



Central Carolina Soil Consulting, PLLC
1900 South Main Street, Suite 110, Wake Forest, NC 27587
Office Number: 919-569-6704

Acknowledgment of Subsurface wastewater evaluation and septic design by Central Carolina Soil Consulting, PLLC. for Cotton Farms, Lot 9,
for issuance of an IP and CA.

For Improvement Permit (IP) issuance:

"The LSS/LG evaluation(s) attached to this application is to be used to issue an Improvement Permit in accordance with G.S. 130A-335(a2) and (a3)."

For Construction Authorization (CA) issuance:

"The plans or evaluations attached to this application are to be used to issue a Construction Authorization in accordance with G.S. 130A-335(a2), (a5) and (a6)."

The LSS evaluation attached to this application was used to produce and design a subsurface wastewater septic system for permitting to obtain an IP and CA in accordance G.S. 130A-335(a2), (a3), (a5) and (a6).

Owner or Owner's Representative (print): Jacob Bayaosen

Owner or Owner's Representative (signature): 

Date: 6/10/20



Permit/File #: _____

CONSTRUCTION AUTHORIZATION FOR G.S. 130A-335(a2)

County: Harnett

Pre-Construction Conference Required: Yes No

PIN/Lot Identifier: 0643-36-4021

Issued To: Ken Harvey Homes, LLC

Property Location: 196 Hook Drive, Fuquay-Varina, NC 27526 (Cotton Farms, Lot 9)

AOWE/PE Plans/Evaluations Provided: Yes No If yes, name and license number of AOWE/PE: Jason Hall, AOWE #10004E

Facility Type: Single-Family Dwelling, 4-Bedroom

Number of bedrooms: 4 Number of Occupants: ≤8 Other: _____

New Expansion Repair System Relocation Change of Use

Basement? Yes No Basement Fixtures? Yes No

Crawl Space? Yes No Slab Foundation? Yes No

Type of Wastewater System* IIIbg, accepted (25% reduction) (Initial) IIIbe, PPBPS (horizontal) (Repair)

**Please include system classification for proposed wastewater system types in accordance with Rule .1301 Table XXXII*

Design Daily Flow: 360 GPD Wastewater Strength: Domestic High Strength Industrial Process WW

Session Law 2014-120 Section 53, Engineering Design Utilizing Low-flow Fixtures and Low-flow Technologies? Yes No
(if yes, please provide engineering documentation)

Effluent Standard: DSE HSE NSF/ANSI 40 TS-I TS-II RCW

Type of Water Supply: Private well Public well Shared well Municipal Supply Spring Other: _____

Installation Requirements/Conditions

Septic Tank Size: 1000 gallons Total Trench/Bed Length: 325 feet Trench/Bed Spacing: 9 feet on center

Trench/Bed Width: 36 inches LTAR: 0.3 gpd/ft² Usable Depth to LC (Initial)*: 36" ^xLimiting condition

Additional Soil Cover: 0 inches Slope Corrected Maximum Trench/Bed Depth†: 20" inches ^{*} Measured on the downhill side of the trench

Pump Tank Size (if applicable): 1000 gallons Requires more than 1 pump? Yes No

Pump Requirements: 16.88 ft. TDH vs. 27.31 GPM Grease Trap Size (if applicable): _____ gallons

Distribution Method: Serial D-Box or Parallel Pressure Manifold(s) LPP Other: _____

Artificial Drainage Required: Yes No If yes, please specify details: _____

Legal Agreements (If the answer is "Yes" to any type of legal agreements, please attach a copy of the agreement.)

Multi-party Agreement Required [.0204(g)]: Yes No Declaration of Restrictive Covenants: Yes No

Easement, Right-of-Way, or Encroachment Agreement Required [.0301(b)]: Yes No

Management Entity Required: Yes No Minimum O&M Requirements: _____

Permit conditions:

The requirements of 15A NCAC 18E are incorporated by reference into this permit and shall be met. Systems shall be installed in accordance with the attached site sketch. **This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes.** The Construction Authorization shall not be affected by a change in ownership of the site. This Construction Authorization is subject to compliance with the provisions of 15A NCAC 18E, or 15A NCAC 18A .1900, as applicable, and to the conditions of this permit.

