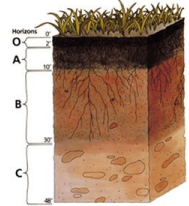


Soil and Environmental
Consulting Services, Inc.



Thursday, July 22, 2021

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

Re: Soil investigation for on-site septic disposal for the parcels east of 6752 Kilboure Road, Brown Township, Delaware County, Ohio.

Enclosed you will find the requested detailed soil descriptions for the parcels east of 6752 Kilboure Road, Brown Township, Delaware County, Ohio.

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. It may also be necessary for the soil borings to be located by a surveyor.

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 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: Delaware
 Township / Sec.: Brown
 Property Address/Location: East of 6752 Kilbourne Road
 Applicant Name: Scioto Land Surveyors
 Address: _____
 Phone #: _____
 Lot #: _____
 Test Hole #: 1
 Latitude/Longitude: _____
 Method: Pit Auger Tube

Land Use / Vegetation: Beans
 Landform: Till Plain
 Position on Landform: Backslope
 Percent Slope: 3 to 4%
 Shape of Slope: Linear / Linear
 Bedrooms or GPD: _____
 Date: Wednesday, July 21, 2021
 Evaluator: Steven Miller, CPSSc
Soil & Environmental Consulting, Inc.
P.O. Box 1121
Delaware OH 43015
 Job Number: 21G330
 Soil Series: _____



Signature: *Steven A. Miller*
 Phone#: p-614.579.1164
soilconsultant@yahoo.com

Soil Profile		Estimating Soil Saturation			Estimating Soil Permeability							Other Soil Features
		Munsell Color (hue, value, chroma)			Texture			Structure				
Horizon	Depth (inches)	Matrix Color	Redoximorphic Features		Class	Approx. % Clay	Approx. % Fragments	Grade	Size	Type (shape)	Consistence	
			Concentrations	Depletions								
Ap	0 to 8	10YR 4/3			sil	20	2	2	m	sbk	fr	
Bt1	8 to 11	10YR 5/6		10%10yR 5/3	sic1	32	2	2	m	sbk	fi	
Bt2	11 to 42	10YR 5/4		30%10yR 5/2	sic1	38	2	2	m	sbk	fi	
BC	42 to 45	10YR 5/4		35%10yR 5/2	sic1	35	2	1	m	sbk	fi	
Cd	45+	10YR 4/4		25%10YR 5/2	sic1	33	5	0		m	vfi	

Limiting Conditions	inches	Description	Remarks / Risk Factors:
Perched Seasonal Water Table	11	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	45	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.: Brown
 Property Address/Location: East of 6752 Kilbourne Road
 Applicant Name: Scioto Land Surveyors
 Address: _____
 Phone #: _____
 Lot #: _____
 Test Hole #: 2
 Latitude/Longitude: _____
 Method: Pit Auger Tube

Land Use / Vegetation: Beans
 Landform: Till Plain
 Position on Landform: Backslope
 Percent Slope: 2 to 3%
 Shape of Slope: Linear / Linear
 Bedrooms or GPD: _____
 Date: Wednesday, July 21, 2021
 Evaluator: Steven Miller, CPSSc
Soil & Environmental Consulting, Inc.
P.O. Box 1121
Delaware OH 43015
 Job Number: 21G330
 Soil Series: _____


 Signature: 
 Phone#: p-614.579.1164
soilconsultant@yahoo.com

Soil Profile		Estimating Soil Saturation			Estimating Soil Permeability							Other Soil Features
		Munsell Color (hue, value, chroma)			Texture			Structure				
Horizon	Depth (inches)	Matrix Color	Redoximorphic Features		Class	Approx. % Clay	Approx. % Fragments	Grade	Size	Type (shape)	Consistence	
			Concentrations	Depletions								
Ap	0 to 6	10YR 4/3			sil	20	2	2	m	sbk	fr	
Bt1	6 to 22	10YR 5/3		35%10YR 5/2	sicl	34	2	2	m	sbk	fi	
Bt2	22 to 48	10YR 5/4		30%10YR 5/1	sicl	38	2	2	m	sbk	fi	
BC	48 to 52	10YR 5/4		25%10YR 5/1	sicl	36	2	1	m	sbk	fi	
Cd	52+	10YR 4/4		20%10YR 5/2	sicl	34	5	0		m	vfi	

Limiting Conditions	inches	Description	Remarks / Risk Factors:
Perched Seasonal Water Table	6	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	52	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.: Brown
 Property Address/Location: East of 6752 Kilbourne Road
 Applicant Name: Scioto Land Surveyors
 Address: _____
 Phone #: _____
 Lot #: _____
 Test Hole #: 3
 Latitude/Longitude: _____
 Method: Pit Auger Tube

Land Use / Vegetation: Beans
 Landform: Till Plain
 Position on Landform: Backslope
 Percent Slope: 2 to 3%
 Shape of Slope: Linear / Linear
 Bedrooms or GPD: _____
 Date: Wednesday, July 21, 2021
 Evaluator: Steven Miller, CPSSc
Soil & Environmental Consulting, Inc.
P.O. Box 1121
Delaware OH 43015
 Job Number: 21G330
 Soil Series: _____



Signature: *Steven A. Miller*
 Phone#: p-614.579.1164
soilconsultant@yahoo.com

Soil Profile		Estimating Soil Saturation			Estimating Soil Permeability							Other Soil Features
		Munsell Color (hue, value, chroma)			Texture			Structure				
Horizon	Depth (inches)	Matrix Color	Redoximorphic Features		Class	Approx. % Clay	Approx. % Fragments	Grade	Size	Type (shape)	Consistence	
			Concentrations	Depletions								
Ap	0 to 9	10YR 4/3			sil	20	2	2	m	sbk	fr	
Bt1	9 to 23	10YR 5/4		25%10YR 5/2	sic1	35	2	2	m	sbk	fi	
Bt2	23 to 34	10YR 5/4		30%1yR 5/2	sic1	38	2	2	m	sbk	fi	
BC	34 to 38	10YR 5/4		25%10YR 5/2	sic1	34	2	1	m	sbk	fi	
Cd	38+	10YR 4/4		20%10YR 5/2	sic1	32	5	0		m	vfi	

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	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.: Brown
 Property Address/Location: East of 6752 Kilbourne Road
 Applicant Name: Scioto Land Surveyors
 Address: _____
 Phone #: _____
 Lot #: _____
 Test Hole #: 4
 Latitude/Longitude: _____
 Method: Pit Auger Tube

Land Use / Vegetation: Beans
 Landform: Till Plain
 Position on Landform: Backslope
 Percent Slope: 2 to 3%
 Shape of Slope: Linear / Linear
 Bedrooms or GPD: _____
 Date: Wednesday, July 21, 2021
 Evaluator: Steven Miller, CPSSc
Soil & Environmental Consulting, Inc.
P.O. Box 1121
Delaware OH 43015
 Job Number: 21G330
 Soil Series: _____



Signature: *Steven A. Miller*
 Phone#: p-614.579.1164
soilconsultant@yahoo.com

Soil Profile		Estimating Soil Saturation			Estimating Soil Permeability							Other Soil Features
		Munsell Color (hue, value, chroma)			Texture			Structure				
Horizon	Depth (inches)	Matrix Color	Redoximorphic Features		Class	Approx. % Clay	Approx. % Fragments	Grade	Size	Type (shape)	Consistence	
			Concentrations	Depletions								
Ap	0 to 9	10YR 4/3			sil	20	2	2	m	sbk	fr	
Bt1	9 to 21	10YR 5/4		15%10YR 5/2	sic1	36	2	2	m	sbk	fi	
Bt2	21 to 36	10YR 5/4		25%10YR 5/2	sic1	38	2	2	m	sbk	fi	
BC	36 to 40	10YR 5/4		20%10YR 5/2	sic1	36	2	1	m	sbk	fi	
Cd	40+	10YR 4/4		30%10YR 5/2	sic1	34	5	0		m	vfi	

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	40	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.: Brown
 Property Address/Location: East of 6752 Kilbourne Road
 Applicant Name: Scioto Land Surveyors
 Address: _____
 Phone #: _____
 Lot #: _____
 Test Hole #: 5
 Latitude/Longitude: _____
 Method: Pit Auger Tube

Land Use / Vegetation: Beans
 Landform: Till Plain
 Position on Landform: Backslope
 Percent Slope: 3 to 4%
 Shape of Slope: Linear / Linear
 Bedrooms or GPD: _____
 Date: Wednesday, July 21, 2021
 Evaluator: Steven Miller, CPSSC
Soil & Environmental Consulting, Inc.
P.O. Box 1121
Delaware OH 43015
 Job Number: 21G330
 Soil Series: _____



Signature: *Steven A. Miller*
 Phone#: p-614.579.1164
soilconsultant@yahoo.com

Soil Profile		Estimating Soil Saturation			Estimating Soil Permeability							Other Soil Features
		Munsell Color (hue, value, chroma)			Redoximorphic Features			Texture			Structure	
Horizon	Depth (inches)	Matrix Color	Concentrations	Depletions	Class	Approx. % Clay	Approx. % Fragments	Grade	Size	Type (shape)	Consistence	
Ap	0 to 8	10YR 4/3			sil	20	2	2	m	sbk	fr	
Bt1	8 to 10	10YR 5/4		5%10YR 5/3	sic1	35	2	2	m	sbk	fi	
Bt2	10 to 30	10YR 5/4		20%10Yr 5/2	sic1	38	2	2	m	sbk	fi	
BC	30 to 32	10YR 5/4		25%10YR 5/2	sic1	36	2	1	m	sbk	fi	
Cd	32+	10YR 4/4		15%10YR 5/1	sic1	34	5	0		m	vfi	

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	32	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.: Brown
 Property Address/Location: East of 6752 Kilbourne Road
 Applicant Name: Scioto Land Surveyors
 Address: _____
 Phone #: _____
 Lot #: _____
 Test Hole #: 6
 Latitude/Longitude: _____
 Method: Pit Auger Tube

Land Use / Vegetation: Beans
 Landform: Till Plain
 Position on Landform: Backslope
 Percent Slope: 3 to 4%
 Shape of Slope: Linear / Linear
 Bedrooms or GPD: _____
 Date: Wednesday, July 21, 2021
 Evaluator: Steven Miller, CPSSC
Soil & Environmental Consulting, Inc.
P.O. Box 1121
Delaware OH 43015
 Job Number: 21G330
 Soil Series: _____



Signature: *Steven A. Miller*
 Phone#: p-614.579.1164
soilconsultant@yahoo.com

Soil Profile		Estimating Soil Saturation			Estimating Soil Permeability							Other Soil Features
		Munsell Color (hue, value, chroma)			Texture			Structure				
Horizon	Depth (inches)	Matrix Color	Redoximorphic Features		Class	Approx. % Clay	Approx. % Fragments	Grade	Size	Type (shape)	Consistence	
			Concentrations	Depletions								
Ap	0 to 7	10YR 4/3			sil	20	2	2	m	sbk	fr	
Bt1	7 to 10	10YR 5/6		5%10YR 5/3	sic1	35	2	2	m	sbk	fi	
Bt2	10 to 25	10YR 5/4		15%10YR 5/2	sic1	38	2	2	m	sbk	fi	
BC	25 to 30	10YR 5/4		20%10YR 5/2	sic1	35	2	1	m	sbk	fi	
Cd	30+	10YR 4/4		15%10YR 5/2	sic1	32	5	0		m	vfi	

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	30	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.: Brown
 Property Address/Location: East of 6752 Kilbourne Road
 Applicant Name: Scioto Land Surveyors
 Address: _____
 Phone #: _____
 Lot #: _____
 Test Hole #: 7
 Latitude/Longitude: _____
 Method: Pit Auger Tube

Land Use / Vegetation: Beans
 Landform: Till Plain
 Position on Landform: Backslope
 Percent Slope: 3 to 4%
 Shape of Slope: Linear / Linear
 Bedrooms or GPD: _____
 Date: Wednesday, July 21, 2021
 Evaluator: Steven Miller, CPSSC
Soil & Environmental Consulting, Inc.
P.O. Box 1121
Delaware OH 43015
 Job Number: 21G330
 Soil Series: _____



