

February 22, 2017

STATE PROJECT:	17BP.8.R.114 (SF-520016)
PROJECT ID:	29447
COUNTY:	Lee
DESCRIPTION:	Bridge No. 16 on SR 1509 (San-Lee Dr.) over Lick Creek

SUBJECT: GEOTECHNICAL REPORT - INVENTORY

PROJECT DESCRIPTION

This project consists of the reconstruction of SR 1509 (-L-) which is a two-lane roadway as part of the replacement of Bridge No. 16 over Lick Creek.

The geotechnical investigation was conducted in January of 2017. Standard Penetration Test borings were advanced with a CME 55 utilizing an automatic hammer. Hand auger borings were also completed. Representative soil samples were collected for visual classification in the field.

The following alignment, totaling 1,070 feet, was investigated.

<u>LINE</u>	STATIONS
-L-	12+15 to 22+85

PHYSIOGRAPHY AND GEOLOGY

The project is located in the Piedmont Physiographic Province. The project corridor is comprised primarily of undeveloped properties. The general topography along the project consists of moderate slopes.

Geologically, the site is located within the Triassic Basin. Soils are derived from the underlying sedimentary rocks. The bedrock primarily consists of Triassic mudstone.

SOIL PROPERTIES

Materials encountered during this investigation are separated into three categories based on origin. They consist of roadway embankment, alluvial, and residual.

Roadway Embankment soils are present along the existing roadway (-L-) on the project. These soils consist of dry to moist, very loose to medium dense, non-plastic to potentially highly plastic, fine to coarse sands and clayey, fine to coarse sands (A-3, A-2-6, A-2-7), and moist, soft to medium stiff, slightly to potentially highly plastic, fine sandy clays, and silty clays (A-6, A-7).

Soils identified as alluvial consist of moist to wet, very loose to medium dense, non-plastic to potentially highly plastic, silty, fine to coarse sands, fine to coarse sands, clayey, fine to coarse sands (A-1, A-2-4, A-3, A-2-7), moist to wet, soft to medium stiff, non-platic, fine to coarse sandy 20151548.036A | GSO17R54140 Page 1 February 22, 2017 © 2017 Kleinfelder www.kleinfelder.com

silts (A-4), and moist to wet, medium stiff to hard, slightly to potentially highly plastic, fine sandy clays, and silty clays (A-6, A-7).

Soils identified as residual consist of moist, hard, moderately to potentially highly plastic, silty clays (A-7).

ROCK PROPERTIES

Weathered rock was encountered along the existing roadway (-L-) at elevations ranging from 235.1 to 243.8 feet (MSL). The weathered rock consists of brown and reddish brown mudstone. Non-crystalline rock was encountered along the existing roadway (-L-) at elevations ranging from 229.7 to 235.2 feet (MSL). The non-crystalline rock consists of mudstone.

GROUNDWATER

Groundwater was encountered at elevations ranging from 243.3 to 253.3 feet MSL along the proposed roadway of the project. Some fluctuation in groundwater levels can occur with climatic and seasonal variations. Therefore, subsurface water conditions at other times may be different from those described in this report.