AOWE/PE Print Name: Jason Hall

AOWE/PE Signature: [Signature]

Date: 06/19/2024

This AOWE/PE submittal is pursuant to and meets the requirements of G.S. 130A-335(a2) and (a5)

See attached site sketch



This Section for Local Health Department Use Only

Initial submittal received: _____ by _____
Date Initials

G.S. 130A-335(a5) states the following:

When an applicant for a Construction Authorization, or an Improvement Permit and Construction Authorization together, submits a Construction Authorization, or an Improvement Permit and Construction Authorization application together, the permit fee charged by the local health department, the common form developed by the Department, and any necessary signed and sealed plans or evaluations conducted by a person licensed pursuant to Chapter 89C of the General Statutes as a licensed engineer or a person certified pursuant to Article 5 of Chapter 90A of the General Statutes as an Authorized On-Site Wastewater Evaluator, the local health department shall, within five business days of receiving the application, conduct a completeness review of the submittal. A determination of completeness means that the Construction Authorization or Improvement Permit and Construction Authorization includes all of the required components. If the local health department determines that the Construction Authorization or Improvement Permit and Construction Authorization is incomplete, the local health department shall notify the applicant of the components needed to complete the Construction Authorization or Improvement Permit and Construction Authorization. The applicant may submit additional information to the local health department to cure the deficiencies in the Construction Authorization or Improvement Permit and Construction Authorization. The local health department shall make a final determination as to whether the Construction Authorization or Improvement Permit and Construction Authorization is complete within five business days after the local health department receives the additional information from the applicant. If the local health department fails to act within any period set out in this subsection, the applicant may treat the failure to act as a determination of completeness. The applicant may apply for the building permit for the project upon the decision of completeness of the Construction Authorization or Improvement Permit and Construction Authorization by the local health department or if the local health department fails to act within five business days. The Authorized On-Site Wastewater Evaluator or licensed engineer submitting the evaluation pursuant to this subsection may request that the local health department revoke or suspend the Construction Authorization or Improvement Permit and Construction Authorization for cause. Upon written request of the Authorized On-Site Wastewater Evaluator or licensed engineer, the local health department shall suspend or revoke the Construction Authorization or Improvement Permit and Construction Authorization pursuant to G.S. 130A-23. The Department shall develop a common form for use as the Construction Authorization.

The review for completeness of this Construction Authorization was conducted in accordance with G.S. 130A-335(a5). This

Construction Authorization is determined to be:

Incomplete (If box is checked, information in this section is required.)

The following items are missing: _____

Copies of this were sent to the AOWE/PE and the Applicant on _____
Date

State Authorized Agent: _____ Date: _____

Complete

State Authorized Agent: _____ Date of Issuance: _____

This Construction Authorization is issued pursuant to G.S. 130A-335(a2) and (a5) using the signed and sealed plans or evaluations attached here. This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes. The Construction Authorization shall not be affected by a change in ownership of the site. This Construction Authorization is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit.

The Department, the Department's authorized agents, and the local health departments shall be discharged and released from any liabilities, duties, and responsibilities imposed by statute or in common law from any claim arising out of or attributed to plans, evaluations, preconstruction conference findings, submittals, or actions from a person licensed pursuant to Chapter 89C of the General Statutes as a licensed engineer or a person certified pursuant to Article 5 of Chapter 90A of the General Statutes as an Authorized On-Site Wastewater Evaluator in GS 130A-335(a2), (a5), and (a7). The Department, the Department's authorized agents, and the local health departments shall be responsible and bear liability for their actions and evaluations and other obligations under State law or rule, including the issuance of the operations permit pursuant to GS 130A-337.

Construction Authorization Expiration Date: _____

See attached site sketch

Re-submittal of Construction Authorization

LHD USE ONLY: This CA resubmittal received: _____ by _____

Date *Initials*

The following items are being resubmitted pursuant to G.S. 130A-335(a5) for issuance of the Construction Authorization:

I, _____ hereby attest that the information required to be included with this re-submittal
Authorized Onsite Wastewater Evaluator (Print Name)
 is accurate and complete to the best of my knowledge and that the proposed Construction Authorization meets all applicable federal, State, and local laws, regulations, rules, and ordinances.

Signature of Authorized On-Site Wastewater Evaluator *Date*

The section below is for Local Health Department use after submittal of items noted as missing above.

LHD Follow-up Completeness Review of Construction Authorization

The review for completeness of this Construction Authorization re-submittal was conducted in accordance with G.S. 130A-335(a5). This Construction Authorization is determined to be:

Incomplete (If box is checked, information in this section is required.)

The following items are missing:

Copies of this were sent to the AOWE/PE and the Applicant on _____
Date

State Authorized Agent: _____ Date: _____

Complete

State Authorized Agent: _____ Date: _____



Central Carolina Soil Consulting, PLLC

1900 South Main Street, Suite 110, Wake Forest, NC 27587

Office Number: 919-569-6704

June 19, 2024

Job #4943

Ken Harvey Homes, LLC
Attention: Andy Beard

RE: Preliminary soil/site evaluation for single family wastewater approval at Cotton Farms Subdivision, Lot 9 (4-bedroom per an engineered flow-reduction) in Harnett County pursuant to and meets the requirements of G.S. 130A-335(a2)."

Dear Mr. Beard:

Central Carolina Soil Consulting, PLLC conducted a preliminary soil evaluation on the aforementioned lot to determine the areas of suitable soils that are suitable for subsurface wastewater disposal systems (conventional, Accepted & Innovative). **"The LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2)."** The soil/site evaluation was performed using auger borings in May 2024, under moist soil conditions, based on the criteria found in the State Subsurface Rules, 15A NCAC 18E "Wastewater Treatment and Dispersal Systems". From this evaluation, CCSC laid out and located the septic layout and gps'd for site plan drawing purposes. **Please note that the lot lines must be clearly marked by your surveyor prior to system installation by your installer to verify all setbacks before digging.**

Based on the findings during the field evaluation, the area on the attached map has at least 36 inches (initial) and 36 inches (repair) of suitable soils for a modified conventional septic system. The assigned LTAR for the site is 0.3 gpd/ft² with a maximum depth of 20 inches on the downhill side of the trench for the initial system installation of the drain lines due to slope correction. The assigned LTAR for the site is 0.3 gpd/ft² with a maximum depth of 20 inches on the downhill side of the trench for the repair system installation of the drain lines due to slope correction.

The lot is proposed to have a 4-bedroom system (per an engineered flow-reduction) for the house. A septic system field layout was completed based on the house location and property lines surveyed in the field.

The proposed Initial system for the house is a Pressure Manifold distribution using lines 5-7 totaling 325 feet of accepted status product (25% reduction). The repair system for the house is a Pressure Manifold distribution using lines 1-4 totaling 237 feet of T&J Panel Block product (horizontal).

Tanks: (All tanks must meet requirements set forth in 15A NCAC 18E .0801)

The tanks for the house should be minimum 1,000 gallons with risers. The tanks should also have pressed in rubber boots on both the inlets and the outlets of the tank, along with having secondary safety lids or devices on all the openings.

Septic Installation:

The septic system for the lot should be installed during dry soil conditions (no rain events within 72 hours). The septic system should be installed on contour while maintaining all required setbacks. **Lot lines must be clearly marked by your surveyor prior to system installation so your installer can verify all setbacks before digging.**

Setbacks: (see septic design page for locations)

- **Septic and Pump Tanks** (see septic design)
 - 10' minimum from property lines
 - 5' minimum from house
- **Septic Lines** (see septic design)
 - 10' minimum from property lines
 - 5' minimum from house
- **Manifold's and D-Box's** (see septic design)
 - 5' minimum from property lines
- **Supply Lines** (see septic design)
 - 5' minimum from property lines
- **Utilities**
 - Water (10' minimum for all septic components)
 - Power, cable, internet, etc. (5' minimum setback)

Grading:

No grading should be completed within the initial and repair septic areas that change the natural grade of the area. There should be no cutting or filling within the septic areas as well. When grading the lot, no cuts of 2' or greater should be within 15' of the septic areas. If a cut is required near the septic area, keep the cut around 6-8 inches in depth.

