

Earthwork Balance Sheet

Volumes in Cubic Yards

PROJECT: I-5987A

COUNTY: Robeson

DATE: 4/27/2022

COMPILED BY: NV5 and Moffatt & Nichol

SHEET 1 OF 4 SHEETS

STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE			
		TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMBANK. +25%		ROCK	SUITABLE	UNSUIT.	TOTAL
Phase 1 -L-															
-L- 67+00 SR6	-L- 91+00 SR6	113			53	60	3,519		3,519	4,399	4,339			53	53
-L- 340+00 MED RT	-L- 370+00 MED RT	130				130	2,793		2,793	3,491	3,361				
-L- 370+00 MED RT	-L- 400+00 MED RT	192				192	1,262		1,262	1,578	1,386				
-L- 400+00 MED RT	-L- 430+00 MED RT	206				206	1,603		1,603	2,004	1,798				
-L- 430+00 MED RT	-L- 460+00 MED RT	120				120	4,028		4,028	5,035	4,915				
-L- 460+00 MED RT	-L- 469+00 MED RT	24				24	1,557		1,557	1,946	1,922				
-L- 469+00 MED LT TO OUT RT	-L- 483+80 MED LT TO OUT RT	2,435			440	1,995	8,995		8,995	11,244	9,249			440	440
-L- 483+80	-L- 495+00	2,803				2,803	8,111		8,111	10,139	7,336				
	SUBTOTAL	6,023			493	5,530	31,868		31,868	39,835	34,305			493	493
Phase 1 -Y-															
-Y3- 23+40	-Y3- 28+71.69 OUT LT TO SHLD RT						24,494		24,494	30,618	30,618				
-Y3- 31+36.53 OUT LT TO SHLD RT	-Y3- 37+30 OUT LT TO SHLD RT						28,516		28,516	35,645	35,645				
-Y2- 17+50	-Y2- 28+80.29	676		2,707		676	57,246		57,246	71,558	70,882			2,707	2,707
-Y2- 30+71.29	-Y2- 34+00	79			74	5	13,678		13,678	17,098	17,093			74	74
-Y1A- 24+00	-Y1A- 40+34.41	351				351	98,382		98,382	122,978	122,627				
-Y1ARPA- 19+00	-Y1ARPA- 29+00	17				17	52,142		52,142	65,178	65,161				
-Y1ARPB- 24+00	-Y1ARPB- 28+00	66				66	43,792		43,792	54,740	54,674				
-SR1- 10+78.13	-SR1- 13+48.26	3,283				3,283	522		522	653			2,630		2,630
-SR2- 22+00	-SR2- 30+50	269			73	196	8,260		8,260	10,325	10,129			73	73
-SR2- 39+00	-SR2- 44+55.96	406		985		406	1,815		1,815	2,269	1,863			985	985
-DR9- 10+12.00	-DR9- 11+71.00	3				3	1,748		1,748	2,185	2,182				
-DR10- 10+13.68	-DR10- 11+32	6				6	67		67	84	78				
	SUBTOTAL	5,156		3,692	147	5,009	330,662		330,662	413,328	410,949			2,630	3,839
Phase 2 -L-															
-L- 67+00 LT	-L- 91+50 LT	1,402			110	1,292	4,107		4,107	5,134	3,842			110	110
-L- 91+50 LT	-L- 115+00 LT	4,443			1,781	2,662	4,905		4,905	6,131	3,469			1,781	1,781
-L- 297+00 LT	-L- 300+00 LT	390				390	1,437		1,437	1,796	1,406				
-L- 67+00 RT	-L- 97+00 RT	3,493			647	2,846	2,933		2,933	3,666	820			647	647
-L- 97+00 RT	-L- 115+50 RT	5,300			1,909	3,391	5,705		5,705	7,131	3,740			1,909	1,909
-L- 265+00 RT	-L- 273+00 RT	1,133				1,133	2,265		2,265	2,831	1,698				
-L- 298+50 RT	-L- 340+00 RT	10,378		2,437	739	9,639	23,181		23,181	28,976	19,337			3,176	3,176
-L- 120+00 MED	-L- 150+00 MED	265				265	14,293		14,293	17,866	17,601				
-L- 150+00 MED	-L- 180+00 MED	1				1	46,764		46,764	58,455	58,454				
-L- 180+00 MED	-L- 210+00 MED	676				676	6,820		6,820	8,525	7,849				
-L- 210+00 MED	-L- 240+00 MED	12			2	10	38,605		38,605	48,256	48,246			2	2
-L- 240+00 MED	-L- 259+50 MED	4				4	27,619		27,619	34,524	34,520				
-L- 340+00 RT	-L- 370+00 RT	4,896			627	4,269	17,866		17,866	22,333	18,064			627	627
-L- 370+00 RT	-L- 400+00 RT	4,782			1,999	2,783	14,042		14,042	17,553	14,770			1,999	1,999
-L- 400+00 RT	-L- 430+00 RT	14,090			9,045	5,045	15,083		15,083	18,854	13,809			9,045	9,045
-L- 430+00 RT	-L- 460+00 RT	6,325			1,119	5,206	7,549		7,549	9,436	4,230			1,119	1,119
-L- 460+00 RT	-L- 469+00 RT	546			358	188	1,414		1,414	1,768	1,580			358	358
	SUBTOTAL	58,136		2,437	18,336	39,800	234,588		234,588	293,235	253,435			20,773	20,773
SHEET 1 TOTAL		69,315		6,129	18,976	50,339	597,118		597,118	746,398	698,689			2,630	25,105