Prepared by,



BAJ/XCB:cas Attachment



WBS	17BP	.8.R.11	4		Т	P	SF-52	2001	16	C	COUN	ITY	LE	Ξ				GEOLOGIST D. Kubinski
SITE	DESCR	IPTION	Bric	lge No). 16 o	n SF	1509	9 (S	San-Le	e Dr	ive) c	over	Lick	Creel	<			GROUND WTR (ft)
BOR	NG NO.	. L_13	25		S	TATI	ON	13+	+25			0	OFFS	SET :	35 ft LT			ALIGNMENT -L- 0 HR. Dry
COLI	AR ELI	EV. 26	60.7 ft		Т	ΟΤΑ	L DEF	РТН	i 14.9	9 ft		1	NOR	THING	633,8	850		EASTING 1,962,311 24 HR. 4.5
DRILL	RIG/HA	MMER E	FF./DA	TE F&	&R3495	CME	E-55 8	80% (02/16/2	016					DRILL	IETHO	D H	I.S. Augers HAMMER TYPE Automatic
DRIL	LER D	. Tigno	r		S	TAR	T DA	TE	01/0	5/17		0	COM	P. DA	TE 01/	06/17	-	SURFACE WATER DEPTH N/A
ELEV	DRIVE ELEV	DEPTH	BLC					25	BLOW	S PE	r fo	ЭТ 7	5	100	SAMP.		L	SOIL AND ROCK DESCRIPTION
(-7	(π)	(7	0.51	0.51	0.51	\parallel			·					100	NO.		I G	ELEV. (ft) DEPTH (ft
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260	260.7 -	<u> </u>	2	3	3		6								SS-1	м		- ALLUVIAL
	257.0	+				¦	· · · ·	:	· · · · · ·	:	· · · ·		· · · ·	· · · ·		1_		Yellowish Brown, Fine to Coarse Sandy SILT
255	-201.0	- 0.7	2	1	3	1 ↓	4 • •	•	· · · ·	:			· · · ·	•••				-
	-	F				[-										M		- 253.7 7.0 TDIASSIC DESIDITAL
	252.0	8.7	14	23	21	:	•••						•••	•••		м		- Reddish Brown, Fine to Coarse, Sandy, Silty
250	-	F					· ·	•										
	247.0	[13.7					•••			r F			•••	•••				- 246.5 14.2
		<u> </u>	19	65	35/0.2	μ.				÷⊢			<u> </u>	00/0.7			34774	- 245.8 WEATHERED ROCK 14.9
	-	ŧ																Boring Terminated at Elevation 245.8 ft in
	-	ŧ																MUDSTONE
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WBS	17BP.	8.R.11	4		ТІ	P SF-520	016	COUNT	Y LEE					GEOLOGIST D. Kubins	ski		
SITE	DESCR	IPTION	Brid	lge No	. 16 or	n SR 1509	(San-Lee	Drive) ov	er Lick Cı	reek						GROUN	D WTR (ft)
BOR	ING NO.	L_18	00		S	TATION 1	8+00		OFFSE	Г 2	0 ft LT			ALIGNMENT -L-		0 HR.	4.0
COL		EV . 24	8.3 ft		т	OTAL DEP	TH 6.0 ft		NORTH	ING	633,6	94		EASTING 1,962,756		24 HR.	FIAD
DRILL	RIG/HAI	MMER E	FF./DA	TE N/	A				1		DRILL	IETHO	D H	and Auger	HAMM	ER TYPE	N/A
DRIL	LER N	/A			S	TART DAT	E 01/05/	17	COMP.	DAT	E 01/	05/17		SURFACE WATER DEP	TH N/	'A	
ELEV	DRIVE	DEPTH	BLC	ow cou	JNT		BLOWS	PER FOOT	1 Г		SAMP.	▼/	L				
(ft)	ELEV (ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25	50	75 1	00	NO.	мо	G	SOIL AND ROU ELEV. (ft)	K DESU	CRIPTION	DEPTH (ft)
							•	•	•								
250																	
200	-	-) SURFA	ACE	0.0
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245	-	-								·		м		Brown, Fine	e Sandy	CLAY	9.01.
	-								· · · · · · · ·	:		W		- 242.3			6.0
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SITE	DESCR	IPTION	l Bric	lge No	. 16 o	n SR	1509) (Sa	n-Lee	Drive)	ovei	r Lick (Creek	[GROUN	ND WTR (ft)
BOR	ING NO	. EB1-	A		S	TATIO	ON 1	18+6	64			OFFS	ET 4	l ft LT			ALIGNMENT -L-		0 HR.	11.0
COL	LAR ELI	EV. 25	54.2 ft		Т	OTAL	DEP	тн	29.3 f	t		NORT	HING	633,6	60		EASTING 1,962,813		24 HR.	9.5
DRILI	RIG/HA	MMER E	FF./DA	TE F8	kR3495	CME	55 80	0% 02	2/16/201	6				DRILL N	IETHO	DН	.S. Augers	HAMM	ER TYPE	Automatic
DRIL	LER D	. Tigno	r		S	TART	DAT	Έ	01/05/1	7		COMF	P. DA	TE 01/0	06/17		SURFACE WATER DEP	TH N/	A	
ELEV (ft)	DRIVE ELEV	DEPTH (ft)	BLC		UNT	0		В 25	BLOWS	PER FO	TOC	75	100	SAMP.		L O	SOIL AND ROO	CK DESC	RIPTION	
	(10)									1		1				6				
255																				
200	254.2	0.0	5	2	4			<u> </u>		· · ·		· · ·					254.2 GROUNE			0.0
		‡		_		!	5 		· · · · · ·		· · · ·		· · ·			_∟_	Yellowish Brown, C	layey, Fi	ine to Coa	rse
250	250.3	3.9		1	2					· ·	• •	· ·	• •			」		AND		
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		+				¦	· · ·		· · ·	· ·	· · · ·		· ·					UVIAL		7.0
245	245.3	8.9	2	2	4			+		<u> </u>	<u> </u>	<u> </u>					Yellowish Brown, F	ine Sand	ly, Silty CL	_AY
		ł				·		+-			•••		•••				242.2			12.0
240	240.3	13.9															- TRIASSIC - Reddish Brown, Fi	ne Sand	U AL y, Silty CL	AY
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235	235.3	18.9	33	67/0.3	-					· · ·			•••				- WEATHE - Reddish Brown TF	RIASSIC	MUDSTO	NE
	-	‡				:	· · ·		· · · · · ·		· · · ·	. 10					-			
220	230.3	+ 23.0				:	· · · · · ·		· · · · · ·		· · · ·						-			
230		- 20.0	41	59/0.3	1			+				. 10	00/0.8				-			
		+				:	· · ·		· · · · · ·	· · ·	· · · ·	· ·	::				-			
225	225.3	28.9	100/0 /	1		Ŀ		•				<u> </u>					224.9			29.3
		ł	100/0.2	1								10	00/0.4				Boring Terminated	at Elevat ROCK: 1	ion 224.9 RIASSIC	ft in
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WBS	17BP.	8.R.11	4		ТІ	P SF-5	20016	COUNT	Y LEE				GEOLOGIST D. Kubin	ski		
SITE	DESCR	IPTION	l Brid	lge No	. 16 or	n SR 150	9 (San-Lee	Drive) ove	er Lick Creel	ĸ					GROUN	D WTR (ft)
BOR	ING NO.	EB1-	·B		S	TATION	18+65		OFFSET	17 ft RT			ALIGNMENT -L-		0 HR.	11.0
COL		EV. 25	54.4 ft		т	OTAL DE	PTH 29.7	ft	NORTHING	633,6	40		EASTING 1,962,807		24 HR.	9.5
DRILI	RIG/HAI	MMER E	FF./DA	TE F8	&R3495	CME-55	80% 02/16/201	6		DRILL	IETHO) Н.	S. Augers	HAMME	R TYPE	Automatic
DRIL	LER D	. Tigno	r		S		TE 01/05/	17	COMP. DA	TE 01/	06/17		SURFACE WATER DEP	TH N/A	4	
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLC 0.5ft	0.5ft	UNT 0.5ft	0	BLOWS	PER FOOT 50	75 100	SAMP. NO.	моі	O G	SOIL AND RO	CK DESC	RIPTION	DEPTH (ft)
255 250 245 240 235 230 225		0.0 3.8 8.8 13.8 13.8 18.8 23.8 28.8	1 WOH 1 12 60/0.1	2 2 3 21 34 85/0.4	4 3 4 66/0.2						MOI M M M		254.4 GROUN 251.9 Yellowish Brown, Br 261.9 Fine to Coarse SA Yellowish Brown, Fine to Coarse SA Yellowish Brown 246.9 ALL Yellowish Brown, Fine Yellowish Brown, Fine 246.9 ALL Yellowish Brown, Fine Yellowish Brown, Fine 246.9 ALL Yellowish Brown, Fine Silty, Fiin 240.1 TRIASSII Reddish Brown, Fine Silty, Fiin 230.6 Reddish Brown Th 230.6 NON-CRYS Reddish Brown Th Silty, Fiin 227.4 WEATHE Dark Reddish Brown Th Silty, Fiin 224.7 Dark Reddish Brown Th 224.7 Dark Reddish Brown Th	D SURFA EMBANK own, and ND with 1 , Fine Sa 	CE MENT Black, Cla Irace Grav ndy CLAY y, Silty CLA rse SAND JAL r, Silty CLA MUDSTON CK MUDSTON CK MUDSTON CK MUDSTON CK MUDSTON CK MUDSTON CK MUDSTON CK MUDSTON CK MUDSTON CK MUDSTON CK MUDSTON CK	0.0 yey,2.5 7.5 AY 12.0 14.3 Y 19.3 IE 23.8 IE23.8 IE27.0 m29.7 t in
													. WEATHERED MUE	NOCK: I DSTONE .0 to 0.2 f	riassic ioot)	

WBS	17BP.	8.R.11	4		TI	P SF-52	0016	COUNT	Y LEE				GEOLOGIST D. Kubin	ski		
SITE	DESCR	IPTION	Brid	lge No	. 16 oi	n SR 1509	(San-Lee	Drive) ove	er Lick Creel	K					GROUN	D WTR (ft)
BOR	ING NO.	EB2-	A		S	TATION	19+45		OFFSET 4	4 ft LT			ALIGNMENT -L-		0 HR.	11.0
COL	LAR ELE	EV. 25	53.7 ft		т	OTAL DEP	TH 28.7	ft	NORTHING	6 33,6	35		EASTING 1,962,890		24 HR.	10.0
DRILL	RIG/HAI	MMER E	FF./DA	TE F&	&R3495	CME-55 80	% 02/16/201	6		DRILL	IETHOD) H.S	S. Augers	HAMME	R TYPE	Automatic
DRIL	LER D	. Tigno	r		S	TART DAT	E 01/04/	17	COMP. DA	TE 01/	05/17		SURFACE WATER DEP	TH N/A	4	
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLC 0.5ft	OW COU 0.5ft	UNT 0.5ft	0	BLOWS	PER FOOT 50	75 100	SAMP. NO.	моі	L O G	SOIL AND ROU ELEV. (ft)	CK DESC	RIPTION	DEPTH (ft)
255 250	253.7 - - 250.0	- <u>0.0</u> - <u>3.7</u>	14 WOH	6 WOH	5 WOH			· · · · ·				/ / / / / / / / / / / / / / / / / / /	253.7 GROUN ROADWAY Yellowish Brown, (S	D SURFA EMBANK Clayey, Fir AND	CE MENT ne to Coar	0.0 se
245	- - - - - - - - - - -	- - - 8.7 -	WOH	WOH	WOH							00% % % % % % % % %	246.7 ALI - Yellowish Brown, Coar 242.2 Gray, Silty, Fine to C	UVIAL Silty, Clay se SAND	yey, Fine t	7.0 0 <u>11.5</u> race
240	240.0	13.7	2	4	37		• • • • • • • • • • • • • • • • • • •	· · · · ·			w		Wood Chi 239.0 TRIASSI	ps and Gr	avel	14.7
235	235.0	18.7	100/0.5	5					. 100/0.5		2 Kaliy C Ka		236.7 Reddish Brown, F WEATHE - Reddish Brown TF	ine Sandy ERED RO RIASSIC N	, Silty CLA CK MUDSTON	N <u>Y 17.0</u> IE
230	- 230.0	23.7	100/0.2	5			· · · · · · · · · · · · · · · · · · ·		100/0.2		עמו ג כ אמו ג כ אמו		-			
225 אכטטו גטרב ארגעטוף הביט געריטי הייז אין יהיי אין יהיי אין אנישו אנטטו געבעוין			60/0.0						60/0.0				225.0 Boring Terminate PENETRATION Elevation 225.0 ft o ROCK: TRIAS	d WITH S TEST RE n NON-CI SIC MUD	TANDARI FUSAL at RYSTALLI STONE	NE

WD3	17BP.	8.R.11	4		TI	P SF-520	016	COUNT	Y LEE				GEOLOGIST D. Kubinski		
SITE	DESCR	IPTION	Brid	lge No	. 16 or	n SR 1509	(San-Lee	Drive) ove	er Lick Creel	K				GROUN	ID WTR (ft)
BOR	ing no.	EB2-	В		S	TATION 1	9+46		OFFSET	18 ft RT			ALIGNMENT -L-	0 HR.	Dry
COLI	LAR ELE	IV . 25	3.3 ft		т	OTAL DEPT	H 28.7	ft	NORTHING	633,6	14		EASTING 1,962,884	24 HR.	18.5
DRILL	. RIG/HAI	MMER E	FF./DA	TE F8	R3495	CME-55 80%	% 02/16/201	6		DRILL	IETHO	DH.	S. Augers HA	MMER TYPE	Automatic
DRIL	LER D	. Tigno	r I		S		01/05/	17	COMP. DA	TE 01/	06/17		SURFACE WATER DEPTH	N/A	
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLC 0.5ft	0.5ft	JNT 0.5ft	0 2	BLOWS	PER FOOT	75 100	SAMP. NO.	моі	O G	SOIL AND ROCK D	ESCRIPTION	DEPTH (ft)
<u>255</u> 250	253.3	- 0.0	1	2	3	•5	· · · · · · · · · · · · · · · · · · ·	· · · ·	· · · · · · · · · · · · · · · · · · ·		M		- <u>253.3 GROUND SU</u> ROADWAY EMB 250.8 Yellowish Brown and Bro Coarse SAND with	RFACE ANKMENT own, Silty, Fin Trace Gravel	0.0 e to
245	249.7	- <u>3.6</u> - - -	1	1	2		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			М		Brown and Reddish Brov Sandy, Silty 245.8	rn, Fine to Co CLAY	 arse
240		<u>- 8.0</u> - - - - 13.6	1	2	1	•3 · · · · • · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · ·	· · · · · · · · · · · · · · · · · · ·		w	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Brown, Fine to Co	arse SAND	
		-	1	2	3	•5 ^{: · ·}	· · · · ·	· · · · ·	· · · · ·		w	Ň	238.5 TRIASSIC RE: 236.3 Reddish Brown, Fine So	SIDUAL andy, Silty CL	14.8 AY 17.0
235		- 18.6 -	100/0.4				· · · · ·		- 100/0.4	,			WEATHERED Reddish Brown TRIASS	ROCK BIC MUDSTO	NE
230	- 229.7 - -	- - 23.6 - -	60/0.1				· · · · ·	· · · · ·	60/0.1	,			229.7 NON-CRYSTALL Reddish Brown TRIASS	INE ROCK BIC MUDSTO	23.6 NE
225		- <u>- 28.6</u> -	60/0.1			· · · · ·		 	60/0.1				- <u>– 224.6</u> Boring Terminated WI PENETRATION TES Elevation 224.6 ft in NO	TH STANDAR T REFUSAL a N-CRYSTALL	28.7 D t
													Elevation 224.6 ft in NO ROCK: TRIASSIC I	N-CRYSTALL MUDSTONE	INE