HOUSE:

- Initial System: Pressure Manifold Distribution, lines 5-7 totaling 325' (see layout)
- Repair System: Pressure Manifold Distribution, lines 1-4 totaling 237' (see layout)
- 360 gal/day flow rate (4-bedroom per engineered flow-reduction)
- 1,000 gallon tanks with risers and pressed in rubber boots on both the inlet and outlet ends and a secondary lid in each tank opening
- 20" max trench depth on the downhill side for the Initial System
- 20" max trench depth on the downhill side for the Repair System
- 0.3 LTAR for Initial
- 0.3 LTAR for Repair
- No grading/filling septic areas
- No cuts >2' within 15' of septic areas
- Keep tanks and drain lines 10' from property lines
- Keep supply line >5' property lines
- Install in dry soil conditions (No rain events within 72 hours)
- Maintain natural contours when clearing the lot

This letter discusses the location of provisionally suitable soils for subsurface wastewater disposal systems and does not guarantee the future function of any wastewater system on sites. Central Carolina Soil Consulting, PLLC is a professional consulting firm specializing in soil delineations and designs for on-site wastewater disposal systems.

If you have any questions regarding the findings on the attached map or in this report, please feel free to contact me at any time. Thank you for allowing Central Carolina Soil Consulting to perform this site evaluation for you.

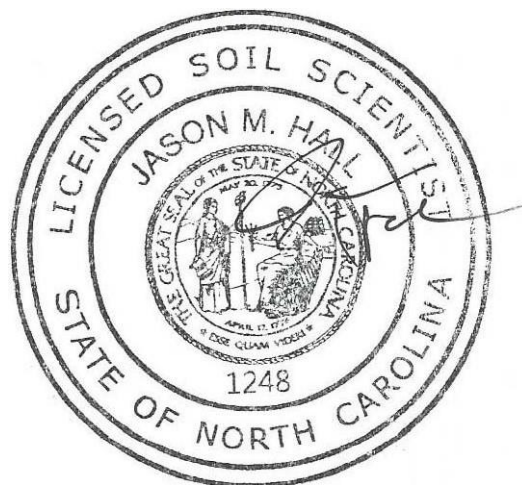
Sincerely,



Jason Hall

NC Licensed Soil Scientist #1248

AOWE certification number 10004E



Encl: Soil Map & septic layout

Central Carolina Soil Consulting, PLLC

1900 South Main Street, Suite 110, Wake Forest, NC 27587

PROPERTY ID #: 0643-36-4021

COUNTY: Harnett

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

(Complete all fields in full)

OWNER: Ken Harvey Homes, LLC DATE EVALUATED: May 2024

ADDRESS: _____

PROPOSED FACILITY: single-family dwelling PROPOSED DESIGN FLOW (.0400): 360 gal/day PROPERTY SIZE: 0.57 acres

LOCATION OF SITE: 196 Hook Drive, Fuquay-Varina, NC 27526 (Cotton Farms, Lot 9) PROPERTY RECORDED: yes

WATER SUPPLY: Public Single Family Well Shared Well Spring Other _____ WATER SUPPLY SETBACK: _____

EVALUATION METHOD: Auger Boring Pit Cut TYPE OF WASTEWATER: Domestic High Strength IPWW

P R O F I L E #	.0502 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY		OTHER PROFILE FACTORS				.0509 PROFILE CLASS & LTAR*	.0502(d) SLOPE CORRECTION
			.0503 TEXTURE/ STRUCTURE	.0503 CONSISTENCE/ MINERALOGY	.0504 SOIL WETNESS/ COLOR	.0505 SOIL DEPTH	.0506 SAPRO CLASS	.0507 RESTR HORIZON		
1	L, ~9%	A, 0-4	SL, GR	VFR, NS, NP						4"
		Bt1, 4-20	SCL, SBK	FR, SS, SP, SEXP			S		S, 0.4	
		Bt2, 20-30	CL, SBK	FR, SS, SP, SEXP			S		S, 0.35	
		BC, 30-36	CL, SBK	FR, SS, SP, SEXP			S		S, 0.35	
		C, 36-42	L, GR	FR, NS, NP			S		S, 0.35	
		AR @ 42								
2	L, ~9%	AE, 0-16	SL, GR	VFR, NS, NP						4"
		B, 16-26	SL, GR	VFR, NS, NP			S		S, 0.6	
		Bt, 26-36	CL, SBK	FR, SS, SP, SEXP			S		S, 0.35	
				AR @ 36						
3	L, ~9%	A, 0-3	SL, GR	VFR, NS, NP						4"
		Bt, 3-36	CL, SBK	FR, SS, SP, SEXP			S		S, 0.325	
		C, 36-39	L, GR	FR, NS, NP			U		U	
4	L, ~8%	AE, 0-15	SL, GR	VFR, NS, NP						3"
		B, 15-26	SL, GR	VFR, NS, NP			S		S, 0.6	
		Bt1, 26-37	C, SBK	FI, SS, SP, SEXP			S		S, 0.3	
		Bt2, 37-42	C, SBK	FI, SS, SP, SEXP	10YR 7/2		U		U	

