Engineers and Soil Scientists

Agri-Waste Technology, Inc.
501 N Salem Street, Suite 203, Apex, NC 27502
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Soils & Site Evaluation Report – On-site Wastewater Systems

4070 & 4072 Bruce Garner Rd
Franklinton, NC 27522
Granville County
(PIN: 183400383253 & 183400385015)

PREPARED FOR:	Peter Cabrera, Client
PREPARED BY:	Bailey Stiles, Environmental Scientist
REVIEWED BY:	Jeff Vaughan, LSS Senior Soil Scientist
REPORT DATE:	July 29, 2024

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REVIWED BY : Jeff Vaughan, LSS
Senior Soil Scientist

REPORT DATE: July 29, 2024

Agri-Waste Technology, Inc. (AWT) performed a soil & site evaluation for proposed construction of a new single-family residence at the subject property on Bruce Garner Rd in Franklinton, NC. Municipal sewer is not available for the property; therefore, an on-site wastewater (septic) system will be required. The following report and attachments summarize the findings of the evaluation performed by Bailey Stiles and Connor Britt of Agri – Waste Technology, Inc. (AWT) on July 23, 2024.

The subject properties are approximately 2 acres in size (according to the attached property GIS map). No evidence of past development or significant grading activities were observed on the eastern property. However, the western property has been soil disturbed in a way that makes the parcel unsuitable for on-site wastewater systems. No neighboring wells or septic systems in the immediate vicinity of the subject lot appear to significantly impact the amount of usable space. The majority of the property is severely sloping (falling from southwest to northeast). The eastern most property contains low-lying topography and a drainage feature that runs along the eastern property line. During a more detailed soils and site evaluation of this area the soils could vary in depth due to the topography of the drainage feature.

Findings

Soils in the surrounding area are mapped Cecil sandy loam (may symbol CaB) and Cecil clay loam (map symbol CeC2) in the Soil Survey issued by the Natural Resources Conservation Service. The majority of the eastern property is mapped as a Cecil soil series and are generally suitable for conventional on-site wastewater systems in North Carolina. Nine soil borings were advanced during the evaluation, with four borings on the western parcel that contained an unsuitable feature for conventional type septic systems and five borings on the eastern parcel that were suitable for a conventional on-site wastewater system. The borings were consistent, with a sandy clay loam present in the surface horizons and a deep subsoil of firm, red clay (B horizons).

A suitable area was delineated during the evaluation. The area, as shown on the attached map, contains an area of approximately 19,786 ft^2 of suitable soil (not including the area that will be occupied by any proposed residence, driveway, well setback, and any other property improvements). Given the soil textures encountered, AWT is recommending an LTAR of 0.250-0.275 gal/day/ft^2. Given the topography of the property, it is important to note that a pump may be required if the home is constructed in an area down slope of the septic drainfield.

Conclusions

Based on the site findings, there appears to be sufficient space for installation of a conventional septic system and repair area on the eastern property (183400385015). The number of bedrooms that can be supported can be predicted using the calculations included in Attachment 4. Additional site planning (field layout) will be required to confirm the available space. The Granville – Vance District Environmental Health Department will ultimately be responsible for issuing the permit. Alternatively, AWT can be contacted to provide a private permit (LSS/AOWE) for this site.

We appreciate the opportunity to assist you. Please contact us with any questions, concerns, or comments upon review of this package.

Sincerely,

Jeff Vaughan, LSS

Summary of Attachments

Attachment 1: GIS Map
Attachment 2: AWT Evaluation Maps
Attachment 3: NRCS Soil Survey
Attachment 4: Example Loading Rate & Area Calculations

ATTACHMENT 1: GIS Property Reference Maps

Granville County, NC

7/29/2024, 3:43:25 PM

Address Points

Centerlines

County Boundary

Parcels

granville_nc_anno

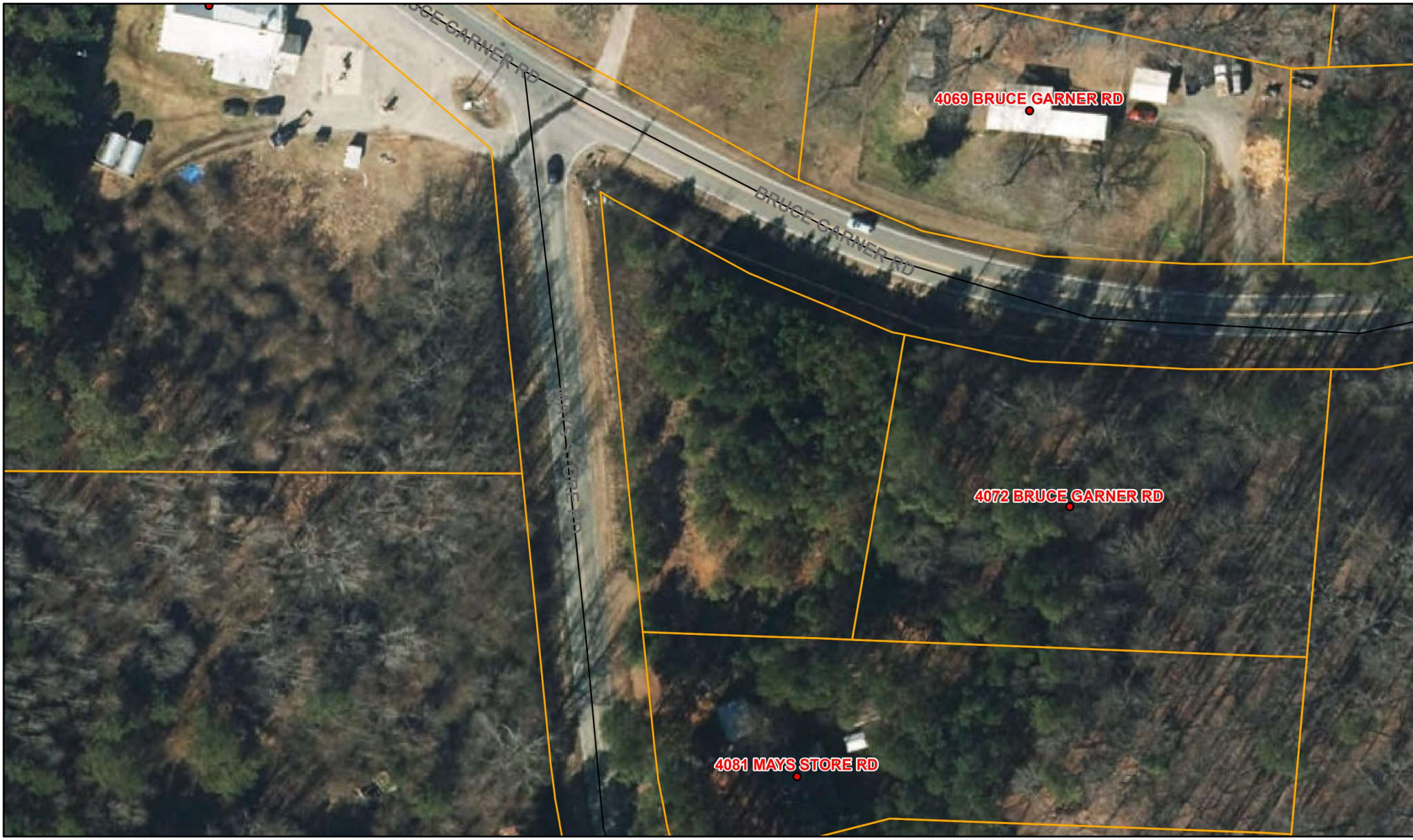
1:1,128

0 0.01 0.01 0.03 mi

0 0.01 0.02 0.04 km

TAX PURPOSE

Granville County, NC



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Address Points

Centerlines

County Boundary

Parcels

granville_nc_anno

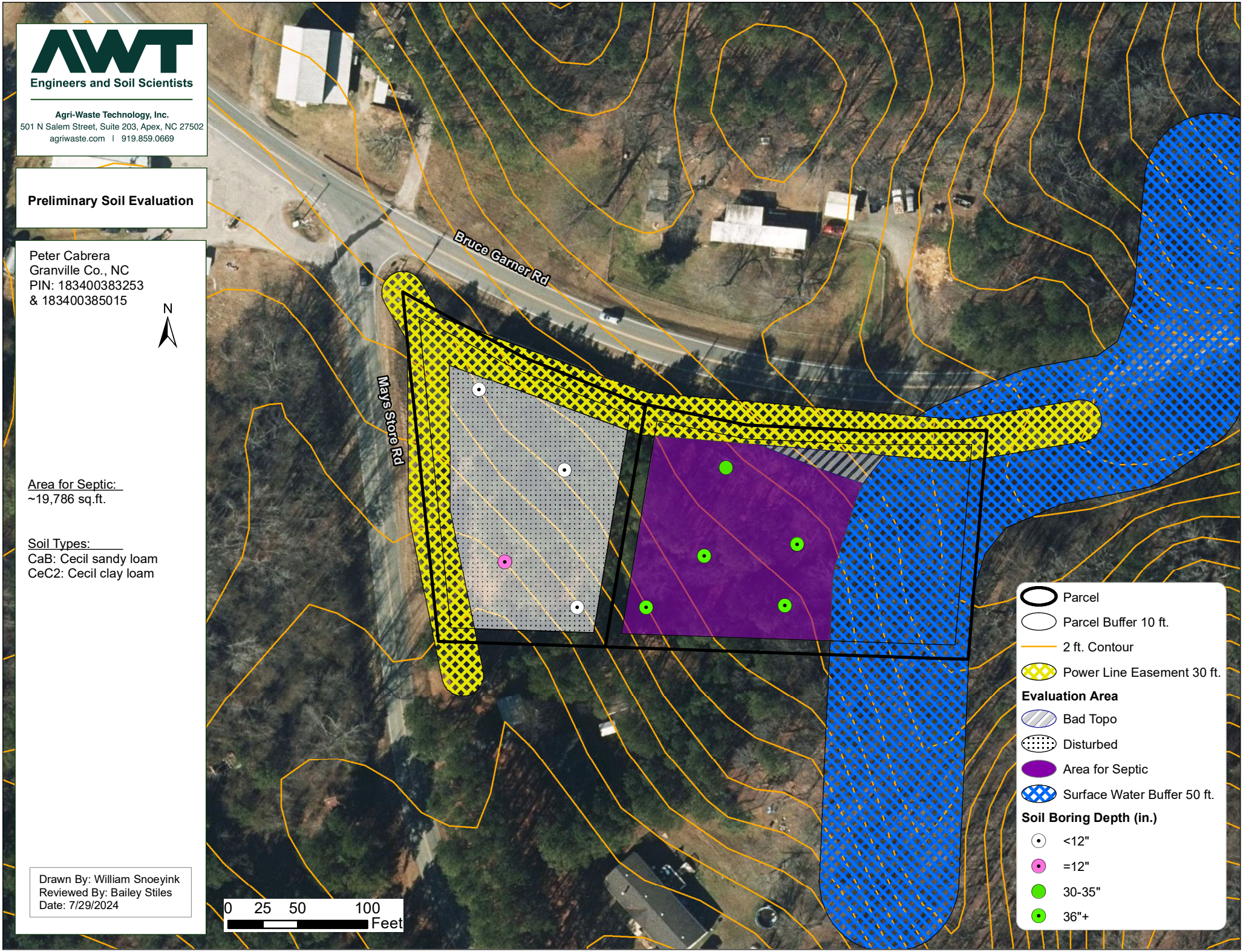
1:1,128

0 0.01 0.01 0.03 mi

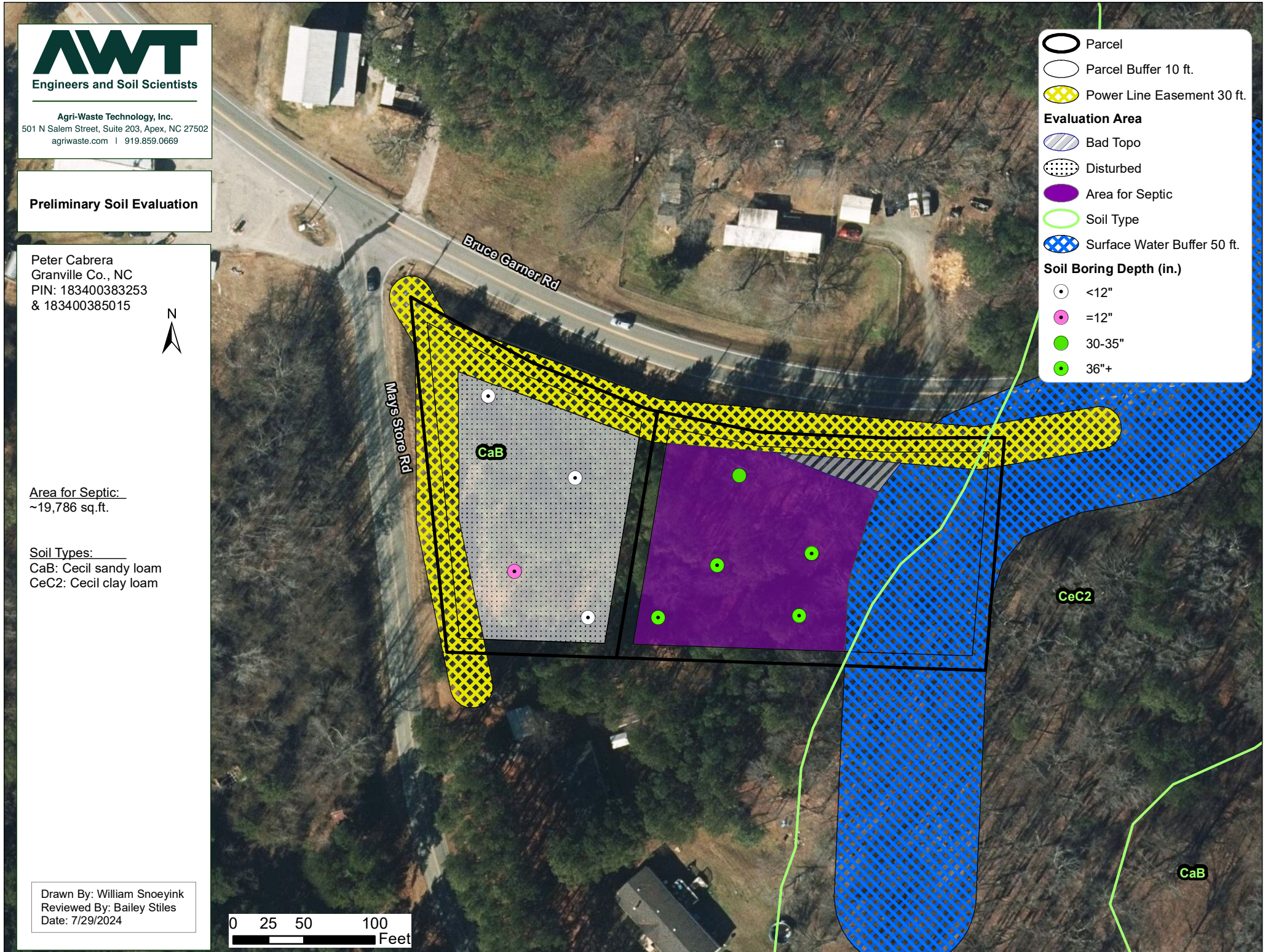
0 0.01 0.02 0.04 km

TAX PURPOSE

ATTACHMENT 2: AWT Evaluation Maps



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.



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Preliminary Soil Evaluation

