	INDEX O		
SHEET NUMBER	SHEET		
1	TITLE SHEET		
1 A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS		
1B	CONVENTIONAL SYMBOLS		
2A-1 THRU 2A-4	PAVEMENT SCHEDULE AND TYPICAL SECTIONS		
2B-1	ROADWAY DETAIL - WILDLIFE FENCE LAYOUT		
2B-2	ROADWAY DETAIL - LANDBRIDGE GRADING		
2C-1	SPECIAL DETAILS - GUARDRAIL INSTALLATION (W BEAM RAIL SECTION)		
2C-2	SPECIAL DETAILS - 8'GUARDRAIL POST		
2C-3	SPECIAL DETAILS - GUARDRAIL AT-1 END UNIT		
2C-4	SPECIAL DETAILS - HANDRAIL ON WALL		
2C-5	SPECIAL DETAILS - CHAIN LINK FENCE ON RETAINING WALL		
2C-6	SPECIAL DETAILS - WILDLIFE FENCE		
2C-7	SPECIAL DETAILS - WILDLIFE FENCE ON RETAINING WALL		
2C-8	SPECIAL DETAILS - CATTLE GUARD		
2C-9	SPECIAL DETAILS - WILDLIFE JUMP OUT DETAIL		
20-10	SPECIAL DETAILS - GUARDRAIL ANCHOR UNIT TYPE B-77SC		
20-1	DRAINAGE DETAIL - CONCRETE CATCH BASIN (3 OR 4 SIDE OPEN THROAT)		
2D-2	DRAINAGE DETAIL - CONVERT EXIST. DI, CB, OTCB OR GI		
2D-3	TO JUNCTION BOX DRAINAGE DETAIL - TRAFFIC BEARING DROP INLET TYPE "A"		
2D-4	DRAINAGE DETAIL - GUIDE FOR BERM DRAINAGE OUTLET		
	- 36" PIPE		
20-5	DRAINAGE DETAIL - GUIDE FOR BERM DRAINAGE OUTLET - 42" PIPE		
2D-6	DRAINAGE DETAIL - GUIDE FOR BERM DRAINAGE OUTLET - 48" PIPE		
2D-7	DRAINAGE DETAIL - CONC GRATED DI TYPE 'A' MINIMUM DEPTH		
2G-1	GEOTECHNICAL DETAILS - ROCK PLATING		
2G-2	GEOTECHNICAL DETAILS - TOE SHEAR KEY		
2G-3 THRU 2G-5	GEOTECHNICAL DETAILS - STANDARD TEMPORARY WALL		
2G-6	GEOTECHNICAL DETAILS - HORIZONTAL DRAINS		
2G-7 3B-1	GEOTECHNICAL DETAILS - ROCK SLOPE MATERIALS EARTHWORK SUMMARY & ASPHALT PAVEMENT REMOVAL SUMMARY		
3B-2	GUARDRAIL SUMMARY		
3D-1 THRU 3D-12	DRAINAGE SUMMARIES		
3D-13	SUMMARY OF STORMWATER CONTROL MEASURES		
3G-1 3P-1	GEOTECHNICAL SUMMARIES		
20 THRU 34	PARCEL INDEX SHEET PLAN SHEETS		
44 THRU 51	PROFILE SHEETS		
RW-01 THRU RW-34	SURVEY CONTROL SHEETS		
TMP-1 THRU TMP-31	TRAFFIC MANAGEMENT PLANS		
PMP-1 THRU PMP-10	PAVEMENT MARKING PLANS		
EC-1 THRU EC-34	EROSION CONTROL PLANS		
RF-1	REFORESTATION DETAIL SHEET		
RF-2 & RF-3	STREAMBANK REFORESTATION DETAIL SHEETS		
L-1 THRU L-10	LANDSCAPE DESIGN ANF DEVELOPMENT PLANS		
SIGN-1 THRU SIGN-12	SIGNING PLANS		
UO-1 THRU UO-16	UTILITIES BY OTHERS PLANS		
X-1 A	CROSS-SECTION INDEX		
X-1B THRU X-1C	CROSS-SECTION SUMMARY SHEET		
X-1 THRU X-289	CROSS-SECTIONS		
S-1 THRU S-6	PRECAST CONCRETE ARCH LAND BRIDGE		
C1-1 THRU C1-3	CULVERT PLANS - 7'-11" X 5'-7" CORRUGATED ALUMINUM PIPE ARCH CULVERT		
C2-1 THRU C2-3	CULVERT PLANS - 12'-10" X 8'-4" ALUMINUM PIPE ARCH CULVERT		
C3-1 THRU C3-3	CULVERT PLANS - 20'-11" X 6'-1" ALUMINUM BOX CULVERT		
STANDARD NOTES			
W7-1 THRU W7-3	RETAINING WALLS #7, #9, #11, #38		
W10-1 THRU W10-3	RETAINING WALL #10		
W12-1 THRU W12-3	RETAINING WALL #12		
W13-1 THRU W13-4	RETAINING WALLS #13 & # 14		
W1E 1 TUDU W1E E			

W16-1 THRU W16-8	RETAINING	WALL #16
W17-1 THRU W17-3	RETAINING	WALL #17
W18-1 THRU W18-6	RETAINING	WALL #18
W19-1 THRU W19-11	RETAINING	WALL #19A & #19E
W19C-1 THRU W19C-2	RETAINING	WALL #19C
W20-1 THRU W20-3	RETAINING	WALL #20
W28_29-1 THRU W28_29-10	RETAINING	WALL2 #28 & #29

SHEET

RETAINING WALL #29A

RETAINING WALL #42

GENERAL NOTES

GENERAL NOTES:

SHEETS

SHEET NUMBER

W29A-1 THRU W29A-6

W42-1 THRU W42-5

2018 SPECIFICATIONS EFFECTIVE: 01-16-2018

GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

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.