Signature: *Steven A. Miller*
 Phone#: p-614.579.1164
soilconsultant@yahoo.com

Soil Profile		Estimating Soil Saturation			Estimating Soil Permeability							Other Soil Features
		Munsell Color (hue, value, chroma)			Texture			Structure				
Horizon	Depth (inches)	Matrix Color	Redoximorphic Features		Class	Approx. % Clay	Approx. % Fragments	Grade	Size	Type (shape)	Consistence	
			Concentrations	Depletions								
Ap	0 to 7	10YR 4/3			sil	20	2	2	m	sbk	fr	
Bt1	7 to 10	10YR 5/4		10%1w0YR 5/3	sic1	34	2	2	m	sbk	fi	
Bt2	10 to 34	10YR 5/4		20%10yR 5/2	sic1	38	2	2	m	sbk	fi	
BC	34 to 39	10YR 5/4		25%10YR 5/2	sic1	36	2	1	m	sbk	fi	
Cd	39+	10YR 4/4		20%10YR 5/2	sic1	35	5	0		m	vfi	

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	39	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.: Brown
 Property Address/Location: East of 6752 Kilbourne Road
 Applicant Name: Scioto Land Surveyors
 Address: _____
 Phone #: _____
 Lot #: _____
 Test Hole #: 8
 Latitude/Longitude: _____
 Method: Pit Auger Tube

Land Use / Vegetation: Beans
 Landform: Till Plain
 Position on Landform: Backslope
 Percent Slope: 3 to 4%
 Shape of Slope: Linear / Linear
 Bedrooms or GPD: _____
 Date: Wednesday, July 21, 2021
 Evaluator: Steven Miller, CPSSC
Soil & Environmental Consulting, Inc.
P.O. Box 1121
Delaware OH 43015
 Job Number: 21G330
 Soil Series: _____


 Signature: *Steven A. Miller*
 Phone#: p-614.579.1164
soilconsultant@yahoo.com

Soil Profile		Estimating Soil Saturation			Estimating Soil Permeability							Other Soil Features
		Munsell Color (hue, value, chroma)			Texture			Structure				
Horizon	Depth (inches)	Matrix Color	Redoximorphic Features		Class	Approx. % Clay	Approx. % Fragments	Grade	Size	Type (shape)	Consistence	
			Concentrations	Depletions								
Ap	0 to 6	10YR 4/3			sil	20	2	2	m	sbk	fr	
Bt1	6 to 9	10YR 5/4		15%10YR 5/3	sic1	35	2	2	m	sbk	fi	
Bt2	9 to 31	10YR 5/4		20%10YR 5/2	sic1	38	2	2	m	sbk	fi	
BC	31 to 36	10YR 5/4		25%10YR 5/2	sic1	35	2	1	m	sbk	fi	
Cd	36+	10YR 4/4		15%10YR 5/2	sic1	33	5	0		m	vfi	

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	36	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.

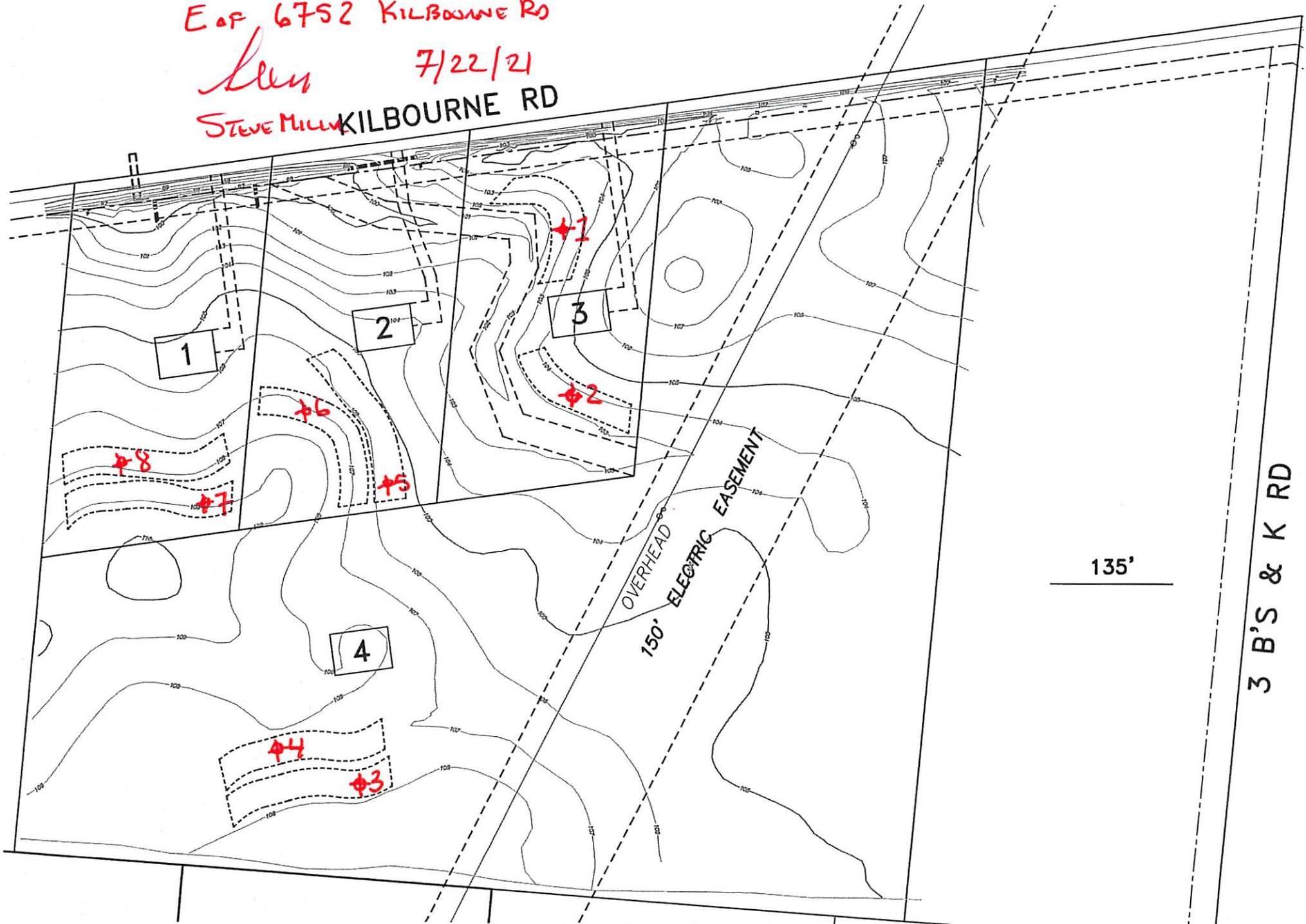
⊕ SOIL TEST FOR SEWAGE TREATMENT

E OF 6752 KILBOURNE RD

Allen

7/22/21

STEVE MILLER KILBOURNE RD



Landforms
Upland*
Terrace
Flood Plain
Lake Plain
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	Numerical Prefixes: Used to denote lithologic discontinuities. Numerical Suffixes: Used to denote subdivisions within a master horizon.
A	Mineral, organic matter (humus) accumulation, loss of Fe, Al, clay	b	
E	Mineral, loss of Si, Fe, Al, clay, organic matter	d	
B	Subsurface accumulation of clay, Fe, Al, Si, humus; sesquioxides; loss of CaCO ₃ ; subsurface soil structure	e	
C	Little or no pedogenic alteration, unconsolidated earthy material, soft bedrock	g	
R	Hard bedrock	i	
		p	
		r	
		t	
		w	
		x	

Soil Texture	
Texture Class Abbreviations	Textural Class Modifiers
Course Sand	cos
Sand	s
Fine Sand	fs
Very Fine Sand	vfs
Loamy Coarse Sand	lcos
Loamy Sand	ls
Loamy Fine Sand	lfs
Loamy Very Fine Sand	lvfs
Coarse Sandy Loam	cosl
Sandy Loam	sl
Fine Sandy Loam	fsl
Very Fine Sandy Loam	vfsl
Loam	l
Silt Loam	sil
Silt	si
Sandy Clay Loam	scl
Clay Loam	cl
Silty Clay Loam	sicl
Sandy Clay	sc
Silty Clay	sic
Clay	c

Gravelly	GR
Fine Gravelly	FGR
Medium Gravelly	MGR
Coarse Gravelly	CGR
Very Gravelly	VGR
Extremely Gravelly	XGR
Cobbly	CB
Very Cobbly	VCB
Extremely Cobbly	XCB
Stony	ST
Very Stony	VST
Extremely Stony	XST
Bouldery	BY
Very Bouldery	VBY
Extremely Bouldery	XBY
Channery	CN
Very Channery	VCN
Extremely Channery	XCN
Flaggy	FL
Very Flaggy	VFL
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.