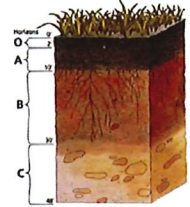


Soil and Environmental
Consulting Services, Inc.



Thursday, March 13, 2025

Scioto Land Surveying
173 N. Sandusky St.
Delaware, OH 43015
740.369.7577

Re: Soil investigation for on-site septic disposal for the lot split south of 9005 Twigg Hupp Road, Trenton Township, Delaware County, Ohio

Enclosed you will find the requested detailed soil description for 16971 Meredith State Road, Trenton Township, Delaware County.

The soils of the selected sites were mapped and described on the enclosed sheets for your records. The locations of the soil borings have been located using GPS and the locations have been delineated on the enclosed map. Copies of this letter, soil boring descriptions, sketch, and system drawing should be submitted to local health department. The health department will make the determination if the soil and site area is suitable for onsite sewage treatment.

Please protect all areas approved for septic disposal by having the contractor stake and rope off the proposed locations prior to driveway and basement excavation. No soil, building, or waste material should be stored on the proposed absorption areas. Disturbance to the areas may result in compaction and the subsequent failure of the system. Any disturbance to the 504 absorption area voids the results of this analysis.

If you have any questions or want to move forward with the septic design process feel free to contact us.

A handwritten signature in black ink, appearing to read 'Steven Miller'.

Steven Miller, CPSS

Site and Soil Evaluation for Sewage Treatment and Dispersal

County: <u>Delaware</u> Township / Sec.: <u>Kingston</u> Property Address/Location: <u>Parcel Split S of 9005 Twigg Hupp</u> Applicant Name: <u>Scioto Land Surveying</u> Address: _____ Phone #: _____ Lot #: _____ Test Hole #: <u>5</u> Latitude/Longitude: _____ Method: <u>Pit</u> <input type="checkbox"/> <u>Auger</u> <input checked="" type="checkbox"/> <u>X</u> <u>Tube</u>	Land Use / Vegetation: <u>Ag Field</u> Landform: <u>Till Plain</u> Position on Landform: <u>Backslope</u> Percent Slope: <u>1 to 2%</u> Shape of Slope: <u>Linear / Linear</u> Bedrooms or GFPD: <u>4</u> Date: <u>Tuesday, March 11, 2025</u> Evaluator: <u>Steven Miller, CPSSC</u> Soil & Environmental Consulting, Inc. P.O. Box 1121 Delaware OH 43015 Job Number: <u>25C219</u> Soil Series: _____ Signature: _____ Phone#: <u>p-614.579.1164</u> soilconsultant@gmail.com
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Soil Profile	Estimating Soil Saturation				Estimating Soil Permeability				Other Soil Features			
	Depth (inches)	Matrix Color	Redoximorphic Features		Class	Texture		Structure				
			Concentrations	Depletions		Approx. % Clay	Approx. % Fragments	Grade		Size	Type (shape)	Consistence
Ap	0 to 8	10YR 4/3			sil	20	2	2	m	gr	fr	
Bt1	8 to 25	10YR 5/4		25%10YR 5/2	sic1	32	2	2	m	sbk	f	
Bt2	25 to 34	10YR 5/4		30%10YR 5/2	sic1	35	2	2	m	sbk	fr	
BC	34 to 38	10YR 5/4		35%10YR 5/2	sic1	32	2	1	m	sbk	fr	
Cd	38+	10YR 4/4		30%10YR 5/2	sil	25	5	0		sg	fr	
Limiting Conditions												
Perched Seasonal Water Table	8 inches	Description		Remarks / Risk Factors:								
Apparent Water Table	>60	perched on glacial till		Surface water should be diverted around system. Subsurface ag drainage may be present.								
Highly Permeable Material	>60											
Bedrock	>60											
Restrictive Layer	38	glacial till										

Note : The evaluation shall include a complete site plan or site drawing including all requirements in paragraphs (B)(1) through (B)(4) of OAC 3701-29-08.

Site and Soil Evaluation for Sewage Treatment and Dispersal

County: <u>Delaware</u> Township / Sec.: <u>Kingston</u> Property Address/Location: <u>Parcel Split S of 9005 Twiggs Hupp</u> Applicant Name: <u>Scioto Land Surveying</u> Address: _____ Phone #: _____ Lot #: _____ Test Hole #: <u>6</u> Latitude/Longitude: _____ Method: <input type="checkbox"/> Pit <input type="checkbox"/> Auger <input checked="" type="checkbox"/> Tube	Land Use / Vegetation: <u>Ag Field</u> Landform: <u>Till Plain</u> Position on Landform: <u>Backslope</u> Percent Slope: <u>1 to 2%</u> Shape of Slope: <u>Linear / Linear</u> Bedrooms or GPD: <u>4</u> Date: <u>Tuesday, March 11, 2025</u> Evaluator: <u>Steven Miller, CPSSC</u> Soil & Environmental Consulting, Inc. P.O. Box 1121 Delaware OH 43015 Job Number: <u>25C219</u> Soil Series: _____ Signature: _____ Phone#: <u>p-614.579.1164</u> soilconsultant@gmail.com
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Soil Profile	Estimating Soil Saturation				Estimating Soil Permeability				Other Soil Features			
	Depth (inches)	Matrix Color	Redoximorphic Features		Class	Texture		Structure				
			Concentrations	Depletions		Approx. % Clay	Approx. % Fragments	Grade		Size	Type (shape)	Consistence
Ap	0 to 8	10YR 4/3			sil	20	2	2	m	gr	ft	
Bt1	8 to 35	10YR 5/4		30%10YR 5/2	sicl	30	2	2	m	sbk	f	
Bt2	35 to 44	10YR 5/4		35%10YR 5/2	sicl	36	2	2	m	sbk	f	
BC	44 to 48	10YR 5/4		30%10YR 5/2	sicl	34	2	1	m	sbk	f	
Cd	48+	10YR 4/4		25%10YR 5/2	sicl	30	5	0		sg	ft	
Limiting Conditions												
Perched Seasonal Water Table		inches	8		Description		perched on glacial till				Remarks / Risk Factors:	
Apparent Water Table		inches	>60		Description		Surface water should be diverted around system. Subsurface ag drainage may be present.					
Highly Permeable Material		inches	>60		Description							
Bedrock		inches	>60		Description							
Restrictive Layer		inches	48		Description		glacial till					

Note : The evaluation shall include a complete site plan or site drawing including all requirements in paragraphs (B)(1) through (B)(4) of OAC 3701-29-08.

Site and Soil Evaluation for Sewage Treatment and Dispersal


County: <u>Delaware</u> Township / Sec.: <u>Kingston</u> Property Address/Location: <u>Parcel Split S of 9005 Twiggs Hupp</u> Applicant Name: <u>Scioto Land Surveying</u> Address: _____ Phone #: _____ Lot #: _____ Test Hole #: <u>7</u> Latitude/Longitude: _____ Method: <u>Pit</u> <input type="checkbox"/> <u>Auger</u> <input checked="" type="checkbox"/> <u>X</u> <u>Tube</u>	Land Use / Vegetation: <u>Ag Field</u> Landform: <u>Till Plain</u> Position on Landform: <u>Backslope</u> Percent Slope: <u>2.0%</u> Shape of Slope: <u>Linear / Linear</u> Bedrooms or GPD: <u>4</u> Date: <u>Tuesday, March 11, 2025</u> Evaluator: <u>Steven Miller, CPSSC</u> Soil & Environmental Consulting, Inc. <u>P.O. Box 1121</u> <u>Delaware OH 43015</u> Job Number: <u>25C219</u> Soil Series: _____ Signature: _____ Phone#: <u>p-614.579.1164</u> soilconsultant@gmail.com
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Soil Profile	Estimating Soil Saturation				Estimating Soil Permeability				Other Soil Features			
	Depth (inches)	Matrix Color	Redoximorphic Features		Class	Texture		Structure				
			Concentrations	Depletions		Approx. % Clay	Approx. % Fragments	Grade		Size	Type (shape)	Consistence
Ap	0 to 8	10YR 4/3			sil	20	2	2	m	gr	ft	
Bt1	8 to 20	10YR 5/4		15%10YR 5/2	sic1	32	2	2	m	sbk	f	
Bt2	20 to 32	10YR 5/4		30%10YR 5/2	sic1	34	2	2	m	sbk	ft	
BC	32 to 35	10YR 5/4		25%10YR 5/2	sic1	32	2	1	m	sbk	ft	
Cd	35+	10YR 4/4		30%10Yr 5/2	sic1	30	5	0		sg	ft	
Limiting Conditions												
Perched Seasonal Water Table	8 inches	Description		Remarks / Risk Factors:								
Apparent Water Table	>60	perched on glacial till		Surface water should be diverted around system. Subsurface ag drainage may be present.								
Highly Permeable Material	>60											
Bedrock	>60											
Restrictive Layer	35	glacial till										

Note : The evaluation shall include a complete site plan or site drawing including all requirements in paragraphs (B)(1) through (B)(4) of OAC 3701-29-08.

Site and Soil Evaluation for Sewage Treatment and Dispersal

County: <u>Delaware</u> Township / Sec.: <u>Kingston</u> Property Address/Location: <u>Parcel Split S of 9005 Twigg Hupp</u> Applicant Name: <u>Scioto Land Surveying</u> Address: _____ Phone #: _____ Lot #: _____ Test Hole #: <u>8</u> Latitude/Longitude: _____ Method: <input type="checkbox"/> Pit <input type="checkbox"/> Auger <input checked="" type="checkbox"/> Tube	Land Use / Vegetation: <u>Ag Field</u> Landform: <u>Till Plain</u> Position on Landform: <u>Backslope</u> Percent Slope: <u>2.0%</u> Shape of Slope: <u>Linear / Linear</u> Bedrooms or GPD: <u>4</u> Date: <u>Tuesday, March 11, 2025</u> Evaluator: <u>Steven Miller, CPSSC</u> Soil & Environmental Consulting, Inc. P.O. Box 1121 Delaware OH 43015 Job Number: <u>25C219</u> Soil Series: _____ Signature:  Phone#: <u>p-614.579.1164</u> soilconsultant@gmail.com
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Soil Profile	Estimating Soil Saturation				Estimating Soil Permeability				Other Soil Features			
	Depth (inches)	Matrix Color	Redoximorphic Features		Class	Texture		Structure				
			Concentrations	Depletions		Approx. % Clay	Approx. % Fragments	Grade		Size	Type (shape)	Consistence
Ap	0 to 9	10YR 4/3			sil	20	2	2	m	gr	ft	
Bt1	9 to 22	10YR 5/4		10%10YR 5/2	sicl	30	2	2	m	sbk	f	
Bt2	22 to 34	10YR 5/4		15%10YR 5/2	sicl	35	2	2	m	sbk	ft	
BC	34 to 37	10YR 5/4		20%10YR 5/2	sicl	32	2	1	m	sbk	ft	
Cd	37+	10YR 4/4		15%10YR 5/2	sicl	30	5	0		sg	ft	

Limiting Conditions	inches	Description	Remarks / Risk Factors:
Perched Seasonal Water Table	9	perched on glacial till	Surface water should be diverted around system. Subsurface ag drainage may be present.
Apparent Water Table	>60		
Highly Permeable Material	>60		
Bedrock	>60		
Restrictive Layer	37	glacial till	

Note : The evaluation shall include a complete site plan or site drawing including all requirements in paragraphs (B)(1) through (B)(4) of OAC 3701-29-08.

Site and Soil Evaluation for Sewage Treatment and Dispersal

County: <u>Delaware</u> Township / Sec.: <u>Kingston</u> Property Address/Location: <u>Parcel Split S of 9005 Twigg Hupp</u> Applicant Name: <u>Scioto Land Surveying</u> Address: _____ Phone #: _____ Lot #: _____ Test Hole #: <u>9</u> Latitude/Longitude: _____ Method: <u>Pit</u> <u>Auger</u> <input checked="" type="checkbox"/> <u>Tube</u>	Land Use / Vegetation: <u>Ag Field</u> Landform: <u>Till Plain</u> Position on Landform: <u>Backslope</u> Percent Slope: <u>2.0%</u> Shape of Slope: <u>Linear / Linear</u> Bedrooms or GPD: <u>4</u> Date: <u>Tuesday, March 11, 2025</u> Evaluator: <u>Steven Miller, CPSSC</u> Soil & Environmental Consulting, Inc. P.O. Box 1121 Delaware OH 43015 Job Number: <u>25C219</u> Soil Series: _____ Signature: _____ Phone#: <u>p-614.579.1164</u> soilconsultant@gmail.com
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Soil Profile	Estimating Soil Saturation				Estimating Soil Permeability				Other Soil Features			
	Depth (inches)	Matrix Color	Redoximorphic Features		Class	Texture		Structure				
			Concentrations	Depletions		Approx. % Clay	Approx. % Fragments	Grade		Size	Type (shape)	Consistence
Ap	0 to 10	10YR 4/3			sil	20	2	2	m	gr	ft	
Bt1	10 to 21	10YR 5/4		15%10YR 5/2	sic1	32	2	2	m	sbk	f	
Bt2	21 to 35	10YR 5/4		20%10YR 5/2	sic1	36	2	2	m	sbk	ft	
BC	35 to 38	10YR 5/4		25%10YR 5/2	sic1	34	2	1	m	sbk	ft	
Cd	38+	10YR 4/4		20%10YR 5/2	sic1	32	5	0		sg	ft	

Limiting Conditions	inches	Description	Remarks / Risk Factors:
Perched Seasonal Water Table	10	perched on glacial till	Surface water should be diverted around system. Subsurface ag drainage may be present.
Apparent Water Table	>60		
Highly Permeable Material	>60		
Bedrock	>60		
Restrictive Layer	38	glacial till	

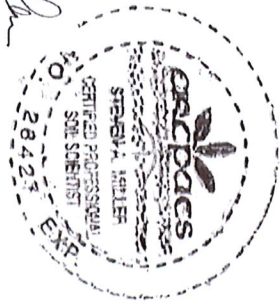
Note : The evaluation shall include a complete site plan or site drawing including all requirements in paragraphs (B)(1) through (B)(4) of OAC 3701-29-08.

Site and Soil Evaluation for Sewage Treatment and Dispersal

County: Delaware
 Township / Sec.: Kingston
 Property Address/Location: Parcel Split S of 9005 Twiggs Hupp
 Applicant Name: Scioto Land Surveying
 Address: _____
 Phone #: _____
 Lot #: _____
 Test Hole #: 10
 Latitude/Longitude: _____
 Method: Pit Auger Tube

Land Use / Vegetation: Ag Field
 Landform: Till Plain
 Position on Landform: Backslope
 Percent Slope: 2.0%
 Shape of Slope: Linear / Linear
 Bedrooms or GPD: 4
 Date: Tuesday, March 11, 2025
 Evaluator: Steven Miller, CPSSc
 Soil & Environmental Consulting, Inc.
 P. O. Box 1121
 Delaware OH 43015
 Job Number: 25C219
 Soil Series: _____

Signature: _____
 Phone#: p-614.579.1164
soilconsultant@gmail.com



Soil Profile	Estimating Soil Saturation				Estimating Soil Permeability							Other Soil Features
	Depth (inches)	Matrix Color	Redoximorphic Features		Class	Texture			Structure		Consistence	
			Concentrations	Depletions		Approx. % Clay	Approx. % Fragments	Grade	Size	Type (shape)		
Ap	0 to 8	10YR 4/3			sil	20	2	2	m	gr	fr	
Bt1	8 to 13	10YR 5/4			sicl	34	2	2	m	sbk	f	
Bt2	13 to 30	10YR 5/4			sicl	36	2	2	m	sbk	fi	
BC	30 to 33	10YR 5/4			sicl	34	2	1	m	sbk	fi	
Cd	33+	10YR 4/4		15%10yR 5/2	sicl	32	5	0		sg	fr	
Munsell Color (hue, value, chroma)												
Limiting Conditions												
Perched Seasonal Water Table	8	perched on glacial till		Surface water should be diverted around system. Subsurface ag drainage may be present.								
Apparent Water Table	>60											
Highly Permeable Material	>60											
Bedrock	>60											
Restrictive Layer	33	glacial till										

Note : The evaluation shall include a complete site plan or site drawing including all requirements in paragraphs (B)(1) through (B)(4) of OAC 3701-29-08.

Landforms
Upland*
Terrace
Flood Plain
Lake Pain
Beach Ridge
*Includes glacial till plain and end moraine

Position on Landform
Depression
Flat
Knoll
Crest
Hillslope
Footslope

Shape of Slope
Convex
Concave
Linear
Complex

Horizon Nomenclature			
Master Horizons		Horizon Suffixes	Horizon Modifiers
O	Predominantly organic matter (litter & humus)	a Highly decomposed organic matter	Numerical Prefixes: Used to denote lithologic discontinuities.
A	Mineral, organic matter (humus) accumulation, loss of Fe, Al, clay	b Buried genetic horizon	
E	Mineral, loss of Si, Fe, Al, clay, organic matter	d Densic layer (physically root restrictive)	Numerical Suffixes: Used to denote subdivisions within a master horizon.
B	Subsurface accumulation of clay, Fe, Al, Si, humus; sesquioxides; loss of CaCO ₃ ; subsurface soil structure	e Moderately decomposed organic matter	
C	Little or no pedogenic alteration, unconsolidated earthy material, soft bedrock	g Strong gley	
R		Hard bedrock	
		p Plow layer or artificial disturbance	
		r Weathered or soft bedrock	
		t Illuvial accumulation of silicate clay	
		w Weak color or structure within B	
		x Fragipan characteristics	

Soil Texture			
Texture Class Abbreviations		Textural Class Modifiers	
Course Sand	cos	Gravelly	GR
Sand	s	Fine Gravelly	FGR
Fine Sand	fs	Medium Gravelly	MGR
Very Fine Sand	vfs	Coarse Gravelly	CGR
Loamy Coarse Sand	lcos	Very Gravelly	VGR
Loamy Sand	ls	Extremely Gravelly	XGR
Loamy Fine Sand	lfs	Cobbly	CB
Loamy Very Fine Sand	lvfs	Very Cobbly	VCB
Coarse Sandy Loam	cosl	Extremely Cobbly	XCB
Sandy Loam	sl	Stony	ST
Fine Sandy Loam	fsl	Very Stony	VST
Very Fine Sandy Loam	vfsl	Extremely Stony	XST
Loam	l	Bouldery	BY
Silt Loam	sil	Very Bouldery	VBY
Silt	si	Extremely Bouldery	XBY
Sandy Clay Loam	scl	Channery	CN
Clay Loam	cl	Very Channery	VCN
Silty Clay Loam	sicl	Extremely Channery	XCN
Sandy Clay	sc	Flaggy	FL
Silty Clay	sic	Very Flaggy	VFL
Clay	c	Extremely Flaggy	XFL
*Estimate approximate clay percentage within 5 percent			

Soil Structure					
Grade		Size		Type (Shape)	
Structureless	0	Very Fine	vf	Granular	gr
Weak	1	Fine	f	Angular Blocky	abk
Moderate	2	Medium	m	Subangular Blocky	sbk
Strong	3	Coarse	co	Platy	pl
		Very Coarse	vc	Prismatic	pr
		Extr. Coarse	ec	Columnar	cpr
		Very Thin*	vn	Single Grain	sg
		Thin*	tn	Massive	m
		Thick*	tk	Cloddy	CDY
		Very Thick*	vk		
* The sizes Very Thin, Thin, Thick, and Very Thick, are used when describing platy structure only. Substitute thin for fine, and thick for coarse when describing platy structure.					

Moist Consistence	
Loose	l
Very Friable	vfr
Friable	fr
Firm	fi
Very Firm	vfi
Extremely Firm	efi

For a more detailed explanation on describing and sampling soils, please refer to the "Field Book for Describing and Sampling Soils" Schoeneberger, P.J., Wysocki, D.A., Benham, E.C., and Broderson, W.D. (editors) 2002. Field book for describing and sampling soils, version 2.0. Natural Resources Conservation Service, USDA, National Soil Survey Center, Lincoln, NE.