

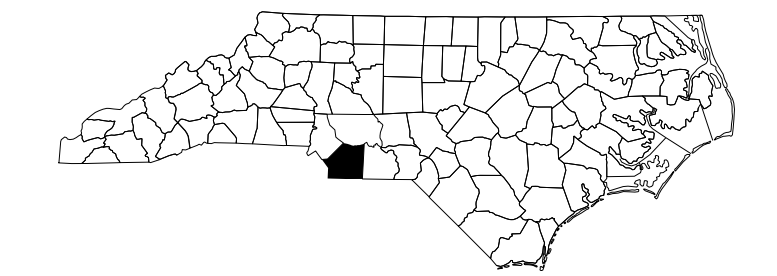
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09/08/99

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5243	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
42845.1.1	BRSTP-1008(23)	PE	
42845.2.FD1	BRSTP-1008(23)	RW	
42845.3.FDU1	BRSTP-1008(23)	UTIL.	
42845.3.FD1	BRSTP-1008(23)	CONST.	

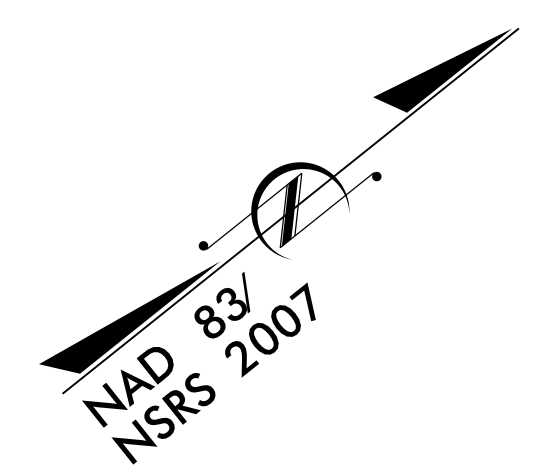
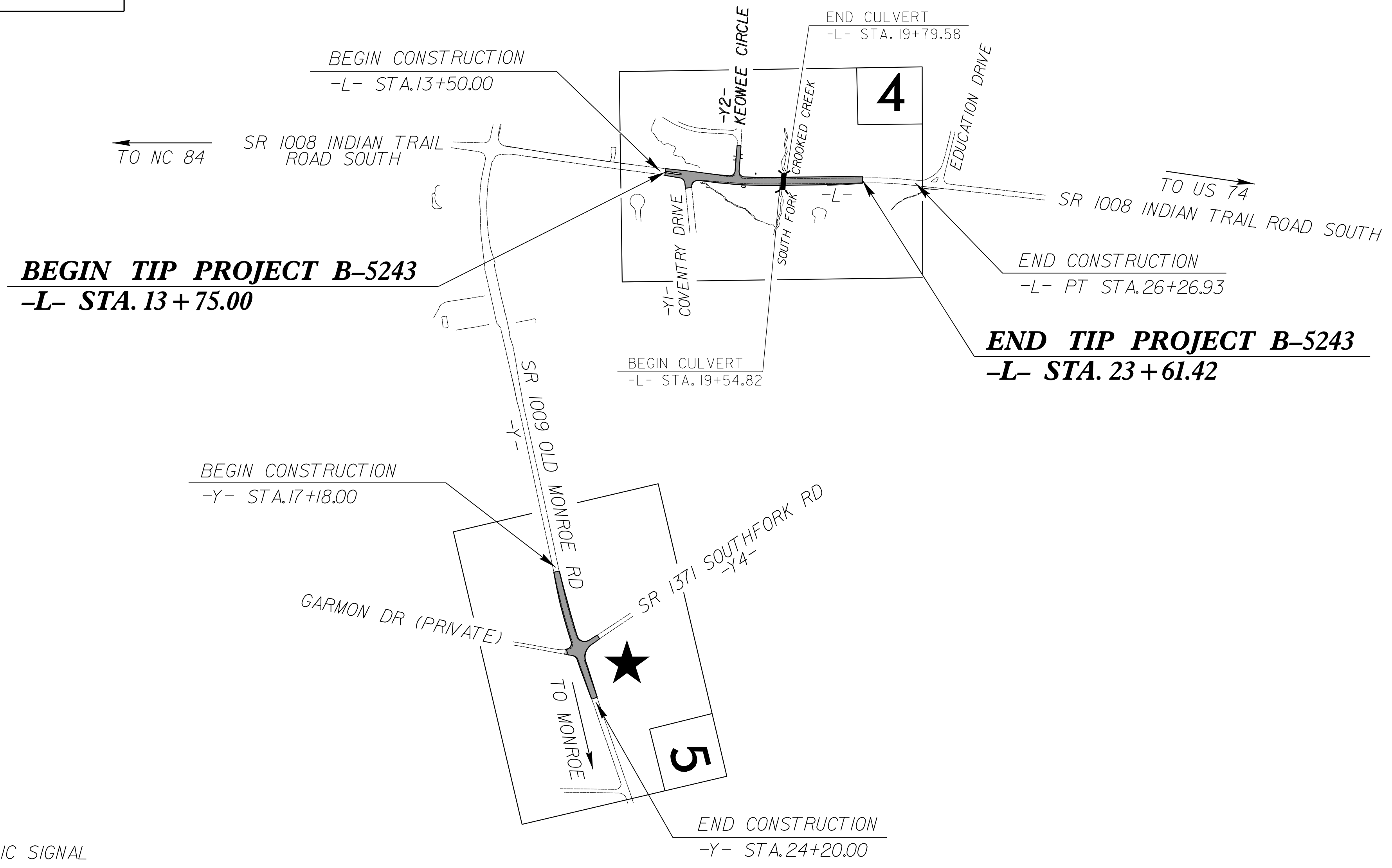
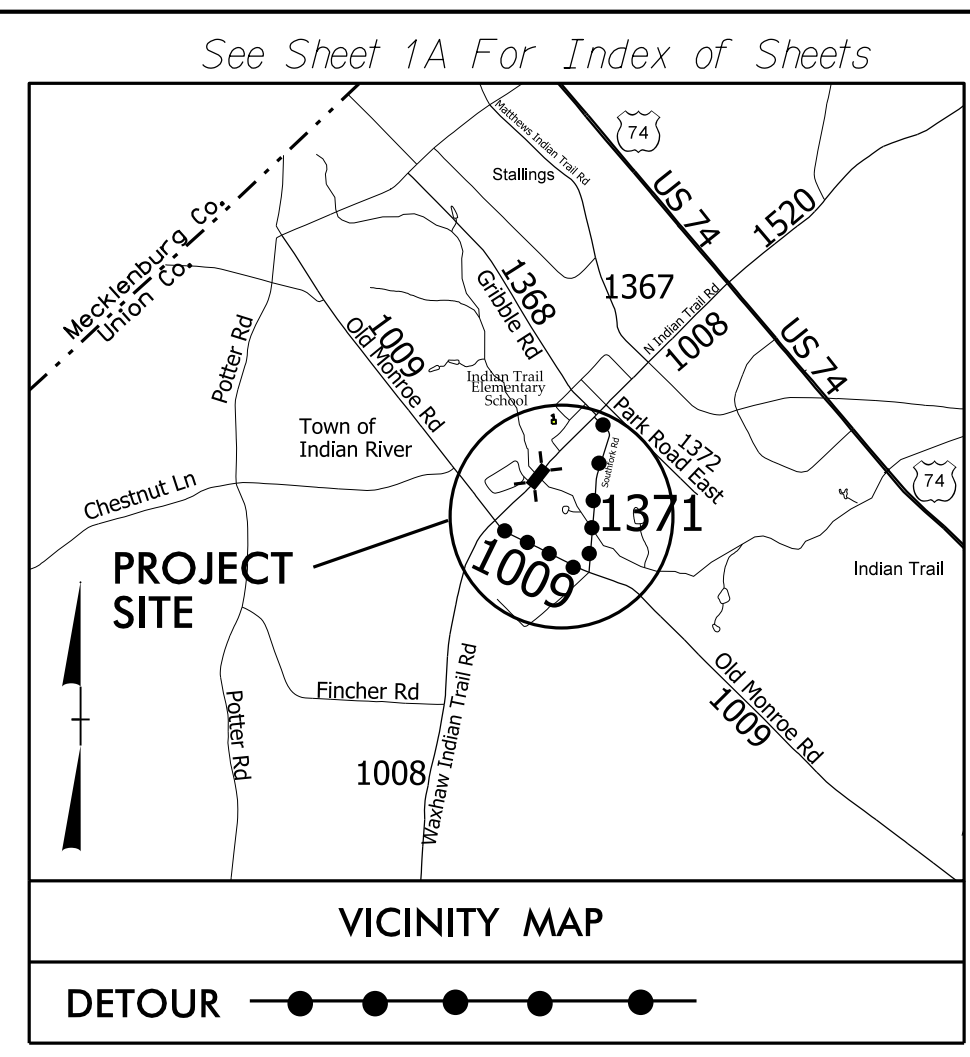


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UNION COUNTY

LOCATION: BRIDGE 258 ON SR 1008 (INDIAN TRAIL ROAD SOUTH)
OVER SOUTH FORK CROOKED CREEK AND IMPROVEMENT
OF THE INTERSECTION OF SR 1009 AND SR 1371

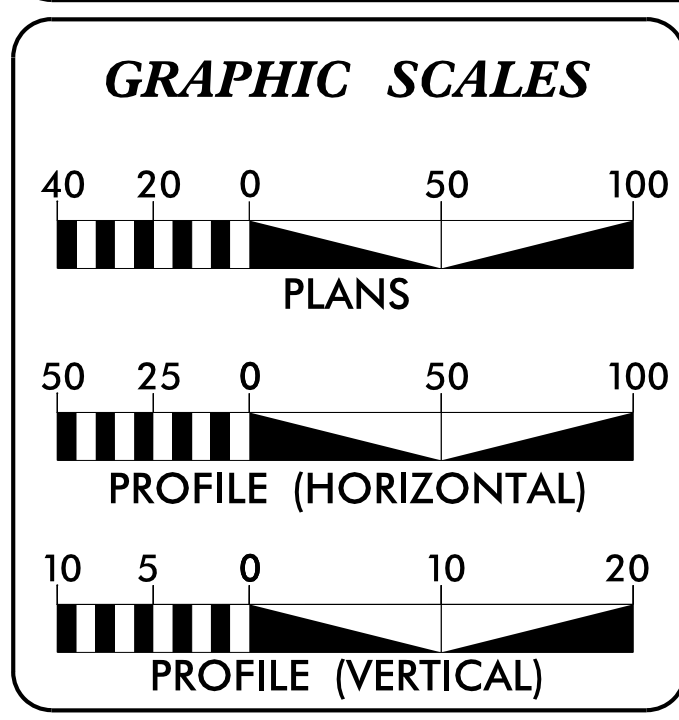
TYPE OF WORK: GRADING, DRAINAGE, PAVING, CULVERT AND SIGNAL



★ TEMPORARY TRAFFIC SIGNAL

TIP PROJECT: B-5243

CONTRACT: C203663



DESIGN DATA

ADT 2016 =	15,900
ADT 2036 =	19,350
K =	9 %
D =	65 %
T =	5 % *
V =	40 MPH
* TTST =	1% DUAL 4%
FUNC CLASS =	MAJOR COLLECTOR
SUB REGIONAL TIER	

