RALL207

COMPUTED BY: Allen Hodges, P.E. DATE: 9/29/2021

CHECKED BY: Kase Schalois, P.E. DATE: 9/29/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
R-5021	3D-11

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)

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

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 %	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 12	Drainage Pipe 15	Drainage Pipe 18	Drainage Pipe 24	Drainage Pipe 30	Drainage Pipe 36	Drainage Pipe 42	Drainage Pipe 48	DO NOT USE PVC	C. S. PIPE 12 (.064)	C. S. PIPE 15 (.064)	C. S. PIPE 18 (.064)	C. S. PIPE 24 (.064)	C. S. PIPE 30 (.079)	C. S. PIPE 36 (.079)	DUCTILE IRON PIPE 15	DUCTILE IRON PIPE 18	DUCTILE IRON PIPE 24	DUCTILE IRON PIPE 30	R. C. PIPE CLASS IV 12	R. C. PIPE CLASS IV 15	R. C. PIPE CLASS IV 18	R. C. PIPE CLASS IV 24	R. C. PIPE CLASS IV 30	R. C. PIPE CLASS IV 36	R. C. PIPE CLASS IV 42	R. C. PIPE CLASS IV 48
LREV 376+00	45 LT	2715		19.5																														
		2715	2709		14.1	12.8																									200			
LREV 377+99	55 LT	2716		22.3																														
		2716	2710		17.0	15.5																									124			
LREV 374+47	71 RT	2717	OUT		19.9	18.8					68					X																		
LREV 376+31	71 RT	2718	OUT		14.6	13.1				84						X																		
LREV 381+69	73 LT	2801		29.1																														
		2801	2713		23.8	21.4																									88			
LREV 384+36	15 LT	2802		32.8																														
		2802	OUT		28.0	25.0																							64						
LREV 386+97	15 LT	2804		32.6																														
		2804	2805		29.8	29.3																							108						
LREV 388+09	15 LT	2805		32.2																														
		2805	2806		29.3	28.1																							56						
LREV 388+09	42 RT	2806		30.9																														
		2806	2806OUT		28.1	24.8																							36						
LREV 388+20	75 RT	2807		28.0																														
		2807	2807OUT		24.6	7.0																		112										
LREV 388+50	81 LT	2808		29.0																														
		2808	2808OUT		23.6	5.5																				104								
LREV 392+13	15 LT	2809		31.0																														
		2809	2810		28.3	28.0																							60						
LREV 392+75	15 LT	2810		30.9																														
		2810	2811		28.0	27.7																							60						
LREV 393+38	15 LT	2811		30.8																														
		2811	2811OUT		27.7	24.0																							64						
LREV 394+25	15 LT	2812		30.9																														
		2812	2811		28.2	27.7																							84						
LREV 391+77	76 RT	2813			29.0																													
		2813	2813OUT		23.4	11.4																			92									
LREV 399+15	78 RT	2814	2819		24.4	23.9				200						X																		
LREV 388+50	81 LT	2815																																
		2815	2815OUT		24.9	5.6																			110									
LREV 388+24	15 LT	2816		32.2																														
		2816	2805		29.5	29.4																							12						
LREV 392+02	42 RT	2817		29.7																														
		2817	2817OUT		26.6	23.4																							32						
LREV 394+55	74 LT	2818	OUT		24.5	24.3						52				X																		
LREV 393+15	61 RT	2819		26.9																														
		2819	2819OUT							16						X																		
LREV 399+44	43 LT	2901		33.1																														
		2901	2901OUT		28.1	26.1																							36						
LREV 399+44	15 LT	2902		32.6																														
		2902	2901		28.4	28.1																							28						
LREV 401+50	15 LT	2903		33.2																														
		2903	2902		30.5	28.4																							204						
LREV 397+50	15 LT	2904		32.0																														
		2904	2904OUT		27.0	26.1																							60						
LREV 395+50	15 LT	2905		31.3																														
		2905	2905OUT		26.3	24.7																							60						
							SHEET TOTALS			300	68	52												112	202	104		964			412			

