Project No. LYNF-0100

January 3, 2019

Brian Charville, Chairman Lynnfield Planning Board 55 Summer Street Lynnfield, MA 01940

Kristin Esposito McRae, R.S. Health Director Lynnfield Board of Health 55 Summer Street Lynnfield, MA 01940



Engineering Report - Suitability of Land

Road A - Assessors Map 34 Parcels 2015, 2027, & 2055

333, 339, & 349 Summer Street

Owners:

Degiovanni Family Trust

Stephen C. and Laura Singleton Wallace

Jane W. Coonrod

Dear Mr. Charville & Ms. McRae,

In accordance with the Lynnfield Planning Board Rules and Regulations, Section 375-6.6.C. the office of Williams & Sparages LLC hereby submits this engineering report speaking to the suitability of land.

- 1) I am a registered Professional Engineer in the Commonwealth of Massachusetts, in good standing. I have been practicing as a professional engineer since 1997.
- 2) I am a DEP Approved Soil Evaluator in the Commonwealth of Massachusetts. I have been practicing as a soil evaluator since 1998.
- 3) I have a B.S. (1993) and M.S. (1997) in Civil Engineering, having studied at Worcester Polytechnic Institute and Northeastern University.
- 4) I have been personally and actively involved in civil engineering site design, septic system design, stormwater design, and construction for more than 25 years.

Relative to Section 375-6.6.C of the Planning Board Rules and Regulations, I offer the following:

1) Attached to this report, please find copies of the testhole and percolation testing results for the proposed Definitive Plan for 333, 339, and 349 Summer Street. The on-site soils consist of permeable soils with favorable percolation tests suitable for supporting septic system

- designs in accordance with 310 CMR 15.00 and Article V of Chapter 310 Lynnfield Board of Health Regulations.
- 2) The definitive plans show the proposed leaching facilities that can support a minimum of eight (8) occupants in each home without odor or liquid effluent appearing above ground or in storm drainage facilities; without contamination of any brook, pond, well field, reservoir, or wetland; and without excessive operational problems to the occupant.
- 3) Based on our extensive testhole program, the average estimated seasonal high groundwater table is approximately 53-inches below the surface of the existing ground.
- 4) The minimum elevation of the lowest floor in the dwellings to avoid inundation in a fifty-year flood is approximately elevation 72 (NAVD88).
- 5) Based on our extensive testhole program and regional soils mapping, there are no soil characteristics on site which would preclude a stable foundation.
- 6) Based on my professional opinion, all proposed lots shown on the Definitive Subdivision plan for 333, 339, and 349 Summer Street are suitable for building dwellings thereon considering all the factors described in Section 375-6.6.C of the Planning Board Rules and Regulations.

If you have any questions, please feel free to contact me directly.

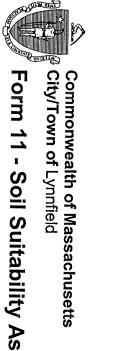
Very truly yours,

Chris Sparages, P.E.

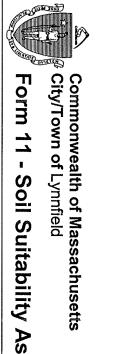
Principal

Enclosures

cc: Lynnfield Planning Board
Degiovanni Family Trust
Stephen C. and Laura Singleton Wallace
Jane W. Coonrod
Brian Hannon, HPI, LLC
Law Offices of Regnante Sterio

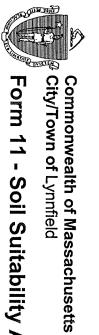


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Other references reviewed:	วทร	Within a Mapped Wetland Area?	Within a velocity zone?	Flood Rate Insurance Map Wit	Woodbridge fine sandy loam, 0 to 8 percent slopes, very gravely/stony and Paxton coarse-loamy Description of Geologic Map Unit:	Surficial Geological Report Available? 🗵 Yes 🗌 No	Ice-contact outwash	Paxton/Woodbridge Soil Name	Soil Survey Available? 🛛 🖂 Yes	(Check one) New Construction	B. Site Information	9,	Lynnfield	333, 339, 349 Summer Street Street Address	Degiovanni Family Trust, Single Living Trust, Jane Coonrod	A. Facility Information
SGS Cu		☐ Yes ⊠ No	⊠ Zo	Within a regulatory floodway?	ਭਾcent slopes, very gravely/s	☐ Yes☐ No ☐ If yes:	Outwash plain	None Soil Limitations	☐ No If yes:	☐ Upgrade		ା ଣ ଜ	MA		Trust, Jane Coonrod	
Data	Wetland Type	If yes, MassGIS Wetland Data Layer:		☐ Yes ⊠ No	stony and Paxton coarse-loamy lodgment till	MassGIS Oliver	plain	Source Soil Map Unit	NRCS	☐ Repair		Zip Code	01940	Map 34, Lot 2015, 2027, 2055		

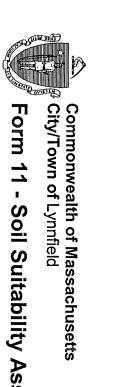


\mathbf{S}	On-S	ite Revi	ew (minim	C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)	es requi	ired at ever	y propos	sed prim	ary and re	serve disp	osal area)	
	Deep C)bservation	Deep Observation Hole Number: TP-600	er: <u>TP-600</u> Hole #	5/14/2018 Date	018	9:30AM	_	Sunny, 65 Weather	35	42.53 Latitude	<u>-71.04</u> Longitude:
•	Land Use		Woodland/Lawn (e.g., woodland, agricultu	Woodland/Lawn (e.g., woodland, agricultural field, vacant lot, etc.)	etc.)	Lawn/edge of woodland Vegetation	f woodlan		None Surface Stones	(e.g., cobbles,	None Surface Stones (e.g., cobbles, stones, boulders, etc.)	5% Slope (%)
	Desc	Description of Location:	cation:									
io	Soil Pa	Soil Parent Material:		Coarse-loamy lodgment till overlying	ill overlyin		Outwash plain	3.	FS			
				outwash material			Landform		Posiți	on on Landscap	Position on Landscape (SU, SH, BS, FS, TS)	·S, TS)
ω.	Distanc	Distances from:	Oper	Open Water Body	NA feet		무	Drainage Way	ay >100 feet	*	Wetl	Wetlands >100 feet
				Property Line	>10 feet		Drinking	Drinking Water Well	ell NA feet		0	Other feet
	กรuitab	le Materials	Present:	1. Unsuitable Materials Present: ☐ Yes ☒ No	If Yes: [☐ Disturbed Soil		☐ Fill Material		☐ Weathered/Fractured Rock	ctured Rock	☐ Bedrock
٠,٠	Ground	water Obse	Groundwater Observed: ☐ Yes	⊠ 8		If yes:		Depth Weeping from I	ing from Pit	I	Depth St	Depth Standing Water in Hole
				Westernamental Company of the Compan	unquistant		Soil Log	:				
ב פ	Denth (in)	Soil Horizon	Soil Texture	Soil Matrix: Color-		Redoximorphic Features	tures	Coarse Fragments % by Volume			Soil	
		/Layer	(USDA	Moist (Munsell)	Depth	Color	Percent	Gravel	es &	Soll Structure	(Moist)	Ciner
	2-0	0										
	0-9	Α	FSL	10YR 3/2				0%	0%	Granular	Friable	
9	9-30	B₩	FSL	7.5YR 6/8				0%	0%	Massive	Friable	
8	30-106	C	LS.	2.5Y 5/2	42"	7.5 YR 5/8	10%	12%	15%	Massive	Friable	
			Personal Control of the Control of t							PACIFIC STATES OF THE STATES O		
							Lativity					

Additional Notes: ESHGW 42", Roots to 80"



C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)	iew (minim	um of two I	holes re	quired a	it every p	roposed p	orimary and	reserve dis	oosal area)	
Deep Observation Hole Number:	n Hole Numb	er: TP-601 Hole #		5/14/201 8	10:00 Time	Su	Sunny, 65 Weather	42.53 Latitude		<u>-71.04</u> Longitude:
1. Land Use: Wo	Woodland/Lawn	:			wn/edge o	Lawn/edge of woodland	None			5%
	(e.g., woodland, agricultural field, vacant lot, etc.) Edge of wooded area alon	มltural field, vacant lot, etc.) Vegetation Edge of wooded area along lawn on 333 Summer St	ant lot, etc.)) Ve ng lawn on 3	Vegetation n 333 Summer S	S t	Surface Stor	nes (e.g., cobbles,	tones (e.g., cobbles, stones, boulders, etc.)	etc.) Slope (%)
Description of Location:	ation:									
2. Soil Parent Material:		Coarse-loamy lodgment till overlying outwash material	ent till ove	erlying out	wash	Outwash plain	ain		FS	
						Landform			Position on Lands	Position on Landscape (SU, SH, BS, FS, TS)
Distances from:	Open Water Body	Body NA feet	eet		Drain	Drainage Way	>100 feet	Wetlands	inds >100 feet	
	Property Line	/Line >10 feet	feet		Drinking W	Drinking Water Well NA feet	A feet	Q		et .
Materials Present: Yes No	□ Yes ⊠ N	If Yes:	☐ Disturt	Disturbed Soil	☐ Fill Material	erial [ີ Weathered/	↑ Weathered/Fractured Rock	Bedrock	
5. Groundwater Observed: ☐ Yes	erved: ☐ Yes	⊠ 8				If yes:	_ Depth Weeping from Pit	g from Pit	Depth S	Depth Standing Water in Hole
					So	Soil Log				
Depth (in) Soil Horizon	Soil Texture	Soil Matrix:	Redox	Redoximorphic Features	atures	Coarse I % by	Coarse Fragments % by Volume	Soil Standard	Soil	
/Layer	(USDA)	(Munsell)	Depth	Color	Percent	Gravel	Cobbles & Stones	Soll Stracture	(Moist)	Otner
4-0 0										
0-7 A	FSL	10YR 3/2				0%	0%	Granual	Friable	
7-31 Bw	FSL	7.5YR 6/8		111111		0%	0%	Massive	Friable	
31-115 C	gLS	2.5Y 5/2	52"	7.5 YR 5/8	3 5-10%	15%	10%	Massive	Very Friable	



Deeper B on perc side of hole. Roots to 40". ESHGW 52"	Additional Notes:	

Ö
D. Determination
of
High
ination of High Groundwater I
Elevation

			÷ <u>r</u>	п	Ы								<u></u>
Horizons)? c. If no, at what depth was impervious material observed?	✓ Yes ☐ Nob. If yes, at what depth was it observed (exclude A and O	a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system?	1. Depth of Naturally Occurring Pervious Material		2. Estimated Depth to High Groundwater: inches	Obs. Hole/Well# S _c S _r	$S_h = S_c - [S_r \times (OW_c - OW_{max})/OW_r]$	Index Well Number Reading Date	☐ Depth to adjusted seasonal high groundwater (S_h)(USGS methodology)	☑ Depth to soil redoximorphic features (mottles)	☐ Depth weeping from side of observation hole	☐ Depth observed standing water in observation hole	Method Used:
Upper boundary:	Upper boundary:	xist in all areas observe				OW _c			inches	42" inches	inches	inches	Obs. Hole # <u>TP-600</u>
8 8	7" Lower boundary:	d throughout the area proposed for				OW _{max} OW _r			inches	52" inches	inches	inches	Obs. Hole # <u>TP-601</u>
inches	1 1 5 1 1	r the soil absorption				ς, 							

F. Certification

I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify 15.107. that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through

Name of Approving Authority Witness Kristin McRae, R.S. Signature of Soil Evaluato Typed or Printed Name of Soil Evaluator / License # Thorsen Akerley, R.S. / #14016 Expiration Date of License 5/21/2018 Approving Authority 7/1/2019 Lynnfield Health Department

property owner with Percolation Test Form 12. Note: In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the

Field Diagrams: Use this area for field diagrams:



Commonwealth of Massachusetts City/Town of Lynnfield **Percolation Test**

Form 12

Percolation test results must be submitted with the Soil Suitability Assessment for On-site Sewage Disposal. DEP has provided this form for use by local Boards of Health. Other forms may be used, but the information must be substantially the same as that provided here. Before using this form, check with the local Board of Health to determine the form they use.

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





. Site Information					
Degiovanni Family Trust, Singl Owner Name	e Living Trust, Ja	ne Coonrod			
333, 339, 349 Summer Street Street Address or Lot #					· · · · · · · · · · · · · · · · · · ·
Lynnfield		MA		01940	
City/Town		State		Zip Code	
Williams & Sparages, LLC Contact Person (if different from Owne	r)	(978) 539-8088 Telephone Number			
Test Results					
	5/14/18	11:00	5/14/18		11:00

	5/14/18	11:00	5/14/18	11:00
	Date	Time	Date	Time
Observation Hole #	P-600A		P-600B	
Depth of Perc	<u>26"+18" = 44" (E</u>	3-layer)	46"+18"=64" (C	-layer)
Start Pre-Soak	11:04		11:08	
End Pre-Soak	11:20	***************************************	11:23	
Time at 12"	11:20		11:23	
Time at 9"	11:29		11:32	
Time at 6"	11:42		11:46	
Time (9"-6")	13 mins		14 mins	300000
Rate (Min./Inch)	5 MPI		5 MPI	
	Test Passed: Test Failed:		Test Passed: Test Failed:	
Thorsen Akerley, Greg Hochmuth		Longon		
Test Performed By:				99A-00000000000000000000000000000000000
Kristin McRae, R.S.				
Board of Health Witness				
Comments:				
B-layer deeper on perc side which	allowed us to per	c B		



Commonwealth of Massachusetts City/Town of Lynnfield Percolation Test Form 12

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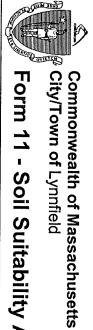




. Site Information			
Degiovanni Family Trust, Single Living Tru Owner Name	st, Jane Coonrod		······································
333, 339, 349 Summer Street Street Address or Lot #			
Lynnfield	MA	01940	
City/Town	State	Zip Code	
Williams & Sparages, LLC	(978) 539-8088		
Contact Person (if different from Owner)	Telephone Number		***************************************

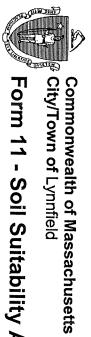
B. Test Results

	5/14/18 Date	1:30 Time	Date	Time
Observation Hole #	P-601A	rime	Date	ı ime
Depth of Perc	62"+20" = 82" (C-layer)	***************************************	
Start Pre-Soak	1:46			
End Pre-Soak	2:01			
Time at 12"	2:01			
Time at 9"	2:13			***************************************
Time at 6"	2:31			
Time (9"-6")	18 mins			
Rate (Min./Inch)	6 MPI			
	Test Passed: Test Failed:		Test Passed: Test Failed:	
Thorsen Akerley, Greg Hochm Test Performed By: Kristin McRae, R.S. Board of Health Witness Comments:	nuth	on perc side o	of hole. Re-perc'd this h	nole due to

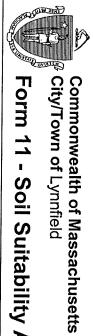


61-89 89-113	61-89)	26-61	7-26	0-7	3-0		Depth (in)		5. Gr	4. Uns	:	3. Die	2. So		ŗ	<u>n</u>	De	c. o
	S S	22	2	Bw	Þ	0	/Layer	So		Groundwater Observed: ☐ Yes	4. Unsuitable Materials Present: ☐ Yes ☒ No		Distances from:	Soil Parent Material:	Description of Location:		land like Woo	Deep Observation Hole Number: TP-602	n-Site Rev
	S	gLS	gLS	FSL	FSL		(USDA	တ္တ		served: 🗌 Ye	als Present: [Ope		Location:	woodland, agricul	Woodland/Lawn	on Hole Numb	view (minin
	2.5Y 6/1	2.5Y 5/2	2.5Y5/2	7.5YR 7/8	10YR 3/2		Moist (Munsell)	Soil Matrix: Color-		S No	J Yes ⊠ No	Property Line	Open Water Body	Coarse-loamy lodgment till overlying outwash material		(e.g., woodland, agricultural field, vacant lot, etc.)		yer: TP-602 Hole #	C. On-Site Review (minimum of two holes required at every proposed primary an
			42"				Depth				If Yes:	>10 feet	NA feet	till overlyir		etc.)		5/14/2018 Date	les requ
			2.5YR 5/8				Color	Redoximorphic Features		If yes:	☐ Disturbed Soil					Vegetation	Trees/vines/small plants	2018	iired at eve
			5-10%				Percent	atures	Soil Log	is.	П	Drinkin	0	Outwash plain Landform			/small pla	11:00AM	ry propo
		20%	15%	0%	0%		Gravel	Coarse % by	İ] Fill Material	Drinking Water Well	Drainage Way	ain				AM	sed prin
		5%	10%	0%	0%		Cobbles & Stones	Coarse Fragments % by Volume		Depth Weeping from Pit		Vell NA feet	/ay >100 feet	FS		Surface Stone	None	Sunny, 70 Weather	nary and r
		Single Grain	Massive	Massive	Granular		Soll Structure	Co ii Ct			☐ Weathered/Fractured Rock		ě	tion on Landsca		s (e.g., cobbles		70	eserve dis
			Friable	Friable	Friable		(Moist)			Depth S	actured Rock		We	FS Position on Landscape (SU, SH, BS, FS, TS)		Stones (e.g., cobbles, stones, boulders, etc.)	10000	42.53	nd reserve disposal area)
										Depth Standing Water in Hole	☐ Bedrock	Other _	Wetlands >1	FS, TS)		•	()
			The state of the s	1000000 m			Other	2		r in Hole	*	feet	>100 feet			Slope (%)	5%	-71.04	111111111111111111111111111111111111111

Additional Notes: ESHGW 42", Roots to 65" - C1 most restrictive layer



30-120	30-12		9-30	0-9	4-0		Depth (in)		5. Gr	H. C. IS	3. Distance		2. So	D€	1. La	Ď	က ဝ
		20							oundwa	ariale P	Distances from:		il Parei	scriptic	Land Use:	ep Ob	n-Sit
		C	Bw	A	0	Layer	Soil Horizon		ater Obse	recent: [s from:		Soil Parent Material:	Description of Location:		servation	e Revi
		gLS	FSL	FSL		(0304)	Soil Texture		Groundwater Observed: Yes	Materials Present: Ves No	Open Water Body Property Line			ation:	Woodland (e.g., woodland, agricultural field, vacant lot, etc.)	Deep Observation Hole Number:	ew (minin
		2.5Y 5/2	10YR 6/8	10YR 3/2		(Munsell)	Soil Matrix:		s Z				Coarse-loamy lodgment till overlying outwash material	Just inside w	cultural field, va	ber: TP-603 Hole #	num of two
		45"				Depth	Redo			֖֚֚֚֚֡֝֟֝֝֝֝֝֟֝֝֝֝֟֝	NA feet		nent till c	ooded area	cant lot, e		holes
		7.5 YR 5/8				Color	Redoximorphic Features		Disturbed Soil	-			verlying ou	Just inside wooded area still on 333 Summer St	- 1	5/14/18 Date	required a
		10-15%				Percent	atures	Soi	☐ Fill Material]	Drainage Way Drinking Water Well			ummer St	plants Vegetation	11:30AM Time	at every p
		20%	0%	0%		Gravel	Coarse F % by	Soil Log	s:			Landform	Outwash plain				roposed _l
		5%	0%	0%		Cobbles & Stones	Coarse Fragments % by Volume]	>100 feet NA feet		ain		None Surface Str	Sunny, 7 Weather	orimary and
		Single Grain	Massive	Granual		Son Sudding	o contraction of the contraction				Wetlands Other				None Surface Stones (e.g., cobbles, stones, boulders, etc.)	42.53 Latitude	C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)
		Very Friable	Friable	Friable		(Moist)	Soil				>100 f	Position on Land	FS		, stones, boulders		posal area)
						Other			edrock Depth Standing Water in Hole		eet feet	Position on Landscape (SU, SH, BS, FS, TS)			5% Slope (%)	<u>-71.04</u> Longitude:	



Additional Notes: Roots to 66". ESGHW 45"

D. Determination of High Groundwater Elevation

b. If yes, at what depth was it observed (exclude A and O Upper boundary: Horizons)?c. If no, at what depth was impervious material observed?	 Depth of Naturally Occurring Pervious Material Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system? Yes \sum No 	E. Depth of Pervious Material	2. Estimated Depth to High Groundwater: inches	Obs. Hole/Well# S _c S _r OW _c	$S_h = S_c - [S_r \times (OW_c - OW_{max})/OW_r]$	easonal high groundwater (\boxtimes Depth to soil redoximorphic features (mottles) 42" inches	☐ Depth weeping from side of observation hole inches	☐ Depth observed standing water in observation hole inches	1. Method Used: Obs. Hole #TP-602	
dary: 7" Lower boundary: 120" inches inches inches	observed throughout the area proposed for the soil absorption			OW _{max} OW _r S _h		s inches	<u>45"</u> inches	sinches		TP-602 Obs. Hole #TP-603	

