

12/06/07

COMPUTED BY: CLR DATE: 11/15/2021  
 CHECKED BY: CJY DATE: 12/29/2021

STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. U-5798A  
 SHEET NO. 3B-1



**SUMMARY OF EARTHWORK  
 IN CUBIC YARDS**

STATION	STATION	UNCL. EXCAV.	UNDERCUT EXCAV.	EMBANK.	BORROW	WASTE
<b>PHASE I</b>						
-DETOUR- 10+05.00	-DETOUR- 17+80.00	3,577	159	251		3,485
TEMP. WIDEN. -L- 85+50.00	TEMP. WIDEN. -L- 92+50.00	806	68	58		817
<b>SUBTOTALS:</b>		<b>4,383</b>	<b>227</b>	<b>309</b>		<b>4,301</b>
<b>PHASE II</b>						
-L- 50+00.00 LT.	-L- 75+48.00 LT.	12,009	1,902	13,293	1,303	1,921
-L- 78+00.00 LT.	-L- 108+00.00 LT.	3,052	326	30,804	27,927	501
-L- 108+00.00 LT.	-L- 109+39.00 LT.	2		178	176	
<b>SUBTOTALS:</b>		<b>15,063</b>	<b>2,228</b>	<b>44,274</b>	<b>29,405</b>	<b>2,422</b>
<b>PHASE III</b>						
-L- 50+00.00 RT.	-L- 75+71.63 RT.	281	100	4,078	3,797	100
-L- 78+00.00 RT.	-L- 108+00.00 RT.	875	635	7,006	6,173	677
-L- 108+00.00 RT.	-L- 109+39.00 RT.	17		1,120	1,103	
<b>SUBTOTALS:</b>		<b>1,173</b>	<b>735</b>	<b>12,204</b>	<b>11,073</b>	<b>777</b>
<b>PHASE IV</b>						
-L- 50+00.00	-L- 54+00.00	52		78	26	
-L- 92+50.00	-L- 108+00.00	497	69	140		426
-L- 108+00.00	-L- 109+39.00	16				16
<b>SUBTOTALS:</b>		<b>565</b>	<b>69</b>	<b>218</b>	<b>26</b>	<b>442</b>
<b>PHASE V</b>						
-DETOUR- 10+05.00	-DETOUR- 11+00.00	90				90
(REMOVAL)						
-DETOUR- 16+00.00	-DETOUR- 17+80.00	137		9		128
(REMOVAL)						
<b>SUBTOTALS:</b>		<b>227</b>		<b>9</b>		<b>218</b>
<b>TOTAL</b>		<b>21,411</b>	<b>3,259</b>	<b>57,013</b>	<b>40,503</b>	<b>8,161</b>
<b>LOSS DUE TO CLEARING &amp; GRUBBING</b>			-1,750		1,750	
<b>ADDITIONAL UNDERCUT</b>			1,100	1,375	1,375	1,100
<b>SHOULDER MATERIAL FOR CONSTRUCTION</b>				363	363	
<b>WASTE IN LIEU OF BORROW</b>					-4,652	-4,652
<b>PROJECT TOTALS:</b>		<b>19,661</b>	<b>4,359</b>	<b>58,750</b>	<b>39,339</b>	<b>4,609</b>
<b>EST. 5% REPLACE TOP SOIL ON BORROW PIT</b>					1,967	
<b>GRAND TOTALS:</b>		<b>19,661</b>	<b>4,359</b>	<b>58,750</b>	<b>41,306</b>	<b>4,609</b>
<b>SAY:</b>		<b>19,700</b>	<b>4,400</b>	<b>58,750</b>	<b>41,400</b>	

**SUMMARY OF EXISTING  
 ASPHALT PAVEMENT REMOVAL**

SURVEY LINE	STATION	STATION	LOCATION LVR/CL	YD <sup>2</sup>
-L-	58+27	59+75	RT	272.28
-L-	66+93	67+55	RT	162.27
-L-	74+77	76+87	RT	439.73
-L-	77+79	82+20	RT	471.34
-L-	84+20	85+18	RT	76.90
-L-	87+30	89+63	RT	247.57
-DETOUR-	10+19	17+80	CL	2290.10
-L- TEMP WIDEN	85+22	92+74	RT	816.97
<b>TOTAL:</b>				<b>4,777.17</b>
<b>SAY:</b>				<b>5,300</b>

**SUMMARY OF BREAKING  
 EXISTING ASPHALT PAVEMENT**

SURVEY LINE	STATION	STATION	LOCATION LVR/CL	YD <sup>2</sup>
-L-	53+58	58+65	RT	1,490.41
-L-	69+34	72+57	CL	1,061.52
-L-	82+10	82+69	RT	24.00
-L-	83+06	84+75	RT	141.07
-L-	85+35	86+54	RT	358.02
-L-	96+76	97+63	LT	270.43
<b>TOTAL:</b>				<b>3,345.44</b>
<b>SAY:</b>				<b>3,700</b>

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.

