



Agri-Waste Technology, Inc.
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Soil Suitability for Domestic Sewage Treatment and Disposal Systems

8596 Redding Road,
Oxford, NC
Granville County

Prepared For:	Synergy Land Partners, Buyers
Prepared By:	Jeff Vaughan, Ph.D., L.S.S. Senior Agronomist/Soil Scientist
	Clara Frickmann GIS Technician
Report Date:	November 27, 2024



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**Soil Suitability for Domestic Sewage Treatment and Disposal Systems
8596 Redding Road, Oxford, NC (Granville County)**

PREPARED FOR: Synergy Land Partners

PREPARED BY: Jeff Vaughan
Clara Frickmann

DATE: November 27, 2024

Soil suitability for domestic sewage treatment and disposal systems was evaluated on November 25, 2024, for property located at 8596 Redding Road near Oxford, NC. Jeff Vaughan and Bailey Stiles of Agri-Waste Technology, Inc. (AWT) conducted the soil evaluation. The detailed soil evaluation of the land area will follow. Property reference maps are in Attachment 1.

The total property area is approximately 19.34 acres. The property is completely wooded with the exception of one small grass field in the north central part of the property. There are several drainage features with moderate slopes on the property (Attachment 2).

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, and yellow ribbon. Approximately 26 soil borings were advanced on the property (Attachment 2). A portion of the property contained drainage features, complex topography, existing uses, 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.

Two areas (see map in Attachment 2) evaluated on the property exhibited soil characteristics and soil depths (18" or greater) that are suitable for conventional trench or drip septic systems. These areas are approximately 136,095ft² and 87,280ft².

Typical profile descriptions of the suitable soil for this property are in Attachment 3. Three distinct soil profiles were observed in the soil borings on the property: a deep red clay subsoil, a shallower red clay subsoil, or a very shallow soil with indications of redoximorphic features less than 12" deep.

The suitable soil borings had the following characteristics. No restrictive horizons were found in any provisionally soil borings within 18" of the soil surface. Soil texture was suitable and was estimated to be silt loam near the soil surface (A horizons) and clay loam to 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 to a depth of 18" or more.

The mapped soil types on this property are Enon loam (map symbol EnB), Nason gravelly loam (map symbols NaB and NaC), Chewacla and Wehadkee soils (map symbol ChA), and Georgeville silt loam (map symbol GeB). 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 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 for conventional septic systems is based on the most restrictive soil texture in the subsoil. The LTAR suggested by AWT is 0.25 GPD/ft², but the final LTAR for specific septic system types and septic drainfield locations may be set by the Granville County Health Department. The detailed computations are in Attachment 5.

The land area required for a drip 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 0.05 – 0.15 GPD/ft² for drip septic systems is based on the most restrictive soil texture in the subsoil. The LTAR suggested by AWT is 0.1 GPD/ft², but the final LTAR for specific septic system types and septic drainfield locations may be set by the Granville County Health Department and possibly will be based on saturated hydraulic conductivity tests. The detailed computations are in Attachment 5.

Typically, the area required for a septic system is 3,000 – 5,000 ft² (initial and repair) per bedroom.

Conclusions

Based on the results of this evaluation, the installation of conventional or drip septic systems seems very probable on this property in the areas 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.

synergylandpartners

ATTACHMENT 1: Property Reference Map

Aerial



11/18/2024, 4:09:02 PM

● Address Points
— Centerlines
▭ County Boundary
▭ Parcels
granville_nc_anno

1:2,257
0 0.01 0.03 0.06 mi
0 0.02 0.04 0.09 km

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

Preliminary Soil Evaluation

Synergy Land Partners
Granville Co., NC
PIN: 097900543223
GIS Acres: ~19.34



Area for Septic:

