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-15

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 %	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 12	15	18	24	30	36	42	48	DO NOT USE PVC	C. S. PIPE 12 .064	15 .064	18 .064	24 .064	30 .079	36 .079		DUCTILE IRON PIPE 15	18	24	30		R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY
Y22 32+10	42	RT	3140	3138	21.9																																			
			3140	3141		18.9	17.3																								52									
Y22 32+00	12	LT	3141		23.8																																			
			3141	3142		17.3	17.1																														100				
Y22 33+00	6	LT	3142		23.2																																			
			3142	3137		17.1	17.0																														60				
Y22 33+28	112	RT	3144		21.9																																			
			3144	3134		18.7	18.5																								72									
Y22 36+45	20	RT	3152		22.2																																			
			3152	3119		18.0	17.8																								32									
Y22 36+45	28	RT	3153		21.6																																			
			3153	3152		18.1	18.0																								8									
Y22 37+79	18	LT	3154		21.8																																			
			3154	3129		15.0	14.9																															40			
LREV 429+43	37	LT	3155		21.7																																			
			3155	3115		18.5	18.2																								104									
LREV 426+93	2	RT	3156		23.5																																			
			3156	3105		20.7	19.8																								32									
LREV 404+91	12	LT	3157		22.0																																			
			3157	3119		18.8	17.8																								24									
YREV 10+63	38	LT	3201																																			3.400		
			3201	OUT		37.2	37.1							48			X																							
YREV 11+00	30	RT	3202		40.0																																			
			3202	3202-Out		35.3	35.0																												100						
YREV 12+35	34	RT	3203		40.0																																			
			3203	3202		36.6	35.3																												132						
YREV 15+51	34	RT	3204		46.3																																			
			3204	3209		37.6	37.4																												76						
YREV 15+97	84	RT	3205		43.6																																			
			3205	3204		37.8	37.6																												68						
YREV 16+36	78	RT	3206		43.7																																			
			3206	3205		37.9	37.8																												40						
YREV 16+72	59	RT	3207		42.3																																			
			3207	3206		38.0	37.9																												40						
YREV 16+70	7	RT	3208		45.3																																			
			3208	3207		40.4	39.3																												52						
YREV 14+76	33	RT	3209		45.5																																			
			3209	3203		37.4	36.6																												240						
YREV 16+62	65	LT	3210																																			3.400		
			3210	OUT																																72					
YREV 21+05	5	LT	3302		45.2																																			
			3302	3302-Out		40.2	38.8																								64									
YC 10+87	27	LT	3303		44.1																																			
			3303	3319		39.6	38.7																												296						
			3304IN	3304																													24							
YC 11+33	36	RT	3304		46.5																																			
			3304	3318		40.2	39.8																												44						
YREV 23+08	47	RT	3305		47.4																																			
			3305	3304		44.4	41.5																								56									
YREV 23+32	5	RT	3306		49.0																																			
						SHEET TOTALS								48																	444		24	1088	72	160	40	6.800		

STRUCTURE NUMBER FROM	TO	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	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
3140	3138	1			1		1																	
3140	3141																							
3141		1	0.5							1														
3141	3142																							
3142		1	1.1							1														
3142	3137																							
3144		1										1	1											
3144	3134																							
3152		1			1		1																	
3152	3119																							
3153		1			1	1																		
3153	3152																							
3154		1	1.8		1			1																
3154	3129																							
3155		1			1		1																	
3155	3115																							
3156		1								1					1			1						
3156	3105																							
3157		1											1											
3157	3119																							
3201																								
3201	OUT																							
3202		1														1						1		
3202	3202-Out																							
3203		1														1						1		
3203	3202																							
3204		1	3.7		1			1																
3204	3209																							
3205		1	0.8		1		1																	
3205	3204																							
3206		1	0.7		1			1																
3206	3205																							
3207		1														1						1		
3207	3206																							
3208		1								1								1						
3208	3207																							
3209		1	3.2		1			1																
3209	3203																							
3210																								
3210	OUT																							
3302		1								1								1						
3302	3302-Out																							
3303		1			1		1																	
3303	3319																							
3304IN	3304																							
3304		1	0.3		1			1																
3304	3318																							
3305		1			1			1																
3305	3304																							
3306		1								1								1						
SHEET TOTALS		23	12.1		12	1	5	6		6		1	2		1	3		4				3		

STRUCTURE NUMBER FROM	TO	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	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
3140	3138																												
3140	3141																											33	Remove 18" RCP
3141								1	1																1				
3141	3142																									12			Plug and Fill 18" RCP w/ Flowable Material
3142								1	1																1				
3142	3137																												
3144																													
3144	3134																												
3152																													
3152	3119																											83	Remove 36" RCP
3153																													
3153	3152																												
3154																													
3154	3129																												
3155																													
3155	3115																												
3156																									1				
3156	3105																												
3157							1																						
3157	3119																												
3201																													
3201	OUT																												
3202																													
3202	3202-Out																												
3203																													
3203	3202																											30	Remove 18" CMP
3204																													
3204	3209																												
3205																													
3205	3204																												
3206																													
3206	3205																												
3207																													
3207	3206																											179	Remove 15" RCP
3208								1																					
3208	3207																												
3209																													
3209	3203																											42	Remove 15" RCP
3210																													
3210	OUT																											39	Remove 24" RCP
3302							1																						
3302	3302-Out																											30	Remove 18" CMP
3303																													
3303	3319																												
3304IN	3304																												
3304																													
3304	3318																												
3305																													
3305	3304																												
3306							1																		1				
SHEET TOTALS							3	3	2																4	12		436	

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