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM	SITE CLASSIFICATION (.0509): <u>suitable</u> EVALUATED BY: <u>Jason Hall</u> OTHER(S) PRESENT: <u>James Rice</u>
Available Space (.0508)	yes	yes	
System Type(s)	IIIbg, accepted	IIIbe, PPBPS	
Site LTAR	0.3	0.3	
Maximum Trench Depth	20" on downhill side	20" on downhill side	

Comments: _____

LEGEND

LANDSCAPE POSITION	SOIL GROUP	SOIL TEXTURE	CONVENTIONAL LTAR (gpd/ft ²)	SAPROLITE LTAR (gpd/ft ²)	LPP LTAR (gpd/ft ²)	MINERALOGY/ CONSISTENCE		STRUCTURE	
						MOIST	WET		
CC (Concave slope)	I	S (Sand)	0.8 - 1.2	0.6 - 0.8	0.4 - 0.6	MOIST	WET	SG (Single grain)	
CV (Convex Slope)		LS (Loamy sand)		0.5 - 0.7		Lo (Loose)	NS (Non-sticky)	M (Massive)	
D (Drainage way)	II	SL (Sandy loam)	0.6 - 0.8	0.4 - 0.6	0.3 - 0.4	VFR (Very friable)	SS (Slightly sticky)	GR (Granular)	
FP (Flood plain)		L (Loam)		0.2 - 0.4		FR (Friable)	S (Sticky)	SBK (Subangular blocky)	
FS (Foot slope)	III	SiL (Silt loam)	0.3 - 0.6	0.1 - 0.3	0.15 - 0.3	FI (Firm)	VS (Very sticky)	ABK (Angular blocky)	
H (Head slope)		SCL (Sandy clay loam)		0.05 - 0.15**		VFI (Very firm)	NP (Non-plastic)	PR (Prismatic)	
L (Linear Slope)		CL (Clay loam)		None		EFL (Extremely firm)	SP (Slightly plastic)	PL (Platy)	
N (Nose slope)		SiCL (Silty clay loam)							P (Plastic)
R (Ridge/summit)		Si (Silt)							
S (Shoulder slope)	IV	SC (Sandy clay)	0.1 - 0.4	0.05 - 0.2	SEXP (Slightly expansive)				
T (Terrace)	SiC (Silty clay)	EXP (Expansive)							
TS (Toe Slope)	C (Clay)								
		O (Organic)	None						

* Adjust LTAR due to depth, consistence, structure, soil wetness, landscape, position, wastewater flow and quality.

**Sandy clay loam saprolite can only be used with advanced pretreatment in accordance with 15A NCAC 18E .1200.

HORIZON DEPTH In inches below natural soil surface

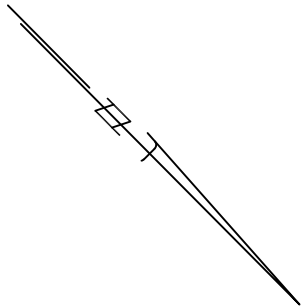
DEPTH OF FILL In inches from land surface

RESTRICTIVE HORIZON Thickness and depth from land surface

SAPROLITE S(suitable) or U(unsuitable); Evaluation of saprolite shall be by pits or auger borings.

SOIL WETNESS CLASSIFICATION Inches from land surface to free water or inches from land surface to soil colors with chroma 2 or less - record Munsell color chip designation

S (Suitable) or U (Unsuitable)

