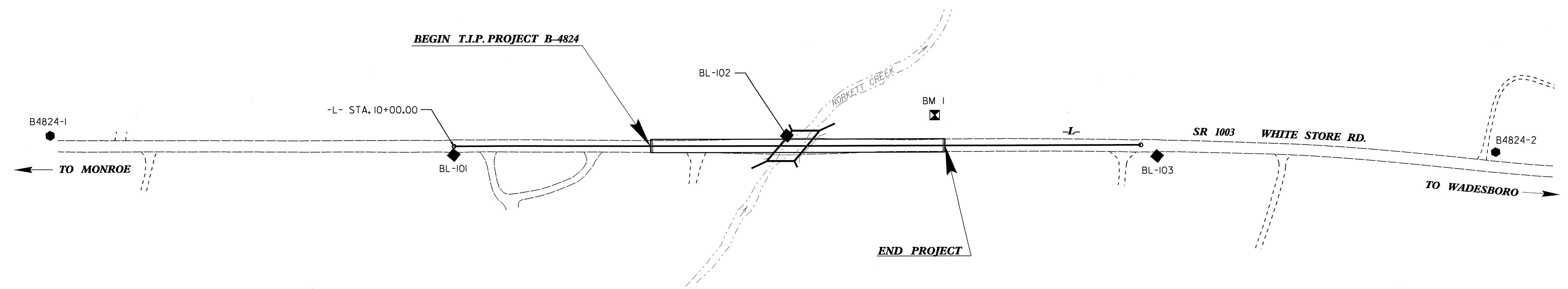
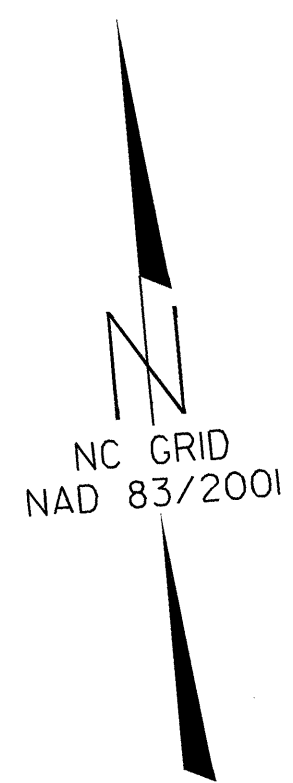
- INDICATES GEODETIC CONTROL MONUMENTS FOR HORIZONTAL CONTROL.
- INDICATES BASELINE MONUMENTS FOR HORIZONTAL CONTROL
- ⊠ INDICATES BENCHMARKS FOR VERTICAL CONTROL

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1		B4824-1	422153.0730	1592202.1030	470.38	OUTSIDE PROJECT LIMITS	
101		BL-101	422069.8550	1592813.4990	461.57	OUTSIDE PROJECT LIMITS	
102		BL-102	422055.1090	1593322.9010	453.20	15+08.17	15.82 LT
103		BL-103	421973.8410	1593883.7080	455.18	OUTSIDE PROJECT LIMITS	
2		B4824-2	421933.8800	1594399.3300	456.25	OUTSIDE PROJECT LIMITS	

 BM1 ELEVATION = 451.34
 N 422066 E 1593551
 L STATION 17+34.46 LEFT
 RR SPIKE IN POWER POLE

ALIGN	STATION	OFFSET	NORTH	EAST
L	13+00.00	20.00	422037.3043	1593112.4277
L	14+40.00	48.00	421997.3827	1593249.5053
L	14+90.00	-20.00	422060.8367	1593305.1613
L	14+90.00	-48.00	422088.7332	1593307.5663
L	15+55.00	48.00	421987.5049	1593364.0803
L	15+55.00	20.00	422015.4014	1593366.4853
L	15+92.00	-48.00	422079.9720	1593409.1893
L	15+92.00	-20.00	422052.0755	1593406.7843

TYPE	STATION	NORTH	EAST
POT	10+00.0	422082.9986	1592815.2543
POT	20+49.1	421992.8830	1593860.5269



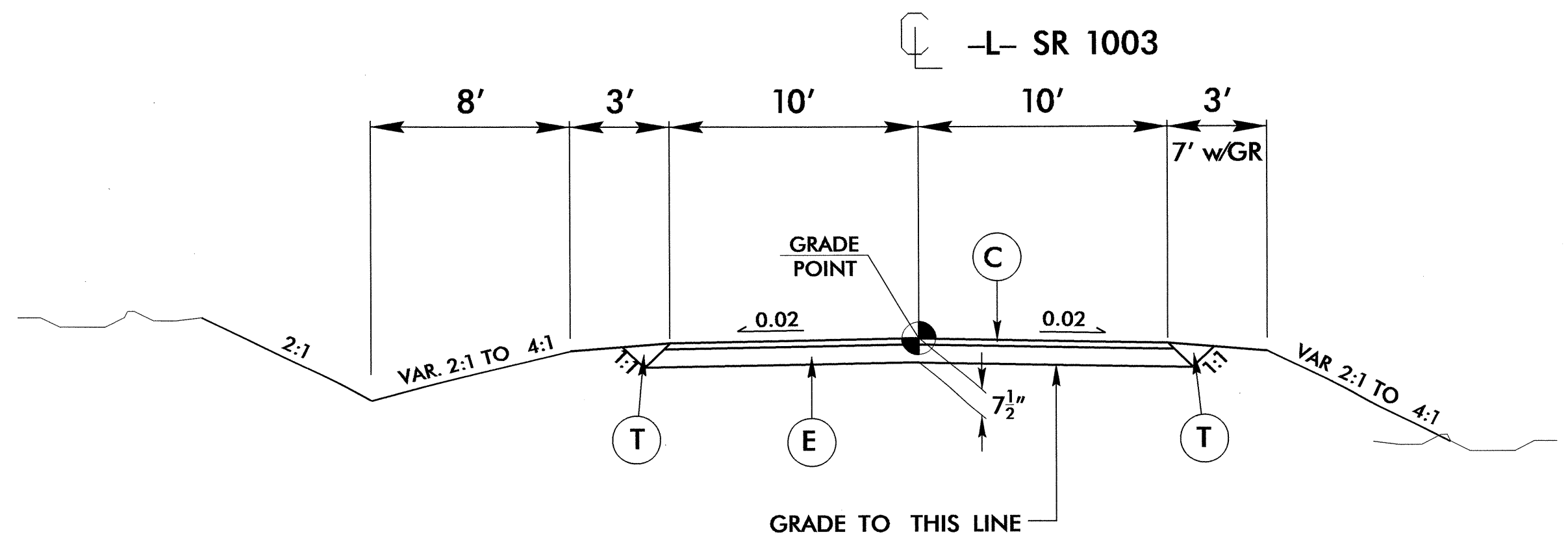
NOTE: DRAWING NOT TO SCALE

6/2/99

PROJECT REFERENCE NO. B-4824	SHEET NO. 2
ROADWAY DESIGN ENGINEER SEAL 26984 JEROME C. YEL	PAVEMENT DESIGN ENGINEER SEAL 22898 CLARK S. MORRISON

12-17-12 *Clark Morrison*

PAVEMENT SCHEDULE			
(FINAL PAVEMENT DESIGN)			
C	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.	T	EARTH MATERIAL.
E	PROP. APPROX. 4 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.	NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.	



