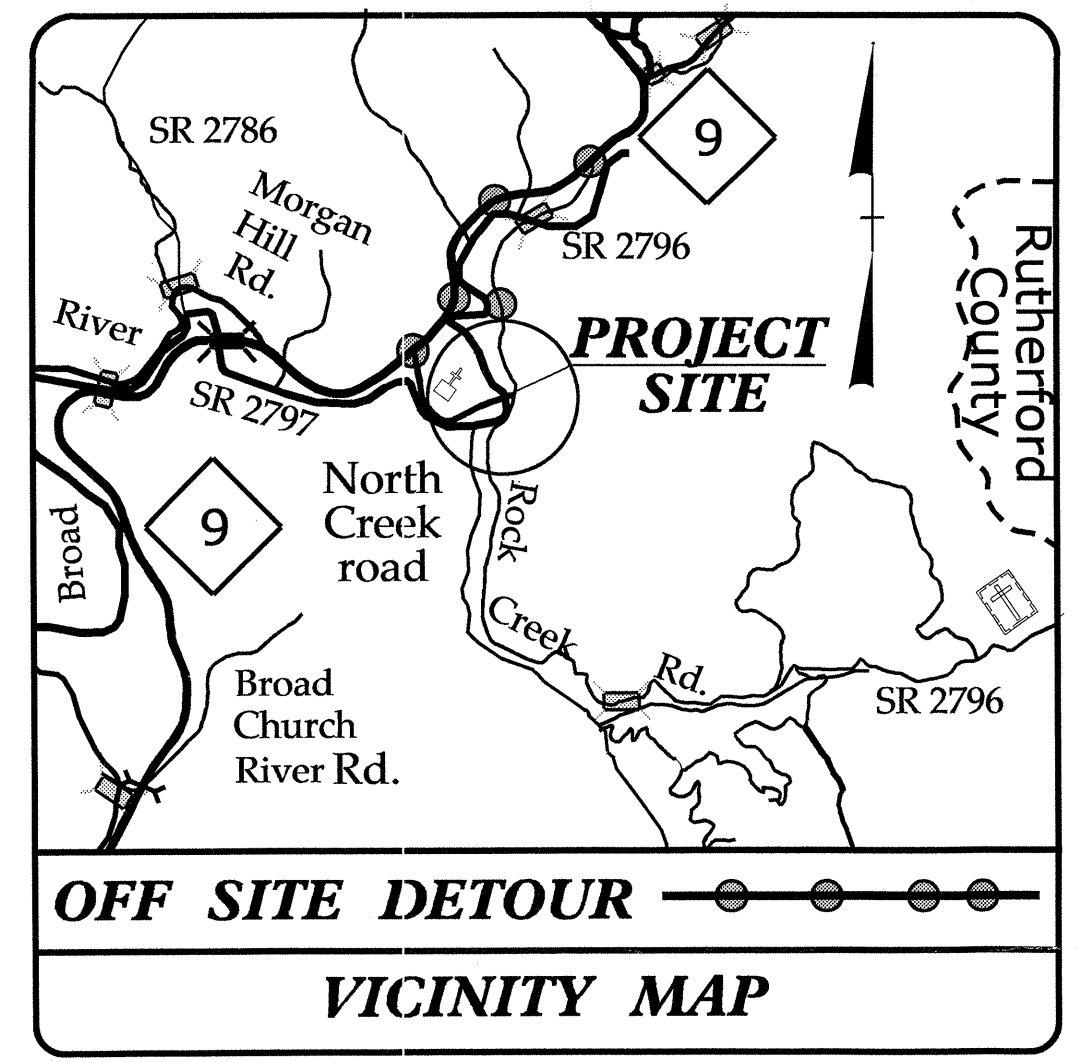


09/08/13

TIP PROJECT: B-4715

CONTRACT: C203089

See Sheet 1-A For Index of Sheets
See Sheet 1-B For CONVENTIONAL SYMBOLS



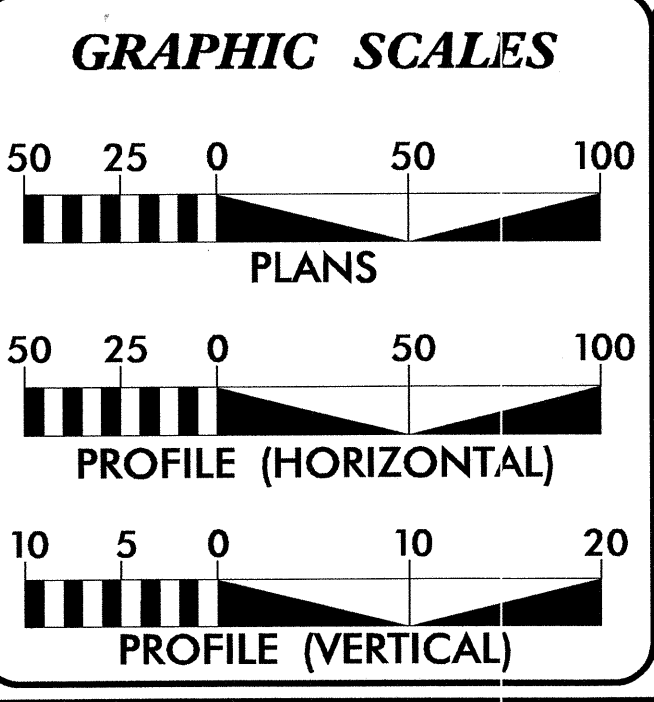
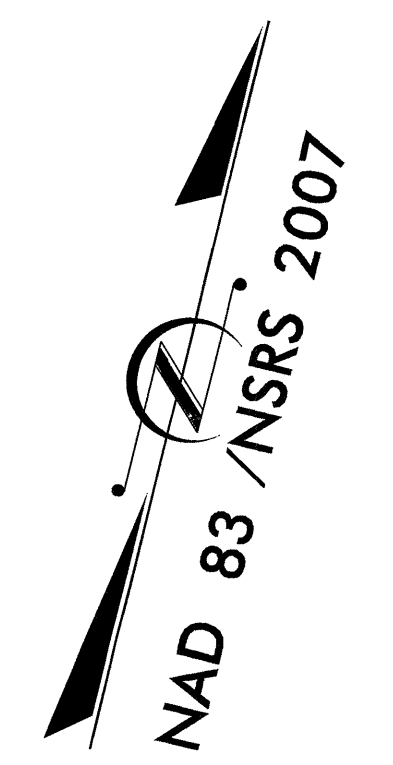
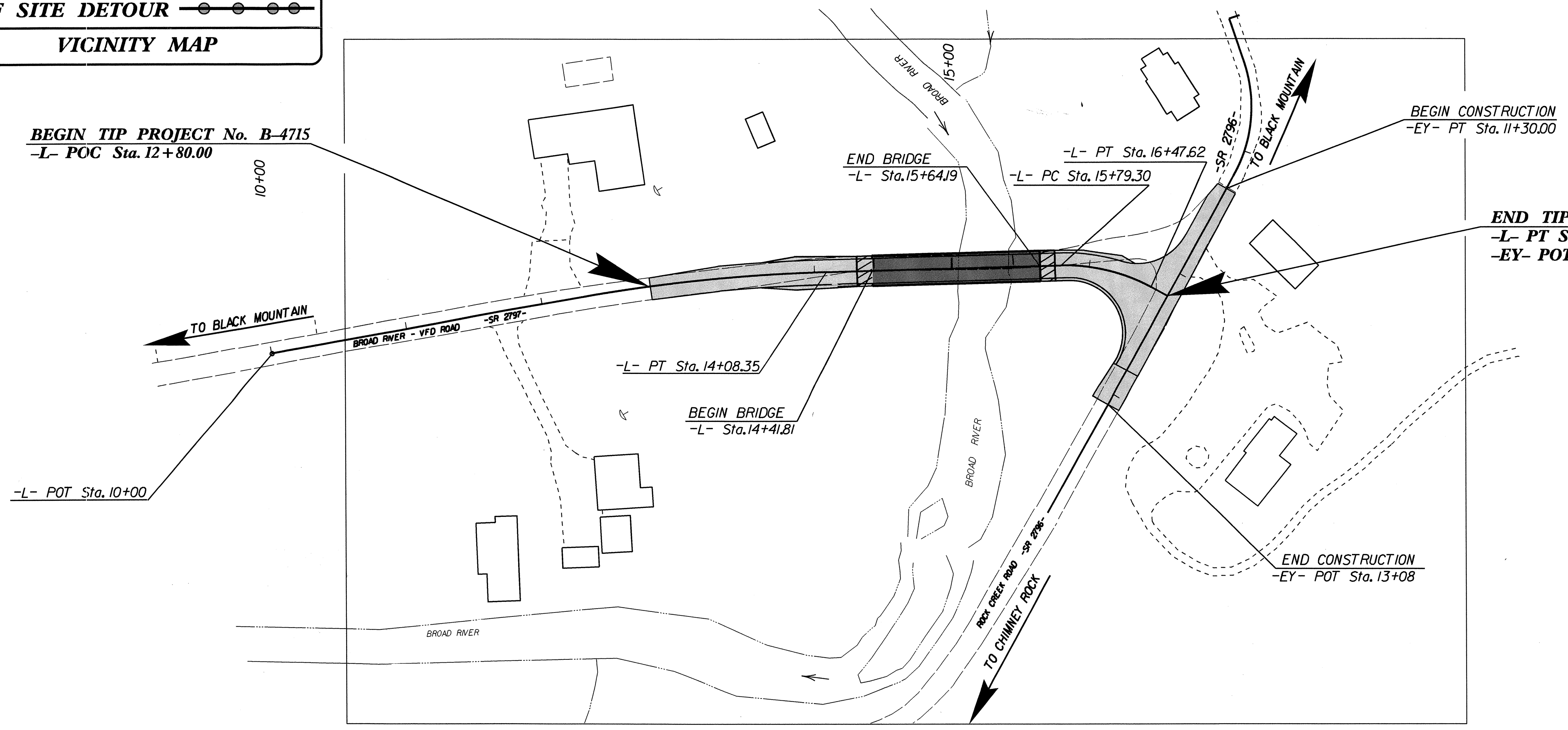
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BUNCOMBE COUNTY

LOCATION: BRIDGE No. 655 OVER BROAD RIVER ON SR 2797.
TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4715	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38489.1.1	BRZ-2797(1)	P.E.	
38489.2.1	BRZ-2797(1)	RW, UTILITIES	
38489.3.1	BRZ-2797(1)	CONSTRUCTION	

BEGIN TIP PROJECT No. B-4715
-L- POC Sta. 12+80.00



DESIGN DATA

ADT 2012	=	136
ADT 2035	=	300
DHV	=	10 %
D	=	60 %
T	=	2% *
V	=	35 MPH
* TTST	=	1 %
DUAL	=	1 %

FUNC. CLASS. = LOCAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT No. B-4715	=	0.049 Miles.
LENGTH STRUCTURE TIP PROJECT No. B-4715	=	0.023 Miles.
TOTAL LENGTH TIP PROJECT No. B-4715	=	0.072 Miles.

SUB-REGIONAL TIER GUIDLINES USED FOR DESIGN

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 20, 2012

LETTING DATE:
APRIL 16, 2013

JIMMY GOODNIGHT, PE
PROJECT ENGINEER

STEVE KENDALL, PE
PROJECT DESIGN ENGINEER

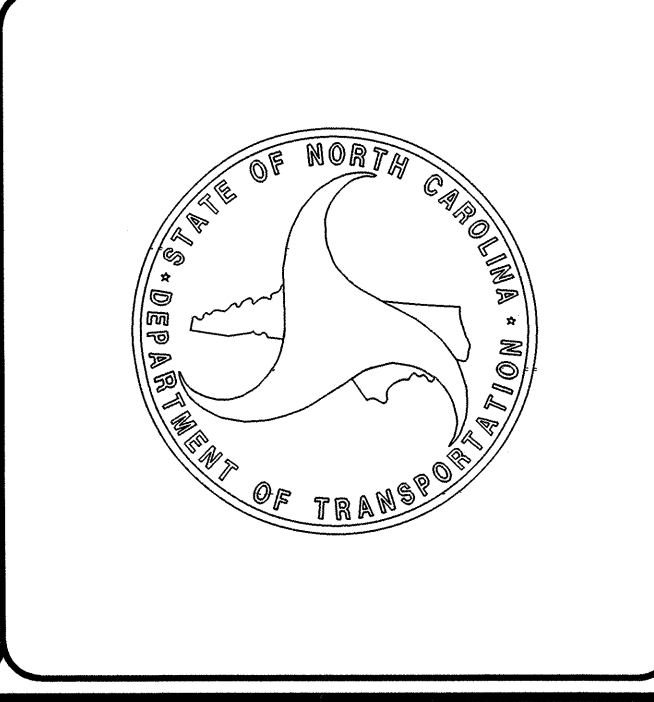
HYDRAULICS ENGINEER

RC Long
SIGNATURE: _____

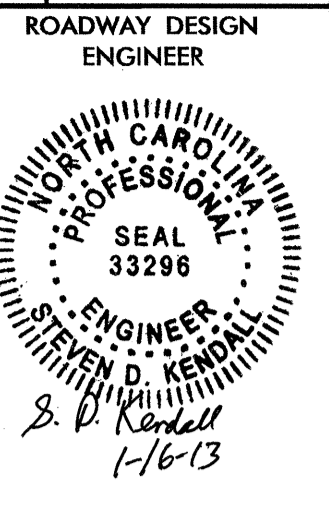
ROADWAY DESIGN ENGINEER

S.D. Kendall
SIGNATURE: _____

Professional Engineer Seals for both roles.



