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27 July 2023

John Fleshman
88 Jack Harris Lane
Spring Lake, NC 28390

Reference: Preliminary Soil and Wetland Investigation
178 Frenchie Lane, Bunnlevel, NC; PIN 0526-31-9472.000

Dear Mr. Fleshman,

A site investigation has been conducted for the above referenced property, located on the eastern side of Frenchie Lane in Harnett County, North Carolina. The purpose of this investigation was to determine the site's ability to support subsurface sewage waste disposal systems; and to determine the existence, extent, and location of areas that meet the criteria for wetlands and surface waters on the property.

All sewage disposal rating and determinations were made in accordance with "Laws and Rules for Sewage Treatment and Disposal Systems, 15A NCAC 18A .1900". This report represents my professional opinion as a Licensed Soil Scientist but does not guarantee or represent permit approval for this lot by the local Health Department. An improvement permit will need to be obtained from the Health Department that specifies the proposed home size and location, and the design and location of each septic system to be installed.

All wetland determinations were made in accordance with the 1987 US Army Corps of Engineers Wetland Delineation Manual and subsequent regional supplements. All stream determinations were made in accordance with the NC Division of Water Resources *Methodology for Identification of Intermittent and Perennial Streams and their Origins, Version 4.11*. This report represents my professional opinion but does not represent the exact wetland boundaries or concurrence by the US Army Corps of Engineers (USACE) or the NC Division of Water Resources (NCDWR).

PRELIMINARY SOIL INVESTIGATION

The soils were evaluated under moist soil conditions through the advancing of auger borings. This evaluation included observations of soil morphology (texture, structure, clay mineralogy, organics), topography, and landscape position. Soils in the investigated portions of the site were observed to range from provisionally suitable to unsuitable for subsurface sewage waste disposal (see attached map).

The soils shown as provisionally suitable will adequately function as sewage waste disposal sites. Observed within the provisionally suitable soil area are inclusions of soils that rate as provisionally suitable for modified or alternative systems. These soils are limited in usable depth to the extent that systems that can be installed ultra shallow will likely be required. This requirement will necessitate the addition of approximately 6 inches of topsoil to completely cover the system. Due to clayey textured subsoil characteristics, you should expect that 75 to 100 feet of chamber drainline would be required for the initial system per bedroom in the home.

The soils shown as provisionally suitable for low profile chamber systems are limited in soil depth to the extent that low profile chamber type drainlines installed ultra shallow will likely be required. Due to ultra shallow trench depths, the addition of approximately 6 inches of native backfill will be necessary to completely cover the system. You should expect that 133 to 160 feet of low-profile chamber drainlines would be required for the initial system per bedroom in the home.

The soils shown as provisionally suitable for subsurface drip systems are extremely limited in soil depth. These type of systems are considerably more expensive and are used for repair areas if needed.

The unsuitable soil area is so rated due to inadequate soil depth to excessive soil wetness conditions and/or unsuitable landscape position. The ability to utilize alternative systems or make modifications to this area to allow for septic systems is minimal.

PRELIMINARY WETLANDS INVESTIGATION

The site investigation was accomplished by direct examination of the physical attributes of the site and soil auger borings taken at various points across the site. Wetland determinations were based on the three-parameter approach involving indicators of hydrophytic vegetation, hydric soils, and wetland hydrology. Under normal circumstances, positive indicators of each of these parameters must be present for an area to satisfy the criteria for wetlands.

Two potential streams were identified cutting across the property from the southwest to the north east and are approximately located on the map below. No other potential wetland areas were identified.

The soils underlying this property appear capable of supporting the subsurface sewage waste disposal needs of a four-bedroom residence. I appreciate the opportunity to provide this service and trust that you will feel free to call on me again in the future. If you have any questions or need additional information, please contact me at your convenience.

Sincerely,

Britt Wilson
Licensed Soil Scientist

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SOIL MAP

Scale 1 in = 100 ft

Map for reference only. Distances are paced and approximate. Not a survey.

Map Legend

- Provisionally Suitable Soils
- Provisionally Suitable for Low Profile Chamber Systems
- Provisionally Suitable for Drip Systems
- Unsuitable Soils
- Potential Stream