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-5243 =	0.182 MILES
LENGTH STRUCTURE TIP PROJECT B-5243 =	0.005 MILES
TOTAL LENGTH OF TIP PROJECT B-5243 =	0.187 MILES

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

2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: JANUARY 16, 2015	G.E. BREW, PE PROJECT ENGINEER
LETTING DATE: JANUARY 19, 2016	I.T. YOUNIS PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

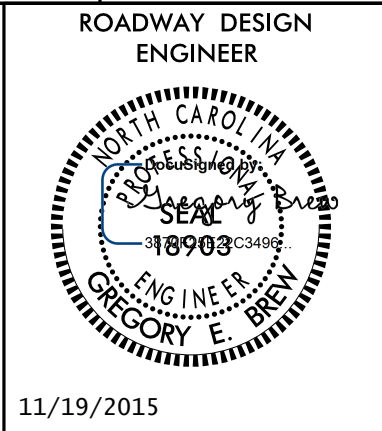
DocuSigned by:
Eran M. Radakovitz
10/23/2015

ROADWAY DESIGN ENGINEER

DocuSigned by:
Gregory E. Brew
10/23/2015



20-OCT-2015 16:35
R:\Roadway\Proj\B5243_Rdy-t sh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$



STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

EFF. 01-17-2012
REV. 10-30-2012

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL PLAN SHEET SYMBOLS
1C-1 THRU 1C-2	SURVEY CONTROL SHEETS
2A-1 THRU 2A-2	PAVEMENT SCHEDULE, TYPICAL SECTIONS AND WEDGING DETAIL
2B-1	CHANNELIZATION DETAIL
2C-1	CONCRETE STEPS DETAIL
3B-1	SUMMARY OF EARTHWORK, SUMMARY OF REMOVAL AND BREAKING OF EXISTING PAVEMENT AND GUARDRAIL SUMMARY
3D-1	SUMMARY OF DRAINAGE QUANTITIES
3G-1	SUMMARY OF GEOTECHNICAL QUANTITIES
3P-1	PARCEL INDEX SHEET
4 THRU 5	PLAN SHEETS
6 THRU 7	PROFILE SHEETS
TMP-1 THRU TMP-6	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-6	PAVEMENT MARKING PLANS
EC-1 THRU EC-8	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-4	SIGNING PLANS
SIG-1.0 THRU SIG-4	SIGNAL PLANS
UC-1 THRU UC-7	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-5	UTILITIES BY OTHERS PLANS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-8	CROSS-SECTIONS
C-1 THRU C-6	CULVERT PLANS

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012

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 11.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:

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

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

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 DUKE ENERGY

TIME WARNER MCNC

BROADPLEX PIEDMONT NATURAL GAS

WINDSTREAM & UNION COUNTY

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

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

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.

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	
200.02	Method of Clearing - Method II
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 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
815.02	Subsurface Drain
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.03	Driveway Turnout - Drop Curb Type
848.04	Street Turnout
848.05	Curb Ramp - Proposed Curb & Gutter
852.01	Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
866.05	Glare Screen - Chain Link Fabric/Guardrail Mounted
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

8/17/99

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12/05/11

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	○ EIP
Property Corner	----->
Property Monument	□ ECM
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	○ 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	○ CSX TRANSPORTATION 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	○ R/W
Proposed Right of Way Line with Concrete or Granite R/W Marker	○ R/W
Proposed Control of Access Line with Concrete CA Marker	○ C/A
Existing Control of Access	○ C/A
Proposed Control of Access	○ C/A
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	⊕
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	----- 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	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	----- A/G Gas

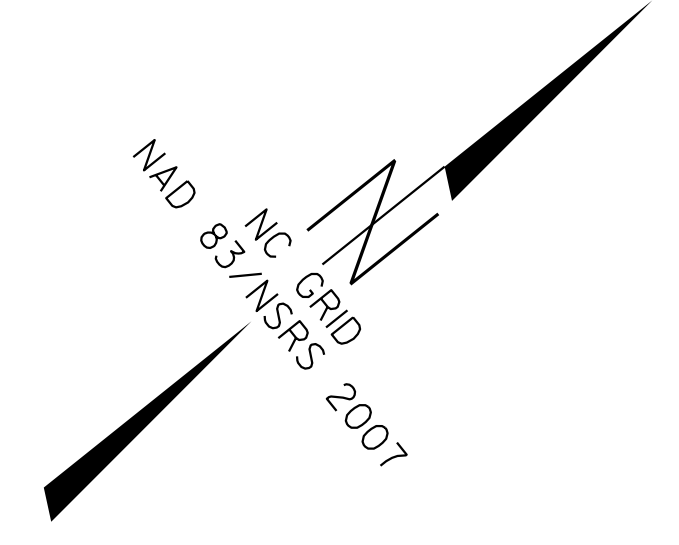
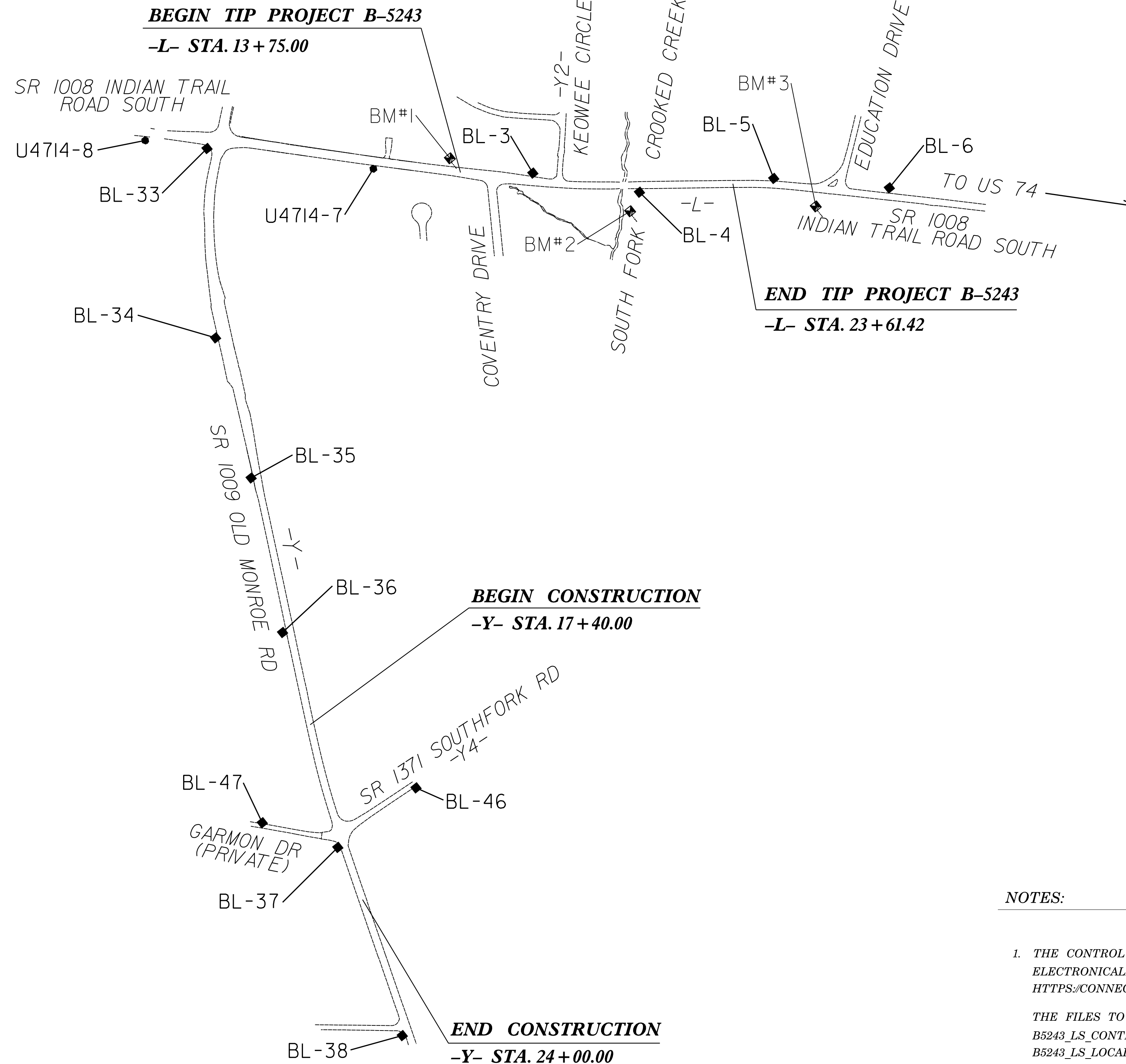
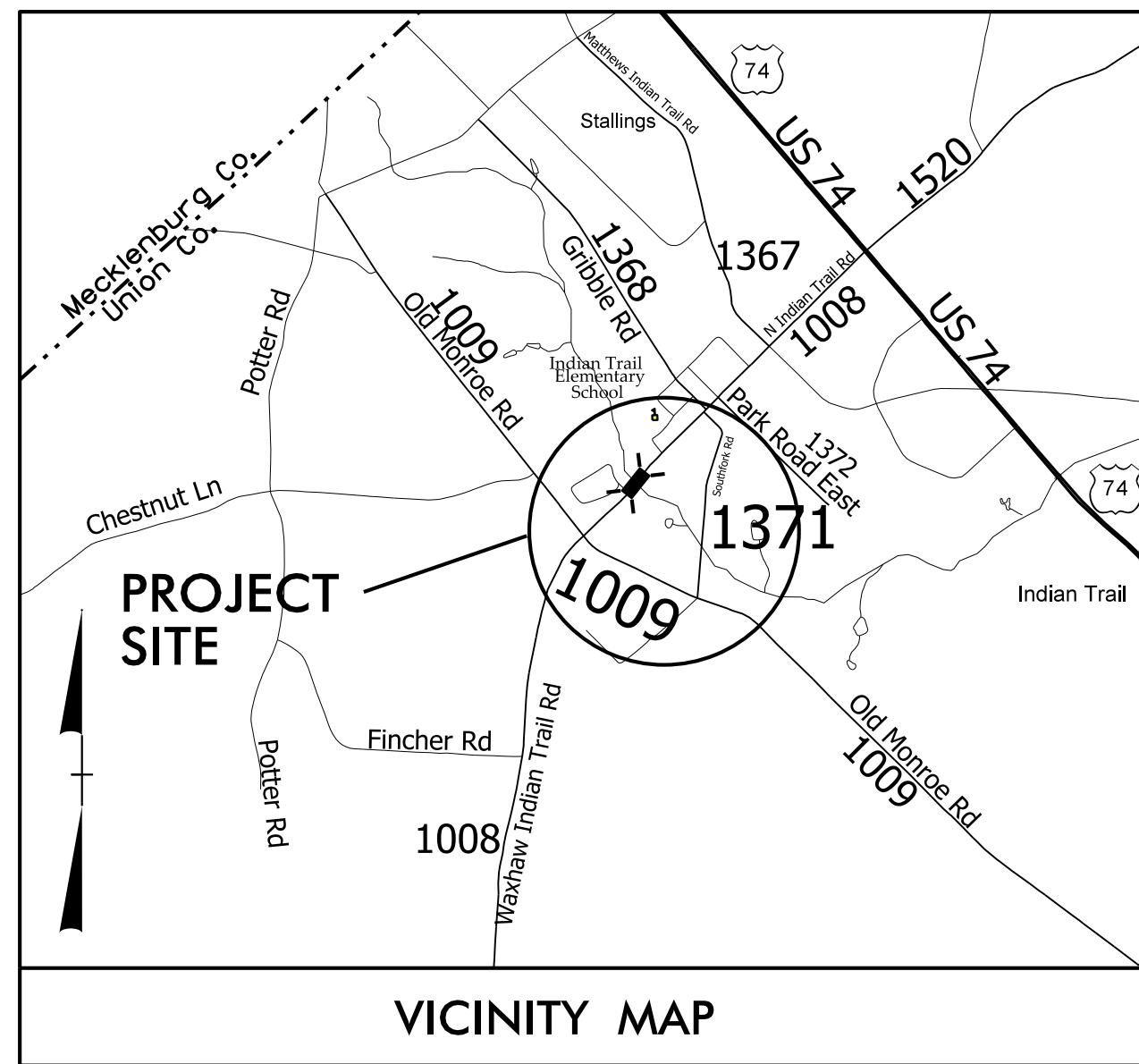
SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
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/L
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.

