

November 18, 2015

Jeannine McCrumb, Septic Officer
Brian Tremback, Septic Consultant
Town of Charlotte
P.O. Box 119
Charlotte, VT 05445

RE: Hepatica Lodge Trust, Frederick Pease TTEE – Replacement Wastewater Disposal System & Replacement Water Supply Application

Dear Jeannine & Brian:

My client, Ted Pease owns a 2.8 acre property at the end of Molly Henry Road. Currently on the property are 2 camps, one with a full kitchen and bathroom, one with only a bathroom. Both have a shared water line, with water being supplied from Lake Champlain. They each have their own septic tanks, but have outlet pipes which dead ends in shallow soil. Both of the disposal areas are in a state of failure and therefore a replacement system is required.

I met with Brian Tremback on October 8th, 2015 to dig test pits for 2 reasons, the first to identify soil profiles, and second, to identify depth to ledge in the area I need to use for the septic tank, processor tank/pump station and replacement area. We dug a total of 4 pits, 2 in the area of the tanks and 2 in the area of the disposal field. All four pits revealed a depth to ledge of 2.0' and well drained brown fine sandy loam to ledge. The 2 tanks will be placed in-line downslope of both camps, with the replacement system located in the woods in it's best possible location. As defined with Brian on-site, I am designing a pre-treated bottomless sand filter (BSF) type disposal system with an Advantex Processor and a 1,000 gallon pump station to serve the existing (2) 2-bedroom camps or a single 4-bedroom year round residence.

A Site Specific Effluent Mounding Analysis is attached which indicates the need of a 31.0' long BSF with 1.0' of State approved mound sand. I have included an additional 1.0' of State approved mound sand for an added safety factor. The hydraulic analysis indicates the need of an effluent pump capable of pumping 18.53 gpm versus 14.3' TDH. I've attached a pump specification which meets this requirement.

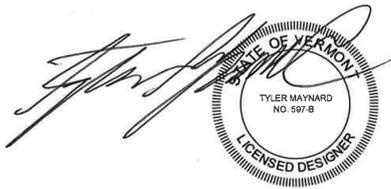
There will be a new drilled well place at the top of the ridge towards Turtle Moon Road, approximately 100' south of T. Nugent's well. Due to the location of the well, I have included a 100' isolation zone because it is on top of a ridge, and an upslope 200' isolation does not have to be considered. There are no disposal systems located in this well isolation area. I have included the Act 117/145 notifications that were sent by

certified mail on 11/4/2015 to all affected parties of the new well. In this regard, I've included the signed ANR Form 4 for your review.

I believe the application package is complete with a signed application and ANR Form 4; a \$250.00 application fee payable to the Town of Charlotte; 2 signed copies of Figures 1, 2, and 3; 1 signed 11" x 17" copy of Figures 1, 2, and 3; 1 copy of this letter and the attachments; and 1 CD of the whole application. The Trust looks forward to the issuance of the requested permit so that the replacement system and well can be constructed.

If you have any questions, please give me a call.

Very truly yours,
Lincoln Applied Geology, Inc.



Tyler Maynard, CPG
Licensed Class B Designer #597

Enclosure

CC:

F:\CLIENTS\2015\15078\15078 Charlotte Letter.docx



Drinking Water & Groundwater Protection Division - Permit Application Wastewater System & Potable Water Supply



For Office Use Only:

Application#	PIN#	Date Complete Application Received
<input type="text"/>	<input type="text"/>	<input type="text"/>

Authority:

10 V.S.A. Chapter 64, the Environmental Protection Rules, Chapter 1, Wastewater System & Potable Water Supply Rules, and Chapter 21, Water Supply Rules, Appendix A. Part 11 - Small Scale Water Systems.

General Information:

The organization and/or content of this form may not be altered, however, the form is designed to expand to allow additional information to be entered. Changes in the organization and/or content of the form may result in an invalid application or permit.

In most cases a licensed designer will be required for your project and to help complete this application form. There are also line-by-line instructions available to assist with completing this form.

NOTE: We strongly suggest referring to the application instructions while completing this application form.

Part I Applicant (Landowner) & Project Contact Information

Section A - Applicant Details (if Landowner is an Individual or Individuals)

1 Last Name		2 First Name (and Middle Initial if appropriate)	
<input type="text"/>		<input type="text"/>	
3 Mailing Address Line 1		4 Mailing Address Line 2	
<input type="text"/>		<input type="text"/>	
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
<input type="text"/>	<input type="text"/>	United States	<input type="text"/>
9 Email Address			10 Telephone
<input type="text"/>			<input type="text"/>

Remove This Applicant

Add Another Applicant

Section B - Applicant Details (if Landowner is other than an Individual or Individuals, e.g. Corporations, Homeowner's Associations, etc.)

1 Registered Legal Entity or Organization Name		2 Telephone	
Hepatica Lodge Trust Frederick Pease TTEE		508-653-5081	
3 Mailing Address Line 1		4 Mailing Address Line 2	
66 Pilgrim Road		<input type="text"/>	
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
Natick	MA	United States	01760

Certifying Official

The Certifying Official must be a person who has signatory authority for the legal entity or organization that is the Applicant.

9 Certifying Official Last Name		10 Certifying Official First Name (and MI if appropriate)	
Pease		Ted	
11 Certifying Official Title			
Trustee			
12 Certifying Official Email Address			13 Telephone
ftpease@aim.com			<input type="text"/>

Remove This Applicant

Add Another Applicant

Section C - Primary Contact Information (if other than Applicant)			
1 Last Name		2 First Name (and Middle Initial if appropriate)	
<input type="text"/>		<input type="text"/>	
3 Mailing Address Line 1		4 Mailing Address Line 2	
<input type="text"/>		<input type="text"/>	
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
<input type="text"/>	<input type="text"/>	United States	<input type="text"/>
9 Email Address			10 Telephone
<input type="text"/>			<input type="text"/>

Section D - Building/Business Owner Information			
1 Last Name		2 First Name (and Middle Initial if appropriate)	
<input type="text"/>		<input type="text"/>	
3 Mailing Address Line 1		4 Mailing Address Line 2	
<input type="text"/>		<input type="text"/>	
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
<input type="text"/>	<input type="text"/>	United States	<input type="text"/>
9 Email Address			10 Telephone
<input type="text"/>			<input type="text"/>

Part II Certifying Designer(s) Information			
1 Designer Last Name		2 Designer First Name (and Middle Initial if appropriate)	
Maynard		Tyler	
3 Designer License#	4 Company Name		
597	Lincoln Applied Geology, Inc.		
5 Mailing Address Line 1		6 Mailing Address Line 2	
163 Revell Drive		<input type="text"/>	
7 Town/City	8 State/Province	9 Country	10 Zip/Postal Code
Lincoln	VT	United States	05443
11 Email Address			12 Telephone
tmaynard@lagvt.com			802 453 4384
13 Designer Role(s) (check all that apply)			
<input checked="" type="checkbox"/> Water Supply Designer <input checked="" type="checkbox"/> Wastewater Disposal System Designer			
<div style="background-color: yellow; border: 1px solid black; padding: 2px; display: inline-block;">Remove This Designer</div>			
<div style="background-color: green; color: white; border: 1px solid black; padding: 2px; display: inline-block;">Add Another Designer</div>			

Part III Property Location Information	
Section A - Property Location	
1 Please provide the property Town and the property address or a brief description of the location.	
(a) Town or City	(b) Street or Road Location
Charlotte	125 Molly Henry Road

Section B - Center of Property GPS Coordinates	
1 Enter the approximate center of property coordinates using GPS set for NAD83 or as derived from a map (map must be based on NAD83).	
(a) Latitude (in decimal degrees to five decimal places, ex. 44.38181°)	(b) Longitude (in decimal degrees to five decimal places, ex. -72.31392 °)
N <input style="width: 100px;" type="text" value="44.29726"/> °	W (-) <input style="width: 100px;" type="text" value="73.30092"/> °

Part IV Project Information

Section A - General Project Information & Questions

1 Project Name (if applicable) <input style="width: 95%;" type="text" value="Pease Replacement System"/>	2 Total Acreage of Property <input style="width: 95%;" type="text" value="2.8"/>
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3 Business Name (if applicable)

4 Detailed Project Description

5 (a) Were all existing buildings or structures, campgrounds, and their associated potable water supplies and wastewater systems substantially completed before January 1, 2007? Yes No

(b) Were all existing improved and unimproved lots in existence before January 1, 2007? Yes No

6 Does this application include subdividing the property? Yes No

7 Has anyone from the Drinking Water & Groundwater Protection Division's Regional Office been to the property?..... Yes No

If Yes, enter the staff person's name and the date of the visit.

(a) Name of Staff Person <input style="width: 95%;" type="text" value="Brian Tremback"/>	(b) Date of Visit (m/d/yyyy) <input style="width: 95%;" type="text" value="10/8/2015"/>
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8 Will any construction occur within 50 feet of a wetland boundary, mapped or designated? Yes No

If Yes, contact the Wetlands Program of the Watershed Management Division at (802) 338-4835.

9 Will more than one acre be disturbed during the entire course of construction, including all lots and phases? Yes No

If Yes, contact the Stormwater Program of the Watershed Management Division at (802) 241-4320.

10 Will there be any stream crossings by roads, utilities, or other construction? Yes No

If Yes, contact the River Corridor Mgmt. Program of the Watershed Management Division at:

Central & Northwest Vermont	(802) 879-5631
Southern Vermont	(802) 786-5906
Northeastern Vermont	(802) 751-0129

11 Is the project located in a special flood hazard area as designated on the flood insurance maps prepared for a municipality by the Federal Emergency Management Agency? Yes No

If Yes, show the special flood hazard area limits on the site plan.

12 Act 250: Has the Applicant (Landowner) subdivided any other lots of any size within a five mile radius of this subdivision, or within the environmental district within the last five years ? Yes No

If Yes, enter the town(s) and the associated number of lots in the table below:

(a) Town	(b) Number of Lots
X <input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
<input style="width: 80%; background-color: #4CAF50; color: white; border: none;" type="button" value="Add Another Town/Lot"/>	

13 Is there any prior Act 250 jurisdiction on the tract of land?..... Yes No

If Yes, enter the Act 250 permit number:

(a) Act 250 Permit Number

Section B - Project Deed Reference

1 Please provide the Town, Parcel ID, Book, and Page reference for the current landowner's deed(s) to this property:

	(a) Town	(b) Parcel ID	(c) Book	(d) Page(s)
X	Charlotte	00059-0125	171	73-75

Add Another Deed Reference

Section C - Project Plan Reference

1 Please provide the following information for all water supply and wastewater disposal system plans being submitted.

	(a) Sheet#	(b) Title	(c) Plan Date	(d) Plan Revision Date
X	1	Site Plan with Proposed Drilled Well and Proposed Replacement Wastewater System	11/4/2015	
X	2	Replacement Wastewater System Design Details	11/4/2015	
X	3	Water System Design Details	11/4/2015	

Add Another Plan Reference

Section D - Existing Project Lot/Building Details

Please provide the existing project details. This section is used to describe what is existing for the project. For example, if you are subdividing an undeveloped 21-acre parcel, you would list the existing parcel. If you are revising the boundary lines of two commercial lots in an industrial park, and constructing an addition to an existing building you would list the existing lot numbers, existing acres, existing buildings, existing uses, construction date(s), prior permits, and answer the compliance questions.

1 Lot#	2 Lot Size (acres)	3 Existing Use of the Lot
1	2.8	Residential

4 Provide the following information for each building on the lot:

	(a) Building ID	(b) Existing Use	(c) Date Construction of Building Substantially Complete	(d) Prior Permits	(e) In compliance with existing permits?
X	Camp 1	Residential	01-01-1900	Local	<input checked="" type="radio"/> Yes <input type="radio"/> No
X	Camp 2	Residential	01-01-1900	Local	<input checked="" type="radio"/> Yes <input type="radio"/> No

Add Another Building

Remove This Lot

Add Another Lot

Section E - Proposed Project Lot/Building Details

This section is used to describe what you are proposing to do in this project. For example, if you were going to create 4 lots for construction of single family residences, you would list each lot, proposed acreage, proposed buildings, and proposed use.

1 Lot#	2 Lot Size (acres)	3 Proposed Use of the Lot
1	2.8	Residential

4 Is the lot being created as part of a subdivision? Yes No

5 Are you requesting that the Blood, Marriage, or Civil Union special fee be applied to this lot? Yes No

6 If the lot is exempt, please indicate the specific exemption from the Wastewater System and Potable Water Supply Rules?

7 Provide the following information for each building on the lot:

	(a) Building ID	(b) If building is exempt, indicate exemption	(c) Construction or increased flow?	(d) Proposed Use
X	Camps		<input type="checkbox"/>	Residential

Add Another Building

Remove This Lot

Add Another Lot

Part V Water Supply Information

Section A - Water Supply Screening Questions

- 1 Are you proposing a new water supply or water service line or changes to a permitted but not constructed water supply or water service line for this project? Yes No
- 2 Are you proposing changes to an existing water supply or water service for this project (including changes to location, design flows, or operational change)? Yes No
- 3 Is there an existing connection to a water supply or water service line for this project? Yes No

Complete Part V if you answered Yes to any of the above questions. A project with no existing or proposed water supply may skip to Part VI.

Section B - General Water Supply Questions

- 1 Does this project involve a failed water supply? Yes No
- 2 Will any of the proposed water sources serve 25 or more people or have 15 or more service connections? Yes No
If Yes, the applicant must contact the Drinking Water & Groundwater Protection Division at (802) 241-3400 for source, construction and an operating permit.
- 3 Are any of the existing or proposed water sources located within a special flood hazard area? Yes No
- 4 Are any of the existing or proposed water sources located within a floodway? Yes No
- 5 Are any of the proposed water sources located within 1 mile of a hazardous waste site as designated by the Waste Management Division and identified on the Agency mapping website? Yes No
If Yes, please submit additional information on the site. The Waste Management Division can be reached at (802) 241-3888.
- 6 Does this project require an approval letter from the Drinking Water & Groundwater Protection Division for the construction of a public water system, municipal water line extension over 500 feet, or hydrants or sprinkler systems? Yes No
If Yes, please submit a copy of the approval letter from the Drinking Water & Groundwater Protection Division.
- 7 Does the proposed or existing water supply(ies) use a water treatment device to obtain compliance with the quality requirements in the Water Supply Rule? Yes No
If Yes, please submit additional information regarding the constituent(s) that exceeds the standards and plans, details, and specifications of the treatment device.
- 8 Is any portion of the proposed water supply located in or near a Water Source Protection Area as designated by the Drinking Water & Groundwater Protection Division? Yes No
If in areas of known interference issues, contact the Drinking Water & Groundwater Protection Division at (802) 241-3400.

Section C - Individual Water Supply Details

Please provide the following information for each of the existing and proposed water supply(ies) serving a building or structure, or campground on the property.

1 Water Supply Name/Identifier Lake Champlain	2 Water Supply Owner (if not Applicant)
3 Water Source Type Non-Public Surface Water	4 Type of Change to Supply No Change

5 Lots/Buildings Served by this Water Supply System

	(a) Lot#		(b) Building ID	(c) Type of Change to the Building's Supply	Design Flows (Gallons Per Day)			(g) Rule or Meter Based Flows
					(d) Existing	(e) Change	(f) Total	
X	1	Camps	No Change	0	0	0	Rule-based	

Add Another Lot/Building Served by this Supply

6	7	8
0	0	0

9 Is this water supply located off-lot? Yes No

10 Is this water supply shared? Yes No

If the water supply is located off-lot or shared, submit a copy of the agreement to provide an easement prior to construction.

11 Is a variance being requested for this water supply? Yes No

If Yes, please submit additional details related to the variance request.

Remove This Water Supply

1 Water Supply Name/Identifier Pease Well	2 Water Supply Owner (if not Applicant)
--	---

3 Water Source Type Non-Public Drilled Bedrock Well	4 Type of Change to Supply New System
--	--

5 Lots/Buildings Served by this Water Supply System

	(a) Lot#	(b) Building ID	(c) Type of Change to the Building's Supply	Design Flows (Gallons Per Day)			(g) Rule or Meter Based Flows
				(d) Existing	(e) Change	(f) Total	
X	1	Camps	Connection to New System	490	0	490	Rule-based

Add Another Lot/Building Served by this Supply

6	7	8
490	0	490

9 Is this water supply located off-lot? Yes No

10 Is this water supply shared? Yes No

If the water supply is located off-lot or shared, submit a copy of the agreement to provide an easement prior to construction.

11 Is a variance being requested for this water supply? Yes No

If Yes, please submit additional details related to the variance request.

Remove This Water Supply

Add Another Water Supply

Section D - Water Supply Design Flows Summary Table

1 If the project includes more than one water supply, please list each water supply system and provide the total water supply design flows for the project. **IMPORTANT:** Please don't include systems that were identified in this Part on Section C, Line 4 as a "Replacement Area Designation" in this summary table.

	(a) Water Supply Name/Identifier	Design Flows (Gallons Per Day)		
		(b) Existing	(c) Change	(d) Total
X	Lake Champlain	0	0	0
X	Pease Well	490	0	490

Add Another Water Supply

2	3	4
490	0	490

Part VI Wastewater Disposal System Information

Section A - Wastewater Disposal System Screening Questions

1 Are you proposing a new or replacement wastewater disposal system, a new wastewater service line, or changes to a permitted but not constructed wastewater disposal system or wastewater service line for this project? Yes No

2 Are you proposing changes to an existing wastewater disposal system, replacement wastewater disposal system, replacement area, or wastewater service line for this project (including changes to location, design flows, or operational change)? Yes No

3 Is there an existing connection to a wastewater disposal system or wastewater service line for this project?..... Yes No

*Complete Part VI if you answered Yes to any of the above questions.
A project with no existing or proposed wastewater disposal systems may skip to Part VII.*

Section B - General Wastewater Disposal System Questions

1 Does this project involve a failed wastewater disposal system? Yes No

2 Do any of the systems require a curtain or dewatering drain as part of the design? Yes No

3 Is a hydrogeologic study required for this project? Yes No

4 For projects using soil-based wastewater systems having a total design flow that exceeds 1,000 gpd, is this project located in a Class A Watershed?..... Yes No NA

If Yes, indicate the Class A Watershed in which the system(s) is located:

(a) Class A Watershed Name

5 Are there any existing or proposed floor drains as part of this project?..... Yes No

If Yes, indicate where the floor drains will discharge:

(a) Floor Drain Discharge Point

6 If the project utilizes an Innovative/Alternative System or Product, has the applicant received a copy of the Drinking Water & Groundwater Protection Division's approval letter? Yes No NA

7 Is any portion of the proposed wastewater disposal system located in or near a Water Source Protection Area as designated by the Drinking Water & Groundwater Protection Division? Yes No

If Yes, contact the Drinking Water & Groundwater Protection Division at (802) 241-3400.

Section C - Individual Wastewater Disposal System Details

Please provide the following information for each of the existing and proposed wastewater disposal systems serving a building or structure, or campground on the property.

1 Wastewater Disposal System Name/Identifier <div style="border: 1px solid black; padding: 2px;">Pease Existing</div>	2 Wastewater Disposal System Owner (if not Applicant) <div style="border: 1px solid black; height: 20px;"></div>
3 Wastewater Disposal System Type <div style="border: 1px solid black; padding: 2px;">In-ground</div>	4 Type of Change to System <div style="border: 1px solid black; padding: 2px;">No Change</div>

5 Lots/Buildings Served by this Wastewater Disposal System

	(a) Lot#	(b) Building ID	(c) Type of Change to the Building's System	Design Flows (Gallons Per Day)				(h) Rule or Meter Based Flows
				(d) Existing	(e) Change	(f) Infiltration	(g) Total	
X	<div style="border: 1px solid black; padding: 2px;">1</div>	<div style="border: 1px solid black; padding: 2px;">Camps</div>	<div style="border: 1px solid black; padding: 2px;">No Change</div>	<div style="border: 1px solid black; padding: 2px;">0</div>	<div style="border: 1px solid black; padding: 2px;">Rule-based</div>			
Add Another Lot/Building Served by this System				<div style="border: 1px solid black; padding: 2px;">6</div>	<div style="border: 1px solid black; padding: 2px;">7</div>	<div style="border: 1px solid black; padding: 2px;">8</div>	<div style="border: 1px solid black; padding: 2px;">9</div>	
				<div style="border: 1px solid black; padding: 2px;">0</div>				

10 Is this wastewater disposal system located off-lot? Yes No

11 Is this wastewater disposal system shared? Yes No

If the wastewater disposal system is located off-lot or shared, submit a copy of the agreement to provide an easement prior to initiation of construction.

12 Is a variance being requested for this wastewater disposal system? Yes No

If Yes, please submit additional details related to the variance request.

13 If this wastewater disposal system type is a connection to an Indirect Discharge System, please provide the Indirect Discharge System ID number.

Indirect Discharge System ID Number

14 If this wastewater disposal system type is a connection to a municipal system, please select the town.

Town

15 If this wastewater disposal system is a soil-based system, please select the design approach used.

Design Approach Used

16 For soil-based systems, please check all that apply (Note: Store and dose does not apply to standard pump/pump chamber systems).

Storage and Dose Filtrate Constructed Wetlands

17 If this is an Innovative/Alternative soil-based system, please select the system use type.

Innovative/Alternative System Use Type

18 If this is an Innovative/Alternative soil-based system, please select the Innovative/Alternative system or product.

Innovative/Alternative System or Product

Remove This Wastewater System

1 Wastewater Disposal System Name/Identifier <input type="text" value="Pease Replacement"/>	2 Wastewater Disposal System Owner (if not Applicant) <input type="text"/>
3 Wastewater Disposal System Type <input type="text" value="Bottomless Sand Filter"/>	4 Type of Change to System <input type="text" value="Replacement of Failed System"/>

5 Lots/Buildings Served by this Wastewater Disposal System

	(a) Lot#	(b) Building ID	(c) Type of Change to the Building's System	Design Flows (Gallons Per Day)			(h) Rule or Meter Based Flows	
				(d) Existing	(e) Change	(f) Infiltration		(g) Total
X	<input type="text" value="1"/>	<input type="text" value="Camps"/>	<input type="text" value="Replacement of Failed System"/>	<input type="text" value="490"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="490"/>	<input type="text" value="Rule-based"/>
Add Another Lot/Building Served by this System				<input type="text" value="490"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="490"/>	

10 Is this wastewater disposal system located off-lot? Yes No

11 Is this wastewater disposal system shared? Yes No

If the wastewater disposal system is located off-lot or shared, submit a copy of the agreement to provide an easement prior to initiation of construction.

12 Is a variance being requested for this wastewater disposal system? Yes No

If Yes, please submit additional details related to the variance request.

13 If this wastewater disposal system type is a connection to an Indirect Discharge System, please provide the Indirect Discharge System ID number.

Indirect Discharge System ID Number

14 If this wastewater disposal system type is a connection to a municipal system, please select the town.

Town

15 If this wastewater disposal system is a soil-based system, please select the design approach used.

Design Approach Used

16 For soil-based systems, please check all that apply (Note: Store and dose does not apply to standard pump/pump chamber systems).

- Storage and Dose Filtrate Constructed Wetlands

17 If this is an Innovative/Alternative soil-based system, please select the system use type.

Innovative/Alternative System Use Type

18 If this is an Innovative/Alternative soil-based system, please select the Innovative/Alternative system or product.

Innovative/Alternative System or Product

Remove This Wastewater System

Add Another Wastewater System

Section D - Wastewater Disposal Systems Design Flows Summary Table

1 If the project includes more than one wastewater disposal system, please list each system on this page and provide the total wastewater disposal design flows for the project. **IMPORTANT:** Please don't include systems that were identified in this Part on Section C, Line 4 as a "Replacement Area Designation" in this summary table.

		Design Flows (Gallons Per Day)			
(a) Wastewater Disposal System Name/Identifier	(b) Existing	(c) Change	(d) Infiltration	(e) Total	
X Pease Existing	490	0	0	490	
X Pease Replacement	0	490	0	490	
Add Another Wastewater System		2	3	4	5
	490	490	0	980	

Part VII Application Fees

1 Fee Amount

2 Fee Calculation Details

Part VIII Designer Certification & Copyright License

Section A - Certifying Designer 1 Certification & Copyright License

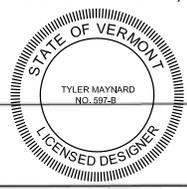
"I hereby certify that in the exercise of my reasonable professional judgment, the design-related information submitted with this application is true and correct, and that the design included in this application for a permit complies with the Vermont Wastewater System and Potable Water Supply Rules and the Vermont Water Supply Rules.

As the individual who prepared this application, including all documents that are marked as copyrighted, I hereby grant a non-exclusive, limited license to the State to allow the documents to be made available for public review and copying in order to properly implement and operate the permitting programs for Wastewater Systems and Potable Water Supplies, and for no other purposes. As a condition to this license, the State agrees that it will not make any changes to such documents, nor will the State delete any copyright notices on such documents."

1 Check the design(s) you are certifying. This should be the same as the Designer Role(s) you selected in Part II, Section A, Line 13.

Water Supply Designer

Wastewater Disposal System Designer



1 Designer 1 Name Tyler Maynard	2 Designer 1 Signature	3 Signature Date
------------------------------------	------------------------	------------------

Section B - Certifying Designer 2 Certification & Copyright License

"I hereby certify that in the exercise of my reasonable professional judgment, the design-related information submitted with this application is true and correct, and that the design included in this application for a permit complies with the Vermont Wastewater System and Potable Water Supply Rules and the Vermont Water Supply Rules.

As the individual who prepared this application, including all documents that are marked as copyrighted, I hereby grant a non-exclusive, limited license to the State to allow the documents to be made available for public review and copying in order to properly implement and operate the permitting programs for Wastewater Systems and Potable Water Supplies, and for no other purposes. As a condition to this license, the State agrees that it will not make any changes to such documents, nor will the State delete any copyright notices on such documents."

1 Check the design(s) you are certifying. This should be the same as the Designer Role(s) you selected in Part II, Section B, Line 13.

Water Supply Designer

Wastewater Disposal System Designer

1 Designer 2 Name	2 Designer 2 Signature	3 Signature Date
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Part IX Applicant(s) Signature & Acknowledgements

In order to insure compliance with the requirements of the regulations administered by the Department of Environmental Conservation, Drinking Water & Groundwater Protection Division, it may be necessary to visit the property. As this would involve a Department employee entering private property, we request your approval to do so.

1 If we do visit your property, do you have any special instructions?

"As landowner of the property for which I am requesting a permit from the Department of Environmental Conservation, I understand that by signing this application I am granting permission for the Department employees to enter the property, during normal working hours, to insure compliance of the property with the applicable rules of the Department.

I also understand that I am not allowed to commence any site work or construction on this project without written approval from the Department of Environmental Conservation.

If my project utilizes an Innovative/Alternative System or Product, I have received a copy of the Drinking Water & Groundwater Protection Division's approval letter and agree to abide by the conditions of the approval.

I also certify that to the best of my knowledge and belief the information submitted above is true, accurate and complete."

<input checked="" type="checkbox"/> 2 Print Applicant Name Ted Pease	3 Applicant Signature Ted Pease (Frederick T. Pease)	4 Signature Date 11/6/15
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Add Applicant Signature Block

ANR Form 4: Certification Statement for Notification of Overshadowed Property Owner(s) pursuant to the Wastewater System and Potable Water Supply Program

A person submitting an application to the Secretary for a Wastewater System and Potable Water Supply Permit where the proposed project has isolation distances (overshadowing) that extend onto property owned by persons other than the permit applicant shall submit the following certification with the application.

Note: When the property subject to the permit application is owned by more than one person, only one of the landowners must sign this certification statement even though all landowners must sign the permit application itself.

I hereby certify that the individual(s) that own property that is overshadowed by my proposed project have been sent by certified mail a copy of the required notification form and the site plan(s) that accurately depicts all isolation distances. I also certify that I attached to this certification form a copy of all certified mail receipts for notifications that were sent to the affected property owners.

Signature Ted Pease (Frederick T. Pease)

Name (Printed) Ted Pease

Property Address or Property Tax ID # 125 Molly Henry Road

Date of this certification November 6, 2015



Please list all of the property owners who were sent a notification by certified mail.

Affected Property Owner(s) – (Please provide a second sheet using this format when there are more than three affected property owners)

Name Tom Nugent

Address 73 Stevensville Road

Underhill, Vermont 05489

Name Peter Carleton

Address 292 Turtle Moon

Charlotte, Vermont 05445

Name Peter Trono

Address 8 Chase Lane

Burlington, Vermont 05401

7013 1710 0001 1764 6580

U.S. Postal Service™ RECEIPT
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Postage	\$3.45	0527
Certified Fee	\$0.00	04
Return Receipt Fee (Endorsement Required)	\$0.00	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total Postage & Fees	\$3.45	

Sent To **Tom Nupert**
 Street, Apt. No., or PO Box No. **73 Stevensville Road**
 City, State, ZIP+4 **Underhill, VT 05489**

PS Form 3800, August 2006 See Reverse for Instructions

7013 1710 0001 1764 6597

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Certified Fee	\$0.00	04
Return Receipt Fee (Endorsement Required)	\$0.00	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total Postage & Fees	\$3.45	

Sent To **Peter Carleton**
 Street, Apt. No., or PO Box No. **292 Turtle Moon**
 City, State, ZIP+4 **Charlotte, VT 05445**

PS Form 3800, August 2006 See Reverse for Instructions

7013 1710 0001 1764 6603

U.S. Postal Service™ RECEIPT
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Postage	\$3.45	0527
Certified Fee	\$0.00	04
Return Receipt Fee (Endorsement Required)	\$0.00	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total Postage & Fees	\$3.45	

Sent To **Peter Trano**
 Street, Apt. No., or PO Box No. **8 Chase Lane**
 City, State, ZIP+4 **Burlington VT 05401**

PS Form 3800, August 2006 See Reverse for Instructions

**Pease Property
Charlotte, Vermont
Soil Profile Descriptions
October 8, 2015
By Tyler Maynard, Licensed Class B Designer #597**

Test Pit #1 (TP-1) Total Depth 24"

- 0-12" Brown fine sandy loam, loose to friable, strong fine blocky structure, well drained, roots throughout
- 12-24" Dark brown fine sandy loam, friable, strong fine blocky structure, well drained, No redoximorphic features present, Ledge at 24"

Test Pit #2 (TP-2) Total Depth 42"

- 0-12" Brown fine sandy loam, loose to friable, strong fine blocky structure, well drained, roots throughout
- 12-24" Dark brown fine sandy loam, friable, strong fine blocky structure, well drained, No redoximorphic features present, Ledge at 24"

Test Pit #3 (TP-3) Total Depth 24"

- 0-12" Brown fine sandy loam, loose to friable, strong fine blocky structure, well drained, roots throughout
- 12-24" Dark brown fine sandy loam, friable, strong fine blocky structure, well drained, No redoximorphic features present, Ledge at 24"

Test Pit #4 (TP-4) Total Depth 42"

- 0-12" Brown fine sandy loam, loose to friable, strong fine blocky structure, well drained, roots throughout
- 12-24" Dark fine brown sandy loam, friable, strong fine blocky structure, well drained, No redoximorphic features present, Ledge at 24"

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**Site Specific Effluent Mounding Analysis
Pease Property
125 Molly Henry Road, Charlotte, Vermont**

In order to support the proposed performance based pretreated bottomless sand filter type disposal system design and show that the soils can accommodate the design flow rate associated with a year-round four-bedroom residence, a site specific hydrogeologic analysis using Darcy's Law was conducted. The following formula was used to determine the ability of the soil to accept the proposed amount of wastewater and determine its impact on the shallow seasonal ground water system.

Using the equation:

Q = k · i · h · l Where: Q = Volume = 490 gallons/ day = 65.5 ft³/ day;
k = Hydraulic Conductivity = 30 ft./ day (approved k value for fine sandy loam with strong blocky structure);
i = Gradient = 8.3% = 0.083 ft./ ft.;
h = effluent mound height in feet;
l = 31' bottomless sand filter length.

When solving this equation for h, an effluent mound of 0.84' was calculated. Since evidence of a seasonal high ground water system was identified at 24" or 2.0' with an induced mound of 0.84', 1.16' feet of unsaturated soil will remain. To maintain the required 3' separation to the induced mound, 3' - 1.16' or 0.84' of state approved mound sand is required beneath the application area. In this regard, a minimum of 1.00' is required by the rules. To build in additional safety factor, 2.00' of sand is proposed in the Pease design.


Senior Hydrogeologist

PRESSURE DISTRIBUTION & MOUND DIMENSION DETAILS

CLIENT'S NAME: Pease Property
 DATE: 11/9/2015 PERFORMED BY: T. Maynard LAG Project #: 15078

Design Flow Rate	245	GPD
Width of Distribution Stone Bed/Trench	8	FEET
Length of Distribution Stone Bed/Trench	31	FEET
Thickness of Sand Beneath Distribution Stone Bed/Trench	2	FEET
Thickness of Stone Beneath Laterals	6	INCHES
Soil Cover Thickness at Edge of Level Area	0	INCHES
Front Slope of Finished Mound	33	PERCENT
Side and Rear Slope of Finished Mound	33	PERCENT
Percolation Rate	31	MPI
Natural Ground Slope	8.3	PERCENT
Thickness of Sand on Upper Side of Level Area	2.00	FEET
Thickness of Sand on Lower Side of Level Area	2.00	FEET
Width of Level Area	9	FEET
Length of Level Area	32	FEET
Area of Distribution Stone Bed/Trench	248	SQUARE FT
Volume of Stone Required	6	CUBIC YARDS
Proposed Basal Area	561	SQUARE FEET
Volume of Mound Sand Required	15.6	CUBIC YARDS
Number of Laterals	3	
Length of Each Lateral	29	FEET
Number of Orifices in the Manifold	0	
Number of Orifices in Each Lateral	15	
Distance Between Manifold and First Orifice	0.1	FEET
Distance Between Orifices (on center)	2	FEET
Distribution Area per Orifice	5.51	SQ. FT.
Design Pressure Head	5	FEET
Diameter of Orifices (enter as fraction)	0.125	INCHES
Elevation From Pump Intake to Laterals (0 if siphon)	3	FEET
Diameter of Force Main	1.5	INCHES
Length of Force Main	210	FEET
Length of Manifold to Lateral	1.5	FEET
Diameter of Manifold Pipe	1.5	INCH
Diameter of Lateral Pipe	1.5	INCH
Friction Loss in Force Main	6.20	FEET
Friction Loss in Manifold	0.01	FEET
Friction Loss in Section 1	0.00	FEET
Friction Loss in Entire Lateral	0.03	FEET
Discharge Rate at First Orifice	0.41	GPM
Discharge Rate at Last Orifice	0.41	GPM
Percent Difference in Flow Rate First to Last Orifice	0.30	PERCENT
Total Dynamic Head Loss	14.302	FEET
Total Distribution System Flow	18.53	GPM
Volume of Distribution System	7.99	GALLONS
Pump Capacity	18.53 GPM vs	14.302 FEET OF HEAD
Volume per Dose	Time Dose 2 min/hr	35 GALLONS
On/Off Float Swing (1,000 gal. Tank)		

**Pease Property
125 Molly Henry Road
Charlotte, Vermont
Percolation Test Results**

All tests were performed on October 14, 2015 at a depth of 12"

PT-1	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	9.9	9.9	1	9.9
	14.8	24.7	2	12.3
	17.6	42.2	3	14.1
	19.4	61.6	4	15.4
	20.7	82.3	5	16.5
	21.8	104.1	6	17.3
	22.7	126.7	7	18.1
	---	1440.0	---	31.0

*NOTE:

Drop time includes fill time for each of the seven runs.

Table 1

Pease Property
125 Molly Henry Road
Charlotte, Vermont
Percolation Test Results
All tests were performed on October 14, 2015 at a depth of 12"

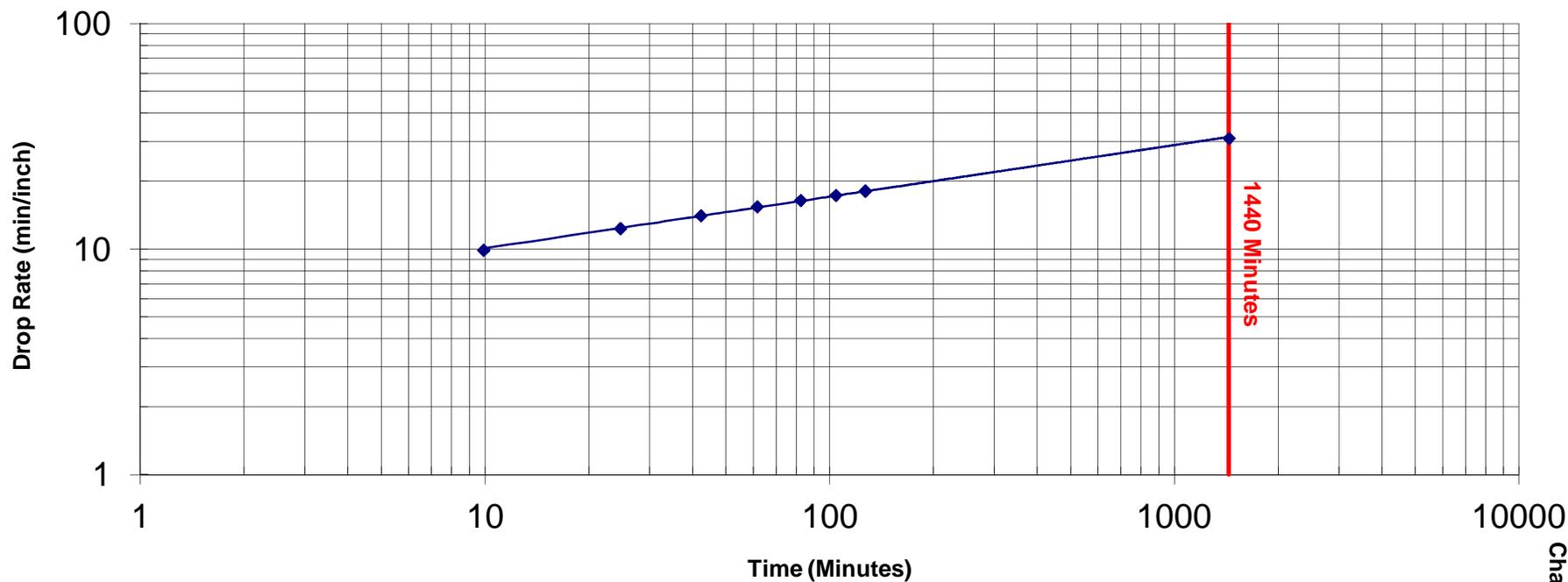


Chart 1

HYDROMATIC®

SHEF40

Submersible High Head Effluent Pump

Applications

- Septic Tank Effluent
- High Head Sump
- Dewatering



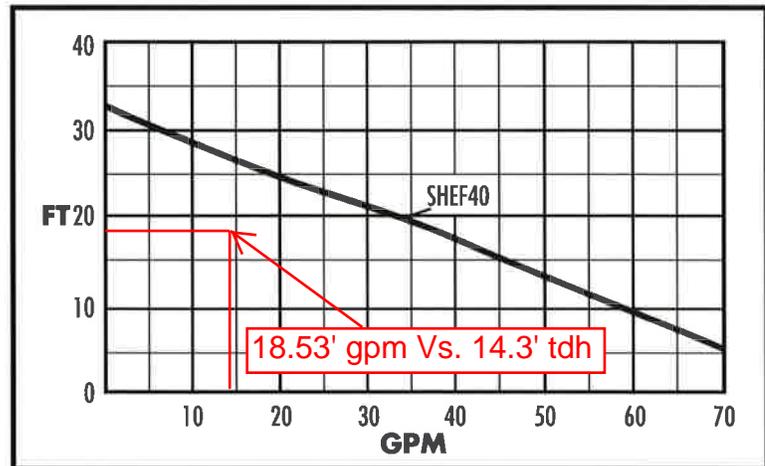
SHEF40 - Submersible Effluent Pump

DETAILS

Pump Characteristics

Pump/Motor Unit	Submersible	
Manual Models	SHEF40M1	SHEF40M2
Automatic Models	SHEF40A1	SHEF40A2
Horsepower	4/10	
Full Load Amps	12	6.5
Motor Type	Shaded Pole (4 Pole)	
R.P.M.	1550	
Phase	1Ø	
Voltage	115	230
Hertz	60	
Temperature	120° F Max. Fluid Temp.	
NEMA Design	A	
Insulation	Class A	
Discharge Size	1 1/2" NPT	
Solids Handling	3/4"	
Weight	28 lbs.	
Power Cord	18/3, SJTW, 20' std. (30' optional)	

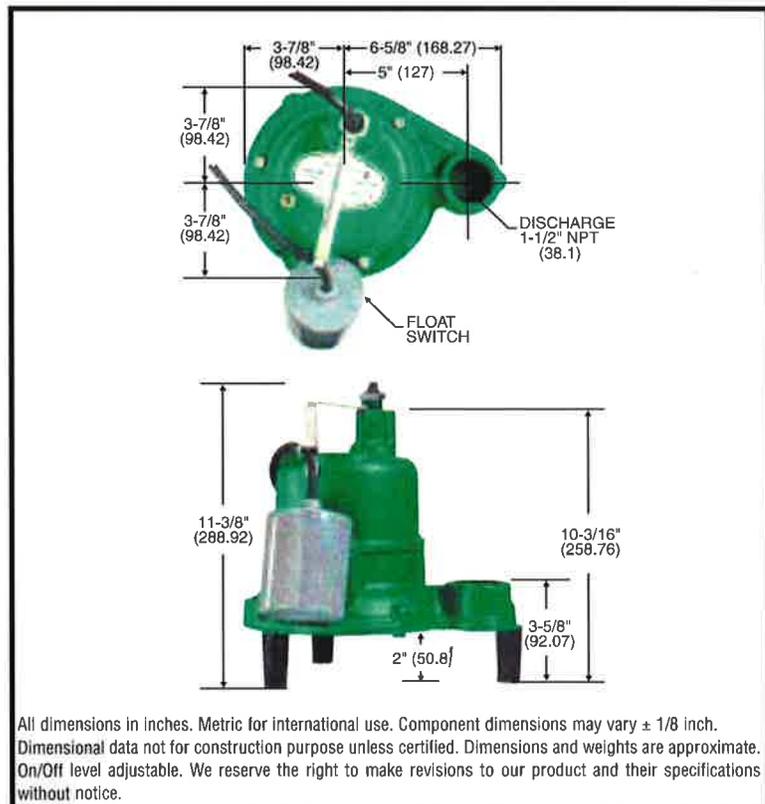
Performance Data



Materials of Construction

Handle	Stainless Steel
Lubricating Oil	Dielectric Oil
Motor Housing	Cast Iron
Pump Casing	Cast Iron
Shaft	Steel
Mechanical Shaft Seal	Seal Faces: Carbon/Ceramic Seal Body: Anodized Steel Spring: Stainless Steel Bellows: Buna-N
Impeller	Engineered Thermoplastic
Upper Bearing	Bronze Sleeve Bearing
Lower Bearing	Single Row Ball Bearing
Bottom Plate	Polyester Coated Steel
Fasteners	Stainless Steel
Legs	Engineered Thermoplastic

Dimensional Data



All dimensions in inches. Metric for international use. Component dimensions may vary $\pm 1/8$ inch. Dimensional data not for construction purpose unless certified. Dimensions and weights are approximate. On/Off level adjustable. We reserve the right to make revisions to our product and their specifications without notice.



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