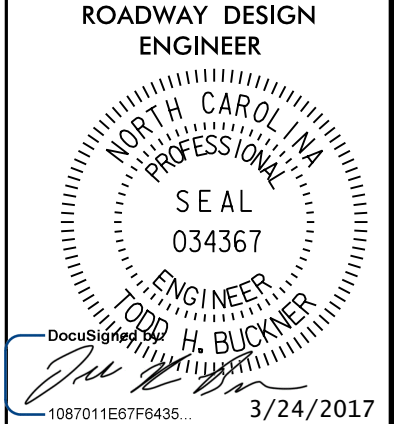


# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

|   |                         |
|---|-------------------------|
| PROJECT REFERENCE NO.<br><i>U-3109A</i> | SHEET NO.<br><i>1-A</i> |
|---|-------------------------|

ROADWAY DESIGN ENGINEER



**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

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

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   |
| 225.01                                     | Guide for Grading Subgrade - Interstate and Freeway  |
| 225.02                                     | Guide for Grading Subgrade - Secondary and Local   |
| 225.04                                     | Method of Obtaining Super-elevation - Two Lane Pavement  |
| 225.05                                     | Method of Obtaining Super-elevation - Divided Highways   |
| 225.06                                     | Method of Grading Sight Distance at Intersections  |
| 225.09                                     | Guide for Shoulder and Ditch Transition at Grade Separations   |
| 240.01                                     | Guide for Berm Ditch Construction  |
| DIVISION 3 - PIPE CULVERTS                 |  |
| 300.01                                     | Method of Pipe Installation  |
| 310.10                                     | Driveway Pipe Construction   |
| DIVISION 4 - MAJOR STRUCTURES              |  |
| 422.10                                     | Reinforced Bridge Approach Fills   |
| DIVISION 5 - SUBGRADE, BASES AND SHOULDERS |  |
| 560.01                                     | Method of Shoulder Construction - High Side of Super-elevated Curve - Method I   |
| 560.02                                     | Method of Shoulder Construction - High Side of Super-elevated Curve - Method II (Sheet 2 of 3 is no longer applicable) |
| DIVISION 6 - ASPHALT BASES AND PAVEMENTS   |  |
| 610.01                                     | Guide for Paving Shoulders Under Bridges - Method I  |
| 654.01                                     | Pavement Repairs   |
| 665.01                                     | Asphalt Shoulders - Milled Rumble Strips   |
| DIVISION 8 - INCIDENTALS                   |  |
| 815.03                                     | Pipe Underdrain and Blind Drain  |
| 838.01                                     | Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew                                       |
| 838.02                                     | Concrete Endwall and Sluice Gate - 15" thru 36" Pipe 90 Skew   |
| 838.11                                     | Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew  |
| 838.21                                     | Reinforced Concrete Endwall - for Single 54" Pipe 90 Skew  |
| 838.27                                     | Reinforced Concrete Endwall - for Single 60" Pipe 90 Skew  |
| 838.33                                     | Reinforced Concrete Endwall - for Single 66" Pipe 90 Skew  |
| 838.39                                     | Reinforced Concrete Endwall - for Single 72" Pipe 90 Skew  |
| 838.45                                     | Notes for Reinforced Concrete Endwall - Std. Dwg 838.21 thru 838.40  |
| 838.51                                     | Reinforced Brick Endwall - for Single 54" Pipe 90 Skew   |
| 838.57                                     | Reinforced Brick Endwall - for Single 60" Pipe 90 Skew   |
| 838.63                                     | Reinforced Brick Endwall - for Single 66" Pipe 90 Skew   |
| 838.69                                     | Reinforced Brick Endwall - for Single 72" Pipe 90 Skew   |
| 838.75                                     | Notes for Reinforced Brick Endwall - Std. Dwg 838.51 thru 838.70   |
| 838.80                                     | Precast Endwalls - 12" thru 72" Pipe 90 Skew   |
| 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  |
| 840.17                                     | Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe  |
| 840.18                                     | Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe  |
| 840.19                                     | Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe  |
| 840.20                                     | Frames and Wide Slot Flat Grates   |
| 840.22                                     | Frames and Wide Slot Sag Grates  |
| 840.24                                     | Frames and Narrow Slot Sag Grates  |
| 840.25                                     | Anchorage for Frames - Brick or Concrete or Precast  |
| 840.26                                     | Brick Grated Drop Inlet Type 'A' - 12" thru 72" Pipe   |
