



December 15, 2010

Town of Charlotte  
Tom Mansfield, Septic Officer  
Spencer Harris, Septic Consultant  
PO Box 119  
Charlotte, VT 05445

RE: Ben and Kristine Dykema, 1.1 acre Property Town Line Road, Charlotte,  
VT – Submittal of Water & Wastewater Permit Application

Dear Tom and Spencer:

As you may or may not remember, Ben and Kristine Dykema own a separately deeded  $\pm$  1.1 acre property located on the north side of Town Line Road. The property is generally and specifically shown on Plan Sheet 1. The property is bounded by other lands of the Dykema's and the improved property of Jacqueline Jones. The Dykemas are proposing to develop the subject property with a two bedroom single family residence served by an on-site wastewater disposal system and an existing off-site drilled bedrock well. Until recently the well served the potable water needs of Jacqueline Jones that are now provided from a replacement well located adjacent to her residence. The proposed disposal system and water system are shown on Plan Sheet 1 along with the Jones' new replacement well and existing in-ground disposal area.

The site and soil characteristics associated with the property were evaluated with test pits on November 23, 2009 and January 25, 2010 and with percolation tests on January 26, 2010. The soil profile descriptions and the percolation test results are presented in Attachment 1. The soil profile descriptions, defined by myself and documented by Spencer Harris on January 25, 2010, indicated the presence of a small area of permeable sandy loam, loamy sand and mixed sand and gravel textured soils with in-ground disposal potential. Because of property dimension limitations, set backs for residential structure construction limitations and applicable isolation distances, the only area available for use for disposal purposes was identified in the southeast corner of the property. To make this area work required: a two bedroom residence, a 150% disposal area, and an encroachment agreement (presented in Attachment 2) with Jacqueline Jones.

The design and basis of design of the wastewater disposal system are presented on Plan Sheets 1 and 2. Based on a design percolation rate of 25

Town of Charlotte  
Tom Mansfield  
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December 15, 2010  
Page 2 of 2

minutes per inch, an application rate of 0.60 gpd/ft<sup>2</sup> was used to generate a 150% system for the 2 bedroom (280 gpd) residence. The system is composed

of 3 - 4' X 60' seepage trenches placed at a depth of 24". The 150% system requires 705.5 ft<sup>2</sup> and 720 ft<sup>2</sup> is supplied by the proposed design. The details of the disposal system are presented on Plan Sheet 2.

As noted above, the currently unused off-site Dykema well shown on Plan Sheet 1 will be used to supply the potable needs of the proposed 2 bedroom dwelling. The existing water service line will be connected directly to the proposed dwelling in the manner shown on Plan Sheet 1. The details of the proposed water system are shown on Plan Sheet 2. You will note that I've included future easements for the well and portions of the water service that are located off the ± 1.1 acre property, in case either property ever changes hands.

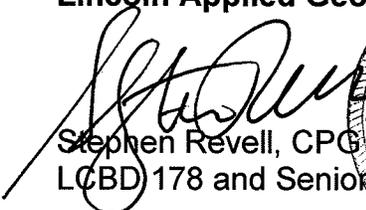
Regarding the Act 145 notification requirements, only the Jacqueline Jones property is affected by the disposal areas isolation zone. The other affected property is owned by the Dykemas. In this regard, please find the signed notification certification and the cover letter addressed to Jacqueline Jones in Attachment 2.

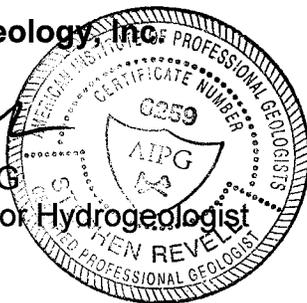
I believe the application is complete with the signed application, a \$500.00 permit fee, 2 copies of each Plan Sheet, an 11' X 17" copy of the Plan Sheets, one copy of this letter and the Attachments, and a CD of the complete application. The Dykemas and I look forward to your favorable review and issuance of the requested permit.

If you have any questions, please feel free to give me a call at (802) 453-4384.

Very Truly Yours,

**Lincoln Applied Geology, Inc.**

  
Stephen Revell, CPG  
LCBD 178 and Senior Hydrogeologist



SR/SK:kg

Enclosures

CC: Ben and Kristine Dykema

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Lincoln Applied Geology, Inc.  
Environmental Consultants

# Wastewater Management 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)	
Dykema		Ben A. & Kristine L.	
3 Mailing Address Line 1		4 Mailing Address Line 2	
461 Town Line Road			
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
North Ferrisburg	VT	United States	05473
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"/>	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. A copy of the document authorizing this person to act as a signatory authority must be attached to this application.

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)	
<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)	
Revell		Stephen	
3 Designer License#	4 Company Name		
00178	Lincoln Applied Geology		
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	Vermont	United States	05443
11 Email Address			12 Telephone
srevell@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			
Remove This Designer			

Add Another Designer

Part III Property Location Information			
Section A - Property Parcel ID#(s) and Location(s)			
1 Please provide the property location information including Town or City Parcel ID#, Town/City, and Street or Road location in the table below:			
	(a) Town/City Parcel ID#	(b) Town or City	(c) Street or Road Location
X	00038-0700	Charlotte	700 Town Line Road
Add Another Property			

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 <i>(in decimal degrees to five decimal places, ex. 44.38181°)</i>	(b) Longitude <i>(in decimal degrees to five decimal places, ex. -72.31392°)</i>
N <input style="width: 80px;" type="text" value="44.26073"/> °	W (-) <input style="width: 80px;" type="text" value="73.25423"/> °

**Part IV Project Information**

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

1 Project Name (if applicable) <input style="width: 95%;" type="text" value="Dykema"/>	2 Total Acreage of Property <input style="width: 95%;" type="text" value="1.1"/>
-------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------

3 Business Name (if applicable)

4 Detailed Project Description

5 Were all buildings or structures, campgrounds, and their associated potable water supplies and wastewater systems substantially completed before January 1, 2007 and all 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 Wastewater Management 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="Spencer Harris"/>	(b) Date of Visit <input style="width: 95%;" type="text" value="01-25-2010"/>
---------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------

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 Water Quality Division at (802) 241-3770.*

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 Water Quality 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 Water Quality 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
<input checked="" type="checkbox"/> <input style="width: 150px;" type="text"/>	<input style="width: 80px;" type="text"/>

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, Book, and Page reference for the current landowner's deed(s) to this property in the table below:

	(a) Town	(b) Book	(c) Page(s)
X	Charlotte	181	160-161

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	Proposed Site Development Plan	12-13-2010	
X	2	Water & Wastewater System Details	12-13-10	

Add Another Plan Reference

**Section D - Existing Project Lot/BuildingDetails**

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	1.1	Undeveloped

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	Undeveloped			<input checked="" type="radio"/> Yes <input type="radio"/> No

Add Another Building

Remove This Lot

Add Another Lot

**Section E - Proposed Project Lot/BuildingDetails**

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	1.1	Single Family Residential (SFR)

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		<input checked="" type="checkbox"/>	2 Bedroom SFR

Add Another Building

Remove This Lot

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 for this project? .....	<input type="radio"/> Yes <input checked="" type="radio"/> No						
2 Are you proposing changes to an existing water supply for this project? .....	<input checked="" type="radio"/> Yes <input type="radio"/> No						
3 Is there a connection to an existing water supply for the project? .....	<input type="radio"/> Yes <input checked="" type="radio"/> No						
<i>If you answered No to all three of the above questions, skip to Part VI. Otherwise, proceed with Part V.</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 Water Supply Division at (802) 241-3400 for source, construction and operating</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? .....	<input type="radio"/> Yes <input checked="" type="radio"/> No						
<i>If Yes, please submit additional information on the site. The Waste Management Division can be reached at (802) 241-3888.</i>							
6 Does this project require an approval letter from the Water Supply Division for the construction of a public water system, municipal water line extension over 500 feet, or hydrants or sprinkler systems? .....	<input type="radio"/> Yes <input checked="" type="radio"/> No						
<i>If Yes, please submit a copy of the approval letter from the Water Supply Division.</i>							
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? .....	<input type="radio"/> Yes <input checked="" type="radio"/> No						
<i>If Yes, please submit additional information regarding the constituent(s) that exceeds the standards and plans, details, and specifications of the treatment device.</i>							
8 Is any portion of the proposed water supply located in or near a Water Source Protection Area as designated by the Water Supply Division? .....	<input type="radio"/> Yes <input checked="" type="radio"/> No						
<i>If in areas of known interference issues, please contact the Water Supply Division at (802) 241-3400.</i>							
<b>Section C - Individual Water Supply Details</b>							
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 <input type="text" value="Dykema Well"/>	2 Water Supply Owner (if not Applicant) <input type="text"/>						
3 Water Source Type <input type="text" value="Non-Public Drilled Bedrock Well"/>	4 Type of Change to Supply <input type="text" value="New Connection or Increased Flow"/>						
5 Lots/Buildings Served by this Water Supply System							
<b>Design Flows (Gallons Per Day)</b>							
(a) Lot#	(b) Building ID	(c) Type of Change to the Building's Supply	(d) Existing	(e) Increase	(f) Total	(g) Rule or Meter Based Flows	
<b>X</b>	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="Connection to New System"/>	<input type="text" value="0"/>	<input type="text" value="280"/>	<input type="text" value="280"/>	<input type="text" value="Rule-based"/>
<input type="button" value="Add Another Lot/Building Served by this Supply"/>			6	7	8		
			<input type="text" value="0"/>	<input type="text" value="280"/>	<input type="text" value="280"/>		
9 Is this water supply located off-lot? .....		<input checked="" type="radio"/> Yes <input type="radio"/> No					
10 Is this water supply shared? .....		<input type="radio"/> Yes <input checked="" type="radio"/> No					
<i>If the water supply is located off-lot or shared, submit a copy of the agreement to provide an easement prior to construction.</i>							

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) Increase	(d) Total
X Dykema Well	0	280	280
Add Another Water Supply	2	3	4
	0	280	280

**Part VI Wastewater Disposal System Information**

**Section A - Wastewater Disposal System Screening Questions**

- 1 Are you proposing a new wastewater disposal system or replacement area for this project? .....  Yes  No
- 2 Are you proposing changes to an existing wastewater disposal system for this project? .....  Yes  No
- 3 Is there a connection to an existing wastewater disposal system for the project? .....  Yes  No
- If you answered **No** to all three of the above questions, skip to Part VII. Otherwise, proceed with Part VI.

**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 If the project has a soil-based wastewater disposal system with design flows that exceed 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 Wastewater Management 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 Water Supply Division? .....  Yes  No
- If Yes, contact the Water Supply 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 <input style="width:95%;" type="text" value="Dykema System"/>	2 Wastewater Disposal System Owner (if not Applicant) <input style="width:95%;" type="text"/>						
3 Wastewater Disposal System Type <input style="width:95%;" type="text" value="In-ground"/>	4 Type of Change to System <input style="width:95%;" type="text" value="New System"/>						
5 Lots/Buildings Served by this Wastewater Disposal System							
<b>Design Flows (Gallons Per Day)</b>							
(a) Lot#	(b) Building ID	(c) Type of Change to the Building's System	(d) Existing	(e) Increase	(f) Infiltration	(g) Total	(h) Rule or Meter Based Flows
<input checked="" type="checkbox"/> X	<input style="width:30px;" type="text" value="1"/>	<input style="width:30px;" type="text" value="1"/>	<input style="width:30px;" type="text" value="0"/>	<input style="width:30px;" type="text" value="280"/>	<input style="width:30px;" type="text"/>	<input style="width:30px;" type="text" value="280"/>	<input style="width:30px;" type="text" value="Rule-based"/>
<input type="button" value="Add Another Lot/Building Served by this System"/>		6	7	8	9		
		<input style="width:30px;" type="text" value="0"/>	<input style="width:30px;" type="text" value="280"/>	<input style="width:30px;" type="text"/>	<input style="width:30px;" type="text" value="280"/>		
10 Is this wastewater disposal system located off-lot? ..... <input type="radio"/> Yes <input checked="" type="radio"/> No							
11 Is this wastewater disposal system shared? ..... <input type="radio"/> Yes <input checked="" type="radio"/> No							
<i>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.</i>							
12 Is a variance being requested for this wastewater disposal system? ..... <input type="radio"/> Yes <input checked="" type="radio"/> No							
<i>If Yes, please submit additional details related to the variance request.</i>							
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 <input style="width:95%;" type="text"/>							
14 If this wastewater disposal system type is a connection to a municipal system, please select the town.							
Town <input style="width:95%;" type="text"/>							
15 If this wastewater disposal system is a soil-based system, please select the design approach used.							
Design Approach Used <input style="width:95%;" type="text" value="Prescriptive"/>							
16 For soil-based systems, please check all that apply.							
<input type="checkbox"/> Storage and Dose <input type="checkbox"/> Filtrate							
17 If this is an Innovative/Alternative soil-based system, please select the system use type.							
Innovative/Alternative System Use Type <input style="width:95%;" type="text"/>							
18 If this is an Innovative/Alternative soil-based system, please select the Innovative/Alternative system or product.							
Innovative/Alternative System or Product <input style="width:95%;" type="text"/>							
<input type="button" value="Remove This Wastewater System"/>							
<input type="button" value="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) Increase	(d) Infiltration	(e) Total	
<input checked="" type="checkbox"/> Dykema System	0	280	0	280	
<input type="checkbox"/> Add Another Wastewater System	2	3	4	5	
	0	280	0	280	

**Part VII Application Fees**

1 Fee Amount

2 Fee Calculation Details

Town of Charlotte New Single Family Dwelling Unit Fee = \$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 12/13/10
-------------------------------------	--------------------------------------------------------------------------------------------------------------	------------------------------

**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 <input style="width: 95%;" type="text"/>	2 Designer 2 Signature <input style="width: 95%;" type="text"/>	3 Signature Date <input style="width: 95%;" type="text"/>
---------------------------------------------------------------	--------------------------------------------------------------------	--------------------------------------------------------------

**Part IX Applicant(s) Signature & Acknowledgements**

*In order to insure compliance with the requirements of the regulations administered by the Department of Environmental Conservation, Wastewater Management 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?

Set up appointment with designer

*"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 Wastewater Management 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 Ben A. Dykema	3 Applicant Signature	4 Signature Date
<input checked="" type="checkbox"/>	2 Print Applicant Name Kristine L. Dykema	3 Applicant Signature	4 Signature Date

Add Applicant Signature Block

**Dykema Property**

**Attachment 1**

**Soil Profile Descriptions & Percolation Test Results**

**Dykema Property  
Soil Profile Descriptions  
November 23, 2009 and January 25, 2010  
By Stephen Revell, LCBD178**

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

- 0-10"      Brown loamy fine sand, loose, strong granular, well drained
- 10-30"     Yellow-brown to red-brown loamy fine to medium sand, loose, strong granular to fine blocky (crumb) structure, well drained
- 30-62"     Brown mixed sand and gravel, loose, strong granular, well drained
- 62-72"     Brown-olive fine sandy loam to loamy fine sand, friable, moderate fine blocky structure, mottled at 62", no water or ledge to depth

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

- 0-8"      Brown loamy fine sand, loose, strong granular, well drained
- 8-27"     Yellow-brown to red-brown loamy fine to medium sand, loose, strong granular to fine blocky (crumb) structure, well drained
- 27-42"     Tan stony fine sand, friable, moderate fine blocky structure, well drained
- 42-72"     Brown mixed sand and gravel, loose, strong granular, well drained, no mottling, water or ledge to depth

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

- 0-12"     Brown loamy fine sand, loose, strong granular, well drained
- 12-24"     Yellow-brown to red-brown loamy fine to medium sand, loose, strong granular to fine blocky (crumb) structure, well drained
- 24-36"     Brown to red-brown fine sandy loam, moderate granular, friable, well drained
- 36-54"     Tan loamy very fine sand, friable, moderate fine blocky, very faint uncommon mottles at 50", no water or ledge to depth

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

- 0-10"     Brown loamy fine sand, loose, strong granular, well drained
- 10-28"     Yellow-brown to red-brown stony, loamy fine to medium sand, loose, strong granular to fine blocky (crumb) structure, well drained

  
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28-60" Brown mixed sand and gravel, loose, strong granular, well drained, no water, mottling or ledge to depth

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

0-12" Brown loamy fine sand, loose, strong granular, well drained

12-30" Yellow-brown to red-brown loamy fine to medium sand, loose, strong granular to fine blocky (crumb) structure, well drained

30-38" Brown to red-brown fine sandy loam, moderate granular, friable, well drained

38-56" Tan loamy very fine sand, friable, moderate fine blocky, faint common mottles at 45", no water or ledge to depth,

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

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

10-36" Red-brown stony sandy loam, loose, strong granular, well drained

36-72" Brown gravelly coarse sand, loose, strong granular, well drained, no mottling, water or ledge to depth

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

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

12-36" Red-brown stony sandy loam, loose, strong granular, well drained

36-72" Brown gravelly coarse sand, loose, strong granular, well drained, no mottling, water or ledge to depth

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

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

12-34" Red-brown stony sandy loam, loose, strong granular, well drained

34-66" Brown gravelly coarse sand, loose, strong granular, well drained, no mottling, water or ledge to depth



Dykema Property

Percolation Test Results

All tests were performed on January 26, 2010 at a depth of 18" - 24"

PT-1	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	4.3	4.3	1	4.3
	9.6	13.9	2	6.9
	11.6	25.5	3	8.5
	12.9	38.3	4	9.6
	13.8	52.2	5	10.4
	14.6	66.8	6	11.1
	15.2	82.0	7	11.7
	---	<b>1440.0</b>	---	<b>20.5</b>

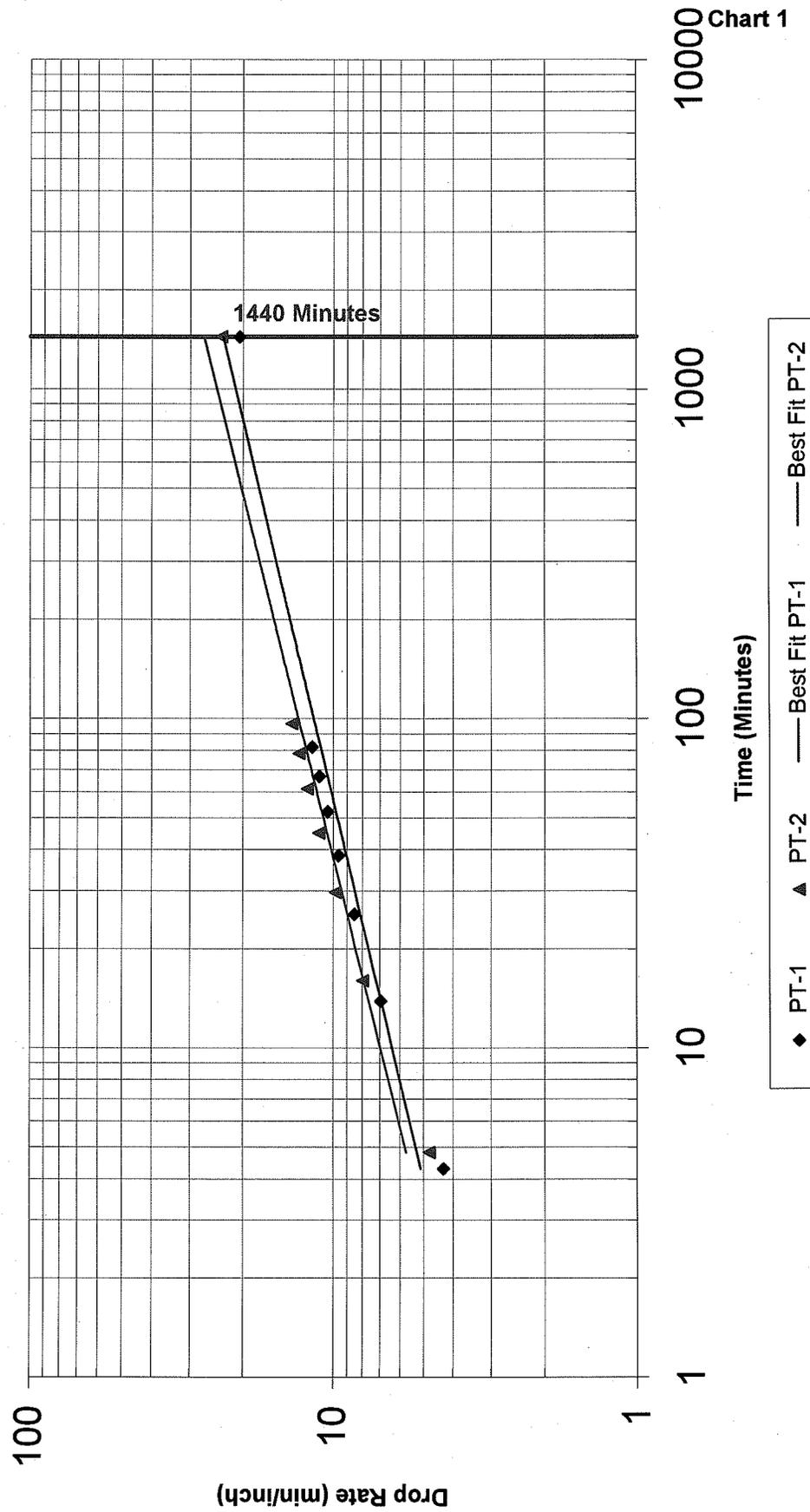
PT-2	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	4.8	4.8	1	4.8
	11.1	15.9	2	8.0
	13.5	29.5	3	9.8
	15.1	44.6	4	11.1
	16.2	60.8	5	12.2
	17.2	78.0	6	13.0
	17.9	95.9	7	13.7
	---	<b>1440.0</b>	---	<b>23.6</b>

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

# Dykema Property

## Percolation Test Results

All tests were performed on January 26, 2010 at a depth of 18" - 24"



**Dykema Property**

**Attachment 2**

**Encroachment Agreement and Act 145  
Correspondence**

## ENCROACHMENT AGREEMENT

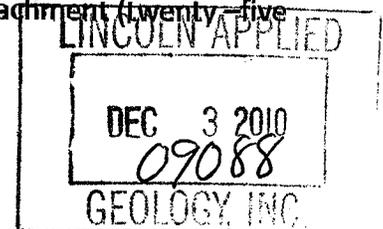
KNOW ALL PERSONS BY THESE PRESENTS, that I, JACQUELINE A. JONES, of Charlotte, in the County of Chittenden and State of Vermont (the "GRANTOR"), for Ten Dollars and other valuable consideration received, receipt of which is hereby acknowledged, do hereby GIVE GRANT, CONVEY and CONFIRM unto the said GRANTEES, BEN A. DYKEMA and KRISTINE L. DYKEMA, husband and wife, both of Charlotte, in the County of Chittenden and State of Vermont, and their heirs and assigns forever, an encroachment agreement that allows that the on site disposal system proposed to serve the GRANTEES' 1.1 acre lot purchased from Martha A. MacAlister (Vol. 181, p. 160) can be constructed directly adjacent to my western boundary instead of the normal twenty five (25) feet, such distance a requirement specified in the 2007 Vermont Environmental Protection Rules.

This agreed upon property line encroachment is relative to the GRANTEES' eastern property line as shown on a survey entitled, "Property of Bruce K. & Martha A. MacAlister, Chittenden County, Charlotte, VT.", prepared by Ronald I. LaRose, L.S., dated October 1974, and filed for record in the Charlotte Land Records in Map Slide 132 as Map Page 6,

This agreed upon property line encroachment is also relative to the GRANTEES' wastewater design with the exact location of said on site septic system as shown on the Plans as prepared by Lincoln Applied Geology and stamped "APPROVED" by the State of Vermont Department of Environmental Conservation, in connection with State of Vermont Wastewater System and Potable Water Supply Permit No. WW- - dated ,2010, and recorded at Book \_\_\_ Pages \_\_\_\_\_ Charlotte Land Records,