SURVEY CONTROL SHEET FINAL



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B5243-2" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 484815.283(±ft) EASTING: 1498556.393(±ft) ELEVATION: 683.30(±ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999849 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5243-2" TO -L- STATION 13+75.00 IS S 42°04'36.4" W 324.01' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

.....	BM1	ELEVATION - 691.33
	N 484577	E 1498275
	L STATION 13+31 46 LEFT	
	RR SPIKE IN 15' OAK	
.....		
	BM2	ELEVATION - 672.58
	N 484966	E 1498831
	L STATION 19+89 94 RIGHT	
	RR SPIKE IN 20' OAK	
.....		
	BM3	ELEVATION - 682.14
	N 485500	E 1499237
	L STATION 26+69 64 RIGHT	
	RR SPIKE IN 24' OAK	
.....		

- NOTES:**
- 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:
B5243_LS_CONTROL.TXT
B5243_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.
 - PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM, UTILIZING THE NCGS RTN SYSTEM (VRS).
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 PROJECT CONTROL
✱ INDICATES BENCHMARKS FOR VERTICAL CONTROL

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
8	U4714-8		483758.3140	1497537.3690	723.23	OUTSIDE PROJECT LIMITS	
7	U4714-7		484337.5870	1498132.2920	705.51	10+61.56	27.46 RT
1	B5243-1		484358.4930	1498146.1750	705.08	10+86.00	21.89 RT
3	BL-3		484777.4570	1498504.1900	683.10	16+34.94	30.91 LT
4	BL-4		485034.8140	1498798.7530	671.98	20+23.54	25.87 RT
5	BL-5		485444.4770	1499062.8930	683.88	25+07.63	22.34 LT
6	BL-6		485749.0960	1499350.4400	687.14	29+25.12	32.02 LT

NOTE: DRAWING NOT TO SCALE

TBL 14/05/06
04_AUG-2015 14:04 105243_1s_1C-1.dgn
1484358.4930 1498146.1750 705.08

SURVEY CONTROL SHEET FINAL

L

TYPE	STATION	NORTH	EAST
POT	5+00.00	483974.8701	1497702.3473
PC	8+09.85	484185.3113	1497929.7673
PT	12+11.70	484461.3567	1498221.7947
PC	15+96.32	484728.5262	1498498.4800
PT	19+22.36	484970.8390	1498716.2112
PC	23+61.42	485317.3837	1498985.7986
PT	26+26.93	485516.0737	1499161.6536
POT	33+53.38	486028.4780	1499676.6019

Y

TYPE	STATION	NORTH	EAST
POT	10+00.00	483235.0177	1498894.9560
PC	17+72.05	482890.2113	1499585.7277
PT	21+65.97	482735.8802	1499947.9069
PC	29+95.74	482457.0851	1500729.4360
PT	35+01.63	482189.1002	1501153.6729
POT	48+84.77	481212.3183	1502132.9385

Y1

TYPE	STATION	NORTH	EAST
POT	10+00.00	484651.6964	1498418.9137
POT	12+90.44	484493.3616	1498662.4021

Y2

TYPE	STATION	NORTH	EAST
POT	10+00.00	484962.2539	1498447.3491
POT	11+99.90	484825.8144	1498593.4486

Y3

TYPE	STATION	NORTH	EAST
POT	10+00.00	485824.4662	1499077.1963
POT	12+80.50	485601.8856	1499247.8916

Y4

TYPE	STATION	NORTH	EAST
POT	10+00.00	483062.8695	1499959.1450
POT	13+22.31	482741.7416	1499931.6122

ROW MARKER-IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L	13+75.00	-30.00	484596.3692	1498318.4274
L	13+75.00	-36.00	484600.6854	1498314.2596
L	14+45.00	29.64	484602.0906	1498410.2103
L	15+94.97	48.37	484692.7883	1498531.1006
L	15+96.32	-36.00	484754.4235	1498473.4734
L	16+90.42	92.48	484731.4083	1498631.7195
L	17+03.07	-53.00	484840.8038	1498534.9738
L	17+12.56	36.00	484786.7413	1498606.3015
L	17+64.48	-53.00	484884.9852	1498575.5699
L	18+15.00	-36.00	484911.0747	1498620.9839
L	19+00.00	-36.00	484975.6361	1498674.1970
L	19+00.00	-70.00	484996.7725	1498647.5652
L	19+22.36	60.00	484933.9981	1498763.5688
L	19+22.36	36.00	484948.7345	1498744.6258
L	20+00.00	60.00	484995.2778	1498811.2401
L	20+00.00	36.00	485010.0141	1498792.2970
L	20+10.00	-36.00	485062.1162	1498741.6080
L	20+10.00	-70.00	485082.9927	1498714.7720
L	21+90.00	36.00	485159.9800	1498908.9600
L	23+61.42	29.98	485298.9749	1499009.4624
L	23+61.42	-36.00	485339.4882	1498957.3841
L	23+61.42	-30.02	485335.8159	1498962.1048

ROW MARKER-IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
Y	17+18.00	-30.00	482941.1913	1499550.7685
Y	17+40.00	-38.00	482938.5236	1499574.0254
Y	17+40.00	30.00	482877.6822	1499543.6557
Y	17+40.00	37.00	482871.4191	1499540.5294
Y	17+72.05	-38.00	482924.2109	1499602.6990
Y	17+72.05	40.00	482854.4210	1499567.8656
Y	20+75.00	-38.00	482803.0558	1499876.4137
Y	21+65.97	40.00	482698.2056	1499934.4673
Y	22+10.00	-40.00	482758.7627	1500002.8123
Y	24+00.00	30.00	482628.9937	1500158.2472
Y	24+00.00	40.00	482619.5751	1500154.8873
Y	24+20.00	-30.00	482678.7858	1500197.2440
Y	24+20.00	-40.00	482688.2044	1500200.6039

ROW MARKER-IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	10+73.60	-25.00	484632.5321	1498494.2435
Y1	10+36.00	24.69	484611.3741	1498435.6352

ROW MARKER-IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
Y4	12+00.00	29.23	482866.0979	1499912.9323
Y4	12+00.00	-30.77	482860.9725	1499972.7130

PERMANENT EASEMENT-IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L	13+60.00	-56.00	484604.6534	1498289.5765
L	13+95.00	-75.00	484642.6334	1498301.5565
L	14+63.00	-87.00	484698.5005	1498342.1380
L	14+65.00	-95.00	484705.6447	1498338.0197
L	15+87.56	-61.00	484766.3171	1498449.8002
L	17+01.05	65.00	484758.3037	1498619.3647
L	17+28.00	53.00	484786.6951	1498629.4707
L	17+52.00	61.00	484799.4537	1498651.9677
L	17+52.00	54.00	484804.1489	1498646.7759
L	17+56.00	61.00	484802.5016	1498654.7192
L	17+56.00	54.50	484806.8530	1498649.8906
L	18+28.00	61.00	484858.1712	1498703.3306
L	18+32.00	63.00	484860.0192	1498707.5091
L	18+33.00	54.50	484866.2806	1498701.6699
L	18+38.00	55.00	484869.8778	1498705.3461
L	18+75.00	-36.00	484956.4439	1498658.7943
L	19+22.36	54.00	484937.6822	1498758.8330
L	19+22.36	85.00	484918.6477	1498783.3012
L	19+90.00	85.00	484972.0344	1498824.8323
L	20+32.00	61.28	485019.7492	1498831.8989
L	21+00.00	64.00	485071.7511	1498875.7988
L	21+00.00	36.00	485088.9435	1498853.6986
L	21+42.00	-36.00	485166.3030	1498822.6581
L	21+69.00	-55.00	485199.2802	1498824.2399
L	21+73.00	-62.00	485206.7355	1498821.1709
L	21+75.00	-55.00	485204.0160	1498827.9240
L	21+78.00	-63.00	485211.2960	1498823.4517
L	21+80.00	-54.00	485207.3484	1498831.7834
L	21+90.00	60.00	485145.2436	1498927.9030
L	22+20.00	34.95	485184.3056	1498926.5490
L	24+75.00	-46.00	485435.2700	1499023.2116
L	24+77.00	-54.00	485442.0651	1499018.5191
L	24+80.00	-46.00	485439.1232	1499026.5677
L	24+82.00	-53.00	485445.2711	1499022.6440
L	26+24.00	-36.00	485539.4883	1499134.1493
L	26+24.00	-29.98	485535.2299	1499138.3986

PERMANENT EASEMENT-IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
Y	20+76.00	65.00	482706.6736	1499840.0753
Y	20+76.00	40.00	482729.9805	1499849.1189
Y	21+09.00	65.00	482694.6573	1499871.5120
Y	21+09.00	40.00	482718.0542	1499880.3203

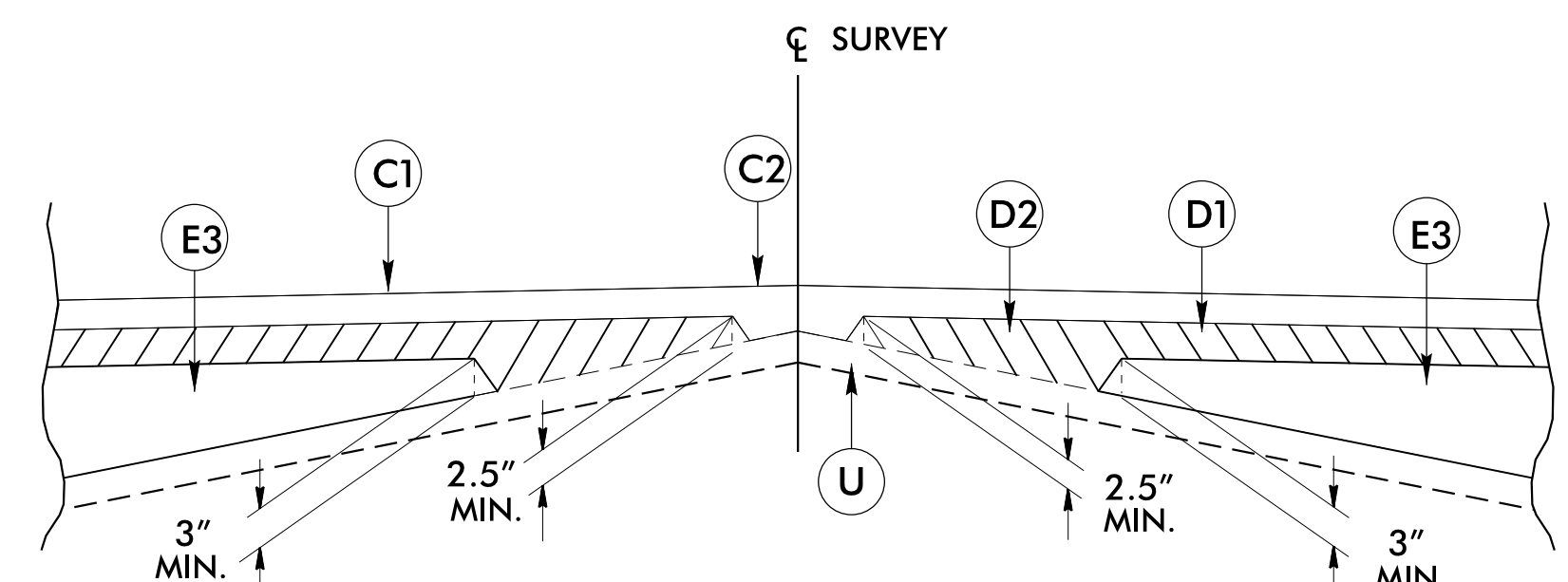
NOTES:

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)

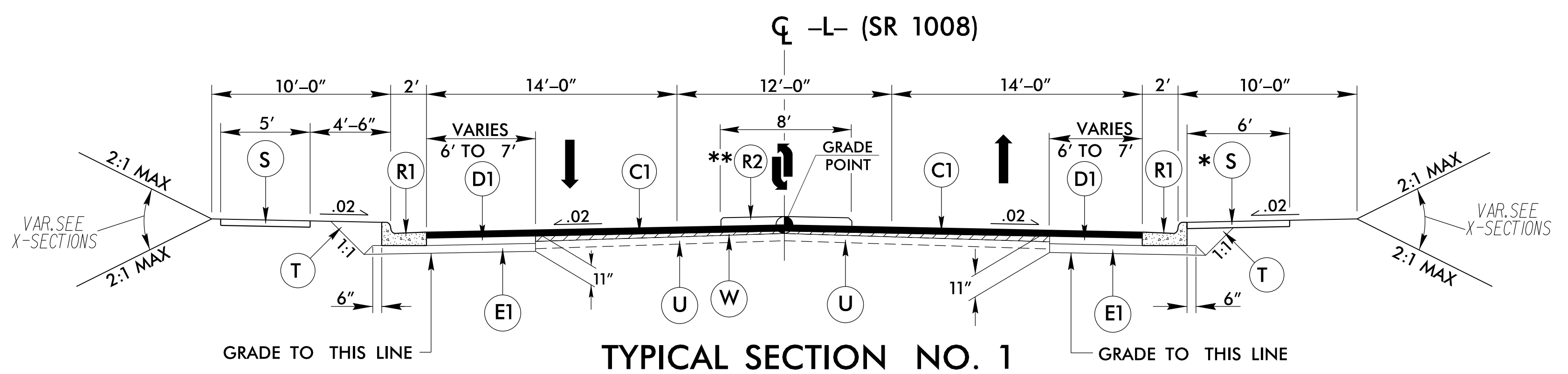
THE FILES TO BE FOUND ARE AS FOLLOWS:
B5243_LS_CONTROL.TXT
B5243_LS_LOCAL.TXT
2. SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
3. PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM, UTILIZING THE NCGS RTN SYSTEM (VRS).

FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 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 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 4.0" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE 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" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. APPROX. 5.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E3	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 3.0" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
R1	2'-6" CONCRETE CURB AND GUTTER.
R2	5" MONOLITHIC CONCRETE ISLAND (KEYED-IN)
S	PROP 4" CONCRETE SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL).

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



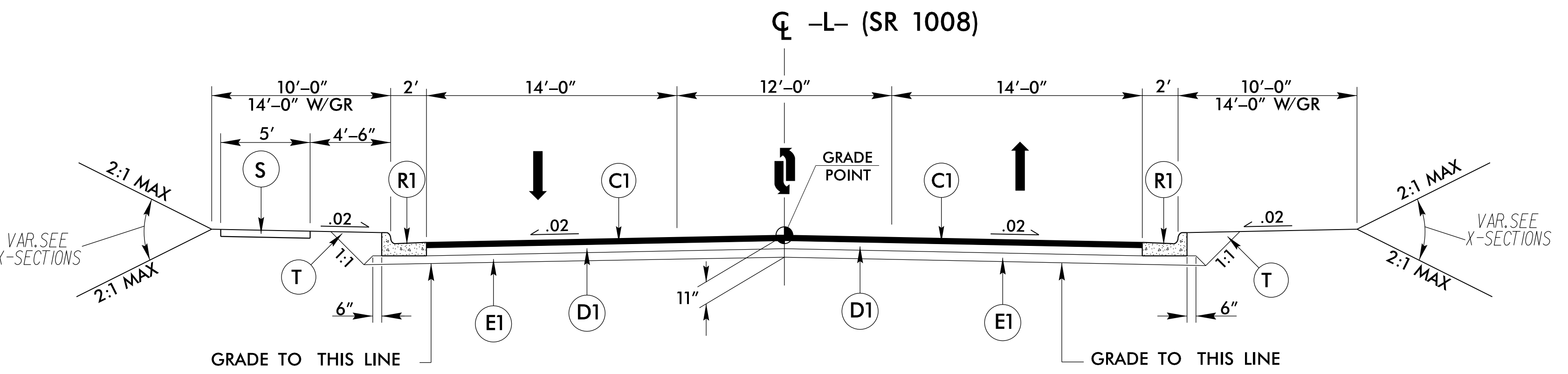
Detail Showing Method of Wedging



TYPICAL SECTION NO. 1

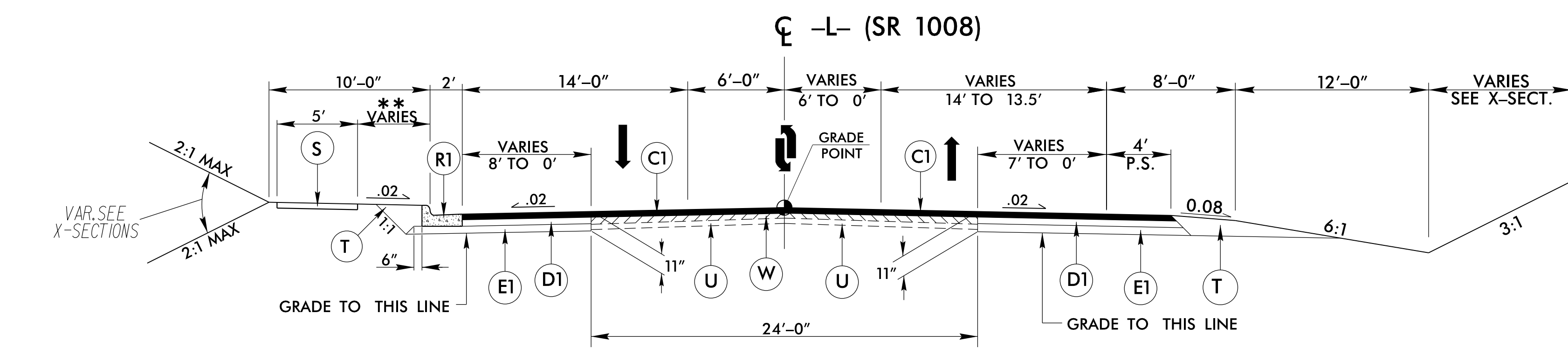
* -L- STA. 13+75.00 TO 14+71.70
 -L- STA. 14+71.70 TO 19+25.00
 -L- STA. 21+25.00 TO 21+85.00

** SEE PLANS FOR CONC. ISLAND LOCATION



TYPICAL SECTION NO. 2

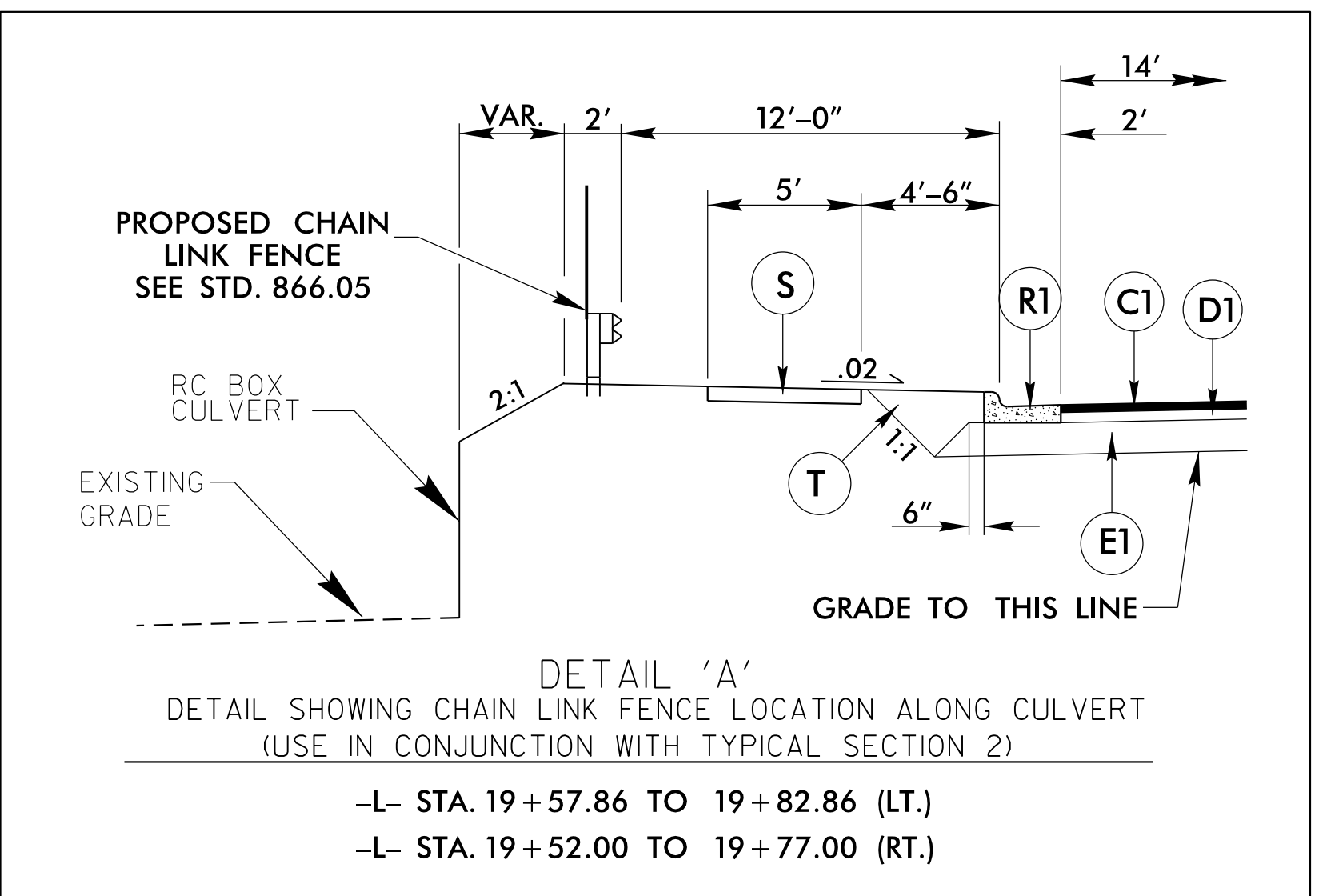
-L- STA. 19+25.00 TO 21+25.00



TYPICAL SECTION NO. 3

-L- STA. 21+85.00 TO 23+61.42

** VARIES SEE PLANS FOR SIDEWALK TRANSITION

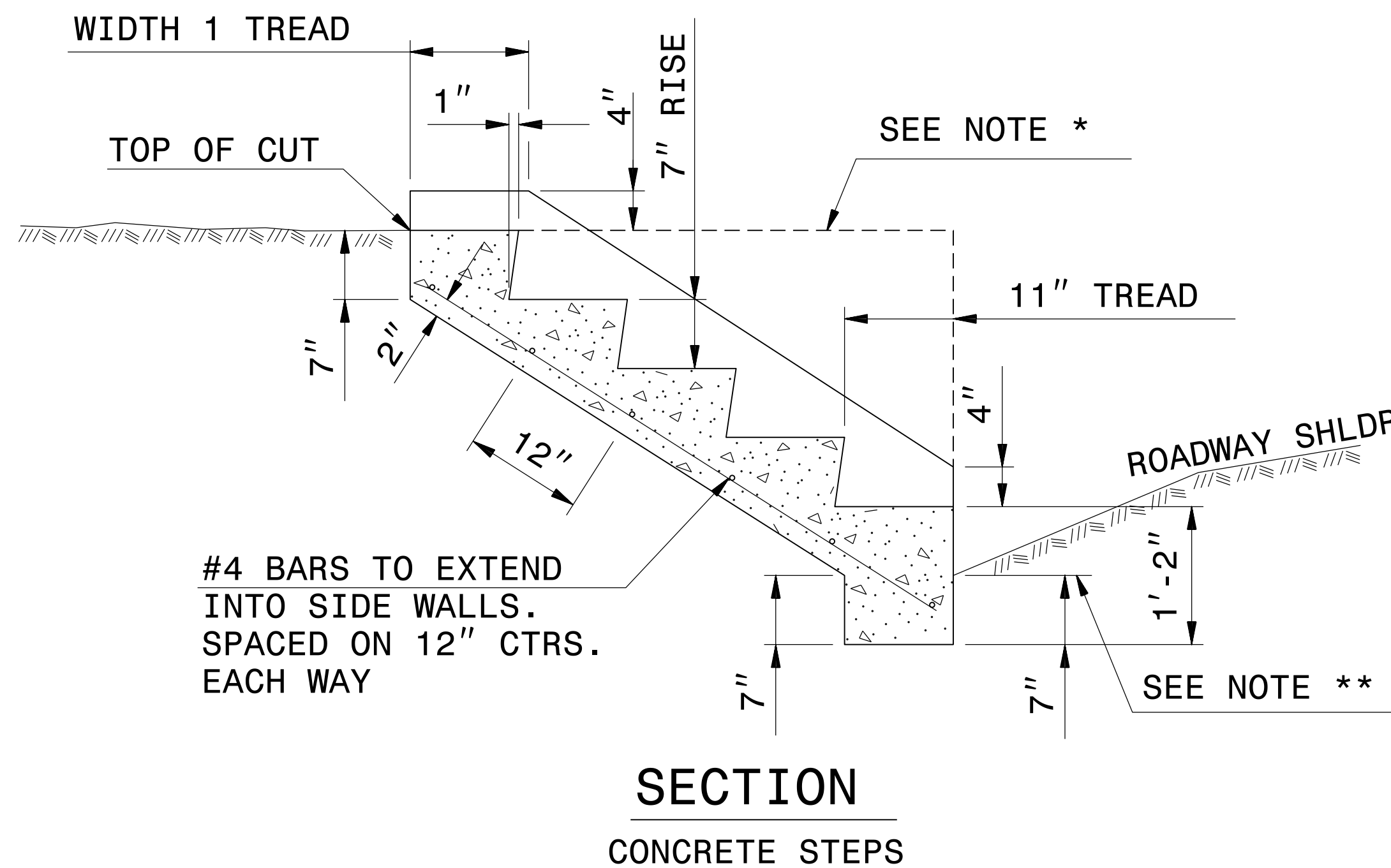


-L- STA. 19+57.86 TO 19+82.86 (LT.)
 -L- STA. 19+52.00 TO 19+77.00 (RT.)

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

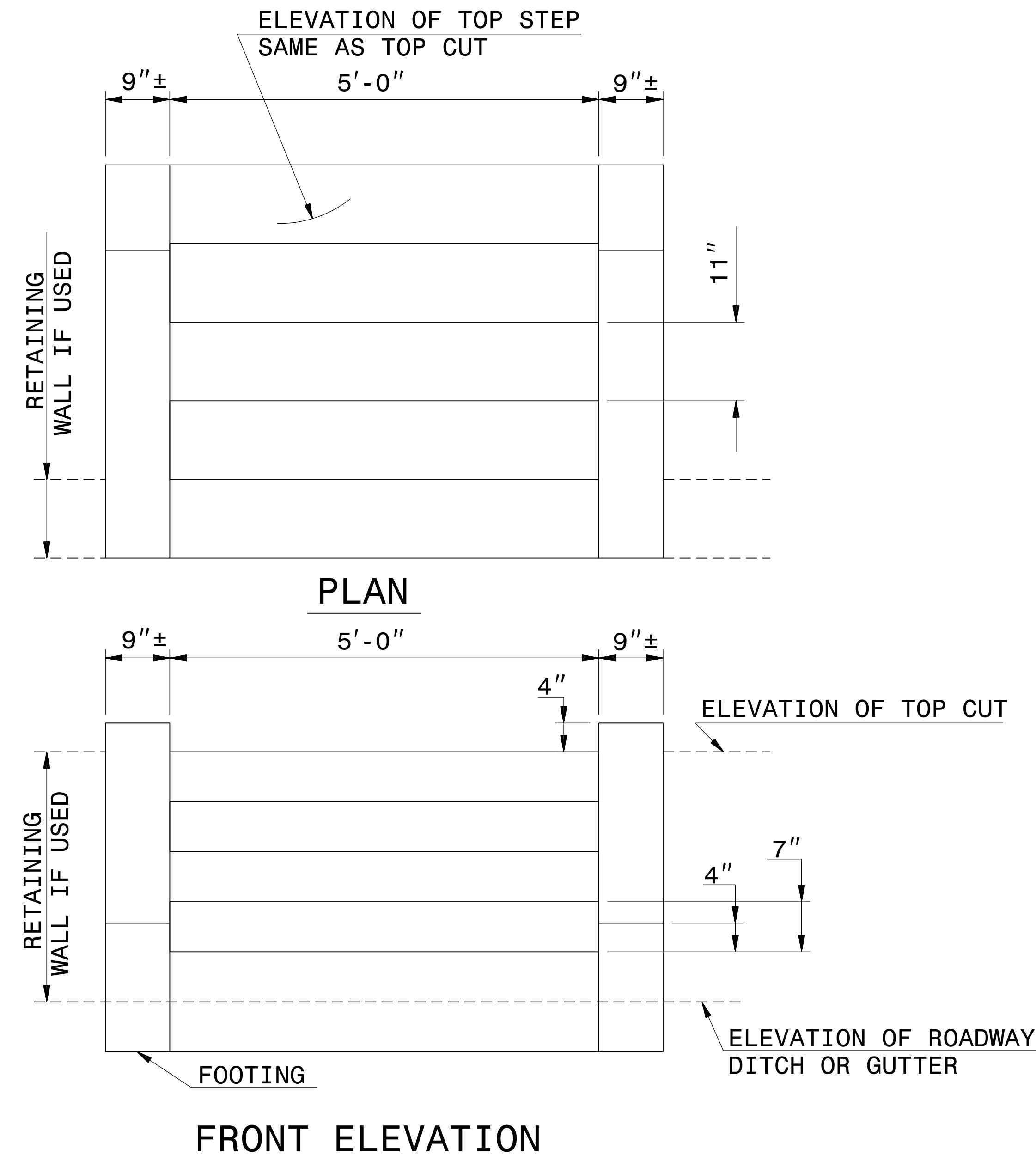
ENGLISH STANDARD DRAWING FOR
CONCRETE STEPS

CUBIC YARDS IN STANDARD CONCRETE STEPS					
NO. OF STEPS	4' WIDE	5' WIDE	6' WIDE	7' WIDE	ADDITIONAL CU. YDS. PER 1' WIDTH
2	0.4	0.5	0.5	0.6	0.1
3	0.6	0.7	0.8	0.9	0.1
4	0.8	0.9	1.0	1.2	0.1
5	1.0	1.2	1.3	1.4	0.1
6	1.2	1.4	1.5	1.7	0.2
7	1.4	1.6	1.8	2.0	0.2
8	1.6	1.8	2.0	2.3	0.2
9	1.8	2.0	2.3	2.6	0.3
10	2.0	2.3	2.5	2.8	0.3
ADDITIONAL STEP INCREMENT	0.2	0.2	0.2	0.3	0.1



GENERAL NOTES:

- USE CLASS "B" CONCRETE THROUGHOUT FOR CONCRETE STEPS.
- LOCATIONS AND QUANTITIES SHOWN ARE APPROXIMATE ONLY. EXACT LOCATIONS AND QUANTITIES WILL BE DETERMINED BY THE ENGINEER.
- * WHERE STEPS ARE CONSTRUCTED THRU THE RETAINING WALLS, RAISE THE SIDE WALLS OF THE STEPS LEVEL WITH THE TOP OF THE RETAINING WALL. SEE DASHED LINES.
- ** WHERE SIDEWALKS ARE PROPOSED OR EXISTING, THIS IS TO BE THE TOP OF THE SIDEWALK. USE UNCORED BRICK.



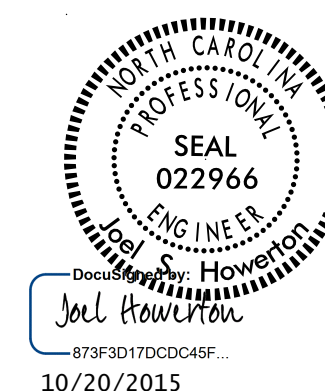
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
CONCRETE STEPS

SHEET 1 OF 1
844.01

SHEET 1 OF 1
844.01

IF THE HEIGHT OF THE STEPS EXCEEDS 36",
A HANDRAIL SHOULD BE INSTALLED.



CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: E.E.Ward DATE: Feb.19,2002
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: w:details/stand/844d01.dgn

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

RD277970

COMPUTED BY: KDA DATE: 7/21/2014
 CHECKED BY: IY DATE: 7/24/2015

PROJECT NO. SHEET NO.
 B-5243 3B-1

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

Station to Station	Uncl. Exc. C.Y.	Embank. +% C.Y.	Borrow C.Y.	Waste C.Y.
SUMMARY NO. 1				
-Y- 17+40.00 TO 24+00.00	873	95		778
-Y4- 12+00.00 TO 12+50.00	5	12	7	
SUMMARY NO. 1 TOTALS				
	878	107	7	778
SUMMARY NO. 2				
-L- 13+75.00 TO 23+61.42	442	3,844	3,402	
-Y2- 10+50.00 TO 11+50.00	231			231
SUMMARY NO. 2 TOTALS				
	673	3,844	3,402	231
SUMMARY TOTALS				
	1,551	3,951	3,409	1,009
Material For Shoulder Construction		413	413	
WASTE IN LIEU OF BORROW			-231	-231
PROJECT TOTAL				
	1,551	4,364	3,591	778
Est 5% To Replace Topsoil at Borrow Pit				
			180	
GRAND TOTAL				
	1,551		3,771	
	1,575		3,900	
ESTIMATED UNDERCUT = 950 CY				
ESTIMATED SHALLOW UNDERCUT = 500 CY				
ESTIMATED SELECT GRANULAR MATERIAL = 500 CY				
ESTIMATED CLASS IV SUBGRADE STABILIZATION = 540 TONS				
ESTIMATED DRAINAGE DITCH EXCAVATION = 100 CY				

SUMMARY OF ASPHALT PAVEMENT REMOVAL

Station to Station	LOC LT/RT/CL	Asphalt Removal SQ. YDS.
-Y2- 10+50+00 TO 11+87.20	CL	325.99
PROJECT TOTAL		
		325.99
	SAY	330

SUMMARY OF ASPHALT PAVEMENT BREAKING

Station to Station	LOC LT/RT/CL	Asphalt Breaking SQ. YDS.
-L- 19+25.00 TO 21+25.00	CL	554.8
PROJECT TOTAL		
		554.80
	SAY	560

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 FINE GRADING, CLEARING AND GRUBBING AND REMOVAL AND BREAKING OF EXISTING PAVEMENT WILL BE PAID FOR AT THE LUMP SUM PRICE FOR "GRADING".

VINYL COATED GLARE SCREEN (GUARDRAIL MOUNTED)

LINE	STATION TO STATION	LOCATION	FABRIC (FT.)		
-L-	19+57.76 TO 19+82.75	LT	25.00		
-L-	19+51.73 TO 19+76.73	RT	25.00		
PROJECT TOTAL					
			50		

GUARDRAIL SUMMARY

"N" = DISTANCE FROM EDGE OF TRAVEL 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

LINE	BEG. STA.	END STA.	LOC.	LENGTH (FT.)			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHLDR WIDTH	FLARE LENGTH		W		ANCHORS				IMPACT ATTEN. TYPE 350			REMOVE EXISTING GUARDRAIL	REMARKS	
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPR. END	TRAIL. END			APPR. END	TRAIL. END	APPR. END	TRAIL. END	GRAU 350	TYPE CAT-1	EA	G	NG					
-L-	19+58.00	20+83.00	LT	125.00			19+83.36	19+58.36	14'	16'	50'					1	1						CULVERT WARRANT	
-L-	18+50.85	19+75.85	RT	125.00			19+50.85	19+75.85	14'	16'	50'					1	1						CULVERT WARRANT	
SUB-TOTALS				250.00											2	2								
DEDUCTION FOR ANCHOR UNITS																								
(2 GRAU @ 50')				-100																				
(2 CAT-1 @ 6.25')				-12.5																				
PROJECT TOTAL				137.50											2	2								
SAY				150.00																				
ADDITIONAL GUARDRAIL POSTS = 5 EA																								

COMPUTED BY: KDA DATE : 5/18/2015
 CHECKED BY: IY DATE : 7/22/2015

PROJECT NO. SHEET NO.
 B-5243 3G-1

**STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS**

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				SD	200
				TOTAL LF:	200

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

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU/AST	Aggregate Thickness INCHES	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY			ASU		500	540	300		
			TOTAL CY/TONS/SY:		500	540	300		

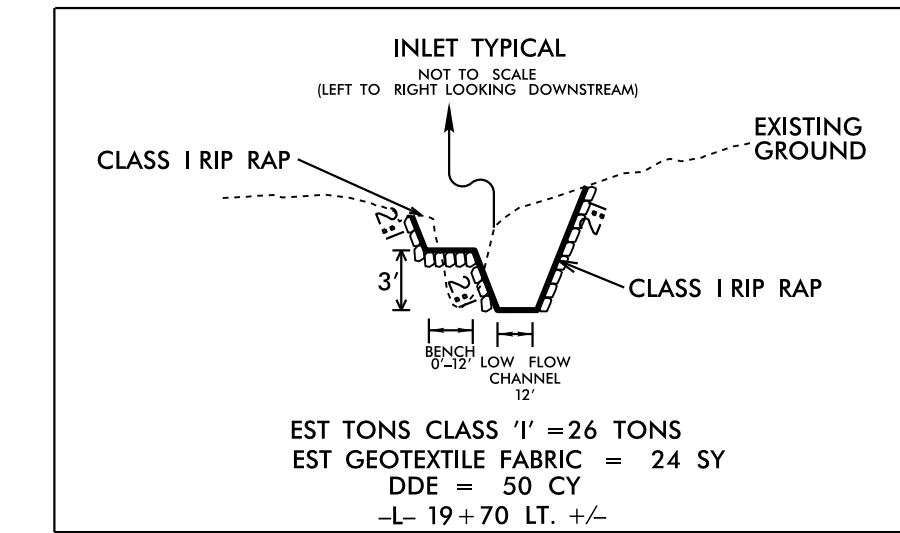
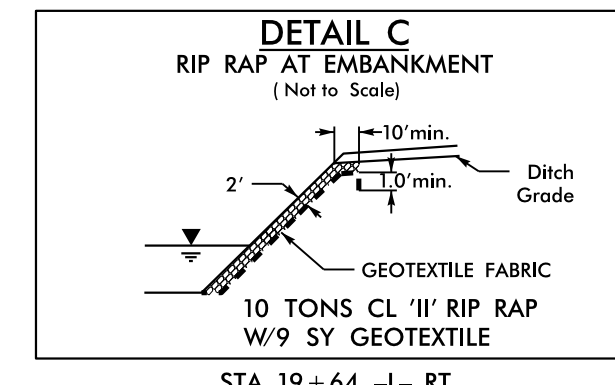
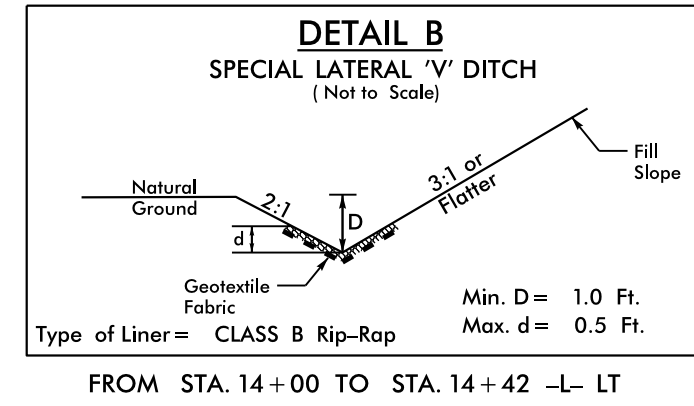
*ASU = Aggregate Subgrade
 *AST = Aggregate Stabilization

