STV Engineers, Inc. 900 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0991	PROJECT REFERENCE NO.	SHEET NO.
	B-5813	3B-1
	R/W SHEET NO.	

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

EARTHWORK QUANTITIES ARE CALCULATED BY USING NCDOT – ROADWAY DESIGN GUIDELINES. THESE QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

EARTHWORK SUMMARY (IN CUBIC YARDS)

CHAIN	FROM STATION	TO STATION	SIDE	UNCL. EXCAVATION	EMBT+%	BORROW	WASTE
–L–	12+70.00	20+81.00	LT & RT	2,591	8,722	6,131	
–L–	22+89.00	31+30.00	LT & RT	410	11,162	10,752	
–Y–	10+30.00	13+81.42	LT & RT	93	2,086	1,993	
TOTAL				3,094	21,970	18,876	
SELECT MATERIAL IN LIEU OF BORROW					–9,000	–9,000	
PROJECT TOTAL				3,094	12,970	9,876	
ESTIMATE 5% FOR TOPSOIL ON BORROW PITS						494	
GRAND TOTAL				3,094	12,970	10,369	
SAY				3,100		10,500	

CONTINGENCY UNDERCUT: 450 CY
CONTINGENCY SELECT GRANULAR MATERIAL: 400 CY
DDE = 1600 CY

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."

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD^2
–L–	15+80.22	20+85.42	RT	1076
–L–	22+73.76	25+75.19	RT	735
–L–	26+45.63	26+87.01	RT	25
–L–	29+93.04	30+04.28	RT	1
			TOTAL:	1,837
			SAY:	1,840

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 FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, OR PVC) 12"	15"	18"	24"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	R.C. PIPE CLASS III 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"
–L– STA. 20+40.5	RT	502		530.3																											
		502	501		527.0	522.3				28		X																			
–Y– STA. 12+58	LT	801			526.7	523.5												44													
–L– STA. 31+05	RT	701			544.5	544.8																				32					
–Y– STA. 12+41	LT																														
TOTAL										28								44								32					

STATION	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EA	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 STANDARD 840.03 GRATE TYPE E	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 825.05	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	CONCRETE BRIDGE APPROACH D.I. STD. 840.13	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
–L– STA. 20+40.5				1																
–Y– STA. 12+58																				
–L– STA. 31+05																				
–Y– STA. 12+41																				
TOTAL				1																

STATION	G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.20	G.D.I. (W.S. FLAT) FRAME WITH TWO GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME WITH GRATE STD. 840.22	G.D.I. (W.S. SAG) FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S. SAG) FRAME WITH TWO GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME WITH GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME WITH TWO GRATES STD. 840.29	DRIVEWAY D.I. STD. 840.30	FRAME WITH GRATE FOR DRIVEWAY STD. 840.30	J.B. STD. 840.31 OR STD. 840.32	ANGLED VAN GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	18" DRAINAGE PIPE ELBOW	CONC. & BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN.FT. LIN. FT.	REMARKS
–L– STA. 20+40.5								1						1				
															2			
–Y– STA. 12+58																		
–L– STA. 31+05																		
–Y– STA. 12+41																	21	
TOTAL								1						1	2		21	

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

"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 SHOUL. WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS XI MOD	B-77	GREU TL-3	TEMP GREU TL-3	TEMP TYPE III MOD.	CAT-1	TEMP GREU TL-2	TEMP TYPE III	AT-1	IMPACT ATTENUATOR TYPE 350 EA	G	NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
–L–	17+70.30	20+89.00	LT	322.875				20+89.00	4.0 – 9.0	7.0 – 12.0		250.00		5.0		1	1													
–L–	17+71.01	20+72.99	RT	297.875			20+72.99		4.0 – 9.0	7.0 – 12.0	250.00		5.0			1	1											119.00		
–L–	22+97.00	24+19.86	LT	122.875			22+97.00		4.0 – 6.0	7.0 – 9.0	100.00		2.0			1	1													
–L–	24+65.72	25+76.99	LT	112.500			22+97.00		9.0 – 10.4	12.0 – 13.4	100.00		1.4				2													
–L–	22+80.99	25+29.06	RT	247.875				22+89.00	4.0 – 8.4	7.0 – 11.4		225.00		4.4		1	1											130.00		
TOTAL:				1104.00												4	6											249.00		
DEDUCTION FOR ANCHOR UNITS:																														
(4 B-77 @ 22.875')				–91.50																										
(6 GREU TL-3 @ 50')				–300.00																										
TOTAL GUARDRAIL LENGTH:				712.50																										
SAY:				712.50 LF																								250.00 LF		
ADDITIONAL GUARDRAIL POSTS = 5 EA																														
TEMPORARY GUARDRAIL																														
–L–	16+96+/–	20+85+/–	RT	389.00														1	1											
–L–	22+74+/–	25+05+/–	RT	231.00														1	1											
TOTAL:				620.00														2	2											
DEDUCTION FOR ANCHOR UNITS:																														
(2 TEMP TYPE III MOD. @ 18.75')				–37.50																										
(2 TEMP GREU TL-3 @ 50')				–100.00																										
TOTAL GUARDRAIL LENGTH:				482.50																										
SAY:				487.50 LF																										

3/24/2021
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MooreDS