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.

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SHEET 2 OF 4 SHEETS

STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE					
		TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMBANK. +25%		ROCK	SUITABLE	UNSUIT.	TOTAL		
Phase 2A -L-																	
-L- 272+50 RT	-L- 282+00 RT	1,683				1,683	5,115		5,115	6,394	4,711						
-L- 282+00 RT	-L- 299+50 RT	7,146			343	6,803	14,098		14,098	17,623	10,820				343		343
	SUBTOTAL	8,829			343	8,486	19,213		19,213	24,016	15,530				343		343
Phase 2B -L-																	
-L- 281+00 RT	-L- 283+00 RT	2,994				2,994	463		463	579					2,415		2,415
-L- 67+00 MED	-L- 97+00 MED	3,278				3,278	5,855		5,855	7,319	4,041						
-L- 97+00 MED	-L- 115+00 MED	1,937				1,937	3,080		3,080	3,850	1,913						
-L- 115+00 MED	-L- 120+00 MED	46				46	642		642	803	757						
-L- 259+00 MED	-L- 265+00 MED	27				27	2,732		2,732	3,415	3,388						
-L- 265+00 MED	-L- 273+00 MED	136				136	1,453		1,453	1,816	1,680						
-L- 273+00 MED	-L- 281+50 MED	220				220	340		340	425	205						
-L- 283+00 MED	-L- 299+00 MED	447				447	545		545	681	234						
-L- 299+00 MED	-L- 340+00 MED	1,004				1,004	2,107		2,107	2,634	1,630						
-L- 340+00 MED LT	-L- 370+00 MED LT	122				122	2,891		2,891	3,614	3,492						
-L- 370+00 MED LT	-L- 400+00 MED LT	308				308	896		896	1,120	812						
-L- 400+00 MED LT	-L- 430+00 MED LT	82				82	2,605		2,605	3,256	3,174						
-L- 430+00 MED LT	-L- 460+00 MED LT	74				74	5,136		5,136	6,420	6,346						
-L- 460+00 MED LT	-L- 469+00 MED LT	20				20	1,604		1,604	2,005	1,985						
	SUBTOTAL	10,695				10,695	30,349		30,349	37,936	29,657				2,415		2,415
Phase 2 -Y-																	
-Y3- 16+50	-Y3- 23+40	672				672	4,093		4,093	5,116	4,444						
-Y3- 37+30	-Y3- 43+50	421			242	179	4,313		4,313	5,391	5,212				242		242
-Y3- 23+40 RT	-Y3- 28+71.69 RT	4,859				4,859	1,753		1,753	2,191				2,668			2,668
-Y3- 31+36.53 RT	-Y3- 37+30 RT	289				289	4,433		4,433	5,541	5,252						
-Y1RPA- 18+50	-Y1RPA- 18+82	17				17	21		21	26	9						
-Y1RPB- 16+00	-Y1RPB- 19+60	295			97	198	398		398	498	300				97		97
-Y1RPC- 18+50	-Y1RPC- 18+70	17				17	2		2	3				14			14
-Y1RPD- 16+00	-Y1RPD- 19+60	152				152	624		624	780	628						
-DR1- 10+10.00	-DR1- 12+56.49	5				5	1,930		1,930	2,413	2,408						
	SUBTOTAL	6,727			339	6,388	17,567		17,567	21,959	18,253				2,682	339	3,021
Phase 2A -Y-																	
-Y2- 12+15	-Y2- 17+50	295			180	115	1,241		1,241	1,551	1,436				180		180
-Y2- 34+00	-Y2- 39+00	85				85	2,885		2,885	3,606	3,521						
-Y2- 22+00 -DR3-	-Y2- 28+00 -DR3-	147		100		147	5,158		5,158	6,448	6,301				100		100
-Y1A- 42+03.64	-Y1A- 56+35	611			379	232	70,877		70,877	88,596	88,364				379		379
-Y1ARPC- 18+50	-Y1ARPC- 23+00	1,307				1,307	18,727		18,727	23,409	22,102						
-Y1ARPC- 26+00	-Y1ARPC- 26+50						3,498		3,498	4,373	4,373						
-Y1ARPD- 21+50	-Y1ARPD- 26+00						30,798		30,798	38,498	38,498						
-SR2- 17+60	-SR2- 22+00	118				118	493		493	616	498						
-Y1ADET- 13+27.00	-Y1ADET- 21+12.72	244				244	9,333		9,333	11,666	11,422						
-SR2DET- 12+08.72	-SR2DET- 15+50.00						16,166		16,166	20,208	20,208						
-DR2- 10+35.00	-DR2- 11+73.45	5				5	683		683	854	849						
-DR4- 10+12.00	-DR4- 12+55.00	81				81	367		367	459	378						
-DR7- 10+15.75	-DR7- 10+95.00	10				10	422		422	528	518						
-DR8- 10+14.18	-DR8- 10+80.00	10				10	136		136	170	160						
	SUBTOTAL	2,913		100	559	2,354	160,784		160,784	200,980	198,626				659		659
SHEET 2 TOTAL		29,164		100	1,241	27,923	227,913		227,913	284,891	262,066				5,097	1,341	6,438