F. Certification

above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the

Typed or Printed Name of Soil Evaluator / License # Signature of Soil Evaluate Kristin McRae, R.S. Thorsen Akerley, R.S. / #14016 5/21/2018

Name of Approving Authority Witness

7/1/2019
Expiration Date of License
Lynnfield Health Department
Approving Authority

property owner with Percolation Test Form 12. Note: In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the

Field Diagrams: Use this area for field diagrams:



Commonwealth of Massachusetts City/Town of Lynnfield

Percolation Test

Form 12

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A. Site information		
Degiovanni Family Trust, Single Liv Owner Name	ring Trust, Jane Coonrod	
333, 339, 349 Summer Street		
Street Address or Lot #		
Lynnfield	MA	01940
City/Town	State	Zin Code

(978) 539-8088

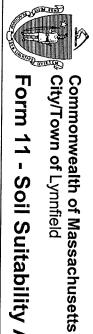
Telephone Number

B. Test Results

Williams & Sparages, LLC

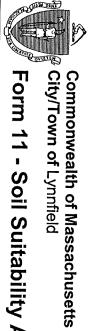
Contact Person (if different from Owner)

	5/14/18 Date	12:00 Time	5/1418 Date	12:30 Time
Observation Hole #	P-602A	Annual Control of the	P-603A	
Depth of Perc	43"+18" = 61"		40"+18"	
Start Pre-Soak	12:18 (25 gallons saturate)	s, unable to	12:56 (25 gallo saturate)	ns, unable to
End Pre-Soak	12:28		1:06	
Time at 12"	12:28		1:06	
Time at 9"	12:29		1:07	
Time at 6"	12:32		1:09	
Time (9"-6")	3 mins	-	2 mins	
Rate (Min./Inch)	<2 MPI		<2 MPI	
Greg Hochmuth	Test Passed: Test Failed:		Test Passed: Test Failed:	
Test Performed By:				
Kristin McRae, R.S.				
Board of Health Witness				
Comments:				



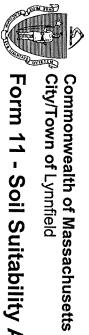
THE STATE OF THE S			30-122	15-30	0-15	4-0		Depth (in)		⁵ . 0	4. Un	•	Ω	S 5				<u>ဂ</u>
			23	30	5		:		_	iround	suitab)istanc	ioil Pa	Desc	Land Use)eep (On-S
			C	Bw	A	0	/Layer	Soil Horizon		water Obse	le Material		Distances from:	Soil Parent Material:	Description of Location:)bservation	ite Revi
			gLS	FSL	FSL		(USDA	Soil Texture		Groundwater Observed: ☐ Yes	s Present:	ſ	Ope		ocation:	(e.g., woodland, agricult	Deep Observation Hole Number: TP-604 Hole #	iew (minin
			7.5YR 5/2	10YR 6/8	10YR 3/2		Moist (Munsell)	Soil Matrix: Color-		% ⊠ 8	4. Unsuitable Materials Present: ☐ Yes ☒ No	Property Line	Open Water Body	Coarse-loamy lodgment till overlying outwash material		(e.g., woodland, agricultural field, vacant lot, etc.)	er: TP-604 Hole #	C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)
							Depth				If Yes:	>10 feet	NA feet	till overlying			5/15/2018 Date	oles requii
					**************************************		Color	Redoximorphic Features		If yes:	Disturbed Soil					Vegetation	1 18	red at eve
							Percent	tures	Soil Log			Drinking	Dra	Outwash plain Landform		, small plar	8:30AM	ry propos
······································			20%	0%	0%		Gravel	Coarse Fragments % by Volume		Depth Weeping from	☐ Fill Material	Drinking Water Well	Drainage Way	5				ed prima
			10%	0%	0%		Cobbles & Stones	agments olume		ng from Pit		II NA feet	L [×]	SH		None Surface Stone	Sunny, 65 Weather	ary and r
		111111111111111111111111111111111111111	Single Grain	Massive	Granular	7.000	Soil Structure			ı			ēξ	SH Position on Landscape (SU, SH, BS, FS, TS)		None Surface Stones (e.g., cobbles, stones, boulders, etc.)	65	eserve dis _l
	THE PARTY OF THE P		Friable	Friable	Friable		Consistence (Moist)	Soil		Depth S	ctured Rock	_	We	oe (SU, SH, BS,		stones, boulder	42.53 Latitude	osal area,
							Other			Depth Standing Water in Hole	☐ Bedrock	Other fe	Wetlands >100 feet	FS, TS)		5% Slope (%)	<u>-71.04</u> Longitude)
				7.00.00	700700	0.400				·ν		feet	¥			6)	••	The second secon

Additional Notes:
No ESGHW noted. Roots to 75"



Deep Observation Hole Number: TP-605 Land Use: Woodland/Lawn Land Use: Woodland/Lawn Land Use: Woodland, agricultural field, vacant lot, etc.) Description of Location: Wooded area just inside lawn on 333 Summer St Soil Parent Material: Coarse-loamy lodgment till overlying outwash material Distances from: Open Water Body NA feet Unsuitable Materials Present: Yes No If Yes: Disturbed Soil Fill Material	PReview (minimum of two holes required at every proposed prime ervation Hole Number: TP-605 Hole # Trees, vines, small (e.g., woodland/Lawn (e.g., woodland, agricultural field, vacant lot, etc.) Material: Coarse-loamy lodgment till overlying outwash material material From: Open Water Body NA feet Property Line >10 feet Property Line 10	ion Hole Number: TP-605	C. On-Site Revie Deep Observation I Land Use: Wood (e.g., v) Description of Locati Soil Parent Material:		 Distances from: Unsuitable 	Materials Pre 5. Groundwate			Depth (in) Soil					
umber: TP-605 S/15/18 9:15 Hole # Date Trees, vines, sm awn agricultural field, vacant lot, etc.) Vegetation Wooded area just inside lawn on 333 Summer St arse-loamy lodgment till overlying outwash	umber: TP-605 S/15/18 9:15 Sunny, Hole # Date Trees, vines, small plants younded area just inside lawn on 333 Summer St arse-loamy lodgment till overlying outwash	umber: TP-605	PREVIEW (m. ervation Hole N Woodland/Li (e.g., woodland n of Location: Coattonic Coat			Ope	Distances from: Open Water Property Insuitable Identified Present: Yes X N Groundwater Observed: Yes	ces from: Open W Pro yle s Present: Yes [water Observed: [from: Open Wat Prope resent: Yes X ater Observed: Y Althorizon Soil Texture /Layer (USDA)	from: Open W Pro ssent: Yes [er Observed: Horizon Soil Text ayer (USDA) A FSL	from: Open W Pro esent: Yes [er Observed: Horizon Soil Text (USDA A FSL Bw FSL	from: Open W Pro ssent: Yes [er Observed: usba A FSL Bw FSL C GUSDA	from: Open W Pro sent: Yes [er Observed: Horizon Soil Text Just (USDA) A FSL Bw FSL C gLS	from: Open W Pro Sent: Yes [er Observed: usba A FSL Bw FSL C gLS
wo holes required at every propessor in the propessor is a serious plants wacant lot, etc.) Trees, vines, sm plants vegetation rea just inside lawn on 333 Summer St gment till overlying outwash Out Lance A feet	wo holes required at every proposed prim 605	Wo holes required at every proposed primary and re 605 #	umber: TP-Hole awn , agricultural field, wooded a material	material			.ine S	ine If	If y	ine If y Of Materials of Munse OYR:	ine If Y If Y O'R O'TR O'TR O'TR	ine If Y I	ine If Y OYR: OYR: OYR: OYR:	ine If Y Soil Mat oil
quired at every prop 5/18 9:15 e Trees, vines, sm plants Vegetation we on 333 Summer St rrlying outwash Prainage Drinking Water	quired at every proposed prim 5/18 9:15 Time Trees, vines, small plants Vegetation weather rlying outwash Drainage Way >100 Drinking Water Well NA fe	quired at every proposed primary and re 5/18 9:15 E Time Trees, vines, small plants Vegetation None Surface Stones am on 333 Summer St Erlying outwash Drainage Way >100 feet Drinking Water Well NA feet	wo holes re		A feet 10 feet							7 Da	, De De	7 0
s, vines, sm s, vines, sm s ation nmer St Land Drainage nking Water	svery proposed primes, small seation nmer St Nation Outwash plain Landform Drainage Way >100 nking Water Well NA fe	Sunny, 65 me s, vines, small ation None ation None Surface Stones Numer St Surface Stones None Surface Stones	equired at (erying outwe	Dri			<u> </u>	77					
	Sunny, Weather all Wash plain form Way >100 Well NA fe	Sunny, 65 Sunny, 65 Weather all None Surface Stones Wash plain from Way >100 feet Well NA feet	s, vines, smars, vines, smarst sation namer St	' I	Drainage nking Water	☐ Fill Material	If yes:	တ္	Soil Lo	Soil Lo	Soil Lo	Soil Lo	Soil Lo	Soil Lo
65 42.53 Latitude None Surface Stones (e.g., cobbles, set Oth	42.53 Latitude (e.g., cobbles, some of the complex		stones, boulders,	SH Position on Lands	>100 f		Bedrock Depth S	☐ Bedrock ☐ Depth S	Depth S Soil Consistence (Moist)	Depth S Soil Consistence (Moist)	Depth S Soil Consistence (Moist) Friable Friable	Soil Consistence (Moist) Friable Friable	Soil Consistence (Moist) Friable Friable Friable	Soil Consistence (Moist) Friable Friable Friable
primary and reserve disposal area) Inny, 65 A2.53 Ather None None Surface Stones (e.g., cobbles, stones, boulders, e.g., cobbles, stones, boulders, e.g., cobbles, stones on Lands Position on Lands All feet Wetlands >100 feet NA feet Other feet	42.53 Latitude (e.g., cobbles, stones, boulders, the position on Lands) Wetlands >100 feet Other fee	stones, boulders, stones boulders, stone	-71.04 Longitude: 5% etc.) Slope (%)	cape (SU, SH, BS,	*		drock Depth Standing Water in Hole	tanding Water in H	tanding Water in Ho	tanding Water in Ho	tanding Water in H	tanding Water in Ho	landing Water in H	landing Water in H
Longi , etc.) scape (SU,	42.53 Latitude 42.53 Longitude: (e.g., cobbles, stones, boulders, etc.) Slope SH Position on Landscape (SU, SH, BS) Wetlands >100 feet Other feet	stones, boulders, etc.) Slope SH Position on Landscape (SU, SH, BS) nds >100 feet feet	(%) , FS, TS)	, FS, TS)			iole	łole	i dole	ir dole	di d	r iole	iole	iole

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Additional Notes: Roots to 70". ESGHW 70"

D. Determination of High Groundwater Elevation

Horizons)? c. If no, at what depth was impervious material observed?	 a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil \text{N} Yes \text{N} No 	E. Depth of Pervious Material 1. Depth of Naturally Occurring Pervious Material	2. Estimated Depth to High Groundwater: inches	Obs. Hole/Well# S _c S _r	Index Well Number	☑ Depth to soil redoximorphic features (mottles)☐ Depth to adjusted seasonal high groundwater (S_h)(USGS methodology)	☐ Depth weeping from side of observation hole	 Method Used: Depth observed standing water in observation hole
Upper boundary:	st in all areas observe			OW _c		inches	inches	Obs. Hole # <u>TP-604</u> inches
inches Lower boundary:	d throughout the area proposed fo			OW _{mex} OW _r		70" inches inches	inches	Obs. Hole # <u>TP-605</u> inches
inches	for the soil absorption			ა _გ				

F. Certification

above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through

Signature of Soil Evaluator
Thorsen Akerley, R.S. / #14016

7/1/2019

5/21/2018

Expiration Date of License

Expiration Date of License

Lynnfield Health Department

Approving Authority

Name of Approving Authority Witness

Leo Cormier, R.S.

Typed or Printed Name of Soil Evaluator / License #

Note: In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the property owner with Percolation Test Form 12.

Field Diagrams: Use this area for field diagrams:



Commonwealth of Massachusetts City/Town of Lynnfield

Degiovanni Family Trust, Single Living Trust, Jane Coonrod

Percolation Test

Form 12

Percolation test results must be submitted with the Soil Suitability Assessment for On-site Sewage

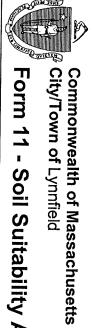
Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Site Information	
the local Board of Health to determine the form they use.	
the information must be substantially the same as that provided here	. Before using this form, check with
Disposal. DEP has provided this form for use by local Boards of Heal	lth. Other forms may be used, but

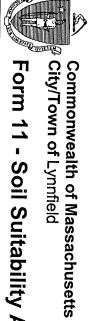
333, 339, 349 Summer Street				
Street Address or Lot #				
Lynnfield		MA	01940)
City/Town		State	Zip Cod	de
Williams & Sparages, LLC		(978) 539-808	38	
Contact Person (if different from Owner)	Telephone Numb	er	
3. Test Results				
	5/15/18	9:30	5/15/18	10:00
	Date	Time	Date	Time
Observation Hole #	P-604A		P-605A	
Depth of Perc	35"+18"= 53"		46"+18"= 64"	
Start Pre-Soak	9:23 (unable to gals)	saturate - 25	9:49:35 (unable 25 gals)	e to saturate
End Pre-Soak	9:27:47		9:49:35	
Time at 12"	9:27:47		9:56:18	
Time at 9"	9:29:25		9:58:04	
Time at 6"	9:31:44		10:01:14	
Time (9"-6")	2 mins 19 seco	nds	3 mins 10 seco	nds
Rate (Min./Inch)	<2 MPI		<2 MPI	
Greg Hochmuth	Test Passed: Test Failed:		Test Passed: Test Failed:	\square
Test Performed By:				
Leo Cormier, R.S.				
Board of Health Witness				
Comments:				



C. On-Site Review (minimum of two holes required at every proposed primary and Deep Observation Hole Number: TP-606 5/15/2018 10:30AM Su	(minimum of two hole) Number: TP-606 Hole #	les required at 5/15/2018	every propose	ed primary an	and reserve disposal area) Sunny, 75 42.53	posal area) 42.53
Land Use (e.g., woodland, Description of Location:	Lawn (e.g., woodland, agricultural field, vacant lot, etc.) n of Location:	etc.) Lawn Vegetation	วท	None Surface Stone	one	Stones (e.g., cobbles, stones, boulders, etc.)
Soil Parent Material: Coarse-loamy lodgment till overlying outwash material	oarse-loamy lodgment ti outwash material	ill overlying	Outwash plain		P _{OS} SH	SH Position on Landscape (SH SH BS ES TS)
3. Distances from:	y	NA feet		Drainage Way >100 feet	0	feet
		>10 feet	Drinking \	Drinking Water Well NA		feet
4. Unsuitable Materials Present: Yes No		If Yes: Distur	Disturbed Soil	Fill Material	_	☐ Weathered/Fractured Rock
Groundwater Observed: ☐ Yes	☐ Yes		If yes: D	Depth Weeping from	from F	from Pit
			Soil Log			THE STATE OF THE S
<u> </u>	ire s	Redoximorphic Features	ic Features	Coarse Fragments % by Volume	ients	
/Layer	(USDA Moist (Munsell)	Depth Color	Percent	Gravel Cobt	oles	Cobbles & Soil Structure Stones
0-11 A F	FSL 10YR 3/2			0% 0%	0,	Granular
11-27 Bw F	FSL 10YR 6/8			0% 0%		Massive
27-87 C1 gSL	SL 10YR 6/1	50" 7.5YR 6/8	6/8	15% 5%	%	% Massive
87-124 C2 gl	gLS 7.5YR 5/2			20% 1	15%	5% Single grain
A L L L L L L L L L L L L L L L L L L L						

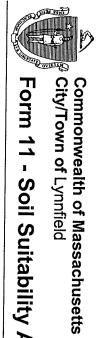
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Additional Notes: ESGHW 50". Roots to 84". C1 most restrictive layer



()	On-M	iita Ravi	OW / minin	nim of tu	in halon	ر لدرسته سرد			•	•		
9	' (71001001	C 49 (11111111111111111111111111111111111	ימווי טו נא	o Holes	required	at every p	iroposea j	orimary and	The first control of two holes required at every proposed primary and reserve disposal area)	bosal area)	
	Deep (Observation	Deep Observation Hole Number:	Der: TP-607 Hole #	#07	5/15/18 Date	11:00 Time	Su	Sunny, 75 Weather	42.53 Latitude		-71.04
•	Land Use	••	Lawn (e.g., woodland, agricultural field, vacant lot, etc.)	cultural field,	vacant lot, o		Lawn Vegetation		None	non for anablos		
	Descrip	Description of Location:	ation:	Lawn area	behind out	ing on lo	vegetation t 339		Surface Sto	Surface Stones (e.g., cobbles, stones, boulders, etc.)	stones, boulders,	etc.) Slope (%)
ю	Soil Pa	Soil Parent Material:		rse-loamy lodo material	gment till	Coarse-loamy lodgment till overlying outwash material	twash	Outwash plain	ain		SH	
	J		:					Landform			Position on Lands	Position on Landscape (SU, SH, BS, FS, TS)
Ċ	Distanc	Distances from:	Open Water Body		NA feet		Drain		>100 feet	Wetlands	nds <u>>100</u> feet	
4. U	4. Unsuitable) e	Property Line		>10 feet		Drinking Water Well		NA feet	Q	Other feet	et
ת ≤	laterials	s Present: [Materials Present: ☐ Yes ☒ No			Disturbed Soil	☐ Fill Material		☐ Weathered/		☐ Bedrock	
		TANGLES OF SE	Cicaliawatel Observed. [] Tes	v. ⊠ No	0		n 2	If yes:	_ Depth Weeping from Pit	g from Pit	Depth S	Depth Standing Water in Hole
Dep	Depth (in)	3	Soil Texture	Soil Matrix:		Redoximorphic Features		Coarse F % by '	Coarse Fragments % by Volume		Soil	
		, Layer	(OSDA)	(Munsell)	Depth	Color	Percent	Gravel	Cobbles & Stones	Soll Structure	Consistence (Moist)	Other
0	0-10	A	FSL	10YR 3/2						Granular	Friable	
1 2	10-25	Bw	FSL	10YR 6/8				0%	0%	Massive	Friable	
25	25-90	3	SL	2.5Y 5/2	40"	7.5YR 5/8	10-15%	20%	15%	Massive	Friable	Firm in place
9	90-124	23	gLS	2.5Y 4/2						Single Grain		Loose

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Additional Notes: ESHGW 40". Roots to 45". C1 most restrictive layer

Ö
D. Determination
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High
rmination of High Groundwater Elevation
Elevation



F. Certification

that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the

Signature of Soil Evaluator

Thorsen Akerley, R.S. / #14016

Typed or Printed Name of Soil Evaluator / License #

Leo Cormier, R.S., Kristin McRae, R.S.

Name of Approving Authority Witness

5/21/2018

Date
7/1/2019
Expiration Date of License
Lynnfield Health Department
Approving Authority

Note: In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the property owner with Percolation Test Form 12.

Field Diagrams: Use this area for field diagrams:



Commonwealth of Massachusetts City/Town of Lynnfield **Percolation Test** Form 12

Percolation test results must be submitted with the Soil Suitability Assessment for On-site Sewage

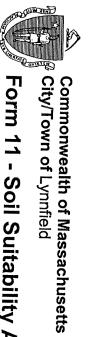
Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return





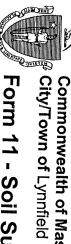
Δ	Site Information	
ine	e local Board of Health to determine the form they use.	OHOOK WILL
46.0	e information must be substantially the same as that provided here. Before using this form,	check with
the	e information must be substantially the	used, but
U	Spusal, DEP has provided this form for use by local Boards of Llocks. Out and form	· · ·

333, 339, 349 Summer Stre Street Address or Lot #				
Lynnfield		MA	0194	ın
City/Town		State	Zip Co	
Williams & Sparages, LLC		(978) 539-		
Contact Person (if different from Ov	vner)	Telephone No	umber	
Test Results				
	5/15/18	11:00	5/15/18	12:00
	Date	Time	Date	Time
Observation Hole #	P-606A		P-607A	
Depth of Perc	36"+19"= 55"		33"+18"= 51"	
Start Pre-Soak	10:56:40		11:48	
End Pre-Soak	11:11:40		12:03	A
Time at 12"	11:11:40		12:03	
Time at 9"	11:52:50		12:56	
Time at 6″	1:15	A	2:24	
Time (9"-6")	82 mins 10 sec	onds	88 minutes	
Rate (Min./Inch)	28 MPI		30 MPI	
Greg Hochmuth Test Performed By:	Test Passed: Test Failed:		Test Passed: Test Failed:	
Leo Cormier, R.S.				
Board of Health Witness				
Comments:				
Johnnents:				



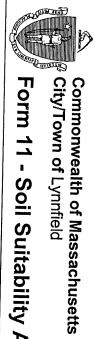
ဂ. On	-Site Rev	iew (minin	num of two ho	וחס יסחו	inad at assa			-			
7			Proposed primary and reserve disposal area)	nes requ	וו פט מו פעפ	ry propo	sea prin	nary and i	eserve dis _l	osal area)	
Dee	Deep Observation Hole Number: TP-608	n Hole Numi	ber: TP-608 Hole #	5/14/18 Date	8	1:30PM	X	Sunny, 75	75	42.53	<u>-71.04</u>
1. Land	Land Use Lawn	oodland, agricul	Lawn (e.g., woodland, agricultural field, vacant lot, etc.)	Pro)	Lawn/grass			None		Latitude	Longitude: 0-2%
_Q	Description of Location:	ocation:	Service account took	oic.)	vegetation			Surface Stone	Surface Stones (e.g., cobbles, stones, boulders, etc.)	stones, boulden	'
2. Soil	Soil Parent Material:		Coarse-loamy lodgment till overlying outwash material	ill overlyin		Outwash plain	lin l	FS			
3. Dista	Distances from:	Ope	⋖	NA feet			ainage W	Drainage Way >100 feet	O feet Wottons)W/SH, BS,	
	Ship Motorical	1		>10 feet		Drinking	Drinking Water Well	ell NA feet		<u> </u>	Other feet
†. Olivaii	lable Material	s Present: 🗠	*. Orisulable Materials Present: Yes No	If Yes: [☐ Disturbed Soil				☐ Weathered/Fractured Rock		edrock
5. Grou	Groundwater Observed: ☐ Yes	rved: 🗌 Yes	w ⊠ No		If yes:		Depth Weeping from	oing from Pit		Depth St	Depth Standing Water in Hole
						Soil Log					
Depth (in)	So	Soil Texture	Soil Matrix: Color-		Redoximorphic Features	tures	Coarse F % by \	Coarse Fragments % by Volume		Soil	
	/mayer	(USDA	Moist (Munsell)	Depth	Color	Percent	Gravel	Cobbles & Stones	Soil Structure	Consistence (Moist)	Other
0-28	A/Fill	FSL	10YR 3/2				0%	0%	Granular	Friable	
28-39	Bw	FSL	10YR 6/8				0%	0%	Massive	Friable	
39-77	3	LS.	10YR 6/1	77"	7.5YR 5/8	10%	15%	5%	Massive	Friable	
77-127	S	gLS	7.5YR 5/2	77"	5Y 7/1	5-10%	15%	10%	Massive	Friable	
2	ひつつきつつい どうもつ・										

Additional Notes:
ESHGW 77". B-layer deeper on perc side - top of perc hole in bottom of Bw layer and top of C1 (most restrictive layer).



Commonwealth of Massachusetts

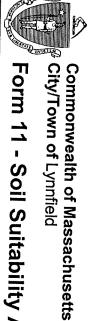
		60-120	39-60	28-39	19-28	ا د ا	2	Depth (In)		5. Gr	t. Unsi	3. Die	2. So	D	1. La	Ď	၂
			Bwb	9 Ab	8 Bw (fill)				Soil Horizon	erials Preso	4. Unsuitable	Distances from:	Soil Parent Material:	Description of Location:	Land Use:	ep Obser	n-Site
		_ '	5		=					ent: 🛭			fateria	of Loca	Lawn	vation	Revi
	gL ₂	2 6	ES.	FSL				(USDA)	Soil Texture	Materials Present: ⊠ Yes ☐ No Groundwater Observed:⊠ Yes	Property Line	Open Water Body		Cocation: Wooded area in center of t	Ti modiana aa	Deep Observation Hole Number:	ew (minii
	/.5YR 5/2		7 500 6/0	10YR 3/2			1	Color-Moist (Munsell)	Soil Matrix	No If Yes:	ine		rse-loamy lod material	Wooded a	in it	her: TP-60 Hole #	num of t
	62"	-					-	D D			>10 feet	NA feet	gment till o	Wooded area in center of three lots		TP-609 Hole #	wo holes
5Y 7/1	7.5YR 5/8							Color	Redoximorphic Features	☐ Disturbed Soil			Coarse-loamy lodgment till overlying outwash material	hree lots		5/14/18 Date	required
5-10%	10%						- Greatt	Percent	Ī	⊠ Fill Material If ye Soil Lo	Drinking Water Well	Drair	utwash	Vegetation	awn/grass	2:30PM	at every
	15%	0%					Gidvei	% by	Coarse	Material If yes: 107' Soil Log	/ater Well	Drainage Way >100 feet	Outwash plain Landform			≶ S	proposed
	10%	0%					Stones	% by Volume Cobbles &	Coarse Fragments	terial	NA feet	>100 feet	olain	S	None	Sunny, 75	primary an
	Single Grain	Massive	Massive			Granular		Soil Structure		Weathered/Fractured Rock epth Weeping from Pit	0	Wet		tones (e.g., cobbles, stones, boulders, etc.)	Lautuoe	42.53	C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)
	Friable	Friable	Friable			Friable	(Moist)	Soil Consistence				Wetlands >100 feet	FS Position on I an	s, stones, boulder			sposal area,
								Other		☐ Bedrock 113" Depth Standing Water in Hole	feet	et	FS Position on Landscape (SIL SH. BC. EC. TC.	ı	Longitude:	<u>-71.04</u>	



Additional Notes: ESHGW 62". Roots to 70"

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D. Determination of High Grou
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 ☒ Yes ☐ No b. If yes, at what depth was it observed (exclude A and O Horizons)? c. If no, at what depth was impervious material observed? 	 E. Depth of Pervious Material 1. Depth of Naturally Occurring Pervious Material a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system? 	Index Well Number $S_h = S_c - [S_r \times (OW_c - OW_{max})/OW_r]$ $Obs. Hole/Well\# S_c S_r$ 2. Estimated Depth to High Groundwater: inches	Method Used: Depth observed standing water in observation hole Depth weeping from side of observation hole Depth to soil redoximorphic features (mottles) Depth to adjusted seasonal high groundwater (Sh) (USGS methodology)
Upper boundary: Upper boundary:	dist in all areas observe	OW ₆	Obs. Hole # <u>TP-608</u> inches inches inches inches
19" Lower boundary: inches Lower boundary:	d throughout the area proposed fo	OW _{max} OW _r	Obs. Hole # <u>TP-609</u> inches inches inches inches inches inches
127" inches	or the soil absorption	ς 	



F. Certification

above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the

Signature of Soil Evaluate Name of Approving Authority Witness Typed or Printed Name of Soil Evaluator / License # Leo Cormier, R.S., Kristin McRae, R.S. Thorsen Akerley, R.S. / #14016 5/21/2018

Date
7/1/2019
Expiration Date of License
Lynnfield Health Department
Approving Authority

Note: In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the

Field Diagrams: Use this area for field diagrams:



Commonwealth of Massachusetts City/Town of Lynnfield Percolation Test Form 12

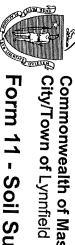
Percolation test results must be submitted with the Soil Suitability

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return





Degiovanni Family Trust, Single Owner Name	e Living Trust, Jar	ne Coonrod	
333, 339, 349 Summer Street			
Street Address or Lot #			
Lynnfield		MA	01940
City/Town		State	Zip Code
Williams & Sparages, LLC		(978) 539-8088	3
Contact Person (if different from Owner)	Telephone Numbe	r
3. Test Results			
	5/15/18	2:00	5/15/18 1:30
	Date	Time	Date Time
Observation Hole #	P-608A		P-609A
Depth of Perc	63"+18"=81" (C1 layer)	52"+23"=75" (C layer)
Start Pre-Soak	1:42		1:25
End Pre-Soak	1:57		1:40
Time at 12"	1:57	-	1:40
Time at 9"	2:12		1:56
Time at 6"	2:35	·	2:19
Time (9"-6")	23 mins		23 mins
Rate (Min./Inch)	8 MPI		8 MPI
Greg Hochmuth	Test Passed: Test Failed:	\boxtimes	Test Passed: ⊠ Test Failed: □
Test Performed By:			
Leo Cormier, R.S.			
Board of Health Witness			
Comments:			



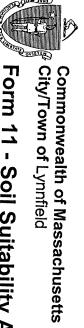
Commonwealth of Massachusetts

ဂ On	Sito Rov	ioui / minin	min aftin L								
· ·		(!!!!!!!	Proposed primary and reserve disposal area)	les requ	ired at eve	ry propo	sed prin	nary and r	eserve disp	osal area)	
1. Land Use	Land Use (e.g., woodland, agricultural field, vacar	n Hole Num!	rvation Hole Number: TP-610 Hole # Lawn (e.g., woodland, agricultural field, vacant let, etc.)	5/16/18 Date	8 11: Time Lawn/grass mostly	11:00AM Time mostly	M	Sunny, 65 Weather None	0 5	42.53 Latitude	-71.04 Longitude: 0-2%
De	Description of Location:	ocation:		ora.)	v eGeranon			Surface Stone	Surface Stones (e.g., cobbles, stones, boulders, etc.)	stones, boulder	
2. Soil F	Soil Parent Material:		Coarse-loamy lodgment till overlying outwash material	ill overlyin		Outwash plain	ă:	HS			
3. Dista	Distances from:	Ope	۷	NA feet			Drainage Wav	<u>v</u>	Position on Landscape (SU, SH, BS, FS, TS)	e (SU, SH, BS,	
‡. Unsuit	able Materials	s Present:	Property Line ∶ 4. Unsuitable Materials Present: ☐ Yes ☒ No	≥10 feet If Yes: □	☐ Disturbed Soil	Drinking Soil □ F	Drinking Water Well	NA I	feet Weathered/Fractured Dook		Other feet
5. Grour	Groundwater Observed: ☐ Yes	rved:∐ Yes	S No		If yes:		Depth Weeping from	ing from Pit	;		
						Soil Log			ļ		Topas Canada Water III Hole
Depth (in)	Soil Horizon /Layer	Soil Texture (USDA	Soil Matrix: Color- Moist (Munsell)	Redo	Redoximorphic Features	tures	Coarse Fragments % by Volume	oarse Fragments % by Volume	95 = 95 = 95 = 95 = 95 = 95 = 95 = 95 =	Soil	
0-8	>	2		Depth	Color	Percent	Gravel	Stones		(Moist)	Otner
	2	70,	10YR 3/2				0%	0%	Granular	Friable	
8-20	Bw	FSL	7.5YR 5/8				0%	0%	Massive	Friable	
20-50	3	<u>र</u>	10YR 4/3	41"	5YR 4/6	10%	10%	0%	Massive	Friable	C1 T.B.R.
50-115	Ω2	gLS	7.5YR 4/3	41"	5Y 6/1	5-10%	20%	15%	Loose		Stratified
Additional No ESHGW 41"	Additional Notes: ESHGW 41"			-							



