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COMPUTED BY: SGM DATE: 4/16/2019
CHECKED BY: JLT DATE: 4/23/2019

PROJECT NO.	SHEET NO.
17BP.11.R.151	3B-1

STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
-L- 13+50.00	-L- 18+42.81	143	7,143	7,000	
BRIDGE					
-L- 19+75.19	-L- 24+00.00	7,025	32		6,993
TOTALS:		7,168	7,175	7,000	6,993
LOSS DUE TO CLEARING & GRUBBING		-200		200	
ROCK WASTE TO REPLACE BORROW				-1,191	-1,191
ADJUST FOR ROCK WASTE			-179	-179	
WASTE IN LIEU OF BOROW				-5,802	-5,802
PROJECT TOTALS:		6,968	6,996	28	0
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				1	
GRAND TOTALS:		6,968	6,996	29	
SAY:		7,700		100	

Note: Approximate quantities only. Unclassified Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for grading.

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.

EST. SHALLOW UNDERCUT = 200 CY
SELECT GRANULAR MATERIAL = 400 CY
GEOTEXTILE FOR SOIL STABILIZATION = 1,000 SY
CLASS IV SUBGRADE STABILIZATION = 400 TON
PER GEOTECH RECOMMENDATION, ESTIMATED 500 CUBIC YARDS OF UNDERCUT TO BE USED IN THE DISCRETION OF THE RESIDENT ENGINEER.

EST. DDE = 450 CY

PAVEMENT REMOVAL SUMMARY

IN SQUARE YARDS

SURVEY LINE	Station	Station	LOCATION LT/RT/CL	ASPHALT REMOVAL	ASPHALT BREAKUP	CONCRETE REMOVAL	CONCRETE BREAKUP
-L-	14+42	18+45	RT	792.13			
-L-	19+46	24+94	RT	705.12			
			TOTAL:	1,497.25			
			SAY:	1,600			

"N" = DISTANCE FROM EDGE OF 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

GUARDRAIL SUMMARY

IN FEET

LINE	BEG. STA.	END STA.	LOC.	LENGTH STRAIGHT	LENGTH SHOP CURVED	LENGTH DOUBLE FACED	WARRANT POINT APPR. END	WARRANT POINT TRAIL. END	"N" DIST. FROM E.O.L.	TOTAL SHLDR WIDTH	FLAIR LENGTH APPR. END	FLAIR LENGTH TRAIL. END	W APPR. END	W TRAIL. END	ANCHORS III	ANCHORS GREU TL-2	ANCHORS AT-1	ANCHORS III SC		IMP. ATTEN. TYPE 350 EA	IMP. ATTEN. TYPE 350 G	IMP. ATTEN. TYPE 350 NG	REMOVE EXISTING GUARDRAIL	REMOVE & RESET EXISTING GUARDRAIL	REMARKS
-L-	14+42.81	18+42.81	LT	400.00			15+50.00	18+42.81	5.25'	8.25'		25'		0.5'	1	1									
-L-	17+86.56	18+42.81	RT	56.25			18+42.81		5.25'	8.25'	25'		0.5'		1	1									
-L-	19+75.19	20+25.19	LT	50.00			19+75.19		5.25'	8.25'	25'		0.5'		1	1									
-L-	19+75.19	20+25.19	RT	50.00				19+75.19	5.25'	8.25'		25'		0.5'	1	1									
		SUB-TOTALS		556.25											4	4									
	LESS ANCHOR DEDUCTIONS																								
	GREU TL-2	4@25.00 ft		100.00																					
	TYPE III	4@18.75 ft		75.00																					
	ANCHOR TOTALS			175.00																					
		GRAND-TOTALS		381.25											4	4									
		SAY		381.25											4	4									
		ADDITIONAL GUARDRAIL POSTS = 5 EA																							
TEMPORARY GUARDRAIL																									
-L-	19+43+/-	20+18+/-	RT	75.00												1									
	LESS ANCHOR DEDUCTIONS																								
	TEMP. GREU TL-2	1@25.00 ft		25.00																					
		GRAND-TOTALS (TEMP)		50.00												1									
		SAY		50.00												1									

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".

COMPUTED BY: Kathleen Gray, PE DATE: 10/4/2018
CHECKED BY: David B. Petty DATE: 4/23/2019

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

STATION / SIZE / THICKNESS OR GAUGE	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	C.S. PIPE 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS III 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"
																				.064	.064	.064	.064	.079	.079	.109	.109																
-L- 18+19	RT	0401		911.6																																							
		0401	0402		908.8	906.2			24							X																											
-L- 18+19	LT	0403		911.6																																							
		0403	0404		908.8	892.5			48							X																											
-L-24+66	CL																																										
TOTALS									72																																		

STATION / SIZE / THICKNESS OR GAUGE	R.C. PIPE (CLASS V)	CONTRACTOR DESIGN	RC PIPE CULVERTS, CONTRACTOR DESIGN	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (# THRU 5.0')	TOTAL L.F. FOR ROW QUANTITY SHALL BE (COL. 'A' + (1.3 X COL.'B')) LIN. FT. A: 5.0' THRU 10.0'	B: 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	T.B.D.I. STD. 840.35	FRAME AND NARROW FLAT GRATE STD. 840.29	15" ELBOW		PIPE CLEANOUT (EA)						CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOV. LIN. FT.	REMARKS
-L- 18+19								1										1	1																	
-L- 18+19								1										1	1																	
																				2																
-L-24+66																						1														
TOTALS								2										2	2	2		1														

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX