



September 19, 2011

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

RE: Bedard Property –Replacement Wastewater Disposal System – 863 Guinea
Road, Charlotte, Vermont

Dear Mr. Mansfield and Mr. Harris:

Accompanying this letter is a signed Wastewater Permit Application with a permit fee of \$250.00, a signed Act 145 certification statement, two full scale copies of the Plan Sheets 1 and 2, a reduced (11" x 17") copy of Plan Sheet 1 and 2, a system design letter and the attachments, and 1 CD of the complete package.

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

Respectfully,
Lincoln Applied Geology, Inc.

Elias Erwin
Licensed Class B Designer #503

EE/lm
Enclosures

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September 19, 2011



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

RE: Bedard Property - Replacement Wastewater Disposal System
863 Guinea Road, Charlotte, Vermont

Dear Mr. Mansfield and Mr. Harris:

On August 18, 2011, I performed a site and soil evaluation at the abovementioned address to locate an area suitable for a "best-fix" replacement wastewater disposal system. The subject property is a ± 7.7 acre lot owned by Mr. Shawn Bedard. The parcel is developed with two separate structures which include a year-round three (3) bedroom single family residence (SFR) with an attached year-round one (1) bedroom apartment, and a barn. The SFR and apartment are served by a single on-site drilled bedrock water supply well and an on-site wastewater disposal system. The existing wastewater disposal system serving the SFR and apartment consists of a 1,000 gallon precast septic tank that discharges to a failing in-ground leachfield as evidenced by surfacing wastewater. The site and soil conditions require the use of a best-fix replacement mound-type wastewater disposal system design with a curtain drain. The proposed disposal system is designed to accommodate the waste flows generated by the three bedroom SFR and the one bedroom apartment (560 gpd). Although the apartment was never approved by the Town, it has been included in this replacement system design as it falls within the State's "clean-slate" exemption. The proposed best-fix performance based mound-type disposal system is described below in greater detail.

The initial result of the site and soil evaluation performed on August 18, 2011 revealed that the ± 7.7 acre parcel is limited due to a small stream that bisects the property. The stream originates from a pond located south of the subject parcel and flows north through the center of the property. As I investigated the property east of the residence, it quickly became apparent that site and soil conditions are wet due to restrictive soils, low topography and established drainageways. Due to wet site conditions, the southwestern portion of the property was targeted for soil evaluation as this area appeared to be elevated with a low uniform slope (3%) facing toward the east, and most importantly it was dry.

A total of six test pits were installed in this area at the locations shown on Figure 1. A detailed description of the soils observed is included as Attachment A. Review of the enclosed soil logs indicate that 10" of loose silt loam with strong fine blocky structure overlies a loose to friable clay loam with a moderate fine blocky structure. Both upper soil horizons are considered to be reasonably permeable. However, a firm clay horizon at 18" below ground surface represents a permeability boundary which causes infiltrating ground water to perch on it. As a result, the depth to the perched seasonal ground water system in the form of distinct mottles was identified at 10". No free water or ledge was encountered to a depth of 36".

Two percolation tests were conducted; one in the vicinity of Test Pit 2 (TP-2) and the other near TP-5. Both tests were conducted at a depth of 12" to 18" bgs. The observed percolation rates equal 38.2 minutes/inch (min/in) and 40.0 min/in, respectively. As a result, an application rate of 1.0

gpd/ft² and a basal application rate of 0.74 gpd/ft² are used for the basis of our replacement system design. The percolation test results are presented as Attachment B.

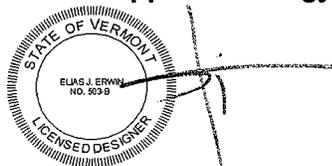
In order to accommodate a disposal area of proper length (200') and fit it in the only area available, a two-way 24" deep curtain drain is proposed to eliminate the perched water table to a depth of 18". The use of a 24" deep curtain drain is proposed to eliminate the perched water table to a depth of 18". By incorporating a 24" deep drain the proposed "best-fix" performance based mound system was designed to maintain the required separation from effluent mounding. In this regard a site specific effluent mounding analysis was conducted which is presented in Attachment C. The mounding analysis recognizes 18" of unsaturated soil resulting from the placement of the 24" deep curtain drain, a hydraulic conductivity of 15 feet/day for a silt loam to clay loam with moderate to strong fine blocky structure, a slope (gradient) of 3% and a proposed mound application area length of 200'. Through our calculations, an effluent mound of 0.83' results which leaves 0.67' of unsaturated soil below grade. Therefore, 2.33' of State approved mound sand is required to achieve the required 3' of vertical separation from the induced effluent mound.

The results of the mounding analysis, the 3' X 200' application area and the layout of the existing septic tank and proposed pump station were used as the design basis for generating the pressure distribution and mound dimension details. The details and the required effluent pump specifications (for a pump capable of pumping 36.13 gallons per minute (gpm) against 23' of total dynamic head (TDH)) are presented in Attachment C. The proposed mound system provides 600 ft² of application area which satisfies the application area requirement. The basal application rate of 0.74 gpd/ft² requires 757 ft². The presented design satisfies this with a proposed basal area of 3333 ft².

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 favorable review as Mr. Bedard 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:kg
Enclosures

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Lincoln Applied Geology, Inc.
Environmental Consultants

ATTACHMENT A

Test Pit Results

Bedard Property
Test Pits
By Elias J. Erwin, Licensed Class B Designer #503
August 18, 2011

Test Pit #1 (TP-1)

- 0-10" Olive-brown silt loam, loose, strong fine blocky structure, many medium to fine roots, well drained.
- 10-18" Olive clay loam, loose to friable, moderate fine blocky structure, many fine roots, heavily mottled below 10".
- 18-36" Grey clay, firm, weak blocky structure, mottled, poorly drained. No evidence of ground water or ledge to depth.

Test Pit #2 (TP-2)

- 0-10" Olive-brown silt loam, loose, strong fine blocky structure, many medium to fine roots, well drained.
- 10-18" Olive clay loam, loose to friable, moderate fine blocky structure, many fine roots, heavily mottled below 10".
- 18-38" Grey clay, firm, weak blocky structure, mottled, poorly drained. No evidence of ground water or ledge to depth.

Test Pit #3 (TP-3)

- 0-9" Olive-brown silt loam, loose, strong fine blocky structure, many medium to fine roots, well drained.
- 9-18" Olive clay loam, loose to friable, moderate fine blocky structure, many fine roots, heavily mottled below 10".
- 18-36" Grey clay, firm, weak blocky structure, mottled, poorly drained. No evidence of ground water or ledge to depth.

Test Pit #4 (TP-4)

- 0-8" Olive-brown silt loam, loose, strong fine blocky structure, many medium to fine roots, well drained.

- 8-19" Olive clay loam, loose to friable, moderate fine blocky structure, many fine roots, heavily mottled below 10".
- 19-36" Grey clay, firm, weak blocky structure, mottled, poorly drained. No evidence of ground water or ledge to depth.

Test Pit #5 (TP-5)

- 0-8" Olive-brown silt loam, loose, strong fine blocky structure, many medium to fine roots, well drained.
- 8-18" Olive clay loam, loose to friable, moderate fine blocky structure, many fine roots, heavily mottled below 10" .
- 18-36" Grey clay, firm, weak blocky structure, mottled, poorly drained. No evidence of ground water or ledge to depth.

Test Pit #6 (TP-6)

- 0-8" Olive-brown silt loam, loose, strong fine blocky structure, many medium to fine roots, well drained.
- 8-18" Olive clay loam, loose to friable, moderate fine blocky structure, many fine roots, heavily mottled below 10" .
- 18-36" Grey clay, firm, weak blocky structure, mottled, poorly drained. No evidence of ground water or ledge to depth.

ATTACHMENT B

Percolation Test Results

**Bedard Property
863 Guinea Road
Charlotte, Vermont
Percolation Test Results**

All tests were performed on August 18, 2011 at a depth of 12"-18"

PT-1	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	12.6	12.6	1	12.6
	22.4	35.0	2	17.5
	26.1	61.0	3	20.3
	28.5	89.5	4	22.4
	30.2	119.8	5	24.0
	31.7	151.4	6	25.2
	32.8	184.3	7	26.3
	---	1440.0	---	38.2

PT-2	Drop Time (min)	Total Drop Time (min)	Total Drop (inches)	Drop Rate (min/inch)
	13.8	13.8	1	13.8
	24.0	37.8	2	18.9
	27.8	65.6	3	21.9
	30.3	95.9	4	24.0
	32.1	128.0	5	25.6
	33.6	161.6	6	26.9
	34.8	196.5	7	28.1
	---	1440.0	---	40.0

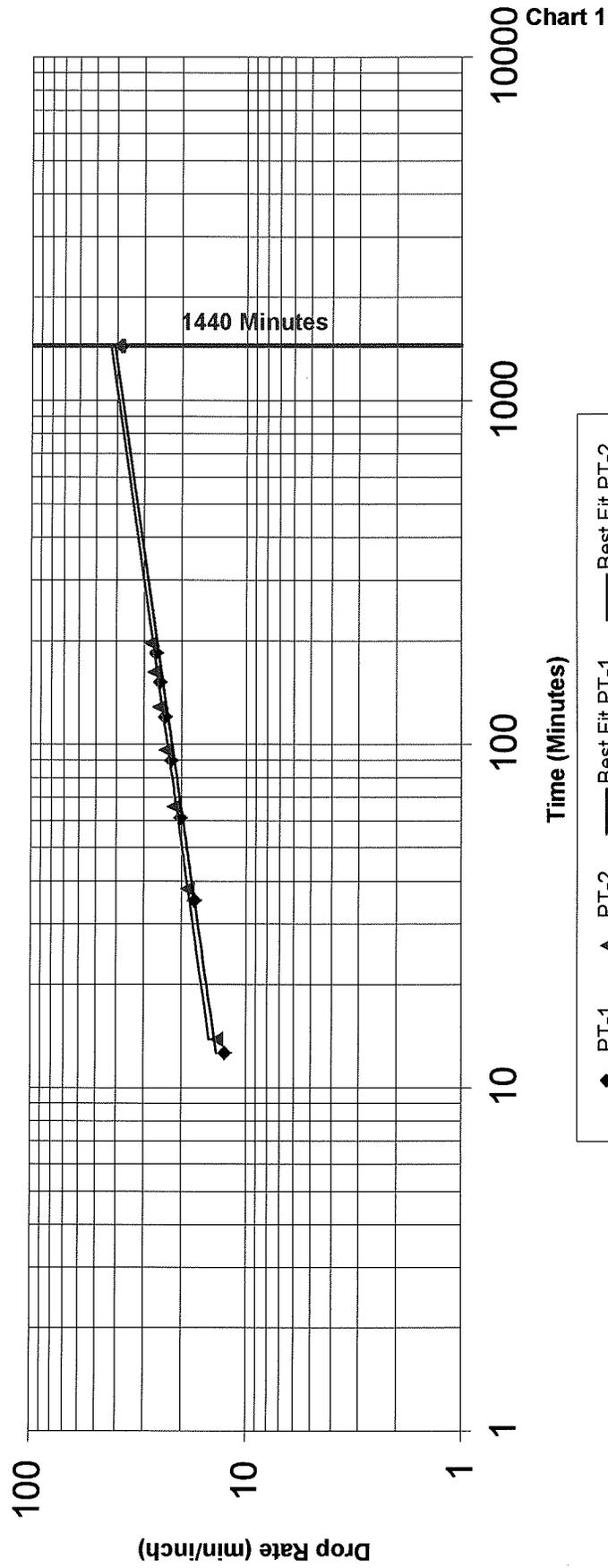
***NOTE:**

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

Bedard Property
862 Guinea Road
Charlotte, Vermont

Percolation Test Results

All tests were performed on August 18, 2011 at a depth of 12"-18"



ATTACHMENT C

**Site Specific Disposal System Design Calculations
with
Pressure Distribution and Mound Dimension Details
and
Hydromatic Submersible Effluent Pump**

**Site Specific Disposal System Design Calculations
Bedard Property
863 Guinea Road
Charlotte, Vermont 05445**

In order to support the proposed "best fix" mound-type system design and show that the soils can accommodate the design flow rate associated with a year-round five-bedroom residence; LAG conducted a site specific hydraulic analysis using Darcy's Law. The following formula was used to determine the ability of the soil to accept the proposed amount of wastewater and its potential impact on the shallow ground water system in addition to calculating the required height of mound sand.

Using the equation:

$$Q = k \cdot i \cdot h \cdot l$$

Where: Q= Volume= 560 gallons/ day = 74.9 ft.³/ day;
k= Hydraulic Conductivity= 15 ft./ day (for silt to clay loam with strong fine blocky structure);
i= Gradient = 3% = 0.03 ft./ ft.;
h= Height of effluent mound in feet;
l= Length of application area = 200 ft.

When solving this equation for h, we calculate a mound height of 0.83'. Although evidence of seasonal high ground water was observed at 10" below ground surface (BGS), the depth of unsaturated soil above the permeability boundary of 18" (1.5') was used for the proposed "best fix" system. Therefore, using Darcy's Law, we are able to determine the height of sand fill required below the stone bed. The required vertical separation from ground water is 3.0', minus 1.5' (the depth to the permeability boundary), equals 1.5', subtract the induced hydraulic mounding (0.83') and the result equals 0.67' of vertical separation. Therefore, 2.33' of State approved mound sand is required for the proposed replacement wastewater disposal system in order to maintain 3' of vertical separation from the induced water table.

