COMPUTED BY: G. Mwebaza DATE: 02/21/2023
CHECKED BY: A. McMillan DATE: 12/05/2022

PROJECT NO.	SHEET NO.
BR-0043	3B-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

IN CUBIC YARDS

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
-L- Sta. 20+50.00	-L- Sta. 24+97.13 (Begin Bridge)	487	8,078	7,591	0
-RPA- Sta. 16+65.00	-RPA- Sta. 18+04.61	96	94	0	3
-RPB- Sta. 20+90.00	-RPB- Sta. 22+73.75	502 *	37	0	465
SUBTOTALS:		**1,086**	**8,209**	**7,591**	**467**
-L- Sta. 26+64.63- (End Bridge)	-L- Sta. 39+06.56	781	11,917	11,136	0
-RPC- Sta. 17+00.00	-RPC- Sta. 20+16.33	19	1,478	1,459	0
-RPD- Sta. 18+75.00	-RPD- Sta. 22+39.64	19	3,592	3,573	0
SUBTOTALS:		**819**	**16,987**	**16,168**	**0**
-Y- Sta. 23+00.00	-Y- Sta. 37+00.00	3,384	1,396	0	1,988
SUBTOTALS:		**3,384**	**1,396**	**0**	**1,988**
PROJECT TOTALS:		5,289	26,592	23,759	2,456
MATERIAL FOR SHOULDER CONSTRUCTION			2,099	2,099	
LOSS DUE TO CLEARING & GRUBBING		-350		350	
WASTE IN LIEU OF BORROW				-2,456	-2,456
PROJECT TOTALS:		4,939	28,691	23,752	0
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				1,188	
GRAND TOTALS:		4,939		24,940	
SAY:		**5,000**		**25,000**	

DDE = 120 CY

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

Note: These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

CONTINGENCY ITEMS PER NCDOT GEOTECHNICAL REPORT - ROADWAY DESIGN AND CONSTRUCTION RECOMMENDATIONS, DATED APRIL 14, 2022:
UNDERCUT EXCAVATION = 450 CY
SELECT GRANULAR MATERIAL = 200 CY
GEOTEXTILE FOR SOIL STABILIZATION = 3,410 SY
SHALLOW UNDERCUT = 820 CY
CLASS IV SUBGRADE STABILIZATION = 1870 TON
*PER GEOTECH RECOMMENDATION,UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3' OF EMBANKEMENT OR BACKFILL -RPB- 20+90 - 22+25 = 470 CY

SUMMARY OF ASPHALT PAVEMENT REMOVAL

IN SQUARE YARDS

SURVEY LINE	BEG. STA.	END STA.	LOCATION	AREA (SY)
L	22+90	23+75	LT	378
L	22+90	23+75	RT	258
L	30+05	36+77	LT	1,019
RPB	22+14	22+64	RT	37
RPB	21+69	22+19	LT	5
RPC	20+35	21+38	RT	11
RPC	21+83	21+83	LT	9
RPD	21+50	22+31	RT	52
Y	23+61	29+23	CL	104
		TOTAL		**1,873**
		SAY:		**1,880**

SUMMARY OF ASPHALT PAVEMENT BREAKING

IN SQUARE YARDS

SURVEY LINE	BEG. STA.	END STA.	LOCATION	AREA (SY)
L	23+75	24+70	RT	442
L	23+75	24+81	LT	276
L	26+80	29+40	CL	1,950
		TOTAL		**2,668**
		SAY		**2,670**

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH
-L-	24+60.00	24+82.37	LT	22
-L-	23+27.00	24+63.61	RT	137
-L-	26+98.15	28+37.00	LT	139
-L-	26+79.39	27+00.00	RT	21
		TOTAL		**318**
		SAY:		**320**

SUMMARY OF CABLE GUIDERAIL

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH		CABLE GUIDERAIL ANCHOR UNIT	REMOVE EXISTING CABLE GUIDERAIL
				SINGLE FACED	DOUBLE FACED		
-Y-	23+00.00	28+52.45	MED-LT	580		3	555
-Y-	31+49.46	37+00.00	MED-RT	578		3	555
		SUBTOTAL:		1,158		6	1,110
		ANCHOR UNIT DEDUCTIONS					
		CABLE GUIDERAIL ANCHOR UNIT, 6 @ 25.00' EACH		150			
	ADDITIONAL GUIDERAIL POSTS = 5 EACH						
		TOTAL		1,008		**6**	**1,110**
		SAY:		**1,010**		**6**	**1,110**

TEMPORARY GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH		REMOVE EXISTING GUARDRAIL	REMARKS
				SINGLE FACED	DOUBLE FACED		
-L-	26+80.41	28+35.64	RT	200			
		SUBTOTAL:		200			
		ANCHOR UNIT DEDUCTIONS					
		GREU, TL-2 1@ 50.00' EACH		50			
		TYPE III 1@ 18.75' EACH		18.5			
	ADDITIONAL GUIDERAIL POSTS						
		TOTAL		150			
		SAY:		**150**			

"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.
NG = NON-GATING IMPACT ATTENUATOR TYPE 350
G = GATING IMPACT ATTENUATOR TYPE 350

SUMMARY OF GUARDRAIL

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS							IA TL-3		SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	Type III	B-77	GREU, TL-3	GREU, TL-2	CAT-1	AT-1	Type III SC	B-77 SC	G	NG				
-L-	22+62.18	24+87.18 (BRG)	RT	210.47	-	-	24+87.18 (BRG)	-	8	13	50	-	1	-	-	1	1	-	-	-	-	-	-	-	-	127	-	
-L-	26+54.68 (BRG)	27+06.25	RT	37.43	-	-	-	26+54.68	8	13	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	232	-	
-L-	24+53.75	25+07.08 (BRG)	LT	39.08	-	-	-	25+07.08	8	13	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	
-L-	26+74.58 (BRG)	28+99.58	LT	210.14	-	-	26+74.58 (BRG)	-	8	13	50	-	1	-	-	1	1	-	-	-	-	-	-	-	-	360	-	
-Y-	28+46.21	29+19.08	RT	72.87	-	-	29+19.08	-	26	26	50	-	1	-	-	1	1	-	-	-	-	-	-	-	200	229	-	
-Y-	28+93.45	29+46.33	MED-RT	52.88	-	-	29+46.33	-	VAR	6	-	-	-	-	-	1	-	-	-	-	-	-	-	1	110	230	-	
-Y-	30+55.59	31+08.46	MED-RT	52.88	-	-	-	30+55.59	VAR	6	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	
-Y-	28+93.45	29+46.33	MED-LT	52.88	-	-	-	29+46.33	VAR	6	-	-	-	-	-	1	-	-	-	-	-	-	-	-	110	242	-	
-Y-	30+55.59	31+08.46	MED-LT	52.88	-	-	30+55.59	-	VAR	6	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	
-Y-	30+84.28	31+57.15	LT	72.87	-	-	20+84.28	-	26	26	50	-	1	-	-	1	1	-	-	-	-	-	-	-	205	229	-	
-RPC-	17+00.00	19+25.00	RT	225.00	-	-	17+00.00	-	14	14	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	362	-	
-RPD-	18+75.00	20+25.00	LT	150.00	-	-	18+75.00	-	14	14	50	-	1	-	-	-	1	-	-	-	-	-	-	-	-	387		
			SUBTOTAL	**1,229.38**												**10**	**5**		**3**					**2**	**625**	**2,398**		
	ANCHOR UNIT DEDUCTIONS																											
	GREU, TL-3	5 @ 50.00' EACH		-250.00																								
	B-77	10 @ 22.875' EACH		-228.750																								
	CAT-1	3 @ 6.25' EACH		-18.75																								
	ADDITIONAL GUARDRAIL POSTS = 5 EACH																											
			TOTAL	**731.88**												**10**	**5**		**3**					**2**	**625**	**2,398**		
			SAY	**750**												**10**	**5**		**3**					**2**	**630**	**2,400**		