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

SEE SHEETS C-1 THRU C-6 FOR CULVERT PLANS

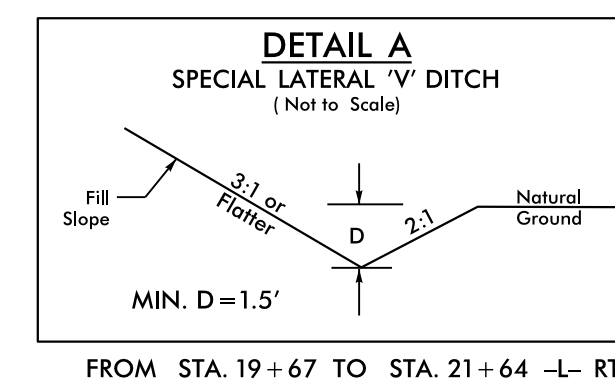
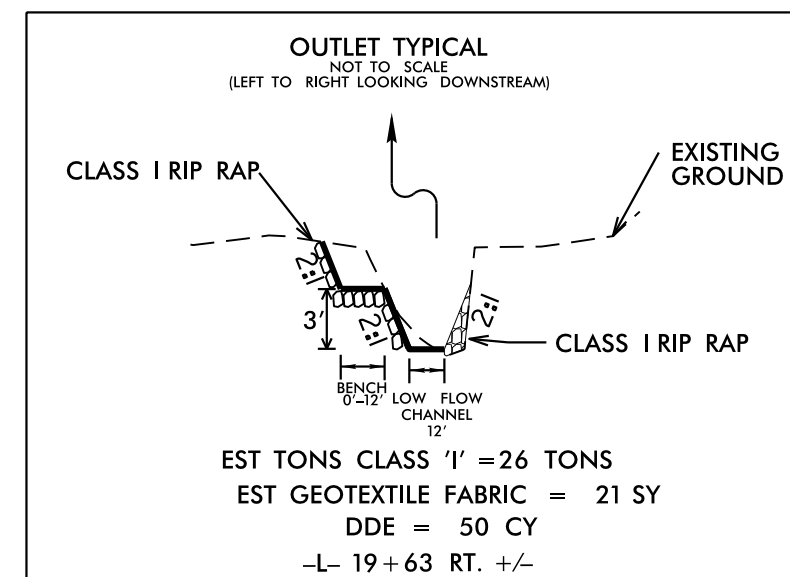
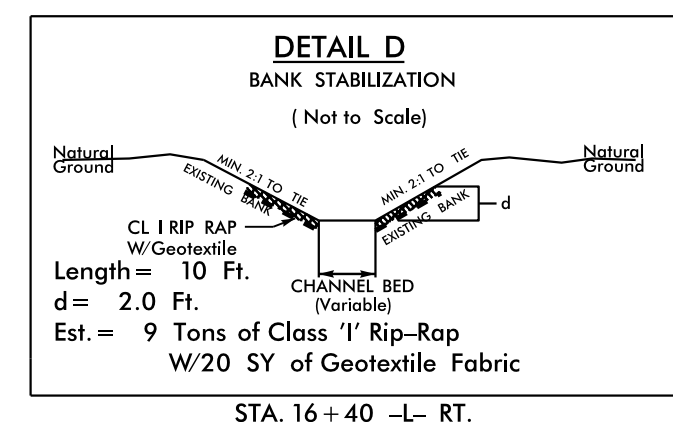
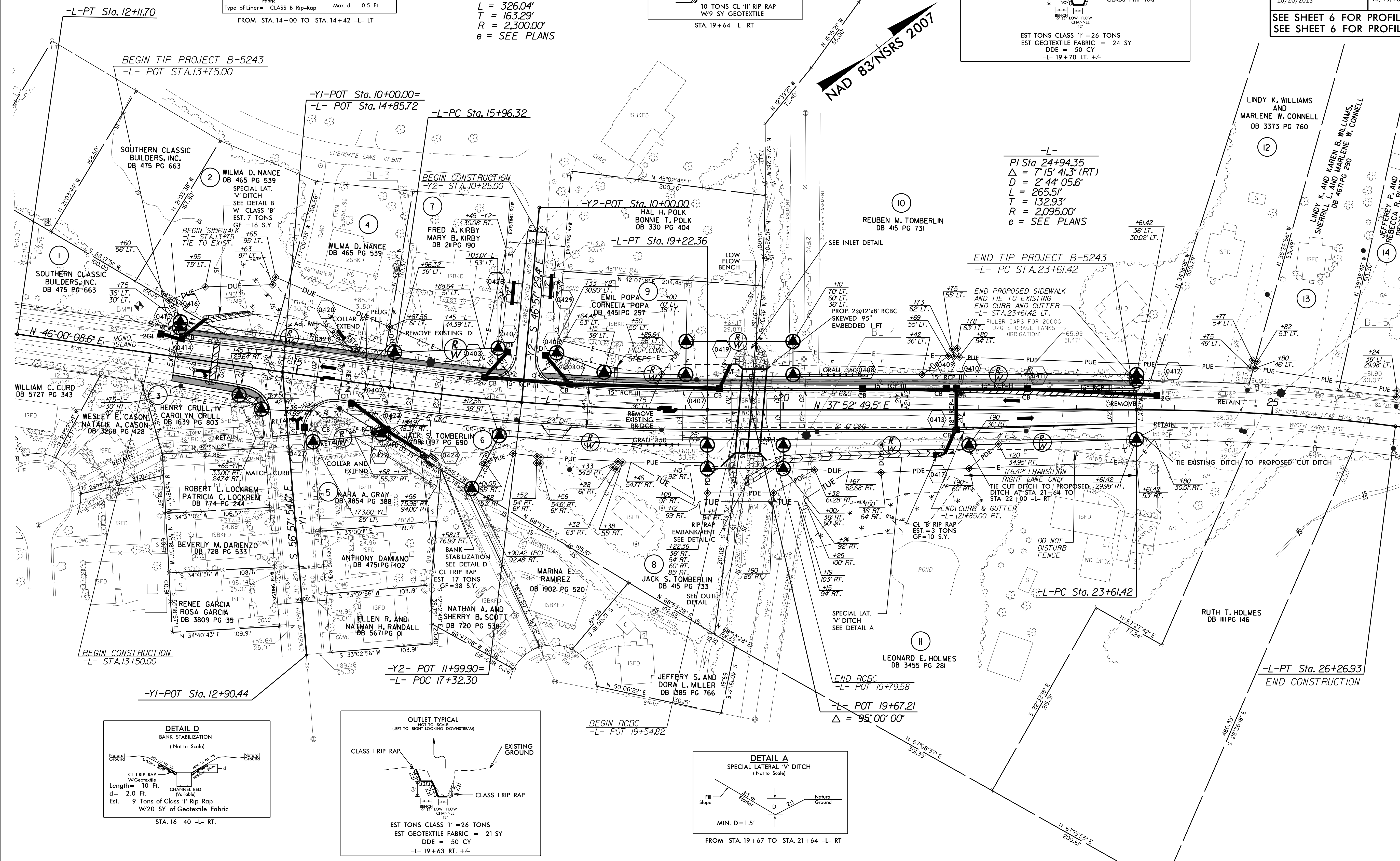
SEE SHEET 2B-1 FOR CHANNELIZATION DETAIL

PROJECT REFERENCE NO. B-5243		SHEET NO. 4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET 6 FOR PROFILE OF -L- SEE SHEET 6 FOR PROFILE OF -Y2-			


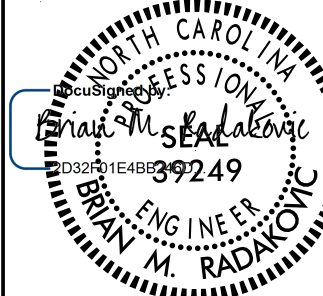


-L-
 PI Sta 17+59.62
 $\Delta = 8' 07'' 19.1'' (LT)$
 $D = 2' 29'' 28.0''$
 $L = 326.04'$
 $T = 163.29'$
 $R = 2,300.00'$
 $e = \text{SEE PLANS}$

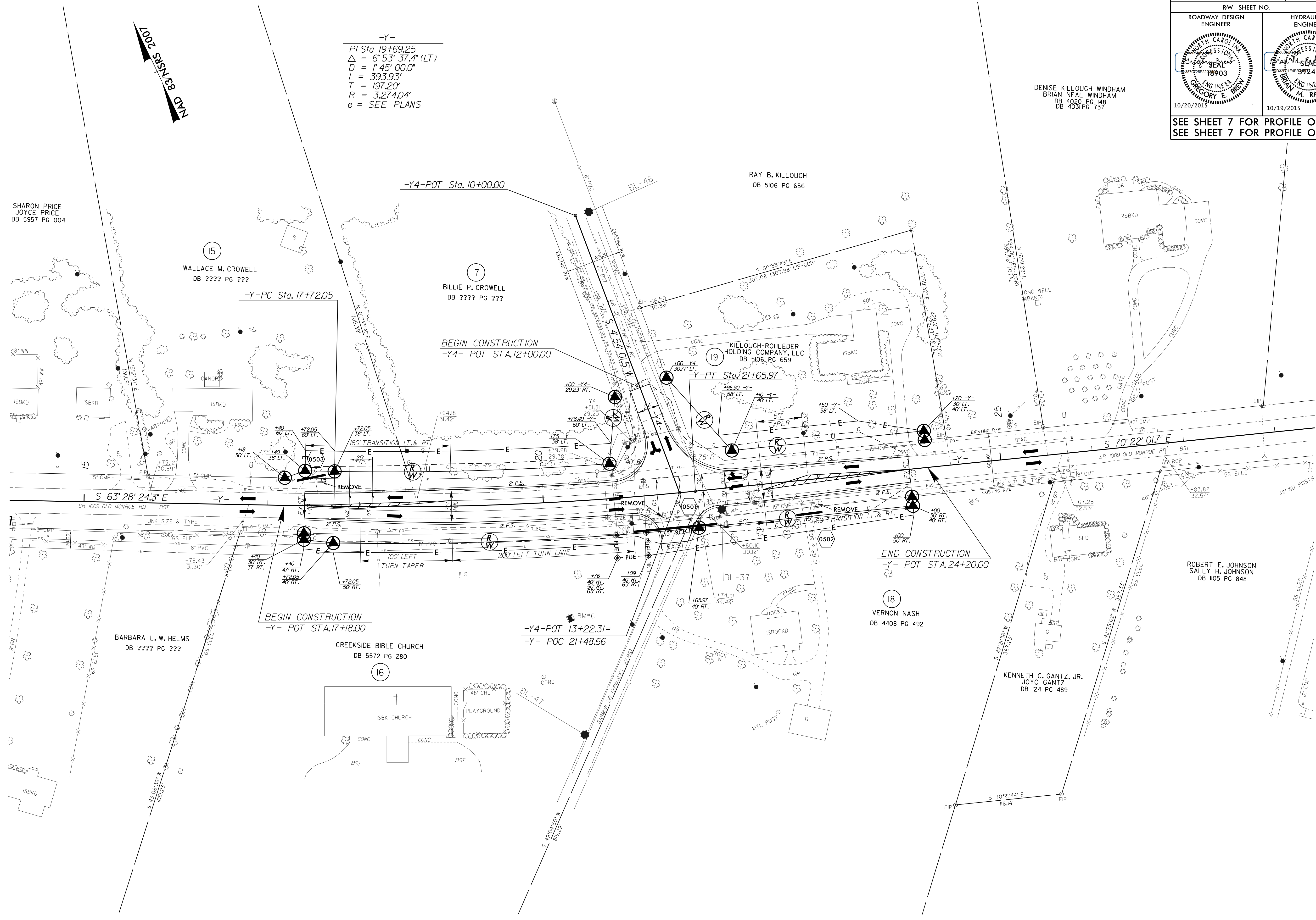
-L-
 PI Sta 24+94.35
 $\Delta = 7' 15'' 41.3'' (RT)$
 $D = 2' 44'' 05.6''$
 $L = 265.51'$
 $T = 132.93'$
 $R = 2,095.00'$
 $e = \text{SEE PLANS}$



19-OCT-2015 08:58 B5243_Rdy_psh04.dgn

PROJECT REFERENCE NO. B-5243		SHEET NO. 5	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
 GREGORY E. BREW DB 38903 10/20/2015		 BRIAN NEAL WINDHAM DB 39249 10/19/2015	
SEE SHEET 7 FOR PROFILE OF -Y- SEE SHEET 7 FOR PROFILE OF -Y4-			

5/14/99
15_OCT-2015_12:06_P5243_Rdy_psh05.dgn
8:53:51 AM C:\PROJECTS\B-5243\DWG\15_P5243_Rdy_psh05.dgn



-Y-
 PI Sta 19+69.25
 $\Delta = 6' 53' 37.4''$ (LT)
 $D = 1' 45' 00.0''$
 $L = 393.93'$
 $T = 197.20'$
 $R = 3,274.04'$
 e = SEE PLANS

DENISE KILLOUGH WINDHAM
 BRIAN NEAL WINDHAM
 DB 4020 PG 148
 DB 4031 PG 137

ROBERT E. JOHNSON
 SALLY H. JOHNSON
 DB 1105 PG 848

5/28/99

BM#1 ELEVATION = 691.33'
N = 484.577 E = 1,498.275
-BL- STATION 16+06 (O/S 44' LT)
RR SPIKE IN 15' OAK TREE

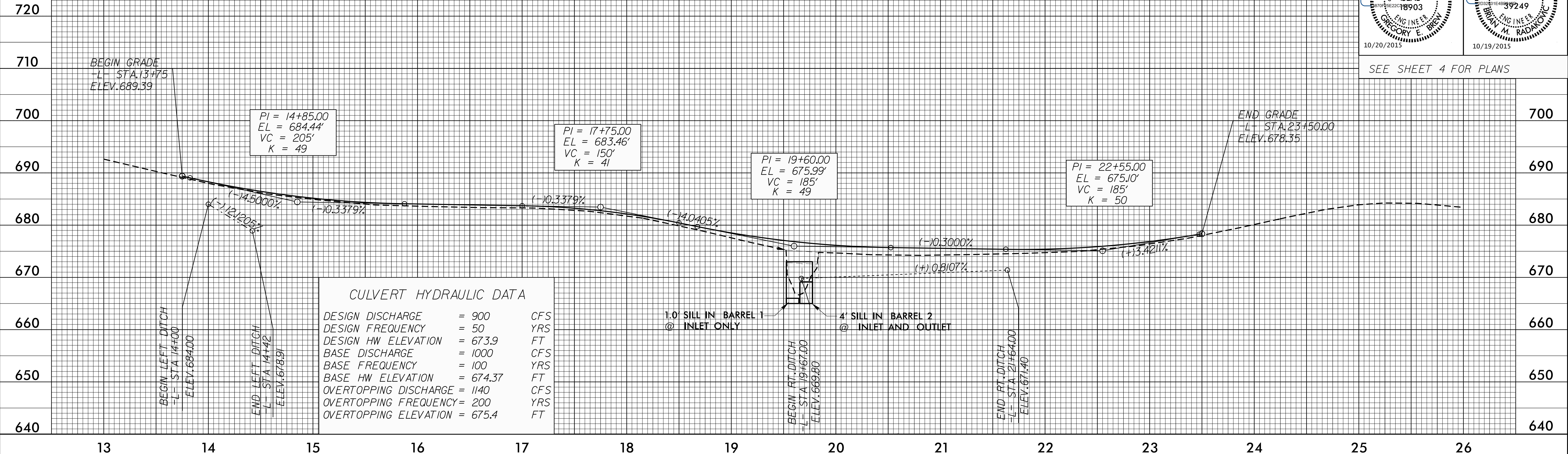
-L-

BM#2 ELEVATION = 672.58
N 484.966 E 1,498.831
-BL- STATION 22+77 74 RIGHT
RR SPIKE IN 20' OAK TREE

BM#3 ELEVATION = 682.14
N 485.500 E 1,499.237
-BL- STATION 29+45 88 RIGHT
RR SPIKE IN 24' OAK TREE

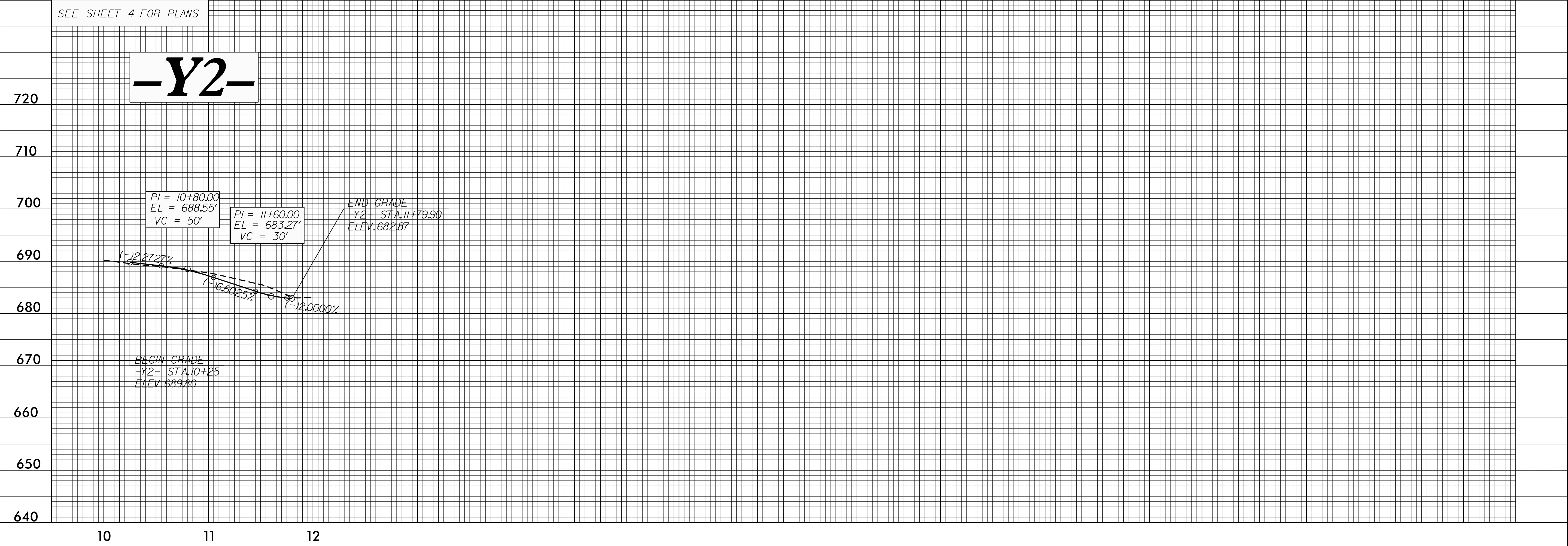
PROJECT REFERENCE NO. B-5243	SHEET NO. 6
ROADWAY DESIGN ENGINEER Gregory E. Brien	HYDRAULICS ENGINEER Blayne M. Radakovic

SEE SHEET 4 FOR PLANS



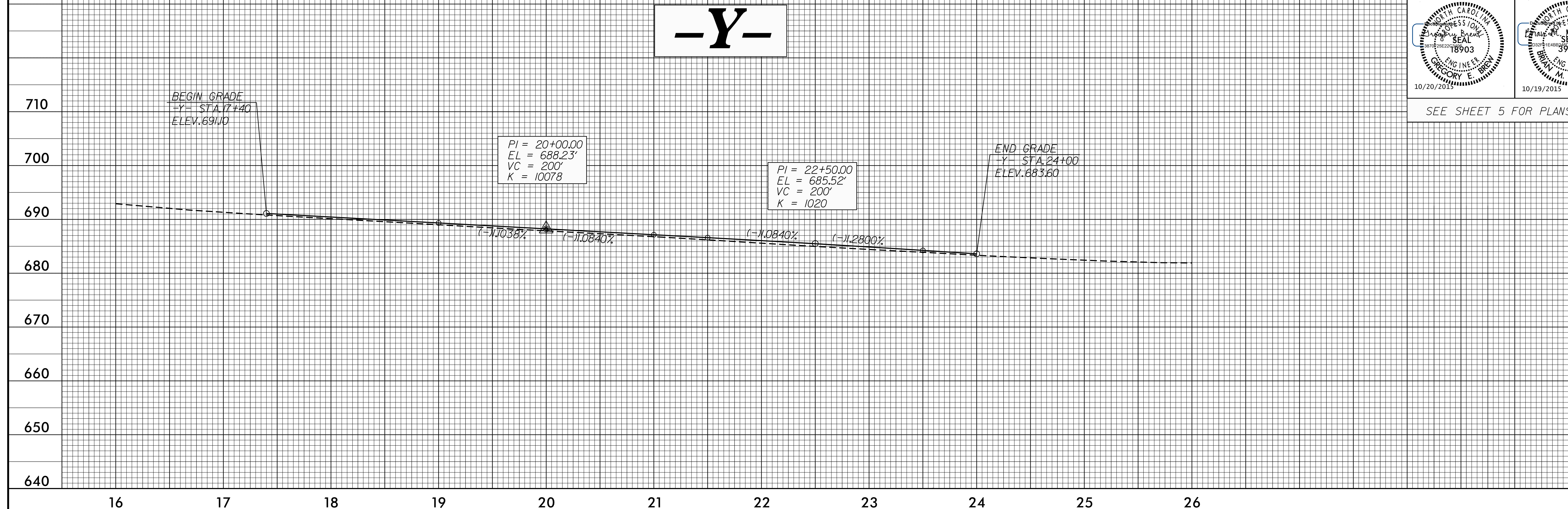
SEE SHEET 4 FOR PLANS

-Y2-

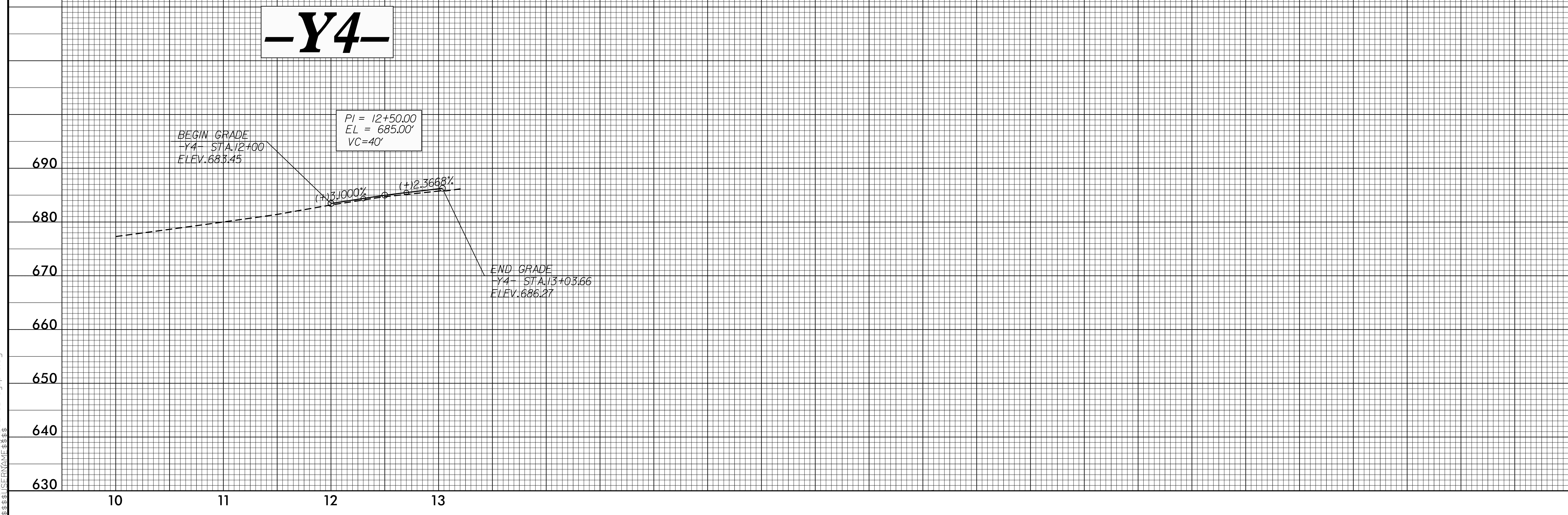


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5/28/99



SEE SHEET 5 FOR PLANS



13 OCT 2015 14:52
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