Peter Cabrera
Granville Co., NC
PIN: 183400383253
& 183400385015

Area for Septic:
~19,786 sq.ft.

Soil Types:
CaB: Cecil sandy loam
CeC2: Cecil clay loam

Drawn By: William Snoeyink
Reviewed By: Bailey Stiles
Date: 7/29/2024

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: NRCS Soil Survey

LOCATION CECIL NC+AL GA SC VA

Established Series
Rev. DTA, RHB
02/2007

CECIL SERIES

The Cecil series consists of very deep, well drained moderately permeable soils on ridges and side slopes of the Piedmont uplands. They are deep to saprolite and very deep to bedrock. They formed in residuum weathered from felsic, igneous and high-grade metamorphic rocks of the Piedmont uplands. Slopes range from 0 to 25 percent. Mean annual precipitation is 48 inches and mean annual temperature is 59 degrees F. near the type location.

TAXONOMIC CLASS: Fine, kaolinitic, thermic Typic Kanhapludults

TYPICAL PEDON: Cecil sandy loam--forested. (Colors are for moist soil unless otherwise stated.)

Ap--0 to 8 inches; dark yellowish brown (10YR 4/4) sandy loam; weak medium granular structure; very friable; slightly acid; abrupt smooth boundary. (2 to 8 inches thick)

Bt1--8 to 26 inches; red (10R 4/8) clay; moderate medium subangular blocky structure; firm; sticky, plastic; common clay films on faces of peds; few fine flakes of mica; strongly acid; gradual wavy boundary.

Bt2--26 to 42 inches; red (10R 4/8) clay; few fine prominent yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; firm; sticky, plastic; common clay films on faces of peds; few fine flakes of mica; very strongly acid; gradual wavy boundary. (Combined thickness of the Bt horizon is 24 to 50 inches)

BC--42 to 50 inches; red (2.5YR 4/8) clay loam; few distinct yellowish red (5YR 5/8) mottles; weak medium subangular blocky structure; friable; few fine flakes of mica; very strongly acid; gradual wavy boundary. (0 to 10 inches thick)

C--50 to 80 inches; red (2.5YR 4/8) loam saprolite; common medium distinct pale yellow (2.5Y 7/4) and common distinct brown (7.5YR 5/4) mottles; massive; very friable; few fine flakes of mica; very strongly acid.

TYPE LOCATION: Franklin County, North Carolina; about 9.7 miles west of Louisburg on North Carolina Highway 56 to Franklinton, about 4.4 miles south on U.S. Highway 1, about 0.4 mile east on North Carolina Highway 96, about 500 feet north of the road, in a field; Franklinton USGS topographic quadrangle; lat. 36 degrees 02 minutes 24 seconds N. and long. 78 degrees 29 minutes 27 seconds W.

RANGE IN CHARACTERISTICS: The Bt horizon is at least 24 to 50 inches thick and extends to 40 inches or more. Depth to bedrock ranges from 6 to 10 feet or more. The soil ranges from very strongly acid to moderately acid in the A horizons and is strongly acid or very strongly acid in the B and C horizons. Limed soils are typically moderately acid or slightly acid in the upper part. Content of coarse fragments range from 0 to 35 percent by volume in the A horizon and 0 to 10 percent by volume in the Bt horizon. Fragments are dominantly gravel or cobble in size. Most pedons have few to common flakes of mica in the Bt horizon and few to many flakes of mica in the BC and C horizons.

The A or Ap horizon has hue of 2.5YR to 10YR, value of 3 to 5, and chroma of 2 to 8. A horizons with value of 3 are less than 6 inches thick. The texture is sandy loam, fine sandy loam, or loam in the fine earth fraction. Eroded phases are sandy clay loam, or clay loam in the fine earth fraction.

The E horizon, where present, has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 8. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The BA or BE horizon, where present, has hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 3 to 8. It is sandy clay loam, loam, or clay loam.

The Bt horizon averages 35 to 60 percent clay in the control section but may range to 70 percent in some subhorizons. It has hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 or 8. Hue also ranges to 5YR if evident patterns of mottling are lacking in the Bt and BC horizons. Mottles that are few and random are included. The Bt horizon is clay loam, clay, or sandy clay and contains less than 30 percent silt.

The BC horizon has hue of 10R to 5YR, value of 4 or 6, and chroma of 4 to 8. Mottles in shades of yellow or brown are few to common in some pedons. The texture is sandy clay loam, clay loam, or loam.

The C horizon is similar in color to the BC horizon or it is variegated. It is loamy saprolite weathered from felsic, igneous and high-grade metamorphic rocks.

COMPETING SERIES: These are the Appling, Bethlehem, Georgeville, Herndon, Madison, Nanford, Nankin, Pacolet, Saw, Tarrus, and Wedowee series in the same family. Those in closely related families are the Cataula, Chestatee, Cullen, Hulett, Lloyd, Mayodan, and Mecklenburg series. Appling soils have dominant hue of 7.5YR or yellower or where hue is 5YR it has evident patterns of mottling in a subhorizon of the Bt or BC horizon. Bethlehem soils have soft bedrock at depths of 20 to 40 inches. Cataula soils have a perched water table at 2 to 4 feet, Chestatee soils contain more than 15 percent, by volume, coarse fragments throughout. Cullen soils have more clay in the Bt horizon. Mayodan and Mecklenburg soils have mixed mineralogy and in addition, Mayodan soils formed in Triassic age sediments and Mecklenburg soils formed from basic diabase parent material. Georgeville, Herndon, Nanford, and Tarrus soils formed in Carolina slate and contain more than 30 percent silt. Hulett, Nankin, and Wedowee soils have a Bt horizon with hue of 5YR or yellower. In addition, Nankin soils formed from marine sediments. Lloyd soils have rhodic colors to depths of 40 inches or more. Madison, Pacolet, and Wedowee soils have thinner argillic horizons. Saw soils have hard bedrock at depths of 20 to 40 inches.

GEOGRAPHIC SETTING: Cecil soils are on nearly level to steep Piedmont uplands. Slope gradients are 0 to 25 percent, most commonly between 2 and 15 percent. These soils have developed in weathered felsic igneous and high-grade metamorphic rocks. Average annual precipitation is about 48 inches. Mean annual soil temperature is about 59 degrees F.

GEOGRAPHICALLY ASSOCIATED SOILS: In addition to the competing Appling, Bethlehem, Cataula, Chestatee, Cullen, Lloyd, Madison, Mecklenburg, Pacolet, Saw, and Wedowee series these are the Durham, Louisburg, Rion, and Worsham series. Durham, Louisburg, and Rion soils have less clay in the Bt horizon. Worsham soils are poorly drained and are around the heads of drains.

DRAINAGE AND PERMEABILITY: Well drained; medium to rapid runoff; moderate permeability.

USE AND VEGETATION: About half of the total acreage is in cultivation, with the remainder in pasture and forest. Common crops are small grains, corn, cotton, and tobacco.

DISTRIBUTION AND EXTENT: The Piedmont of Alabama, Georgia, North Carolina, South Carolina, and Virginia. The series is of large extent, with an area of more than 10 million acres.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Raleigh, North Carolina

SERIES ESTABLISHED: Cecil County, Maryland; 1899.

REMARKS: The June 1988 revision changed the classification to Typic Kanhapludults and recognized the low activity clay properties of this soil as defined in the Low Activity Clay Amendment to Soil Taxonomy, August

1986. The December 2005 revision changed the type location from Catawba County, North Carolina to a more representative location. The May 2006 revision changed language in competing series for Wedowee.

Diagnostic horizons and features recognized in this pedon are:
Ochric epipedon--the zone from the surface of the soil to a depth of 8 inches (Ap horizon)
Kandic horizon--the zone between 8 and 42 inches meets the low activity clay requirement in more than 50 percent of the horizon (Bt1 and Bt2 horizons)
Argillic horizon--the zone between 8 and 42 inches (Bt1 and Bt2 horizons)

ADDITIONAL DATA: McCracken, R. J., editor: Southern Cooperative Series Bulletin 61, issued January, 1959, Virginia Agricultural Experiment Station, Blacksburg, Virginia. Soil Survey of Catawba County, North Carolina, issued 1975. Soil Survey of Forsyth County, North Carolina, issued 1976.

MLRA--136

REVISED--09/1997, RLV; 12/2005, DTA; 05/2006, RHB

TABULAR SERIES DATA:

SOI-5	Soil Name	Slope	Airtemp	FrFr/Seas	Precip	Elevation
NC0018	CECIL	0-25	57-65	175-200	45-55	200-900
NC0268	CECIL	0-25	57-65	160-190	44-55	300-800

SOI-5	FloodL	FloodH	Watertable	Kind	Months	Bedrock Hardness
NC0018	NONE		>6.0	-	-	>60
NC0268	NONE		>6.0	-	-	>60

SOI-5	Depth	Texture	3-Inch	No-10	Clay%	-CEC-
NC0018	0-8	SL FSL L	0-5	80-100	5-20	1-5
NC0018	0-8	GR-SL GR-L GR-FSL	5-15	55-85	5-20	1-5
NC0018	0-8	SCL CL	0-5	75-100	20-35	5-10
NC0018	8-50	C CL	0-5	92-100	35-70	3-12
NC0018	50-80	VAR	-	-	-	-
NC0268	0-8	GR-SCL GR-CL	0-10	60-85	20-35	5-10
NC0268	8-50	C CL	0-5	90-100	35-70	3-12
NC0268	50-80	VAR	-	-	-	-

SOI-5	Depth	-pH-	O.M.	Salin	Permeab	Shnk-Swll
NC0018	0-8	4.5-6.5	0.5-1.0	0-0	2.0-6.0	LOW
NC0018	0-8	4.5-6.5	0.5-1.0	0-0	2.0-6.0	LOW
NC0018	0-8	4.5-6.5	0.5-1.0	0-0	0.6-2.0	LOW
NC0018	8-50	4.5-5.5	0.0-0.5	0-0	0.6-2.0	LOW
NC0018	50-80	-	-	-	-	-
NC0268	0-8	4.5-6.0	0.5-1.0	0-0	0.6-2.0	LOW
NC0268	8-50	4.5-5.5	0.0-0.5	0-0	0.6-2.0	LOW
NC0268	50-80	-	-	-	-	-

National Cooperative Soil Survey
U.S.A.

ATTACHMENT 4: Septic System Area Computation Spreadsheets

Conventional Septic System Area Computation

Created by: JV
Created on: 6/20/2001
Updated on: 7/29/2024

Client Name:	*Cabrera, Peter*	
Number Bedrooms:	*3*	
Design Flow (gal/day):	360	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.25*	
Trench Bottom Area (ft^2):	1440	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	480	
Minimum Field Area Required (ft^2):	4320	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	3240	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	10800	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	8100	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	12960	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	9720	(25% reduction from above)

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

Client Name:	*Cabrera, Peter*	
Number Bedrooms:	*3*	
Design Flow (gal/day):	360	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.275*	
Trench Bottom Area (ft^2):	1309.091	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	436.3636	
Minimum Field Area Required (ft^2):	3927.273	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	2945.455	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	9818.182	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	7363.636	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	11781.82	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	8836.364	(25% reduction from above)

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

Client Name:	*Cabrera, Peter*	
Number Bedrooms:	*3*	
Design Flow (gal/day):	360	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.3*	
Trench Bottom Area (ft^2):	1200	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	400	
Minimum Field Area Required (ft^2):	3600	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	2700	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	9000	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	6750	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	10800	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	8100	(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: 7/29/2024

Client Name:	*Cabrera, Peter*	
Number Bedrooms:	*4*	
Design Flow (gal/day):	480	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.25*	
Trench Bottom Area (ft^2):	1920	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	640	
Minimum Field Area Required (ft^2):	5760	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	4320	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	14400	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	10800	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	17280	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	12960	(25% reduction from above)

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

Client Name:	*Cabrera, Peter*	
Number Bedrooms:	*4*	
Design Flow (gal/day):	480	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.275*	
Trench Bottom Area (ft^2):	1745.455	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	581.8182	
Minimum Field Area Required (ft^2):	5236.364	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	3927.273	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	13090.91	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	9818.182	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	15709.09	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	11781.82	(25% reduction from above)

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

Client Name:	*Cabrera, Peter*	
Number Bedrooms:	*4*	
Design Flow (gal/day):	480	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.3*	
Trench Bottom Area (ft^2):	1600	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	533.3333	
Minimum Field Area Required (ft^2):	4800	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	3600	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	12000	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	9000	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	14400	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	10800	(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: 7/29/2024

Client Name:	*Cabrera, Peter*	
Number Bedrooms:	*5*	
Design Flow (gal/day):	600	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.25*	
Trench Bottom Area (ft^2):	2400	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	800	
Minimum Field Area Required (ft^2):	7200	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	5400	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	18000	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	13500	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	21600	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	16200	(25% reduction from above)

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

Client Name:	*Cabrera, Peter*	
Number Bedrooms:	*5*	
Design Flow (gal/day):	600	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.275*	
Trench Bottom Area (ft^2):	2181.818	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	727.2727	
Minimum Field Area Required (ft^2):	6545.455	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	4909.091	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	16363.64	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	12272.73	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	19636.36	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	14727.27	(25% reduction from above)

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

Client Name:	*Cabrera, Peter*	
Number Bedrooms:	*5*	
Design Flow (gal/day):	600	(120 gal/day/bedroom, minimum 240 gal/day/dwelling)
LTAR (gal/day/ft^2)	*0.3*	
Trench Bottom Area (ft^2):	2000	(Design flow/LTAR)
Trench Width (ft):	3	
On-center distance between trenches (ft):	9	
Trench Bottom Length (ft):	666.6667	
Minimum Field Area Required (ft^2):	6000	(Trench Bottom Length*Trench on-center distance)
Minimum Field Area Required (Innovative) (ft^2):	4500	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	15000	(Minimum field area*2.5)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	11250	(25% reduction from above)
Total Field Area Required (ft^2)$^{(1)}$:	18000	(Minimum field area*3)
Total Field Area Required (Innovative) (ft^2)$^{(1)}$:	13500	(25% reduction from above)

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