

City/Town of Manchester by the Sea

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

A. Facility Information

	Owner Name						
	0 Old School Street		Man 43 Lot 0 18				
	Street Address		Map/Lot #				
	Manchester by the Sea	MA	01944				
	City	State	Zip Code				
В.	Site Information						
1.	(Check one) 🛛 New Construction 🗌 Upg	rade 🗌 Repair					
2.	Soil Survey Available? 🛛 Yes 🗌 No	If yes:		UC Davis NRC	S 102	2E	
	,			Source	Soil	Map Unit	
	Chatfield-Hollis-Rock Outcrop Soil Name	High runoff Soil Limitations					
	Glacial Till, coarse-loamy melt-out till derived from granite, gneiss, and/or schist	Shoulder Landform					
3.	Surficial Geological Report Available? Yes No	If yes: MassGIS		Till/Bedrock			
		Year Published	/Source	Map Unit			
	Description of Geologic Map Unit:						
4.	Flood Rate Insurance Map Within a regulatory	r floodway? 🗌 Yes 🛛 No	C				
5.	Within a velocity zone? Yes No						
6.	Within a Mapped Wetland Area?	No If yes, Mass	GIS Wetland Data	Layer: NA	tland Type		
7.	Current Water Resource Conditions (USGS):	11/30/2020 Month/Day/ Year	Range: 🛛 Abov	ve Normal	Normal	Below Normal	
8.	Other references reviewed: Station 42	23506070491401, MA-WPW 76R	, Wenham, MA				



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C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area*)

De	ep Observati	on Hole Numb	er: <u>OSE-TP-1</u>	11-18-	2020	AM		Sunny				
			Hole #	Date	Tara Raha	Time	.1.	Weather		Latitude		Longitude:
1. La	nd Use (e.g.	diand woodland agricult	ural field, vacant lot	etc)	Vegetation	underbrus	sn	Some Surface Stone	e (e a cobbles	stones boulder	rs etc)	3-8% Slope (%)
	(e.g.,			610.)	vegetation				s (e.g., cobbles,	stories, boulder	13, 610.)	Slope (78)
	Description of	_ocation:										
2. Sc	il Parent Mate	rial: Glacial T	ill		K	ame		SH				
	Landform Position on Landscape (SU, SH, BS, FS, TS)											
3. Di	stances from:	Oper	n Water Body	<u>>100</u> feet		D	rainage W	/ay <u>>10</u> fee	et	Wet	tlands	<u>>50</u> feet
Property Line <a>10 feet Drinking Water Well <a>100 feet Other												feet
4. Uns	4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil Fill Material Weathered/Fractured Rock Bedrock											
5. Groundwater Observed: Yes No If yes: <u>NA</u> Depth Weeping from Pit <u>NA</u> Depth Standing Water in Hole												
Soil Log												
	Soil Horizor	Soil Texture	Soil Matrix: Color-	Redo	oximorphic Fea	atures	Coarse % by	Fragments Volume		Soil		
Depth	/Layer	(USDA	DA Moist (Munsell)	Depth	Color	Percent	Gravel	Cobbles & Stones	Soil Structure	Consistence (Moist)		Other
0-3	A											
										Von		
3-16	6 Bw	Loamy Sand	10 YR 5/6				2	0	Massive	Friable	I	Roots to 16"
16-12	20 C	Loamy Sand	10 YR 4/4				10	10	Massive	Very Friable		

Additional Notes:



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D. Determination of High Groundwater Elevation

۱.	Method Used:		Obs. Hole # <u>1</u>	Obs. Ho	le #			
	Depth observed standing water in observation	n hole	<u>None</u> inches	ir	inches			
	Depth weeping from side of observation hole		<u>None</u> inches	iches inches				
	Depth to soil redoximorphic features (mottles)	inches	inches inches				
	 Depth to adjusted seasonal high groundwater (USGS methodology) 	r (S _h)	inches	ir	inches			
	Index Well Number	Reading Date						
	$S_h = S_c - [S_r \ x \ (OW_c - OW_{max})/OW_r]$							
	Obs. Hole/Well# Sc	Sr	OWc	OW _{max}	OWr	Sh		

2. Estimated Depth to High Groundwater: <u>120"+</u> inches

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	absorption
sys	stem?	

b.	If yes, at what depth was it observed (exclude A and O	Upper boundary:	3	Lower boundary:	120
Ho	rizons)?		inches		inches
c.	If no, at what depth was impervious material observed?	Upper boundary:		Lower boundary:	
			inches		inches



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C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area*)

D	eep Ob	oservatior	h Hole Numb	er: <u>OSE-TP-2</u>	11-18-	2020	AM		Sunny							
			I	Hole #	Date	Trees links	Time	. -	Weather		Latitude		Longitude:			
1. L	and Use		and odland agricultu	ral field vacant lot	atc.)	Vegetation	underbrus	sn	Some Surface Stone	e (e a cobblec	stones boulder	rs etc.)	3-8% Slope (%)			
	Decer	(e.g., we			510.)							3, 610.)	Slope (78)			
	Descri	ption of LC	cation:													
2. S	oil Pare	ent Materia	al: Glacial Ti	II		Kame			SH							
	Landform Position on Landscape (SU, SH, BS, FS, TS)															
3. D	istance	s from:	Oper	Water Body	<u>>100</u> feet		D	rainage W	/ay <u>>10</u> fee	t	We	tlands	<u>>50</u> feet			
Property Line <u>>10</u> feet Drinking Water Well <u>>100</u> feet Otherf												feet				
4. Un	4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil Fill Material Weathered/Fractured Rock Bedrock															
5. G	5. Groundwater Observed: Yes No If yes: <u>NA</u> Depth Weeping from Pit <u>NA</u> Depth Standing Water in Hole															
	Soil Log															
	epth (in) Soil Horizon /Layer	Soil Texture	Soil Texture	Soil Texture	Soil Texture	on Soil Texture	Soil Matrix: Color-	Redo	oximorphic Fea	itures	Coarse % by	Fragments Volume		Soil		
Depth		/Layer	(USDA	DA Moist (Munsell)	Depth	Color	Percent	Gravel	Cobbles &	Soil Structure	Consistence (Moist)		Other			
					_				Stones							
0-	4	A														
	20	D							0		Verv					
4-2	23	BW	Loamy Sand	10 YR 5/6					2	Massive	Friable					
23-1	20	C	Loamy Sand	10 VR 5/4				10		Massiva	Very					
25-1	20	U	Loanny Gand	10 11(3/4				10		101233176	Friable					

Additional Notes:



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D. Determination of High Groundwater Elevation

1.	Method Used:		Obs. Hole # <u>2</u>	Obs. I	Obs. Hole #				
	Depth observed standing water in observati	on hole	<u>None</u> inches		inches				
	Depth weeping from side of observation hol	9	None inches	inches					
	Depth to soil redoximorphic features (mottle	es)	inches	inches					
	 Depth to adjusted seasonal high groundwat (USGS methodology) 	er (Sh)	inches		_inches				
	Index Well Number	Reading Date							
	$S_h = S_c - [S_r x (OW_c - OW_{max})/OW_r]$								
	Obs. Hole/Well# Sc	Sr	OWc	OW _{max}	OWr	Sh			
2. E	stimated Depth to High Groundwater: 120"+ inc	nes							

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	absorption
sys	stem?	

b.	If yes, at what depth was it observed (exclude A and O	Upper boundary:	4	Lower boundary:	120
Ho	rizons)?		inches		inches
c.	If no, at what depth was impervious material observed?	Upper boundary:		Lower boundary:	
			inches		inches



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C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area*)

De	ep Observ	ation Hole Numb	er: <u>OSE-TP-3</u>	11-18-	2020	AM		Sunny				
		a a dha a d	Hole #	Date	Turne Kalet	Time	. 1.	Weather		Latitude		Longitude:
1. La	nd Use 🙀	000Iand a woodland agricult	ural field, vacant lot	etc)	Vegetation	underbrus	sn	Some Surface Stone	s (e.g. cobbles	stones boulder	s etc)	3-8% Slope (%)
	o) Deceriation	g., woodand, agricuit		610.)	vegetation				a (e.g., cobbles,	stories, boulder	3, etc.)	Slope (78)
	Description	of Location:									<u> </u>	
2. So	il Parent Ma	terial: Glacial T	ïll		Kame			SH				
	Landform Position on Landscape (SU, SH, BS, FS, TS)											
3. Dis	stances fror	n: Ope	n Water Body	<u>>100</u> feet		D	rainage W	√ay <u>>10</u> fee	t	Wet	tlands	<u>>50</u> feet
Property Line <u>>10</u> feet Drinking Water Well <u>>100</u> feet Other f												feet
4. Uns	4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil Fill Material Weathered/Fractured Rock Bedrock											
5. Gr	5. Groundwater Observed: Yes No If yes: <u>NA</u> Depth Weeping from Pit <u>NA</u> Depth Standing Water in Hole											
						Soil Log	l					
Denth	oth (in) Soil Horizor /Layer	zon Soil Texture	Soil Matrix: Color-	Redo	oximorphic Fea	atures	Coarse % by	Fragments Volume		Soil		0/1.57
Depth		r (USDA	Moist (Munsell)	Depth	Color	Percent	Gravel	Cobbles & Stones	Son Structure	(Moist)		Other
0-6	А											
										Von		
6-18	B Bw	Loamy Sand	l 10 YR 5/8					2	Massive	Friable		
23-12	20 C	Loamy Sand	10 YR 5/4				30	10	Massive	Very Friable		

Additional Notes:



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D. Determination of High Groundwater Elevation

1.	Method Used:		Obs. Hole # <u>3</u>	Obs.	Obs. Hole #			
	Depth observed standing water in observation	on hole	<u>None</u> inches		_inches			
	Depth weeping from side of observation hole	9	None inches		_inches			
	Depth to soil redoximorphic features (mottle	es)	inches		_ inches			
	 Depth to adjusted seasonal high groundwate (USGS methodology) 	er (Sh)	inches		inches			
	Index Well Number	Reading Date						
	$S_h = S_c - [S_r \ x \ (OW_c - OW_{max})/OW_r]$							
	Obs. Hole/Well# Sc	Sr	OW _c	OW _{max}	OWr	Sh		
2. E	stimated Depth to High Groundwater: 120"+ incl	nes						

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	absorption
sys	stem?	

b.	If yes, at what depth was it observed (exclude A and O	Upper boundary:	6	Lower boundary:	120
Ho	rizons)?		inches		inches
c.	If no, at what depth was impervious material observed?	Upper boundary:		Lower boundary:	
			inches		inches



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C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area*)

