

June 26, 2012

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

RE: Wilbur Shriner, 1503 Ferry Rd, Charlotte, VT, WW-4-2642 Change in Use Amendment

Dear Tom and Spencer:

Mr. Shriner owns the former Spear Lot 2 property with a 3 bedroom single family residence and garage that was used as a home occupation glass blowing studio. The garage burned to the ground and Mr. Shriner is proposing to replace it with an accessory building that will house a replacement glass blowing studio, cold storage and a one (1) bedroom apartment. To enable the one bedroom apartment with no change in water/wastewater flows, one of the bedrooms in the current 3 bedroom residence will be retired, keeping the total bedroom count to three.

As shown on the Site Plan-Figure 1, a 32'x72' replacement structure is proposed to house the studio, cold storage and the 1 bedroom apartment. The proposed structure will be served by the existing disposal area south of the residence. Wastewater from the proposed structure will be collected in a 300 gallon pump station with a 2" solids handling effluent pump that will pump solids and liquids through the basement and into the 4" building sewer leaving the basement. The pump specification is attached which is fully capable of pumping 30 gpm versus 14.7' of total dynamic head (TDH) which includes 5.0' of elevation head and 9.7' of friction loss head. The details of the wastewater system are shown on Figure 2.

Water for the proposed structure will be supplied by the existing well which is 440' deep and has a well driller's yield of 2 gpm. The static water level is +/- 20' and the pump is set a 420'. There is 600 gallons of water in storage in the casing. At my request, Mr. Shriner conducted an instantaneous peak demand pumping (IPD) test while irrigating at 10 gpm to simulate the two (residential) unit demand. In this regard, the well was pumped at a 10 gpm rate for 84 minutes in order to pump two times the daily water requirement of 420 gpd or 840 gallons. In this regard, the 10 gpm pumping rate was maintained for well over 84 minutes without dewatering the pump. There is no question that the well can supply the instantaneous peak demand of the project, and it appears that the yield of the existing well has increased over time with usage. The water system will be modified as shown on Figure 1 and 2. A 1" water service connection for the proposed building will be made from the existing water service to the residence

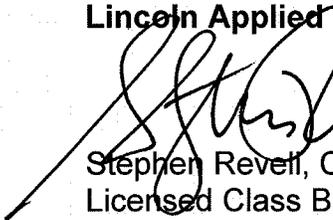
immediately outside the well. The water service will extend into the proposed building and connect to a Well Mate WM-9 hydropneumatic tank, valve, pressure gage and check valve. No pressure switch is required because the 2 unit system is an open system that is controlled by the existing pressure switch in the residence. The water supply was recently sampled for total coliform and found to be bacteriologically acceptable. The well was recently sampled for the Table All-5 & 7 parameters which will be submitted as soon as they are received.

I believe Mr. Shriner's permit amendment/change in use application is complete with: a signed application and Act 145 exemption form; a permit fee of \$500.00 payable to the Town of Charlotte; 2 copies of Figures 1 and 2; 1-11"x17" copy of Figures 1 and 2; a CD of the permit package and 1 copy of this letter and the attachments. Mr. Shriner and I look forward to your approval and issuance of the requested permit, as soon as the water quality results are submitted.

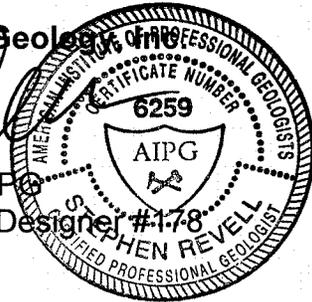
If you have any questions, please do not hesitate to contact us at 802-453-4384.

Very Truly Yours,

Lincoln Applied Geology, Inc.



Stephen Revell, CPG
Licensed Class B Designer #1-178



SR/ih
Enclosures

CC: Wilbur (Bud) Shriner

F:\CLIENTS\2005\05135.1\Change in Use Amendment



Lincoln Applied Geology, Inc.
Environmental Consultants

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



For Office Use Only:

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

Authority:

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

General Information:

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

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

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

Part I Applicant (Landowner) & Project Contact Information

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

1 Last Name Shriner		2 First Name (and Middle Initial if appropriate) Wilbur	
3 Mailing Address Line 1 PO Box 3		4 Mailing Address Line 2	
5 Town/City Charlotte	6 State/Province Vermont	7 Country United States	8 Zip/Postal Code 05445
9 Email Address			10 Telephone
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 United States	8 Zip/Postal Code

Certifying Official

The Certifying Official must be a person who has signatory authority for the legal entity or organization that is the Applicant. A copy of the document authorizing this person to act as a signatory authority must be attached to this application.

9 Certifying Official Last Name	10 Certifying Official First Name (and MI if appropriate)
<input type="text"/>	<input type="text"/>
11 Certifying Official Title	
<input type="text"/>	
12 Certifying Official Email Address	13 Telephone
<input type="text"/>	<input type="text"/>
Remove This Applicant	

Add Another Applicant

Section C - Primary Contact Information (If other than Applicant)			
1 Last Name		2 First Name (and Middle Initial if appropriate)	
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)	
Revell		Stephen	
3 Designer License#	4 Company Name		
178	Lincoln Applied Geology, Inc.		
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
srevell@lagvt.com			802-453-4384
13 Designer Role(s) (check all that apply)			
<input checked="" type="checkbox"/> Water Supply Designer			
<input checked="" type="checkbox"/> Wastewater Disposal System Designer			
Remove This Designer			

Add Another Designer

Part III Property Location Information	
Section A - Property Location	
1 Please provide the property Town and the property address or a brief description of the location.	
(a) Town or City	(b) Street or Road Location
Charlotte	1503 Ferry Road

Section B - Center of Property GPS Coordinates	
1 Enter the approximate center of property coordinates using GPS set for NAD83 or as derived from a map (map must be based on NAD83).	
(a) Latitude (in decimal degrees to five decimal places, ex. 44.38181°)	(b) Longitude (in decimal degrees to five decimal places, ex. -72.31392°)
N <input style="width: 80px;" type="text" value="44.30659"/> °	W (-) <input style="width: 80px;" type="text" value="73.27601"/> °

Part IV Project Information

Section A - General Project Information & Questions

1 Project Name (if applicable) <input style="width: 95%;" type="text" value="Shriner Replacement Structure Project"/>	2 Total Acreage of Property <input style="width: 95%;" type="text" value="6.62"/>
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3 Business Name (if applicable)

4 Detailed Project Description
Mr. Shriner proposes to replace a garage used as a glass-blowing shop (that burned) with a 32' x 72' structure that will house a glass-blowing shop, 1 bedroom apartment and cold storage. One of the bedrooms in the 3 bedroom house will be retired and replaced with the proposed 1 bedroom apartment. The proposed 1 bedroom apartment and the existing residence (now 2 bedroom) will use the existing 3 bedroom disposal system and drilled bedrock well.

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

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

6 Does this application include subdividing the property? Yes No

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

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

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

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

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

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

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

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

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

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

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

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

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

(a) Town	(b) Number of Lots
<input checked="" type="checkbox"/> <input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
<input type="button" value="Add Another Town/Lot"/>	

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

If Yes, enter the Act 250 permit number:

(a) Act 250 Permit Number

Section B - Project Deed Reference

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

	(a) Town	(b) Parcel ID	(c) Book	(d) Page(s)
<input checked="" type="checkbox"/>	Charlotte	00061-1503	149	427

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	Site Plan	6/25/2012	
<input checked="" type="checkbox"/>	2	Water & Wastewater System Details	6/25/2012	

Section D - Existing Project Lot/Building Details

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

1 Lot# 2	2 Lot Size (acres) 6.6	3 Existing Use of the Lot Residential
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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-1950	WW-4-2642	<input checked="" type="radio"/> Yes <input type="radio"/> No

Section E - Proposed Project Lot/Building Details

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

1 Lot# 2	2 Lot Size (acres) 6.6	3 Proposed Use of the Lot Residential/Commercial
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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
<input checked="" type="checkbox"/> 1		<input type="checkbox"/>	2 bedroom residence

<input checked="" type="checkbox"/>	2		<input type="checkbox"/>	shop and 1 bedroom apartment
Add Another Building				
Remove This Lot				

Add Another Lot

Part V Water Supply Information

Section A - Water Supply Screening Questions

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

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

Section B - General Water Supply Questions

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

Section C - Individual Water Supply Details

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

1 Water Supply Name/Identifier Shriner Well	2 Water Supply Owner (if not Applicant)
3 Water Source Type Non-Public Drilled Bedrock Well	4 Type of Change to Supply New Connection

5 Lots/Buildings Served by this Water Supply System

	Design Flows (Gallons Per Day)						(g) Rule or Meter Based Flows
	(a) Lot#	(b) Building ID	(c) Type of Change to the Building's Supply	(d) Existing	(e) Change	(f) Total	
<input checked="" type="checkbox"/>	2	1	No Change	420	0	420	Rule-based

Add Another Lot/Building Served by this Supply

6	7	8
420	0	420

- 9 Is this water supply located off-lot? Yes No
- 10 Is this water supply shared? Yes No
- If the water supply is located off-lot or shared, submit a copy of the agreement to provide an easement prior to construction.*
- 11 Is a variance being requested for this water supply? Yes No
- If Yes, please submit additional details related to the variance request.*

Remove This Water Supply

Add Another Water Supply

Section D - Water Supply Design Flows Summary Table

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

(a) Water Supply Name/Identifier	Design Flows (Gallons Per Day)		
	(b) Existing	(c) Change	(d) Total
X Shriner Well	420	0	420
Add Another Water Supply	2 420	3 0	4 420

Part VI Wastewater Disposal System Information

Section A - Wastewater Disposal System Screening Questions

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

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

Section B - General Wastewater Disposal System Questions

- 1 Does this project involve a failed wastewater disposal system? Yes No
- 2 Do any of the systems require a curtain or dewatering drain as part of the design? Yes No
- 3 Is a hydrogeologic study required for this project? Yes No
- 4 For projects using soil-based wastewater systems having a total design flow that exceeds 1,000 gpd, is this project located in a Class A Watershed? Yes No NA

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

(a) Class A Watershed Name

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

If Yes, indicate where the floor drains will discharge:

(a) Floor Drain Discharge Point

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

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

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

Section C - Individual Wastewater Disposal System Details

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

1 Wastewater Disposal System Name/Identifier Shriner System	2 Wastewater Disposal System Owner (if not Applicant)
3 Wastewater Disposal System Type In-ground	4 Type of Change to System New Connection

5 Lots/Buildings Served by this Wastewater Disposal System

	(a) Lot#	(b) Building ID	(c) Type of Change to the Building's System	Design Flows (Gallons Per Day)				(h) Rule or Meter Based Flows
				(d) Existing	(e) Change	(f) Infiltration	(g) Total	
X	2	1	No Change	420	-140	0	280	Rule-based
X	2	2	Connection to Existing System	0	140	0	140	Rule-based
Add Another Lot/Building Served by this System				6	7	8	9	
				420	0	0	420	

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

11 Is this wastewater disposal system shared? Yes No

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

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

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

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

Indirect Discharge System ID Number

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

Town

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

Design Approach Used
 Prescriptive

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

Storage and Dose Filtrate Constructed Wetlands

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

Innovative/Alternative System Use Type

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

Innovative/Alternative System or Product

Remove This Wastewater System

Add Another Wastewater System

Section D - Wastewater Disposal Systems Design Flows Summary Table

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

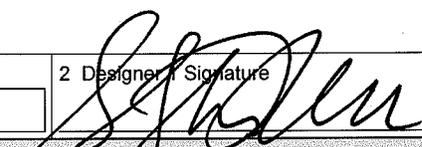
		Design Flows (Gallons Per Day)			
(a) Wastewater Disposal System Name/Identifier	(b) Existing	(c) Change	(d) Infiltration	(e) Total	
X Shriener System	420	0	0	420	
Add Another Wastewater System	2 420	3 0	4 0	5 420	

Part VII Application Fees

1 Fee Amount

2 Fee Calculation Details

Dwelling Unit Addition = \$500.00

Part VIII Designer Certification & Copyright License			
Section A - Certifying Designer 1 Certification & Copyright License			
<p>"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.</p> <p>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."</p>			
<p>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.</p> <p><input checked="" type="checkbox"/> Water Supply Designer</p> <p><input checked="" type="checkbox"/> Wastewater Disposal System Designer</p>			
1 Designer 1 Name	2 Designer 1 Signature	3 Signature Date	
Stephen Revell		6/26/12	
Section B - Certifying Designer 2 Certification & Copyright License			
<p>"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.</p> <p>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."</p>			
<p>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.</p> <p><input type="checkbox"/> Water Supply Designer</p> <p><input type="checkbox"/> Wastewater Disposal System Designer</p>			
1 Designer 2 Name	2 Designer 2 Signature	3 Signature Date	
Part IX Applicant(s) Signature & Acknowledgements			
<p>In order to insure compliance with the requirements of the regulations administered by the Department of Environmental Conservation, Drinking Water & Groundwater Protection Division, it may be necessary to visit the property. As this would involve a Department employee entering private property, we request your approval to do so.</p>			
<p>1 If we do visit your property, do you have any special instructions?</p> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>			
<p>"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.</p> <p>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.</p> <p>If my project utilizes an Innovative/Alternative System or Product, I have received a copy of the Drinking Water & Groundwater Protection Division's approval letter and agree to abide by the conditions of the approval.</p> <p>I also certify that to the best of my knowledge and belief the information submitted above is true, accurate and complete."</p>			
<input checked="" type="checkbox"/>	2 Print Applicant Name	3 Applicant Signature	4 Signature Date
	Wilbur Shriner		
Add Applicant Signature Block			

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:

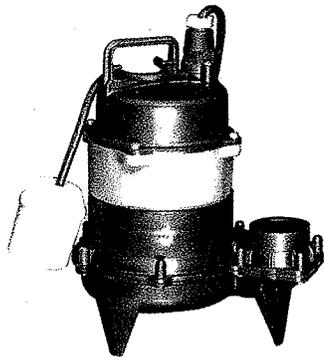


I hereby certify that notification is not required either because there is an exemption or there are no landowners who may be affected by the proposed water and wastewater systems.

Signature _____

Name (Printed) Wilbur (Bud) Shriner

Date of this certification _____



Submersible Sewage Pump

MODEL 3872

WW05 Series

APPLICATIONS

Specifically designed for the following uses:

- Residential sewage systems
- Dewatering
- Water transfer

Anywhere waste or drainage must be disposed of quickly, quietly and efficiently.

SPECIFICATIONS

Pump:

- Solids handling capability: 2" maximum.
- Capacities: up to 75 GPM.
- Total heads: up to 18 feet.
- Discharge size: 2" NPT.
- Mechanical seal: carbon-rotary/ceramic-stationary, BUNA-N elastomers.
- Temperature: 104° F (40°C) continuous, 140° F (60°C) intermittent.
- Fasteners: 300 series stainless steel.
- Capable of running dry without damage to components.

PERFORMANCE RATINGS

Total Head (ft. of water)	Gallons Per Minute
10	63
12	52
14	35
16	20
18	0

Motor

- Single phase: ½ HP, 115 or 230 V, 60 Hz, 1550 RPM, built in overload with automatic reset.
- Power cord: 10 foot standard length, 16/3 SJTW with three prong grounding plug. Optional 20 foot length, 16/3 SJTW with three prong grounding plug.
- Fully submerged in high grade turbine oil for lubrication and efficient heat transfer.

Available for automatic and manual operation. Automatic models include Mechanical Float Switch assembled and preset at the factory.