10-JAN-2013 13:33
R:\Roadway\Proj\B4715_Rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
INDEX OF SHEETS

2012 ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 1-17-12

GENERAL NOTES

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

INDEX OF SHEETS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - NC Depart. of Transportation - Raleigh, NC, Dated January, 2012 are applicable to this project and by reference hereby are considered 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
225.06	Method of Grading Sight Distance at Intersections
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	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
840.00	Concrete Base Pad for Drainage Structures
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets

GRADE LINE:
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 THE SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE REPLACED. 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.

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: AT&T (POLES)
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.

SHEET No.	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL PLAN SHEET SYMBOLS
1-C & 1-D	SURVEY CONTROL SHEETS
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, STRUCTURE TYPICAL SECTION, WEDGING DETAIL, SKETCH SHOWING PAVEMENT WIDTH TO BRIDGE WIDTH RELATIONSHIP
2-A	STRUCTURE ANCHOR UNIT DETAIL
3	SUMMARY OF QUANTITIES
3-A	LIST OF PIPES, ENDWALLS, ETC. (48" & UNDER), EARTHWORK SUMMARY, GUARDRAIL SUMMARY, SUMMARY OF SUBSURFACE DRAINAGE, REMOVAL OF EXISTING ASPHALT PAVEMENT, SHOULDER BERM GUTTER SUMMARY
4	PLAN SHEETS /PROFILE SHEET
TMP-1 THRU TMP-3	TRANSPORTATION MANAGEMENT PLAN
PM-1 & PM-2	PAVEMENT MARKING PLAN
EC-1 THRU EC-5	HIGHWAY EROSION CONTROL
RF-1	REFORESTATION DETAIL SHEET
SIGN-1 & SIGN-2	SIGNING PLAN
UO-1 & UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION SUMMARY
X-2 THRU X-6	CROSS-SECTIONS
S-1 THRU S-15	STRUCTURE DESIGN PLANS

5/28/99

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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	○ EP
Property Corner	✕
Property Monument	□ EDM
Parcel/Sequence Number	②③
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	-WB-
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	○
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	-----
Proposed Temporary Construction Easement	-----
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	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR: Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----
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:

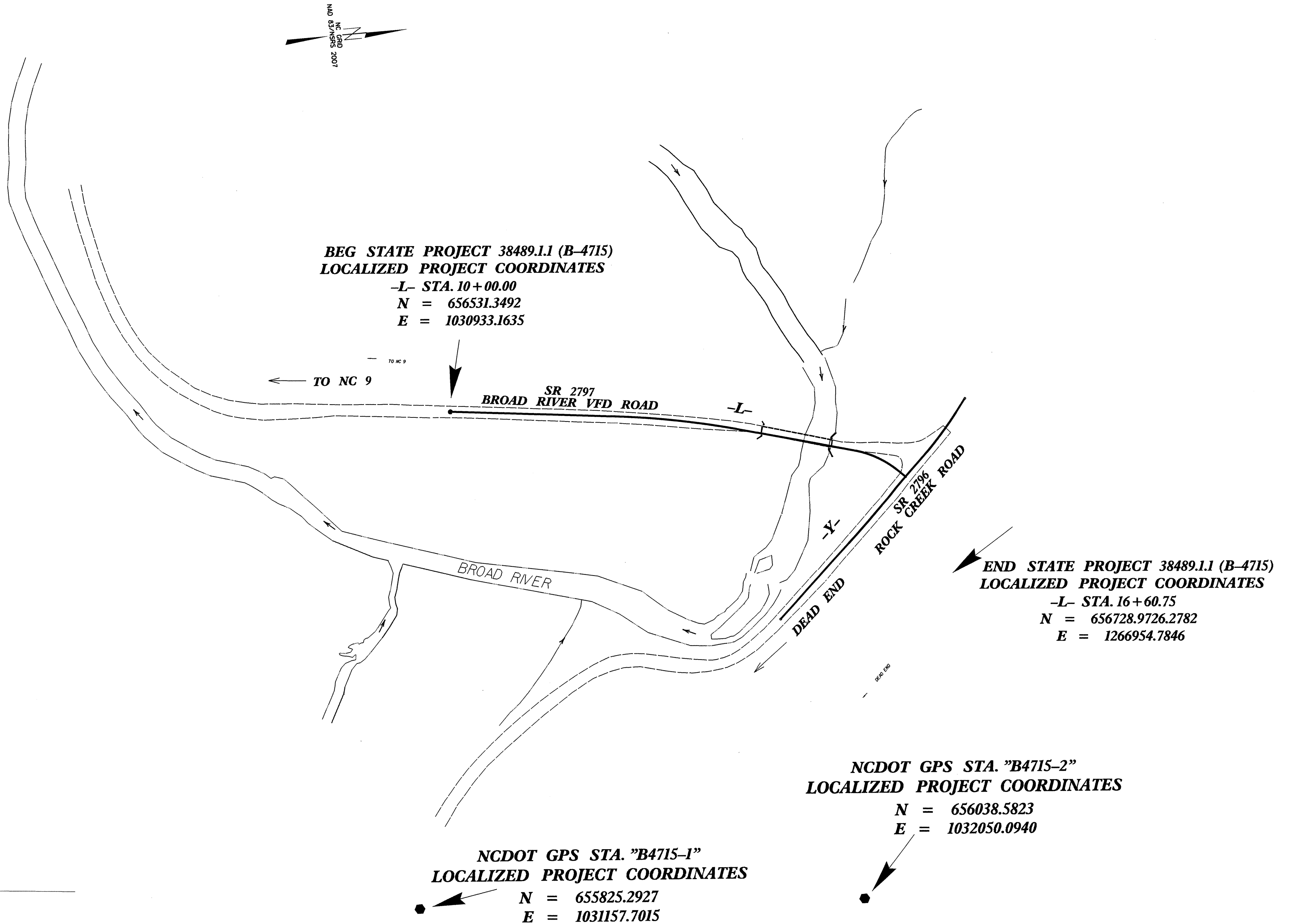
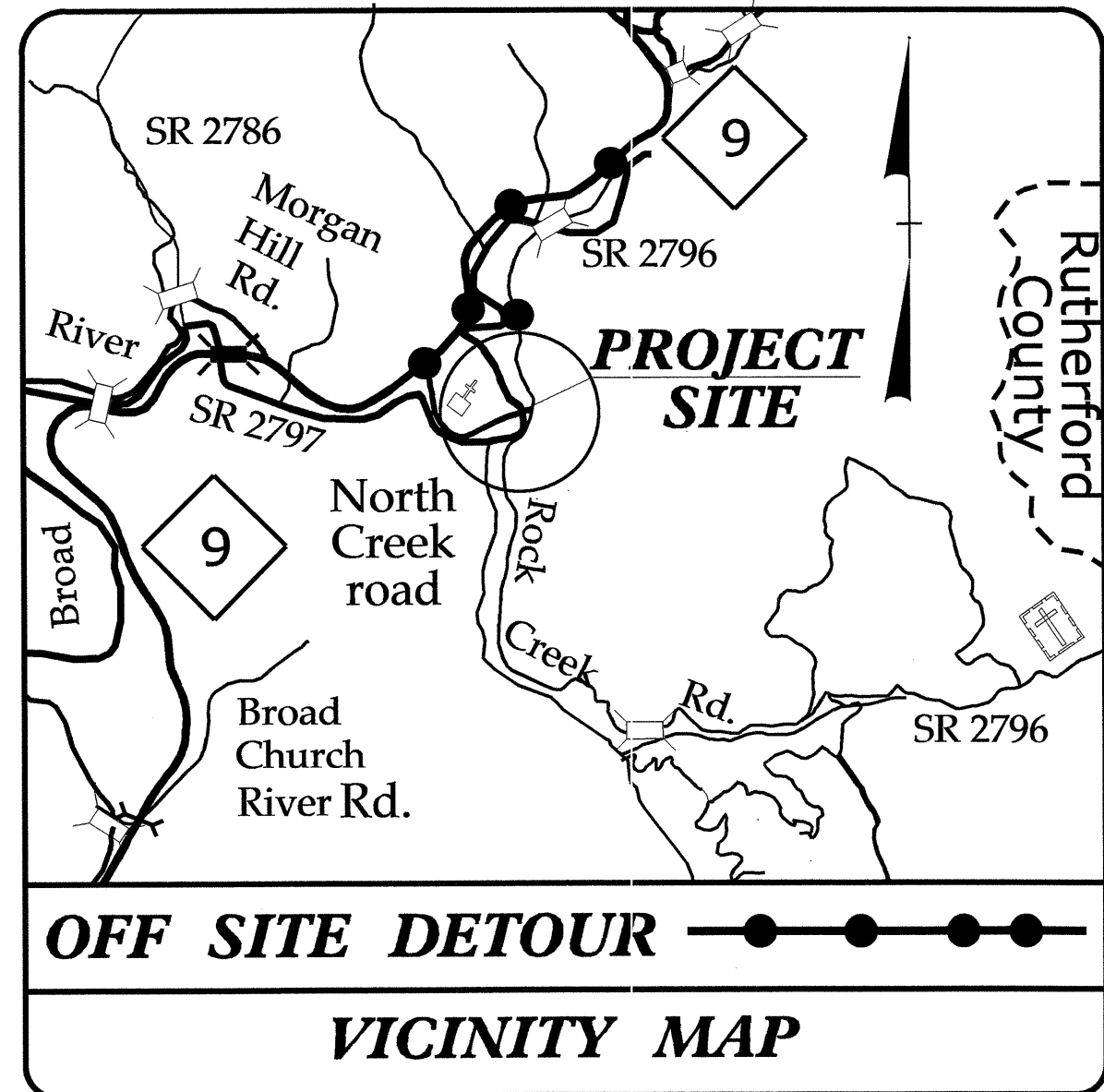
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

