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 54 (Parcel PIN: 0643-17-9737), 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: Halcyon Homes, LLC

Owner's representative: [signature]

Date: 10/26/23

Permit #: _____

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER • Governor
KODY H. KINSLEY • Secretary
MARK BENTON • Deputy Secretary for Health
SUSAN KANSAGRA • Assistant Secretary for Public Health
Division of Public Health

Submittal Includes: ☑ **(a2) Improvement Permit** ☑ **(a2) Construction Authorization** ☐ **Fee $**_____

IMPROVEMENT PERMIT FOR G.S. 130A-335(a2)

County: Harnett

PIN/Lot Identifier: 0643-17-9737

Issued To: Halcyon Homes, LLC

Property Location: 67 Datton Court, Fuquay-Varina, NC 27526

Subdivision (if applicable) Cotton Farms Lot #: 54 Block: _____ Section: _____

LSS Report Provided: Yes ☑ No ☐

If yes, name and license number of LSS: Jason Hall, NC LSS #1248

New ☑ Expansion ☐ System Relocation ☐ Change of Use ☐

Proposed Structure: Single Family, 4-Bedroom

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

Design Wastewater Strength: ☑ domestic ☐ high strength ☐ industrial process

Proposed Design Daily Flow: 480 GPD Proposed LTAR (Initial): 0.275 Proposed LTAR (Repair): 0.3

Proposed Wastewater System Type*: IIIB, pressure manifold (LPC) (Initial) Pump Required: ☑ Yes ☐ No ☐ May be required

Proposed Wastewater System Type*: IIIB, pressure manifold (LPC) (Repair) Pump Required: ☑ Yes ☐ No ☐ May be required

**Please include system classification for proposed wastewater system types in accordance with 15A NCAC 18A .1961 Table V(a)*

Saprolite System (initial): ☐ Yes ☑ No Saprolite System (repair): ☐ Yes ☑ No

Fill System (Initial): ☐ Yes ☑ No If yes, specify: ☐ New ☐ Existing (when adding more than 6 inches of fill to system area provide a fill plan)

Fill System (repair): ☐ Yes ☑ No If yes, specify: ☐ New ☐ Existing (when adding more than 6 inches of fill to system area provide a fill plan)

Usable Soil Depth (Initial): 30" Usable Soil Depth (Repair): 24" & 27"

Max. Trench Depth (Initial)‡: 10" Max. Trench Depth (Repair)‡: 8" ***‡ Measured on the downhill side of the trench***

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

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

Drainfield location meets requirements of Rule .1945: Yes ☑ No ☐ Drainfield location meets requirements of Rule .1950: Yes ☑ No ☐

Permit valid for: ☑ Five years [site plan submitted pursuant to GS 130A-334(13a)] ☐ No expiration [plat submitted pursuant to GS 130A-334(7a)]

Permit conditions:

Infiltrator Quick4+, Standard Low Profile Chambers to be used

6" of approved additional cover material needed for Initial System

8" of approved additional cover material needed for Repair System

Licensed Soil Scientist Print Name: Jason Hall

Licensed Soil Scientist Signature: _____ Date: 10/31/2023

LICENSED SOIL SCIENTIST JASON M. HALL STATE OF NORTH CAROLINA

The LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2).

See attached site sketch

NCDHHS

Permit #: _____

This Section for Local Health Department Use Only

Initial submittal received: _____ by _____
Date *Initials*

G.S. 130A-335(a3) states the following:

When an applicant for an Improvement Permit submits to a local health department an Improvement Permit application, the permit fee charged by the local health department, the common form developed by the Department, and a soil evaluation pursuant to subsection (a2) of this section, 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 Improvement Permit includes all of the required components. If the local health department determines that the Improvement Permit is incomplete, the local health department shall notify the applicant of the components needed to complete the Improvement Permit. The applicant may submit additional information to the local health department to cure the deficiencies in the Improvement Permit. The local health department shall make a final determination as to whether the Improvement Permit 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 Department shall develop a common form for use as the Improvement Permit.

The review for completeness of this Improvement Permit was conducted in accordance with G.S. 130A-335(a3). This Improvement Permit 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 LSS and the Applicant on _____
Date

State Authorized Agent: _____ Date: _____

☐ Complete

State Authorized Agent: _____ Date: _____

This Improvement Permit is issued pursuant to G.S. 130A-335 (a2) and (a3) using the signed and sealed LSS/LG evaluation(s) attached here. The issuance of this permit by the Health Department in no way guarantees the issuance of other permits. The permit holder is responsible for checking with appropriate governing bodies in meeting their requirements. This permit is subject to revocation if the site plan, plat, or the intended use changes. The Improvement Permit shall not be affected by a change in ownership of the site. This permit 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 evaluations, submittals, or actions from a licensed soil scientist or licensed geologist pursuant to GS 130A-335(a2).

Improvement Permit Expiration Date: _____

See attached site sketch

NCDHHS

Permit #: _____

Re-submittal of Improvement Permit

LHD USE ONLY: This IP resubmittal received: _____ by _____
Date *Initials*

The following items are being resubmitted pursuant to G.S. 130A-335(a3) for issuance of the Improvement Permit:

_____

_____

_____

_____

I, _____ hereby attest that the information required to be included with this re-submittal
Licensed Soil Scientist (Print Name)
is accurate and complete to the best of my knowledge and that the proposed Improvement Permit meets all applicable federal, State, and local laws, regulations, rules, and ordinances.

_____ _____
Signature of Licensed Soil Scientist *Date*

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

LHD Follow-up Completeness Review of Improvement Permit

The review for completeness of this Improvement Permit re-submittal was conducted in accordance with G.S. 130A-335(a3). This Improvement Permit 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 LSS 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

October 25, 2023
Job #4722

Halcyon Homes, LLC
Attention: Austin Robertson

RE: Preliminary soil/site evaluation for single family wastewater approval at Cotton Farms Subdivision, Lot 54 (4-bedroom) in Harnett County pursuant to and meets the requirements of G.S. 130A-335(a2)."

Dear Mr. Robertson:

Central Carolina Soil Consulting, PLLC conducted a preliminary soil evaluation on the aforementioned lot to determine the areas of provisionally 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 and pits in August 2023, under moist soil conditions, based on the criteria found in the State Subsurface Rules, 15ANCAC 18A .1900 "Laws and Rules for Sewage Treatment and Disposal 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.**

The lot is proposed to have a 4-bedroom system 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 7-10 totaling 584 feet of Low-Profile Chamber product (Quick4+). The proposed Repair system for the house is a Pressure Manifold distribution using lines 1-6 totaling 544 feet of Low-Profile Chamber product (Quick4+). The septic and pump tanks for the house should be minimum 1,200 gallons each with risers. The septic and pump tanks should also have pressed in rubber boots on both the inlets and the outlets of the tanks.

Based on the findings during the field evaluation, the area on the attached map has at least 30 inches (initial), 24 inches (repair lines 1-4) and 27 inches (repair lines 5-6) of provisionally suitable soils for a modified conventional septic system. The assigned LTAR for the site is 0.275 gal/day/ft^2 with a maximum depth of 10 inches, with 6" of additional cover material, for the initial system installation of the drain lines due to slope correction. The assigned LTAR for the site is 0.3 gal/day/ft^2 with a maximum depth of 8 inches, with 8" of additional cover material, for the repair system installation of the drain lines due to slope correction.

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)
  - 10' minimum from property lines
- **Supply Lines** (see septic design)
  - 5' minimum from property lines

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 7-10 totaling 584' (see layout)
- Repair System: Pressure Manifold Distribution, lines 1-6 totaling 544' (see layout)
- 480 gal/day flow rate (4-bedroom)
- 1,200 gallon septic and pump tanks with risers and pressed in rubber boots on both the inlet and outlet ends
- 10" max trench depth with 6" of additional soil cover for Initial System (LPC)
- 8" max trench depth with 8" of additional soil cover for Repair System (LPC)
- 0.275 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

Sheet:
Property ID: 0643-17-9737
Lot #: 54
File #:
AppID:

CCSC SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Owner: Halcyon Homes, LLC
Applicant:
Address:
Date Evaluated: 10/1/2023
Proposed Facility: 4-Bedrooom Design Flow (.1949) 480 gal/day Property Size: 1.4024 Acres
Location of Site: Cotton Farms, Lot 54 Property Recorded:
Water Supply: [X] Public [ ] Individual [ ] Well [ ] Spring [ ] Other
Evaluation Method: [X] Auger Boring [ ] Pit [ ] Cut
Type of Wastewater: [X] Sewage [ ] Industrial Process [ ] Mixed

PROFILE #	.1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY .1941 .1941 Texture/ Structure	.1941 Consistence Mineralogy	b PROFILE FACTORS .1942 Soil Wetness/ Color	.1943 Soil Depth (IN.)	.1956 Sapro Class	.1944 Restr Horiz	Profile Class & LTAR
1	LS, ~19%	A, 0-12	SL, GR	VFR, NS, NP					
		Bt, 12-16	C, SBK	FI, SS, SP, SEXP	10YR 7/2	UN			UN
2	LS, ~5%	A, 0-10	SL, GR	VFR, NS, NP					
		B, 10-24	SL, GR	VFR, NS, NP		PS			PS, 0.5
		Bt1, 24-27	SCL, SBK	FR, SS, SP, SEXP		PS			PS, 0.35
		Bt2, 27-31	CL, SBK	FR, SS, SP, SEXP	10YR 7/2	UN			UN
3	LS, ~5%	A, 0-10	SL, GR	VFR, NS, NP					
		B, 10-18	SL, GR	VFR, NS, NP					
		Bt1, 18-24	CL, SBK	FR, SS, SP, SEXP		PS			PS, 0.3
		Bt2, 24-27	CL, SBK	FR, SS, SP, SEXP	10YR 7/2	UN			UN
4	LS, ~5%	A, 0-8	SL, GR	VFR, NS, NP					
		B, 8-30	SL, GR	VFR, NS, NP		PS			PS, 0.4
		Bt1, 30-38	SCL, SBK	FR, SS, SP, SEXP		PS			PS, 0.3
		Bt2, 38-42	SCL, SBK	FR, SS, SP, SEXP	10YR 7/2	UN			UN
5	LS, ~18%	A, 0-22	SL, GR	VFR, NS, NP					
		B, 22-48	SL, GR	VFR, NS, NP		PS			PS, 0.6

Description	Initial System	Repair System
Available Space (.1945)	Yes	Yes
System Type(s)	IIIB, LPC	IIIB, LPC
Site LTAR	0.275	0.3

Other Factors (.1946):
Soil Evaluation By:
Others Present:
Site Classification (.1948): Provisionally Suitable
Site Evaluation By: Jason Hall, Jamie Rice
Others Present: Michael Seewald

Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet:
File #:

SOIL/SITE EVALUATION
for ON-Site Wastewater Systems
CONTINUED

PROFILE #	.1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY .1941		OTHER PROFILE FACTORS				Profile Class & LTAR
			.1941 Texture/ Structure	.1941 Consistence Mineralogy	.1942 Soil Wetness/ Color	.1943 Soil Depth (IN.)	.1956 Sapro Class	.1944 Restr Horiz	
6	LS, ~18%	A, 0-8	SL, GR	VFR, NS, NP					
		B, 8-28	SL, GR	VFR, NS, NP		PS			PS, 0.6
		Bt, 28-33	SCL, SBK	FR, SS, SP, SEXP		PS			PS, 0.35
		BC1, 33-42	SCL, SBK	FR, SS, SP, SEXP		PS			PS, 0.35
		BC2, 42-44	SCL, SBK	FR, SS, SP, SEXP	10YR 7/2	UN			UN
7	LS, ~18%	AE, 0-22	SL, GR	VFR, NS, NP					
		B, 22-48	SL, GR	VFR, NS, NP		PS			PS, 0.6
8	LS, ~17%	A, 0-6	SL, GR	VFR, NS, NP					
		Bt, 6-27	C, SBK	FI, SS, SP, SEXP		PS			PS, 0.3
		BC, 27-29	CL, SBK	FR, SS, SP, SEXP	10YR 7/2	UN			UN
9	LS, ~18%	AE, 0-18	SL, GR	VFR, NS, NP					
		B, 18-30	SL, GR	VFR, NS, NP		PS			PS, 0.5
		Bt, 30-34	C, SBK	FI, SS, SP, SEXP	10YR 7/2	UN			UN
10	LS, ~18%	A, 0-10	SL, GR	VFR, NS, NP					
		B, 10-28	SL, GR	VFR, NS, NP		PS			PS, 0.5
		Bt1, 28-33	SCL, SBK	FR, SS, SP, SEXP		PS			PS, 0.3
		Bt2, 33-37	SCL, SBK	FR, SS, SP, SEXP	10YR 7/2	UN			UN
11	LS, ~17%	AE, 0-15	SL, GR	VFR, NS, NP					
		B, 15-28	SL, GR	VFR, NS, NP		PS			PS, 0.6
		Bt1, 28-32	C, SBK	FI, SS, SP, SEXP		PS			PS, 0.3
		Bt2, 32-35	C, SBK	FI, SS, SP, SEXP	10YR 7/2	UN			UN
12	LS, ~17%	AE, 0-28	SL, GR	VFR, NS, NP					
		Bt1, 28-45	SCL, SBK	FR, SS, SP, SEXP		PS			PS, 0.35
		Bt2, 45-48	SCL, SBK	FR, SS, SP, SEXP	10YR 7/2	UN			UN
13	LS, ~17%	AE, 0-22	SL, GR	VFR, NS, NP					
		B, 22-48	SL, GR	VFR, NS, NP		PS			PS, 0.6

COMMENTS: FILE #:

Landscape Position	Group	Texture	.1955 LTAR	Structure
R-Ridge	I	S-Sand	1.2 - 0.8	SG-Single Grain
SS-Shoulder Slope		LS-Loamy Sand		M-Massive
LS-Linear Slope				CR-Crumb
FS-Foot Slope	II	SL-Sandy Loam	0.8 - 0.6	GR-Granular
NS-Nose Slope		L-Loam		SBK-Subangular Blocky
HS-Head Slope				ABK-Angular Blocky
CC-Concave Slope	III	SI-Silt	0.6 - 0.3	PL-Platy
CV-Convex Slope		SICL-Silty Clay Loam		PR-Prismatic
T-Terrace				
FP-Flood Plain		CL-Clay Loam		
		SCL-Sandy Clay Loam		
	IV	SC-Sandy Clay	0.4 - 0.1	
		SIC-Silty Clay		
		C-Clay		

Consistence Moist	Consistence Wet	Mineralogy
VFR-Very Friable	NS-Non-Sticky	SEXP-Slightly Expansive
FR-Friable	SS-Slightly Sticky	EXP-Expansive
FI-Firm	S-Sticky	
VFI-Very Firm	VS-Very Sticky	
EFI-Extremely Firm	NP-Non-Plastic	
	SP-Slightly Plastic	
	P-Plastic	
	VP-Very Plastic	