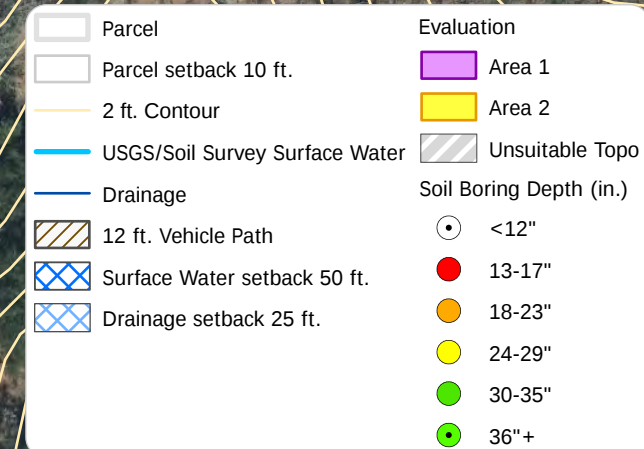
Area 1: ~136,095 sq.ft.
Area 2: ~87,280 sq. ft.

Soil Types:

NaB- Nason gravelly loam
EnB- Enon loam
ChA- Chewacla and
Wehadkee
NaC- Nason gravelly loam
GeB- Georgeville silt loam

Notes:

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



Drawn By: Clara Frickmann
Reviewed By: Jeff Vaughan
Date: 11/25/2024

0 50 100 200
Feet

Preliminary Soil Evaluation

Synergy Land Partners
Granville Co., NC
PIN: 097900543223
GIS Acres: ~19.34



Area for Septic:

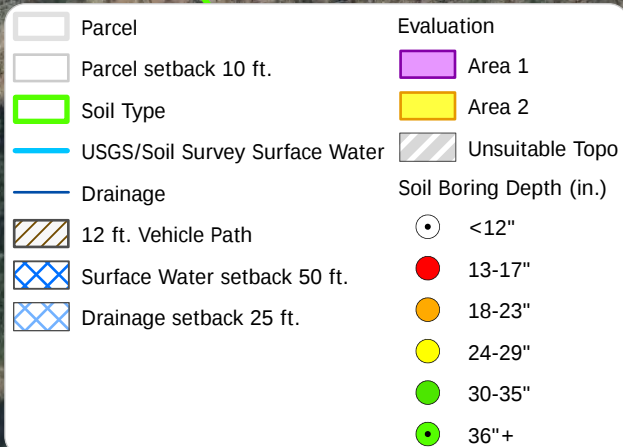
Area 1: ~136,095 sq.ft.
Area 2: ~87,280 sq. ft.

Soil Types:

NaB- Nason gravelly loam
EnB- Enon loam
ChA- Chewacla and
Wehadkee
NaC- Nason gravelly loam
GeB- Georgeville silt loam

Notes:

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



Drawn By: Clara Frickmann
Reviewed By: Jeff Vaughan
Date: 11/25/2024

0 50 100 200
Feet

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

Property ID#: 097900543223
Property Recorded: _____
County: Granville

**SOIL/SITE EVALUATION
FOR
ON-SITE WASTEWATER SYSTEM**

Applicant: Synergy Land Partners
Address: 4763 Township Chase
Marietta, GA 30066

Buyer: X Agent: _____ Phone: (864)593-4068
Date Evaluated: 11/25/24
Proposed Facility: Residential
Property Size: Approximately 20 acres

Location Site: 8596 Redding Rd, Oxford, NC 27565

Water Supply: On Site Well X Comm. Well _____ Public _____ Other _____ Evaluation Method: Auger Boring X Pit _____ Cut _____

TYPICAL PROFILE

Horizon/ Depth (IN)	Matrix	Mottles	Mottle Abundance / Contrast	(a)(1) Texture	(a)(2) Structure	(a)(3) Minerology	Consistence Wet	Consistence Moist
A 0-5"	10YR 4/4	None	None	SiL	GR	NEXP	NS, NP	Vfr
Bt1 5-30"	2.5YR 4/8	None	None	C	SBK	SEXP	S, P	Fi
Bt2 30-36"	2.5YR 4/8	10YR 8/1; 10YR 7/8	2, m, D	C	SBK	SEXP	S, P	Fi

.1940 Landscape Pos/Slope %	- Suitable, <15%	Profile LTAR	- 0.4 – 0.1 GPD/ft ²
.1942 Wetness Condition	- Suitable	System Type	- Suitable for 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

Horizon/ Depth (IN)	Matrix	Mottles	Mottle Abundance / Contrast	(a)(1) Texture	(a)(2) Structure	(a)(3) Minerology	Consistence Wet	Consistence Moist
A 0-5"	10YR 4/4	None	None	SiL	GR	NEXP	NS, NP	Vfr
Bt1 5-20"	2.5YR 4/8	None	None	C	SBK	SEXP	S, P	Fi
Bt2 20-25"	2.5YR 4/8	10YR 8/1; 10YR 7/8	2, m, D	C	SBK	SEXP	S, P	Fi
BC 25-36"	2.5YR 4/8	10YR 8/1; 10YR 7/8	3, c, P	CL-C	wSBK	SEXP	SS-S, SP-P	Fi

.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: Some indications of saprolite beginning around 20”, but not dominant.

TYPICAL PROFILE

Horizon/ Depth (IN)	Matrix	Mottles	Mottle Abundance /Contrast	(a)(1) Tex- ture	(a)(2) Structure	(a)(3) Minerology	Consistence Wet	Consistence Moist
A 0-5”	10YR 4/4	None	None	SiL	GR	NEXP	NS, NP	Vfr
Bt1 5”+	10YR 7/8	10YR 6/2	2, m, D	SiC	wSBK	SEXP	SS, SP	Fr

.1940 Landscape Pos/Slope %	- Suitable, <15%	Profile LTAR	- NA
.1942 Wetness Condition	- Unsuitable	System Type	- Unsuitable for septic systems due to texture, structure, and depth.
.1943/.1956 Saprolite	- Suitable		
.1944 Restrictive Horizon	- Suitable		
.1948 Profile Classification	- Unsuitable		

Comments:

EVALUATED BY: Jeff Vaughan and Bailey Stiles
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: 11/26/2024

Client Name: *Synergy Land Partners*
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: *Synergy Land Partners*
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: *Synergy Land Partners*
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: 11/26/2024

Client Name: *Synergy Land Partners*
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: *Synergy Land Partners*
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: *Synergy Land Partners*
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: 11/26/2024

Client Name: *Synergy Land Partners*
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: *Synergy Land Partners*
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: *Synergy Land Partners*
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.

Drip Septic System Area Computation

Created by: JV
Created on: 6/20/2001
Updated on: 11/26/2024

Client Name: *Synergy Land Partners*
Number Bedrooms: 3
Design Flow (gal/day): 360 (120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft²): 0.05
Trench Bottom Area (ft²): 7200 (Design flow/LTAR)
Trench Width (ft): 0
On-center distance between trenches (ft): 2
Trench Bottom Length (ft): 3600

Minimum Field Area Required (ft²): 7200 (Trench Bottom Length*Trench on-center distance)
Total Field Area Required (ft²)⁽¹⁾: 18000 (Minimum field area*2.5)
Total Field Area Required (ft²)⁽¹⁾: 21600 (Minimum field area*3)

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

Client Name: *Synergy Land Partners*
Number Bedrooms: 3
Design Flow (gal/day): 360 (120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft²): 0.15
Trench Bottom Area (ft²): 2400 (Design flow/LTAR)
Trench Width (ft): 0
On-center distance between trenches (ft): 2
Trench Bottom Length (ft): 1200

Minimum Field Area Required (ft²): 2400 (Trench Bottom Length*Trench on-center distance)
Total Field Area Required (ft²)⁽¹⁾: 6000 (Minimum field area*2.5)
Total Field Area Required (ft²)⁽¹⁾: 7200 (Minimum field area*3)

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

Client Name: *Synergy Land Partners*
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): 0
On-center distance between trenches (ft): 2
Trench Bottom Length (ft): 1800