Form 11 - Soil Su Commonwealth of Massachusetts

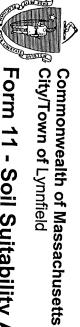
C. On	-Site Rev	iew (minir	num of two	holes I	required a	at every p	roposed	C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)	reserve dis	bosal area)	
Dee	Deep Observation Hole Number:	n Hole Num	ber: TP-611 Hole #		5/16/18 Date	11:30AM	√ Si	Sunny, 65 Weather	42.53		<u>-71.04</u>
1. Lanc	Land Use: Lawn (e.g., w	vn ., woodland, agi	Lawn (e.g., woodland, agricultural field, vacant lot, etc.)	acant lot. et		Lawn/grass		None	matical		Longitude: 0-2%
Desc	Description of Location:	ation:	Lawn area ir	front of 34	Summer	Street		Surface Sto	nes (e.g., cobbles	Surface Stones (e.g., cobbles, stones, boulders, etc.)	ı
2. Soil I	Soil Parent Material:		Coarse-loamy lodgment till overlying outwash material	nent till o	verlying ou	twash	Outwash plain	blain		SH.	
	,						Landiorm			Position on Lands	Position on Landscape (SU, SH, BS, FS, TS)
o. Dista	Distances from:	Open Water Body		feet		Drain	Drainage Way	>100 feet	Wetlands	ands >100 feet	•
4. Unsuitable	able	Property Line	-ine	>10 feet		Drinking Water Well		NA feet	Q		et
Materi: 5. Grou	Materials Present: ☐ Yes ☒ No	□ Yes 図□			☐ Disturbed Soil	☐ Fill Material	erial	☐ Weathered/	☐ Weathered/Fractured Rock	☐ Bedrock	
- 1						s o	If yes:	Depth Weeping from Pit	g from Pit	Depth s	Depth Standing Water in Hole
Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist	Redo	Redoximorphic Features	1	Coarse % by	Coarse Fragments % by Volume	2	Soil	
			(Munsell)	Depth	Color	Percent	Gravel	Cobbles & Stones	Soll Structure	Consistence (Moist)	Other
ç -	A	FSL	10YR 3/2		-		0%	0%	Granular	Friable	
11-30	Bw	FSL	7.5YR 5/8				0%	0%	Massive	Friable	
30-55	2	SL	10YR 4/3	37"	5Y 6/1	5-10%	10%	5%	Massive	Friable	CHRD
55-121	23	gLS	2.5Y 5/2	37"	5YR 4/6	10%	20%	10%	Loose	Friable	



Additional Notes: ESHGW 37". Roots to 33"

Ö
Determination of
今
王
gh Groundwater Elevation
Elevation

c. If no, at what depth was impervious material observed?	\simeq	a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soilYesNo	1. Depth of Naturally Occurring Pervious Material	E. Depth of Pervious Material	2. Estimated Depth to High Groundwater: inches	Obs. Hole/Well# S _c S _r	Index Well Number $S_h = S_c - [S_r \times (OW_c - OW_{max})/OW_r]$ Reading Date	 ☑ Depth to soil redoximorphic features (mottles) ☐ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology) 	☐ Depth weeping from side of observation hole	 Method Used: □ Depth observed standing water in observation hole
Upper boundary:	Upper boundary:	xist in all areas observe				OW _c		41" inches inches	inches	Obs. Hole # <u>TP-610</u> inches
Lower boundary:	8" Lower boundary:	d throughout the area proposed f				OW,		<u>37"</u> inches inches	inches	Obs. Hole # <u>TP-611</u>
inches	121"	for the soil absorption				ņ				



F. Certification

I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil, evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through

5/21/2018

Signature of Soil Evaluator

Thorsen Akerley, R.S. / #14016

Typed or Printed Name of Soil Evaluator / License #

Leo Cormier, R.S., Kristin McRae, R.S.

Name of Approving Authority Witness

7/1/2019
Expiration Date of License
Lynnfield Health Department
Approving Authority

Note: In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the

Field Diagrams: Use this area for field diagrams:



Commonwealth of Massachusetts City/Town of Lynnfield Percolation Test Form 12

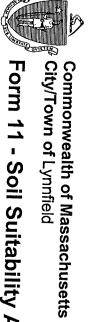
Percolation test results

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return





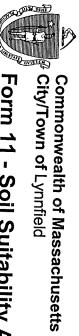
Degiovanni Family Trust, Sing Owner Name	le Living Trust, Jan	e Coonrod		
333, 339, 349 Summer Street				
Street Address or Lot #				
Lynnfield		MA	0194	0
City/Town		State	Zip Co	
Williams & Sparages, LLC		(978) 539-808	88	
Contact Person (if different from Owne	er)	Telephone Numb	per	·····
3. Test Results				
	5/16/18	11:30	5/16/18	11:00
	Date	Time	Date	Time
Observation Hole #	P-610A	,	P-611A	
Depth of Perc	49"+18"=67" (0	C2 layer)	50"+18"=68" (C2 layer)
Start Pre-Soak	11:23		11:00	
End Pre-Soak	11:28 (unable t gals)	o saturate - 25	11:07 (unable gals)	to saturate - 25
Time at 12"	11:28		11:07	
Time at 9"	11:28		11:07	
Time at 6"	11:29		11:08	
Time (9"-6")	1 min		1 min	
Rate (Min./Inch)	<2 MPI		<2 MPI	
Greg Hochmuth Test Performed By:	Test Passed: Test Failed:		Test Passed: Test Failed:	
Leo Cormier, R.S.				
Board of Health Witness				
Comments:				



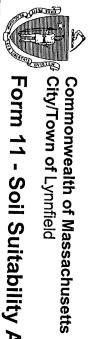
ဂ ဂ	1-Site Rev	iow (minin	num of hus ha	1							
?			The state of the state of two notes required at every proposed primary and reserve disposal area)	les requ	ired at eve	ery propo	sed prin	nary and	reserve dis _l	oosal area,	
Dee	Deep Observation Hole Number: TP-612 Hole #	n Hole Numl	ber: TP-612 Hole #	5/16/18 Date	8	9:00AM	S	Sunny, 65	, 65	42.53	
1. Lan	Land Use (e.g., w	oodland, agricul	(e.g., woodland, agricultural field, vacant lot, etc.)	etc.)	Lawn/grass mostly Vegetation	mostly		None Surface Ston	os (o o oskila)	Lagina	
٥	Description of Location:	ocation:						ourace Stone	Surface Stones (e.g., cobbles, stones, boulders, etc.)	stones, boulder	s, etc.) Slope (%)
2. Soil	Soil Parent Material:		Coarse-loamy lodgment till overlying outwash material	ill overlyin		Outwash plain	ain	RS R			
3. Dist	Distances from:	Ope	۷	NA feet			Drainage Wav	<u>7</u>	Position on Landscape (SU, SH, BS, FS, TS)	be (SU, SH, BS,	
l. Unsui	Property Line f. Unsuitable Materials Present: ☐ Yes ☑ No	s Present:		≥10 feet If Yes: □	☐ Disturbed Soil	Drinking Soil F	Drinking Water Well	X :	feet	othered Book	Other feet
ည် ည	indwater Ohno							[כנמו פט ואטכא	L Bedrock
	Tes	ived. [Tex	v. No		If yes:		Depth Weep	Depth Weeping from Pit	ı	Depth St	Depth Standing Water in Hole
						Soil Log					
Depth (in)) Soil Horizon /Layer	Soil Texture (USDA	Soil Matrix: Color-	Redo	Redoximorphic Features	itures	Coarse F % by \	% by Volume		Soil	
3				Depth	Color	Percent	Gravel	Cobbles & Stones	Sou Su definie	(Moist)	Other
1	1	FUL	10YR 3/2				0%	0%	Granular	Friable	
12-21	Bw	FSL	7.5YR 5/8				0%	0%	Massive	Friable	
21-44	C	ST	10YR 4/3	42"	5YR 4/6	10%	10%	0%	Massive	Friahle	C1 + B B
44-120	22	gLS	7.5YR 4/3	42"	5Y 6/1	5-10%	20%	15%			
									10000		

> d	>14#:000 No.										
TO LO	ESHGW AS" Doots	ָר קר קר									

Form 11 - Soil Suitability (TP-612, TP-613) • rev. 3/15/18



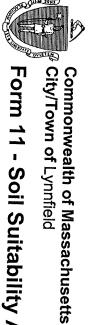
C. On-Site Rev	/iew (minii	mum of two	holae ra	aritical of)		•		
Peer Observation III is a live flotes required at every proposed primary and reserve disposal area)		י ביי) Holes rei	quired at	every pr	oposed p	orimary and	t reserve dis	sposal area)
Deep Observation Hole Number:	on Hole Num	1ber: TP-613 Hole #	13 5/16 Date	5/16/18 S	9:30AM Time	Sui	Sunny, 65 Weather	42.53 Latitude	
1. Land Use: La	(e.g., woodland, agricultural field, vacant lot, etc.)	ricultural field, v	acant lot atc.)	Law	Lawn/grass		None		
Description of Location:	cation:	Lawn area ir	Lawn area in front of 349 Summer Street	ummer Stree	Street		Surface Sto	nes (e.g., cobbles	Surface Stones (e.g., cobbles, stones, boulders, etc.)
2. Soil Parent Material:		Coarse-loamy lodgment till overlying outwash material	nent till ove	rlying outw		Outwash plain	ain		S H
	:					Landform			Position on Landscape (SU, SH, BS, FS, TS)
 Distances from: 	Open Water Body		feet		Draina	Drainage Way >	>100 feet	Wetlands	ands >100 feet
4. Unsuitable	Property Line	-ine	>10 feet	D.	Drinking Water Well		NA feet	Q	
Materials Present: ☐ Yes ☒ No 5. Groundwater Observed: ☐ Yes	□ Yes 図 erved:□ Ye	No If Yes: ⊠ No	☐ Disturbed Soil	ed Soil	Fill Ma] Weathered/	Weathered/Fractured Rock	☐ Bedrock
					Soil Log	if yes:	_ Depth Weeping from Pit	g from Pit	Depth Standing Water in Hole
Depth (in) Soil Horizon	Soil Texture (USDA)	Soil Matrix: Color-Moist	Redoxin	Redoximorphic Features		Coarse Fragments % by Volume	ragments olume	•	Soil
		(Munsell)	Depth	Color	Percent	Gravel	Cobbles &	Soil Structure	Consistence (Moist)
0-11 A	FSL	10YR 3/2				0%	0%	Granular	
11-21 Bw	FSL	7.5YR 5/8				8	2		2000
21-45 C1	<u>0</u>	1000 4/2		_		à	07%	Massive	Friable
		1011740	မ စ	57 //1	5-10%	10%	5%	Massive	Friable
40-112	gLS	2.5Y 5/2	38" 5	5YR 4/6	10%	20%	10%	Loose	Friable
								- Hamman	
			·	·					



