COMPUTED BY: L. JAH DATE: 9/3/2015
CHECKED BY: SKR DATE: 7/5/2016

PROJECT REFERENCE NO.	SHEET NO.
B-5546	3B-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NOTE: Invert Elevations are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

SUB-REGIONAL
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	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
–L– 14+19.00	LT	401		520.37'	516.70'														
–L– 14+19.00	LT	401	402		516.70'	516.65'			12										
PROJECT TOTALS									12										

STATION / SIZE / THICKNESS OR GAUGE	C.S. PIPE 12"	15"	18"	24"	36"	42"	48"	R.C. PIPE (CLASS III) 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE (CLASS IV) 12"	15"	18"	24"	30"	36"	42"	48"
	.064	.064	.064	.064	.079	.109	.109															
–L– 14+19.00																						
–L– 14+19.00																						
PROJECT TOTALS																						

STATION	*** R. C. PIPE (CLASS V)	*** R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	*** R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	LIN. FT. (* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') 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	CONCRETE TRANSITIONAL SECTION CATCH BASIN	DROP INLET	T.B.D.I. STD. 840.35 OR STD. 840.46	G.D.I. FRAME WITH GRATE STD. 840.22	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	J.B. STD. 840.31 OR 840.32	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
–L– 14+19.00								1									1				1	
–L– 14+19.00																						
PROJECT TOTALS								1									1				1	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED 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 JUNCTION BOX

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION		UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
–L– STA. 11+25.00	–L– STA. 13+17.38	21		215	194	
	(BEGIN BRIDGE)					
SUBTOTAL 1		21		215	194	
–L– STA. 13+94.63	–L– STA. 17+25.00	36		188	152	
(END BRIDGE)						
SUBTOTAL 2		36		188	152	
PROJECT SUBTOTAL		57		403	346	
PROJECT TOTAL		57		403	346	
EST. 5% TO REPLACE TOPSOIL ON BORROW PITS					17	
GRAND TOTAL		57			363	
SAY		75			400	

ESTIMATED UNDERCUT EXCAVATION = 100 CUBIC YARDS
ESTIMATED SHALLOW UNDERCUT = 100 CUBIC YARDS
ESTIMATED SELECT GRANULAR MATERIAL = 100 CUBIC YARDS
ESTIMATED DRAINAGE DITCH EXCAVATION = 30 CUBIC YARDS

SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	SQ. YD.
–L–	12+70.00	13+33.00	CL	142.10
–L–	13+77.00	14+40.00	CL	135.53
–L–	14+54.00	17+25.00	LT	62.05
			TOTAL:	339.68
			SAY:	350

SUMMARY OF SHOULDER BERM GUTTER

SURVEY LINE	STATION	STATION	LOCATION	LENGTH
–L–	14+05.05	14+24.00	LT	18.95'
			TOTAL	18.95'
			SAY	20.00'

"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

Note: Approximate quantities only. Unclassified Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	SHOP CURVED	DOUBLE FACED	WARRANT POINT APPROACH END	TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	TRAILING END	W APPROACH END	TRAILING END	ANCHORS XI MOD	XI	GRAU 350 TL-2	M-350	TYPE III	CAT-1	VI MOD	BIC	AT-1	IMPACT ATTENUATOR TYPE 350 EA	G	NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
–L–	12+36.13	13+17.38	LT	81.25'				BRIDGE	3.92'	6.92'		37.50'		0.75'			1		1											
–L–	12+36.13	13+17.38	RT	81.25'			BRIDGE		3.92'	6.92'	37.50'		0.75'				1		1											
–L–	13+94.63	14+75.88	LT	81.25'			BRIDGE		3.92'	6.92'	37.50'		0.75'				1		1											
–L–	13+94.63	14+75.88	RT	81.25'				BRIDGE	3.92'	6.92'		37.50'		0.75'			1		1											
			TOTAL	325.00'													4		4											
		LESS DEDUCTION	FOR ANCHOR UNITS																											
			GRAU TL-2 4@25'	-100.00'																										
			TYPE-III 4@18.75'	-75.00'																										
			GRAND TOTAL	150.00'																										
ADDITIONAL GUARDRAIL POSTS 5 EACH			SAY	150.00'																										

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