FEATURES

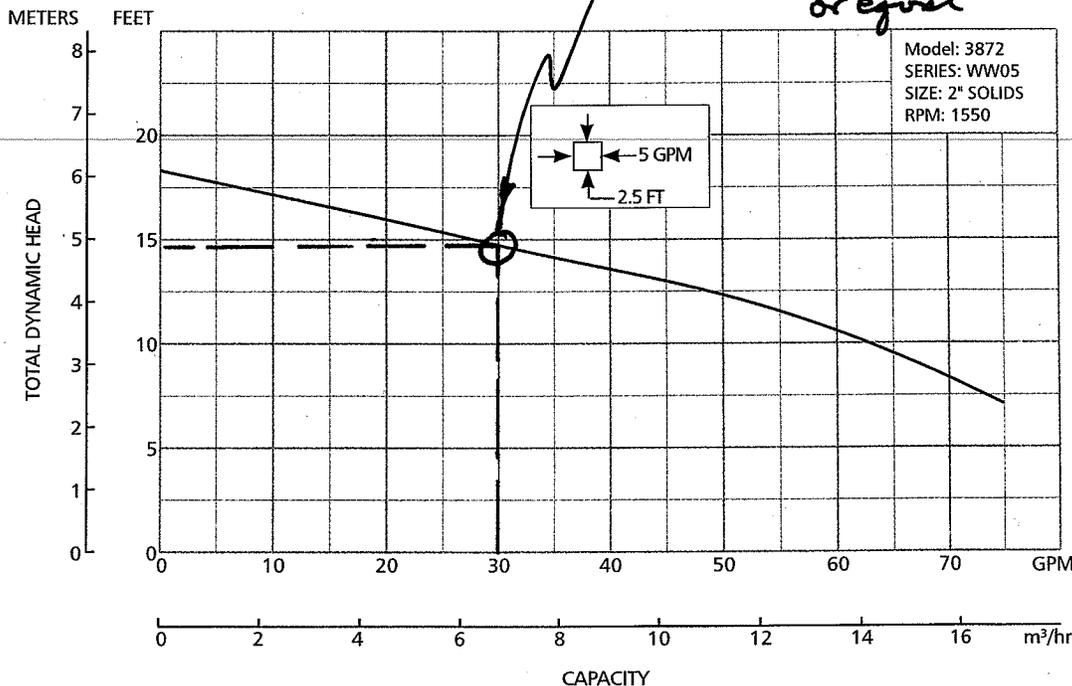
- **Impeller:** Glass-filled thermoplastic Full-Vortex design with pump out vanes for mechanical seal protection.
- **Casing and Base:** Rugged glass-filled thermoplastic design provides superior strength and corrosion resistance.
- **Motor Housing:** Cast iron for efficient heat transfer, strength, and durability.
- **Motor Cover:** Thermoplastic cover with integral handle and float switch attachment points.

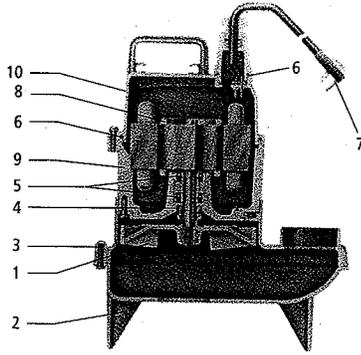
- **Bearings:** Upper and lower heavy duty ball bearing construction.
- **Power Cable:** Severe duty rated oil and water resistant.
- **O-ring:** Provides positive sealing. Easily replaced during maintenance.
- **Stainless steel fasteners.**

AGENCY LISTING

 Canadian Standards Association

Goulds Pumps is ISO 9001 Registered.



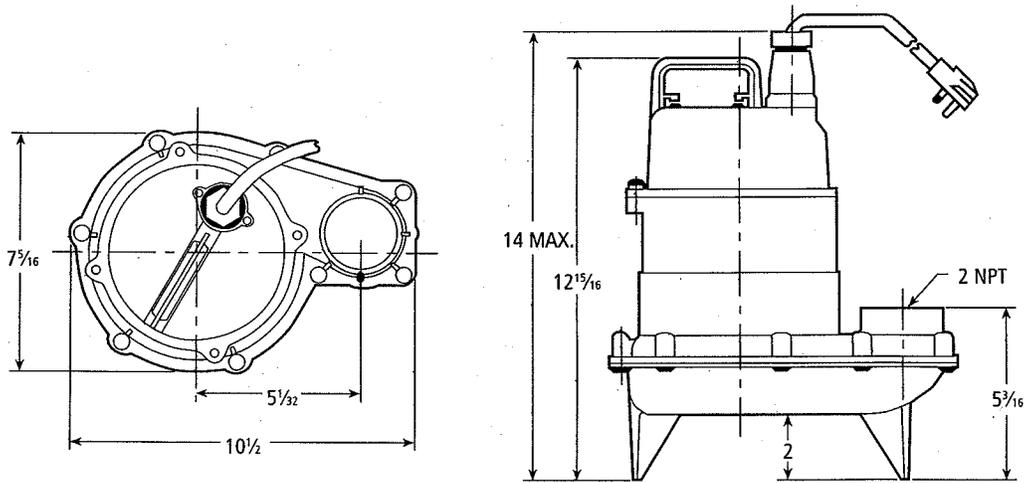


COMPONENTS

Item No.	Description
1	Impeller
2	Rugged thermoplastic base
3	Rugged thermoplastic pump casing
4	Mechanical seal
5	Ball bearings
6	O-rings
7	Power cord
8	Oil filled motor
9	Cast iron motor housing/stator assembly
10	Thermoplastic motor cover

DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



MODEL INFORMATION

Order No.	HP	Volts	Amps	Minimum Circuit Breaker	Phase	Float Switch Style	Cord Length	Discharge Connection	Minimum On Level	Minimum Off Level	Minimum Basin Diameter	Maximum Solids Size	Shipping Weight lbs/kg
WW0511	.5	115	13	20	1	Plug / No Switch	10'	2"	Manual	Manual	18"	2"	22 / 10
WW0511A						Piggyback / Wide-Angle	10'	2"	15"	9"	18"		23 / 10.4
WW0511F						Plug / No Switch	20'	2"	Manual	Manual	18"		22 / 10
WW0511AC						Piggyback / Wide-Angle	20'	2"	15"	9"	18"		23 / 10.4
WW0512	.5	230	6.5	10	1	Plug / No Switch	10'	2"	Manual	Manual	18"	2"	22 / 10
WW0512F						Plug / No Switch	20'	2"	Manual	Manual	18"		22 / 10

Specifications

Table #1 - Residential Performance Data

Model Number	Capacity gal / liter	Maximum Operating Pressure psi / kPa / Bar	Height* inch / cm	Diameter* inch / cm	System Connection	Assembly Weight* lb / kg
WM-4	14.5 / 55.1	100 / 690 / 6.9	26-1/2 / 67	16 / 41	1" male NPT	14.5 / 6.6
WM-6	19.8 / 75.2	100 / 690 / 6.9	32-1/4 / 82	16 / 41	1" male NPT	17 / 7.7
WM-6UG	19.8 / 75.2	100 / 690 / 6.9	31-3/4 / 81	16 / 41	1" hose barb	17 / 7.7
WM-9	29.5 / 112.1	100 / 690 / 6.9	44 / 112	16 / 41	1" male NPT	26 / 11.8
WM-9UG	29.5 / 112.1	100 / 690 / 6.9	43-1/2 / 110	16 / 41	1" hose barb	27 / 11.8
WM-12	40.3 / 153.1	100 / 690 / 6.9	57 / 145	16 / 41	1" male NPT	32 / 14.5
WM-12UG	40.3 / 153.1	100 / 690 / 6.9	56-1/4 / 143	16 / 41	1" hose barb	32 / 14.5
WM-14WB	47.1 / 179.0	125 / 860 / 8.6	41 / 104	21-1/2 / 55	1-1/4" male NPT	41.5 / 18.8
WM-20WB	60.0 / 228.0	125 / 860 / 8.6	41-1/2 / 105	24 / 61	1-1/4" male NPT	48 / 21.8
WM-25WB	86.7 / 329.5	125 / 860 / 8.6	55-1/2 / 141	24-1/4 / 62	1-1/4" male NPT	68.5 / 31.1
WM-35WB	119.7 / 454.9	125 / 860 / 8.6	74-1/4 / 189	24-1/2 / 62	1-1/4" male NPT	95 / 43.1

Notes: All tanks may be used up to 100°F (37.3°C) maximum internal water temperature and 120°F (48.9°C) external temperature.
 UG = underground. WB = wide-body.
 *Weight, height and diameter may vary slightly without notice.