Additional Notes: ESHGW 38". Roots to 50"

Ö
D. Determination of
າ of H
High Gro
Groundwater Elevation
Elevation

c. II IIO, at what depth was impervious material observed?	윽	a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soilX YesNo	1. Depth of Naturally Occurring Pervious Material	E. Depth of Pervious Material	2. Estimated Depth to High Groundwater: inches	Obs. Hole/Well# Sc Sr	Index Well Number $S_h = S_c - [S_r \times (OW_c - OW_{max})/OW_r]$ Reading Date	 ☑ Depth to soil redoximorphic features (mottles) ☐ Depth to adjusted seasonal high groundwater (Sh) (USGS methodology) 	☐ Depth weeping from side of observation hole	 Method Used: Depth observed standing water in observation hole
Upper boundary:	Upper boundary:	t in all areas observe				OW _c		42" inches inches	inches	Obs. Hole #TP-612
Lower boundary:	11" Lower boundary:	d throughout the area proposed fo				OW _{max} OW _r		<u>38"</u> inches inches	inches	Obs. Hole # <u>TP-613</u> inches
inches	120"	or the soil absorption			<u> </u>	ŵ				



F. Certification

above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil gvaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the

Signature of Soil Evaluator

Thorsen Akerley, R.S. / #14016

Typed or Printed Name of Soil Evaluator / License #

Leo Cormier, R.S., Kristin McRae, R.S.

Name of Approving Authority Witness

5/21/2018
Date
7/1/2019
Expiration Date of License
Lynnfield Health Department
Approving Authority

Note: In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the

Field Diagrams: Use this area for field diagrams:



Commonwealth of Massachusetts City/Town of Lynnfield **Percolation Test** Form 12

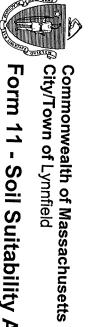
Percolation test results must be submitted with the Soil Suitability Assessment for On-site Sewage Disposal. DEP has provided this form for use by local Boards of Health. Other forms may be used, but the information must be substantially the same as that provided here. Before using this form, check with the local Board of Health to determine the form they use.

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





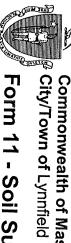
A. Site Information				
Brian Hannon				
Owner Name				
333, 339, 349 Summer Street				
Street Address or Lot #			***************************************	
Lynnfield		MA	0194	0
City/Town		State	Zip Co	
Williams & Sparages, LLC		<u>(978)</u> 539-80	88	
Contact Person (if different from Own	er)	Telephone Num	ber	
B. Test Results				
	5/16/18	9:30	5/16/18	10:30
	Date	Time	Date	Time
Observation Hole #	P-612A		P-613A	
Depth of Perc	34"+22"= 56"	(C2 layer)	33"+18"= 51" (C2 layer)
Start Pre-Soak	9:33:59		10:18:59	·
End Pre-Soak	9:34:20 (unal 25 gallons)	ole to saturate -	10:25:00 (unab 25 gals)	ole to saturate
Time at 12"	9:34:20		10:25:00	
Time at 9"	9:35:42		10:28:17	
Time at 6"	9:37:42		10:34:08	
Time (9"-6")	2 mins		5 mins 51 seco	nds
Rate (Min./Inch)	<2 MPI		<2 MPI	
	Test Passed: Test Failed:		Test Passed: Test Failed:	
Greg Hochmuth	· · · · · · · · · · · · · · · · · · ·	السيط	restralled.	
Test Performed By:				
Leo Cormier, R.S.				
Board of Health Witness				
Comments:				



n O	n_Sito Rov	iou /minin									
?		ICW (IIIIIIII	The state of the second primary and reserve disposal area)	les requ	ured at eve	ry propo	sed prin	nary and	reserve dis _l	oosal area)	
De De	Deep Observation Hole Number:	n Hole Numl	ber: TP-615	5/14/18	18	3:00PM	Z	Sunny, 75	, 75	42.53	-71.04
La	Land Use Woodland	land oodland, agricul	Woodland (e.g., woodland, agricultural field variant let etc.)	Dale	Trees/wooded	ed		Weathe None	7	Latitude	
_	Description of Location:	ocation:		Gic.)	vegetation			Surface Ston	Surface Stones (e.g., cobbles, stones, boulders, etc.)	stones, boulder	'
2. Soi	Soil Parent Material:		Coarse-loamy lodgment till overlying outwash material	ill overlyi		Outwash plain	ain	FS			
3. Dis	Distances from:	Ope	<	NA feet	r	רמילינים רמילינים	i	<u>'</u>	Position on Landscape (SU, SH, BS, FS, TS)	ре (SU, SH, BS,	FS, TS)
				3		c	Drainage Way	/ay >100 feet	eet	Wet	Wetlands >100 feet
4. Unsu	4. Unsuitable Materials Present: 🗌 Yes 🛛 No	s Present:		FYes:	☐ Disturbed Soil	Drinking	Drinking Water Well Fill Material	_ <u>X</u>	feet Weathered/Fractured Book	chired Book	1
5. Gro	Groundwater Observed: ☐ Yes	eyved: ☐ Yes	w ⊠ No		If vos:		!				Cociocx
					:		Depth Weeping from	ping from Pit	1	Depth St	Depth Standing Water in Hole
		2		0	ovimombia F		Coarse	ramente			
Depth (in)	n) Soil Horizon /Layer	Soil Texture (USDA	Soil Matrix: Color- Moist (Munsell)	Depth	xth Color Per	tures	% by	% by Volume Cobbles &	Soil Structure Consistence	Soil Consistence	Other
2-0	0							Stones		(Moist)	
0-10	A	FSL	10YR 3/2				0%	0%	Granular	Friable	
10-30	Bw	FSL	7.5YR 6/8				0%	0%	Maccivo		
30-120	റ	aLS	2 57 5/2	Fi O	7						
		9	7.01.012	2	7.5YR 5/8	10%	20%	10%	Single Grain	Friable	
		!									

Addi	Additional Notes:										
ПОП	ESHGW 50". Roots to 60"	to 60"									

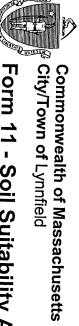
Form 11 - Soil Suitability (TP-614, TP-615) • rev. 3/15/18



Commonwealth of Massachusetts

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

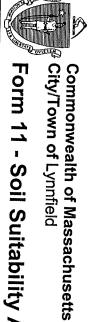
			မှ	14	۰ P		Dep		ن. ص		4. □	<u>ب</u> ـــ		52					ဂ
_			30-105	14-30	0-14		Depth (in)		Grounc	aterials	4. Unsuitable	Distanc		Soil Pa	Descri	Land Use:	· ·	Deep	On-8
			o ;	R W	≻) - ajei	Soil Horizon		water Obse	Present: [ë	Distances from:	•	Soil Parent Material:	Description of Location:		W)	Observatio	Site Rev
		<u>د</u> د د	2 6	<u> </u>	ESI	(0002)	Soil Texture		Groundwater Observed: ☐ Yes	Materials Present: ☐ Yes ☒ No	r ope	Open Water Body			ation:	., woodland, ag	Woodland	Deep Observation Hole Number:	iew (mini
		7/6 16.7	3.54.50	7 EVD 6/6	10VR 3/2	(Munsell)	Soil Matrix:			No If Yes:				Coarse-loamy lodgment till overlying outwash material	Wooded an	(e.g., woodland, agricultural field, vacant lot, etc.)	Hole #	her. To	mum of tw
		ပ္ပ				Depth	Redo				210 feet	feet		ment till o	Wooded area in center of three lots	vacant lot, et		n ·	o holes i
		7.5YR 5/8				Color	Redoximorphic Features			Disturbed Soil				verlying ou	of three lots	_	Date		equired :
		10%				Percent		So		☐ Fill Material	Drinking Water Well	Drair		twash		Trees/wooded	Time		af everv i
		25%	0%	0%		Gravel	Coarse % by	Soil Log	If yes:	erial			Langtorm	Outwash plain		od.			roposed
		5%	0%	0%	Stones	Cobbles &	Coarse Fragments % by Volume		Depth Weeping from Pit	□ Weatherer	NA feet	>100 feet		olain		None	Sunny, 75 Weather	Pillial y all	primeny en
		Single Grain	Massive	Granular		Soil Structure			Depth Weeping from Pit	/Eracturad Daal	0	Wet			(c.y., wholes, stolles, boulders, etc.)	ones le a cobble	42.53 Latitude	u 18881 VB 01	C. On-Site Review (minimum of two holes required at every proposed primary and research displayed
		Friable	Friable	Friable	(Moior)	Consistence	Soil		де П]	Other	Wetlands >100 feet	Position on Lar	FS	s, stolles, boulder			sposal area,	
	i					Other		- Controlling states	drock Depth Standing Water in Hole		feet	řet.	Position on Landscape (SU, SH, BS, FS, TS)		s, etc.) Slope (%)	1	<u>-71.04</u> Longitude:)	



Additional Notes: ESHGW 55". Roots to 50"

D. Determination of High Groundwater Elevation

system? Yes No	E. Depth of Pervious Material 1. Depth of Naturally Occurring Pervious Material	Sh = Sc - [Sr x (OWc - OWmax)/OWr] Obs. Hole/Well# Sc Sr 2. Estimated Depth to High Groundwater: inches	 Method Used: Depth observed standing water in observation hole Depth weeping from side of observation hole Depth to soil redoximorphic features (mottles) Depth to adjusted seasonal high groundwater (Sh) (USGS methodology)
xist in all areas observe Upper boundary: Upper boundary:		ΟW ₆	Obs. Hole #TP-614inchesinchesinchesinches
10" Lower boundary: inches Lower boundary:		OW _{max} OW _r	Obs. Hole # <u>TP-615</u> inches inches <u>50"</u> inches inches
for the soil absorption 120" inches		S.	



F. Certification

above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the

Name of Approving Authority Witness Kristin McRae, R.S. Signature of Soil Evaluato Typed or Printed Name of Soil Evaluator / License# Thorsen Akerley, R.S. / #14016 5/21/2018 7/1/2019

7/1/2019
Expiration Date of License
Lynnfield Health Department
Approving Authority

Note: In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the

Field Diagrams: Use this area for field diagrams:



Commonwealth of Massachusetts City/Town of Lynnfield **Percolation Test** Form 12

Percolation test results must be submitted with the Soil Suitability Assessment for On-site Sewage Disposal. DEP has provided this form for use by local Boards of Health. Other forms may be used, but the information must be substantially the same as that provided here. Before using this form, check with the local Board of Health to determine the form they use.

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





End Pre-Soak

Time at 12"

Time at 9"

Time at 6"

Time (9"-6")

A. Site Information	a the term they d			
Degiovanni Family Trust, Single Owner Name	Living Trust, Jane	Coonrod		
333, 339, 349 Summer Street Street Address or Lot #				
Lynnfield City/Town		MA State	01940 Zip Co	
Williams & Sparages, LLC Contact Person (if different from Owner)		(978) 539-8088 Telephone Number	Zip 00	ue
B. Test Results				
	5/14/18 Date	3:30 Time	5/1418 Date	3:30 Time
Observation Hole #	P-615A		P-614A	Time
Depth of Perc	41"+18"= 59"		53"+18+= 71"	
Start Pre-Soak	3:26		3:30	

3:45

3:45

3:50

3:57

7 mins

3:41

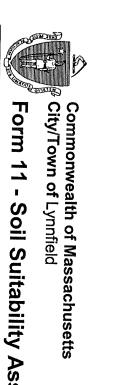
3:41

3:43

3:47

4 mins

<2 MPI



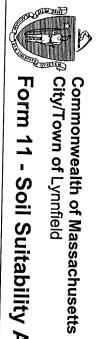
			ပ္ပ	3 -				De		ò	1	4.	ပ	ა	5		. `		Ω
Addition ESHG			33-123	72-33	0-12	2 2	5	Depth (in)		Grour)	Jnsuita	Dista	2	Soil F	De	Land Use	Deep	On
Additional Notes: ESHGW 50".			C	Bw	' A	· c		Soil Horizon /Layer		ndwater Obse		able Material	Distances from:		Soil Parent Material:	Description of Location:		Observatio	Site Rev
			gLS	FSL	FSL			Soil Texture (USDA		Groundwater Observed: ☐ Yes	ן פַּבָּ	s Dresent:	Ope	outw		ocation:	land oodland, agricult	Deep Observation Hole Number: TP-616 Hole #	iew (minin
	TANK TANK		2.5Y 5/2	7.5YR 6/8	10YR 3/2			Soil Matrix: Color- Moist (Munsell)		S N N		Property Line 4. Unsuitable Materials Present: ☐ Yes ☑ No.	-	outwash material	Coarse-loamy lodgment till overlying	and account to	Woodland (e.g., woodland, agricultural field, vacant lot, etc.)	Der: TP-616 Hole #	C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)
			50"				1000	Der			ii res:	>10 feet	NA feet		ill overlyi	on.)	Pho I	5/14/18	les requ
			7.5YR 5/6				G	Redoximorphic Features		If yes:	L Disturbed Soil] !				vegetallon	Trees/wooded	18	ired at eve
			10%				reiceilt	tures	Soil Log	s: 		Drinking	D	Landform	Outwash plain		ed	1:30PM	ry propo
			20%	0%	0%		Gravel	% by		Depth Wee	☐ Fill Material	Drinking Water Well	rainage W		3.			M	sed prin
			5%	0%	0%		Stones	% by Volume Cobbles &		Depth Weeping from Pit		N	Drainage Way >100 feet	Pos	Π	Surface Ston		Sunny, 75	nary and
			Single Grain	Massive	Granular			Soil Structure		1	☐ Weathered/Fractured Rock	7	eet	Position on Landscape (SU, SH, BS, FS, TS)		Stones (e.g., cobbles, stones, boulders, etc.)		, 75	reserve dis
			Friable	Friable	Friable		(Moist)	Soil Consistence		Depth St	ctured Rock	0	Wet	pe (SU, SH, BS,		stones, boulder	Latitude	42.53	posal area)
								Other		Depth Standing Water in Hole	☐ Bedrock	Other feet	Wetlands >100 feet	FS, TS)		s, etc.) Slope (%)	Longitude: 5%	-71.04	



Commonwealth of Massachusetts

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

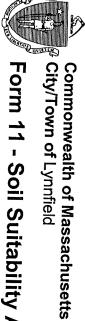
C. On	-Site Rev	iew (minir	num of two	holes i	required a	it every p	roposed	primary and	C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)	Dosal area)	
Dee	Deep Observation Hole Number:	n Hole Num	ber: TP-617	17	5/14/18 Date	2:00PM	⊗ SL SL	Sunny, 75 Weather	42.53		<u>-71.04</u>
1. Land	Land Use: Wo	Woodland (e.g., woodland, agi	Woodland (e.g., woodland, agricultural field, vacant lot, etc.)	acant lot, et	٠.	Trees/wooded		None	Laulude		Longitude: 5%
Des	Description of Location:	ation:	Wooded area in center of three lots	a in center of	hree lots	3		Sunace St	Surface Stones (e.g., cobbles, stones, boulders, etc.)	, stones, boulders	, etc.) Slope (%)
2. Soil	Soil Parent Material:		Coarse-loamy lodgment till overlying outwash material	nent till o	verlying out	1	Outwash plain	lain		FS	
	for the first terms of the same of the sam) :					Landiorm			Position on Land	Position on Landscape (SU, SH, BS, FS, TS)
3. Dista	Distances from:	Open Water Body		feet	-	Drain		>100 feet	Wetlands	ands <u>>100</u> feet	*
4. Unsuitable	able	- Loberty Fille	<u>:</u>	reet		Drinking Water Well		NA feet	Q	Other fe	feet
Materi 5. Grou	Materials Present: ☐ Yes ☒ No Groundwater Observed:☐ Yes	☐ Yes ⊠ }rved:☐ Ye	No If Yes:		Disturbed Soil	☐ Fill Material	s: 	☐ Weathered/Fracture _ Depth Weeping from Pit	☐ Weathered/Fractured Rock _ Depth Weeping from Pit	□Ве	drock Depth Standing Water in Hole
Depth (in)	SC	Soil Texture	Soil Matrix:	Redo	Redoximorphic Features	·	Coarse I	Coarse Fragments		0	
3)	(0007)	(Munsell)	Depth	Color	Percent	Gravel	Cobbles & Stones	Soil Structure	Consistence (Moist)	Other
	(
; q	A	+ <u>S</u> L	10YR 3/2				0%	0%	Granular	Friable	
10-38	BW	FSL	7.5YR 6/8				0%	0%	Massive	Friable	
38-121	O	gLS	2.5Y 5/2	44"	7.5YR 5/6	10%	20%	10%	Single Grain	Friable	



Additional Notes: ESHGW 44". Roots to 57"

Ö
D. Determination
າ of H
High
High Groundwater Elevation
Elevation

t what depth was impervious material observed?	☑ Yes ☐ No b. If yes, at what depth was it observed (exclude A and O Up Horizons)?	 Depth of Naturally Occurring Pervious Material Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system? 	E. Depth of Pervious Material	2. Estimated Depth to High Groundwater: inches	Obs. Hole/Well# S _c S _r	Index Well Number Reading Date $S_h = S_c - [S_r \times (OW_c - OW_{max})/OW_r]$	 ☑ Depth to soil redoximorphic features (mottles) ☐ Depth to adjusted seasonal high groundwater (Sh) ☐ (USGS methodology) 	☐ Depth weeping from side of observation hole	 Method Used: Depth observed standing water in observation hole
Upper boundary:	Upper boundary:	all areas observed			OW _c		50" inches inches	inches	Obs. Hole # <u>TP-616</u> inches
Lower boundary:	10" Lower boundary:	d throughout the area proposed f			OW _{mex} OW _r		44" inches	inches	Obs. Hole # <u>TP-617</u>
inches	123"	for the soil absorption			လှ				



F. Certification

above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the

Name of Approving Authority Witness Kristin McRae, R.S. Signature of Soil Evaluate Typed or Printed Name of Soil Evaluator / License # Thorsen Akerley, R.S. / #14016 Approving Authority Expiration Date of License 5/21/2018 7/1/2019 ynnfield Health Department

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A. Site Information	e the form they us	Se.		
Degiovanni Family Trust, Single I Owner Name	_iving Trust, Jane	Coonrod		
333, 339, 349 Summer Street Street Address or Lot #				
Lynnfield City/Town		MA State		01940
Williams & Sparages, LLC Contact Person (if different from Owner)		(978) 539-8088 Telephone Number		Zip Code
B. Test Results		relephone Number		
	5/14/18 Date	2:30 Time	5/1418 Date	2:00 Time
Observation Hole #	P-616A	· · · · · · · · · · · · · · · · · · ·	P-617A	
Depth of Perc	56"+18" = 76"	A	58"+18"	= 74"
Start Pre-Soak	2:34		2:17	
End Pre-Soak	2:49		2:32	

2:32

2:43

2:57

 Time (9"-6")
 12 mins
 14 mins

 Rate (Min./Inch)
 4 MPO
 5 MPI

2:49

2:58

3:10

Test Passed: ☐ Test Passed: ☐

Greg Hochmuth

Test Performed By:

Test Passed: ☐

Test Passed

Comments:

Kristin McRae, R.S. Board of Health Witness

Time at 12"

Time at 9"

Time at 6"

We missed 9" mark at perc at TP-616 so the reading at 9" there is actually at 8" and the reading at 6" is actually at 5" shown above