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 (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	GRATE TYPE F	GRATE TYPE G	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	CONCRETE TRANSITIONAL SECTION C.B. STD. 852.05	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 WITH 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	DRIVEWAY D.I. STD. 840.30	FRAME W/ GRATE FOR DRIVEWAY STD. 840.30	J.B. STD. 840.31 OR STD. 840.32	ANGLED VANE GRATES AND FRAMES STD. 840.33
2715					1	0.4																								
2715	2709																													
2716					1	0.3		1		1																				
2716	2710																													
2717	OUT																													
2718	OUT																													
2801																														
2801	2713																													
2802					1																									
2802	OUT																													
2804					1																									
2804	2805																													
2805					1																									
2805	2806																													
2806					1												1			1										
2806	2806OUT																													
2807																														
2807	2807OUT																													
2808																														
2808	2808OUT																													
2809						1.0																								
2809	2810																													
2810						1.0																								
2810	2811																													
2811						1.0																								
2811	2811OUT																													
2812					1																									
2812	2811																													
2813																														
2813	2813OUT																													
2814	2819																													
2815																														
2815	2815OUT																													
2816					1																									
2816	2805																													
2817					1												1			1										
2817	2817OUT																													
2818	OUT																													
2819					1												1							1						
2819	2819OUT																													
2901					1			1		1																				
2901	2901OUT																													
2902					1																									
2902	2901																													
2903					1																									
2903	2902																													
2904					1																									
2904	2904OUT																													
2905					1																									
2905	2905OUT																													
SHEET TOTALS					15	3.7		2		2							3			2				1						

FROM	TO	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	CONVERT EXISTING C.B. TO TB J.B.	CONVERT EXISTING D.I. TO TB J.B. (2C-13)	ADJUST MH	ADJUST C.B.	ADJUST D.I.	15" CSP ELBOW	18" CSP ELBOW	18" DIP ELBOW	24" DIP ELBOW	30" DIP ELBOW	BERM DITCH OUTLET STD. 850.10 (SY)	BERM DITCH OUTLET STD. 850.11 (SY)	PREFORMED SCOUR HOLE (PER EACH)	TEMP STEEL PLATE (SEE SHEET 2C-10)	FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	PIPE REMOVAL LIN. FT.	REMARKS
2715		1					1																		
2715	2709																								
2716																									
2716	2710																							185	Remove 30" RCP
2717	OUT																							58	Remove 18" RCP
2718	OUT																							37	Remove 18" RCP
2801																									
2801	2713																							89	Remove 24" RCP
2802				1	1																				
2802	OUT																								
2804				1	1																				
2804	2805																								
2805				1	1																				
2805	2806																								
2806																									
2806	2806OUT																								
2807																	11								18" BDO
2807	2807OUT														2									115	18" DIP w/ Elbows, Remove 18" CMP
2808																		31							30" BDO
2808	2808OUT																2							118	30" DIP w/ Elbows, Remove 18" CMP
2809				1	1																				
2809	2810																								
2810				1	1																				
2810	2811																								
2811				1	1																				
2811	2811OUT																								
2812				1	1																				
2812	2811																								
2813																		31							24" BDO
2813	2813OUT															2								126	24" DIP w/ Elbows, Remove 18" CMP
2814	2819																								
2815																		31							24" BDO
2815	2815OUT															2								127	24" DIP w/ Elbows, Remove 18" CMP
2816				1	1																				
2816	2805																								
2817																									
2817	2817OUT																								
2818	OUT																								
2819																									
2819	2819OUT																								
2901																									
2901	2901OUT																								
2902				1	1																1				
2902	2901																								
2903				1	1																1				
2903	2902																								
2904				1	1																1				
2904	2904OUT																								
2905				1	1																				
2905	2905OUT																								
SHEET TOTALS		1		12	12		1								2	4	2	11	93		3			855	