USE TYPICAL SECTION NO. 1
 -L- STA. 13+00.00 TO -L- STA. 17+50.00

TYPICAL SECTION NO. 1

13-DEC-2012 09:44
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203084

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
0057000000-E	226	100	CY	UNDERCUT EXCAVATION
0195000000-E	265	100	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	375	SY	GEOTEXTILE FOR SOIL STABILIZA-TION
0318000000-E	300	2.6	TON	FOUNDATION CONDITIONING MATE-RIAL, MINOR STRUCTURES
0320000000-E	300	10	SY	FOUNDATION CONDITIONING GEO-TEXTILE
0343000000-E	310	24	LF	15" SIDE DRAIN PIPE
1099500000-E	505	100	CY	SHALLOW UNDERCUT
1099700000-E	505	200	TON	CLASS IV SUBGRADE STABILIZA-TION
1220000000-E	545	50	TON	INCIDENTAL STONE BASE
1489000000-E	610	270	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1519000000-E	610	170	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1575000000-E	620	23	TON	ASPHALT BINDER FOR PLANT MIX
2022000000-E	815	22.4	CY	SUBDRAIN EXCAVATION
2033000000-E	815	16.8	CY	SUBDRAIN FINE 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
3030000000-E	862	600	LF	STEEL BM GUARDRAIL
3045000000-E	862	25	LF	STEEL BM GUARDRAIL, SHOP CURVED
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3195000000-N	862	1	EA	GUARDRAIL ANCHOR UNITS, TYPE AT-1

ItemNumber	Sec #	Quantity	Unit	Description
3270000000-N	SP	3	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3574000000-E	867	80	LF	GENERIC FENCING ITEM ELECTRIC BARBED WIRE FENCE RESET
3656000000-E	876	475	SY	GEOTEXTILE FOR DRAINAGE
4400000000-E	1110	392	SF	WORK ZONE SIGNS (STATIONARY)
4410000000-E	1110	94	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4430000000-N	1130	15	EA	DRUMS
4445000000-E	1145	64	LF	BARRICADES (TYPE III)
6000000000-E	1605	1,000	LF	TEMPORARY SILT FENCE
6006000000-E	1610	250	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	80	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	135	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	1.25	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	1.25	TON	FERTILIZER FOR TEMPORARY SEED-ING
6024000000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	400	LF	SAFETY FENCE
6030000000-E	1630	100	CY	SILT EXCAVATION
6036000000-E	1631	2,900	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	10	SY	COIR FIBER MAT
6038000000-E	SP	60	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	90	LF	1/4" HARDWARE CLOTH
6070000000-N	1639	4	EA	SPECIAL STILLING BASINS
6071020000-E	SP	15	LB	POLYACRYLAMIDE (PAM)
6071030000-E	1640	50	LF	COIR FIBER BAFFLE
6071050000-E	SP	1	EA	*** SKIMMER (1-1/2')
6084000000-E	1660	1.25	ACR	SEEDING & MULCHING
6087000000-E	1660	0.6	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	0.75	TON	FERTILIZER TOPDRESSING
6111000000-E	SP	220	LF	IMPERVIOUS DIKE
6114500000-N	1667	10	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	16	EA	RESPONSE FOR EROSION CONTROL

5/28/99

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

"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

Table with columns: SURVEY LINE, BEG. STA., END STA., LOCATION, LENGTH (STRAIGHT, SHOP CURVED, DOUBLE FACED), WARRANT POINT (APPROACH END, TRAILING END), "N" DIST. FROM E.O.L., TOTAL SHOULDER WIDTH, FLARE LENGTH (APPROACH END, TRAILING END), W (APPROACH END, TRAILING END), ANCHORS (XI, GRAU 350, AT-1, CAT-1, TYPE III, B-77), IMPACT ATTENUATOR TYPE 350 (PERMITTED NO., G, NG), SINGLE FACED CONCRETE BARRIERS, REMOVE EXISTING GUARDRAIL, REMOVE AND STOCKPILE EXISTING GUARDRAIL, REMARKS.

SUMMARY OF PAVEMENT REMOVAL
IN SQUARE YARDS

Table with columns: LINE, STATION, LOCATION, REMOVAL. Rows include station ranges like 13+00.00 TO 14+97.00 and a PROJECT TOTAL row.

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".

SUMMARY OF EARTHWORK
IN CUBIC YARDS

Table with columns: LOCATION, UNCLASSIFIED EXCAVATION, EMBT +%, BORROW, WASTE. Rows include station ranges, project subtotals, and a GRAND TOTAL row.