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.

See Sheet 1-A For Index of Sheets
See Sheet 1-B For CONVENTIONAL SYMBOLS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SURVEY CONTROL SHEET B-4715



BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1	655537.9978	1031209.8906	2116.72	OUTSIDE PROJECT LIMITS	
2	BL-2	656098.5159	1031174.4802	2095.13	OUTSIDE PROJECT LIMITS	
3	BL-3	656312.6043	1031276.0534	2090.81	OUTSIDE PROJECT LIMITS	
4	EQUATE TO BM1	656424.8527	1031480.9719	2091.58	OUTSIDE PROJECT LIMITS	
5	BL-5	656789.8540	1031548.0375	2098.54	OUTSIDE PROJECT LIMITS	
6	BL-6	656617.3451	1031088.8622	2092.30	OUTSIDE PROJECT LIMITS	
7	BL-7	656384.8354	1030558.9252	2091.69	OUTSIDE PROJECT LIMITS	
8	BL-8	656563.9874	1030312.0011	2093.87	OUTSIDE PROJECT LIMITS	
9	BL-9	656933.9926	1030207.4401	2112.40	OUTSIDE PROJECT LIMITS	

BL POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
1	BL-1	655537.9978	1031209.8906	2116.72	OUTSIDE PROJECT LIMITS	
2	BL-2	656098.5159	1031174.4802	2095.13	OUTSIDE PROJECT LIMITS	
3	BL-3	656312.6043	1031276.0534	2090.81	OUTSIDE PROJECT LIMITS	
4	EQUATE TO BM1	656424.8527	1031480.9719	2091.58	OUTSIDE PROJECT LIMITS	
5	BL-5	656789.8540	1031548.0375	2098.54	OUTSIDE PROJECT LIMITS	
6	BL-6	656617.3451	1031088.8622	2092.30	OUTSIDE PROJECT LIMITS	
7	BL-7	656384.8354	1030558.9252	2091.69	OUTSIDE PROJECT LIMITS	
8	BL-8	656563.9874	1030312.0011	2093.87	OUTSIDE PROJECT LIMITS	
9	BL-9	656933.9926	1030207.4401	2112.40	OUTSIDE PROJECT LIMITS	

..... ELEVATION = 2091.58
BM1 E 1031481
N 656425
L STATION 15+02.00 297 RIGHT
18" REBAR W/ AL CAP
.....

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/)

THE FILES TO BE FOUND ARE AS FOLLOWS:
B4715_LS_CONTROL.TXT

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

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

DATUM DESCRIPTION
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NGS FOR MONUMENT "B-4715-1"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 655825.2927(##) EASTING: 1031157.7015(##) ELEVATION: 2107.19(##)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999710239
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B-4715-1" TO -L- STATION 10+00.00 IS N 23 45 59.62 E 987.4178
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

5/28/99

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SURVEY CONTROL SHEET B-4715
FINAL

(DESIGN ALIGNMENTS)

TYPE	STATION	NORTH	EAST
POT	10+00.00	656531.3492	1030933.1635
PC	12+30.05	656625.2715	1031143.1724
PT	14+08.35	656685.7269	1031310.7359
PC	15+79.30	656731.6465	1031475.3961
PT	16+47.62	656732.2664	1031542.9342
POT	16+69.98	656726.6556	1031564.5815

(ROW MARKERS)

ROW MARKER CONCRETE OR GRANITE-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	13+30.00	25.86	656637.8302	1031244.5581
L	13+50.00	-24.95	656692.3740	1031247.0657
L	13+55.00	35.00	656636.9947	1031270.5690
L	14+08.35	35.00	656652.0134	1031320.1377
L	14+08.35	-35.00	656719.4405	1031301.3340
L	15+79.30	-35.00	656765.3601	1031465.9943
L	15+79.30	35.00	656697.9329	1031484.7980

ROW MARKER CONCRETE OR GRANITE-E				
ALIGN	STATION	OFFSET	NORTH	EAST
EY	11+58.00	25.00	656793.7827	1031547.7004
EY	12+87.15	22.50	656668.4780	1031516.3150

(PERMANENT EASEMENTS)

