RD248619

COMPUTED BY: GSB	DATE: 6/2014	PROJECT NO.	SHEET NO.
CHECKED BY: TFD	DATE: 6/2014	R-2519B	3B-1

STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

(in cubic yards)

Location -L- LEFT	Unclass. Excav.	Rock Excav.	Undercut Excav.	EMB + %	Borrow	Waste
-L- 13+49.10 TO 23+25.28 BEG. BR.	3,444			10,813	7,369	
SUBTOTAL	3,444			10,813	7,369	
-L- 25+05.17 END BR. TO 44+00	131,831	982		5,874		125,957
-Y2- 10+00 TO 11+04.07	1,766			5		1,761
-Y3- 11+90 TO 13+43.89	206					206
-Y4- 10+00 TO 14+10.49	132			5,525	5,393	
-DR1- 10+50 TO 11+45.88	26			76	50	
SUBTOTAL	133,961	982	0	11,480	5,443	127,924
-L- 44+00 TO 72+00	64,652			36,625		28,027
SUBTOTAL	64,652			36,625	0	28,027
-L- 72+00 TO 97+00	1,877			16,964	15,087	
SUBTOTAL	1,877	0	0	16,964	15,087	0
-L- 97+00 TO 120+65 BEG. BR.	1,687			11,401	9,714	
-Y12 10+03 TO 13+05.24	467			246		221
SUBTOTAL	2,154	0	0	11,647	9,714	221
-L- 123+80 END BR. TO 148+00	58,184	19,936		5,959		52,225
-Y13- 14+82.34 TO 17+94.22	2,669			63		2,606
-Y15- 13+25 TO 14+09.34	231			344	113	
SUBTOTAL	61,084	19,936	0	6,366	113	54,831
-L- 148+00 TO 173+00	20,061			2,887		17,174
-Y17- 13+50 TO 15+45.33	223			837	614	
SUBTOTAL	20,284	0	0	3,724	614	17,174
-L- 173+00 TO 198+00	3,068			1,104		1,964
-Y18- 12+75 TO 15+11.95	153			837	684	
-DR5- 10+12 TO 11+45.31	11					11
SUBTOTAL	3,232	0	0	1,941	684	1,975
-L- 198+00 TO 223+00	69,978	27,227		15,616		54,362
-DR30- 10+92.52 TO 11+80	18			60	42	
-Y19- 10+25 TO 12+51.25	123			725	602	
-Y20- 10+10 TO 12+93.25	3,252			439		2,813
-DR20- 10+08.27 TO 13+58	617			183		434
SUBTOTAL	73,988	27,227	0	17,023	644	57,609
-L- 223+00 TO 247+00.77 BEG. BR.	83,725	5,283	6,500	24,348		65,877
-DR8B- 10+25 TO 11+60	6			1,080	1,074	
SUBTOTAL	83,731	5,283	6,500	25,428	1,074	65,877
-L- 248+85.77 END BR. TO 270+00	207,159	208		9,336		197,823
-DR8C- 10+70 TO 12+80	1,069			1,095	26	
-DR9- 10+50 11+96.07	2,000					2,000
SUBTOTAL	210,228	208	0	10,431	26	199,823
-L- 270+00 TO 290+00	106,369	39,877		4,797		101,572
-DR10- 10+00 TO 12+97.36	847					847
SUBTOTAL	107,216	39,877	0	4,797	0	102,419
-L- 290+00 TO 318+00	144,138	13,766		32,031		112,107
-Y24- 10+26.52 TO 10+37.55	6					6
-Y24- 10+26.52 TO 13+95	8,305					8,305
-Y26- 10+45.40 TO 13+26.12	9,043					9,043
-Y28- 11+31.62 TO 12+04	1,566					1,566
-Y29- 12+50 TO 14+11.60	309			24		285
SUBTOTAL	163,367	13,766	0	32,055	0	131,312
-L- 318+00 TO 345+00	1,901	608		2,249	348	
-Y31- 11+16.59 TO 14+78.75	944			56		888
-Y32- 10+57.16 TO 11+47.47	1,352			9		1,343
SUBTOTAL	4,197	608	0	2,314	348	2,231
-L- 345+00 TO 373+00	121,663	22,540		10,249		111,414
-Y34- 10+40 TO 13+12.33	82			1,219	1,137	
-Y35- 11+00 TO 11+89.08	45					45
-DR15A- 10+00 TO 12+31.43	4,846					4,846
SUBTOTAL	126,636	22,540	0	11,468	1,137	116,305
-L- 373+00 TO 403+00	161,244	37,181		3,003		158,241
SUBTOTAL	161,244	37,181	0	3,003	0	158,241
-L- 403+00 TO 430+34.01	25,830	12		1,960		23,870
-Y37- 11+00 TO 12+19.54	42			29		13
-Y38- 12+45 TO 13+15.67	12			2		10
SUBTOTAL	25,884	12	0	1,991	0	23,893
TOTAL -L- LEFT	1,247,179	167,620	6,500	208,070	42,253	1,087,862

Location -L- RIGHT	Unclass. Excav.	Rock Excav.	Undercut Excav.	EMB + %	Borrow	Waste
-L- 13+49.10 TO 23+25.28 BEG. BR.	1,058			1,747	689	
SUBTOTAL	1,058	0	0	1,747	689	0
-L- 25+05.17 END BR. TO 44+00	5,510			1,393		4,117
SUBTOTAL	5,510	0	0	1,393	0	4,117
-L- 44+00 TO 72+00	85,170	5,062		5,429		79,741
-Y5- 10+46 TO 14+15.32	5,860	2,032		39		5,821
-Y6REV- 10+34 TO 14+06.45	16,962	3,272		105		16,857
-DR2- 10+34 TO 13+74.53	1,335			276		1,059
SUBTOTAL	109,327	10,366	0	5,849	0	103,478
-L- 72+00 TO 97+00	158,161	19,196		26,875		131,286
-Y7- 10+34 TO 11+75	120			109		11
-Y8- 10+47 TO 12+64.81	2,163			1,715		448
-DR19- 10+34 TO 13+63.20	59			658	599	
-DR3- 10+35.21 TO 14+84.07	1,557			175		1,382
SUBTOTAL	162,060	19,196	0	29,532	599	133,127
-L- 97+00 TO 120+65 BEG. BR.	17,644			37,444	19,800	
-Y10- 10+34 TO 13+00	237			16		221
-Y12- 13+88.07 TO 16+00	1,278			1,413	135	
-DR23- 10+00 TO 12+75	3			2,758	2,755	
-DR4- 10+22.79 TO 11+08	621					621
SUBTOTAL	19,783	0	0	41,631	22,690	842
-L- 123+80 END BR. TO 148+00	59,132	33,241		14,428		44,704
-DR28- 10+50 TO 12+00	55			608	553	
-Y14- 10+34 TO 11+75	8			2,084	2,076	
SUBTOTAL	59,195	33,241	0	17,120	2,629	44,704
-L- 148+00 TO 173+00	133,072	58,157		1,161		131,911
-Y16- 10+35.21 TO 14+50	7,903	3,277		1		7,902
SUBTOTAL	140,975	61,434	0	1,162	0	139,813
-L- 173+00 TO 198+00	120,197	528		1,971		118,226
SUBTOTAL	120,197	528	0	1,971	0	118,226
-L- 198+00 TO 223+00	19,246	101		3,985		15,261
SUBTOTAL	19,246	101	0	3,985	0	15,261
-L- 223+00 TO 247+00.77 BEG. BR.	624			22,009	21,385	
-DR8A- 10+09.14 TO 10+77.35				106	106	
-Y21- 10+35 TO 13+00	82			3,171	3,089	
SUBTOTAL	706	0	0	25,286	24,580	0
-L- 248+85.77 END BR. TO 270+00	982			18,029	17,047	
-Y23A- 10+50 TO 15+35	54			24,577	24,523	
SUBTOTAL	1,036	0	0	42,606	41,570	0
-L- 270+00 TO 290+00	1,323			4,394	3,071	
-Y25- 10+84 TO 11+65	75			16		59
SUBTOTAL	1,398	0	0	4,410	3,071	59
-L- 290+00 TO 318+00	27,271	176		24,764		2,507
-Y27- 10+34 TO 13+40	26			9,699	9,673	
-DR11- 10+25 TO 14+45	1,985	838		1,090		895
-Y30- 10+34 TO 12+85	556			783	227	
SUBTOTAL	29,838	1,014	0	36,336	9,900	3,402
-L- 318+00 TO 345+00	103,859	23,263		10,339		93,520
-DR26- 10+50 TO 12+60	994			6		988
-Y30- 19+22 TO 21+67.88	580			18		562
-DR31- 10+34 TO 13+00	2,060					2,060
SUBTOTAL	107,493	23,263	0	10,363	0	97,130
-L- 345+00 TO 373+00	2,750			33,151	30,401	
-DR13- 10+34 TO 12+20				854	854	
-Y36- 10+35.82 TO 11+50	42			5		37
SUBTOTAL	2,792	0	0	34,010	31,255	37
-L- 373+00 TO 403+00	8,468	109		136,574	128,106	
-DR16- 10+34 TO 12+01.17	1,787			31		1,756
SUBTOTAL	10,255	109	0	136,605	128,106	1,756
-L- 403+00 TO 430+34.01	10,614	3,776		54,262	43,648	
-DR17- 10+34 TO 13+20	275			5,630	5,355	
-DR18- 10+34 TO 13+60	6			7,566	7,560	
-Y38- 13+95.67 TO 16+30	92			32		60
SUBTOTAL	10,987	3,776	0	67,490	56,563	60
TOTAL -L- RIGHT	801,856	153,028	0	461,496	321,652	662,012

Summary	Unclass. Excav.	Rock Excav.	Undercut Excav.	EMB + %	Borrow	Waste
TOTAL -L- LEFT	1,247,179	167,620	6,500	208,070	42,253	1,087,862
TOTAL -L- RIGHT	801,856	153,028	0	461,496	321,652	662,012
TOTAL	2,049,035	320,648	6,500	669,566	363,905	1,749,874
Loss Due to Clearing and Grubbing	-47,000					-47,000
Grade Point Undercut			500	575	575	500
Selected Material to Replace Borrow				-500	-500	
Rock Waste to Replace Borrow					-204,307	-204,307
Ajust for Rock Swell				-51,077	-51,077	
Eliminate Earth Shinkage				-38,308	-38,308	
Earth Waste to Replace Earth Embt.					-70,288	-70,288
GRAND TOTAL	2,002,035	320,648	7,000	580,256	0	1,428,779
SAY	**2,002,500**		**7,000**			

DDE = 35,200 CUBIC YARDS, EST. SHALLOW UNDERCUT AS PER GEOTCH. RECS. = 2,500 CUBIC YARDS.
PAVEMENT STRUCTURE VOLUME = 54,930 CUBIC YARDS SHOULDER BORROW = 58,000 CUBIC YARDS

EARTHWORK TOTALS FOR ALTERNATE PAVEMENT DESIGN

TOTAL	**2,036,239**	**316,128**	**6,500**	**693,620**	**375,821**	**1,724,940**
Loss Due to Clearing and Grubbing	-47,000					-47,000
Grade Point Undercut			500	575	575	500
Selected Material to Replace Borrow				-500	-500	
Rock Waste to Replace Borrow					-194,858	-194,858
Ajust for Rock Swell				-48,715	-48,715	
Eliminate Earth Shinkage				-36,536	-36,536	
Earth Waste to Replace Earth Embt.					-95,787	-95,787
GRAND TOTAL	1,989,239		7,000	608,444	0	1,387,795
SAY	**1,989,600**		**7,000**			

PAVEMENT STRUCTURE VOLUME = 28,630 CUBIC YARDS SHOULDER BORROW = 45,400 CUBIC YARDS

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.