WBS	17 BP	.8.R.11	4		ТІ	P SF	-5200	016	COU	YTY	LEE				GEOLOGIST D. Kubins	ki		
SITE	DESCR		Brid	lge No). 16 oi	n SR 1	509 (San-Lee	Drive)	over l	Lick Cree	k					GROUN	ID WTR (ft)
BOR	ING NO	. L_19	75		S	ΤΑΤΙΟ	N 19	9+75		0	FFSET	15 ft RT			ALIGNMENT -L-		0 HR.	13.0
COL	LAR ELI	EV. 25	53.3 ft		т	OTAL I	DEPT	H 18.9	ft	N	ORTHING	G 633,6	808		EASTING 1,962,913		24 HR.	FIAD
DRIL	L RIG/HA	MMER E	FF./DA	TE F	&R3495	CME-5	5 80%	6 02/16/20 ⁻	16			DRILL N	IETHO	DН	.S. Augers	HAMM	ER TYPE	Automatic
DRIL	.LER D	. Tigno	r		S	TART I	DATE	01/06/	17	C	omp. Da	TE 01/	06/17		SURFACE WATER DEPT	TH N/	A	
ELEV	DRIVE ELEV	DEPTH	BLC	ow co				BLOWS	PER FO	ОТ		SAMP.	▼∕		SOIL AND ROC	K DESC	CRIPTION	
(π)	(ft)	(π)	0.5ft	0.5ft	0.5ft	0	2	5	50	75	100	NO.	/моі	G	ELEV. (ft)			DEPTH (ft)
255		ŀ													_			
	252.8	- 0.5	7	7	6		· ·			• •	• • • •			- 00	- 253.3 GROUND - 252.8 - 251.8	SURF#	ACE Kment	0.(
250	-	ŧ	'	'			9 13 [•]			•••	· · · ·		М		Asphalt (0.	0 to 0.5	foot)	
	249.5	+ 3.8 +	3	2	4								м			Gravel		
	-	ŧ					•••			•••					- Reddish Brown to 1 - 246.3 Sandy, S	Bilty CLA	AY	ine 7.0
245	244.5	- 8.8				ļĻ	• •		· · ·	•••					- ALL Brown and Grav	JVIAL Fine S	andv SILT	
	-	ŧ	1	1	1	∮ż .	· · · ·	· · · · ·			· · · · · · · ·	SS-2	w		-	,		
240	-	ŧ				· · ·	•••	· · · · · · · ·		· ·	· · · · · · · ·			0000	<u>- 241.3</u> Grav Coa	arse SA		<u>12.0</u>
240	239.5	+ 13.8 +	1	5	95/0.3	<u>† </u>		<u> </u>	<u> </u>		· · · · ·					PEOID		14.3
	-	ŧ					· · · ·	· · · · ·	· · · ·	•••	100/0.8				Reddish Brown, Fir	ne Sand	y, Silty CL/	AY
235	234.5	+ - 18.8				· · ·	•••	· · · ·	· ·						- WEATHE <u>234.5</u> Reddish Brown TR	RED RC IASSIC	DCK MUDSTO	NE
	-	ŧ	60/0.1	4							60/0.1				- 234.4 NON-CRYST	ALLINE MUDST	ONE	
	-	ŧ														at Elevat	tion 234.4	ft in
	-	ŧ													MUD	STONE	N. TRIAGO	
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WBS	17 BP.	8.R.11	4		Т	ΊP	SF-520	016	C	OUNT	YL	EE				GEOLOGIST D. Kubinski		
SITE	DESCR	IPTION	l Bric	lge No	. 16 o	n S	SR 1509	(San-Le	e Dri	ve) ov	er Lic	k Cree	k				GROUND	WTR (ft)
BOR	ING NO.	L_21	00		S	TA	TION 2	1+00			OF	FSET	25 ft LT			ALIGNMENT -L-	0 HR.	5.5
COL	LAR ELE	EV . 25	52.6 ft		Т	ΌТ	AL DEP	FH 6.2	ft		NO	RTHING	G 633,6	601		EASTING 1,963,045	24 HR.	FIAD
DRIL	L RIG/HAI	MMER E	FF./DA	TE N/	Ά								DRILL	NETHO	D Ha	and Auger HAMME	ER TYPE N/	A
DRIL	LER N	/A			S	ΤA	RT DATE	01/05	5/17		со	MP. DA	TE 01/	05/17		SURFACE WATER DEPTH N/	٩	
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLC 0.5ft	OW CO	UNT 0.5ft		0 2	BLOW	S PEI	r foot	75	100	SAMP. NO.	моі	L O G	SOIL AND ROCK DESC	RIPTION	DEPTH (ft)
255														M W		252.6 GROUND SURFA ROADWAY EMBANH Soft to Medium Stiff, Yellow Brown, Fine to Coarse Sand 248.6 Little Gravel 247.1 ALLUVIAL 246.4 Loose, Yellowish Brown, Fine CLAY Boring Terminated at Elevat ALLUVIUM: Silty C Topsoil (0.0 to 0.1 f	CE ish Brown to by CLAY with Clayey, Fine Sandy, Silty ion 246.4 ft in LAY foot)	