Sketch of Soil Evaluation Locations

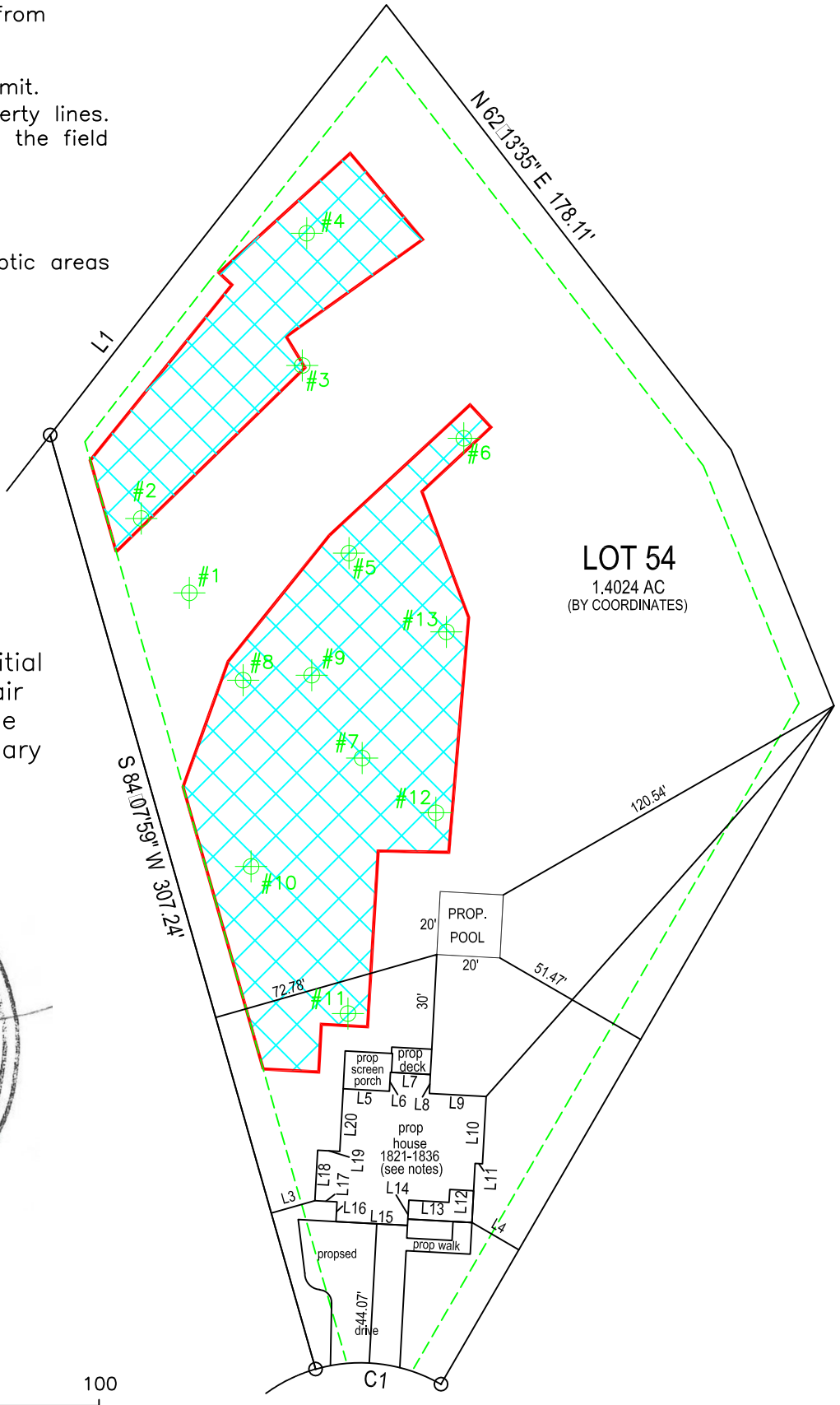
*Keep tanks and drain lines 10' from property lines.
*Not a survey.
*Not a guarantee of a septic permit.
*Keep supply lines >5' from property lines.
*Some lines are flagged longer in the field than lengths indicate.
*No grading septic area.
*No adding soil within septic area
*No rutting–up septic area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

#1 = profile description locations

System and Repair Area:

- ~14,700ft²
- 0.275 soil LTAR for Initial
- 0.3 soil LTAR for Repair
- 4–bedroom: Low Profile Chamber Product Primary and Repair

GRAPHIC SCALE
1" = 50'
50 0 50 100



CCSC	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 54, Cotton Farms Subdivision Harnett County, North Carolina	Job#: 4722 Drawn By: JR Date: 10/25/2023 Revision: