



Agri-Waste Technology, Inc.
501 N Salem Street, Suite 203, Apex, NC 27502
agriwaste.com | 919.859.0669

Soil Suitability for Domestic Sewage Treatment and Disposal Systems

5650 Miami Church Road,
Concord, NC. 28025
Cabarrus County
PID: 55586398860000

Prepared For: Dream Acres, LLC

Prepared By: Jeff Vaughan, Ph.D., L.S.S.
Senior Agronomist/Soil Scientist

Trevor Hackney
Environmental Scientist

Report Date: March 31, 2023



Engineers and Soil Scientists

Agri-Waste Technology, Inc.

501 N Salem Street, Suite 203, Apex, NC 27502

agriwaste.com | 919.859.0669

**Soil Suitability for Domestic Sewage Treatment and Disposal Systems
5650 Miami Church Road, Concord, NC. 28025;
Cabarrus County (PIN: 5558639886000)**

PREPARED FOR: Dream Acres LLC, Buyer

PREPARED BY: Jeff Vaughan
Trevor Hackney

DATE: March 31, 2023

Soil suitability for domestic sewage treatment and disposal systems was evaluated between March 27-29, 2023, for the property located at 5650 Miami Church Road, Concord, NC. Trevor Hackney and Nathan Estevez of Agri-Waste Technology, Inc. (AWT) conducted the soil evaluation. The detailed soil evaluation of the land area will follow. A review of the soil and landscape characteristics that dictate soil suitability for domestic sewage treatment and disposal systems can be found in Attachment 2. Additional documentation is included in Attachment 3.

The total property area is approximately 111 acres. The property is mostly wooded. The overall slope of the property ranges from 5-25% slopes. Many low-lying and drainage areas were identified as unsuitable topography for septic systems and can be seen on the attached maps (Attachment 1). A stream identified by the USGS that runs across this property. There are also many old roads and a power line that were marked with GPS during AWT's evaluation.

Soil Suitability for Domestic Sewage Treatment and Disposal Systems

The aerial map in Attachment 1 details the soil boring locations, contour data, and soil types. Many areas were identified as usable and can be seen in the maps in Attachment 1. Some portions are usable for conventional septic systems. These areas add up to be ~571,470 square feet. Other areas were identified as usable for subsurface drip septic systems. These areas add up to be 438,522 square feet. These areas are sporadically spread throughout the property and won't be able to be used to 100% effectiveness. This evaluation was a preliminary review to determine what potential this land might have for

domestic sewage treatment and disposal systems. Therefore, specific types of septic systems, exact locations of future drain fields and repair areas, building foundations, etc. are not fully considered. These things will need to be more fully considered as the plans develop for the potential future of these sites. It is likely that additional soil evaluations will be required so that septic system types and the location of a septic drain field can be more fully and appropriately considered.

Typical profile descriptions of the soil borings done for this property are in Attachment 2. Three distinct soil profiles were observed in the soil borings on the property: 1) Usable soil to 36+ inches, 2) Usable soil to 18 inches prior to encountering chroma 2 colors, and 3) Usable soil to 8 inches prior to encountering chroma 2 colors.

The mapped soil types on these properties are Badin, Chewacla, Enon, Kirksey, and Tarrus soil series. The soil borings evaluated on this property were generally consistent with the mapped soil type in its respective area.

Conclusions

Based on the results of this evaluation, there are areas that are usable for conventional systems and areas usable for subsurface drip septic systems. Based on the amount of usable soils area AWT is estimating a maximum of 52 three-bedroom homes assuming community septic systems are a viable option at this property. In order to maximize the septic system areas, community systems should be proposed by including a maximum of 2990 Gallons Per Day (GPD) proposed flow. When 3000 GPD is surpassed, there are rules enforced by the state that require additional testing to permit the community systems. A twenty foot drain field to drain field setback will apply in the community system areas. AWT is recommending proposing preliminary lot lines so that in-field layouts can be performed to confirm the septic easement areas are viable for the proposed amount of flow. It will be critical to establish lot plans that meet zoning requirements and reserve the usable septic system areas for the community systems.

Any grading or disturbance to the soil could impact soil suitability for a septic system on the properties. It will be critical to select house footprints that allows enough room for primary and repair septic systems.

Sincerely,

Jeff Vaughan



Trevor Hackney