IRON PIN AND CAP MARKER PERMANENT DRAINAGE EASEMENT-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	14+00.00	35.00	656649.8075	1031312.3327
L	14+25.00	35.00	656656.4848	1031336.1715
L	14+25.00	50.00	656642.0361	1031340.2008
L	14+00.00	50.00	656635.3872	1031316.4626

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/)

THE FILES TO BE FOUND ARE AS FOLLOWS:
B4715_LS_CONTROL.TXT

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

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

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "B-4715-1"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 655825.2927(±±) EASTING: 1031157.7015(±±)
ELEVATION: 2107.19(±±)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999710259
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B-4715-1" TO -L- -L STATION 10+00.00 IS
N 23 45 59.62 E 987.4178
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

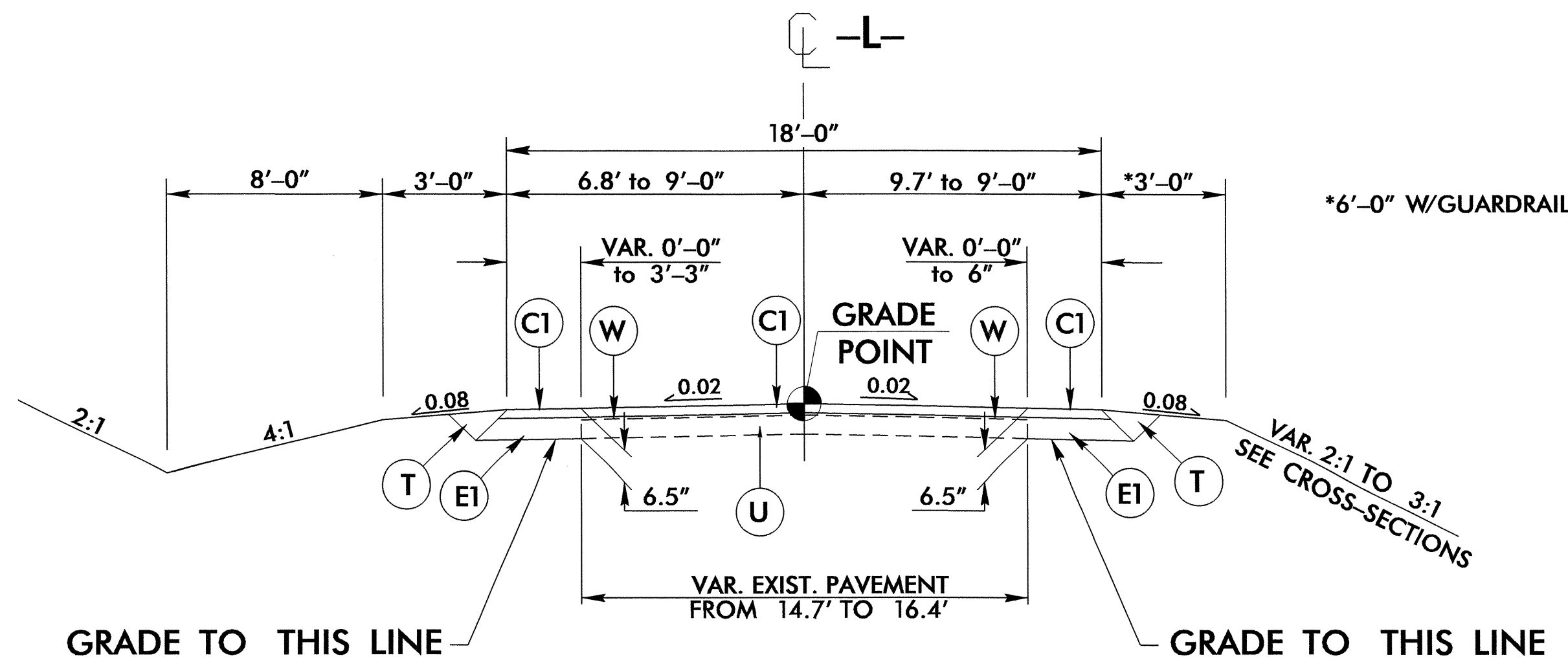
NOTE: DRAWING NOT TO SCALE

6/2/99

PAVEMENT SCHEDULE

C1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.	T	EARTH MATERIAL.
C3	PROP. APPROX. 3 3/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS PER SQ. YD. IN EACH OF THREE LAYERS.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.

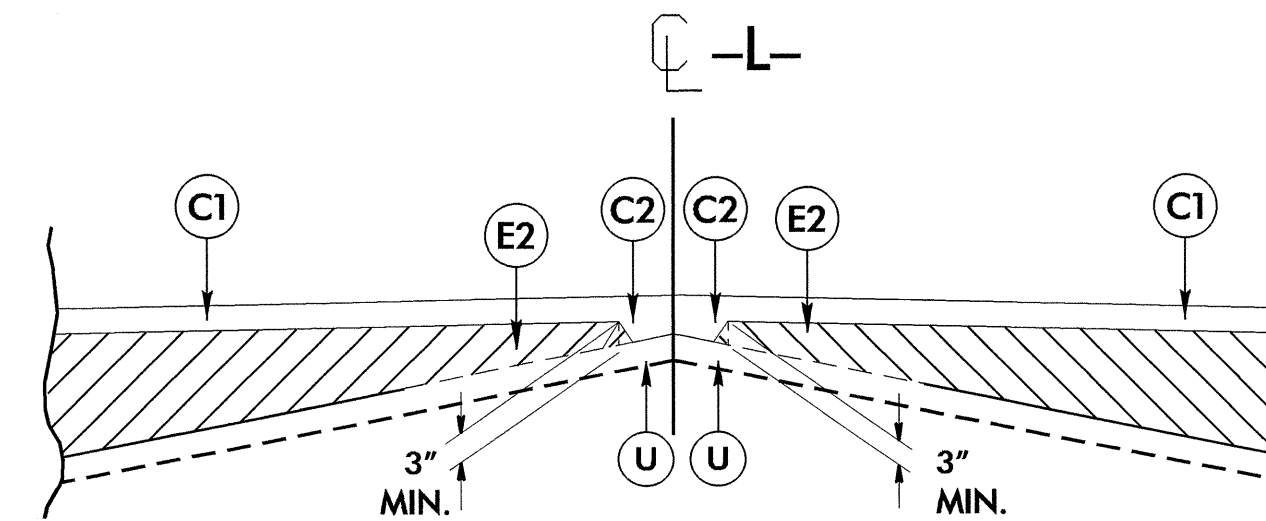
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 1

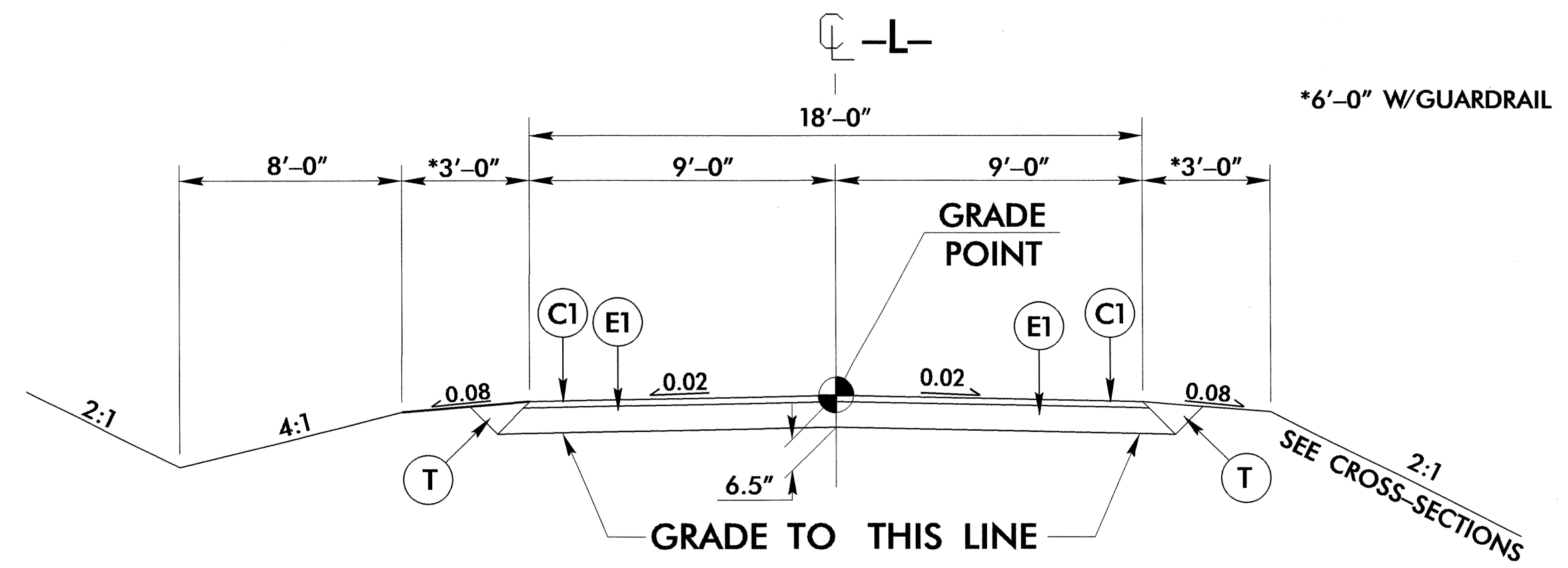
-L- Sta. 12+80.00 to Sta. 14+41.81 (BEGIN BRIDGE)