PRESSURE DISTRIBUTION & MOUND DIMENSION DETAILS

CLIENT'S NAME: Shawn Bedard
DATE: 8/23/2011

PERFORMED BY: Elias J. Erwin, LCBD #503
LAG Project # 11081

Design Flow Rate	560	GPD
Width of Distribution Stone Bed/Trench	3	FEET
Length of Distribution Stone Bed/Trench	200	FEET
Thickness of Sand Beneath Distribution Stone Bed/Trench	2.33	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	40	MPI
Natural Ground Slope	3	PERCENT
Thickness of Sand on Upper Side of Level Area	3.05	FEET
Thickness of Sand on Lower Side of Level Area	3.20	FEET
Width of Level Area	5	FEET
Length of Level Area	202	FEET
Area of Distribution Stone Bed/Trench	600	SQUARE FT
Volume of Stone Required	14	CUBIC YARDS
Proposed Basal Area	3333	SQUARE FEET
Volume of Mound Sand Required	509.3	CUBIC YARDS
Number of Laterals	2	
Length of Each Lateral	97.5	FEET
Number of Orifices in the Manifold	0	
Number of Orifices in Each Lateral	20	
Distance Between Manifold and First Orifice	2.5	FEET
Distance Between Orifices (on center)	5	FEET
Distribution Area per Orifice	15.00	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	270	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	7.57	FEET
Friction Loss in Manifold	0.00	FEET
Friction Loss in Section 1	0.02	FEET
Friction Loss in Entire Lateral	0.23	FEET
Discharge Rate at First Orifice	0.93	GPM
Discharge Rate at Last Orifice	0.91	GPM
Percent Difference in Flow Rate First to Last Orifice	2.19	PERCENT
Total Dynamic Head Loss	23.036	FEET
Total Distribution System Flow	36.13	GPM
Volume of Distribution System	31.82	GALLONS
Pump Capacity	36.13 GPM vs	23.036 FEET OF HEAD
Volume per Dose	160	GALLONS
On/Off Float Swing (1,000 gal. Tank)	5.3	INCHES

PRESSURE DISTRIBUTION & MOUND DIMENSION DETAILS

CLIENT'S NAME: Shawn Bedard
 DATE: 8/23/2011

PERFORMED BY: Elias J. Erwin, LCBD #503
 LAG Project # 11081

DIMENSIONS OF MOUND SYSTEM

Dimensions of Mound Sand

8.5 feet from level area to uphill sand toe	12.0 ft corner of level area to upper toe corner
5 ft wide level area	9.2 ft to side toe from upper edge of level area
3 ft wide stone bed/trench 200 ft long stone bed/trench	9.7 ft to side toe from lower edge of level area
202 ft long level area	15.1 ft corner of level area to lower toe corner
10.7 feet from level area to downhill sand toe	

Dimensions of Final Cover

11.3 feet from level area to uphill toe	15.9 ft corner of level area to upper fill toe
	12.3 ft to side toe from upper edge of level area
5 ft wide level area	
202 ft long level area	12.7 ft to side toe from lower edge of level area
	19.8 ft corner of level area to lower fill toe
14.0 feet from level area to downhill toe	

PLOW AREA LAYOUT MEASUREMENTS

Center of Bed/Trench to Downslope Toe	116.2 feet
End of Level Area @ Midpoint to Downslope Toe	21.6 feet
Center of Bed/Trench to Upslope Toe	113.1 feet
End of Level Area @ Midpoint to Upslope Toe	17.8 feet

HYDROMATIC®

SP50

Submersible Sewage Ejector Pump

- Residential Sewage
- High-Capacity Sump
- Septic Tank Effluent



SP50 - Submersible Sewage Ejector Pump

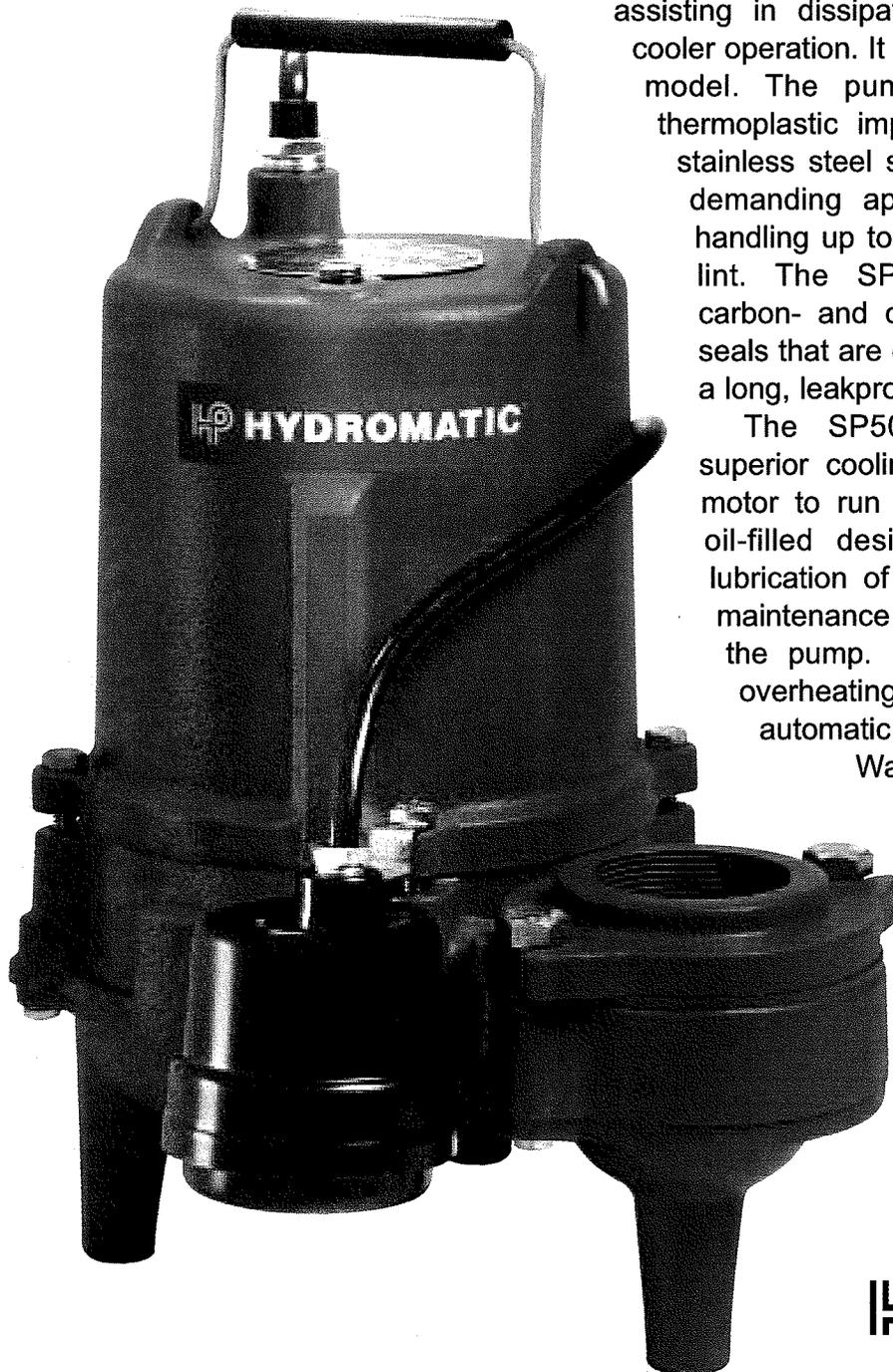
FEATURES

The Hydromatic SP50 submersible pump is specifically designed to meet the demands of handling wastewater and sewage in residence and commercial building applications. The 2 inch NPT discharge pump (3 inch discharge optional) is available with a powerful 1/2 horsepower motor, in both automatic and manual configurations; and can handle capacities up to 150 gallons per minute and heads to 29 feet.

The SP50 features a heavy-duty cast iron construction that provides durability in rugged applications, as well as assisting in dissipating heat from the motor, for cooler operation. It is also available in an all bronze model. The pump's non-clog, non-corrosive, thermoplastic impeller, which is threaded to a stainless steel shaft, provides long life even in demanding applications; and is capable of handling up to 1-1/2 inch spherical solids and lint. The SP50 also features precision, carbon- and ceramic-faced mechanical shaft seals that are extensively lapped, providing for a long, leakproof life.

The SP50's oil-filled motor provides superior cooling characteristics, allowing the motor to run cool and quiet for years. This oil-filled design also provides permanent lubrication of the shaft bearings, minimizing maintenance and extending the service life of the pump. In addition, to protect against overheating, the motor windings contain an automatic reset thermal overload (1 \emptyset).

Water level is controlled on automatic models by Hydromatic's proven diaphragm type pressure switch, which is sealed in a water tight cast iron housing. Double diaphragm construction provides added protection on preventing liquid or foreign matter from entering switch.

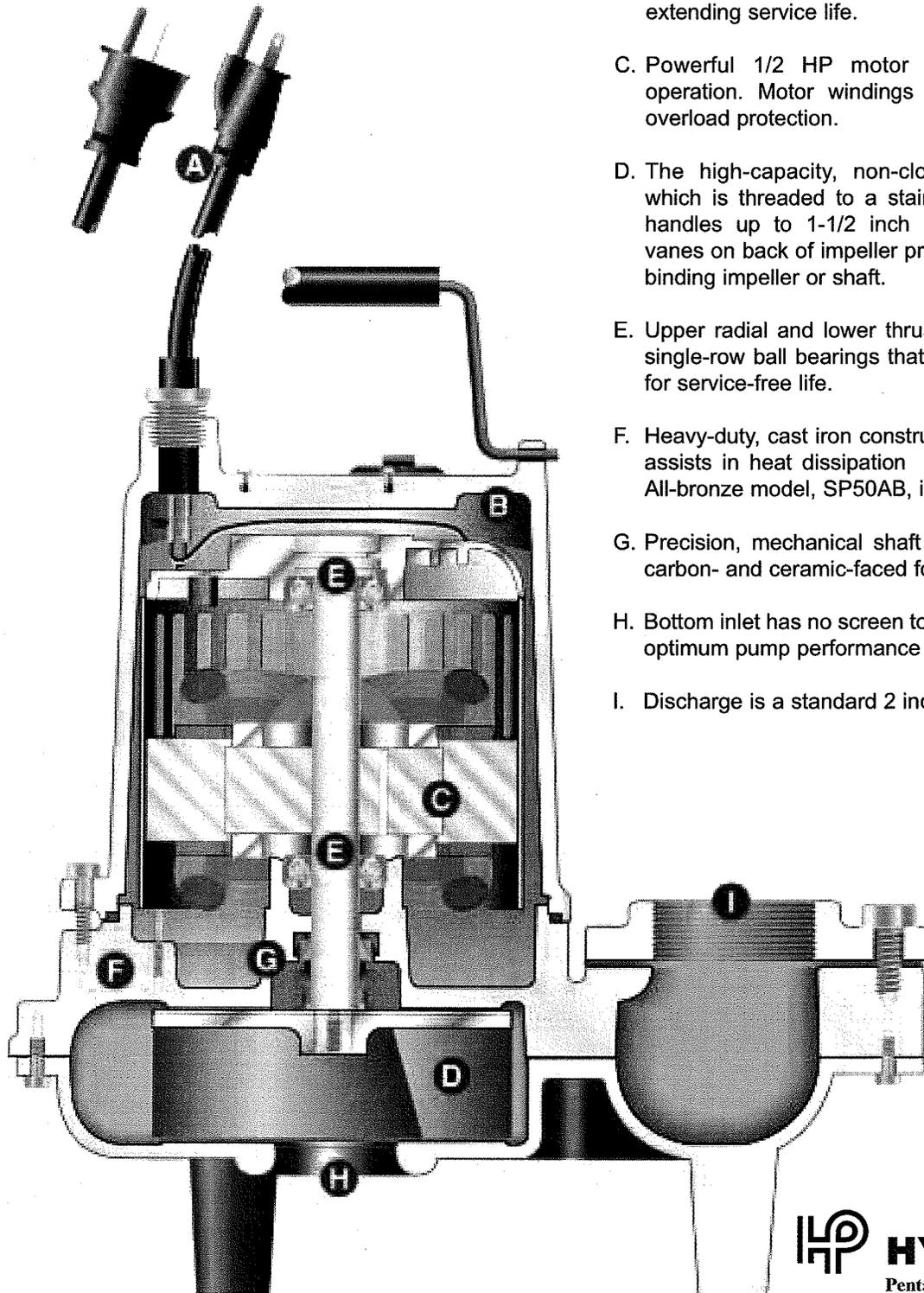


 **HYDROMATIC**[®]
Pentair Pump Group

SP50 - Submersible Sewage Ejector Pump

BENEFITS

- A. Water-resistant power cord with molded plug is available in 10 or 20 foot lengths, and is easily field serviceable.
- B. Oil-filled motor provides superior cooling and permanent lubrication of bearings minimizing maintenance and extending service life.
- C. Powerful 1/2 HP motor provides cool and quiet operation. Motor windings contain automatic thermal overload protection.
- D. The high-capacity, non-clog, thermoplastic impeller, which is threaded to a stainless steel shaft, efficiently handles up to 1-1/2 inch spherical solids. Pump-out vanes on back of impeller prevent stringy materials from binding impeller or shaft.
- E. Upper radial and lower thrust bearings are heavy-duty, single-row ball bearings that are permanently lubricated for service-free life.
- F. Heavy-duty, cast iron construction provides long life and assists in heat dissipation for cooler motor operation. All-bronze model, SP50AB, is also available.
- G. Precision, mechanical shaft seal is extensively-lapped, carbon- and ceramic-faced for a long leakproof life.
- H. Bottom inlet has no screen to become clogged, providing optimum pump performance and minimal maintenance.
- I. Discharge is a standard 2 inch NPT (3 inch is optional).



 **HYDROMATIC**®
Pentair Pump Group

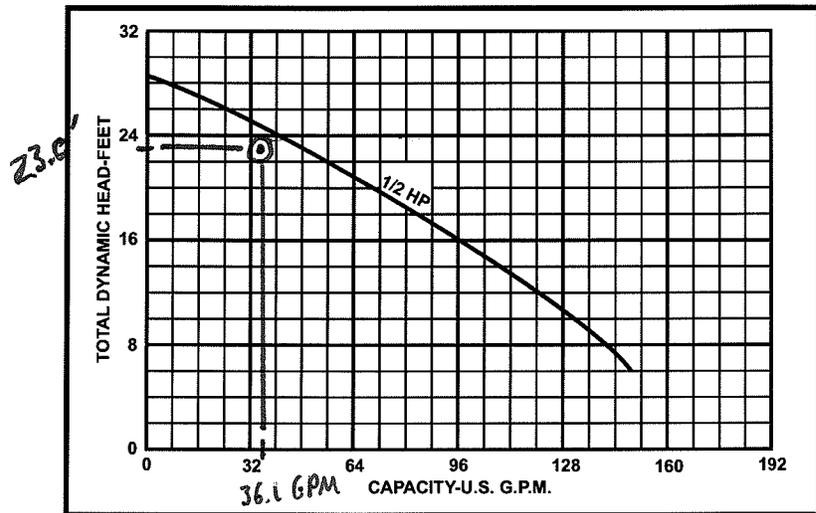
SP50 - Submersible Sewage Ejector Pump

Details

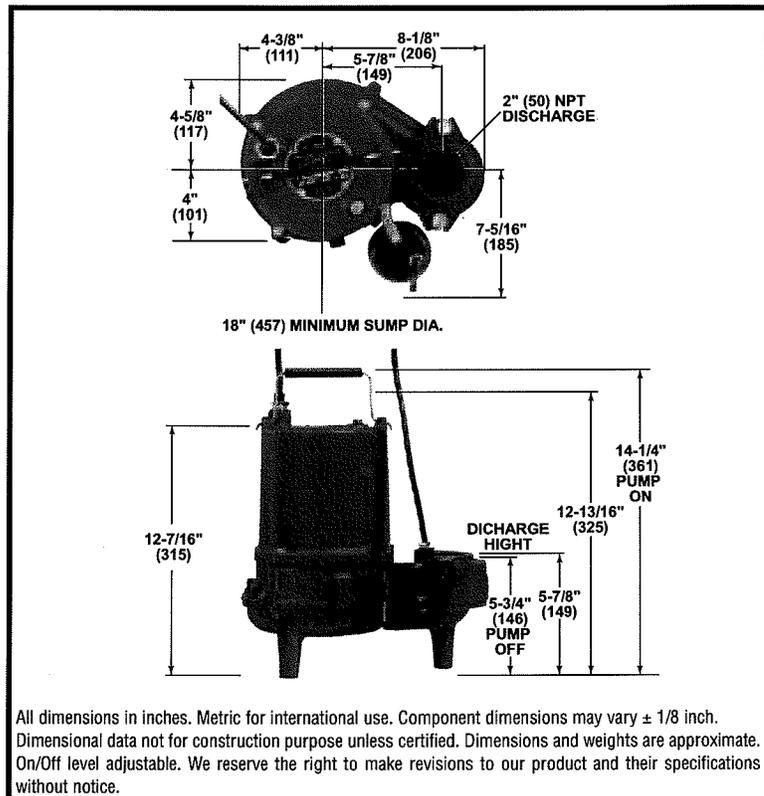
Pump Characteristics

Pump/Motor Unit	Submersible						
Manual Models	M1	M7	M2	M6	M3	M4	M5
Automatic Models	A1	-	A2	-	-	-	-
Automatic All Brz.	AB1	-	-	-	-	-	-
Horsepower	1/2						
Full Load Amps	12.0	5.7	6.0	4.1	3.5	1.9	1.4
Motor Type	Split-Phase			Three-Phase			
R.P.M.	1750						
Phase Ø	1			3			
Voltage	115	200	230	200	230	460	575
Hertz	60						
Operation	Intermittent						
Temperature	140°F Ambient						
NEMA Design	A						
Insulation	Class A						
Discharge Size	2" NPT std. (3" opt.)						
Solids Handling	1-1/2"						
Unit Weight	70 lbs. (SP50AB1 77 lbs.)						
Power Cord	16/3, STWA, 1ø 115V, 230V=10' std. (20' optional) 16/4, STWA, 3ø 200V, 230V, 460V, or 575V = 20' std.						

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.

