6/21/00

COMPUTED BY: S.L.C. DATE: 3-3-04
CHECKED BY: R.E.R. DATE: 3-3-04

PROJECT REFERENCE NO.	SHEET NO.
B-3649	3-A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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 OTHERWISE) 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.	CU. YDS. C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. PER EACH (0' THRU 5.0')	LIN. FT. 5.0' THRU 10.0' A	LIN. FT. 10.0' AND ABOVE B	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. 840.24	J.B. STD. 840.31 OR 840.32	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	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
11+25.00		RT	1																						20'																							25'	Remove Existing 18" Conc. Pipe
13+75.00		LT	2																					32'																								
15+50.00		LT	3		623.8																								1																				
		LT	3	4		621.05	603.0											108'																														
15+60.00		RT	5																						20'																							26'	Remove Existing 12" Clay Pipe
19+18.82		RT	6		620.8																								1																				
		CL	6	7		617.6	617.3				56'																																						
20+42.00		CL	8																																											.090		Plug Existing 15" Conc. Pipe
TOTAL											56'							108'						32'	40'				2																	2@15"		1	51'	

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 TYPE III	ANCHORS TYPE 350	IMPACT ATTENUATOR TYPE 350 EA	IMPACT ATTENUATOR TYPE 350 G	IMPACT ATTENUATOR TYPE 350 NG	REMARKS
L	15+84.33	16+53.08	RT	68.75'				BRIDGE	6'	11'	50'		1'		1	1				
L	18+48.06	20+29.31	RT	181.25'			BRIDGE		6'	11'		162.5'		3.25'	1	1				
L	18+24.44	20+30.69	LT	206.25'				BRIDGE	3'	11'	187.5'		3.75'		1	1				
L	14+66.86	16+35.61	LT	168.75'			BRIDGE		3'	11'		150'		3'	1	1				
SUBTOTAL				625.00'																
				-275.00'																
TOTAL				350.00'											4	4				

DEDUCTION FOR ANCHOR UNITS
TYPE 350 4 @ 50' = 200.00'
TYPE III 4 @ 18.75' = 75.00'
TOTAL 275.00'

5 ADDITIONAL GUARDRAIL POSTS

* *ASPHALT PAVEMENT REMOVAL AND BREAKING SUMMARY*
IN SQUARE YARDS

LINE	STATION TO STATION	LOCATION	REMOVAL	BREAK-UP
-L-	11+00.00 TO 15+50.00	EXISTING ROADBED	735	
-L-	15+50.00 TO 16+30.00	EXISTING ROADBED		177
-L-	16+30.00 TO 17+09.00	EXISTING ROADBED	175	
-L-	17+57.00 TO 18+50.00	EXISTING ROADBED	200	
-L-	18+70.00 TO 19+50.00	EXISTING ROADBED		172
-L-	19+50.00 TO 20+90.00	EXISTING ROADBED	39	
	TOTAL		1149	349
	SAY		1150	350

* *APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, SHOULDER BORROW, FINE GRADING, CLEARING AND GRUBBING, BREAKING OF EXISTING PAVEMENT, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING".*
NOTE: BORROW EXCAVATION WILL BE PAID FOR AS A SEPARATE PAY ITEM.

* *SUMMARY OF EARTHWORK*
IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
-L- STA. 10+00.00 TO 16+59.20 (BEGIN BRIDGE)	880	0	1953	1073	0
-L- STA. 18+19.20 (END BRIDGE) TO 22+00.00	865	0	1445	580	0
TOTALS	1745	0	3398	1653	0
ESTIMATED SHOULDER MATERIAL			689	689	
LOSS DUE TO CLEARING & GRUBBING	-200			200	
PROJECT TOTALS	1545	0	4087	2542	0
ESTIMATED 5% TO REPLACE TOPSOIL ON BORROW PIT				129	
GRAND TOTALS	1545	0	4087	2671	0
SAY	1600			2750	

EST. DRAINAGE DITCH EXCAVATION = 145 CY
EST. UNDERCUT = 500 CY

06-MAY-2004 07:17
R:\PROJECTS\B3649_AT_HD206395
JL league