| 840.27                                     | Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe   |
| 840.28                                     | Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe   |
| 840.29                                     | Frames and Narrow Slot Flat Grates   |
| 840.31                                     | Concrete Junction Box - 12" thru 66" Pipe  |
| 840.32                                     | Brick Junction Box - 12" thru 66" Pipe   |
| 840.34                                     | Traffic Bearing Junction Box - for Use with Pipes 42" and Under  |
| 840.45                                     | Precast Drainage Structure   |
| 840.46                                     | Traffic Bearing Precast Drainage Structure   |
| 840.54                                     | Manhole Frame and Cover  |
| 840.66                                     | Drainage Structure Steps   |
| 840.71                                     | Concrete and Brick Pipe Plug   |
| 840.72                                     | Pipe Collar  |
| 846.01                                     | Concrete Curb, Gutter and Curb & Gutter  |
| 846.04                                     | Drop Inlet Installation in Shoulder Berm Gutter  |
| 848.01                                     | Concrete Sidewalk  |
| 848.02                                     | Driveway Turnout - Radius Type   |
| 848.04                                     | Street Turnout   |
| 848.05                                     | Curb Ramp - Proposed Curb & Gutter   |
| 850.01                                     | Concrete Paved Ditches   |
| 850.10                                     | Guide for Berm Drainage Outlet - 15" and 18" Pipe  |
| 850.11                                     | Guide for Berm Drainage Outlet - 24" and 30" Pipe  |
| 852.01                                     | Concrete Islands   |
| 852.04                                     | Method for Placement of Drop Inlets in Grassed Median - Using 1'-6" Curb and Gutter                                    |
| 852.05                                     | Median Curb for Catch Basin - for Use with 1'-6" Curb and Gutter   |
| 852.06                                     | Method for Placement of Drop Inlets in Concrete Islands  |
| 852.10                                     | Median Construction - with Curb and Gutter   |
| 854.05                                     | Concrete Median Transition Barrier - Location of Overhead Assembly   |
| 857.01                                     | Precast Reinforced Concrete Barrier - 41" Single Faced   |
| 862.01                                     | Guardrail Placement  |
| 862.02                                     | Guardrail Installation   |
| 862.04                                     | Anchoring End of Guardrail - B-77 and B-83 Anchor Units  |
| 866.01                                     | Chain Link Fence - 4', 5' and 6' High Fence  |
| 866.02                                     | Woven Wire Fence - with Wood Post  |
| 866.04                                     | Barbed Wire Fence with Wood Posts (2 - 7 Strands)  |
| 876.01                                     | Rip Rap in Channels  |
| 876.02                                     | Guide for Rip Rap at Pipe Outlets  |
| 876.03                                     | Drainage Ditches with Class 'A' Rip Rap  |
| 876.04                                     | Drainage Ditches with Class 'B' Rip Rap  |

GENERAL NOTES: 2012 SPECIFICATIONS  
EFFECTIVE: 01-17-2012  
REVISED: 10-31-2014

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

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

SUPERELEVATION:  
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 & STD. NO. 225.05 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.

BERM DITCHES:  
BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

UNDERDRAINS:  
UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:  
DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 900 MM RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE 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 NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

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:  
Duke Energy Distribution Power, Duke Energy Transmission Power, AT&T NC, CenturyLink, Time Warner Cable TV, Mebane Water, Orange-Alamance Water, Alamance-Burlington School Sewer, PSNC Gas  
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 OTHERS.

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.

ROCK  
ROCK IS ANTICIPATED BETWEEN -Y16RPA- STA. 22+25 and STA. 23+75. BLASTING MAY BE REQUIRED FOR EXCAVATION ON THE PROJECT. SEE SECTION 220 OF THE STANDARD SPECIFICATIONS AND IF APPLICABLE, ROCK BLASTING PROVISION.