COMPUTED BY: W. T. BEST	DATE: 03/02/2004
CHECKED BY:	DATE:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-3711	3-A

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

STATION / SIZE / THICKNESS OR GAUGE	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') PER EACH (0' THRU 5.0')	LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G		D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	M.D.I. TYPE "A" STD. 840.17 OR 840.26	M.D.I. TYPE "B" STD. 840.18 OR 840.27	M.D.I. TYPE "D" STD. 840.19 OR 840.28	M.D.I. FRAME WITH GRATE STD. 840.22	M.D.I. FRAME WITH TWO GRATES STD. 840.22	M.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	J.B. STD. 840.31 OR 840.32	T.B.D.I. STD. 840.35	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
19+42.50 -L-	LT.	1		63.596	60.426																								1																1		1	2@15"				
19+42.50 -L-	LT.	1	2		60.426	53.600											36'																																			OUTLET PIPE, CL. 'B' RIP RAP REQ'D
19+42.50 -L-	RT.	3		63.596	60.426																								1																1		1	2@15"				
19+42.50 -L-	RT.	3	4		60.426	55.300											32'																																			OUTLET PIPE, CL. 'B' RIP RAP REQ'D
TOTAL																	68'												2																2		2	4@15"				

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	LENGTH SHOP CURVED	LENGTH DOUBLE FACED	WARRANT POINT APPROACH END	WARRANT POINT TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS XI MOD	XI	GRAU 350	M-350	XIII	CAT-1	VI MOD	BIC	AT-1	IMPACT ATTENUATOR TYPE 350 NO.	PERMITTED G	NG	SINGLE FACED CONCRETE BARRIERS			REMARKS
-L-	14+74.00	17+86.50	RT.	312.50'			17+86.50		4.50'	11.00'	175.00'		9.00'				1		1											
-L-	16+36.50	17+86.50	LT.	150.00'				17+86.50	4.50'	11.00'		68.75'		6.87'			1		1											BRIDGE WARRANT
-L-	19+20.50	20+70.00	RT.	150.00'				19+32.50	4.50'	11.00'		68.75'		6.87'			1		1											BRIDGE WARRANT
-L-	19+20.50	22+32.50	LT.	312.50'			19+20.50		4.50'	11.00'	175.00'		9.00'				1		1											BRIDGE WARRANT
			SUB-TOTAL	925.00'												TOTAL	4		4											BRIDGE WARRANT
		LESS ANCHOR UNIT DEDUCTIONS		275.00'																										
			PROJECT TOTAL	650.00'											GUARDRAIL ANCHOR UNIT DEDUCTIONS															
															GRAU 350		4 @	50.00' =	200.00'											
																TYPE III	4 @	18.75' =	75.00'											
																		TOTAL	275.00'											
TEMPORARY GUARDRAIL																														
-DETOUR-	15+89.50	18+02.00	RT.	212.50'			18+02.00		2.00'	9.00'	143.75'		5.88'				1		1											BRIDGE WARRANT
-DETOUR-	16+37.00	18+02.00	LT.	87.50'				18+02.00	2.00'	6.00'				3.38'			1		1											BRIDGE WARRANT
-DETOUR-	19+12.00	19+99.50	RT.	87.50'				19+12.00	2.00'	9.00'		18.75'		3.38'			1		1											BRIDGE WARRANT
-DETOUR-	19+12.00	21+24.50	LT.	212.50'			19+12.00		2.00'	6.00'			3.88'				1		1											BRIDGE WARRANT
-L-	*	*	RT.														1**													BRIDGE WARRANT
-L-	*	*	RT.														1**													BRIDGE WARRANT
			SUB-TOTAL	600.00'											GUARDRAIL ANCHOR UNIT DEDUCTIONS															
		LESS ANCHOR UNIT DEDUCTIONS		275.00'											GRAU 350		4 @	50.00' =	200.00'											
			PROJECT TOTAL	325.00'												TYPE III	4 @	18.75' =	75.00'											
																		TOTAL	275.00'											

6/21/00

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