## HAL OWEN & ASSOCIATES, INC.

## SOIL & ENVIRONMENTAL SCIENTISTS

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## 5 December 2024

Sandhills Real Estate Holdings LLC

Reference: Preliminary Soil Investigation Cameron Hill Road; PIN 9564-64-8384

Dear Sandhills Team,

A site investigation has been conducted for the above referenced property, located on the southern side of Cameron Hill Road (SR 1108) in Harnett County, North Carolina. The purpose of this investigation was to determine the site's ability to support subsurface wastewater dispersal systems. This report and map are intended for planning purposes only and not for lot recordation.

All sewage disposal ratings and determinations were made in accordance with the Rules for "Wastewater Treatment and Dispersal Systems", 15A NCAC 18E. This report represents my professional opinion as a Licensed Soil Scientist but does not guarantee or represent permit approval for any lot by the Local Health Department. An application for an approved wastewater system shall be made to the Local Health Department that specifies the proposed building size and location and the design and location of the wastewater system to be installed.

The soils were evaluated under moist soil conditions through the advancing of auger borings. This evaluation included observations of topography and landscape position, soil morphology (texture, structure, clay mineralogy, organics), soil wetness, soil depth, and restrictive horizons. Soil units shown on the attached map represent dominant soil types with similar profiles but may include minor components of contrasting soil types.

The soils shown as suitable for modified systems are limited in soil depth to the extent that systems that can be installed ultra shallow will likely be required. This requirement will necessitate the addition of approximately six inches of approved soil to completely cover the system. You should expect that 60 to 70 feet of accepted status (25% reduction) drainline would be required for the initial system per bedroom in any proposed residence. Lot densities should be adjusted to allow for adequate drainline in areas dominated by these soils. It is recommended that lots be designed to contain at least 25,000 square feet in areas serviced by public or community water supplies. Developing lots with individual wells will necessitate an additional 10,000 square feet at minimum.

The soils shown as suitable for low profile chamber systems are limited in soil depth to the extent that low profile chamber type drainlines installed at-grade will likely be required. Due to ultra shallow trench depths, the addition of approximately six inches of approved soil will be necessary to completely cover the system. You should expect that 115 to 135 feet of low-profile chamber drainlines would be required for the initial system per bedroom in any proposed residence.

The soils indicated as suitable for drip systems are limited in soil depth to the extent that subsurface drip dispersal systems will be required. Additional soil testing and pretreatment filters will also likely be required. Pretreatment and drip systems are significantly more expensive and are recommended only for use as repair areas.

Lot densities should be adjusted in areas dominated by low profile and drip soil types. It is recommended that lots be designed to contain at least 35,000 square feet in areas serviced by public or community water supplies. Developing lots with individual wells will necessitate an additional 10,000 square feet at minimum.

The unsuitable soil area is so rated due to inadequate soil depth to excessive soil wetness conditions. The potential to modify these areas to allow for subsurface wastewater dispersal systems is severely limited. Some of this area will likely support building foundations, and homes could be sited in this area. However, it is necessary that at least 10,000 square feet of usable soil be incorporated into each lot in such a way that it will be completely available for waste disposal. Wastewater systems that utilize pumps to conventional drainlines are recommended if you wish to locate homes on unsuitable soils and attempt to maximize the usable portion of the property.

Wetland areas were observed on the property and are approximately shown on the attached map. Current environmental regulations require a Clean Water Act §404 permit from the US Army Corps of Engineers and a matching §401 water quality certification from the NC Division of Water Resources for any activity that impacts jurisdictional waters; which includes filling, draining, and mechanized land clearing of the area. It is encouraged that you use care and good judgment when working in or around wetland areas. Additional information about regulatory requirements and permitting can be provided at your request.

The soils underlying this property appear adequate to support the subsurface wastewater dispersal system needs of three or four, three- to four-bedroom residences. 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,

Jacoby Kerr

Soil Associate II

STEP 1351

Britt Wilson

Licensed Soil Scientist

& West