UNDERCUT EXCAVATION = 100 CU. YD.
SHALLOW UNDERCUT = 100 CU. YD.

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, 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

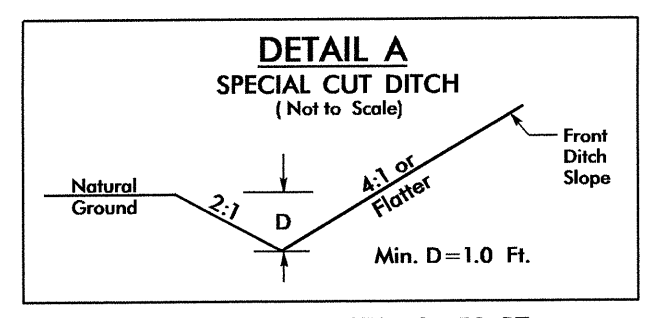
SUB-REGIONAL & REGIONAL

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

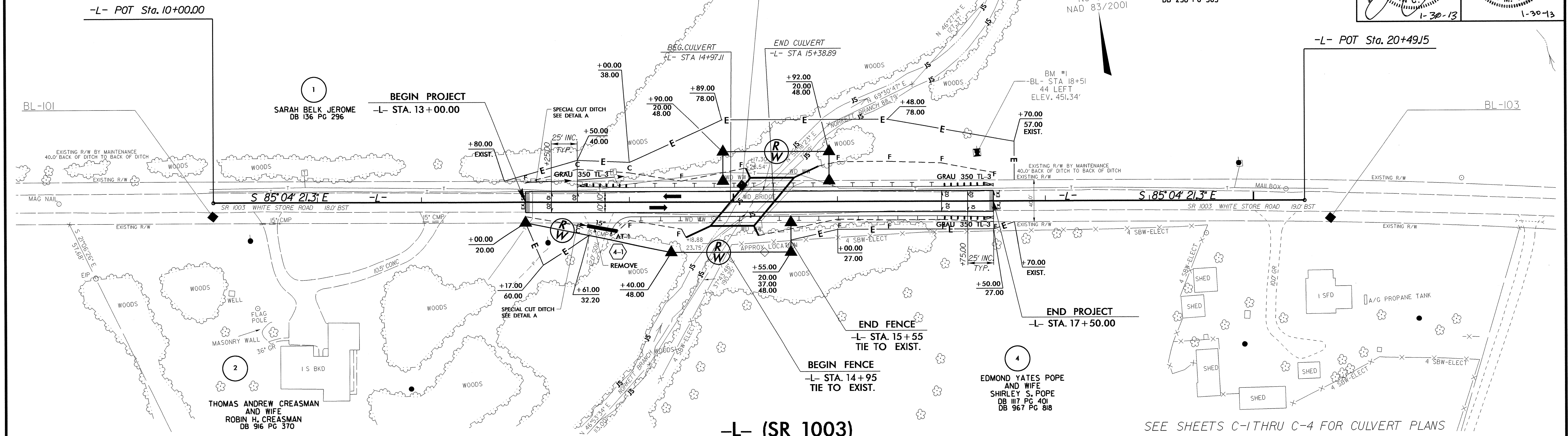
NOTE: Invert Elevations are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

Detailed table for LIST OF PIPES, ENDWALLS, ETC. Columns include: STATION, LOCATION (L/R/T OR C/L), STRUCTURE NO., TOP ELEVATION, INVERT ELEVATION, SLOPE CRITICAL, DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC), C.S. PIPE, R.C. PIPE (CLASS III), R.C. PIPE (CLASS IV), ENDWALLS (STD. 838.01, 838.11, 838.80), QUANTITIES FOR DRAINAGE STRUCTURES (PER EACH 10' THRU 5.0', 5.0' THRU 10.0', 10.0' AND ABOVE), TYPE OF GRATE, CONCRETE TRANSITIONAL SECTION, CATCH BASIN, DRAINAGE PIPE WITH TWO GRATES, FRAME WITH GRATE, FRAME WITH TWO GRATES, FRAME WITH GRATE, FRAME WITH TWO GRATES, CORR. STEEL ELBOWS NO. & SIZE, CONC. COLLARS CL. "B" C.Y. STD. 840.72, CONC. & BRICK PIPE PLUG. C.Y. STD. 840.71, ABBREVIATIONS, REMARKS.

