COMPUTED BY: C.M.W DATE: AUGUST 14, 2004
CHECKED BY: T.A.M. DATE: AUGUST 14, 2004

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

METRIC

PROJECT REFERENCE NO.	SHEET NO.
R-977A	3-N

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 1200 mm & UNDER)

STATION	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) SIZE	300	375	450	600	750	900	1050	1200	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE) THICKNESS OR GAUGE	300	400	450	600	600 (UNCOATED)	800	800	900	900	1000	1000	1200	1200
																	1.63	1.63	1.63	1.63	1.63	2.01	2.01	3.51	2.01	2.77	2.77	2.77	3.51
SHEET 3-A TOTAL								2.4	60.0	15.6								147.6	122.4	55.2		30.0			58.8				
											70.8 (CL IV) (750)																		
SHEET 3-B TOTAL									88.8	72.0	37.2		103.2		164.4			37.2	46.8	37.2			18.0	78.0					
SHEET 3-C TOTAL									130.8	121.2	100.8	194.4						9.6	16.8						79.2				
SHEET 3-D TOTAL									36.0	46.8	39.6							117.6	174.0	31.2			102.0						
SHEET 3-E TOTAL									120.0	12.0	192.0							33.6	76.8				150.0						10.8
											170.4 (CL IV) (750)																		
SHEET 3-F TOTAL									116.4	13.2	51.6				61.2			103.2	156.0	12.0							9.6		
									74.4 (CL IV) (450)																				
SHEET 3-G TOTAL									88.8	147.6		138.0	96.0					58.8	70.8										
											146.4 (CL IV) (750)																		
SHEET 3-H TOTAL									243.6	14.4								13.2	109.2	118.8									
											81.6 (CL IV) (600)	139.2 (CL V) (900)																	
SHEET 3-I TOTAL									70.8	18.0	115.2							105.6	153.6				32.4						133.2
											216.0 (CL IV) (750)																		
SHEET 3-J TOTAL									43.2	85.2	44.4	72.0						105.6	130.8	80.4					16.8				
SHEET 3-K TOTAL									122.4	181.2	255.6	19.2	126.0		69.6			90.0	57.6	84.0									
SHEET 3-L TOTAL								42.0			201.6	50.4			18.0		6.0	6.0	37.2	48.0			10.8						
SHEET 3-M TOTAL																													
SHEET 3-0 TOTAL																													
GRAND TOTAL ALL SHEETS								44.4	1120.8	727.2	1038.0	474.0	325.2		313.2		6.0	828.0	1164.0	466.8		30.0	313.2	78.0	154.8				144.0

