

### STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS **GUARDRAIL SUMMARY**

<small>PROJECT REFERENCE NO.</small> B-5989	<small>SHEET NO.</small> 3B-1
<small>Prepared in the Office of:</small> <b>SUMMIT</b> ENGINEERING AND SURVEYING	
<small>NC FIRM LICENSE No. P-0339 120 Executive St. Hillsborough, NC 27278 (919) 732-5885 • (919) 732-6616 (FAX)</small>	

"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

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		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	TYPE III SHOP CURVE	TYPE-III	GREU TL-3	GREU TL-2	TEMP GREU TL-2	TEMP TYPE-III	MOD. B-83 SHOP CURVE	BIC	AT-1					EA	G
-L-	15+11.70	15+61.70	RT	50			15+61.70		4'-0"	7'-0"	25'		0.5				1		1									74'	
-L-	14+93.60	15+43.60	LT	50				15+43.60	6'-0"	9'-0"		25'		0.5			1		1									74'	
-L-	16+90.90	18+09.65	RT	118.75				16+90.90	4'-0"	7'-0"		25'		0.5			1		1									103'	
-L-	16+74.00	-Y- 12+50.00	LT	31.25	25		16+74.00		6'-0"	9'-0"	25'		0.5				1		1									74'	
			SUB-TOTAL	250	25											1	3	4									325'		
LESS ANCHOR DEDUCTIONS																													
			GREU, TL-2 4@25' =	100																									
			TYPE III 3@18.75 =	56.25																									
			TYPE III SHOP CURVE 1@18.75 =		18.75																								
			PROJECT TOTAL:	93.75	6.25																								
ADDITIONAL GUARDRAIL POST = 5 EA																													
			SAY:	100 LF	12.5 LF																								

#### TEMPORARY GUARDRAIL

-DET-	12+80.00	13+30.00	LT	50			13+30.00		5'-0"	8'-0"		25'		0.5					1	1										
-DET-	12+80.00	13+30.00	RT	50			13+30.00		3'-0"	6'-0"	25'		0.5						1	1										
-DET-	14+75.00	-Y- 12+32.00	LT	75	18.75		14+75.00		5'-0"	8'-0"	25'		0.5						1		1									
-DET-	14+75.00	-L- 18+10.00	RT	43.75	118.75		14+75.00		3'-0"	6'-0"		25'		0.5					1	1										
			SUB-TOTAL	218.75	137.5														4	3	1									
LESS ANCHOR DEDUCTIONS																														
			TEMP. GREU, TL-2 4@25' =	100																										
			TEMP TYPE III 3@18.75 =	56.25																										
			TEMP MOD. B-83 1@18.75 =		18.75																									
			PROJECT TOTAL:	62.5	118.75																									
			SAY:	75 LF	125 LF																									

## SUMMARY OF EARTHWORK IN CUBIC YARDS

PHASE	LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT +15%	BORROW	WASTE
PHASE I DETOUR CONSTRUCTION	-DET- STA. 11+69.41 TO 13+30.00	6		1214	1208	
	DETOUR BRIDGE					
	-DET- STA. 14+75.00 TO 14+89.00	5		2		3
	SUB TOTAL	11		1216	1208	3
PHASE II MAINLINE CONSTRUCTION	-L- STA. 11+15.00 TO 15+53.00	13		194	181	
	MAINLINE BRIDGE					
	-L- STA. 16+83.00 TO 19+50.00	9		331	322	
	SUB TOTAL	22		525	503	
	-Y- STA. 11+25.00 TO 13+22.25	1		47	46	
SUB TOTAL	1		47	46		
PHASE III DETOUR REMOVAL	(DETRM) -DET- STA. 11+69.41 TO 13+30.00	1283				1283
	(DETRM) -DET- STA. 14+75.00 TO 14+89.00	1		4	3	
	SUB TOTAL	1284		4	3	1283
PROJECT SUBTOTALS		1318		1792	1760	1286
WASTE IN LIEU OF BORROW					(-3)	(-3)
5% TO REPLACE TOP SOIL					88	
GRAND TOTALS		1318		1792	1845	1283
SAY					1900	
UNDERCUT EXCAVATION (CONTINGENCY) = 450 CY						

## SUMMARY OF ASPHALT PAVEMENT REMOVAL

LOCATION	AREA (SQFT)	AREA (SQYD)
-L- STA. 14+50.00 TO 15+67.00	2340	260
-DET- STA. 11+69.00 TO 12+20.00	306	34
-DET- STA. 12+20.00 TO 12+42.46	269.5	29.95
-DET- STA. 12+42.46 TO 13+00.00	1035.7	115.08
-DET- STA. 13+00.00 TO 13+30.00	720	80
-DET- STA. 13+30.00 TO 14+75.00	3480	386.67
-DET- STA. 14+75.00 TO 14+89.00	336	37.33
TOTAL	8487.2	943.03
SAY		950

## SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LOCATION (L/RT/CL)	LINEAR FEET
-Y-	13+00	13+08	RT	8
-L-	16+83	16+89	LT	6
-DET-	14+75	14+84	LT	9
			TOTAL	23
			SAY	25

APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE LUMP SUM PRICE FOR "GRADING".