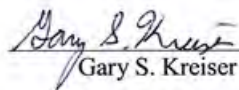


Soil and Site Evaluation For
Sewage Treatment and Disposal Systems
4781 Old Stage Road N
(APN: 40683005102)
Angier, NC
Harnett County

October 4, 2024


Gary S. Kreiser



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

INTRODUCTION

Soil & Septic Solutions performed an on-site subsurface wastewater system investigation on an 0.74 acre parcel (APN: 40683005102) located at 4781 Old Stage Road N, Angier in Harnett County, North Carolina on September 14, 2024. The plan is for a 4 bedroom home. The property will use County water.

The property was evaluated in accordance with North Carolina Rules for waste disposal.

This LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2). Based on this evaluation a 4 bedroom septic layout has been provided to document there is enough space for an initial and repair system.

At the time of the survey, the review area mowed grass. Slopes ranged from 2 to 3 percent.

INVESTIGATION METHODOLOGY

Soil borings were made with a hand-turned auger in the study area. Observations of the landscape (slope, drainage patterns, past use, etc.) as well as soil properties (depth, texture, structure, seasonal wetness, restrictive horizons, etc.) to a depth ≥ 48 inches when possible were recorded. Soil color was determined with a Munsell Soil Color Chart. From these observations, potentially suitable area for wastewater disposal was identified.

A handheld global positioning system (GPS) with sub-meter accuracy was used to locate each soil boring as well as other pertinent site features.

FINDINGS

Five (5) hand auger borings were made on the property, logged, and their locations are shown in the Soil Boring Location Exhibit. Soil Boring logs are attached. The soil texture was typically sandy loam to sandy clay loam.

Depth to seasonal high water table was the limiting factor. The shallowest depth was 26 inches (B7). The other borings had at least 30 inches to wetness (See attached Soil Boring Location Exhibit). It is estimated that this area is approximately 10,000 ft².

Based on the soil texture and depth to restrictive horizons a long-term acceptance rate (LTAR) of 0.5 gpd/ft² is recommended.

SYSTEM DESIGN

4 bedroom house

A design flow of 480 gallons per day as well as a long term acceptance rate (LTAR) of 0.5 gpd/ft² was used in the calculation of the required sizing of the septic system. The initial system should be an Accepted Status System to receive a 25% reduction in length.

The initial system and repair system was laid out in a portion of the suitable area. The initial system is recommended to be three (3) 80 foot trenches using an Accepted Status System. (See the Septic Layout Exhibit). The repair system is recommended to be two (2) 120 foot trenches using an Accepted Status System. (See the Septic Layout Exhibit). A pump tank will be needed for both the initial and repair system.

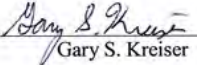
The recommended trench bottom depth is maximum of 20 inches for the initial system. A maximum depth of 16 inches is recommended for the repair system. The septic tank will need to have a minimum capacity of 1000 gallons. The repair system will require a soil cap.

Attached are the wastewater soil/site evaluation forms, location sketch of borings, and system layout.

Soil & Septic Solutions, PLLC

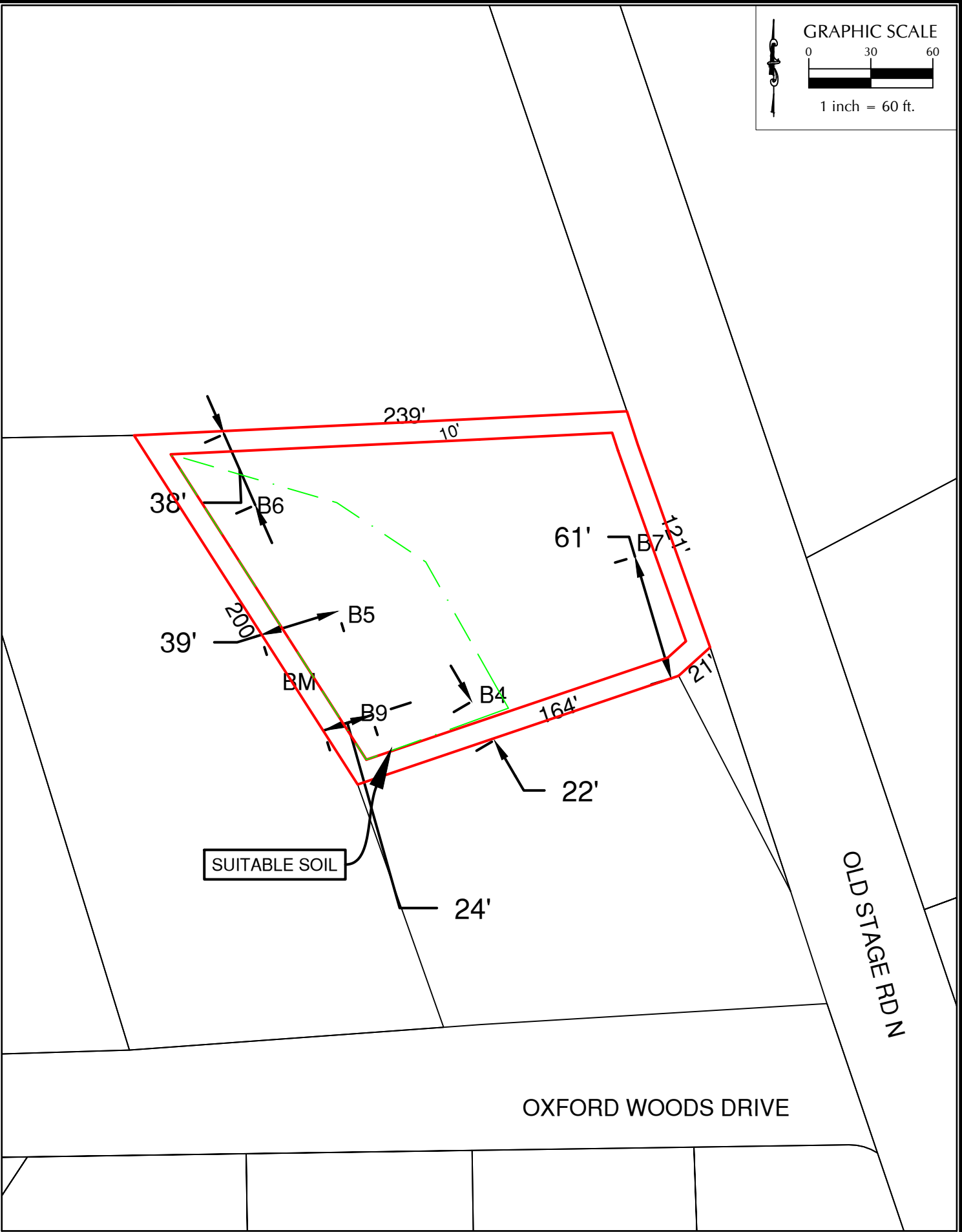
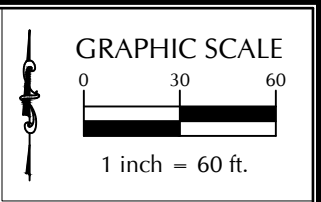
The septic installer contractor shall install the primary system on contour, see the attached site plan for the primary system. Installation must meet all state and local regulations for septic system installation. The area designated on the site plan for the septic system and repair must remain undisturbed (no mechanical clearing, excavation, heavy traffic, or other significant site disturbing activities) until authorized by the health department.

Sincerely,


Gary S. Kreiser


Attachments:

- 1) Soil boring locations
- 2) System Specifications
- 3) System Layout
- 4) Soil boring logs
- 5) Property Owner Acknowledgement of G.S. 130A-335(a2) and (a3)
- 6) Improvement Permit Form for G.S. 130A(a2)/SL2022-11
- 7) Certificate of Insurance



**4781 Old Stage Rd N
(40683005101)
4 bedroom house**

Number of bedrooms: 4
Initial system LTAR: 0.5
Initial trench length: 240 feet - accepted system (25% reduction).

Repair system LTAR: 0.50
Repair trench length: 240 feet –accepted system (25% reduction).

SYSTEM DELINEATION

Line	Flag Color	Length	Design Length Installation	Rod Reading	Elevation	System Type
1	Blue	65	Not used	3.42	99.0	Not used
2	Orange	85	80	4.00	98.4	Initial
3	Green	85	80	4.33	98.1	Initial
4	Red	85	80	4.83	97.6	Initial
5	Blue	120	120	5.83	96.6	Repair
6	Orange	120	120	6.67	95.8	Repair

B.M. = 100.00' - base of mimosa tree H.I. 2.42

System Notes

Initial

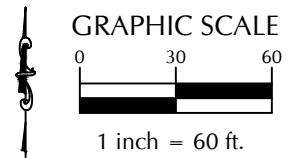
- A maximum downslope trench depth of 20 inches is recommended for the initial system.
- 3- 80' drain lines were field delineated for the initial system (240')
- Drain lines were placed on 9-foot centers.
- Minimum septic tank 1000 gallons
- Pump tank will be required
- Distribution Method – D Box or Serial

Repair

- A maximum downslope trench depth of 16 inches is recommended for the repair system.
- 2- 120' drain lines were field delineated for the initial system (240')
- Drain lines were placed on 9-foot centers.
- Pump tank will be required
- Distribution Method – D Box or Serial - may require pump depending on house location.
- Soil cap will be required

INITIAL SYSTEM: ACCEPTED STATUS (25% REDUCTION)
 480 GPD
 LINES: 2,3 & 4
 3 X 80' TRENCHES
 0.5 LTAR
 20" MAXIMUM DOWNSLOPE TRENCH BOTTOM
 MINIMUM 1000 GALLON SEPTIC TANK
 D BOX OR SERIAL DISTRIBUTION
 PUMP WILL BE REQUIRED

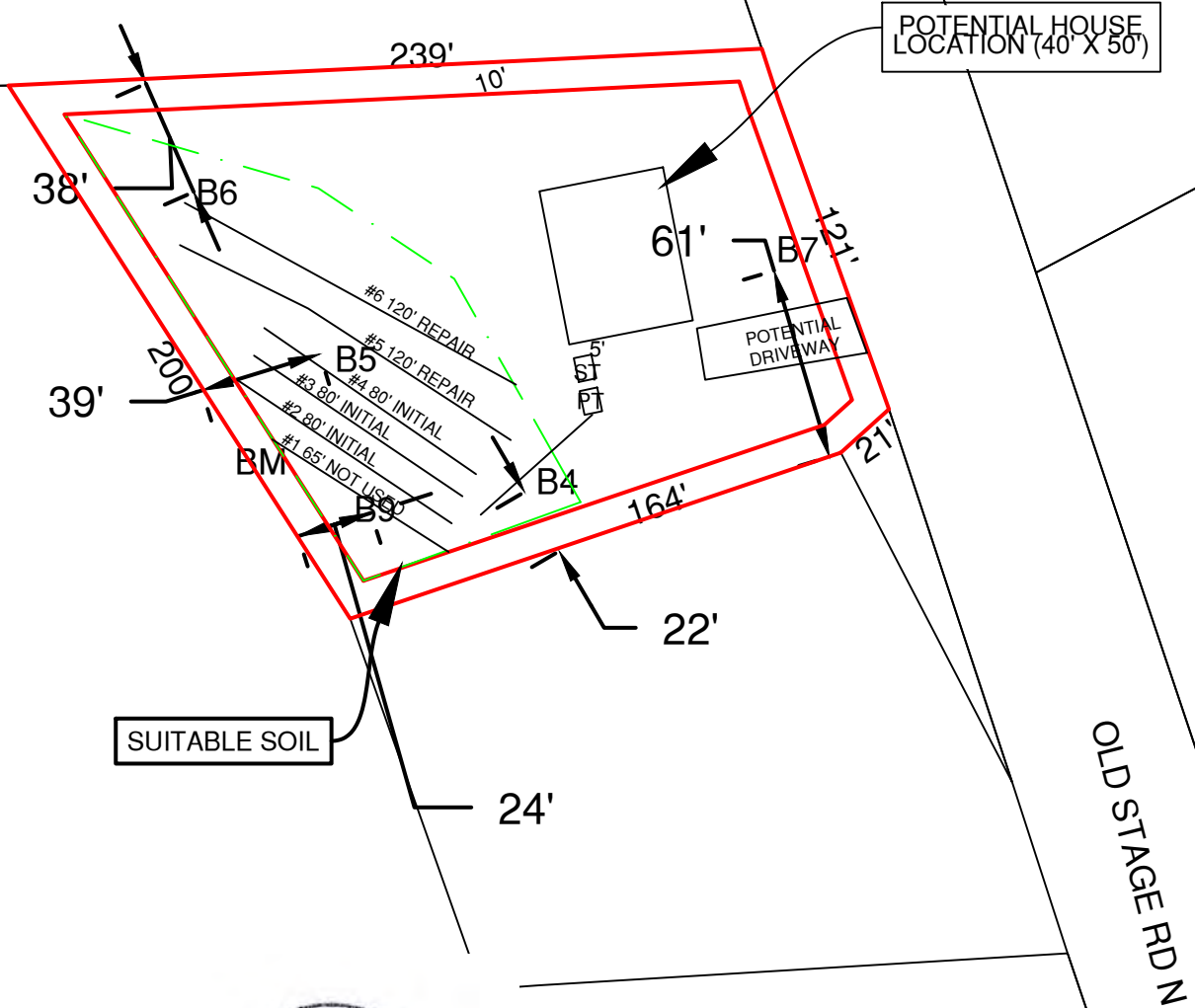
REPAIR SYSTEM: ACCEPTED STATUS (25% REDUCTION)
 480 GPD
 LINES: 5 & 6
 2 X 120'
 0.5 LTAR
 16" MAXIMUM DOWNSLOPE TRENCH BOTTOM
 D BOX OR SERIAL DISTRIBUTION
 PUMP WILL BE REQUIRED
 SOIL CAP WILL BE REQUIRED



SYSTEM DELINEATION

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B.M. = 100.00' - base of mimosa tree H.I. 2.42



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 40683005102

SEPTIC LAYOUT

SOIL & SEPTIC SOLUTIONS