Materials of Construction

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

- Your Authorized Local Distributor -

IHP HYDROMATIC®
Pentair Pump Group

USA

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

www.hydromatic.com
ISO 9001 Registered Quality System

CANADA

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

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) Shawn Bedard

Date of this certification 9/1/11

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)	
<input type="text" value="Bedard"/>		<input type="text" value="Shawn"/>	
3 Mailing Address Line 1		4 Mailing Address Line 2	
<input type="text" value="863 Guinea Road"/>		<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" value="bedards@gmavt.net"/>			<input type="text" value="(802) 985-5096"/>

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. 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"/>

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)	
Erwin		Elias J.	
3 Designer License#	4 Company Name		
00503	Lincoln Applied Geology, Inc.		
5 Mailing Address Line 1		6 Mailing Address Line 2	
163 Revell Drive		<input type="text"/>	
7 Town/City	8 State/Province	9 Country	10 Zip/Postal Code
Lincoln	Vermont	United States	05443
11 Email Address			12 Telephone
eerwin@lagvt.com			(802) 453-4384
13 Designer Role(s) (check all that apply)			
<input type="checkbox"/> Water Supply Designer <input checked="" type="checkbox"/> Wastewater Disposal System Designer			
<input type="button" value="Remove This 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	05-07-22	Charlotte	863 Guinea Road
<input type="button" value="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°) (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) 2 Total Acreage of Property

3 Business Name (if applicable)

4 Detailed Project Description

Shawn Bedard owns a year round three-bedroom single family residence (SFR) with a single bedroom apartment on a +/- 7.7 acre lot located on 863 Guinea Road. 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 "best-fix" 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

(b) Date of Visit

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	<input type="text"/>	<input type="text"/>

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)
<input checked="" type="checkbox"/>	Charlotte	104	408-410

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
<input checked="" type="checkbox"/>	1 of 2	Site Plan with Proposed Replacement Wastewater Disposal System Layout	08-06-2011	
<input checked="" type="checkbox"/>	2 of 2	Wastewater Design Details	08-06-2011	

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	7.7	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?
<input checked="" type="checkbox"/> 1	Residential	Pre 1970	Local	<input type="radio"/> Yes <input checked="" type="radio"/> No

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	7.7	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 1	(b) If building is exempt, indicate exemption §1-304(A)(1)	(c) Construction or increased flow? <input type="checkbox"/>	(d) Proposed Use 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 Lot 1/Bldg. 1 - Private Drilled 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) Increase	(f) Total	
X 1	1	No Change	560	0	560	Rule-based

Add Another Lot/Building Served by this Supply

6	7	8
560	0	560

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	560	0	560	2	3
		560	0	560	4

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 <div style="border: 1px solid black; padding: 2px;">Lot 1/Bldg 1- Existing Wastewater System</div>	2 Wastewater Disposal System Owner (if not Applicant) <div style="border: 1px solid black; height: 20px;"></div>
3 Wastewater Disposal System Type <div style="border: 1px solid black; padding: 2px;">In-ground</div>	4 Type of Change to System <div style="border: 1px solid black; padding: 2px;">Replacement of Failed System</div>

5 Lots/Buildings Served by this Wastewater Disposal System

(a) Lot#	(b) Building ID	(c) Type of Change to the Building's System	Design Flows (Gallons Per Day)				(h) Rule or Meter Based Flows
			(d) Existing	(e) Increase	(f) Infiltration	(g) Total	
<input checked="" type="checkbox"/>	1	Replacement of Failed System	560	0	0	560	Rule-based
Add Another Lot/Building Served by this System			6	7	8	9	
			560	0	0	560	

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 <input type="text" value="Lot1/Bldg1-Proposed Replacement System"/>	2 Wastewater Disposal System Owner (if not Applicant) <input type="text"/>
3 Wastewater Disposal System Type <input type="text" value="Mound"/>	4 Type of Change to System <input type="text" value="Replacement of Failed System"/>

5 Lots/Buildings Served by this Wastewater Disposal System

	(a) Lot#	(b) Building ID	(c) Type of Change to the Building's System	Design Flows (Gallons Per Day)				(h) Rule or Meter Based Flows
				(d) Existing	(e) Increase	(f) Infiltration	(g) Total	
X	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="Replacement of Failed System"/>	<input type="text" value="560"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="560"/>	<input type="text" value="Rule-based"/>
Add Another Lot/Building Served by this System				<input type="text" value="6"/>	<input type="text" value="7"/>	<input type="text" value="8"/>	<input type="text" value="9"/>	
				<input type="text" value="560"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="560"/>	

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.

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	560	0	0	560	
Add Another Wastewater System	2	3	4	5	
	560	0	0	560	

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.

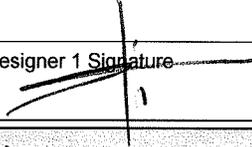
Part VIII Designer Certification & Copyright License

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		8/24/11

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

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.

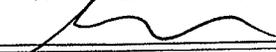
If my project utilizes an Innovative/Alternative System or Product, I have received a copy of the Wastewater Management Division's approval letter and agree to abide by the conditions of the approval.

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

Shawn Bedard

3 Applicant Signature



4 Signature Date

9/1/11

Add Applicant Signature Block