COMPUTED BY: GB DATE: 6-04-03
CHECKED BY: RVP DATE: 3-15-04

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-3504	3-A

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

STATION	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"	15"	18"	24"	30"	36"	42"	48"	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. (N.S.) FRAME WITH TWO GRATES STD. 840.29	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. 840.24	J.B. STD. 840.31 OR 840.32	T.B.D.I. STD. 840.35	CONC BRIDGE APPROACH DI (SEE SHEET 2-C)	PIPE CLEAN OUT	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
SIZE / THICKNESS OR GAUGE		FROM	TO													.064	.064	.064	.064	.079	.079	.109	.109																													
14+26	RT	1																							36																										36	REMOVE EXISTING 18" PIPE
17+11.56	CL	2	3		433.9	433.8									76												6.0																									REMOVE EXISTING 48" CSP & REPLACE W/48" RCP
17+80	LT																																																		40	REMOVE EXISTING 48" C.M. PIPE
17+93.85	LT	4		443.1	440.3																								1										1								1						
17+93.85	LT	4	5		440.3	433.7											16																																	2@15				
19+65.58	LT	6		448.8	446.0																								1										1							1							
19+65.58	LT	6	7		446.0	435.0											32																																	2@15				
20+95	RT																																																		34	REMOVE EXISTING 18" CONC. PIPE
15+00	RT	1A																							36																											
PROJECT TOTAL															76		48								72		6.0		2										2							1	1					4@15			110	

"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

	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 TYPE 350	III	CAT-1	AT-1	M-350	XI	IMPACT ATTENUATOR TYPE 350 EA	G	NG	REMARKS
-L-	15+89.62	18+02.12	RT	212.5			18+02.12		2	9	195.75		3.875		1	1								
-L-	17+22.36	18+09.86	LT	87.5				18+09.86	6	9		50		1	1	1								
-L-	19+31.00	22+74.75	RT	343.75				22+75 (F)	6	9		50		1	1	1								
-L-	19+40.87	22+78.37	LT	337.5			22+75 (F)		6	9	50		1		1	1								
	SUB-TOTAL			981.25											4	4								
	LESS ANCHORS			-275.00																				
	TOTAL			706.25																				
	SAY			712.5																				
	ADDITIONAL GUARDRAIL POSTS			5 EA.																				

ANCHOR DEDUCTIONS

TYPE III 4@18.75' = 75.00'
GRAU-350 4@50' = 200.00'
TOTAL = 275.00'

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

6/21/00

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