Minimum Field Area Required (ft²): 3600 (Trench Bottom Length*Trench on-center distance)
Total Field Area Required (ft²)⁽¹⁾: 9000 (Minimum field area*2.5)
Total Field Area Required (ft²)⁽¹⁾: 10800 (Minimum field area*3)

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

Drip Septic System Area Computation

Created by: JV
Created on: 6/20/2001
Updated on: 11/26/2024

Client Name: *Synergy Land Partners*
Number Bedrooms: 4
Design Flow (gal/day): 480 (120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft²): 0.05
Trench Bottom Area (ft²): 9600 (Design flow/LTAR)
Trench Width (ft): 0
On-center distance between trenches (ft): 2
Trench Bottom Length (ft): 4800

Minimum Field Area Required (ft²): 9600 (Trench Bottom Length*Trench on-center distance)
Total Field Area Required (ft²)⁽¹⁾: 24000 (Minimum field area*2.5)
Total Field Area Required (ft²)⁽¹⁾: 28800 (Minimum field area*3)

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

Client Name: *Synergy Land Partners*
Number Bedrooms: 4
Design Flow (gal/day): 480 (120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft²): 0.15
Trench Bottom Area (ft²): 3200 (Design flow/LTAR)
Trench Width (ft): 0
On-center distance between trenches (ft): 2
Trench Bottom Length (ft): 1600

Minimum Field Area Required (ft²): 3200 (Trench Bottom Length*Trench on-center distance)
Total Field Area Required (ft²)⁽¹⁾: 8000 (Minimum field area*2.5)
Total Field Area Required (ft²)⁽¹⁾: 9600 (Minimum field area*3)

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

Client Name: *Synergy Land Partners*
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): 0
On-center distance between trenches (ft): 2
Trench Bottom Length (ft): 2400

Minimum Field Area Required (ft²): 4800 (Trench Bottom Length*Trench on-center distance)
Total Field Area Required (ft²)⁽¹⁾: 12000 (Minimum field area*2.5)
Total Field Area Required (ft²)⁽¹⁾: 14400 (Minimum field area*3)

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

Drip Septic System Area Computation

Created by: JV
Created on: 6/20/2001
Updated on: 11/26/2024

Client Name: *Synergy Land Partners*
Number Bedrooms: 5
Design Flow (gal/day): 600 (120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft²): 0.05
Trench Bottom Area (ft²): 12000 (Design flow/LTAR)
Trench Width (ft): 0
On-center distance between trenches (ft): 2
Trench Bottom Length (ft): 6000

Minimum Field Area Required (ft²): 12000 (Trench Bottom Length*Trench on-center distance)
Total Field Area Required (ft²)⁽¹⁾: 30000 (Minimum field area*2.5)
Total Field Area Required (ft²)⁽¹⁾: 36000 (Minimum field area*3)

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

Client Name: *Synergy Land Partners*
Number Bedrooms: 5
Design Flow (gal/day): 600 (120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft²): 0.15
Trench Bottom Area (ft²): 4000 (Design flow/LTAR)
Trench Width (ft): 0
On-center distance between trenches (ft): 2
Trench Bottom Length (ft): 2000

Minimum Field Area Required (ft²): 4000 (Trench Bottom Length*Trench on-center distance)
Total Field Area Required (ft²)⁽¹⁾: 10000 (Minimum field area*2.5)
Total Field Area Required (ft²)⁽¹⁾: 12000 (Minimum field area*3)

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

Client Name: *Synergy Land Partners*
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): 0
On-center distance between trenches (ft): 2
Trench Bottom Length (ft): 3000

Minimum Field Area Required (ft²): 6000 (Trench Bottom Length*Trench on-center distance)
Total Field Area Required (ft²)⁽¹⁾: 15000 (Minimum field area*2.5)
Total Field Area Required (ft²)⁽¹⁾: 18000 (Minimum field area*3)

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