



NC DEPARTMENT OF
**HEALTH AND
HUMAN SERVICES**

ROY COOPER • Governor

KODY H. KINSLEY • Secretary

MARK BENTON • Chief 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: _____ Wake

PIN/Lot Identifier: _____ 1812996794

Issued To: _____ Exeter Building Company LLC

Property Location: _____ 1725 Legacy Ridge Lane, Wake Forest, NC 27587

Subdivision (if applicable) _____ Grand Highland Estates Lot #: _____ 24 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 ☐

Facility Type: _____ Single-Family Dwelling, 4-Bedroom

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

Design Wastewater Strength: ☒ Domestic ☐ High Strength ☐ Industrial Process Wastewater

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

Proposed Wastewater System Type*: _____ IIb, accepted (25% reduction) (Initial) Pump Required: ☐ Yes ☒ No ☐ May be required

Proposed Wastewater System Type*: _____ IIb, accepted (25% reduction) (Repair) Pump Required: ☐ Yes ☒ No ☐ May be required

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

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

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 Depth to LC (Initial)*: _____ 48" Usable Depth to LC (Repair)*: _____ 48" ** Limiting Condition*

Max. Trench Depth (Initial)*: _____ 18" Max. Trench Depth (Repair)*: _____ 18" ** 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 .0508: Yes ☒ No ☐ Drainfield location meets requirements of Rule .0601: 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:

Licensed Soil Scientist Print Name: _____ Jason Hall

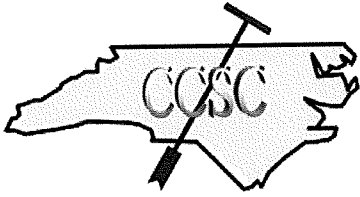
Licensed Soil Scientist Signature: _____

Date: _____ 05/27/2025

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

See attached site sketch





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 Grand Highland Estates, Lot 24,
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):

Stephen Dunn

Owner or Owner's Representative (signature):

[Signature]

Date:

5/29/2025

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 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 15A NCAC 18E 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

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

May 27, 2025

Job #5207

Exeter Building Company LLC
Attention: Luke Ryals
900 Ridgefield Drive, Suite 50
Raleigh, NC 27609

RE: Preliminary soil/site evaluation for a single-family dwelling wastewater approval at Grand Highland Estates Subdivision, Lot 24 (4-bedroom) in Wake County pursuant to and meets the requirements of G.S. 130A-335(a2)."

Dear Mr. Ryals:

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 pits in October 2022, 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 48 inches (initial) and 48 inches (repair) of suitable soils for a modified conventional septic system. The assigned LTAR for the initial system site is 0.3 gpd/ft² with a maximum depth of 18 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 repair system site is 0.3 gpd/ft² with a maximum depth of 18 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 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 Gravity to Serial distribution using lines 1-5 totaling 450 feet of accepted product (25% reduction). The repair system for the house is a Gravity to Serial distribution using lines 6-9 totaling 420 feet of accepted product (25% reduction).

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

Minimum tank capacities: 1,200 for septic tank with risers. The tank 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. 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)

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 1-5 totaling 450' (see layout)
- Repair System: Pressure Manifold Distribution, lines 6-9 totaling 420' (see layout)
- 480 gal/day flow rate (4-bedroom)
- 1,200 gallon septic tank
 - with risers and pressed in rubber boots on both the inlet and outlet ends and a secondary lid in each tank opening
- 18" max trench depth on the downhill side for the Initial System
- 18" 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
- Maintain natural contours when clearing the lot

This letter discusses the location of 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 #: 1812996794
COUNTY: Wake

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM
(Complete all fields in full)

OWNER: Exeter Building Company LLC DATE EVALUATED: October 2022
ADDRESS: 900 Ridgefield Drive, Suite 50, Raleigh, NC 27609
PROPOSED FACILITY: single-family dwelling PROPOSED DESIGN FLOW (.0400): 480 gal/day PROPERTY SIZE: 1.917 acres
LOCATION OF SITE: 1725 Legacy Ridge Lane, Wake Forest, NC 27587 (Grand Highland Estates, Lot 24) 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, ~16-19%	A, 0-5	L, GR	VFR, NS, NP						7"
		Bt, 5-28	C, SBK	FI, SS, SP, SEXP		S			S, 0.3	
		C, 28-48	SL, GR	FR, NS, NP		S	S		S, 0.3	
2	L, ~16-19%	A, 0-2	L, GR	VFR, NS, NP						7"
		Bt, 2-15	C, SBK	FI, SS, SP, SEXP						
		BC, 15-40	CL, Weak SBK	FR, SS, SP, SEXP		S			S 0.3	
		C, 40-54	L, GR	FR, NS, NP		S	S		S, 0.4	
3	L, ~16-19%	A, 0-4	L, GR	VFR, NS, NP						7"
		Bt, 4-20	C, SBK	FI, SS, SP, SEXP		S			S, 0.325	
		BC, 20-28	CL, Weak SBK	FR, SS, SP, SEXP		S			S, 0.3	
		C, 28-48	L, GR	FR, NS, NP		S	S		S, 0.4	

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM	SITE CLASSIFICATION (.0509): suitable EVALUATED BY: Jason Hall OTHER(S) PRESENT:
Available Space (.0508)	yes	yes	
System Type(s)	IIb, accepted	IIb, accepted	
Site LTAR	0.3	0.3	
Maximum Trench Depth	18" on downhill side	18" on downhill side	

Comments: _____

LEGEND

LANDSCAPE POSITION	SOIL GROUP	SOIL TEXTURE	CONVENTIONAL LTAR (gpd/ft²)	SAPROLITE LTAR (gpd/ft²)	LPP LTAR (gpd/ft²)	MINERALOGY/ CONSISTENCE		STRUCTURE
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		EFI (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
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

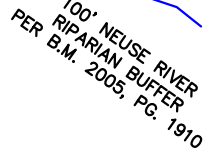
SAPROLITE S(suitable) or U(unsuitable); Evaluation of saprolite shall be by pits or auger borings.

SOIL WETNESS 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

CLASSIFICATION S (Suitable) or U (Unsuitable)

- ~11,060ft²
- 0.3 soil LTAR
- 4-bedroom: Accepted Product
Primary and Repair

☐



GRAPHIC SCALE
1" = 60'



Soils Map
Lot 24, Grand Highland Estates Subdivision
Wake County, North Carolina

Job#: 5207
Drawn By: JR
Date: 05/27/2025
Revision: