LINCOLN
APPLIED GEOLOGY, INC.
Environmental Consultants

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LINCOLN APPLIED
GEOLOGY, INC.

July 28, 2011

Thomas and Susan Thibault
546 Spear Street
Charlotte, VT 05445

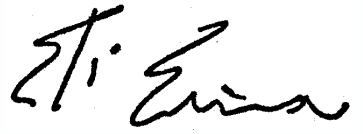
RE: Proposed Replacement Wastewater Disposal System Permit Application
Three Bedroom Single Family Residence on a +/-7.1 Acre Parcel
546 Spear Street, Charlotte, VT

Dear Mr. and Mrs. Thibault:

Enclosed, you will find the completed wastewater disposal system plans and the Town of Charlotte wastewater permit application for your review. Please sign and date the permit application where indicated, attach a check for $250.00 made payable to the Town of Charlotte, and then forward the application package to the Town Office in the enclosed envelope. The additional two copies are for your records and for your contractors use.

If you have any questions, or if we can provide further assistance, please contact us at (800) 477-4384. Thank you for allowing Lincoln Applied Geology, Inc. the opportunity to assist you with your wastewater disposal needs.

Respectfully,
Lincoln Applied Geology, Inc.



Elias J. Erwin
Licensed Class B Designer #503

EE/SR/SK:kg
Enclosures

F:\CLIENTS\2011\11033\WW Permit Application\Client Cover Ltr.doc

LINCOLN APPLIED GEOLOGY, INC.
Environmental Consultants

1984 - 2009 25 YEARS OF EXCELLENCE LINCOLN APPLIED GEOLOGY, INC.

July 28, 2011

Mr. Thomas Mansfield, Zoning Administrator
Mr. Spencer Harris, Septic Consultant
Town of Charlotte
P.O. Box 119
Charlotte, VT 05445

RE: Thibault Property - Replacement Wastewater Disposal System
Quarry Road, New Haven, Vermont

Dear Mr. Mansfield and Mr. Harris:

On July 11, 2011, I performed a site and soil evaluation at the abovementioned address to locate an area suitable for a complying replacement wastewater disposal system. Mr. Spencer Harris was on-site to confirm my findings and will likely recall the subject property and the observed site and soil conditions. The ± 7.1 acre parcel is owned by Thomas and Susan Thibault. The parcel is developed with a four (4) bedroom year-round single family residence (SFR) served by a private drilled bedrock water supply well and on-site septic. Currently the wastewater disposal system consists of an estimated 500 gallon capacity fiberglass septic tank, a Cromaglass CA-5 Sequencing Batch Reactor (SBR) and a failing in-ground absorption trench. The proposed replacement mound-type wastewater disposal system is described below in greater detail.

The initial result of the site and soil evaluation performed on July 11, 2011 indicates that the ±7.1 acre parcel is mainly wooded with an open space used primarily for the house site and associated yard. In general, the site topography slopes toward the east with the western portion of the property exhibiting steep rocky slopes exceeding 20%. Fortunately, an area located south of the SFR provides a uniform and adequate slope of 12%. Therefore, this area was targeted for evaluation.

A total of eight (8) test pits (TP) were installed on the subject property and the location of each test pit is shown on Plan Sheet 1. A detailed description of the soils observed is included as Attachment A. Review of the soil logs indicate that 6”-10” of well drained dark brown silt loam overlies 6”-10” of moderately drained tan-light brown silt loam. Evidence of seasonal high water table in the form of mottles was typically observed at 12” below ground surface (BGS). No ground water or ledge was encountered during the soil evaluation to a maximum depth of 38” BGS. A percolation test was conducted adjacent to TP-1 and TP-3 at a depth of 12” BGS. The observed percolation rates equaled 42.3 minutes/inch (min/in) and 44.8 min/in. An application rate of 1.0 gpd/ft^2 and a basal application rate of 0.74 gpd/ft^2 were used for the basis of my design. The

percolation test results are included in Attachment A. Based on the results of our site and soil evaluation, a complying performance based mound type disposal system was defined to adequately address the site and soil conditions. The site location, property dimensions, test pit and percolation test locations, disposal system layout, and wastewater design details are shown on Plan Sheet 1.

The proposed replacement wastewater disposal system will require wastewater to continue to flow by gravity from the house to a new 1,000 gallon concrete septic tank fit with an effluent filter and water tight access risers set to grade. From the septic tank, wastewater will flow by gravity to the proposed 1,000 gallon concrete pump station. A submersible effluent pump capable of discharging wastewater at 19.46 gallons per minute (gpm) against 16.47' of total dynamic head (TDH) is required in order to provide equal distribution through the proposed 4.5' x 110' mound type disposal system. The proposed mound system provides 495 ft^2 of application area which satisfies the application area requirement. The basal application rate of 0.74 gpd/ft^2 requires 662 ft^2. Our design satisfies this requirement with a proposed basal area of 2,873 ft^2. The proposed pressure distribution and mound dimension details, an acceptable submersible effluent pump model, and the VTDEC Simplified Method for Prescriptive Desktop Mounding Analysis calculations are presented in Attachment B.

Accompanying this letter is a signed Wastewater Permit Application with a permit fee of $250.00, 2 full scale copies of the Plan Sheets 1 and 2, 1 reduced (11" x 17") copy of Plan Sheet 1 and 2, one copy of this letter and the attachments, and 1 CD of the complete package. Although no Act 145 notification is required as the proposed system serves as a replacement and no increase in flow is proposed, a signed Certification Statement is enclosed. We look forward to your expeditious review as Mr. and Mrs. Thibault would like to proceed with the installation of the subject replacement wastewater disposal system as soon as possible.

If you have any questions or if we can provide additional information regarding the content of this permit application, please contact me directly at (800) 477-4384.

Respectfully,
Lincoln Applied Geology, Inc.

Elias J. Erwin
Licensed Class B Designer #503
EE/SR/SK:kg
cc: Mr. and Mrs. Thibault
Enclosures

Attachment A

Soil Evaluation and Percolation Test Results

Thibault Residence
546 Spear Street – Charlotte, VT
Soil Evaluation Conducted by:
Elias J. Erwin, Licensed Class B Designer #503
Inspected by: Spencer Harris, Town Septic Consultant
July 11, 2011

Test Pit #1 (TP-1)

0-6" Dark brown silt loam, loose, moderate to strong crumb structure, many medium to fine roots, well drained.

6-12" Tan-light brown silt loam, loose to friable, moderate to strong blocky structure, many fine roots, moist with depth, mottles present below 12".

12-36" Grey silt loam, friable, weak blocky structure, poorly drained and heavily mottled. No ledge or ground water to depth.

Test Pit #2 (TP-2)

0-6" Dark brown silt loam, loose, moderate to strong crumb structure, many medium to fine roots, well drained.

6-12" Tan-light brown silt loam, loose to friable, moderate to strong blocky structure, many fine roots, moist with depth, mottles present below 12".

12-38" Grey silt loam, friable, weak blocky structure, poorly drained and heavily mottled. No ledge or ground water to depth.

Test Pit #3 (TP-3)

0-8" Dark brown silt loam, loose, moderate to strong crumb structure, many medium to fine roots, well drained.

8-14" Tan-light brown silt loam, loose to friable, moderate to strong blocky structure, many fine roots, moist with depth, mottles present below 14".

14-38" Grey silt loam, friable, weak blocky structure, poorly drained and heavily mottled. No ledge or ground water to depth.

Test Pit #4 (TP-4)

0-10" Dark brown silt loam, loose, moderate to strong crumb structure, many medium to fine roots, well drained.

10-18" Tan-light brown silt loam, loose to friable, moderate to strong blocky structure, many fine roots, moist with depth, mottles present below 12".

18-36" Grey silt loam, friable, weak blocky structure, poorly drained and heavily mottled. No ledge or ground water to depth.

Test Pit #5 (TP-5)

0-8" Dark brown silt loam, loose, moderate to strong crumb structure, many medium to fine roots, well drained.

8-16" Tan-light brown silt loam, loose to friable, moderate to strong blocky structure, many fine roots, moist with depth, mottles present below 12".

16-36" Grey silt loam, friable, weak blocky structure, poorly drained and heavily mottled. No ledge or ground water to depth.

Test Pit #6 (TP-6)

0-6" Dark brown silt loam, loose, moderate to strong crumb structure, many medium to fine roots, well drained.

8-14" Tan-light brown silt loam, loose to friable, moderate to strong blocky structure, many fine roots, moist with depth, mottles present below 12".

14-36" Grey silt loam, friable, weak blocky structure, poorly drained and heavily mottled. No ledge or ground water to depth.

Test Pit #7 (TP-7)

0-6" Dark brown silt loam, loose, moderate to strong crumb structure, many medium to fine roots, well drained.

6-16" Tan-light brown silt loam, loose to friable, moderate to strong blocky structure, many fine roots, moist with depth, mottles present below 12".

16-38" Grey silt loam, friable, weak blocky structure, poorly drained and heavily mottled. No ledge or ground water to depth.

Test Pit #8 (TP-8)

0-6" Dark brown silt loam, loose, moderate to strong crumb structure, many medium to fine roots, well drained.

6-14" Tan-light brown silt loam, loose to friable, moderate to strong blocky structure, many fine roots, moist with depth, mottles present below 12".

14-36" Grey silt loam, friable, weak blocky structure, poorly drained and heavily mottled. No ledge or ground water to depth.

Lincoln Applied Geology, Inc.
Environmental Consultants
163 Revell Road • Lincoln, VT 05443 • (802) 453-4384 • FAX (802) 453-5399

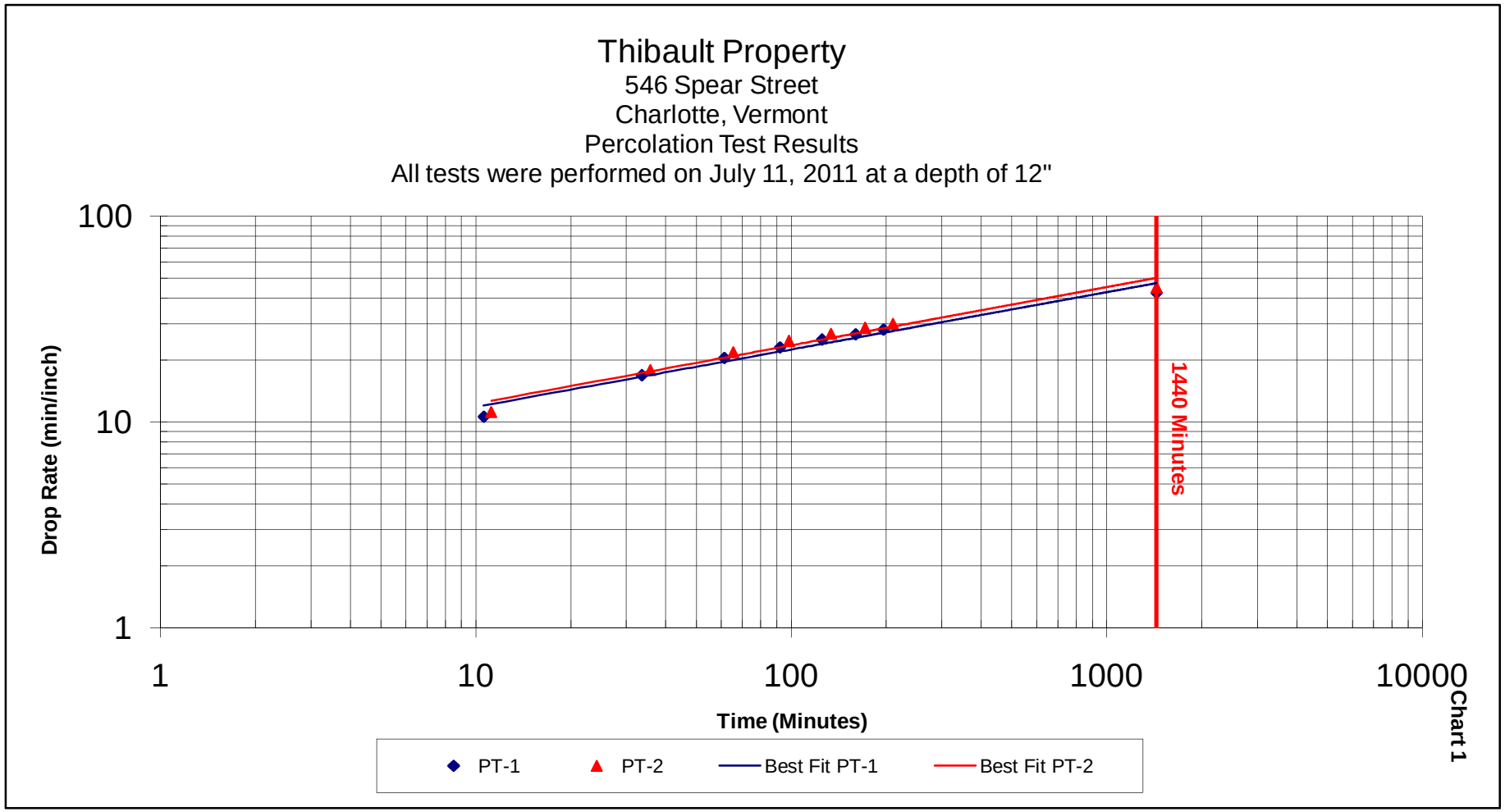
Thibault Property
546 Spear Street
Charlotte, Vermont
Percolation Test Results
All tests were performed on July 11, 2011 at a depth of 12"

PT-1	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	10.6	10.6	1	10.6
	23.1	33.7	2	16.8
	27.8	61.4	3	20.5
	30.8	92.2	4	23.1
	33.1	125.3	5	25.1
	34.9	160.2	6	26.7
	36.4	196.6	7	28.1
	---	**1440.0**	---	**42.3**

PT-2	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	11.2	11.2	1	11.2
	24.6	35.8	2	17.9
	29.7	65.5	3	21.8
	33.0	98.5	4	24.6
	35.4	133.9	5	26.8
	37.4	171.3	6	28.5
	39.0	210.3	7	30.0
	---	**1440.0**	---	**44.8**

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

Table 1


Thibault Property
546 Spear Street
Charlotte, Vermont
Percolation Test Results
All tests were performed on July 11, 2011 at a depth of 12"
100
10
1
Drop Rate (min/inch)
1
10
100
1000
10000
Time (Minutes)
1440 Minutes
PT-1
PT-2
Best Fit PT-1
Best Fit PT-2
Chart 1

Attachment B

Pressure Distribution and Mound Dimension Details, Effluent Pump Specifications and VTDEC Desktop Mounding Analysis Calculations

PRESSURE DISTRIBUTION & MOUND DIMENSION DETAILS

CLIENT'S NAME: Thibault Residence
DATE: 7/28/2011 PERFORMED BY: Elias Ewin LAG Project # 11033

Design Flow Rate	490	GPD
Width of Distribution Stone Bed/Trench	4.5	FEET
Length of Distribution Stone Bed/Trench	110	FEET
Thickness of Sand Beneath Distribution Stone Bed/Trench	2.5	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	42	MPI
Natural Ground Slope	12	PERCENT
Thickness of Sand on Upper Side of Level Area	3.13	FEET
Thickness of Sand on Lower Side of Level Area	3.91	FEET
Width of Level Area	6.5	FEET
Length of Level Area	112	FEET
Area of Distribution Stone Bed/Trench	495	SQUARE FT
Volume of Stone Required	11	CUBIC YARDS
Proposed Basal Area	2873	SQUARE FEET
Volume of Mound Sand Required	498.0	CUBIC YARDS
Number of Laterals .	2	
Length of Each Lateral	52.5	FEET
Number of Orifices in the Manifold	0	
Number of Orifices in Each Lateral	11	
Distance Between Manifold and First Orifice	2.5	FEET
Distance Between Orifices (on center)	5	FEET
Distribution Area per Orifice	22.50	SQ. FT.
Design Pressure Head	5	FEET
Diameter of Orifices (enter as fraction)	0.188	INCHES
Elevation From Pump Intake to Laterals (0 if siphon)	10	FEET
Diameter of Force Main	2	INCHES
Length of Force Main	165	FEET
Length of Manifold to Lateral	0	FEET
Diameter of Manifold Pipe	2	INCH
Diameter of Lateral Pipe	2	INCH
Friction Loss in Force Main	1.40	FEET
Friction Loss in Manifold	0.00	FEET
Friction Loss in Section 1	0.01	FEET
Friction Loss in Entire Lateral	0.04	FEET
Discharge Rate at First Orifice	0.93	GPM
Discharge Rate at Last Orifice	0.92	GPM
Percent Difference in Flow Rate First to Last Orifice	0.34	PERCENT
Total Dynamic Head Loss	16.477	FEET
Total Distribution System Flow .	19.46	GPM
Volume of Distribution System	17.14	GALLONS
Pump Capacity 19.46 GPM vs	16.477	FEET OF HEAD
Volume per Dose	120	GALLONS
On/Off Float Swing (1,000 gal. Tank)	4.0	INCHES

PRESSURE DISTRIBUTION & MOUND DIMENSION DETAILS

CLIENT'S NAME: Thibault Residence
DATE: 7/28/2011 PERFORMED BY: Elias Ewin LAG Project # 11033

DIMENSIONS OF MOUND SYSTEM

Dimensions of Mound Sand

7.0 feet from level area to uphill sand toe

9.8 ft corner of level area to upper toe corner

6.5 ft wide level area

9.5 ft to side toe from upper edge of level area

4.5 ft wide stone bed/trench
110 ft long stone bed/trench

11.8 ft to side toe from lower edge of level area

112 ft long level area

26.3 ft corner of level area to lower toe corner

18.6 feet from level area to downhill sand toe

Dimensions of Final Cover

9.2 feet from level area to uphill toe

13.0 ft corner of level area to upper fill toe

12.5 ft to side toe from upper edge of level area

6.5 ft wide level area

112 ft long level area

14.9 ft to side toe from lower edge of level area

33.1 ft corner of level area to lower fill toe

23.4 feet from level area to downhill toe

PLOW AREA LAYOUT MEASUREMENTS

Center of Bed/Trench to Downslope Toe	83.7	feet
End of Level Area @ Midpoint to Downslope Toe	35.4	feet
Center of Bed/Trench to Upslope Toe	66.4	feet
End of Level Area @ Midpoint to Upslope Toe	15.4	feet

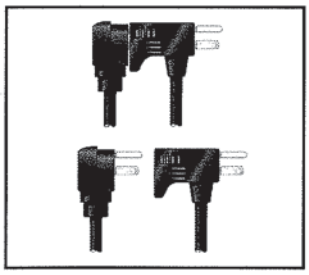
HYDROMATIC®

SHEF30

Submersible Effluent Pump

- Effluent Septic Tank

Automatic operation features easily adjustable, wide-angle float switch with a piggyback plug-in arrangement that allows for simple conversion to manual operation. Special inlet design allows pump to handle 3/4" solids. Cast iron body and an oil-filled motor provide superior cooling characteristics for longer pump life. Motor windings contain automatic thermal overload protection. Energy efficient .3 HP motor pumps up to 35 GPM at 10' total dynamic head. Discharge is 1-1/2" N.P.T.



May be operated manually or automatically with a piggyback switch.

HYDROMATIC®
Pentair Pump Group

SHEF30 - Submersible Effluent Pump

Details

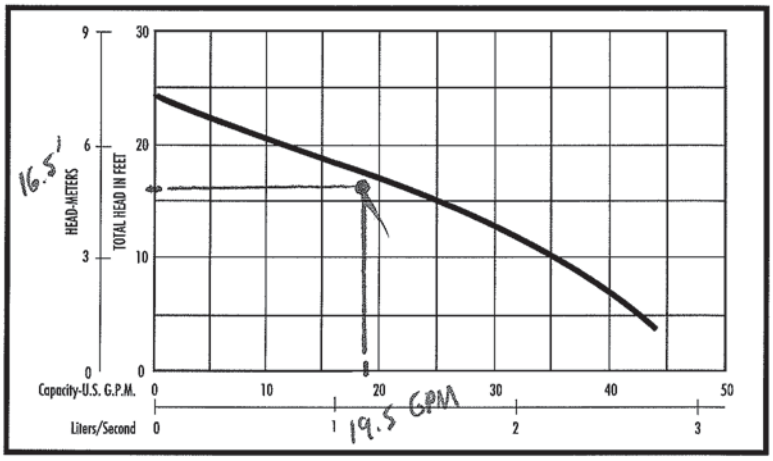
Pump Characteristics

Pump/Motor Unit	Submersible
Automatic Model	SHEF30A1
Horsepower	.30
Full Load Amps	8.0
Motor Type	Shaded Pole (4 pole)
R.P.M.	1550
Phase Ø	1
Voltage	115
Hertz	60
Temperature	120°F Ambient
NEMA Design	A
Insulation	Class A
Discharge Size	1-1/2" NPT (38mm)
Solids Handling	3/4" (19mm)
Unit Weight	30 lbs.
Power Cord	18/3, SJTW, 20' std.

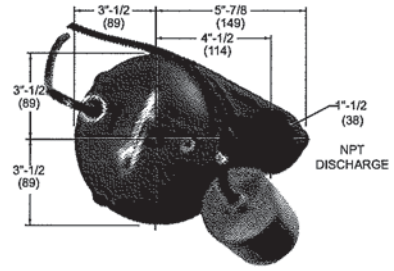
Materials of Construction

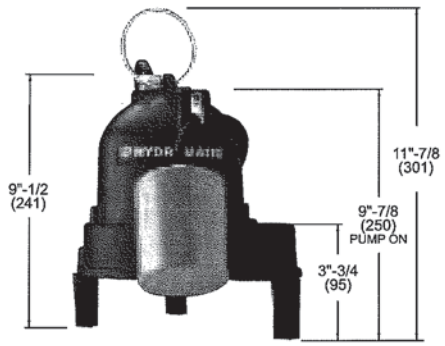
Handle	Stainless Steel
Lubricating Oil	Dielectric Oil
Motor Housing	Cast Iron
Pump Volute	Cast Iron
Shaft	Steel
Mechanical Shaft Seal	Seal Faces: Carbon/Ceramic Seal Body: Anodized Steel Spring: Stainless Steel Bellows: Buna-N
Impeller	Engineered Thermoplastic
Upper Bearing	Cast Iron Sleeve
Lower Bearing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

Performance Data



Dimensional Data





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

HYDROMATIC®
Pentair Pump Group

—Your Authorized Local Distributor —

USA
1840 Baney Road Ashland, Ohio 44805
Tel: 419-289-3042 Fax: 419-281-4087

www.hydromatic.com

CANADA
269 Trillium Drive Kitchener, Ontario, Canada N2G 4W5
Tel: 519-896-2163 Fax: 519-896-6337

Item #: W-02-6350 7/00 8M

Thibault Replacement Wastewater Disposal System
546 Spear Street, Charlotte, VT 05445

VDEC Simplified Method for Prescriptive Mounding Analysis	
Proposed Wastewater Flow (gpd)	490
Slope (%)	12%
Soil Texture	Silt Loam
Linear Loading Rate Factor (f)	9.4
Depth to Seasonal High Water Table (in)	12
Depth to Seasonal High Water Table (ft)	1.00
Maximum Soil Thickness Available for Ground Water Mounding (ft) (SHWT-0.5')	0.5
Linear Loading Rate (LLR)	4.70
Calculated Minimum Length of Seepage Bed (ft)	104.3
Calculated Maximum Width of Seepage Bed (ft)	4.70
Is Calculated Length to Width Ratio = or > 3:1?	Yes
Required Sand Thickness Beneath Seepage Bed (ft)	2.5'
LAG Proposed System Parameters	
Length of Seepage Bed (ft)	110
Width of Seepage Bed (ft)	4.5
Total Seepage Area (ft)	495
Linear Loading Rate (LLR)	4.45
Calculated Induced Ground Water Mound Thickness (ft)	0.47
Calculated Linear Loading Rate Factor (f)	2.11
Calculated Depth to Seasonal High Ground Water and Induced Mound (ft)	0.53
Minimum Sand Thickness Required Beneath Seepage Bed (ft)	2.47
Confirm Design Parameters Comply with VDEC Simplified Proceedure	
Proposed LLR </= VDEC Simplified LLR	Yes
Proposed Seepage Bed Length >/= VDEC Simplified Minimum Bed Length	Yes
Proposed Seepage Bed Width </= VDEC Simplified Maximum Bed Width	Yes
Calculated Length to Width Ratio =/> 3:1	Yes
Depth to Proposed Induced Ground Water Mound >/= 0.5'	Yes
Thickness of "Dry" Soil from Induced Ground Water Mound and Seepage Bed >/= 3'	Yes

Wastewater Management Division - Permit Application

Wastewater System & Potable Water Supply

VERMONT
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

For Office Use Only:

Application#	PIN#	Date Complete Application Received

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)
Thibault	Thomas and Susan

3 Mailing Address Line 1	4 Mailing Address Line 2
546 Spear Street	

5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
Charlotte	VT	United States	05445

9 Email Address	10 Telephone
sue.tbo@gmail.com	(802) 985-5096

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

3 Mailing Address Line 1	4 Mailing Address Line 2

5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
		United States	

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)

11 Certifying Official Title

12 Certifying Official Email Address	13 Telephone

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
		United States	

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
		United States	

9 Email Address	10 Telephone

Part II Certifying Designer(s) Information

1 Designer Last Name	2 Designer First Name (and Middle Initial if appropriate)
Erwin	Elias J.

3 Designer License#	4 Company Name
00503	Lincoln Applied Geology

5 Mailing Address Line 1	6 Mailing Address Line 2
163 Revell Drive	

7 Town/City	8 State/Province	9 Country	10 Zip/Postal Code
Lincoln	Vermont	United States	05443

11 Email Address	12 Telephone
eerwin@lagvt.com	(802) 453-4384

13 Designer Role(s) (check all that apply)

- ☐ Water Supply Designer
- ☒ 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	03-01-18	Charlotte	546 Spear Street

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
(in decimal degrees to five decimal places, ex. 44.38181°)

N 44.3505 °

(b) Longitude
(in decimal degrees to five decimal places, ex. -72.31392 °)

W (-) 73.19424 °

Part IV Project Information

Section A - General Project Information & Questions

1 Project Name (if applicable)
Thibault Property

2 Total Acreage of Property
7.1

3 Business Name (if applicable)
NA

4 Detailed Project Description
Our clients own a year round four-bedroom single family residence (SFR) on a +/- 7.1 acre lot. The residence is served by an existing drilled bedrock water supply well and an on-site septic system. The existing "in-ground" waste wastewater disposal system is failing due to surfacing effluent. The proposed replacement system consists of a complying performance based mound-type disposal system requiring pressure distribution.

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
Spencer Harris

(b) Date of Visit
07-11-2011

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
X		

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, 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		

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 of 2	Site Plan with Proposed Replacement Wastewater Disposal System Layout	07-29-2011	
X	2 of 2	Proposed Replacement Wastewater Disposal System Details	07-29-2011	

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	7.1	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 with existing permits?
X	1	Residential	Pre 1970	Local	◉ Yes ◯ 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	7.1	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:

	(a) Building ID	(b) If building is exempt, indicate exemption	(c) Construction or increased flow?	(d) Proposed Use
X	1	§1-304(A)(1)	☐	Replacement WW Disposal System

Add Another Building

Remove This Lot

Add Another Lot

Part V Water Supply Information

Section A - Water Supply Screening Questions

1 Are you proposing a new water supply for this project? ..... ○ Yes ◉ No

2 Are you proposing changes to an existing water supply for this project? ..... ○ Yes ◉ No

3 Is there a connection to an existing water supply for the project? ..... ◉ Yes ○ No

*If you answered **No** to **all three of the above questions**, skip to Part VI. Otherwise, proceed with Part V.*

Section B - General Water Supply Questions

1 Does this project involve a failed water supply? ..... ○ Yes ◉ No

2 Will any of the proposed water sources serve 25 or more people or have 15 or more service connections? ..... ○ Yes ◉ No

If Yes, the applicant must contact the Water Supply Division at (802) 241-3400 for source, construction and operating

3 Are any of the existing or proposed water sources located within a special flood hazard area? ..... ○ Yes ◉ No

4 Are any of the existing or proposed water sources located within a floodway? ..... ○ Yes ◉ No

5 Are any of the proposed water sources located within 1 mile of a hazardous waste site as designated by the Waste Management Division and identified on the Agency mapping website? ..... ○ Yes ◉ No

If Yes, please submit additional information on the site. The Waste Management Division can be reached at (802) 241-3888.

6 Does this project require an approval letter from the Water Supply 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 Water Supply 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 Water Supply Division? ..... ○ Yes ◉ No

If in areas of known interference issues, please contact the Water Supply 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	2 Water Supply Owner (if not Applicant)
Lot 1/Bldg. 1 - Private Drilled Well	
3 Water Source Type	**4 Type of Change to Supply**
Non-Public Drilled Bedrock Well	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) (d) Existing	(e) Increase	(f) Total	(g) Rule or Meter Based Flows
X	1	1	No Change	490	0	490	Rule-based

Add Another Lot/Building Served by this Supply

6	7	8
490	0	490

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

10 Is this water supply shared? ..... ◯ Yes ◉ No

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

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

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

Remove This Water Supply

Add Another Water Supply

Section D - Water Supply Design Flows Summary Table

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

		Design Flows (Gallons Per Day)		
	(a) Water Supply Name/Identifier	(b) Existing	(c) Increase	(d) Total
X	Lot1/Bldg1-Private Drilled	490	0	490
		2	3	4
		490	0	490

Add Another Water Supply

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	2 Wastewater Disposal System Owner (if not Applicant)
Lot 1/Bldg 1- Existing Wastewater System	
3 Wastewater Disposal System Type	**4 Type of Change to System**
In-ground	Replacement of Failed System

5 Lots/Buildings Served by this Wastewater Disposal System

	(a) Lot#	(b) Building ID	(c) Type of Change to the Building's System	Design Flows (Gallons Per Day) (d) Existing	(e) Increase	(f) Infiltration	(g) Total	(h) Rule or Meter Based Flows
X	1	1	Replacement of Failed Syste	490	0	0	490	Rule-based
	6			7	8		9	
	490			0	0		490	

Add Another Lot/Building Served by this System

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.

☐ Storage and Dose ☐ Filtrate

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	2 Wastewater Disposal System Owner (if not Applicant)
Lot1/Bldg1-Proposed Replacement System	
3 Wastewater Disposal System Type	**4 Type of Change to System**
Mound	Replacement of Failed System

5 Lots/Buildings Served by this Wastewater Disposal System

	(a) Lot#	(b) Building ID	(c) Type of Change to the Building's System	Design Flows (Gallons Per Day) (d) Existing	(e) Increase	(f) Infiltration	(g) Total	(h) Rule or Meter Based Flows
X	1	1	Replacement of Failed Syste	490	0	0	490	Rule-based
				6 490	7 0	8 0	9 490	

Add Another Lot/Building Served by this System

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

Performance Based

16 For soil-based systems, please check all that apply.

☐ Storage and Dose ☐ Filtrate

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) Increase	(d) Infiltration	(e) Total
X	Lot 1/ Bldg. 1	490	0	0	490
	2	3	4	5	
		490	0	0	490

Add Another Wastewater System

Part VII Application Fees

1 Fee Amount $250.00

2 Fee Calculation Details

Replacement/Repair = $250.00, In accordance with Town of Charlotte Planning and Zoning Fee Schedule, effective June 16, 2008.

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	2 Designer 1 Signature	3 Signature Date
Elias J. Erwin		7/29/11

Section B - Certifying Designer 2 Certification & Copyright License

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

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

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

- ☐ Water Supply Designer
- ☐ Wastewater Disposal System Designer

1 Designer 2 Name	2 Designer 2 Signature	3 Signature Date

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)_____

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.

When there are no affected landowners, the applicant shall use this statement:

I hereby certify that notification is not required either because there is an exemption or there are no landowners who may be affected by the proposed water and wastewater systems.

Signature _____

Name (Printed)_____

Date of this certification _____

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?

Call designer in order to schedule a Site visit.

"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."

	2 Print Applicant Name	3 Applicant Signature	4 Signature Date
X	Thomas Thibault		7/29/11
X	Susan Thibault		7/29/11

Add Applicant Signature Block