Dee	p Observatio	n Hole Numb	er: <u>OSE-TP-4</u>	11-18-	2020	AM		Sunny									
		la sa al	Hole #	Date	Trees links	Time	. -	Weather		Latitude		Longitude:					
1. Lar	d Use	Iana podland agricultu	ral field vacant lot	etc)	Vegetation	underbrus	<u>sn</u>	Some Surface Stone	s (e.g. cobbles	stones boulder	rs etc)	3-8% Slope (%)					
г	(c.g., w			010.)	vegetation				.s (c.g., cobbies,	301103, 5001001	3, 010.)						
L																	
2. Soi	Parent Materia	al: <u>Glacial Ti</u>	ill	Kame				SH									
					La	ndform		Posi	tion on Landscap	be (SU, SH, BS,	FS, TS)						
3. Dis	tances from:	Oper	n Water Body	<u>>100</u> feet		D	rainage W	/ay <u>>10</u> fee	t	We	tlands	<u>>50</u> feet					
Property Line <u>>10</u> feet Drinking Water Well <u>>100</u> feet Other											feet						
4. Unsu	itable Material	s Present:] Yes 🗌 No	If Yes:	Disturbed S	Soil 🗌 I	Fill Materia	I 🗆 '	Weathered/Fra	ctured Rock	🗌 Bee	drock					
5. Groundwater Observed: Yes No If yes: <u>NA</u> Depth Weeping from Pit <u>NA</u> Depth Standing Water in Hole											r in Hole						
						Soil Log	I										
Donth (i	Soil Horizon	Soil Texture	on Soil Texture	on Soil Texture	zon Soil Texture	Soil Texture	Soil Texture	Soil Matrix: Color-	Redo	oximorphic Fea	tures	Coarse % by	Fragments Volume	Soil Structure	Soil		Other
Depth (I	/Layer	(USDA	Moist (Munsell)	Depth	Color	Percent	Gravel	Cobbles & Stones		(Moist)		Other					
0-5	А																
5-18	Bw	Fine Loamy Sand	10 YR 5/8					2	Massive	Very Friable		Roots to 18"					
18-12	c c	Loamy Sand	10 YR 5/4				10		Massive	Very Friable							

Additional Notes:



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D. Determination of High Groundwater Elevation

1.	Method Used:		Obs. Hole # <u>4</u>	Obs.	Obs. Hole #				
	Depth observed standing water in observation	on hole	<u>None</u> inches						
	Depth weeping from side of observation hole	9	None inches	inches					
	Depth to soil redoximorphic features (mottle	es)	inches		_inches				
	 Depth to adjusted seasonal high groundwate (USGS methodology) 	er (Sh)	inches		_inches				
	Index Well Number	Reading Date							
	$S_h = S_c - [S_r \ x \ (OW_c - OW_{max})/OW_r]$								
	Obs. Hole/Well# S _c	Sr	OWc	OW _{max}	OWr	Sh			
2. Estimated Depth to High Groundwater: 120"+ inches									

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	absorption
sys	stem?	

b.	If yes, at what depth was it observed (exclude A and O	Upper boundary:	5	Lower boundary:	120
Ho	rizons)?		inches		inches
c.	If no, at what depth was impervious material observed?	Upper boundary:		Lower boundary:	
			inches		inches



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

C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area*)

D	ep Observ	ation Hole Numb	er: <u>OSE-TP-5</u>	11-18-	2020	AM		Sunny				
			Hole #	Date	Tana Pake	Time	- I.	Weather		Latitude		Longitude:
1. La	Ind Use	oodiand a woodland agricult	ural field vacant lot	etc)	I rees, light	underbrus	sn	Some Surface Stone	e (e a cobblec	stones boulder	rs etc.)	3-8% Slope (%)
) Deceriation	g., woodand, agricuit		610.)	vegetation				is (e.g., cobbles,	stories, boulder	3, 610.)	010pe (78)
	Description	of Location:										
2. So	oil Parent Ma	terial: Glacial T	ill		Kame			SH				
Landform Position on Landscape (SU, SH, BS, FS, TS										FS, TS)		
3. Di	stances fror	n: Ope	n Water Body	<u>>100</u> feet		D	rainage W	√ay <u>>10</u> fee	et	We	tlands	<u>>50</u> feet
Property Line >10 feet Drinking Water Well >100 feet Other												feet
4. Uns	1 Unsuitable Materials Present: Ves No If Yes: Disturbed Soil Eill Material Weathered/Fractured Rock Redrock											
5. G	5. Groundwater Observed: Yes No If yes: NA Depth Weeping from Pit NA Depth Standing Water in Hole											
						Soil Log	1					
Bedovimorphic Features Coarse Fragments Soil												
Depth	(in) Soil Hor	zon Soil Texture	exture Soil Matrix: Color- SDA Moist (Munsell)				% by	Volume Cobbles &	Soil Structure	Consistence		Other
	/Laye	(0004	Molat (Mallacity	Depth	Color	Percent	Gravel	Stones		(Moist)		
0-3	Δ											
3-2	2 Bw	Loamv Sand	10 YR 5/6						Massive	Very		
		,								Friable		
22-1	20 C	Loamy Sand	10 YR 5/4				10	10	Massive	Firm in Place, Friable in hand		

Additional Notes:



City/Town of Manchester by the Sea

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

D. Determination of High Groundwater Elevation

1.	Method Used:		Obs. Hole # <u>5</u>	Obs. I	Hole #				
	Depth observed standing water in observati	on hole	<u>None</u> inches		_inches				
	Depth weeping from side of observation hol	9	None inches	inches					
	Depth to soil redoximorphic features (mottle	es)	inches	inches					
	 Depth to adjusted seasonal high groundwat (USGS methodology) 	er (Sh)	inches		_inches				
	Index Well Number	Reading Date							
	$S_h = S_c - [S_r x (OW_c - OW_{max})/OW_r]$								
	Obs. Hole/Well# Sc	Sr	OWc	OW _{max}	OWr	Sh			
2. Estimated Depth to High Groundwater: 120"+ inches									

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	absorption
sys	stem?	

b.	If yes, at what depth was it observed (exclude A and O	Upper boundary:	3	Lower boundary:	120
Ho	rizons)?		inches		inches
c.	If no, at what depth was impervious material observed?	Upper boundary:		Lower boundary:	
			inches		inches



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

C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area*)

D	eep Ob	servatior	h Hole Numb	er: <u>OSE-TP-6</u>	11-18-	2020	PM		Sunny							
		14/	1	Hole #	Date	Tana Pake	Time		Weather		Latitude		Longitude:			
1. L	and Use		and odland agricultu	ral field vacant lot	atc.)	I rees, light	underbrus	sn	Some Surface Stone	e (e a cobblec	stones boulder	re etc)	3-8% Slope (%)			
	Deceri	(e.g., we			510.)	vegetation				is (e.g., cobbles,	stories, boulder	3, etc.)	010pe (70)			
	Descrip	ption of LC														
2. S	oil Pare	nt Materia	al: Glacial Ti	II	Kame				SH							
Landform Position on Landscape (SU, SH, BS, FS											FS, TS)					
3. D	istances	s from:	Oper	n Water Body	<u>>100</u> feet		D	rainage W	√ay <u>>10</u> fee	t	Wet	tlands	<u>>50</u> feet			
Property Line >10 feet Drinking Water Well >100 feet Other												feet				
4. Un	suitable	Material	s Present:	Yes 🗌 No	If Yes:	Disturbed S	Soil 🗌 I	- Fill Materia	I 🗆 '	Weathered/Fra	ctured Rock	🗌 Be	drock			
					_											
5. Groundwater Observed: Yes No If yes: <u>NA</u> Depth Weeping from Pit <u>NA</u> Depth Standing Water in Hole																
							Soil Log	l								
	Soil Horizon		Soil Texture	Soil Toxturo	Soil Texture	Arizon Soil Texture	Soil Matrix: Color	Rede	oximorphic Fea	atures	Coarse	Fragments		Soil		
Depth	(in) 30	/Layer	(USDA	Moist (Munsell)	Depth	Color	Percent	Gravel	Cobbles &	Soil Structure	Consistence (Moist)		Other			
					Deptil	000	reicent	Glaver	Stones		(MOIST)					
0-3	3	А														
											Von					
3-2	4	Bw	Loamy Sand	10 YR 5/6						Massive	Friable					
											Firm in Place					
24-1	20	С	Loamy Sand	10 YR 5/4					2	Massive	Friable in hand					
	1															

Additional Notes:



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

D. Determination of High Groundwater Elevation

1.	Method Used:		Obs. Hole # <u>6</u>	Obs.	Hole #		
	Depth observed standing water in observation	on hole	<u>None</u> inches	inches			
	Depth weeping from side of observation hole	9	None inches	inches			
	Depth to soil redoximorphic features (mottle	es)	inches	inches			
	 Depth to adjusted seasonal high groundwate (USGS methodology) 	er (Sh)	inches		_inches		
	Index Well Number	Reading Date					
	$S_h = S_c - [S_r x (OW_c - OW_{max})/OW_r]$						
	Obs. Hole/Well# Sc	Sr	OWc	OW _{max}	OWr	Sh	
2. E	stimated Depth to High Groundwater: 120"+ inc						

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	absorption
sys	stem?	

b.	If yes, at what depth was it observed (exclude A and O	Upper boundary:	3	Lower boundary:	120
Ho	rizons)?		inches		inches
C.	If no, at what depth was impervious material observed?	Upper boundary:		Lower boundary:	
			inches		inches



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C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area*)

[Deep C	Observation	Hole Numb	er: <u>OSE TP-7</u>	11-18-	2020	PM		Sunny				
			I	Hole #	Date	Tasas Kabi	Time	. -	Weather		Latitude		Longitude:
1. L	_and U	se Vvoodi	and odland agricultu	ral field vacant lot	etc)	I rees, light	underbrus	sn	Some Surface Stone	e (e a cobbles	stones houlde	rs etc)	3-8% Slope (%)
	D	(e.g., wo			610.)	vegetation				s (e.g., cobbles,	stones, boulde	13, 610.)	Slope (78)
	Desc	ription of LC	cation:										
2. 3	Soil Pa	rent Materia	al: Glacial Ti	II		K	ame		SH				
						La	andform		Posi	tion on Landscap	e (SU, SH, BS	, FS, TS)	
3. E	Distanc	es from:	Oper	n Water Body	<u>>100</u> feet		D	rainage V	√ay <u>>10</u> fee	et	We	etlands	<u>>50</u> feet
			F	Property Line	<u>>10</u> feet		Drinkin	g Water V	Vell <u>>100</u> fe	eet		Other	feet
4. Ur	nsuitab	le Materials	s Present:	Yes 🗌 No	If Yes:	Disturbed S	Soil 🔲 I	Fill Materia	I 🗆 '	Weathered/Fra	ctured Rock	🗌 Be	drock
				- —									
5. (Ground	water Obse	erved: 🗌 Yes	🛛 🛛 No		If ye	s: <u>NA</u> De	pth Weeping	g from Pit	<u>1</u>	A Depth Stand	ding Wate	r in Hole
							Soil Log	I					
		Coil Horizon	Coll Toxture	Sail Matrix: Calar	Rede	oximorphic Fea	atures	Coarse	Fragments		Soil		
Dept	h (in)	/Layer	(USDA	Moist (Munsell)	Domth	Color	Dereent	76 Dy	Cobbles &	Soil Structure	Consistence		Other
		-		. ,	Depth	Color	Percent	Graver	Stones		(WOIST)		
0.	-5	А											
											Marti		
5-	17	Bw	Loamy Sand	10 YR 5/4						Massive	Very Friable		
												looloto	d pookoto of Modium
17-	120	С	Loamy Sand	10 YR 4/6					2	Massive	Firm in Place, Friable in hand	150iale	Coarse Sand

Additional Notes:



City/Town of Manchester by the Sea

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

D. Determination of High Groundwater Elevation

1.	Method Used:		Obs. Hole # <u>7</u>	Obs.	Hole #	
	Depth observed standing water in observation	on hole	<u>None</u> inches		_inches	
	Depth weeping from side of observation hole	9	None inches		_inches	
	Depth to soil redoximorphic features (mottle	es)	inches		inches	
	 Depth to adjusted seasonal high groundwate (USGS methodology) 	er (Sh)	inches		_inches	
	Index Well Number	Reading Date				
	$S_h = S_c - [S_r x (OW_c - OW_{max})/OW_r]$					
	Obs. Hole/Well# Sc	Sr	OWc	OW _{max}	OWr	Sh
2. E	stimated Depth to High Groundwater: 120"+ inc	nes				

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	absorption
sys	stem?	

b.	If yes, at what depth was it observed (exclude A and O	Upper boundary:	5	Lower boundary:	120
Ho	rizons)?		inches		inches
C.	If no, at what depth was impervious material observed?	Upper boundary:		Lower boundary:	
			inches		inches



City/Town of Manchester by the Sea

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

C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area*)

0	Deep (Observatior	Hole Numb	er: <u>OSE TP-8</u>	11-18-	2020	PM		Sunny				
			I	Hole #	Date	Turne Kubt	Time	. -	Weather		Latitude		Longitude:
1. L	_and U	Jse Vvoodi	and odland agricultu	ral field vacant lot	etc)	Vegetation	underbrus	sn	Some Surface Stone	e (e a cobbles	stones boulder	rs etc)	3-8% Slope (%)
	Dee	(e.g., we			610.)	vegetation				s (e.g., cobbles,	stones, boulder	3, 610.)	Slope (78)
	Desc	cription of LC	cation:										
2. 3	Soil Pa	arent Materia	al: Glacial Ti	ill		K	ame		SH				
						La	andform		Posi	tion on Landscap	e (SU, SH, BS,	FS, TS)	
3. E	Distand	ces from:	Oper	n Water Body	<u>>100</u> feet		D	rainage W	√ay <u>>10</u> fee	et	We	tlands	<u>>50</u> feet
			F	Property Line	>10 feet		Drinking	g Water V	Vell <u>>100</u> fe	eet	(Other	feet
4. Ur	nsuitab	ble Materials	s Present:] Yes 🗌 No	If Yes:	Disturbed S	Soil 🗌 I	Fill Materia	I 🗆 '	Weathered/Fra	ctured Rock	🗌 Be	drock
				- —	_								
5. C	Ground	dwater Obse	erved: 🗌 Yes	s 🛛 No		If yes	s: <u>NA</u> De	pth Weeping	g from Pit	<u>1</u>	A Depth Stand	ding Wate	r in Hole
							Soil Log	I					
		0	O all Tautan		Redo	oximorphic Fea	atures	Coarse	Fragments		Soil		
Dept	h (in)	/Layer	(USDA	Moist (Munsell)	Denth	0.1	Demonst	% Dy	Cobbles &	Soil Structure	Consistence		Other
		-	•	. ,	Depth	Color	Percent	Gravei	Stones		(MOIST)		
0-	-7	А											
7-	17	Bw	Loamy Sand	10 YR 5/6						Massive	Very Frichlo		
17-	-67	С	Loamy Sand	10 YR 5/4					2	Massive	Firm in Place, Friable in hand		Ledge at 67"

Additional Notes:



City/Town of Manchester by the Sea

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

D. Determination of High Groundwater Elevation

1.	Method Used:		Obs. Hole # <u>8</u>	Obs.	Hole #	
	Depth observed standing water in observation	on hole	<u>None</u> inches		_inches	
	Depth weeping from side of observation hole	9	None inches		_inches	
	Depth to soil redoximorphic features (mottle	es)	inches		inches	
	 Depth to adjusted seasonal high groundwate (USGS methodology) 	er (Sh)	inches		_inches	
	Index Well Number	Reading Date				
	$S_h = S_c - [S_r x (OW_c - OW_{max})/OW_r]$					
	Obs. Hole/Well# Sc	Sr	OWc	OW _{max}	OWr	Sh
2. E	stimated Depth to High Groundwater: 120"+ inc	nes				

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	absorption
sys	stem?	

b.	If yes, at what depth was it observed (exclude A and O	Upper boundary:	7	Lower boundary:	67
Hoi	rizons)?		inches		inches
C.	If no, at what depth was impervious material observed?	Upper boundary:		Lower boundary:	
			inches		inches



City/Town of Manchester by the Sea

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

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 15.107.

Paul Mugula	12-2-2020
Signature of Soil Evaluator	Date
Paul Ruszala, License #14111	6/30/2023
Typed or Printed Name of Soil Evaluator / License #	Expiration Date of License
Paul Blain	MassDEP
Name of Approving Authority Witness	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 <u>Percolation Test Form 12</u>.

Field Diagrams: Use this area for field diagrams:

Test pits will be field surveyed and shown on the effluent disposal system design plans.



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.

Street Address or Lot #				
Manchastar by the Saa		N/A	01044	
City/Town		State		Ie
		Claid	2.10 000	
Contact Person (if different from Owner)		Telephone Number		
Test Results				
	11-18-2020	9:48 AM		
	Date	Time	Date	Time
	OSE TP-1			
Observation Hole #				
Depth of Perc	32"			
Start Pre-Soak	9:48 AM			
End Pre-Soak	10:03 AM			
Time at 12"	10:03 AM			
Time at 9"	10:10 AM			
Time at 0"	10:18 AM			
Time at 6				
Time (9"-6")	8 minutes			
Rate (Min./Inch)	3 minutes/inch			
	Test Passed:	\boxtimes	Test Passed:	
	Test Failed:		Test Failed:	
Raymond Willis, P.E.				
Test Performed By:				
Paul Blain, MassDEP				
Board of Health Witness				
Comments:				



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.

Street Address or Lot #				
Manchester by the Sea		MA	01944	
City/Town		State	Zip Coo	le
Contact Person (if different from Owner)		Telephone Number		
Test Results				
	11-18-2020	11:14 AM		
	Date	Time	Date	Time
Observation Liels #	OSE TP-2			
Observation Hole #				
Depth of Perc	32"			
Start Pre-Soak	11:14 AM			
End Pre-Soak	11:29 AM			
Time at 12"	11:29 AM			
Time at 9"	11:35 AM			
Time at 6"	11:41 AM			
Time (9"-6")	6 minutes			
Rate (Min./Inch)	2 minutes/inch			
	Test Passed: Test Failed:		Test Passed: Test Failed:	
Raymond Willis, P.E.				
Test Performed By:				
Paul Blain, MassDEP				
Board of Health Witness				



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.

Manchaster by the Cas		N 4 A	0404	4
Manchester by the Sea		MA State	<u> </u>	4
City/Town		Slale	Zip Co	ue
Contact Person (if different from Owner)		Telephone Number		
Test Results				
	11-18-2020	2:17 PM		
	Date	Time	Date	Time
	OSE TP-5			
Observation Hole #	· · · · · · · · · · · · · · · · · · ·			
Depth of Perc	48"			
Start Pre-Soak	2:17 PM			
End Pre-Soak	2:32 PM			
Time at 12"	2:32 PM			
	2:54 PM			
Time at 9"				
Time at 6"	3:19 PM			
Time (9"-6")	25 minutes			
Rate (Min./Inch)	8.3 minutes/inc	ch		
,	Test Passed: Test Failed:		Test Passed: Test Failed:	
Raymond Willis, P.E.				_
Test Performed By:				
Paul Blain, MassDEP				
Board of Health Witness				



City/Town of Manchester by the Sea

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

A. Facility Information

	Owner Name						
	0 Old School Street		Map 12 Lat 0 19				
	Street Address		$\frac{1010 + 3 \pm 010 + 10}{\text{Map/l of #}}$				
	Manchester by the Sea	МА	01944				
	City	State	Zip Code				
	- ,						
Β.	Site Information						
1.	(Check one) 🛛 New Construction 🗌 Upg	rade 🗌 Repair					
2.	Soil Survey Available? 🛛 🖓 Yes 🗍 No	If ves:		UC Davis NRCS	102E		
				Source	Soil Map Unit		
	Chatfield-Hollis-Rock Outcrop	High runoff					
	Soil Name	Soil Limitations					
	Glacial Till, coarse-loamy melt-out till derived from	Shoulder					
	granite, gneiss, and/or schist	Landform					
3.	Surficial Geological Report Available? Yes No	If yes: MassGIS		Till/Bedrock			
		Year Published	/Source	Map Unit			
	Description of Goologic Man Linit:						
	Description of Geologic Map Onit.						
4.	Flood Rate Insurance Map Within a regulatory	/floodway? 🗌 Yes 🛛 N	0				
-							
5.	Within a velocity zone?						
6	Within a Manned Wetland Area? \Box Yes	If yes, Mass	GIS Wetland Data L	ayer: <u>NA</u>			
-				Wetland 1	Гуре		
1.	Current vvater Resource Conditions (USGS):	11/30/2020 Month/Day/ Year	Range: 🖂 Abov	e Normai 📋 Norr	nai 📋 Below Normal		
8	Other references reviewed: Station 42	23506070491401 MA-W/PW/ 76R	Wenham MA				
0.							



City/Town of Manchester by the Sea

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

C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area*)

C	eep Ob	oservation	Hole Numb	er: <u>OSE TP-9</u>	11-19-	2020	AM		Sunny				
	-			Hole #	Date		Time		Weather		Latitude		Longitude:
1. L	and Us		and and agricult	ral field vegent let	ata)	I rees, light u	underbrus	sn	Some Surface Stone		atonoo bouldor	co oto)	<u>3-8%</u>
		- (e.g., wo	iodiand, agricult		elc.)	vegetation			Surface Stone	s (e.g., cobbles,	stones, boulder	s, etc.)	Slope (%)
	Descri	iption of Lo	cation:									<u> </u>	
2. 5	Soil Pare	ent Materia	l: Glacial Ti	11		Ka	ame		SH				
						La	ndform		Posi	tion on Landscap	e (SU, SH, BS,	FS, TS)	
3. C	Distance	es from:	Oper	n Water Body	<u>>100</u> feet		D	rainage W	√ay <u>>10</u> fee	t	We	tlands	<u>>50</u> feet
			F	Property Line	>10 feet		Drinking	g Water V	Vell >100 fe	eet	(Other	feet
4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil Fill Material Weathered/Fractured Rock Bedrock													
5. Groundwater Observed: Yes No If yes: <u>NA</u> Depth Weeping from Pit <u>NA</u> Depth Standing Water in Hole													
							Soil Log	I					
Redoximorphic Features Coarse Fragments Soil													
Dept	h (in) So	oil Horizon /Laver	Soil Texture (USDA	Moist (Munsell)			_	% by	Cobbles &	Soil Structure	Consistence		Other
			(000000	,	Depth	Color	Percent	Gravel	Stones		(Moist)		
0-	6	А											
	-												
6-2	28	Bw	Loamy Sand	10 YR 5/6						Massive	Very Friable		Roots to 28"
28-	120	С	Loamy Sand	10 YR 5/4				10		Massive	Firm in Place, Friable in hand		

Additional Notes:



City/Town of Manchester by the Sea

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

D. Determination of High Groundwater Elevation

1.	Method Used:		Obs. Hole # <u>9</u>	Obs.	Obs. Hole #		
	Depth observed standing water in observation	on hole	None inches inches				
	Depth weeping from side of observation hole	9	None inches	inches			
	Depth to soil redoximorphic features (mottle	es)	inches	inches			
	 Depth to adjusted seasonal high groundwate (USGS methodology) 	er (Sh)	inches		inches		
	Index Well Number	Reading Date					
	$S_h = S_c - [S_r \ x \ (OW_c - OW_{max})/OW_r]$						
	Obs. Hole/Well# Sc	Sr	OWc	OW _{max}	OWr	Sh	
2. E	stimated Depth to High Groundwater: 120"+ incl	nes					

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	absorption
sys	stem?	

b.	If yes, at what depth was it observed (exclude A and O	Upper boundary:	6	Lower boundary:	120
Ho	rizons)?		inches		inches
c.	If no, at what depth was impervious material observed?	Upper boundary:		Lower boundary:	
			inches		inches



City/Town of Manchester by the Sea

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

C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area*)

De	ep Observ	ation Hole Numb	er: <u>OSE TP-</u>	11-19-	2020	AM		Sunny				
	-		10	Date	Tara Pala	Time	.1.	Weather		Latitude		Longitude:
1. La	nd Use	oodland	ural field vacant lat	oto)	I rees, light	underbrus	sh	Some Surface Stope	e (e a cobblec	stopos bouldor	c otc)	<u>3-8%</u>
				elc.)	vegetation			Surface Stone	is (e.g., cobbles,	stones, boulder	s, etc.)	Slope (%)
	Description	of Location:										
2. So	oil Parent Ma	terial: Glacial T	ïll		Kame			SH				
					La	ndform		Posi	tion on Landscap	e (SU, SH, BS,	FS, TS)	
3. Di	stances fron	n: Ope	n Water Body	<u>>100</u> feet		D	rainage W	√ay <u>>10</u> fee	et	We	tlands	<u>>50</u> feet
Property Line >10 feet Drinking Water Well >100 feet Other feet												
4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil Fill Material Weathered/Fractured Rock Bedrock												
5. Groundwater Observed: Yes No If yes: NA Depth Weeping from Pit NA Depth Standing Water in Hole												
						Soil Log	1					
Soil Herizen Soil Texture Soil Metrix: Color Redoximorphic Features % by Volume Soil												
Depth	(in) /Laye	(USDA	Moist (Munsell)	Depth	Color	Percent	Gravel	Cobbles &	Soil Structure	(Moist)		Other
								5101163				
0-5	A											
E 0	Dur								Magaine	Very		
5-2	D DW	Loamy Sand							wassive	Friable		
26-1	20 C	Loamy Sand	10 YR 5/4				2		Massive	Firm in Place, Friable in hand		

Additional Notes:



City/Town of Manchester by the Sea

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

D. Determination of High Groundwater Elevation

1.	Method Used:		Obs. Hole # <u>10</u>	Obs.	Obs. Hole #			
	Depth observed standing water in observation	on hole	None inches inches					
	Depth weeping from side of observation hole	9	None inches		_inches			
	Depth to soil redoximorphic features (mottle	es)	inches	inches inches				
	 Depth to adjusted seasonal high groundwate (USGS methodology) 	er (S _h)) inches		inches			
	Index Well Number	Reading Date						
	$S_h = S_c - [S_r x (OW_c - OW_{max})/OW_r]$							
	Obs. Hole/Well# Sc	Sr	OWc	OW _{max}	OWr	Sh		
2. E	stimated Depth to High Groundwater: 120"+ inc	nes						

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	absorption
sys	stem?	

b.	If yes, at what depth was it observed (exclude A and O	Upper boundary:	5	Lower boundary:	120
Ho	rizons)?		inches		inches
c.	If no, at what depth was impervious material observed?	Upper boundary:		Lower boundary:	
			inches		inches



City/Town of Manchester by the Sea

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

C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area*)

Dee	p Observatio	n Hole Numb	er: <u>OSE TP-</u>	11-19-	2020	AM		Sunny				
		امما	11	Date	Tropp light	Time	. L	Weather		Latitude		Longitude:
1. Lan	d Use (e.g. w	Iana oodland agricultu	ral field vacant lot	etc)	Vegetation	underbrus	<u>sn</u>	Some Surface Stone	s (e.a. cobbles	stones houlder	rs etc)	<u>3-8%</u> Slope (%)
	c.g., w			010.)	vegetation				.s (c.g., cobbies,	5101103, 5001001	3, 010.)	
L	escription of Lo											
2. Soil	Parent Materia	al: <u>Glacial Ti</u>	II		K	ame		SH				
					La	andform		Posi	tion on Landscap	e (SU, SH, BS,	FS, TS)	
3. Dist	ances from:	Oper	n Water Body	<u>>100</u> feet		D	rainage W	/ay <u>>10</u> fee	t	We	tlands	<u>>50</u> feet
Property Line >10 feet Drinking Water Well >100 feet Other feet												
4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil Fill Material Weathered/Fractured Rock Bedrock												
5. Groundwater Observed: Yes No If yes: <u>NA</u> Depth Weeping from Pit <u>NA</u> Depth Standing Water in Hole												
						Soil Log	I					
Soil Horizon Soil Texture Soil Matrix: Color- Redoximorphic Features % by Volume Soil Matrix: Color- Soil										Othor		
Depth (II	¹⁾ /Layer	(USDA	Moist (Munsell)	Depth	Color	Percent	Gravel	Cobbles & Stones	Soli Structure	(Moist)		Other
0-3	А											
3-23	Bw	Loamy Sand	10 YR 5/6						Massive	Very Friable		
32-58	С	Loamy Sand	10 YR 5/4				2	15	Massive	Firm in Place, Friable in hand		Ledge at 58"

Additional Notes:



City/Town of Manchester by the Sea

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

D. Determination of High Groundwater Elevation

1.	Method Used:		Obs. Hole # <u>11</u>	Obs.	Obs. Hole #			
	\square Depth observed standing water in observation	on hole	None inches inches					
	Depth weeping from side of observation hole	Э	None inches		inches			
	Depth to soil redoximorphic features (mottle	es)	inches	inches inches				
	Depth to adjusted seasonal high groundwate (USGS methodology)	er (S _h)	inches		inches			
	Index Well Number	Reading Date						
	$S_{h} = S_{c} - [S_{r} \ x \ (OW_{c} - OW_{max})/OW_{r}]$							
	Obs. Hole/Well# Sc	Sr	OWc	OW _{max}	OWr	Sh		
2. E	Estimated Depth to High Groundwater: 120"+ inc	nes						

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	absorption
sy	stem?	

b.	If yes, at what depth was it observed (exclude A and O	Upper boundary:	3	Lower boundary:	58
Ho	rizons)?		inches		inches
c.	If no, at what depth was impervious material observed?	Upper boundary:		Lower boundary:	
			inches		inches



City/Town of Manchester by the Sea

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

C. On-Site Review (*minimum of two holes required at every proposed primary and reserve disposal area*)

D	eep Ob	oservation	h Hole Numb	er: <u>OSE TP-</u>	11-19-	2020	AM		Sunny				
			1	12	Date	Tara Pala	Time	1.	Weather		Latitude		Longitude:
1. L	and Use		and and agricultu	Iral field vacant lat	ote)	I rees, light i	underbrus	sn	Some Surface Stope		stones boulder	re ote)	3-8% Slope (%)
	. .	(e.g., wc			510.)	vegetation			Sunace Stone	s (e.g., cobbles,	stones, bounder	5, etc.)	Slope (78)
	Descri	ption of Lo	cation:										
2. S	oil Pare	ent Materia	al: Glacial Ti	II		Ka	ame		SH				
						La	ndform		Posi	tion on Landscap	e (SU, SH, BS,	FS, TS)	
3. D	istance	s from:	Oper	Water Body	<u>>100</u> feet		D	rainage W	/ay <u>>10</u> fee	t	Wet	tlands	<u>>50</u> feet
			F	Property Line	>10 feet		Drinking	g Water W	/ell >100 fe	et	(Other	feet
4. Un	suitable	Materials	s Present:	Yes □ No	If Yes:	☐ Disturbed S	Soil 🗆 I	- Fill Materia	I <u> </u>	Neathered/Fra	ctured Rock	ПВе	drock
_													
5. G	Groundw	ater Obse	erved: 🗌 Yes	🛛 No		If yes	3: <u>NA</u> De	pth Weeping	g from Pit	<u>N</u>	IA Depth Stand	ding Wate	er in Hole
							Soil Log						
	Sc	oil Horizon	Soil Texture	Soil Matrix: Color-	Redo	oximorphic Fea	tures	Coarse % by	Fragments Volume		Soil		
Depth	in (in)	/Layer	(USDA	Moist (Munsell)	Depth	Color	Percent	Gravel	Cobbles & Stones	(Moist)	Consistence (Moist)		Other
									otones				
0-	4	A											
1 1	7	Dw								Maggiva	Very		
4-	/	DW	Luarity Sanu	10 TK 5/6						Massive	Friable		
17-1	20	С	Loamy Sand	10 YR 5/4				2	15	Massive	Firm in Place, Friable in hand		

Additional Notes:



City/Town of Manchester by the Sea

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

D. Determination of High Groundwater Elevation

1.	Method Used:		Obs. Hole # <u>12</u>	Obs.	Hole #	
	Depth observed standing water in observation	on hole	<u>None</u> inches		_inches	
	Depth weeping from side of observation hole)	None inches		_inches	
	Depth to soil redoximorphic features (mottle	s)	inches		_ inches	
	 Depth to adjusted seasonal high groundwate (USGS methodology) 	er (Sh)	inches		_inches	
	Index Well Number	Reading Date				
	$S_h = S_c - [S_r x (OW_c - OW_{max})/OW_r]$					
	Obs. Hole/Well# Sc	Sr	OWc	OW _{max}	OWr	Sh
2. E	stimated Depth to High Groundwater: 120"+ inch	ies				

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	absorption
sys	stem?	

b.	If yes, at what depth was it observed (exclude A and O	Upper boundary:	4	Lower boundary:	120
Ho	rizons)?		inches		inches
c.	If no, at what depth was impervious material observed?	Upper boundary:		Lower boundary:	
			inches		inches



City/Town of Manchester by the Sea

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

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 15.107.

Paul Mugula	12-2-2020
Signature of Soil Evaluator	Date
Paul Ruszala, License #14111	6/30/2023
Typed or Printed Name of Soil Evaluator / License #	Expiration Date of License
Paul Blain	MassDEP
Name of Approving Authority Witness	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 <u>Percolation Test Form 12</u>.

Field Diagrams: Use this area for field diagrams:

Test pits will be field surveyed and shown on the effluent disposal system design plans.



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.

Merchanter by the Coo			0404	4
Manchester by the Sea		MA	0194	4
City/Town		State		de
Contact Person (if different from Owner)		Telephone Number		
Test Results				
	11-19-2020	9:11 AM		
	Date	Time	Date	Time
Observation Hole #	OSE TP-9			
Observation note #				
Depth of Perc	34"			
Start Pre-Soak	9:11 AM			
End Pre-Soak	9:26 AM			
Time at 12"	9:26 AM			
Time at 9"	9:41 AM			
Time at 6"	9:56 AM			
Time (9"-6")	15 minutes			
Rate (Min./Inch)	5 minutes/inch			
	Test Passed: Test Failed:		Test Passed: Test Failed:	
Raymond Willis, P.E.				
Test Performed By:				
Paul Blain, MassDEP				
Board of Health Witness				



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.

Street Address or Lot #				
Manchester by the Sea		MA	01944	4
City/Town		State	Zip Co	de
Contact Person (if different from Owner)	Telephone Number	,	
Test Results				
	11-19-2020	10:58 AM		
	Date	Time	Date	Time
Observation Hole #	OSE TP-12			
Depth of Perc	34"			
Start Pre-Soak	10:58 AM			
End Pre-Soak	11:13 AM			
Time at 12"	11:13 AM			
Time at 9"	11:31 AM			
Time at 6"	11:49 AM			
Time (9"-6")	18 minutes			
Rate (Min./Inch)	6			
х <i>у</i>	Test Passed: Test Failed:	\square	Test Passed: Test Failed:	
Raymond Willis, P.E.				
Test Performed By:				
Paul Blain, MassDEP				
Board of Health Witness				