SUMMARY OF LABORATORY TEST DATA

PROJECT NO. 17BP.8.R.114 (SF-520016) COUNTY: LEE BRIDGE NO. 16 ON SR 1509 (SAN-LEE DRIVE) OVER LICK CREEK

									At	terberg	Limits			Gradat	ion Results			
Sample No.	Boring Number	Station	Offset	Alignment	Sample Depth (ft.)	AASHTO Class (Group Index)	N-Value (blows/ ft.)	L.L.	P.L.	P.I.	Pass #10 Sieve	Pass #40 Sieve	Pass #200 Sieve	Retained #270 Sieve	Coarse Sand (%)	Fine Sand (%)	Silt (%)	Clay (%)
SS-1	L_1325	13+25	35' LT	-L-	0.0-1.5	A-4 (0)	6	20	17	3	87	78	59	6.2	14.8	23.6	45.6	16.0
SS-2	L_1975	19+75	15' RT	-L-	8.8-10.3	A-4 (0)	2	22	18	4	100	98	67	7.8	7.0	33.5	42.5	17.1

SS = Split-Barrel Sample (ASTM-D-1586) ST = Shelby Tube (Undisturbed) Sample

S = Grab Sample

NP -- Non Plastic

NA-- Non Applicable

Page: 1 of 1

Lab Technician: NCDOT Certification No.: 129-01-0411 – Geotechnics, Raleigh, NC

Michael P. Smith Regional Manager