Tank Sizing Information

There are three factors to consider when selecting the proper size WellMate for your water system:

- The pump delivery rate in gallons per minute (GPM).
- The recommended minimum running time of the pump.
- The minimum (cut-in) and maximum (cut-out) system pressure parameters.

Once these factors are known, the following calculations will determine, in most cases, the correct model to meet your specifications.*

CALCULATING DRAWDOWN

- 1) Pump delivery rate
10 GPM
- 2) Desired minimum pump running time in minutes
10 Minutes
(1 minute, 45 seconds = 1.75 minutes).
- 3) Multiply line #1 by line #2. This is the *minimum* drawdown or available water volume required.*
100 Gallons

CALCULATING TANK SIZE

- 4) Minimum system pressure (cut-in)
30 PSIG
- 5) Maximum system pressure (cut-out)
50 PSIG

- 6) Using table #2, find the drawdown factor applicable to lines #4 and #5.
.30 Factor
- 7) Divide line #3 by line #6 to determine the *minimum* total WellMate volume required.
33.33 Gallons
- 8) Refer to the design data in table #1 and select the WellMate model with the lowest total capacity that is greater than or equal to line #7.
WM-12 Model

EXAMPLE: An application using an 8 GPM pump with a minimum run time of 1 minute and a 30-50 PSIG system pressure range;
 $8 \text{ GPM} \times 1 \text{ minute} = 26.7 \text{ gallon minimum tank capacity}$
.30 (factor)

Referring to table #1, the model WM-9 has the lowest total capacity that is greater than or equal to the minimum volume requirement of 26.7 gallons.

*If a volume of water needed is greater than the amount calculated on line #3, enter that amount on line #3 in place of the calculated volume.

Use existing WM-9 (house) and add WM-9 77 stop (apartment)

Table #2 - Drawdown Factors

MAXIMUM SYSTEM PRESSURE (CUT-OUT) PSIG (kPa)	MINIMUM SYSTEM PRESSURE (CUT-IN) -- PSIG (kPa)																			
	20 (138)	25 (173)	30 (207)	35 (242)	40 (276)	45 (311)	50 (345)	55 (380)	60 (414)	65 (449)	70 (483)	75 (518)	80 (552)	85 (587)	90 (621)	95 (656)	100 (690)	105 (725)	110 (754)	
30 (207)	.21																			
35 (242)	.28	.19																		
40 (276)	.34	.26	.17																	
45 (311)	.39	.32	.24	.16																
50 (345)	.44	.37	.30	.22	.15															
55 (380)	.47	.41	.34	.28	.21	.14														
60 (414)	.50	.44	.38	.32	.26	.19	.13													
65 (449)	.53	.48	.42	.36	.30	.24	.18	.12												
70 (483)	.56	.50	.45	.40	.34	.29	.23	.17	.11											
75 (518)		.53	.48	.43	.38	.32	.27	.22	.16	.11										
80 (552)			.50	.46	.41	.36	.31	.26	.21	.15	.10									
85 (587)				.48	.43	.39	.34	.29	.24	.20	.15	.10								
90 (621)					.46	.42	.37	.32	.28	.23	.19	.14	.09							
95 (656)						.44	.40	.35	.31	.27	.22	.18	.13	.09						
100 (690)							.42	.38	.34	.30	.26	.21	.17	.13	.09					
105 (725)								.41	.37	.33	.29	.25	.20	.16	.13	.08				
110 (759)									.39	.35	.31	.27	.24	.20	.16	.12	.08			
115 (794)										.38	.34	.30	.26	.23	.19	.15	.11	.08		
120 (828)											.36	.33	.29	.25	.22	.18	.15	.11	.07	
125 (863)												.35	.32	.28	.25	.21	.18	.14	.11	

In keeping with current industry standards, drawdown factors are based on Boyle's law. Actual drawdowns will vary depending upon the accuracy and operation of the pressure switch and gauge, actual precharge pressure, and operating temperature of the system.



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