



Agri-Waste Technology, Inc.
501 N Salem Street, Suite 203, Apex, NC 27502
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Soil Suitability for Domestic Sewage Treatment and Disposal Systems

Noel Tuck Road,
Oxford, NC
Granville County

Prepared For: Mullinax Land Company, LLC c/o Alva Mullinax

XCOPY: Edwin Orr, Property Manager

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

Clara Frickmann
GIS Technician

Report Date: February 6, 2025



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Soil suitability for domestic sewage treatment and disposal systems was evaluated on January 29, 2025, for property located on Noel Tuck Road near Oxford, NC. Jeff Vaughan and McLean Davis of Agri-Waste Technology, Inc. (AWT) conducted the soil evaluation. The detailed soil evaluation of the land area will follow. A property reference map is in Attachment 1. This reports supplements the previous report for the same property dated December 30, 2024. The purpose of this supplement was to evaluate another section of the property that was not evaluated previously, all at the request of the client.

The total property area evaluated is approximately 3 acres. The property is completely wooded. There are several drainage features with moderate slopes on the property (Attachment 2). The NW corner of the property was evaluated at the request of the client.

Soil Suitability for Domestic Sewage Treatment and Disposal Systems

The aerial map in Attachment 2 details the approximate property boundaries, soil boring locations, soil types, and soil areas for septic systems. Soil borings were flagged in the field with blue, red, or yellow ribbon. Approximately 16 soil borings were advanced within the NE corner of the property (Attachment 2). A portion of the property contained drainage features, complex topography, and/or unsuitable soils and, thus, are unsuitable for septic systems. However, this evaluation was merely 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

drainfields and repair areas, plus buffers from property lines (current and potential future lot lines), building foundations, wells, etc. are not fully considered. These things will need to be more fully considered as the plans develop for the potential future of this site. It is possible that additional soil evaluations will be required once lot layouts are considered and developed for this property so that septic system types and the location of a septic drainfield can be more fully and appropriately considered.

One area (see map in Attachment 2) exhibited soil characteristics and soil depths (20" or greater) that is suitable for conventional or shallow conventional trench septic systems. This area is approximately 28,934ft².

Typical profile descriptions of the suitable soil for this property are in Attachment 3. Two distinct soil profiles were observed in the soil borings on the property: a deep red clay subsoil or a shallower red clay subsoil.

The suitable soil borings had the following characteristics. No restrictive horizons were found in any soil borings within 20" of the soil surface. Soil texture was suitable and was estimated to be silt loam near the soil surface (A horizons) and clay in the subsoil (B horizons). Soil structure was suitable and was estimated to be granular near the soil surface (A horizons) and subangular blocky in the subsoil (B horizons). Clay mineralogy was suitable with very friable to firm moist soil consistence and non-sticky to sticky and non-plastic to plastic wet soil consistence. Indications of saprolite were detected in some soil borings, but were not dominant in profiles.

The major soil types on this property are Georgeville silt loam (map symbol GeC), Tatum loam (map symbol TaE), Enon loam (map symbol EnB), and Iredell loam (map symbol IrB). The Granville County Soil Survey indicates that moderate to severe limitations exist for septic systems installed in these soils types (Attachment 4).

The land area required for a conventional or shallow conventional septic system is calculated based on the size of the proposed home and the Long-Term Acceptance Rate (LTAR) of the soil. The LTAR range for the suitable soils on this property is 0.1 – 0.4 GPD/ft² based on the most restrictive soil texture in the subsoil. Table 1 below presents estimated conventional or shallow conventional septic system land area requirements for several home sizes and LTAR's on this property. The LTAR suggested by AWT for a majority of the suitable soil is 0.25 GPD/ft², but the final LTAR for specific septic system types and septic drainfield locations may be set by the Orange County Health Department. The detailed computations are in Attachment 5.

Table 1. Estimated Conventional Septic System Land Requirements (including repair area) for Several Home Sizes and Long-Term Acceptance Rates (LTAR) on this Property.

<u>House Size</u>	<u>Long-Term Acceptance Rate (LTAR)</u>	<u>Area Required for Conventional Septic System</u>	<u>Minimum Area Required for Innovative Conventional Septic System</u>
	-----GPD/ft ² -----	-----ft ² -----	-----ft ² -----
3 bedrooms	0.1 – 0.4	6,750 – 32,400	8,100 – 24,300
3 bedrooms	0.25	~10,800	~8,100
4 bedrooms	0.1 – 0.4	9,000 – 43,200	6,750 – 32,400
4 bedrooms	0.25	~14,400	~10,800
5 bedrooms	0.1 – 0.4	11,250 – 54,000	8,438 – 40,500
5 bedrooms	0.25	~18,000	~13,500

Conclusions

Based on the results of this evaluation, the installation of conventional or shallow conventional septic systems seems very probable on this property in the area designated on the map in Attachment 2.

We appreciate the opportunity to assist you in this matter. Please contact us with any questions, concerns, or comments.

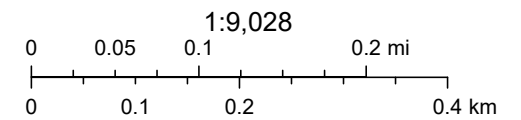
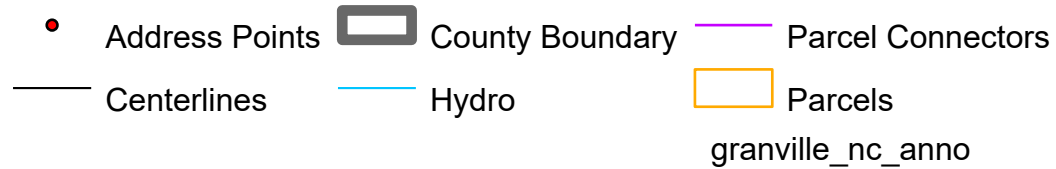
mullinax

ATTACHMENT 1: Property Reference Map

Granville County, NC



12/30/2024, 9:40:41 AM



**ATTACHMENT 2: Property Map Detailing Soil Suitability
for Septic Systems and Soil Types**



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Preliminary Soil Evaluation

Mullinax Land Co
Granville Co., NC
PIN: 096800758490

GIS Acres: 198.9



Area for Septic:

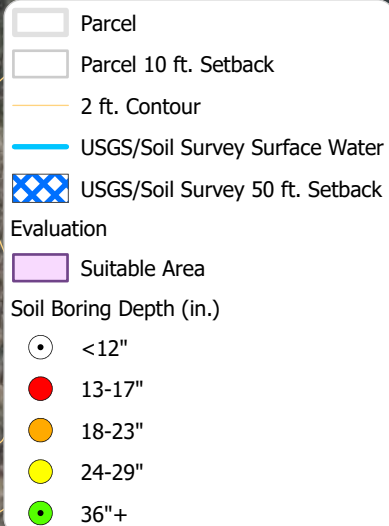
~28,934 sq.ft.

Soil Types:

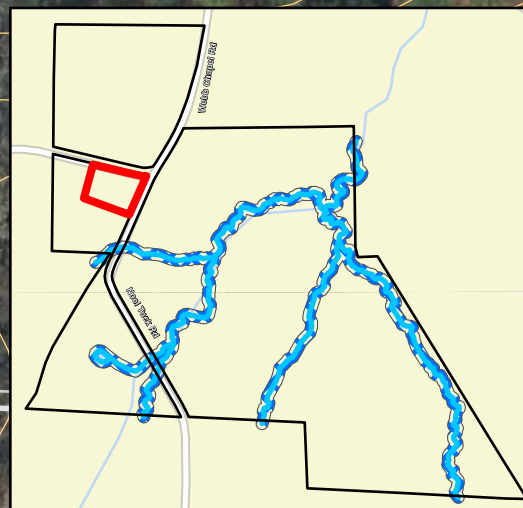
GeB, GeC- Georgeville Silt Loam
TaE- Tatum loam
EnB- Enon loam
IrB- Iredell loam
NaB- Nason gravelly loam

Notes:

Not in NC Riparian Buffer
No NWI Wetlands mapped
USGS/Soil Survey surface waters mapped



Drawn By: Clara Frickmann
Reviewed By: Jeff Vaughan
Date: 01/30/2025



0 50 100 200 Feet



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Area for Septic:

~28,934 sq.ft.

Soil Types:

GeB, GeC- Georgeville Silt Loam
TaE- Tatum loam
EnB- Enon loam
IrB- Iredell loam
NaB- Nason gravelly loam

Notes:

Not in NC Riparian Buffer
No NWI Wetlands mapped
USGS/Soil Survey surface waters mapped

- Parcel
- Parcel 10 ft. Setback
- Soil Type
- USGS/Soil Survey Surface Water
- USGS/Soil Survey 50 ft. Setback

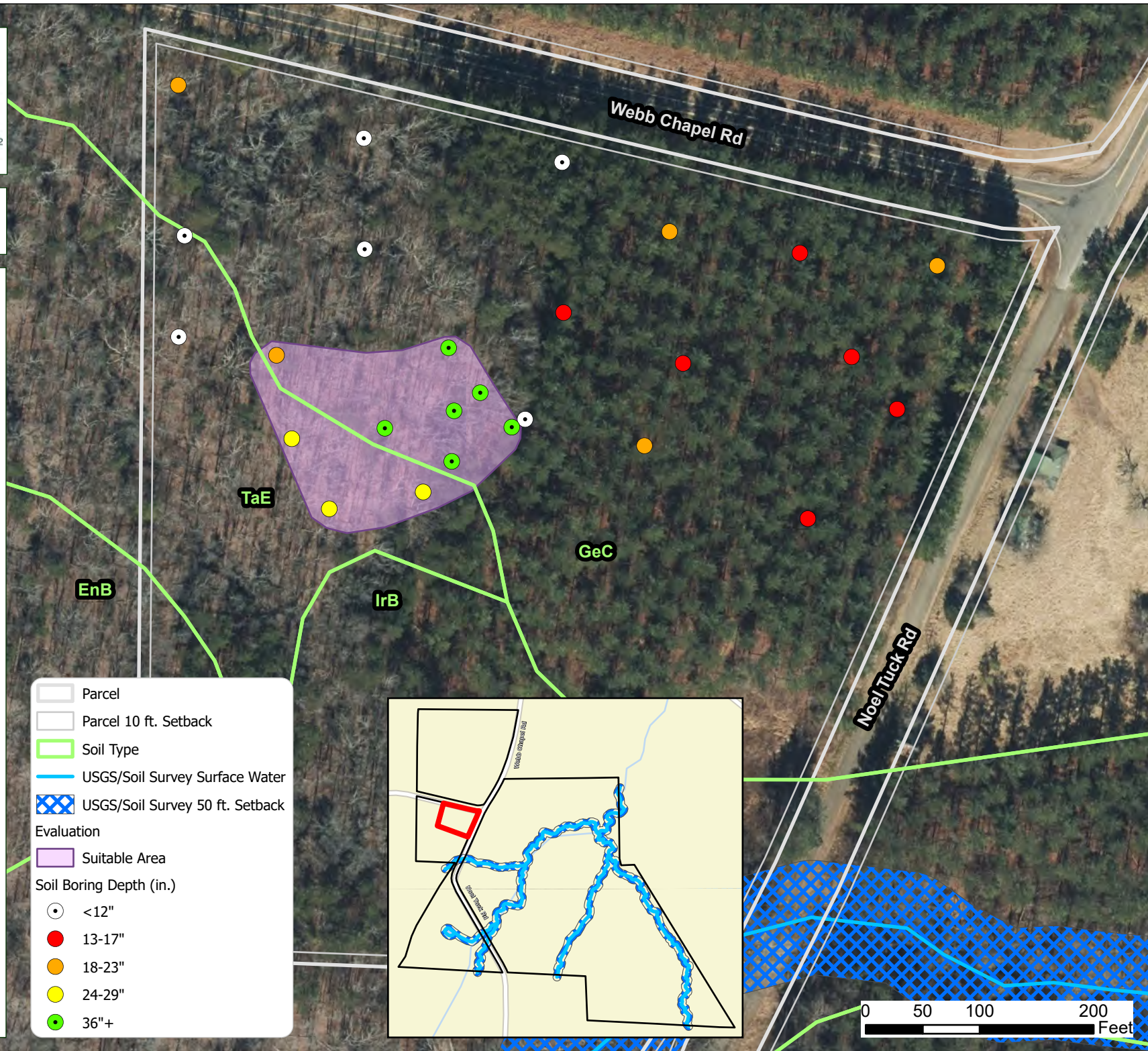
Evaluation

Suitable Area

Soil Boring Depth (in.)

- <12"
- 13-17"
- 18-23"
- 24-29"
- 36"+

Drawn By: Clara Frickmann
Reviewed By: Jeff Vaughan
Date: 01/30/2025



0 50 100 200 Feet

Surface water and/or bad topo areas have not been officially evaluated for stream ID according to local regulatory requirements. This map is intended for preliminary purposes only and not to be used as a plat/survey or can it be assumed all streams are identified on this property.

**ATTACHMENT 3: Typical Profile Descriptions of
Provisionally Suitable Soil**

County: Granville.

SOIL/SITE EVALUATION FOR ON-SITE WASTEWATER SYSTEM

Concord, NC 28025

Property Size: Approximately 3 acres evaluated

Location Site: Noel Tuck Road, Oxford, NC

Water Supply: On Site Well X Comm. Well Public Other

Evaluation Method: Auger Boring X Pit Cut

TYPICAL PROFILE

[illegible]

.1940 Landscape Pos/Slope %	- Suitable, <15%	Profile LTAR	- 0.4 – 0.1 GPD/ft²
.1942 Wetness Condition	- Suitable	System Type	- Suitable for shallow conventional systems due to texture, structure, and depth.
.1943/.1956 Saprolite	- Suitable		
.1944 Restrictive Horizon	- Suitable		
.1948 Profile Classification	- Suitable		

Comments: Some indications of saprolite beginning around 30", but not dominant.

TYPICAL PROFILE

[illegible]

.1940 Landscape Pos/Slope %	- Suitable, <15%	Profile LTAR	- 0.4 – 0.1 GPD/ft ²
.1942 Wetness Condition	- Suitable	System Type	- Suitable for shallow conventional systems due to texture, structure, and depth.
.1943/.1956 Saprolite	- Suitable		
.1944 Restrictive Horizon	- Suitable		
.1948 Profile Classification	- Suitable		

Comments:

EVALUATED BY: Jeff Vaughan and McLean Davis

COMMENTS: _____

LEGEND OF ABBREVIATIONS FOR SITE EVALUATION FORM

<u>LANDSCAPE POSITION</u>	<u>TEXTURE GROUP</u>	<u>TEXTURE CLASS</u>	<u>.1955 LTAR</u> (gal/day/sqft)
CC - Concave Slope CV - Convex Slope DS - Debris Slump D - Depression DW - Drainage Way FP - Flood Plain FS - Foot Slope H - Head Slope I - Interflueve L - Linear Slope N - Nose Slope P - Pocosin R - Ridge S - Shoulder T - Terrace	I	S - Sand LS - Loamy Sand	1.2 - .08
	II	SL - Sandy Loam L - Loam	0.8 - 0.6
	III	SCL - Sandy Clay Loam CL - Clay Loam SiL - Silt Loam Si - Silt SiCL - Silt Clay Loam	0.6 - 0.3
	IV	SC - Sandy Clay C - Clay SiC - Silty Clay O - Organic	0.4 - 0.1
<u>STRUCTURE</u>	<u>MOIST CONSISTENCE</u>	<u>MOTTLES</u>	<u>WET CONSISTENCE</u>
G - Single Grain M - Massive CR - Crumb GR - Granular SBK - Subgranular Blocky ABK - Angular Blocky PL - Platy PR - Prismatic	Vfr - Very Friable Fr - Friable Fi - Firm Vfi - Very Firm Efi - Extremely Firm	1 - Few 2 - Common 3 - Many F - Faint D - Distinct P - Prominent f - Fine m - Medium c - Coarse	NS - Non Sticky SS - Slightly Sticky S - Sticky VS - Very Sticky NP - Non Plastic SP - Slightly Plastic P - Plastic VP - Very Plastic

ATTACHMENT 4: Soil Survey Information

TABLE 10.--SANITARY FACILITIES

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "fair," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
AaA----- Altavista	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness, too clayey.
ApB----- Appling	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight-----	Fair: too clayey, hard to pack.
ApC----- Appling	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, hard to pack, slope.
AuC*: Appling-----	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight-----	Fair: too clayey, hard to pack.
Urban land.					
CaB, CeB2----- Cecil	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight-----	Fair: too clayey, hard to pack.
CeC2----- Cecil	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, hard to pack, slope.
ChA*: Chewacla-----	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: hard to pack, wetness.
Wehadkee-----	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness, thin layer.
CoA----- Congaree	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Fair: too clayey, wetness.
CrB----- Creedmoor	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness, too clayey.	Moderate: wetness.	Poor: too clayey, hard to pack.
CrC----- Creedmoor	Severe: wetness, percs slowly.	Severe: slope.	Severe: wetness, too clayey.	Moderate: wetness, slope.	Poor: too clayey, hard to pack.
EnB----- Enon	Severe: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight-----	Poor: too clayey, hard to pack.

See footnote at end of table.

TABLE 10.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
EnC----- Enon	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
GeB----- Georgeville	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight-----	Fair: too clayey, hard to pack.
GeC----- Georgeville	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, hard to pack, slope.
HeB----- Helena	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness, too clayey.	Moderate: wetness.	Poor: too clayey, hard to pack.
HeC----- Helena	Severe: wetness, percs slowly.	Severe: slope.	Severe: wetness, too clayey.	Moderate: wetness, slope.	Poor: too clayey, hard to pack.
HrB----- Herndon	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight-----	Fair: too clayey, hard to pack.
HrC----- Herndon	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, hard to pack, slope.
IrB----- Iredell	Severe: wetness, percs slowly.	Moderate: depth to rock, slope.	Severe: depth to rock, wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.
IrC----- Iredell	Severe: wetness, percs slowly.	Severe: slope.	Severe: depth to rock, wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.
IuC*: Iredell-----	Severe: wetness, percs slowly.	Moderate: depth to rock, slope.	Severe: depth to rock, wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.
Urban land.					
Picture-----	Severe: wetness, percs slowly.	Moderate: depth to rock.	Severe: depth to rock, wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.
LmB----- Lignum	Severe: percs slowly, wetness.	Moderate: depth to rock, slope.	Severe: depth to rock, wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.
MaB----- Mayodan	Moderate: percs slowly.	Moderate: seepage, slope.	Severe: too clayey.	Slight-----	Poor: too clayey, hard to pack.

See footnote at end of table.

TABLE 10.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
NaB----- Nason	Moderate: depth to rock, percs slowly.	Moderate: slope, seepage, depth to rock.	Severe: too clayey, depth to rock.	Moderate: depth to rock.	Poor: too clayey, hard to pack.
NaC----- Nason	Moderate: slope, percs slowly, depth to rock.	Severe: slope.	Severe: too clayey, depth to rock.	Moderate: slope, depth to rock.	Poor: too clayey, hard to pack.
NaE, NaF----- Nason	Severe: slope.	Severe: slope.	Severe: depth to rock, slope, too clayey.	Severe: slope.	Poor: slope, too clayey, hard to pack.
PaE----- Pacolet	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
PaF----- Pacolet	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
PcA----- Picture	Severe: wetness, percs slowly.	Moderate: depth to rock.	Severe: depth to rock, wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.
PnD----- Pinkston	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: depth to rock, small stones, slope.
RwD*: Rion-----	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: too clayey, slope.
Wateree-----	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: depth to rock.
Wedowee-----	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope.	Moderate: slope.	Fair: small stones, slope.
TaE----- Tatum	Severe: slope.	Severe: slope.	Severe: slope, too clayey, depth to rock.	Severe: slope.	Poor: slope, too clayey, hard to pack.
Ud. Udorthents					
UrC*: Urban land.					
Iredell-----	Severe: wetness, percs slowly.	Moderate: depth to rock, slope.	Severe: depth to rock, wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.

See footnote at end of table.

**ATTACHMENT 5: Septic System Area Computation
Spreadsheets**

Conventional Septic System Area Computation

Created by: JV
Created on: 6/20/2001
Updated on: 2/6/2025

Client Name: *Mullinax*
Number Bedrooms: 3
Design Flow (gal/day): 360 (120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft²): 0.1
Trench Bottom Area (ft²): 3600 (Design flow/LTAR)
Trench Width (ft): 3
On-center distance between trenches (ft): 9
Trench Bottom Length (ft): 1200

Minimum Field Area Required (ft²): 10800 (Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft²): 8100 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 27000 (Minimum field area*2.5)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 20250 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 32400 (Minimum field area*3)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 24300 (25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Client Name: *Mullinax*
Number Bedrooms: 3
Design Flow (gal/day): 360 (120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft²): 0.4
Trench Bottom Area (ft²): 900 (Design flow/LTAR)
Trench Width (ft): 3
On-center distance between trenches (ft): 9
Trench Bottom Length (ft): 300

Minimum Field Area Required (ft²): 2700 (Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft²): 2025 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 6750 (Minimum field area*2.5)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 5062.5 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 8100 (Minimum field area*3)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 6075 (25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Client Name: *Mullinax*
Number Bedrooms: 3
Design Flow (gal/day): 360 (120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft²): 0.25
Trench Bottom Area (ft²): 1440 (Design flow/LTAR)
Trench Width (ft): 3
On-center distance between trenches (ft): 9
Trench Bottom Length (ft): 480

Minimum Field Area Required (ft²): 4320 (Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft²): 3240 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 10800 (Minimum field area*2.5)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 8100 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 12960 (Minimum field area*3)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 9720 (25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Conventional Septic System Area Computation

Created by: JV
Created on: 6/20/2001
Updated on: 2/6/2025

Client Name: *Mullinax*
Number Bedrooms: 4
Design Flow (gal/day): 480 (120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft²): 0.1
Trench Bottom Area (ft²): 4800 (Design flow/LTAR)
Trench Width (ft): 3
On-center distance between trenches (ft): 9
Trench Bottom Length (ft): 1600

Minimum Field Area Required (ft²): 14400 (Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft²): 10800 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 36000 (Minimum field area*2.5)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 27000 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 43200 (Minimum field area*3)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 32400 (25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Client Name: *Mullinax*
Number Bedrooms: 4
Design Flow (gal/day): 480 (120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft²): 0.4
Trench Bottom Area (ft²): 1200 (Design flow/LTAR)
Trench Width (ft): 3
On-center distance between trenches (ft): 9
Trench Bottom Length (ft): 400

Minimum Field Area Required (ft²): 3600 (Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft²): 2700 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 9000 (Minimum field area*2.5)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 6750 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 10800 (Minimum field area*3)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 8100 (25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Client Name: *Mullinax*
Number Bedrooms: 4
Design Flow (gal/day): 480 (120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft²): 0.25
Trench Bottom Area (ft²): 1920 (Design flow/LTAR)
Trench Width (ft): 3
On-center distance between trenches (ft): 9
Trench Bottom Length (ft): 640

Minimum Field Area Required (ft²): 5760 (Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft²): 4320 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 14400 (Minimum field area*2.5)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 10800 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 17280 (Minimum field area*3)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 12960 (25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Conventional Septic System Area Computation

Created by: JV
Created on: 6/20/2001
Updated on: 2/6/2025

Client Name: *Mullinax*
Number Bedrooms: 5
Design Flow (gal/day): 600 (120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft²): 0.1
Trench Bottom Area (ft²): 6000 (Design flow/LTAR)
Trench Width (ft): 3
On-center distance between trenches (ft): 9
Trench Bottom Length (ft): 2000

Minimum Field Area Required (ft²): 18000 (Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft²): 13500 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 45000 (Minimum field area*2.5)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 33750 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 54000 (Minimum field area*3)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 40500 (25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Client Name: *Mullinax*
Number Bedrooms: 5
Design Flow (gal/day): 600 (120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft²): 0.4
Trench Bottom Area (ft²): 1500 (Design flow/LTAR)
Trench Width (ft): 3
On-center distance between trenches (ft): 9
Trench Bottom Length (ft): 500

Minimum Field Area Required (ft²): 4500 (Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft²): 3375 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 11250 (Minimum field area*2.5)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 8437.5 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 13500 (Minimum field area*3)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 10125 (25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.

Client Name: *Mullinax*
Number Bedrooms: 5
Design Flow (gal/day): 600 (120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft²): 0.25
Trench Bottom Area (ft²): 2400 (Design flow/LTAR)
Trench Width (ft): 3
On-center distance between trenches (ft): 9
Trench Bottom Length (ft): 800

Minimum Field Area Required (ft²): 7200 (Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft²): 5400 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 18000 (Minimum field area*2.5)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 13500 (25% reduction from above)
Total Field Area Required (ft²)⁽¹⁾: 21600 (Minimum field area*3)
Total Field Area Required (Innovative) (ft²)⁽¹⁾: 16200 (25% reduction from above)

(1) Provides for reserve area and soil irregularity, 2.5 to 3 is multiplier.