COMPUTED BY: William M. Hines DATE: 2/15/16

CHECKED BY: Susan Lancaster DATE: 01/18/17

PROJECT NO.	SHEET NO.
U-3109A	3D-13

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

QUANTITIES FOR DRAINAGE STRUCTURES — NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)

LINE & STATION (SIZE / THICKNESS OR GAUGE)	OFFSET		STRUCTURE NUMBER FROM	TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 15	18	24	30	36	42	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	C. S. PIPE 12 (.064)	15 (.064)	18 (.064)	24 (.064)	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48	R. C. PIPE CLASS V 12	15	18	30	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05	4" CONCRETE PAVED DITCH, S.Y. STD 850.01	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (W.S. FLAT) FRAME W/ GRATE STD. 840.20	G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	J.B. STD. 840.31 OR STD. 840.32	T.B.J.B. STD. 840.34	M.H. FRAME AND COVER STD. 840.54	15" C.S. ELBOW	18" C.S. ELBOW	24" C.S. ELBOW	30" C.S. ELBOW	BERM DITCH OUTLET STD. 850.10 (PER EACH)	BERM DITCH OUTLET STD. 850.11 (PER EACH)	15" SLUICE GATE	18" SLUICE GATE	30" SLUICE GATE	PIPE CLEAN-OUT (PER EACH)	PREFORMED SCOUR HOLE (PER EACH)	ENERGY DISSIPATOR BASIN	FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONCRETE AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
Y13 17+02	25	LT	2401																																									28																																											
Y13 15+52	26	RT	2402																																									16																																											
Y16 11+87	26	LT	2501																																									20																																											
Y16 12+72	34	LT	2502																																									20																																											
Y16 13+62	37	LT	2503																																									20																																											
Y16 14+62	38	LT	2504																																									20																																											
Y16 15+74	40	LT	2505																																									20																																											
Y16 16+41	43	LT	2506																																									24																																											
Y16 16+90	45	LT	2507																																									24																																											
Y16 18+23	47	LT	2508																																									28																																											
Y26REV 13+24	19	LT	2509																																									84																																											
Y16 37+00	39	LT	2601		655.9																																										1														1							1																						
			2601	2603		653.1	652.1																		104																																																																	
Y16 36+00	34	RT	2602		655.1																																										1														1							1																						
			2602	2603		652.4	652.1																		84																																																																	
Y16 36+00	49	LT	2603		654.8																																										1														1							1																						
			2603	2604		652.1	644.0	0.5	296									X	X																																																																								
Y16 33+10	76	LT	2604		648.0																																										1													1								1																						
			2604	2608		643.3	642.8																				144																																																															
Y16 32+26	57	RT	2605		645.6																																									1.000																																													
			2605	2606		646.0	645.9																			8																																																															
Y16 32+25	49	RT	2606		645.9																																																																																						0.4465			
			2606	2607																																																																																	1							
Y16 32+21	25	LT	2607		654.8																																										1	4.9																									1	1																			
			2607	2608		644.9	643.3																			120																																																																
Y16RPA 11+28	34	LT	2608		650.6																																										1	2.7																							1		1																			
			2608	2609		642.8	642.6				52							X	X																																																																										
Y16 29+72	13	LT	2610		652.4																																										1							1			1	1																																						
			2610	2611		649.3	646.8																										40																																																														
Y16 29+50	44	LT	2611		649.6																																										1														1							1																						
			2611	1415		646.8	643.3		248									X	X																																																																											
Y16 41+05	45	LT	2612																																									36																																												
Y16 43+50	31	LT	2613																																									24																																												
Y16RPA 14+50	56	RT	2701		634.8																																										1														1							1																						
			2701	2702		632.0	631.7	0.3																	116																																																																		
Y16RPA 14+50	56	LT	2702		634.8																																										1														1							1																						
			2702	2704		631.7	620.4	0.6	252									X	X																																																																											
Y16RPA 17+00	56	RT	2703		623.5																																										1														1							1																						
			2703	2704		620.8	620.4																		116																																																																	
Y16RPA 17+00	56	LT	2704		623.5																																										1														1							1																						
			2704	2705		620.4	609.5	1.4	252									X	X																																																																											
Y16RPA 19+50	56	LT	2705		612.3																																										1														1							1																						
			2705	2706		609.3	607.5	0.8		56								X	X																																																																												
Y16RPA 19+41	0	CL	2707	2708		607.7	599.6																							328																4.500																																													
Y16 RPA 21+80	83	LT	2709							40																																				1.000																																			1										See Special Detail, Sheet 2D-2, Detail 47
Y20 16+68	44	LT	2801																																									16																																												
Y20 19+20	48	LT	2802		610.5																																										1														1							1																						
			2802	2803		607.8	603.4		76									X	X																																																																												
Y20 19+03	44	RT	2804																																										24																																											
Y20 13+81	33	LT	2806																																									20																																												
							SHEET TOTALS		1124	96	52														420	128	144			328			40												400	24	6.500	14	7.6						1			1	1	1	10							11			1	1	2								1		1					0.4465			

ABBREVIATIONS

C.A.A.	CORRUGATED ALUMINIUM ALLOY
C.B.	CATCH BASIN
C.S.	CORRUGATED STEEL
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
H.D.P.E.	HIGH DENSITY POLYETHYLENE
J.B.	JUNCTION BOX
M.H.	MANHOLE
N.S.	NARROW SLOT
P.V.C.	POLYVINYL CHLORIDE
R.C.	REINFORCED CONCRETE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX
W.S.	WIDE SLOT

CARYLAPHILLIPS