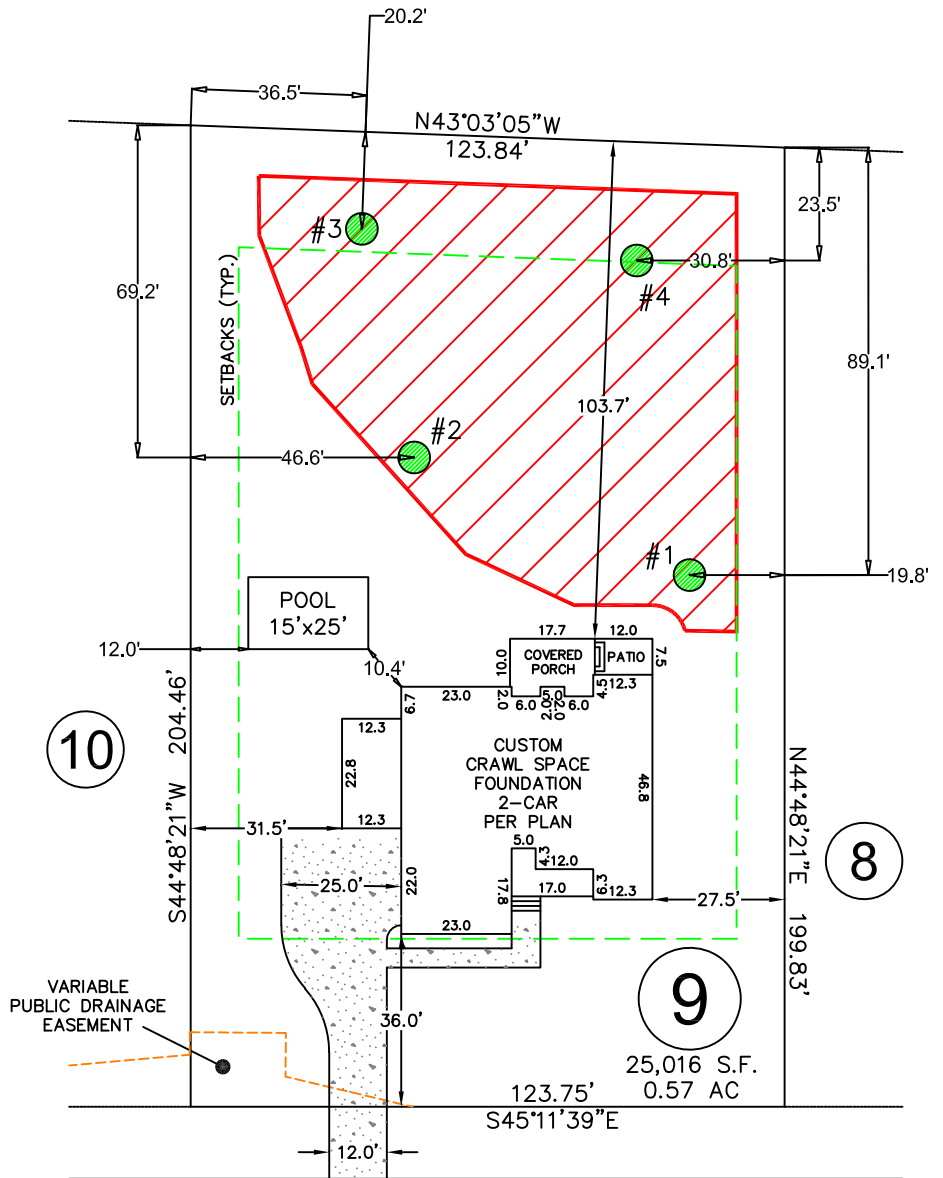


● #1 = profile description locations

System and Repair Area:

- ~7,060ft²
- 0.3 soil LTAR
- 4-bedroom per Engineered Flow-Reduction: Accepted Product Primary and PPBPS Repair

- *Keep tanks and drain lines 10' from property lines.
- *Not a survey.
- *Not a guarantee of a septic permit.
- *Keep supply lines >5' from property lines.
- *Some lines are flagged longer in the field than lengths indicate.
- *No grading septic area.
- *No adding soil within septic area
- *No rutting-up septic area
- *No cuts of >2' within 15' of septic areas



HOOK DRIVE

50' PUBLIC R/W & UTILITY

GRAPHIC SCALE
1" = 40'



Central Carolina Soil Consulting, PLLC
1900 South Main Street, Suite 110
Wake Forest, North Carolina 27587
Phone (919)569-6704 Fax (919)569-6703

Soils Map
Lot 9, Cotton Farms Subdivision
Harnett County, North Carolina

Job#: 4943
Drawn By: JR
Date: 05/09/2024
Revision: 08/19/2024