NOTE: RESURFACE -EY- Sta. 11+30 to Sta. 13+08 WITH 2 1/2" OF SF9.5A



USE WEDGE DETAIL

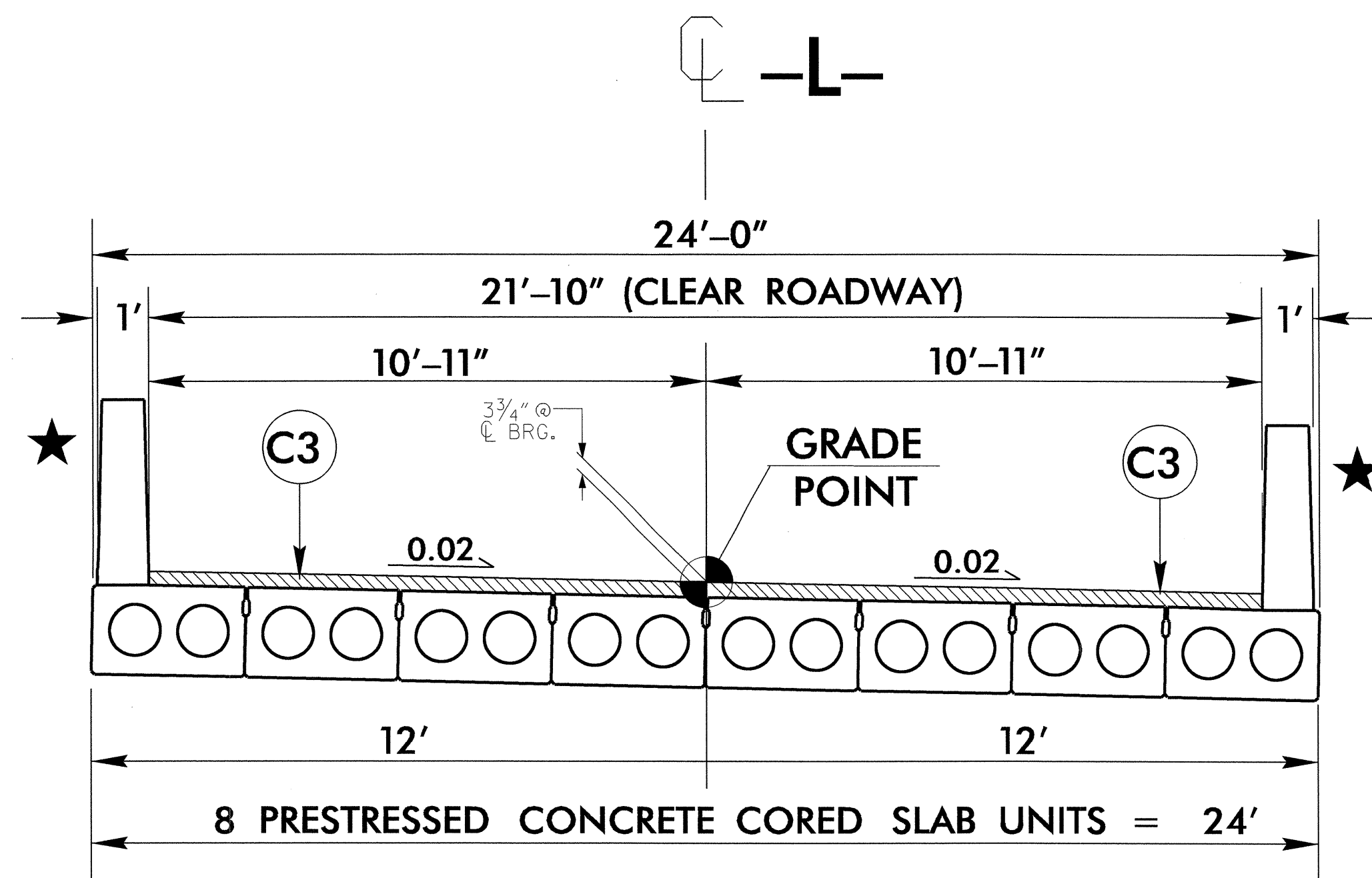
-L- Sta. 12+80.00 to Sta. 14+30.81



TYPICAL SECTION NO. 2

-L- Sta. 15+64.19 (END BRIDGE) to Sta. 16+51.68

STRUCTURE TYPICAL SECTION

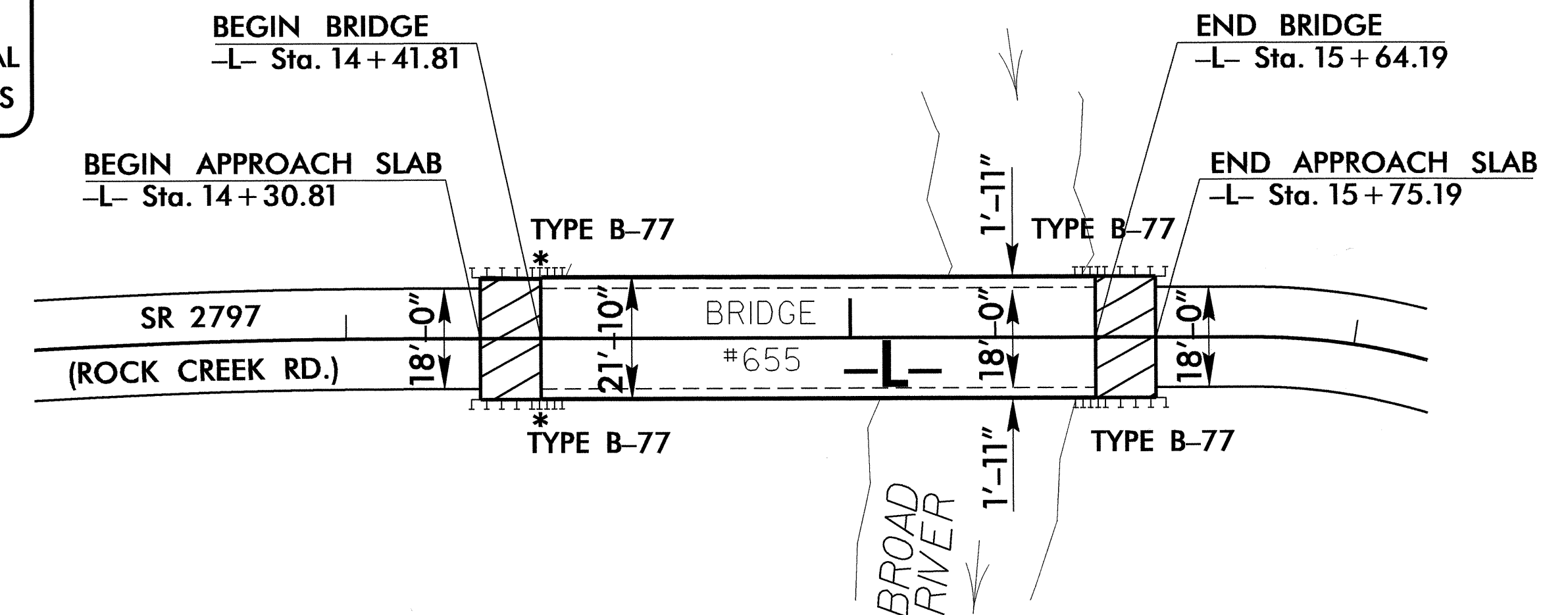


★ BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT, SEE STRUCTURE PLANS.

DESIGN DATA

- ADT 2010 = 122
 - ADT 2035 = 300
 - DHV = 10 %
 - D = 60 %
 - T = 2 % *
 - V = 35 MPH
 - * TTST = 1 %
 - DUAL = 1%
- FUNCTIONAL CLASS. = LOCAL
SUB-TIER DESIGN GUIDELINES

SKETCH SHOWING PAVEMENT WIDTH TO BRIDGE WIDTH RELATIONSHIP



26-FEB-2013 11:40 AM
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B4715

PROJECT REFERENCE NO. B-4715	SHEET NO. 2
ROADWAY DESIGN ENGINEER SEAL 33298 8/1/2013	PAVEMENT DESIGN ENGINEER SEAL 038819 2/2/2013

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203089

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0030000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (15+03-L-)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
0057000000-E	226	100	CY	UNDERCUT EXCAVATION
0195000000-E	265	100	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	200	SY	GEOTEXTILE FOR SOIL STABILIZATION
0318000000-E	300	10	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
0320000000-E	300	10	SY	FOUNDATION CONDITIONING GEOTEXTILE
0335200000-E	305	20	LF	15" DRAINAGE PIPE
0335850000-E	305	2	EA	*** DRAINAGE PIPE ELBOWS (15")
1099500000-E	505	50	CY	SHALLOW UNDERCUT
1099700000-E	505	95	TON	CLASS IV SUBGRADE STABILIZATION
1220000000-E	545	50	TON	INCIDENTAL STONE BASE
1330000000-E	607	95	SY	INCIDENTAL MILLING
1489000000-E	610	130	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1525000000-E	610	225	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1575000000-E	620	21	TON	ASPHALT BINDER FOR PLANT MIX
1693000000-E	654	20	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2000000000-N	806	9	EA	RIGHT OF WAY MARKERS
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

SUMMARY OF QUANTITIES - B-4715

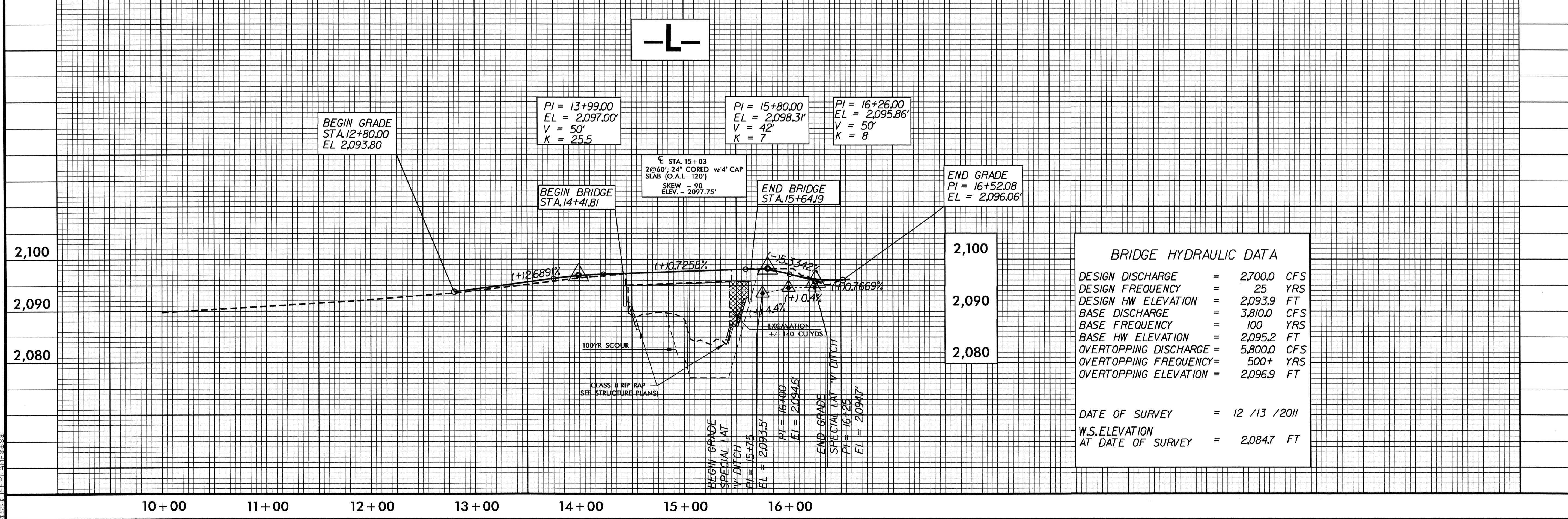
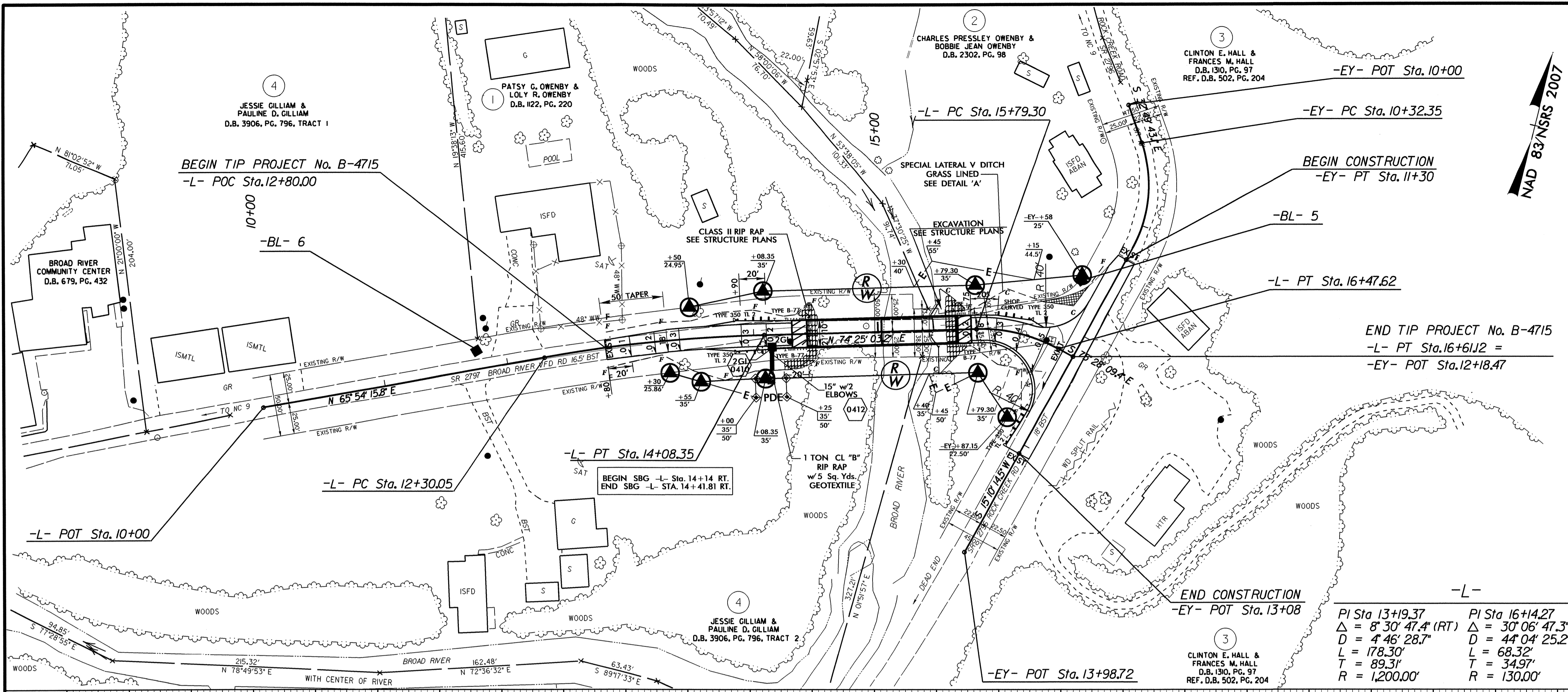
ItemNumber	Sec #	Quantity	Unit	Description
2070000000-N	815	1	EA	SUBDRAIN PIPE OUTLET
2077000000-E	815	6	LF	6" OUTLET PIPE
2286000000-N	840	1	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	30	LF	SHOULDER BERM GUTTER
3030000000-E	862	137.5	LF	STEEL BM GUARDRAIL
3045000000-E	862	87.5	LF	STEEL BM GUARDRAIL, SHOP CURVED
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3165000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE ***** (350, TL-2)
3317000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77
3649000000-E	876	1	TON	RIP RAP, CLASS B
3656000000-E	876	1,005	SY	GEOTEXTILE FOR DRAINAGE
4072000000-E	903	129	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4096000000-N	904	2	EA	SIGN ERECTION, TYPE D
4102000000-N	904	7	EA	SIGN ERECTION, TYPE E
4155000000-N	907	8	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4400000000-E	1110	161	SF	WORK ZONE SIGNS (STATIONARY)
4410000000-E	1110	109	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4445000000-E	1145	64	LF	BARRICADES (TYPE III)
4810000000-E	1205	3,156	LF	PAINT PAVEMENT MARKING LINES (4")
4835000000-E	1205	56	LF	PAINT PAVEMENT MARKING LINES (24")
6000000000-E	1605	950	LF	TEMPORARY SILT FENCE
6006000000-E	1610	285	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	15	TON	STONE FOR EROSION CONTROL, CLASS B

ItemNumber	Sec #	Quantity	Unit	Description
6012000000-E	1610	175	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	0.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	300	LF	SAFETY FENCE
6030000000-E	1630	75	CY	SILT EXCAVATION
6036000000-E	1631	1,500	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	450	SY	COIR FIBER MAT
6042000000-E	1632	175	LF	1/4" HARDWARE CLOTH
6070000000-N	1639	6	EA	SPECIAL STILLING BASINS
6071012000-E	SP	45	LF	COIR FIBER WATTLE
6071020000-E	SP	15	LB	POLYACRYLAMIDE (PAM)
6084000000-E	1660	0.5	ACR	SEEDING & MULCHING
6087000000-E	1660	0.5	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	0.5	TON	FERTILIZER TOPDRESSING
6114500000-N	1667	10	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.1	ACR	REFORESTATION

8/17/09

PROJECT REFERENCE NO. B-4715	SHEET NO. 4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER STEVEN D. KENDALL NORTH CAROLINA PROFESSIONAL SEAL 33296 1-28-13	HYDRAULICS ENGINEER MARC T. SHOWN NORTH CAROLINA PROFESSIONAL SEAL 39876 1/28/13

NOTE: SEE SHEET No. 2 SKETCH SHOWING BRIDGE FOR PAVEMENT RELATIONSHIP, BEGIN/END BRIDGE STATIONS.
SEE SHEETS S-1 TO S-15 FOR STRUCTURE DESIGN PLANS.



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