STATION	150mm PERFORATED HDPE PIPE	600 BORE AND JACK	MODIFIED CONCRETE FLUME (SEE SHEET 2-F)	ENDWALLS STD. 838.01 OR STD. 838.11 OR STD. 838.60 (UNLESS NOTED OTHERWISE) R.C.P. (CM)	ENDWALLS STD. 838.01 OR STD. 838.11 OR STD. 838.60 (UNLESS NOTED OTHERWISE) C.S.P. (CM)	QUANTITIES: STRUCTURES PER EACH (0 THRU 1.50)	FOR DRAINAGE "TOTAL M FOR PAY QUANTITY SHALL BE COL. "A" + (1.3 X COL. "B") METERS A 1.50 THRU 3.00	METERS B 3.00 AND ABOVE	375 x 375 x 375 TEE	C.B. STD. 840.01 OR 840.02	FRAME, GRATES, AND HOOD STD. 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	M.D.I. TYPE "A" STD. 840.17 OR 840.26	M.D.I. TYPE "B" STD. 840.18 OR 840.27	M.D.I. TYPE "D" STD. 840.19 OR 840.28	M.D.I. FRAME WITH TWO GRATES STD. 840.20	M.D.I. FRAME WITH GRATE STD. 840.22	M.D.I. FRAME WITH TWO GRATES STD. 840.22	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	T.B.J.B. STD. 840.34	M.H. STD. 840.51, 840.52, OR 840.53	M.H. FRAME & COVER STD. 840.54	O.T.C.B. STD. 840.04 OR 840.05	SPRING BOX STD. 840.41	C.S. ELBOWS NO.	C.S. ELBOWS SIZE	150mm C.S. Pipe, 1.63mm THICK (SPRING BOX)	PERFORATED 150mm C.S. Pipe STUB, 1.63mmTHICK	M.D.I. FRAME WITH TWO GRATES STD. 840.33 (ANGLE VANE)	900 x 900 x 900mm PERF C.S.P. TEE RISER 2.01mm THICK	800 x 800 x 800mm PERF C.S.P. TEE RISER 2.01mm THICK	600 x 600 x 600mm PERF C.S.P. TEE RISER 1.63mm THICK	450 x 450 x 450mm PERF C.S.P. TEE RISER 1.63mm THICK	SLUICE GATE (FOR 600 C.S.P.)	CONC. COLLARS CL. "A" CM STD 840.72	CONC. & BRICK PIPE PLUG C.M. STD. 840.71	ADJUST EXISTING D.I.	PIPE REMOVAL (LINEAR METER)	REMARKS
SHEET 3-A TOTAL			58.8		4.6	13.0				2		1	1	2	2		5		5			1	1	2		1	10.8	2.4					1	0.33			71.4	12	
SHEET 3-B TOTAL			2	4.6	2.7	16.0	6.95	0.63							5	7		5		5		2	4			3					1						41.8	10	
SHEET 3-C TOTAL			1		0.8	18.0	0.86								4	14		4		14																	4		
SHEET 3-D TOTAL					1.8	14.0	0.10								1	6		1		6						5	2	56.4	8.4			1	1			13		
SHEET 3-E TOTAL			1		3.4	12.0	2.60								6	6		2		9	1															33.6	5	
SHEET 3-F TOTAL				11.6	0.8	16.0	2.07									11	2	1		6		4	1		1	2			2				1			99.0	8	
SHEET 3-G TOTAL					3.5	14.0	1.15								3	8				5		2				2	1	37.2	2.4	4						22.8	9	
SHEET 3-H TOTAL				2.6	6.6	16.0										12				10		1				2	2	48.8	7.2	1						7.2	7	
SHEET 3-I TOTAL				1.8	7.8	15.0	1.86	1.16							1	9				9						4	1	33.6	3.6	1						33.6	14	
SHEET 3-J TOTAL			16.8		2.2	13.0	0.44			7.2	9.6				2	9		2	6	1					2			4	1		1		1	0.29		24.0	12	
SHEET 3-K TOTAL				6.1	1.8	14.0	0.64			27.6					4	7		1	11						1	1	2	49.2	4.8							70.8	8	
SHEET 3-L TOTAL						12.0	2.00	0.34	1		1		2	2	3	4			3		4	1			1		1	49.2	2.4			1			0.25	1	48.0	1	
SHEET 3-M TOTAL																																					36.2		
SHEET 3-0 TOTAL																										2													
GRAND TOTAL ALL SHEETS			109.2	9.6	15.6	9.6	4		26.7	36.0	173	18.67	2.13		3	2	1		4	4	29	98	2	18	3	84	2	13	7	1	1	10	18	10		31.2	12	2	1	3	1	2	0.33	0.54	1	488.4	3@	150
																												385.2											43@	400
CL IV SUMMARY (450)										14.4																													36@	450
CL IV SUMMARY (600)											81.6																												1@	600
CL IV SUMMARY (750)												603.6																											1@	800
CL V SUMMARY (900)													139.2																										3@	900
																																						6@	1200

Masonary Drainage Structure Total= 18.67 + (1.3 x 2.13)= 21.439 m
Say= 21.50 m

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

$$$$USERNAME$$$$ $$$$SYSTIME$$$$ $$$$DESIGN$$$$

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