NOW THEREFORE,

1. The GRANTEES agree that all construction, maintenance, repair and replacement of the GRANTEES' on site septic system does not necessitate any impact on the GRANTORS property, but if there is any impact the GRANTEES agree to do any repairs which shall include leveling and re-seeding any disturbed areas and leaving the lands and premises in good, neat and orderly condition. If GRANTEES shall fail to pay the aforesaid costs after receipt of notice thereof, the amount not paid shall be a lien upon said GRANTEES' property, forecloseable in the same manner as a mortgage, together with all costs of foreclosure, collection or enforcement, including reasonable attorney's fees.
2. the GRANTOR agrees that no structures shall be built, no deep rooted plants planted, nor any other action or actions whatsoever taken within the areas of the encroachment (twenty-five



feet ,(25) conveyed herein as shown on the PLANS stamped "APPROVED" by the Department of Environmental Conservation in connection with State of Vermont Wastewater System and Potable Water Supply Permit No. WW-        dated        ,2010, which would unreasonably interfere with said perpetual encroachment conveyed herein.

DATED at Winooski, Vermont, this 18 day of November, 2010.

Julie A. Dion  
Witness

Jacqueline A. Jones  
JACQUELINE A. JONES

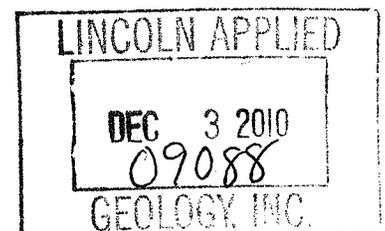
STATE OF VERMONT  
Chittenden COUNTY, SS.

At Winooski, Vermont, this 18<sup>th</sup> day of November, 2010,  
JACQUELINE A. JONES, personally appeared, and she acknowledged this instrument, by her sealed and subscribed to be her free act and deed.

Before me,

NOTARY PUBLIC

Julie A. Dion  
(my commission Expires 2/10/11)



First Revision Issued 6-18-2010

Certification Statement for use in compliance with Act 145 of the 2010 Legislative Session

One of the two following certification statements shall be included with any application for a Wastewater System and Potable Water Supply Permit that is filed on or after June 2, 2010

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

When there are affected property owners, the applicant shall use this statement:

**I hereby certify that the attached list of names and addresses includes all those whose property may be affected by the proposed water and wastewater systems, and their associated isolation distances and zones, and that all those listed have been sent a copy of the application and any associated plans.**

Signature \_\_\_\_\_

Name (Printed) Ben & Kristine Dykema

Date of this certification \_\_\_\_\_

Note: It will be helpful for future property transfer work if the physical address of the property or property tax ID number is included with the certification.

**Ben and Kristine Dykema Subdivision  
List of Affected Property Owners**

- 1). Jones Living Trust  
Jacqueline Jones, Trustee  
400 Town Line Road  
Charlotte, VT 05445

F:\CLIENTS\2009\09088\Ben and Kristine Dykema Subdivision List of Affected Owners .doc



Lincoln Applied Geology, Inc.  
Environmental Consultants

163 Revell Drive • Lincoln, VT 05443 • (802) 453-4384 • FAX (802) 453-5399



December 14, 2010

Jones Living Trust  
Jacqueline Jones, Trustees  
400 Town Line Road  
Charlotte, VT. 05445

Re: Dykema Water & Wastewater System Permitting

Dear Jacqueline Jones:

I am currently preparing an application for a State of Vermont Wastewater System and Potable Water Supply Permit on behalf of Ben and Kristine Dykema. The permit application requests approval to develop their 1.1 acre parcel that lies west of and directly adjacent to your property.

Recent changes to State statute (Act 145) require me to notify you that the isolation distances related to the proposed disposal area extend onto your land. Although I do not think this effects you because of the recent installation of your replacement well, this isolation distance limits your ability to place a well in this area in the future. The statute change does not create any right other than notification.

As required, I have enclosed a copy of the permit application, the associated plans and any associated documents. The plans show the isolation zone on your property adjacent to the proposed replacement disposal area. If you have any questions, please contact me at 802-453-4384.

Very truly yours,  
**Lincoln Applied Geology, Inc.**

Stephen Revell, CPG  
Licensed Class B Designer 178 and Principal Hydrogeologist

SR/SK:kg  
Enclosure

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