COMPUTED BY: SUNGATE DESIGN GROUP DATE: 8/1/2017
CHECKED BY: MICHAEL BAKER ENGINEERING DATE: 8/14/2017

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
R-5703	3D-4

**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)

Size / Thickness or Gauge

Line & Station	Offset	Structure Number From	Structure Number To	Top Elevation (FT.)	Invert Elevation (FT.)	Invert Elevation (FT.)	Minimum Required Slope (%)	Side Drain Pipe (RCP, CSP, CAAP, HDPE, or PVC) 12	15	18	24	30	36	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)	30 (.079)			36 (.079)
		1211	1201		71.7	71.6			12							X										
L 177+04	60 RT	1212		74.8																						
		1212	1202		71.4	71.2			12							X										
L 191+05	0 CL	1301		73.7																						
		1301	1310		70.9	59.0																				
L 191+45	60 LT	1302		75.2																						
		1302	1301		71.8	70.9																				
L 193+81	0 CL	1303	1311		57.6	55.4																				
L 194+50	60 LT	1304		80.7																						
		1304	1319		76.1	75.6			152							X										
L 194+50	60 RT	1305		80.9																						
		1305	1313		77.0	76.3																				
L 200+21	58 RT	1306		80.9																						
		1306	1316		77.4	77.4			12							X										
L 200+11	0 CL	1307		79.3																						
		1307	1308		76.8	76.6																				
L 200+02	59 LT	1308		81.1																						
		1308	1317		76.3	75.9				164						X										
L 194+50	0 CL	1313		79.0																						
		1313	1304		76.3	76.1																				
L 195+00	60 RT	1314		81.2																						
		1314	1305		77.8	77.0			52							X										
L 191+55	60 LT	1315		75.5																						
		1315	1302		72.0	71.8			12							X										
L 200+11	59 RT	1316		81.0																						
		1316	1307		77.4	76.5																				
L 198+40	60 LT	1317		82.2																						
		1317	1309		75.9	58.0	0.4														84					
L 193+77	60 RT	1318		80.7																						
		1318	1305		77.2	77.0			76							X										
L 196+00	60 LT	1319		82.0																						
		1319	1312		75.6	58.5	1.5													80						
L 200+69	0 CL	1320			58.0	54.0																				
L 201+13	0 CL	1321			58.0	54.0																				
L 203+00	60 RT	1401		76.1																						
		1401	1402		72.6	71.7																				
L 203+00	0 CL	1402		74.4																						
		1402	1403		71.7	71.5																				
L 203+00	60 LT	1403		76.1																						
		1403	1415		71.5	57.0	1.1													68						
L 206+50	60 RT	1404		67.7																						
		1404	1405		64.3	63.3																				
L 206+50	0 CL	1405		66.1																						
		1405	1406		63.3	63.1																				
L 206+25	60 LT	1406		68.3																						
		1406	1416		63.1	56.6	1.7													52						
L 208+18	0 CL	1407			55.7	42.4																				
L 210+00	60 RT	1408		61.2																						
		1408	1409		57.7	56.8																				
L 210+00	0 CL	1409		59.5																						
							SHEET TOTALS		328	164										200	84					

Line & Station	From	To	R. C. Pipe Class III 12	15	18	24	30	36	42	R. C. Pipe Class IV 12	15	18	24	30	36	42	48	R. C. Pipe Class V 12	15	18	24	30	36	42	48
	1211	1201																							
L 177+04	1212																								
	1212	1202																							
L 191+05	1301																								
	1301	1310		128																					
L 191+45	1302																								
	1302	1301									72														
L 193+81	1303	1311							264																
L 194+50	1304																								
	1304	1319																							
L 194+50	1305																								
	1305	1313									60														
L 200+21	1306																								
	1306	1316																							
L 200+11	1307																								
	1307	1308									60														
L 200+02	1308																								
	1308	1317																							
L 194+50	1313																								
	1313	1304									60														
L 195+00	1314																								
	1314	1305																							
L 191+55	1315																								
	1315	1302																							
L 200+11	1316																								
	1316	1307									60														
L 198+40	1317																								
	1317	1309																							
L 193+77	1318																								
	1318	1305																							
L 196+00	1319																								
	1319	1312																							
L 200+69	1320						276																		
L 201+13	1321				276																				
L 203+00	1401																								
	1401	1402									60														
L 203+00	1402																								
	1402	1403									64														
L 203+00	1403																								
	1403	1415																							
L 206+50	1404																								
	1404	1405									60														
L 206+50	1405																								
	1405	1406									68														
L 206+25	1406																								
	1406	1416																							
L 208+18	1407					228																			
L 210+00	1408																								
	1408	1409									60														
L 210+00	1409																								
SHEET TOTALS				128	276	228	276		264		624														

Line & Station	From	To	Endwalls Std. 838.01 or Std. 838.11 (Unless Noted Otherwise) (CY)	Reinforced Endwalls (CY)	Drainage Structure Masonry (CY)	Quantities for Drainage Structures 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	Concrete Transitional Section: C.B. Std. 852.05	Open Throat C.B. Std. 840.04 or Std. 840.05	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/ 2 Grates Std. 840.20	G.D.I. (W.S. Sag) Frame w/ 2 Grates Std. 840.22	G.D.I. (N.S. Sag) Frame w/ 2 Grates Std. 840.24	J.B. Std. 840.31 or Std. 840.32	M.H. Frame and Cover Std. 840.54	Adjust 2GI	15" C.S. Elbow, 0.064" Thick	18" C.S. Elbow, 0.064" Thick	24" C.S. Elbow, 0.064" Thick	30" Sluice Gate	36" Sluice Gate	Modified Conc. Flume	Pipe Clean Out (EA)	Flowable Fill (CY)	Concrete Collars Cl. "B" Std. 840.72 (CY)	Pipe Removal (LIN. FT.)	Remarks
	1211	1201																																			
L 177+04	1212					1													1		1																
	1212	1202																																			
L 191+05	1301					1													1			1															
	1301	1310																																			
L 191+45	1302					1													1		1																
	1302	1301																																			
L 193+81	1303	1311	4.500																																		
L 194+50	1304					1													1		1																
	1304	1319																																			
L 194+50	1305					1													1		1																
	1305	1313																																			
L 200+21	1306					1													1		1																
	1306	1316																																			
L 200+11	1307					1													1			1															
	1307	1308																																			
L 200+02	1308					1													1		1																
	1308	1317																																			
L 194+50	1313					1													1			1															
	1313	1304																																			
L 195+00	1314					1													1		1																
	1314	1305																																			
L 191+55	1315					1													1		1																
	1315	1302																																			
L 200+11	1316					1													1		1																
	1316	1307																																			
L 198+40	1317					1	1.3												1		1																
	1317	1309																										2									
L 193+77	1318					1													1		1																
	1318	1305																																			
L 196+00	1319					1	1.4												1		1																
	1319	1312																									2										
L 200+69	1320																																				
L 201+13	1321																																				
L 203+00	1401					1													1		1																
	1401	1402																																			
L 203+00	1402					1													1			1															
	1402	1403																																			
L 203+00	1403					1													1		1																
	1403	1415																									2										
L 206+50	1404					1													1		1																
	1404	1405																																			
L 206+50	1405					1													1			1															
	1405	1406																																			
L 206+25	1406					1	0.2												1		1																
	1406	1416																									2										
L 208+18	1407																																				
L 210+00	1408					1													1		1																
	1408	1409																																			
L 210+00	1409					1													1			1															
SHEET TOTALS			4.500			23	2.9												23		17	6					6	2									

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

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