SELECT GRANULAR MATERIAL, CLASS III = 2,740 CY  
 GEOTEXTILE FOR SOIL STABILIZATION = 18,525 SY  
 CLASS IV SUBGRADE STABILIZATION = 10,500 TONS  
 CLASS IV AGGREGATE STABILIZATION = 300 TONS  
 DRAINAGE DITCH EXCAVATION = 1,270 CY

ACCEPTABLE UNCLASSIFIED EXCAVATION NOT TO BE USED IN THE TOP 3' OF EMBANKMENTS: 35 CUBIC YARDS STATIONS  
 -L- 69+25 TO 69+75  
 -L- 104+25 TO 105+25  
 -DETOUR- 12+25.00 TO 12+75

"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**

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH (FT)			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH (FT)		W		ANCHORS					IMPACT ATTENUATOR TYPE 350		SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS			
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	TL-3	CAT-1	TYPE-III	IA-MASH, TL-3	G	NG								
-L-	72+93.14	75+80.64	RT	287.50			73+00.00	75+80.64	14	17	50		1															
-L-	78+00.00	79+00.00	RT	100.00				79+00.00	9.5	12.5					1										297			
-L-	72+03.31	75+53.31	MED RT	350.00				75+62.96	VARIES	VARIES															287			
-L-	78+09.00	81+34.00	MED RT	325.00			78+00.00		VARIES	VARIES																		
-L-	72+10.27	75+47.77	MED LT	337.50				75+56.67	VARIES	VARIES																		
-L-	78+09.00	81+34.00	MED LT	325.00			78+00.00		VARIES	VARIES																		
-L-	74+76.86	75+39.36	LT	62.50			75+39.36		7.5	10.5					1													
-L-	78+00.00	86+12.50	LT	812.50			78+00.00	85+75.00	14	17	50		1															
-L-	60+10.00		RT	12.50																							GUARDRAIL USED TO DEAD END EXISTING ROAD	
-L-	66+88.00		RT	12.50																							GUARDRAIL USED TO DEAD END EXISTING ROAD	
<b>SUBTOTALS:</b>				2625.00																						584		
<b>ANCHOR DEDUCTION</b>				312.50																								
<b>TOTAL</b>				2312.50																								
<b>SAY</b>				2325.00																								

**ANCHOR DEDUCTION**  
 TYPE III: 8 @ 18.75' = 150'  
 TYPE TL-3: 2 @ 50' = 100'  
 TYPE CAT-1: 2 @ 6.25' = 12.50'  
 IA-MASH, TL-3: 2 @ 25' = 50'  
 GRAND TOTAL = 312.50'  
 ADDITIONAL GUARDRAIL POSTS = 5

**TEMP GUARDRAIL SUMMARY**

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH (FT)	WARRANT POINT	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH (FT)	W	ANCHORS	IMPACT ATTENUATOR TYPE 350	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS														
-L-	73+83.11	75+39.36	LT	156.25			75+39.36		7.5	10.5					1													INSTALL IN TMP PHASE II; REM. IN PHASE IV, INSTALL PERM. GRAIL	
-L-	72+10.27	75+47.77	MED LT	337.50			75+56.67		VARIES	VARIES						1												GUARDRAIL TO BE LAPPED FOR 2LN-2WAY PATTERN; REMOVE TEMP GREU TL-3, RELAP FOR FINAL CONDITION, INSTALL PERM. IA-MASH TL-3	
-L-	78+09.00	81+34.00	MED LT	325.00			78+00.00		VARIES	VARIES						1													
<b>SUBTOTALS:</b>				818.75													3												
<b>ANCHOR DEDUCTION</b>				150																									
<b>TOTAL</b>				668.75																									
<b>SAY</b>				687.5																									

**TEMPORARY QUANTITIES**  
 GUARDRAIL = 687.5'  
 TYPE TL-3: 3 @ 50' = 150'  
 RELAP GUARDRAIL = 525'

18-JAN-2022 09:57 AM  
 R:\Projects\2021\U-5798A\U-5798A\_Rdy\_sum.dgn