COMPUTED BY:	CGM	DATE:	3/06/14
CHECKED BY:	JRR	DATE:	

RAL-2UA2440BPJ

PROJECT NO.	SHEET NO.
U-2579B	3D-9

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)

LINE & STATION / SIZE / THICKNESS OR GAUGE	OFFSET	STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	SIDE DRAIN PIPE (STATEWIDE TIER) (RCP, CSP, CAAP, HDPE, or PVC) 15	18	24	30	36	42	48	DO NOT USE RCP	C. S. PIPE (SE: SHOP ELONGATED) 15 .064	18 .064	24 .064	30 .064	36 .079	42 .109	R. C. PIPE CLASS III 15	18	24	30	36	42	48	R. C. PIPE CLASS IV 15	18	24	30	42	48	R. C. PIPE CLASS V 24	30	36	8" DIP (DUCTILE IRON PIPE)	42" R.C. PIPE CULVERTS, CONTRACTOR DESIGN	48" R.C. PIPE CULVERTS, CONTRACTOR DESIGN	36" R.C. PIPE CULVERTS, CONTRACTOR DESIGN	18" R.C. PIPE CULVERTS, CONTRACTOR DESIGN	30" WELDED STEEL PIPE, 0.500, TRENCLESS INSTALLATION	36" WELDED STEEL PIPE, 0.500, TRENCLESS INSTALLATION	42" WELDED STEEL PIPE, 0.625, TRENCLESS INSTALLATION	48" WELDED STEEL PIPE, 0.625, TRENCLESS INSTALLATION	ENDWALLS STD. 838.01 OR STD. 838.11 OR 838.80 (UNLESS NOTED OTHERWISE) CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 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	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. (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/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	J.B. STD. 840.31 OR STD. 840.32	T.B.D.I. STD. 840.36	STEEL GRATE AND FRAME STD. 840.37	SPRING BOX STD. 840.41	M.H. FRAME AND COVER STD. 840.54	CONVERT EXISTING C.B. TO J.B.	CONVERT EXISTING O.T.C.B. TO 2GI	15" SIDE DRAIN PIPE ELBOW	18" SIDE DRAIN PIPE ELBOW	24" SIDE DRAIN PIPE ELBOW	30" SIDE DRAIN PIPE ELBOW	36" SIDE DRAIN PIPE ELBOW	15" C.S. PIPE ELBOW	18" C.S. PIPE ELBOW	24" C.S. PIPE ELBOW	42" C.S. PIPE ELBOW	BERM DITCH OUTLET STD. 850.10	MODIFIED CONC. FLUME	PREFORMED SCOUR HOLE (PER EACH)	ENERGY DISSIPATION 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
10+70 -Y4RPBD-	RT	0165		893.6	890.8																																											1													1	1																													
		0165	0166		890.8	890.1																							84																																																														
15+02 -Y4CD-	LT	0167		892.9	889.5																																											1													1	1																													
		0167	0170		889.5	876.5			304																																																																																				
614+00 -L-	CL	0169		881.0	877.8																																											1													1			1																											
		0169	0170		877.8	876.7																							136																																																												
13+73 -Y4RPBD-	RT	0168		880.8	878.1																																											1													1	1																													
		0168	0169		878.1	877.8																							100																																																												
18+03 -Y4CD-	LT	0170		880.7	876.0																																											1												1		1																													
		0170	0171		876.0	868.4				248																																																																																		
20+49 -Y4CD-	LT	0171		873.1	868.4																																											1												1		1																													
		0171	0172		868.4	864.3				252																																																																																		
23+00 -Y4CD-	LT	0172		869.0	861.1																																											1	2.9											1		1																													
		0172	OUT		861.1	847.5						52			X																																																																2													
24+75 -Y4CD-	LT	0173		868.4	862.1																																											1	1.3											1		1																													
		0173	0172		862.1	861.6					176																																																																																	
24+75 -Y4CD-	RT	0174		867.5	862.3																																											1	0.2											1			1	1																											3GI, SHOULDER DRAIN OUTLET
		0174	0173		862.3	862.1																										72																																																										
620+25 -L-	CL	175A		868.4	865.7																																											1													1	1																													
		175A	0175		865.7	864.4		52																																																																																					
620+74 -L-	CL	0175		868.4	864.1																																											1												1			1	1																											3GI
		0175	0174		864.1	863.3																		84																																																																				
27+50 -Y4CD-	RT	0176		869.8	866.8																																											1													1			1																										SHOULDER DRAIN OUTLET
		0176	0174		866.8	863.3			276																																																																																				20	
27+52 -Y4CD-	LT	0177		870.6	867.9																																											1													1	1																												260	
		0177	0176		867.9	867.1																							76																																																													
30+59 -Y4CD-	RT	0180		876.5	872.7																																											1													1			1																					1							Special Detail, See Detail 2D-6
		0180	0176		872.7	867.1		308																																																																																					
30+58 -Y4CD-	LT	0179		875.8	873.0																																											1													1	1																					1							Special Detail, See Sheet 2D-6
		0179	0180		873.0	872.7																							108																																																													
626+33 -L-	RT	178A		877.6	874.9																																											1													1	1																												198	
		178A	0178		874.9	874.8		20																																																																																						
626+55 -L-	RT	0178		878.1	874.8																																											1													1	1																													
		0178	0180		874.8	872.7																							152																																																													
619+12 -L-	CL	0183			843.8	820.0																																		472								6.000																																														
16+50 -Y4RPBD-	RT	0182		871.6	868.9																																											1													1	1																													
		0182	OUT		868.9	828.0		96							X																																																													2																	
20+30 -Y4RPBD-	RT	0184		867.1	864.4																																											1													1	1																													
		0184	0185		864.4	864.1		84																																																																																						
19+50 -Y4RPBD-	RT	0185		867.2	864.1																																											1													1	1																													
		0185	OUT		864.1	828.0		88							X																																																													2											1						PREFORMED SCOUR HOLE
						SHEET TOTALS		648	580	500	176	52											84						656			72								472								6.000	20	4.4											6	14	15	2	5										4				2						2	1					478	

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