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD, NO. 815.02 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 NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE DUKE ENERGY, FRONTIER, & ZITO MEDIA. 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 IS ANTICIPATED BETWEEN -L- 255+00 TO 261+00, -L- 264+75 TO 262+25, -L- 285+25 TO 285+75, -L- 294+75 TO 295+25, -L- 314+75 TO 315+25, -L- 344+00 TO 344+50, -L- 355+25 TO 355+75, -L- 357+25 TO 357+75, -L- 359+75 TO 362+50, -L- 364+00 TO 367+50, -L- 371+00 TO 374+50, -L- 380+50 TO 384+00, -L- 395+00 TO 396+00, -L- 402+00 TO 403+00, & -L- 406+75 TO 407+75.

BLASTING MAY BE REQUIRED FOR EXCAVATION ON THE PROJECT. SEE SECTION 220 OF THE STANDARD SPECIFICATIONS AND IF APPLICABLE, ROCK BLASTING PROVISION.

The Contractor should be advised that any clearing within the Permanent Easement (PE) along USFS property shall adhere to the agreement between NCDOT and the USFS. The Contractor is to coordinate with the Resident Engineer and Division Environmental Officer prior to starting clearing operations to ensure compliance. See Plan Sheets 29 thru 34.

PROJECT REFERENCE NO. SHEET NO. **DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED** A-0009CB ΙΑ **ROADWAY DESIGN**

TGS ENGINEERS 201 W. MARION ST., STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275

ENGINEER _5.541<u>8</u>882É 35018

STANDARD DRAWINGS

EFF. 01-16-2018 REV.

2018 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, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.

DIVISION 2 - EARTHWORK

Method of Clearing - Method II

Guide for Grading Subgrade - Secondary and Local

Deceleration and Acceleration Lanes

Method of Obtaining Superelevation - Two Lane Pavement

Method of Grading Sight Distance at Intersections

Guide for Berm Ditch Construction

DIVISION 3 - PIPE CULVERTS

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

Method of Shoulder Constructio

High Side of Superelevated Curve - Method II

DIVISION 6 - ASPHALT BASES AND PAVEMENTS

610.04 Guide for Paving Shoulders Under Bridges - Method IV

654.01 Pavement Repairs

DIVISION 8 - INCIDENTALS

Subsurface Drain

Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew

Conc. Endwall for Single & Double Pipe Culvert

- 17"x13" thru 71"x47" Arch 90 Skew

838.11 Brick Endwall for Single and Double Pipe Culverts

- 15" thru 48" Pipe 90 Skew 838.14 Brick Endwall for Single & Double Pipe Culverts

- 17"x13" thru 71"x47" Arch 90 Skew

Concrete Base Pad for Drainage Structures

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

Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe

840.18 Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe

Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe

Frames and Wide Slot Flat Grates

840.22 Frames and Wide Slot Sag Grates

Brick Grated Drop Inlet Type 'A' - 12" thru 72" Pipe Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe

Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe

Frames and Narrow Slot Flat Grates

Concrete Junction Box - 12" thru 66" Pipe

Brick Junction Box - 12" thru 66" Pipe

Traffic Bearing Junction Box – for Use with Pipes 42" and Under Traffic Bearing Grated Drop Inlet

- for Cast Iron Double Frame and Grates

Spring Box - Concrete or Brick

840.45 Precast Drainage Structure

Traffic Bearing Precast Drainage Structure Precast Manhole - 4', 5' and 6' Diameter

Manhole Frame and Cover

Drainage Structure Steps

Pipe Collar

840.72

Concrete Curb, Gutter and Curb & Gutter

Drop Inlet Installation in Expressway Gutter Drop Inlet Installation in Shoulder Berm Gutter

Concrete Paved Ditches

Guide for Berm Drainage Outlet - 15" and 18" Pipe

Guide for Berm Drainage Outlet - 24" and 30" Pipe

852.01 Concrete Islands

Double Faced Concrete Barrier - Types 'T', 'T1' and 'T2'

Precast Reinforced Concrete Barrier - 41" Single Faced

862.01 Guardrail Placement

862.02 Guardrail Installation

862.03 Structure Anchor Units

Anchoring End of Guardrail - B-77 and B-83 Anchor Units

Chain Link Fence - 4', 5' and 6' High Fence

876.01 Rip Rap in Channels

Guide for Rip Rap at Pipe Outlets

Drainage Ditches with Class 'B' Rip Rap

W15-1 THRU W15-5

RETAINING WALL #15