

09/08/12

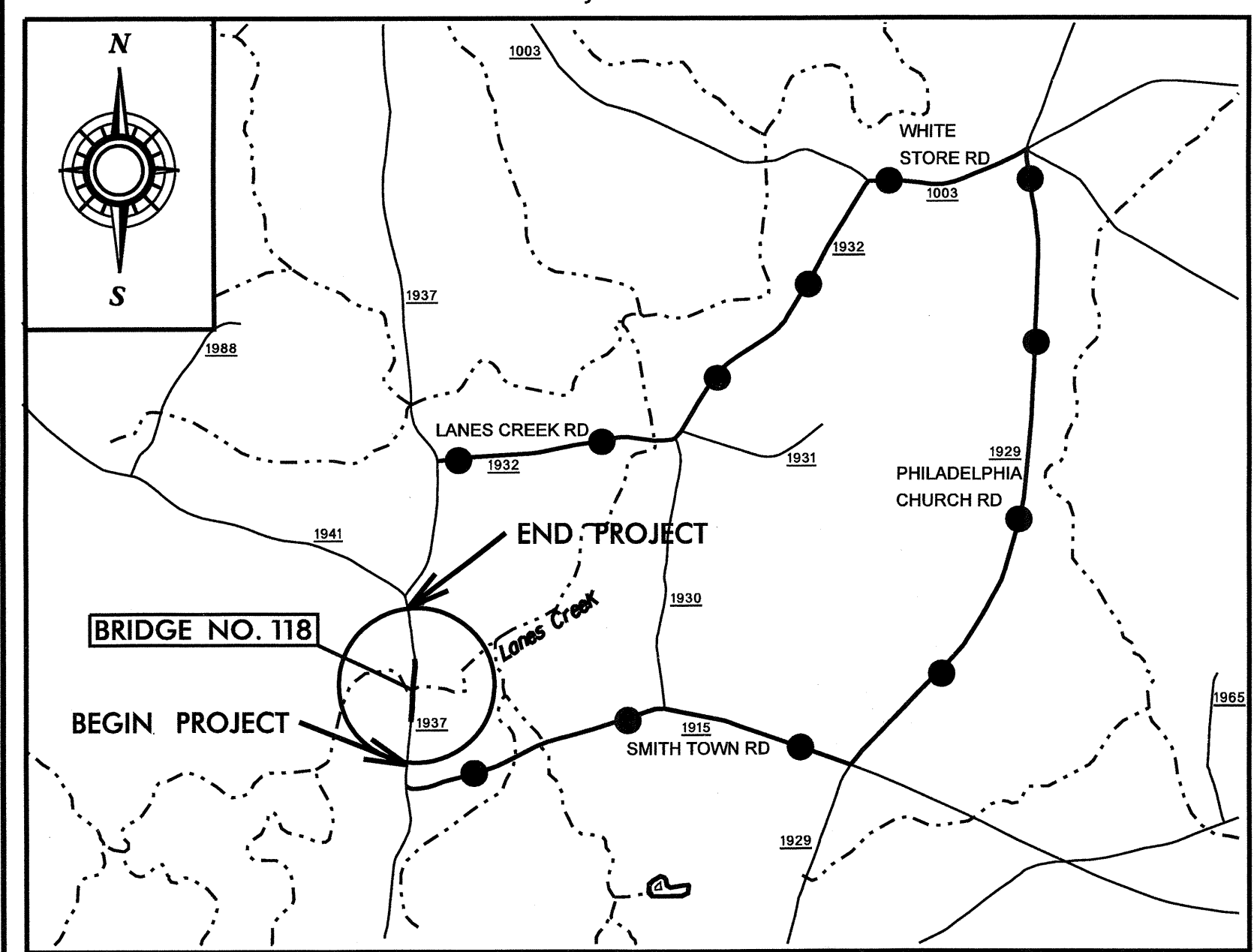
**TIP PROJECT: B-4652**

**CONTRACT: C202954**

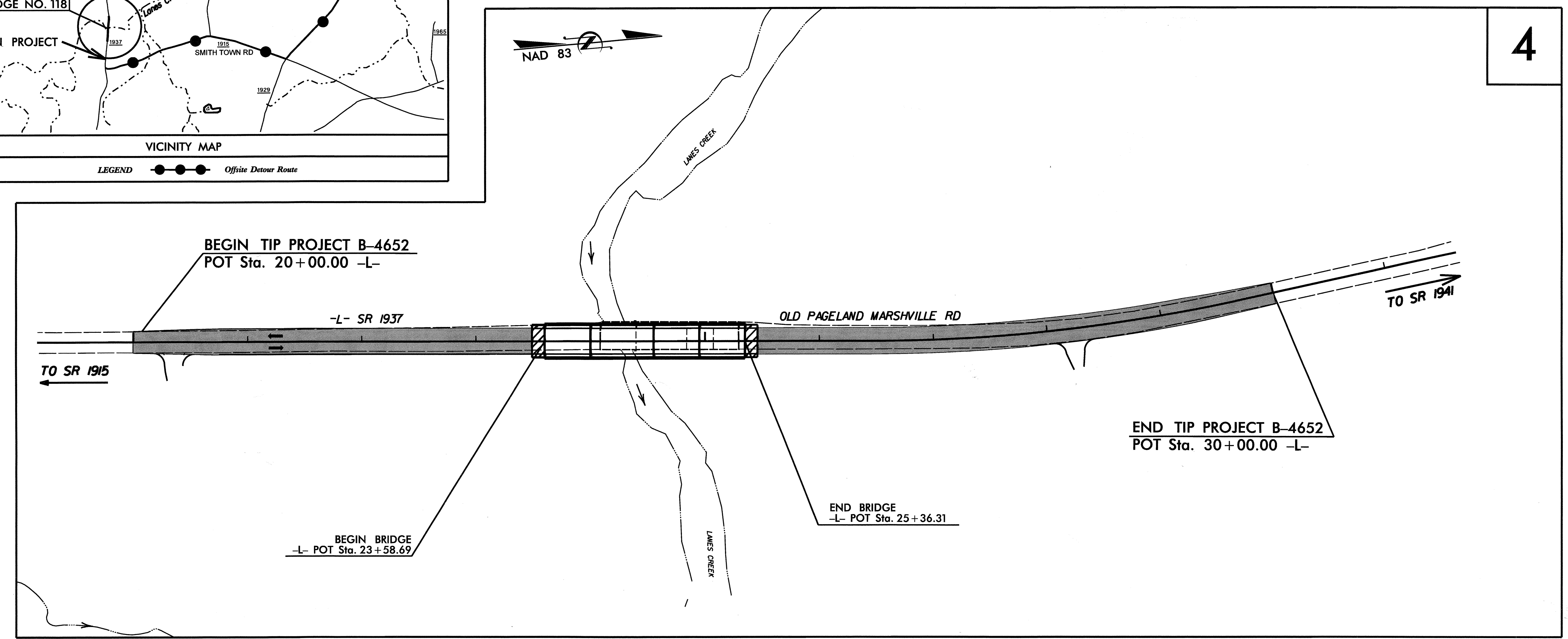
See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Symbols Sheet

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**UNION COUNTY**

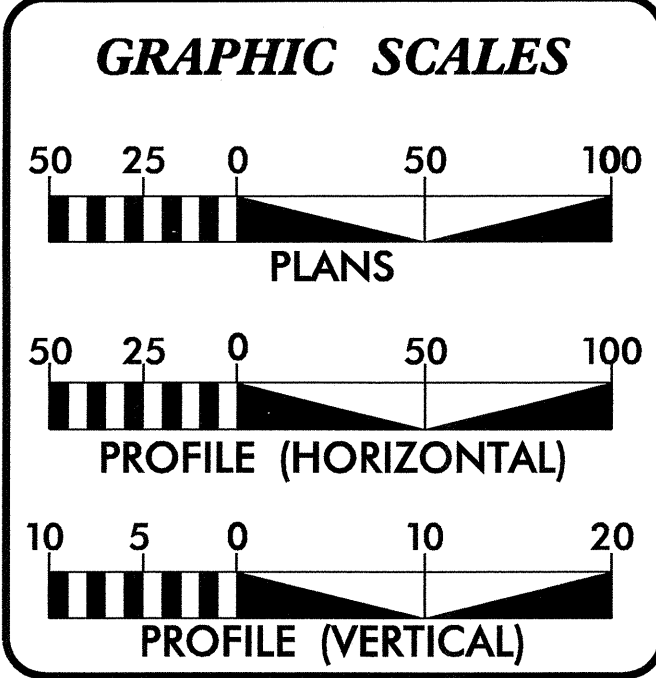
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4652	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33818.1.1	BRZ-1937(2)	PE	
33818.2.1	BRZ-1937(2)	R /W & UTIL.	
33818.3.1	BRZ-1937(2)	Const.	



**LOCATION: BRIDGE NO. 118 OVER LANES CREEK ON SR 1937**  
**TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE**



NCDOT CONTACT: BRENDA MOORE, P.E., PROJECT ENGINEER - ROADWAY DESIGN



**DESIGN DATA**

ADT 2012 =	1248
ADT 2032 =	2198
DHV =	10 %
D =	60 %
T =	3 % *
V =	50 MPH
*(TTST 1% + DUAL 2%)	
FUNC CLASS =	RURAL LOCAL
SUBREGIONAL TIER	

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT B-4652	=	0.156 mi.
LENGTH OF STRUCTURE TIP PROJECT B-4652	=	0.033 mi.
TOTAL LENGTH OF TIP PROJECT B-4652	=	0.189 mi.

Prepared in the Office of:  
**WANG ENGINEERING COMPANY, INC.**  
CARY, N.C.  
FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
2012 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:** NOVEMBER 18, 2011  
**LETTING DATE:** NOVEMBER 20, 2012

**JOSEPH C. OGDEN, P.E.**  
PROJECT ENGINEER

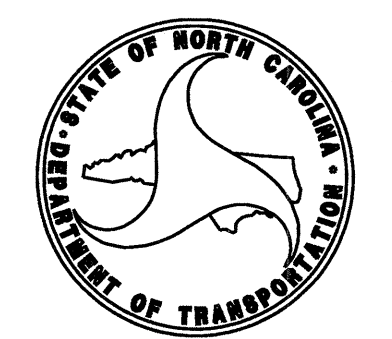
**JAMES S. WANG, P.E.**  
PROJECT DESIGN ENGINEER

**HYDRAULIC ENGINEER**

8/30/12  
SIGNATURE: \_\_\_\_\_ P.E.

**ROADWAY DESIGN ENGINEER**

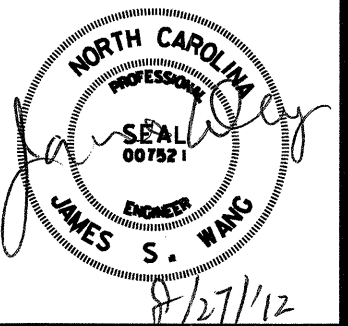
8/21/12  
SIGNATURE: \_\_\_\_\_ P.E.



\$\$\$\$\$SYTIME\$\$\$\$\$  
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\$\$\$\$\$ZNAME\$\$\$\$\$  
\$\$\$\$\$USERNAME\$\$\$\$\$

8/17/99

ROADWAY DESIGN ENGINEER



INDEX OF SHEETS

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, TYPICAL SECTIONS, AND WEDGING DETAILS
3	SUMMARY OF QUANTITIES
3-A	EARTHWORK, GUARDRAIL, ASPHALT PAVEMENT REMOVAL SUMMARIES
3-B	DRAINAGE SUMMARY
4	PLAN & PROFILE SHEET
TMP-1 THRU TMP-2	TRANSPORTATION MANAGEMENT PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
UD-1 THRU UD-2	UTILITIES BY OTHERS
X-1	CROSS SECTION SUMMARY AND INDEX
X-2 THRU X-6	CROSS-SECTIONS
S-1 THRU S-26	STRUCTURE PLANS

GENERAL NOTES:

2012 SPECIFICATIONS  
EFFECTIVE: 01-17-12  
REVISED: 08/31/11

GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

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.

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.

END BENTS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE TIME WARNER CABLE  
FRONTIER TELEPHONE  
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.

ROCK:

ROCK MAYBE ENCOUNTERED BETWEEN STA 21+00 TO 23+00 -L-. BLASTING MAY BE REQUIRED FOR EXCAVATION ON THE PROJECT. SEE SECTION 220 OF THE STANDARD SPECIFICATIONS AND IF APPLICABLE, ROCK BLASTING PROVISION.

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
DIVISION 4 - MAJOR STRUCTURES	
422.11	Reinforced Bridge Approach Fills - Sub Regional Tier
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.03	Pipe Underdrain and Blind Drain
840.00	Concrete Base Pad for Drainage Structures
840.25	Anchorage for Frames - Brick or Concrete
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets

04/16/11

Note: Not to Scale

\*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. B-4652 SHEET NO. 1-B

# CONVENTIONAL PLAN SHEET SYMBOLS

## BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	⑫
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	○ 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	-----
False Sump	▽

## RAILROADS:

Standard Gauge	-----
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	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	△
Proposed Right of Way Line with Concrete or Granite RW 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	----- 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	-----

## 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	----- P
Designated U/G Power Line (S.U.E.*)	----- P

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

## TV:

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

## GAS:

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

## SANITARY SEWER:

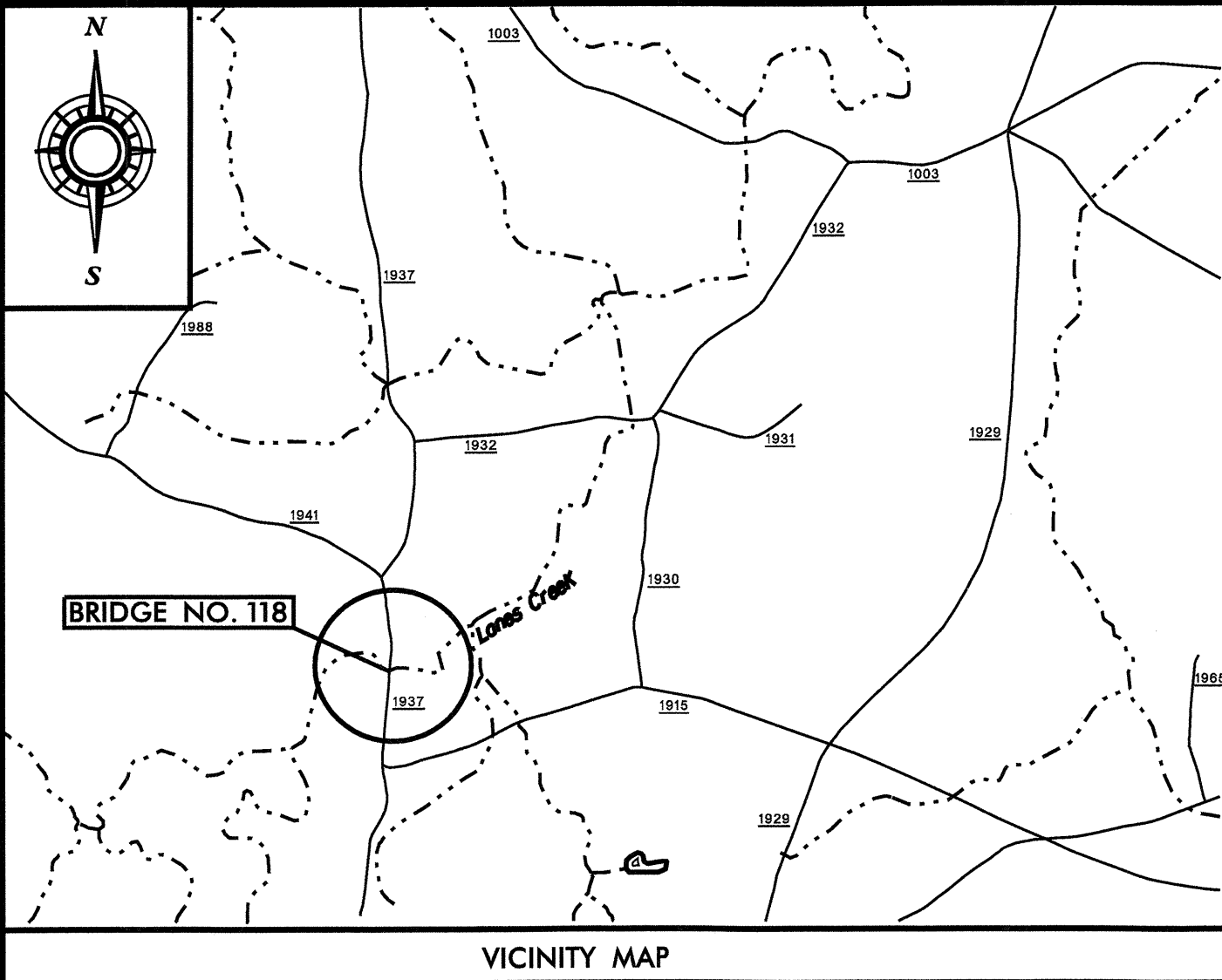
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
Recorded SS Forced Main Line	----- FSS
Designated SS Forced Main Line (S.U.E.*)	----- FSS

## MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□
Utility Unknown U/G Line	----- U/UL
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



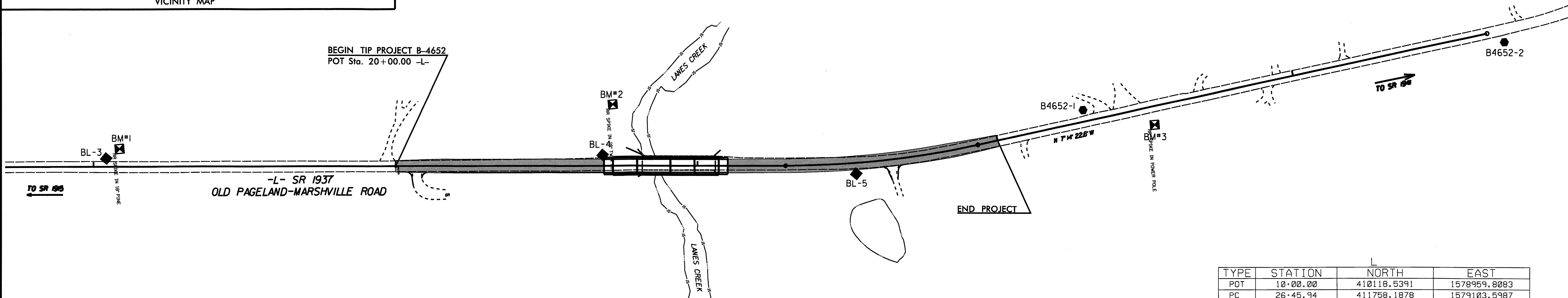
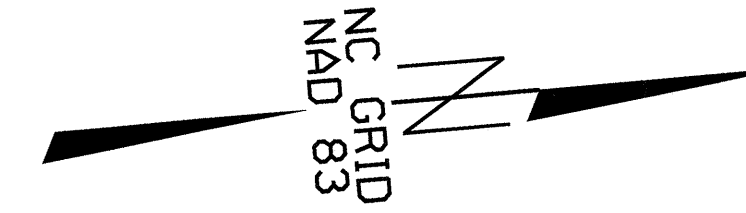
**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4652-1" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 412256.519(ft) EASTING: 1579055.884(ft) ELEVATION: 487.58(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999876

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4652-1" TO -L- STATION 20+00.00 IS  
 S0°26'14.34"W 1141.836'

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



BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
3	BL-3	410638.7690	1578991.3130	502.37	15+20.99	14.06 LT
4	BL-4	411457.8300	1579058.8120	472.74	23+42.82	18.38 RT
5	BL-5	411873.5630	1579127.5500	470.33	27+61.67	18.30 RT
1	B4652-1	412256.5190	1579055.8840	487.58	31+48.75	18.70 LT
2	B4652-2	412960.1900	1579005.1700	503.59	OUTSIDE PROJECT LIMITS	

TYPE	STATION	NORTH	EAST
POT	10+00.00	410118.5391	1578959.8083
PC	26+45.94	411758.1878	1579103.5987
PT	29+66.68	412078.2571	1579097.3753
POT	38+28.14	412932.8486	1578988.8151

**BM1 ELEVATION = 507.64**  
 N 410662 E 1578978  
 L STATION 15+43 30 LEFT  
 RR SPIKE IN 18" PINE

**BM2 ELEVATION = 465.04**  
 N 411482 E 1578978  
 L STATION 23+60 101 LEFT  
 RR SPIKE IN 18" TWIN ELM

**BM3 ELEVATION = 495.76**  
 N 412373 E 1579090  
 L STATION 32+60 30 RIGHT  
 RR SPIKE IN POWER POLE

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L	19+96.44	25.00	411108.9852	1579071.7623
L	19+96.53	34.86	411108.2155	1579081.5918
L	20+00.00	-32.00	411117.5114	1579015.2912
L	20+00.00	-25.00	411116.8999	1579022.2645
L	22+50.00	45.00	411359.8289	1579113.8370
L	23+00.00	-50.00	411417.9369	1579023.5682
L	26+45.94	45.00	411754.2566	1579148.4267
L	26+45.94	-50.00	411762.5559	1579053.7899
L	29+00.00	45.00	412015.6233	1579149.1527
L	29+00.00	-50.00	412007.8515	1579054.4711
L	30+00.00	25.00	412114.4600	1579117.9773
L	30+00.00	-25.00	412108.1590	1579068.3759

PERMANENT EASEMENT MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L	23+40.00	-50.00	411457.7840	1579027.0626
L	23+91.00	-110.00	411513.8307	1578971.7474
L	24+04.00	-50.00	411521.5393	1579032.6537

**NOTES:**

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/](http://www.ncdot.org/doh/preconstruct/highway/location/project/)

THE FILES TO BE FOUND ARE AS FOLLOWS:

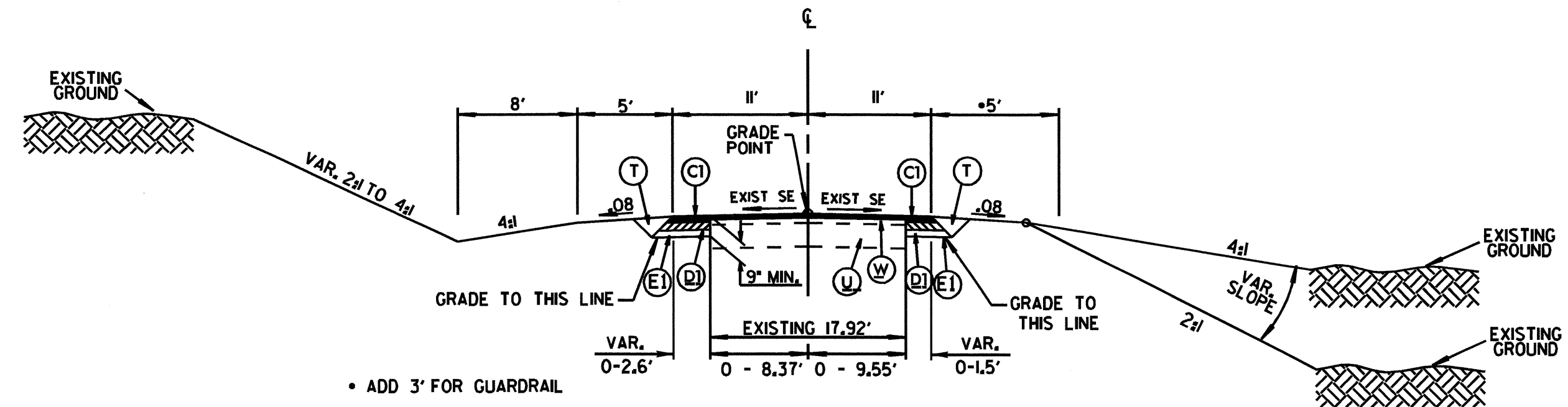
- B4652\_LS\_CONTROL.TXT
- B4652\_LS\_LOCAL.TXT

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

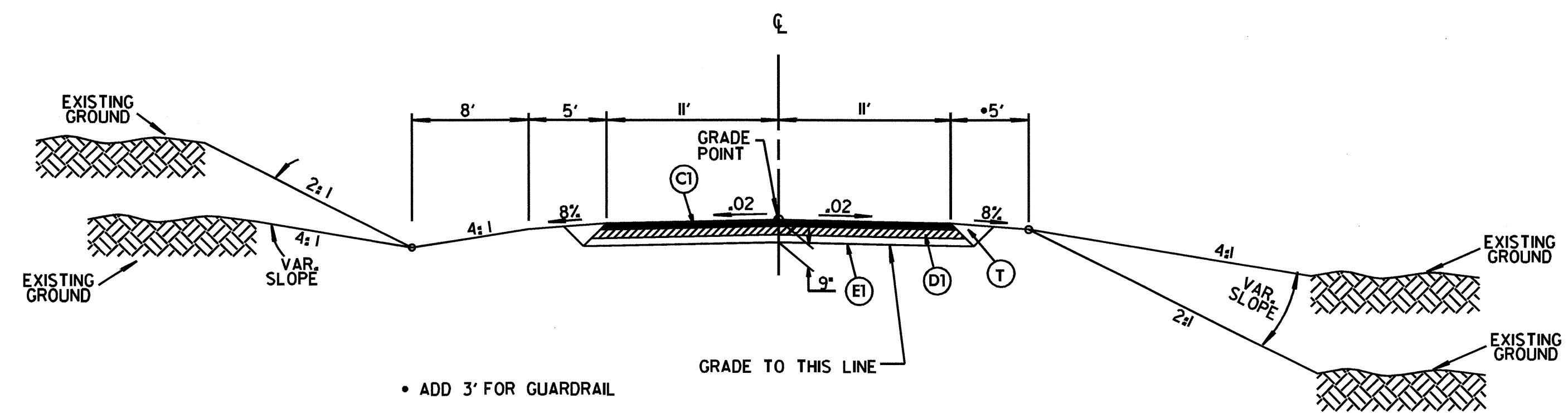
- INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
  - ◆ INDICATES BASELINE CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
  - INDICATES BENCHMARKS USED OR SET FOR VERTICAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
- PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.  
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

NOTE: DRAWING NOT TO SCALE

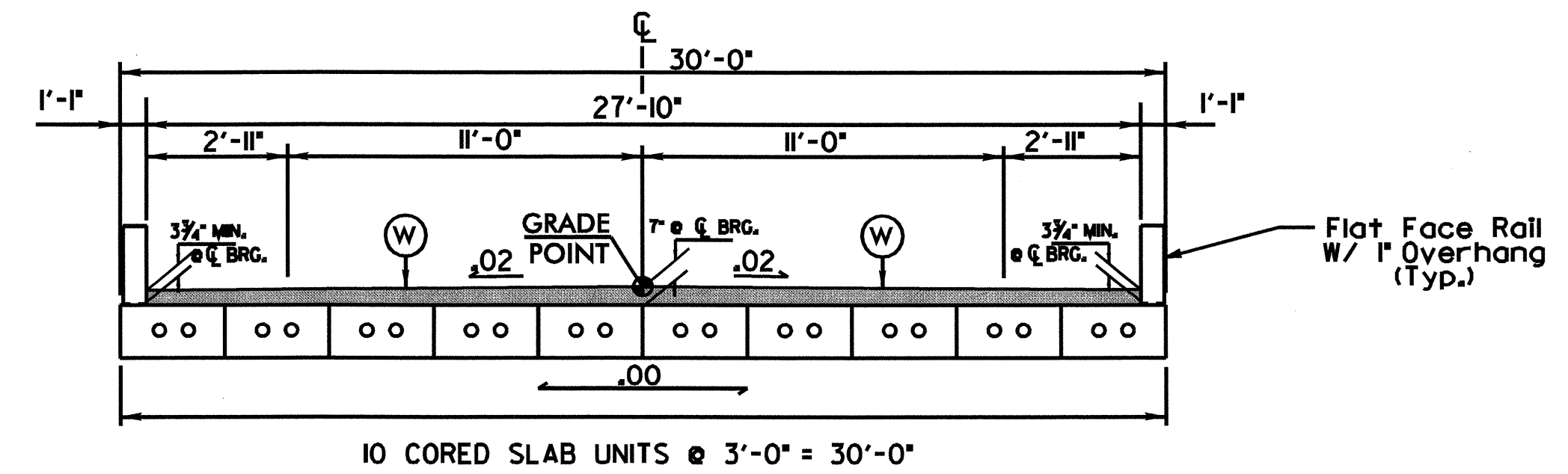
PROJECT REFERENCE NO. <b>B-4652</b>		SHEET NO. <b>2</b>
ROADWAY DESIGN ENGINEER <i>[Signature]</i>		PAVEMENT DESIGN ENGINEER <i>[Signature]</i>



**TRANSITION FROM EXIST. TO T.S. NO. 1**  
 -L- Sta. 20+00.00 to Sta. 22+00.00  
 -L- Sta. 25+36.31 (END BRIDGE) to Sta. 27+00.00  
 -L- Sta. 29+00.00 to 30+00.00



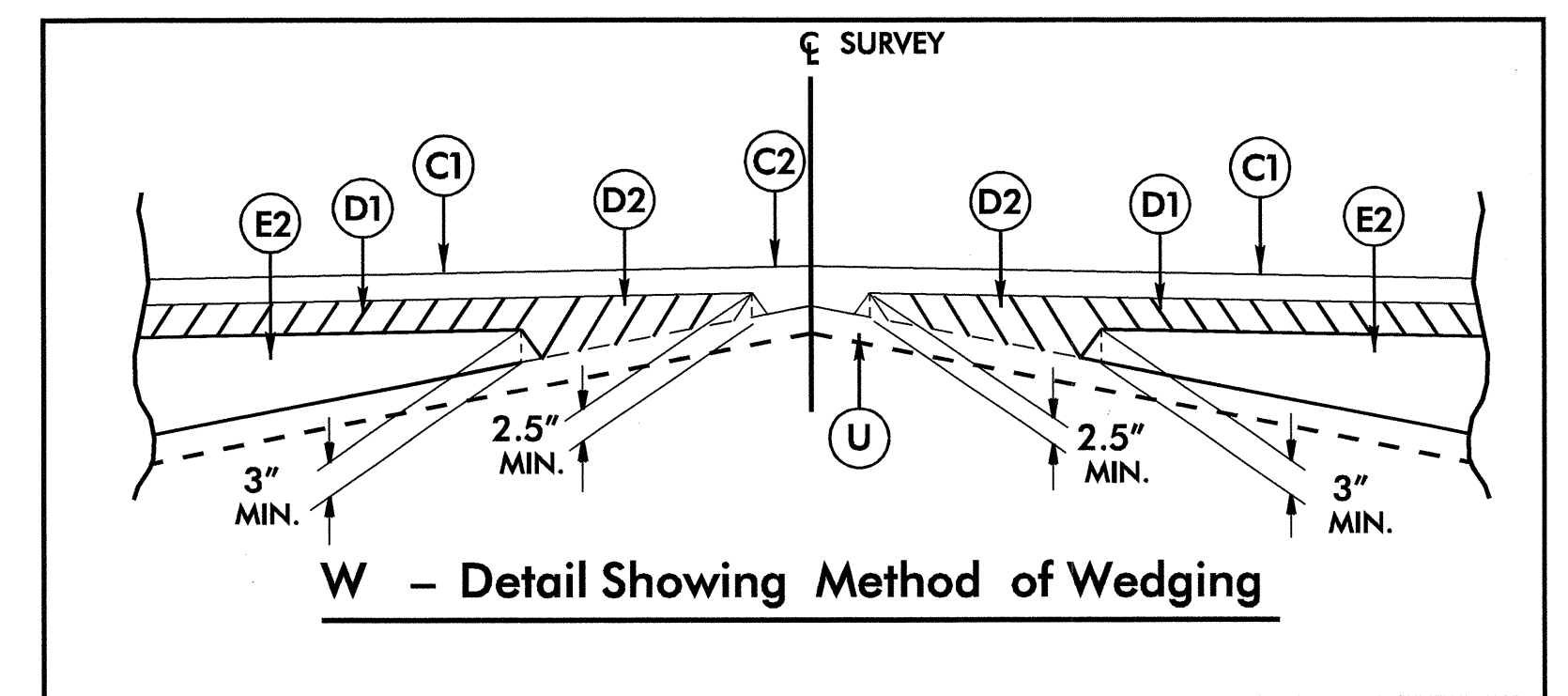
**TYPICAL SECTION NO. 1**  
 USE TYPICAL SECTION NO. 1 AS FOLLOWS  
 -L- Sta. 22+00.00 to Sta. 23+58.69 (BEGIN BRIDGE)  
 -L- Sta. 27+00.00 to Sta. 29+00.00



**TYPICAL BRIDGE SECTION**  
 -L- Sta. 23+58.69 to Sta. 25+36.31  
 FOR VARIABLE DEPTH ASPHALT; SEE STR. PLANS

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.5" ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" OR GREATER THAN 1.5" IN DEPTH.
D1	PROP. APPROX. 2.5" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS PER SQ. YD.
D2	PROP. VAR. DEPTH ASPH. CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4.0" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

NOTE: ALL SLOPES 1:1 UNLESS OTHERWISE SPECIFIED  
 NOTE: SEE STRUCTURE PLANS FOR VARIABLE DEPTH ASPHALT OVERLAY



DATE PLOTTED: 06/02/99

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202954

ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION
000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
003000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (24+47.50)
004300000-N	226	Lump Sum		GRADING
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
005700000-E	226	250	CY	UNDERCUT EXCAVATION
013400000-E	240	54	CY	DRAINAGE DITCH EXCAVATION
019600000-E	270	350	SY	GEOTEXTILE FOR SOIL STABILIZATION
031800000-E	300	20	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
032000000-E	300	60	SY	FOUNDATION CONDITIONING GEOTEXTILE
033520000-E	305	76	LF	15" DRAINAGE PIPE
033585000-E	305	2	EA	*** DRAINAGE PIPE ELBOWS (15")
036600000-E	310	88	LF	15" RC PIPE CULVERTS, CLASS III
099500000-E	340	40	LF	PIPE REMOVAL
109950000-E	505	100	CY	SHALLOW UNDERCUT
109970000-E	505	200	TON	CLASS IV SUBGRADE STABILIZATION
122000000-E	545	100	TON	INCIDENTAL STONE BASE
133000000-E	607	40	SY	INCIDENTAL MILLING
148900000-E	610	410	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
149800000-E	610	370	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
152500000-E	610	280	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
157500000-E	620	55	TON	ASPHALT BINDER FOR PLANT MIX
169300000-E	654	50	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
202200000-E	815	56	CY	SUBDRAIN EXCAVATION

SUMMARY OF QUANTITIES - B-4652

ItemNumber	Sec #	Quantity	Unit	Description
203300000-E	815	42	CY	SUBDRAIN FINE AGGREGATE
204400000-E	815	250	LF	6" PERFORATED SUBDRAIN PIPE
207000000-N	815	1	EA	SUBDRAIN PIPE OUTLET
207700000-E	815	6	LF	6" OUTLET PIPE
228600000-N	840	3	EA	MASONRY DRAINAGE STRUCTURES
236700000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.29
255600000-E	846	282	LF	SHOULDER BERM GUTTER
303000000-E	862	625	LF	STEEL BM GUARDRAIL
315000000-N	862	3	EA	ADDITIONAL GUARDRAIL POSTS
321500000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
327000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
356900000-E	867	140	LF	BARBED WIRE FENCE RESET
362800000-E	876	275	TON	RIP RAP, CLASS I
364900000-E	876	22	TON	RIP RAP, CLASS B
365600000-E	876	2,070	SY	GEOTEXTILE FOR DRAINAGE
440000000-E	1110	415	SF	WORK ZONE SIGNS (STATIONARY)
441000000-E	1110	141	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
443000000-N	1130	10	EA	DRUMS
444500000-E	1145	96	LF	BARRICADES (TYPE III)
600000000-E	1605	2,350	LF	TEMPORARY SILT FENCE
600600000-E	1610	225	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	355	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	510	TON	SEDIMENT CONTROL STONE
601500000-E	1615	3	ACR	TEMPORARY MULCHING
601800000-E	1620	150	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	2.5	TON	FERTILIZER FOR TEMPORARY SEEDING

ItemNumber	Sec #	Quantity	Unit	Description
602400000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
602900000-E	SP	500	LF	SAFETY FENCE
603000000-E	1630	430	CY	SILT EXCAVATION
603600000-E	1631	7,500	SY	MATTING FOR EROSION CONTROL
603700000-E	SP	350	SY	COIR FIBER MAT
604200000-E	1632	100	LF	1/4" HARDWARE CLOTH
607000000-N	1639	18	EA	SPECIAL STILLING BASINS
6071010000-E	SP	50	LF	WATTLE
6071020000-E	SP	70	LB	POLYACRYLAMIDE (PAM)
6071030000-E	1640	200	LF	COIR FIBER BAFFLE
6071050000-E	SP	4	EA	*** SKIMMER (1-1/2")
608400000-E	1660	2	ACR	SEEDING & MULCHING
608700000-E	1660	1.5	ACR	MOWING
609000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	75	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	1.75	TON	FERTILIZER TOPDRESSING
611450000-N	1667	10	MHR	SPECIALIZED HAND MOWING
611700000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL





COMPUTED BY: J.Ogden

DATE: 8/3/2012

CHECKED BY: J. Wang

DATE: 8/3/2012

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.

SHEET NO.

B-4652

3-B

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

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

Table with columns for Station, Location, 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, Quantities for Drainage Structures, Frame, Grates, and Hood Standard, Concrete Transitional Section, Conc. & Brick Pipe Plug, Conc. Collars, Pipe Removal Lin., and Remarks. Includes a summary row at the bottom for SHEET TOTALS.

KBISBY



8/17/95

PROJECT REFERENCE NO. <b>B-4652</b>	SHEET NO. <b>4</b>
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL JAMES S. WANG 8/30/12	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL HENRY WELLS JR. 8/30/12

