



December 31, 2013

Ms. Jeannine McCrumb, Septic Officer  
Mr. Spencer Harris, Septic Consultant  
Town of Charlotte  
P.O. Box 119  
Charlotte, VT 05445

RE: McGinnis Property, 4658 Mt. Philo Rd, Charlotte, VT, Lot 1 & 2 Subdivision-  
Water/Wastewater Permit Submittal Package

Dear Jeannine & Spencer:

As you probably know, Michael and Barbara McGinnis are in the process of subdividing their +/- 10.83 acre improved property. The property is improved with a 5 bedroom single family residence served by an in-ground disposal system and a non-public drilled bedrock well. The disposal system and water system were approved by the Town of Charlotte in accordance with their on-site disposal ordinance in 1986. The disposal system was designed by Frank O'Brien in 1986 and consists of primary and replacement in-ground disposal trenches. It continues to function properly with no indication of malfunction. The McGinniss' are proposing to subdivide their property into Lot 1, a +/- 5.72 acre improved property and Lot 2, a +/- 5.11 acre unimproved property proposed to be developed with a 4 bedroom single family residence served by a prescriptive mound and a drilled bedrock well. The proposed subdivision and the Lot 2, Site Development Plan are shown on Figure 1 along with adjoiner information and well and disposal area isolation zones.

The site and soil conditions were defined with an eight test pit survey on November 18, 2013 with Spencer in attendance, and two (2) percolation tests and a site topographic survey on 11/26/13. The soils were found to be well drained sandy loam soils to a depth of 18 to 20" where mottling or evidence of a shallow seasonal water table was found. It was determined in the field based on the test pits that the site would support a 4 bedroom prescriptive mound with one (1) foot of sand and a 30 to 36" deep upslope curtain drain to shield the mound and ensure 24 inches of well drained soil beneath the system. The soils are permeable with a percolation rate of 25 to 30 minutes/inch. These data and the pressure distribution and mound dimension details are attached. A 10' x 50' prescriptive mound is proposed to handle the 4 bedroom residence with 490 gallons per day (gpd) of water and wastewater flows. The mound and wastewater system details are presented on Figure 2. The mound requires an effluent pump capable of pumping 14.35 gpm versus 31.75' of total dynamic head. An acceptable pump specification is attached. The septic isolation zone is shown on Figure 1, which does not overlap with any adjoining properties.

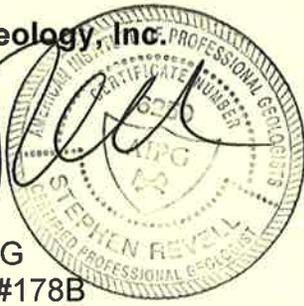
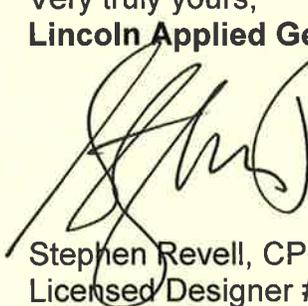
The proposed water system will be the drilled bedrock well and a residential water system shown on Figure 1 and Figure 3, the water system details. The well isolation zone is shown which mildly overlapped on one adjoining property. The property owner was properly notified on 12/27/13.

I believe the McGinnis application is complete with a signed application, a \$500.00 application fee payable to the Town of Charlotte, 2 signed copies of Figure 1, 2 and 3, one signed 11' x 17' copy of Figure 1, 2 and 3, one copy of this letter and the attachments and one CD of the complete application. The McGinnis' look forward to your positive review and issuance of the requested permit.

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

Very truly yours,

**Lincoln Applied Geology, Inc.**



Stephen Revell, CPG  
Licensed Designer #178B

SR/ih

Enclosure

CC: Michael and Barbara McGinnis

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Lincoln Applied Geology, Inc.  
Environmental Consultants

163 Revell Drive Lincoln, VT 05443 (802) 453-4384 Fax (802) 453-5399 [www.lagvt.com](http://www.lagvt.com)

# 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" value="McGinnis"/>		<input type="text" value="Michael S. &amp; Barbara H."/>	
3 Mailing Address Line 1		4 Mailing Address Line 2	
<input type="text" value="4658 Mt. Philo Rd."/>		<input type="text"/>	
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
<input type="text" value="Charlotte"/>	<input type="text" value="VT"/>	<input type="text" value="United States"/>	<input type="text" value="05445"/>
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
<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"/>	<input type="text" value="United States"/>	<input type="text"/>

**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)	
<input type="text"/>		<input type="text"/>	
11 Certifying Official Title			
<input type="text"/>			
12 Certifying Official Email Address			13 Telephone
<input type="text"/>			<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)	
3 Mailing Address Line 1		4 Mailing Address Line 2	
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
9 Email Address			10 Telephone

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

Part II Certifying Designer(s) Information			
1 Designer Last Name		2 Designer First Name (and Middle Initial if appropriate)	
3 Designer License#		4 Company Name	
5 Mailing Address Line 1		6 Mailing Address Line 2	
7 Town/City	8 State/Province	9 Country	10 Zip/Postal Code
11 Email Address			12 Telephone
13 Designer Role(s) (check all that apply)			
<input checked="" type="checkbox"/> Water Supply Designer <input checked="" type="checkbox"/> Wastewater Disposal System Designer			
<span style="background-color: yellow; padding: 2px;">Remove This Designer</span>			

Add Another Designer

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	4658 Mt. Philo Rd.

**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  ° W (-)  °

**Part IV Project Information**

**Section A - General Project Information & Questions**

1 Project Name (if applicable) McGinnis Subdivision	2 Total Acreage of Property 10.83
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3 Business Name (if applicable)

4 Detailed Project Description  
 The applicant proposes to create a 2 lot subdivision with their 10.83 acre improved property. Lot 1 is a 5 bedroom improved 5.72 acre property with a 3 bedroom residence served by an on-site drilled bedrock well and an in-ground trench disposal system. Lot 2 will be a 5.11 acre property with a 4 bedroom residence served by an on-site drilled bedrock well and mound disposal system.

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: 90%;" type="text" value="Spencer Harris"/>	(b) Date of Visit (m/d/yyyy) <input style="width: 90%;" type="text" value="11/18/2013"/>
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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
<b>X</b>	<input style="width: 90%;" type="text"/>	<input style="width: 90%;" type="text"/>
<input 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	000274658	159	587-588
X			43	234-235

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 Development Plan	12/27/2013	
X	2	Wastewater System Design Details	12/27/2013	
X	3	Water System Design Details	12/27/2013	

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	10.83	Single Family 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	1	Residential	7/86	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	5.72	No Change

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:

X	(a) Building ID	(b) If building is exempt, indicate exemption	(c) Construction or increased flow?	(d) Proposed Use
X	1	§1-304(a)(1)	<input type="checkbox"/>	No Change
<div style="background-color: #4CAF50; color: white; padding: 2px; display: inline-block; margin: 2px;">Add Another Building</div>				
<div style="background-color: #FFEB3B; padding: 2px; display: inline-block; margin: 2px;">Remove This Lot</div>				
1 Lot#	2 Lot Size (acres)	3 Proposed Use of the Lot		
2	5.11	Single Family Residential		
4 Is the lot being created as part of a subdivision? <span style="float: right;"><input checked="" type="radio"/> Yes <input type="radio"/> No</span>				
5 Are you requesting that the Blood, Marriage, or Civil Union special fee be applied to this lot? <span style="float: right;"><input type="radio"/> Yes <input checked="" type="radio"/> No</span>				
6 If the lot is exempt, please indicate the specific exemption from the Wastewater System and Potable Water Supply Rules? <span style="float: right;"><input type="text"/></span>				
7 Provide the following information for each building on the lot:				
X	(a) Building ID	(b) If building is exempt, indicate exemption	(c) Construction or increased flow?	(d) Proposed Use
X	1		<input checked="" type="checkbox"/>	4 bedroom residence
<div style="background-color: #4CAF50; color: white; padding: 2px; display: inline-block; margin: 2px;">Add Another Building</div>				
<div style="background-color: #FFEB3B; padding: 2px; display: inline-block; margin: 2px;">Remove This Lot</div>				

Add Another Lot

<b>Part V Water Supply Information</b>	
<b>Section A - Water Supply Screening Questions</b>	
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? .....	<input checked="" type="radio"/> Yes <input type="radio"/> 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)? .....	<input type="radio"/> Yes <input checked="" type="radio"/> No
3 Is there an existing connection to a water supply or water service line for this project? .....	<input checked="" type="radio"/> Yes <input type="radio"/> No
<i>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.</i>	
<b>Section B - General Water Supply Questions</b>	
1 Does this project involve a failed water supply? .....	<input type="radio"/> Yes <input checked="" type="radio"/> No
2 Will any of the proposed water sources serve 25 or more people or have 15 or more service connections? .....	<input type="radio"/> Yes <input checked="" type="radio"/> No
<i>If Yes, the applicant must contact the Drinking Water &amp; Groundwater Protection Division at (802) 241-3400 for source, construction and an operating permit.</i>	
3 Are any of the existing or proposed water sources located within a special flood hazard area? .....	<input type="radio"/> Yes <input checked="" type="radio"/> No
4 Are any of the existing or proposed water sources located within a floodway? .....	<input type="radio"/> Yes <input checked="" type="radio"/> 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 Lot 1 Well	2 Water Supply Owner (if not Applicant)
3 Water Source Type Non-Public Drilled Bedrock Well	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	1	No Change	700	0	700	Rule-based
Add Another Lot/Building Served by this Supply			6	7	8	
			700	0	700	

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 Lot 2 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 2	1	Connection to New System	0	490	490	Rule-based

Add Another Lot/Building Served by this Supply

6	7	8
0	490	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	Lot 1 Well	700	0	700
X	Lot 2 Well	0	490	490
	Add Another Water Supply	2	3	4
		700	490	1,190

**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 Lot 1 Primary	2 Wastewater Disposal System Owner (if not Applicant)
3 Wastewater Disposal System Type In-ground	4 Type of Change to System No Change

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 1	1	No Change	700	0	0	700	Rule-based
Add Another Lot/Building Served by this System			6 700	7 0	8 0	9 700	

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  
Prescriptive

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="Lot 1 Replacement"/>	2 Wastewater Disposal System Owner (if not Applicant) <input type="text"/>
3 Wastewater Disposal System Type <input type="text" value="In-ground"/>	4 Type of Change to System <input type="text" value="Replacement Area Designation"/>

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	
<b>X</b>	1	Replacement Area Designation	700	0	0	700	Rule-based
<b>Add Another Lot/Building Served by this System</b>			6	7	8	9	
			700	0	0	700	

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

Lot 2 Primary

2 Wastewater Disposal System Owner (if not Applicant)

3 Wastewater Disposal System Type

Mound

4 Type of Change to System

New 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)			(g) Total	(h) Rule or Meter Based Flows
				(d) Existing	(e) Change	(f) Infiltration		
X	2	1	Connection to New System	0	490	0	490	Rule-based
<p><b>Add Another Lot/Building Served by this System</b></p>				6	7	8	9	
				0	490	0	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

Prescriptive

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 Lot 1 Primary	700	0	0	700	
X Lot 2 Primary	0	490	0	490	
Add Another Wastewater System	2 700	3 490	4 0	5 1,190	

**Part VII Application Fees**

1 Fee Amount \$500.00

2 Fee Calculation Details

Lot 2 water & wastewater permit = \$500.00

**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 Stephen Revell	2 Designer 1 Signature 	3 Signature Date 12/31/13
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**Section B - Certifying Designer 2 Certification & Copyright License**

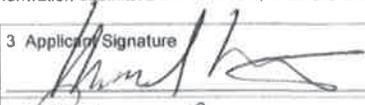
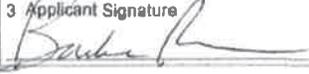
"I hereby certify that in the exercise of my reasonable professional judgment, the design-related information submitted with this application is true and correct, and that the design included in this application for a permit complies with the Vermont Wastewater System and Potable Water Supply Rules and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

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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

<b>Part IX Applicant(s) Signature &amp; Acknowledgements</b>			
<p><i>In order to insure compliance with the requirements of the regulations administered by the Department of Environmental Conservation, Drinking Water &amp; 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.</i></p>			
<p>1 If we do visit your property, do you have any special instructions?</p> <div style="border: 1px solid black; height: 30px; width: 100%; margin-top: 5px;"></div>			
<p><i>"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></p> <p><i>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.</i></p> <p><i>If my project utilizes an Innovative/Alternative System or Product, I have received a copy of the Drinking Water &amp; Groundwater Protection Division's approval letter and agree to abide by the conditions of the approval.</i></p> <p><i>I also certify that to the best of my knowledge and belief the information submitted above is true, accurate and complete."</i></p>			
<input checked="" type="checkbox"/>	<p>2 Print Applicant Name</p> <div style="border: 1px solid black; padding: 2px;">Michael S. McGinnis</div>	<p>3 Applicant Signature</p> <div style="border: 1px solid black; padding: 2px;">  </div>	<p>4 Signature Date</p> <div style="border: 1px solid black; padding: 2px;">12-28-13</div>
<input checked="" type="checkbox"/>	<p>2 Print Applicant Name</p> <div style="border: 1px solid black; padding: 2px;">Barbara H. McGinnis</div>	<p>3 Applicant Signature</p> <div style="border: 1px solid black; padding: 2px;">  </div>	<p>4 Signature Date</p> <div style="border: 1px solid black; padding: 2px;">12-28-13</div>
<div style="border: 1px solid black; background-color: #cccccc; padding: 2px; text-align: center; width: fit-content; margin: 0 auto;">Add Applicant Signature Block</div>			

**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 attached to this certification form a copy of all certified mail receipts for notifications that were sent to the affected property owners.

Signature 

Name (Printed) Michael S. McGinnis

Property Address or Property Tax ID # 4658 Mt Philo Rd

Date of this certification 12-28-13

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 SUSAN RAKER BRAY REVOCABLE TRUST

Address 494 Highbee Road  
Charlotte, VT 05445

Name \_\_\_\_\_

Address \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

**McGinnis Property  
Soil Profile Descriptions  
November 18, 2013  
By Stephen Revell Licensed Designer #178B  
Senior Hydrogeologist**

**Test Pit #1 (TP-1)**

- |        |  |
|--------|--|
| 0-10"  | Brown fine sandy loam, loose, strong blocky, well drained                |
| 10-18" | Tan fine sandy loam, loose to friable, moderate blocky, well drained     |
| 18-30" | Tan to gray fine sandy loam, friable, moderate blocky, mottled at 18"    |
| 30-42" | Brown to orange-brown fine sandy loam, friable, moderate blocky, mottled |

**Test Pit #2 (TP-2)**

- |       |  |
|-------|--|
| 0-9"  | Brown fine sandy loam, loose, strong blocky, well drained                                    |
| 9-42" | Orange-brown slightly stony fine sandy loam, loose to friable, strong blocky, mottled at 24" |

**Test Pit #3 (TP-3)**

- |        |  |
|--------|--|
| 0-12"  | Brown fine sandy loam, loose, strong blocky, well drained                      |
| 12-24" | Tan to orange-brown fine sandy loam, friable, moderate blocky, mottled at 20"  |
| 24-42" | Orange-brown slightly stony fine sandy loam, friable, moderate blocky, mottled |

**Test Pit #4 (TP-4)**

- |        |   |
|--------|---|
| 0-10"  | Brown fine sandy loam, loose, strong blocky, well drained                           |
| 10-30" | Tan to orange-brown fine sandy loam, friable, moderate blocky, mottled at 20 to 22" |



Lincoln Applied Geology, Inc.  
Environmental Consultants

30-40" Orange-brown slightly stony fine sandy loam, friable, moderate blocky, mottled

**Test Pit #5 (TP-5)**

0-12" Brown fine sandy loam, loose, strong blocky, well drained

12-28" Tan to orange-brown fine sandy loam, friable, moderate blocky, mottled at 18 to 20"

28-44" Orange-brown slightly stony fine sandy loam, friable, moderate blocky, mottled

**Test Pit #6 (TP-6)**

0-12" Brown fine sandy loam, loose, strong blocky, well drained

12-30" Tan to orange-brown fine sandy loam, friable, moderate blocky, mottled at 20"

30-42" Orange-brown slightly stony fine sandy loam, friable, moderate blocky, mottled.

**Test Pit #7 (TP-7)**

0-10" Brown fine sandy loam, loose, strong blocky, well drained

10-22" Tan to orange-brown fine sandy loam, friable, moderate blocky, mottled at 20"

22-42" Orange-brown slightly stony fine sandy loam, friable, moderate blocky, mottled

**Test Pit #8 (TP-8)**

0-12" Brown fine sandy loam, loose, strong blocky, well drained

12-32" Tan to orange-brown fine sandy loam, friable, moderate blocky, mottled at 20"



Lincoln Applied Geology, Inc.  
Environmental Consultants

32-42" Orange-brown slightly stony fine sandy loam, friable, moderate blocky, mottled

F:\CLIENTS\2013\13127\Soil Profile Descriptions.docx



Lincoln Applied Geology, Inc.  
Environmental Consultants

163 Revell Drive • Lincoln, VT 05443 • (802) 453-4384 • FAX (802) 453-5399 • [www.lagvt.com](http://www.lagvt.com)

**McGinnis Property  
Higbee Road  
Town, Vermont  
Percolation Test Results**

**All tests were performed on November 26, 2013, Year at a depth of 18" - 24"**

PT-1	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	7.4	7.4	1	7.4
	14.8	22.2	2	11.1
	17.6	39.7	3	13.2
	19.4	59.1	4	14.8
	20.7	79.8	5	16.0
	21.8	101.6	6	16.9
	22.7	124.2	7	17.7
	---	<b>1440.0</b>	---	<b>28.3</b>

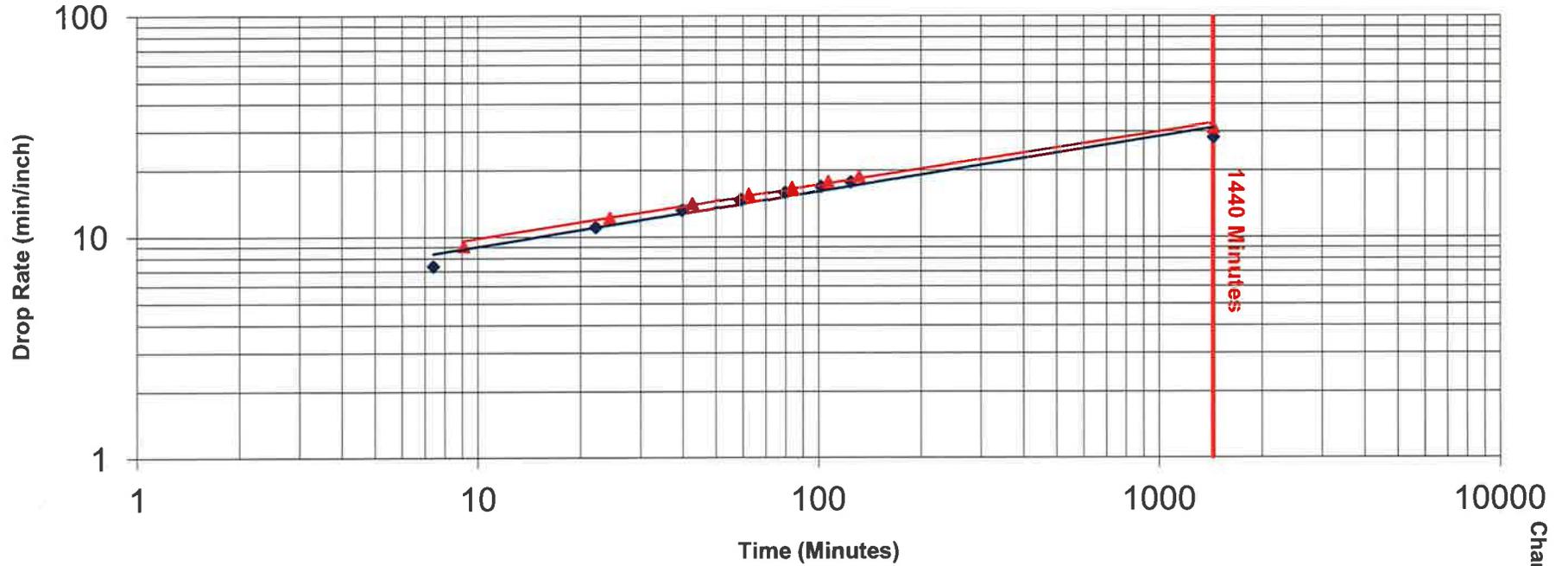
PT-2	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	9.1	9.1	1	9.1
	15.3	24.4	2	12.2
	18.2	42.6	3	14.2
	19.9	62.5	4	15.6
	21.2	83.7	5	16.7
	23.0	106.7	6	17.8
	24.8	131.5	7	18.8
	---	<b>1440.0</b>	---	<b>31.3</b>

\*NOTE:  
Drop time includes fill time for each of the seven runs.

**Table 1**

McGinnis Property  
Higbee Road  
Town, Vermont  
Percolation Test Results

All tests were performed on November 26, 2013, Year at a depth of 18" - 24"



PRESSURE DISTRIBUTION & MOUND DIMENSION DETAILS

CLIENT'S NAME: McGinnis Mound  
 DATE: 12/30/2013 PERFORMED BY: S. Revell LAG Project #: 13127

Design Flow Rate		490	GPD
Width of Distribution Stone Bed/Trench		10	FEET
Length of Distribution Stone Bed/Trench		50	FEET
Thickness of Sand Beneath Distribution Stone Bed/Trench		1	FEET
Thickness of Stone Beneath Laterals		6	INCHES
Soil Cover Thickness at Edge of Level Area		12	INCHES
Front Slope of Finished Mound		33	PERCENT
Side and Rear Slope of Finished Mound		33	PERCENT
Percolation Rate		30	MPI
Natural Ground Slope		12	PERCENT
Thickness of Sand on Upper Side of Level Area		1.63	FEET
Thickness of Sand on Lower Side of Level Area		3.07	FEET
Width of Level Area		12	FEET
Length of Level Area		52	FEET
Area of Distribution Stone Bed/Trench		500	SQUARE FT
Volume of Stone Required		12	CUBIC YARDS
Proposed Basal Area		1381	SQUARE FEET
Volume of Mound Sand Required		191.2	CUBIC YARDS
Number of Laterals		4	
Length of Each Lateral		22.5	FEET
Number of Orifices in the Manifold		0	
Number of Orifices in Each Lateral		5	
Distance Between Manifold and First Orifice		2.5	FEET
Distance Between Orifices (on center)		5	FEET
Distribution Area per Orifice		25.00	SQ. FT.
Design Pressure Head		3	FEET
Diameter of Orifices (enter as fraction)		0.188	INCHES
Elevation From Pump Intake to Laterals (0 if siphon)		28	FEET
Diameter of Force Main		2	INCHES
Length of Force Main		175	FEET
Length of Manifold to Lateral		2.5	FEET
Diameter of Manifold Pipe		2	INCH
Diameter of Lateral Pipe		2	INCH
Friction Loss in Force Main		0.74	FEET
Friction Loss in Manifold		0.00	FEET
Friction Loss in Section 1		0.00	FEET
Friction Loss in Entire Lateral		0.00	FEET
Discharge Rate at First Orifice		0.72	GPM
Discharge Rate at Last Orifice		0.72	GPM
Percent Difference in Flow Rate First to Last Orifice		0.03	PERCENT
Total Dynamic Head Loss		31.747	FEET
Total Distribution System Flow		14.35	GPM
Volume of Distribution System		14.69	GALLONS
Pump Capacity	14.35 GPM vs	31.747	FEET OF HEAD
Volume per Dose		122	GALLONS
On/Off Float Swing (1,000 gal. Tank)		4.1	INCHES

PRESSURE DISTRIBUTION & MOUND DIMENSION DETAILS

CLIENT'S NAME: McGinnis Mound  
 DATE: 12/30/2013 PERFORMED BY: S. Revell LAG Project #: 13127

DIMENSIONS OF MOUND SYSTEM

Dimensions of Mound Sand

3.6 feet from level area to uphill sand toe	5.1 ft corner of level area to upper toe corner
12 ft wide level area	4.9 ft to side toe from upper edge of level area
10 ft wide stone bed/trench	
50 ft long stone bed/trench	9.3 ft to side toe from lower edge of level area
52 ft long level area	
14.6 feet from level area to downhill sand toe	20.7 ft corner of level area to lower toe corner

Dimensions of Final Cover

5.8 feet from level area to uphill toe	8.3 ft corner of level area to upper fill toe
	8.0 ft to side toe from upper edge of level area
12 ft wide level area	
52 ft long level area	
	12.3 ft to side toe from lower edge of level area
	27.4 ft corner of level area to lower fill toe
19.4 feet from level area to downhill toe	

PLOW AREA LAYOUT MEASUREMENTS

Center of Bed/Trench to Downslope Toe	52.0 feet
End of Level Area @ Midpoint to Downslope Toe	31.9 feet
Center of Bed/Trench to Upslope Toe	34.0 feet
End of Level Area @ Midpoint to Upslope Toe	13.2 feet



# Submersible Effluent Pump

**MODEL 3885**

## WE Series

PROSURANCE AVAILABLE FOR RESIDENTIAL APPLICATIONS.

### APPLICATIONS

Specifically designed for the following uses:

- Homes
- Farms
- Trailer courts
- Motels
- Schools
- Hospitals
- Industry
- Effluent systems

### SPECIFICATIONS

#### Pump

- Solids handling capabilities: 3/4" maximum.
- Discharge size: 2" NPT.
- Capacities: up to 140 GPM.
- Total heads: up to 128 feet TDH.
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

### FEATURES

■ **Impeller:** Cast iron, semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.

■ **Casing:** Cast iron volute type for maximum efficiency. 2" NPT discharge.

■ **Mechanical Seal:** SILICON CARBIDE VS. SILICON CARBIDE sealing faces. Stainless steel metal parts, BUNA-N elastomers.

■ **Shaft:** Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.

■ **Fasteners:** 300 series stainless steel.

■ Capable of running dry without damage to components.

■ Designed for continuous operation when fully submerged.

### MOTORS

■ Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.

■ Class B insulation on 1/3-1 1/2 HP models.

■ Class F insulation on 2 HP models.

### Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SJTOW or STOW severe duty oil and water resistant power cords.
- 1/3 and 1/2 HP models have NEMA three prong grounding plugs.
- 3/4 HP and larger units have bare lead cord ends.

### Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.

■ **Designed for Continuous Operation:** Pump ratings are within the motor manufacturer's recommended working limits,

can be operated continuously without damage when fully submerged.

■ **Bearings:** Upper and lower heavy duty ball bearing construction.

■ **Power Cable:** Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.

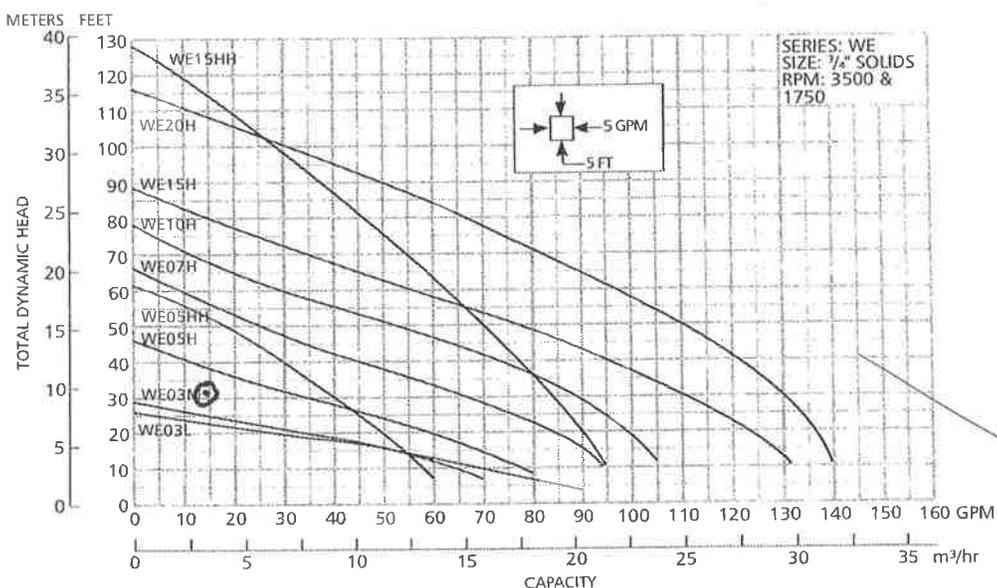
■ **O-ring:** Assures positive sealing against contaminants and oil leakage.

### AGENCY LISTINGS



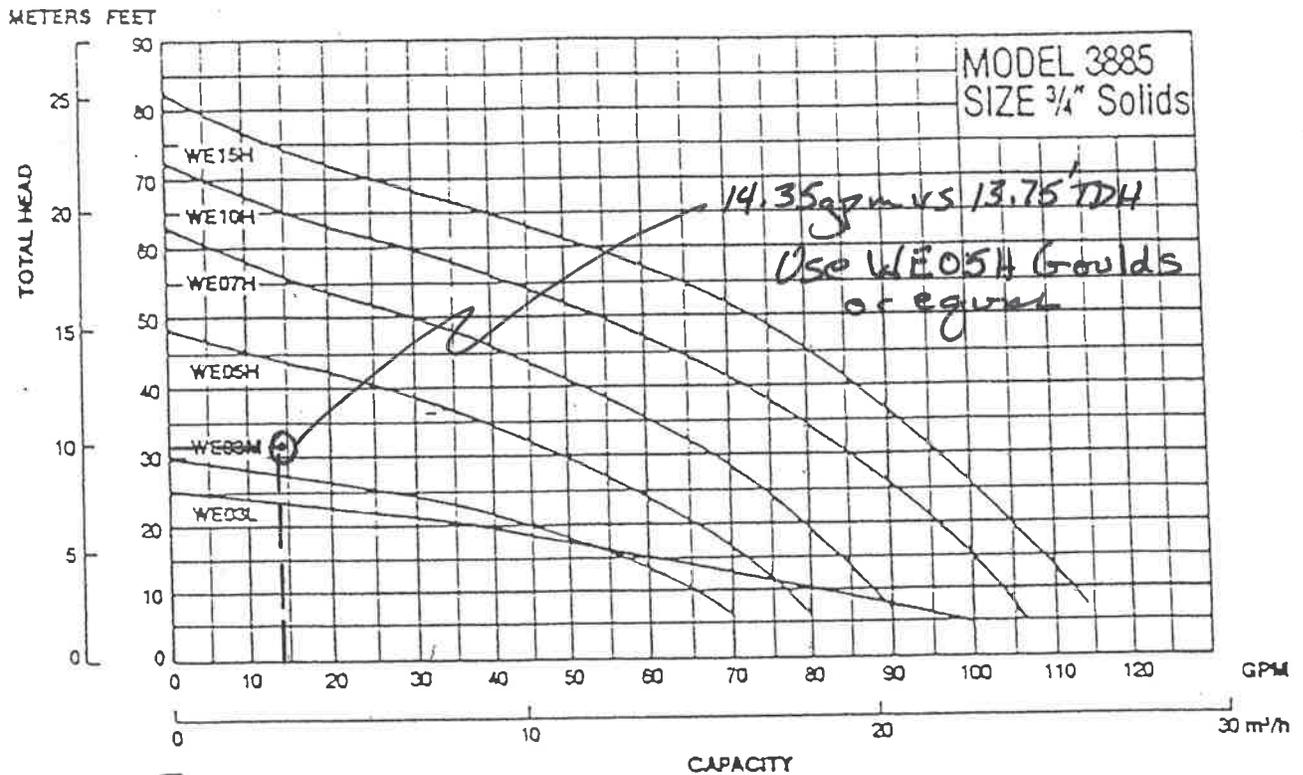
Tested to UL 778 and CSA 22.2 108 Standards By Canadian Standards Association File #LR38549

Goulds Pumps is ISO 9001 Registered.

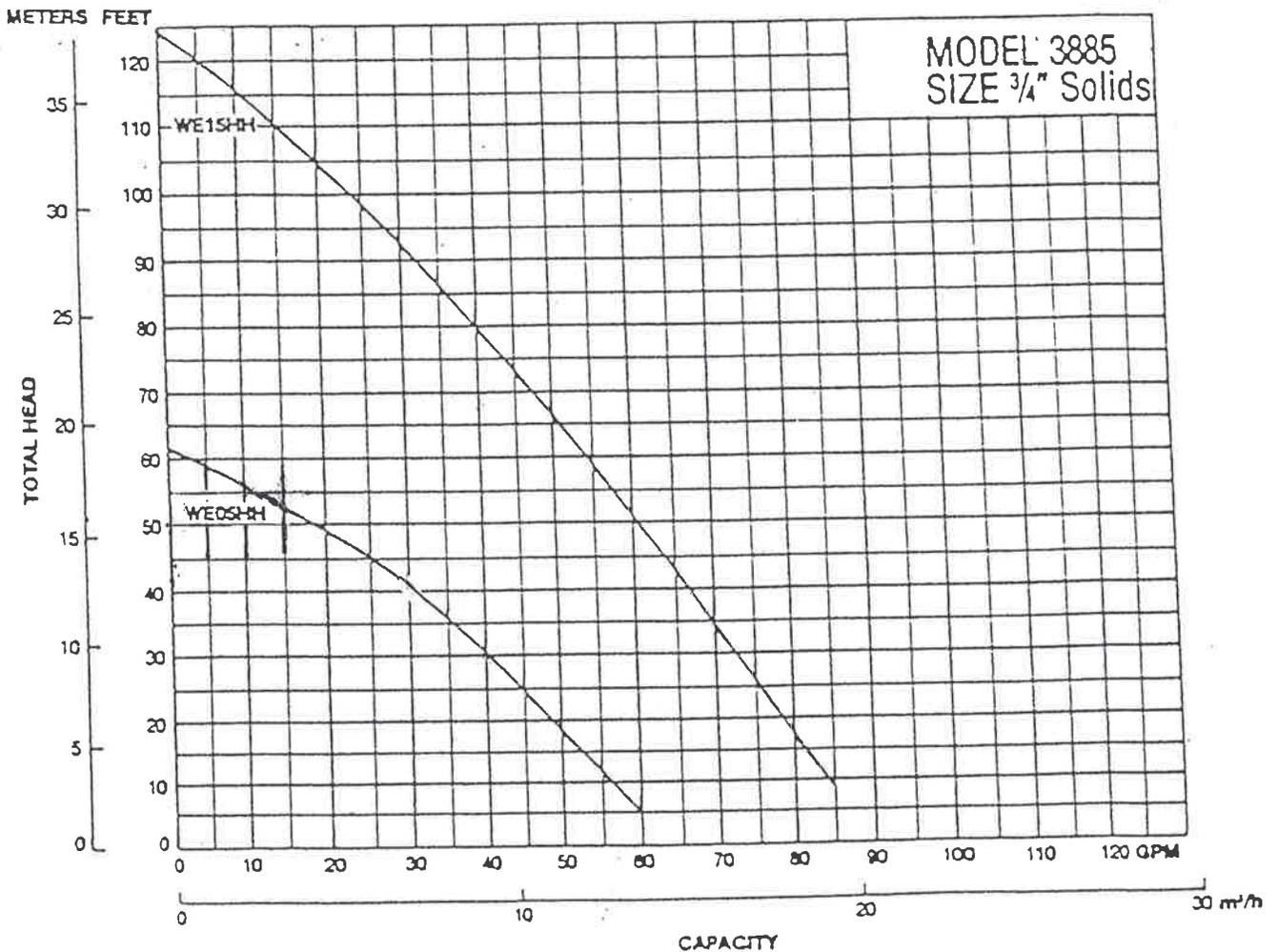


# Performance Curves

# Pumps



**GOULDS PUMPS, INC.**  
SENECA FALLS, NEW YORK 13158



ANR FORM 1

Notice of Overshadowing at the time of Filing an Application for a Wastewater System and Potable Water Supply Permit

To SUSAN RABER BRAY REVOCABLE TRUST (Overshadowed Landowner):

I am currently preparing an application for a State of Vermont Wastewater System and Potable Water Supply Permit. My project proposes a water supply and/or wastewater (septic) system designed to comply with the technical standards of the Wastewater System and Potable Water Supply Rules (Rules). The Rules include required isolation distances around the supply or system. These isolation distances are designed to prevent wastewater systems and water supplies from being built too close to each other in order to protect drinking water quality and human health.

The isolation distances for my proposed water supply and/or wastewater system extend onto your property. The extension of these isolation distances is often referred to as an "overshadowing" of property.

In 2010, the legislature determined that people who own property that will be "overshadowed" by the required isolation distance be notified of that fact. This form is being sent to you in order to provide that notice. Attached to this form is a copy of a plan that shows what I propose to build and the isolation distance(s) that extend onto your property.

Please consider the following facts to help you understand what this actually means to you:

1. Under the existing Rules, an evaluation of the horizontal relationship between existing wastewater systems and potable water supplies and newly proposed wastewater systems and potable water supplies is required during the review of any application. Therefore, the horizontal isolation distance between newly proposed wastewater systems and potable water supplies and the location of your current water supply and wastewater system will be evaluated and determined to comply with the Rules as part of the permit process.
2. A permit application review does not determine if the proposed water supply or wastewater system may affect or restrict potential future development of a water supply or wastewater system on your property. These possible restrictions exist because of the required isolation distances between potable water supplies and wastewater systems.
3. It is important to note that in many instances overshadowing may have no effect on the ability to develop adjoining properties. Whether there is actually any effect is a very site specific determination that depends on a number of factors. For example, the fact that an isolation distance from a wastewater system may prohibit where a well could be drilled may have no real effect because that portion of the neighboring property that is overshadowed by the wastewater system is too steep to be accessed by a well drilling rig. Another example is where a well isolation distance means that no wastewater system could be placed in a certain area but that area is a wetland that prevents the construction of a wastewater system.

**ANR FORM 1**  
**Notice of Overshadowing**

4. When considering potential effects on your property, you should be aware that you may drill a well within the identified well isolation zone and you may build a wastewater systems in the identified septic isolation zones provided the well or wastewater system complies with the technical standards of the Rules. What may not be allowed without providing additional technical information is putting a wastewater system in a well isolation zone and putting a well in a wastewater system isolation zone.

5. The water supply and wastewater system isolation zones only restrict the construction of water supplies and wastewater systems. Construction of other things such as houses, garages, and driveways may be in the isolation zones as allowed by the Rules.

6. This notification requirement did not start until 2010 and the state permit program has been in place since 1969 so it is possible that there are already water supplies or wastewater systems that "overshadow" your property or that your own wastewater system and/or water supply "overshadows" your neighbor's property.

7. The Legislature created the notification requirement so that neighbors have the opportunity to discuss the possible effects on future development and potentially resolve them before a well is drilled or a septic system is built. Therefore you are getting this notice before the permit application is filed so that you may consider having those discussions.

**8. VERY IMPORTANT: Although the legislature has required notification to potentially affected landowners, the legislature did not give the Agency of Natural Resources the authority to deny a permit application based on isolation zones that may "overshadow" your property.**

Please contact me if you have any questions.

Sincerely,

Name of Applicant Michael & BARBARA McGinnis

Address 4658 Mt. Philo Rd

Charlotte, VT 05445

Phone Number 802-425-3413

8/24/12 Last Revised 9/11/12 (To Comply with Act 145 and Act 117)