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SHEET 3 OF 4 SHEETS

STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE			
		TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMBANK. +25%		ROCK	SUITABLE	UNSUIT.	TOTAL
Detour Removal															
-Y1ADET- 13+27.00	-Y1ADET- 21+12.72	11,666				11,666							11,666		11,666
-SR2DET- 12+08.72	-SR2DET- 15+50.00	20,208				20,208							20,208		20,208
	SUBTOTAL	31,874				31,874							31,874		31,874
Phase 2B -Y-															
-Y1A- 17+65	-Y1A- 24+00	651				651	932	932	1,165	514					
-Y1ARPC- 23+00	-Y1ARPC- 26+00	66				66	17,376	17,376	21,720	21,654					
-SR2- 30+50	-SR2- 39+00	145				145	20,316	20,316	25,395	25,250					
-DR5- 10+20.00	-DR5- 10+96.25	8				8	28	28	35	27					
-DR6- 10+15.00	-DR6- 11+02.37	26				26	28	28	35	9					
	SUBTOTAL	896				896	38,680	38,680	48,350	47,454					
Phase 3 -L-															
-L- 115+00 LT	-L- 120+00 LT	646				646	2,000	2,000	2,500	1,854					
-L- 120+00 LT	-L- 150+00 LT	4,058			327	3,731	4,695	4,695	5,869	2,138			327		327
-L- 150+00 LT	-L- 180+00 LT	5,467			1,201	4,266	1,479	1,479	1,849			2,417	1,201		3,618
-L- 180+00 LT	-L- 210+00 LT	5,244			2,032	3,212	6,351	6,351	7,939	4,727			2,032		2,032
-L- 210+00 LT	-L- 240+00 LT	4,521			79	4,442	3,298	3,298	4,123			320	79		399
-L- 240+00 LT	-L- 259+50 LT	3,668				3,668	3,567	3,567	4,459	791					
-L- 259+50 LT	-L- 297+00 LT	11,361				11,361	35,189	35,189	43,986	32,625					
-L- 300+00 LT	-L- 340+00 LT	5,941		1,284	172	5,769	17,086	17,086	21,358	15,589			1,456		1,456
-L- 115+00 RT	-L- 120+00 RT	585				585	2,061	2,061	2,576	1,991					
-L- 120+00 RT	-L- 150+00 RT	3,561			621	2,940	4,462	4,462	5,578	2,638			621		621
-L- 150+00 RT	-L- 180+00 RT	7,545			973	6,572	1,359	1,359	1,699			4,873	973		5,846
-L- 180+00 RT	-L- 210+00 RT	5,146			1,179	3,967	10,189	10,189	12,736	8,769			1,179		1,179
-L- 210+00 RT	-L- 240+00 RT	4,722			93	4,629	2,811	2,811	3,514			1,115	93		1,208
-L- 240+00 RT	-L- 259+50 RT	3,307				3,307	478	478	598			2,709			2,709
-L- 259+50 RT	-L- 265+50 RT	254				254	759	759	949	695					
-L- 340+00 LT	-L- 370+00 LT	3,510		523	421	3,089	18,918	18,918	23,648	20,559			944		944
-L- 370+00 LT	-L- 400+00 LT	5,878			2,378	3,500	12,876	12,876	16,095	12,595			2,378		2,378
-L- 400+00 LT	-L- 430+00 LT	7,844			5,255	2,589	12,070	12,070	15,088	12,499			5,255		5,255
-L- 430+00 LT	-L- 460+00 LT	5,259			452	4,807	6,846	6,846	8,558	3,751			452		452
-L- 460+00 LT	-L- 469+00 LT	674			404	270	1,027	1,027	1,284	1,014			404		404
	SUBTOTAL	89,191		1,807	15,587	73,604	147,521	147,521	184,402	122,233			11,434	17,394	28,828
Phase 3 -Y-															
-Y1ARPADET- 10+00.00	-Y1ARPADET- 21+49.65	3,109				3,109	980	980	1,225				1,884		1,884
	SUBTOTAL	3,109				3,109	980	980	1,225				1,884		1,884
Phase 4 -L-															
-L- 469+00 LT	-L- 483+80 LT	1,082				1,082	2,953	2,953	3,691	2,609					
	SUBTOTAL	1,082				1,082	2,953	2,953	3,691	2,609					
SHEET 3 TOTAL		126,152		1,807	15,587	110,565	190,134	190,134	237,668	172,296			45,192	17,394	62,586

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DATE: 4/27/2022

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SHEET 4 OF 4 SHEETS

STATION	STATION	EXCAVATION				EMBANKMENT				BORROW	WASTE				
		TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH		EMBANK. +25%	ROCK	SUITABLE	UNSUIT.	TOTAL
	TOTAL FROM SHEET 1	69,315		6,129	18,976	50,339	597,118		597,118	746,398	698,689		2,630	25,105	27,735
	TOTAL FROM SHEET 2	29,164		100	1,241	27,923	227,913		227,913	284,891	262,066		5,097	1,341	6,438
	TOTAL FROM SHEET 3	126,152		1,807	15,587	110,565	190,134		190,134	237,668	172,296		45,192	17,394	62,586
	TOTAL	224,631		8,036	35,804	188,827	1,015,165		1,015,165	1,268,957	1,133,051		52,919	43,840	96,759
	MATERIAL FOR SHOULDER CONSTRUCTION						23,558		23,558	29,448	29,448				
	LOSS DUE TO CLEARING & GRUBBING	-26,500				-26,500					26,500				
	ADDITIONAL UNDERCUT			3,000			3,000		3,000	3,750	3,750			3,750	3,750
	WASTE IN LIEU OF BORROW										-52,919		-52,919		-52,919
	PROJECT TOTAL	198,131		11,036	35,804	162,327	1,041,723		1,041,723	1,302,154	1,139,830			47,590	47,590
	EST. 5% TO REPLACE TOP SOIL ON BORROW PIT										56,991				
	GRAND TOTAL	198,131		11,036	35,804	162,327	1,041,723		1,041,723	1,302,154	1,196,821			47,590	47,590
	SAY	193,200		11,100							1,196,900				
*UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN TOP 3' OF EMBANKMENT OR BACKFILL -L- 67+75 TO 68+25 (15 CY), -L- 68+75 TO 69+25 (10 CY), -L- 70+25 TO 71+25 (75 CY), -L- 72+25 TO 74+25 (110 CY), -L- 74+75 TO 81+25 (300 CY), -L- 81+75 TO 82+25 (70 CY), -L- 83+25 TO 84+75 (31 CY), -L- 86+25 TO 87+25 (12 CY), -L- 94+75 TO 96+75 (320 CY), -L- 101+75 TO 110+25 (100 CY), -L- 156+75 TO 158+25 (70 CY), -L- 169+25 TO 185+75 (3,800 CY), -L- 200+75 TO 204+25 (730 CY), -L- 213+75 TO 216+25 (285 CY), -L- 265+25 TO 270+25 (530 CY), 284+75 TO 285+75 (8 CY), -L- 353+25 TO 357+75 (1,470 CY), -L- 358+25 TO 361+75 (195 CY), -L- 364+25 TO 365+25 (470 CY), -L- 366+75 TO 368+75 (120 CY), -L- 373+25 TO 385+25 (4,160 CY), -L- 411+75 TO 413+75 (245 CY), -L- 416+75 TO 421+25 (3,555 CY), -L- 431+25 TO 436+75 (3,140 CY), -L- 441+25 TO 443+25 (480 CY), -L- 446+25 TO 454+75 (1,130 CY), -L- 486+75 TO 495+00 (1,625 CY), -Y1RPA- 10+00 TO 18+82 (485 CY), -Y1RPB- 10+00 TO 11+53 (8 CY), -Y1RPC- 10+00 TO 11+31 (30 CY), -Y1RPC- 12+81 TO 13+81 (55 CY), -Y1RPD- 10+00 TO 15+17 (425 CY), -Y1ARPC- 10+00 TO 10+33 (5 CY), -Y2- 36+25 TO 38+75 (100 CY), -Y3- 16+25 TO 22+25 (1,305 CY), -SR2- 38+75 TO 43+25 (515 CY), -SR6- 34+42 TO 35+42 (3 CY), -SR6- 35+92 TO 37+42 (7 CY), -SR6- 46+92 TO 48+42 (6 CY)															
PAVEMENT STRUCTURE VOLUME = 292,750 CY															

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EST. DDE = 5,980 CY

CLASS IV SUBGRADE STABILIZATION = 66,000 TONS

GEOTEXTILE FOR SOIL STABILIZATION = 115,900 SY

SHALLOW UNDERCUT = 30,076 CY

SELECT GRANULAR MATERIAL, CLASS III = 9,036 CY