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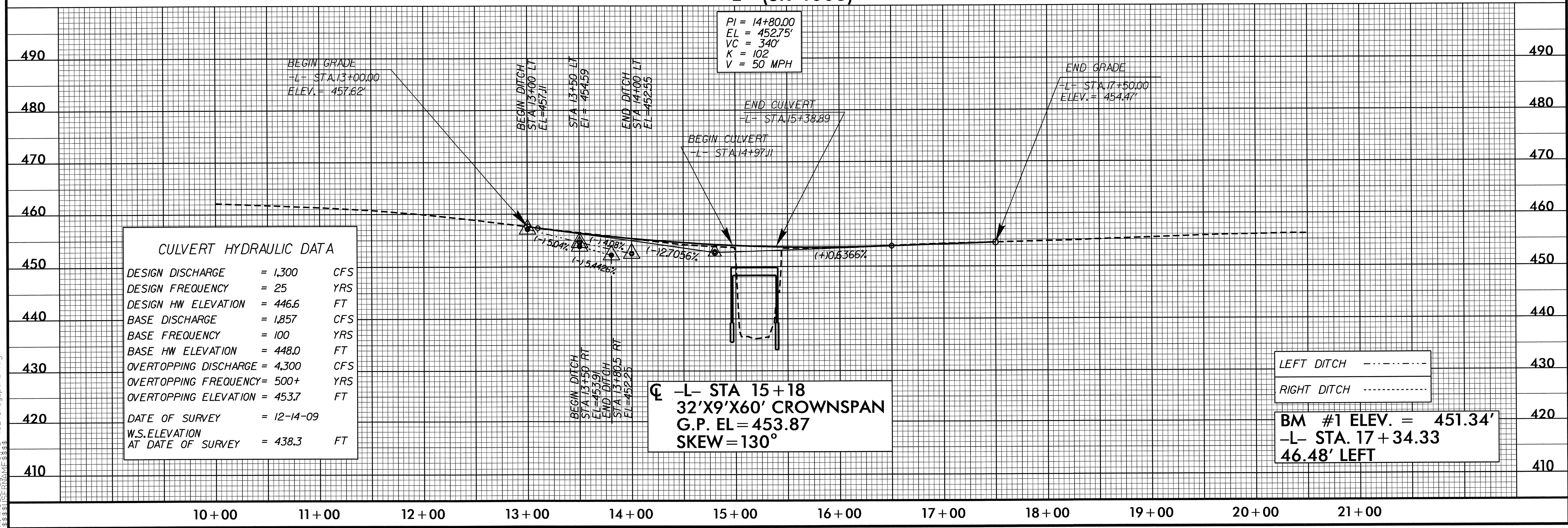


-L- STA. 13+50 TO STA. 13+59 RT.
-L- STA. 13+00 TO STA. 14+00 LT.



-L- (SR 1003)

SEE SHEETS C-1 THRU C-4 FOR CULVERT PLANS



DESIGN DISCHARGE	= 1,300	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 446.6	FT
BASE DISCHARGE	= 1,857	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 448.0	FT
OVERTOPPING DISCHARGE	= 4,300	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 453.7	FT
DATE OF SURVEY	= 12-14-09	
W.S. ELEVATION AT DATE OF SURVEY	= 438.3	FT

☉ -L- STA 15+18
32'X9'X60' CROWNSPAN
G.P. EL = 453.87
SKEW = 130°

LEFT DITCH - - - - -
RIGHT DITCH - - - - -
BM #1 ELEV. = 451.34'
-L- STA. 17+34.33
46.48' LEFT

8/17/1999
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