DANIEL J. BLILEY
SOIL AND LAND USE CONSULTANT

614 SOUTH SECOND STREET SMITHFIELD, NORTH CAROLINA 27577 (919) 934-8610

April 12, 2020

Mr. Wayne Bailey
BAILEY WRIGHT REAL ESTATE
10931 Strickland Road
Raleigh, North Carolina 27615

Wayne:

This report concerns the soils suitability for septic system drain fields on the Keith Tract (14.54 acres) located on the north side of NC 98 just east of the intersection with NC 50 in northern Wake County. The property identification number is: 0891454075.

The attached sketch map shows the location of various soils areas that were identified from field investigations. This map was prepared using property information and aerial photography obtained from the Wake County GIS web site. The topographic contours (2 ft. interval-LIDAR) were obtained from the NC DOT GIS web site. The USDA soil survey map and the USGS topographic map were also consulted as to the general nature of the soils, landforms and streams.

The soils areas was identified from hand auger borings made at selected locations on the landscape and from field observations of soil related landforms and vegetation. The locations of the individual soil borings as well as related cultural features were estimated using a Trimble mapping grade GPS receiver.

SOIL SUITABILITY

The suitability classification of the soil areas based on State Sewage Disposal regulations (15A NCAC 18A .1900-.1970) and local county regulations I are as follows:

AREA 1: These soils will classify provisionally suitable for conventional septic system drain fields. These soils have reddish brown loam to clay loam surface layers overlying friable red clay subsoils that exhibit soil structure and are free of seasonal wetness mottling within the upper 36 to more than 40 inches of the soil profile. These soils have potential for conventional septic system drain fields. The sewage loading rate is estimated to be approximately 0.30 gal./sq. ft. of trench bottom for conventional drain fields. Included in this soils unit are small areas where loamy saprolite occurs within 24 inches or the soil surface and small areas where gray mottles occur at 24 inches or greater from the surface. Modified conventional drain fields or alternative septic systems may be required at these isolated areas.

AREA 3: These soils will dominantly classify unsuitable for conventional septic system drain fields. These soils occur in low lying areas adjacent to the drainage ways or they occur on hillslopes that have been impacted by gully formation. Some of these soils have expansive clays in the subsoils that are mottled with gray indicative of seasonal wetness. Some of these soils occur within the power line easement located near the front of the property. Some areas are also located within the minimum

exclusion zone (50 ft.) from the existing wells on the property or on adjacent to the properties. Overall these soils are not recommended for septic drain fields.

SUMMARY

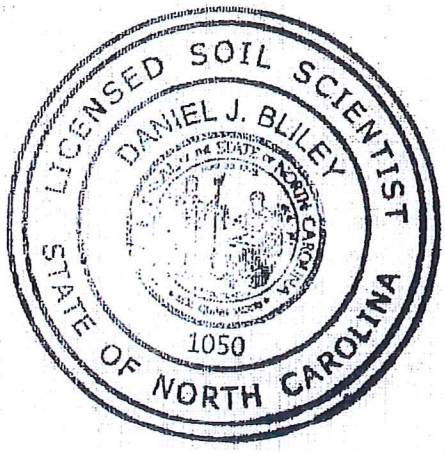
This property has significant potential for development using septic drain field for on-site sewage disposal. Area 1 soils are recommended for conventional or modified conventional septic drain fields. Under Section V-D of the Wake County Sewage Disposal Regulations each residential building lot is required to have a minimum of 40,000 sq. ft. of area 1 soils. Lots with less than the required 40,000 sq. ft. of this soil type can be approved under Section VI of the regulations, which specifies that a detailed site plan be provided showing a specific layout of a proposed dwelling, septic drain fields (including repair), a well site and any accessory features that will be anticipated. The plans are also required to include the preliminary design for effluent distribution devices or systems.

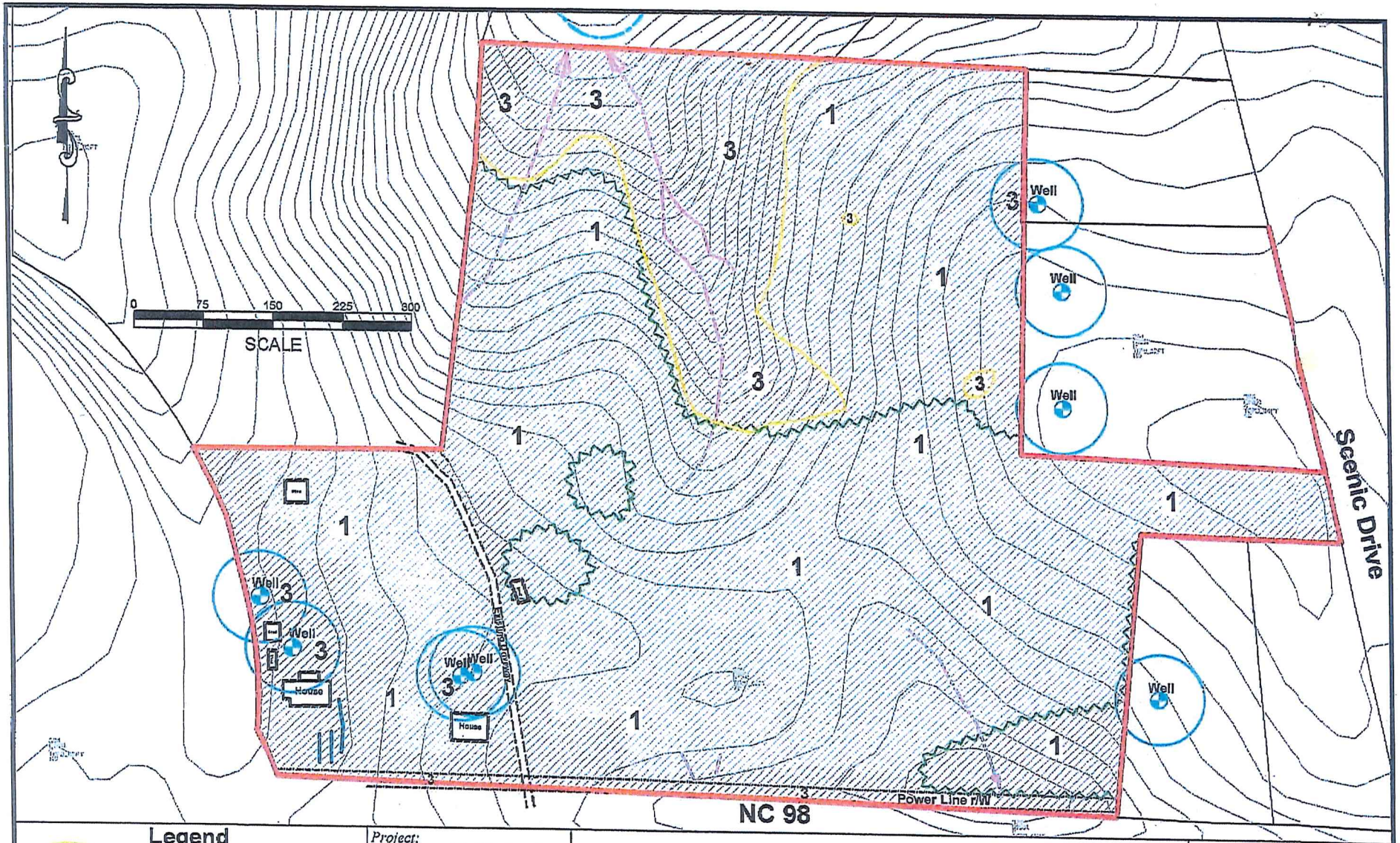
The attached sketch map can be used to prepare preliminary sketch plans for subdividing the property. The soils within the well radius for the old house can be re-classified to provisionally suitable provided that the well is properly abandoned. Some review of specific development plans is recommended to discuss the development of individual lots especially those having limited usable soils and complex topography.

Please call me if you have any questions regarding these investigations or the development of the property.

Sincerely

Daniel J. Bliley
Licensed Soil Scientist





Legend

- 1 Provisionally Suitable
- 3 Unsuitable
- Surface Drains-Gullies
- Woods Line
- Existing Drain Field

Project:	14.51 ac. tr.
Client:	Wayne Bailey
CAD File:	Baileykeith
Scale:	1" = 150'
Date:	April 11,2020

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