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August 24, 2012

Town of Charlotte
Planning and Zoning Department
Attn: Tom Mansfield
159 Ferry Road
Charlotte, Vermont 05445

RECEIVED

AUG 27 2012

**CHARLOTTE
PLANNING & ZONING**

Subject: Scott and Rachel Cummings, 1.0+/- Acre Parcel, 142 Mutton Hill Road
Charlotte, Vermont (WW-138-1213) – Replacement Wastewater Disposal
System Completion Letter

Dear Tom:

I am writing to inform you that the replacement mound-type wastewater disposal system with advanced treatment has been successfully completed for the Scott and Rachel Cummings 1.0+/- acre parcel located at 142 Mutton Hill Road in Charlotte, Vermont. The Town of Charlotte approved (WW-138-1213) replacement mound wastewater disposal system with advanced treatment was staked out by me on July 20, 2012, and was installed by Wright's Septic Service between July 23 and August 6, 2012. Based on my inspections, the replacement mound wastewater system with advanced treatment that will serve the existing 4-bedroom single-family residence was installed in reasonable conformance with my design drawings dated May 24, 2012 and revised on June 12, 2012. It should be noted that the upslope curtain drain was revised so that perforated pipe and stone stopped approximately 15 feet out from the house corner and then was converted to a solid PVC pipe with no stone to daylight. The purpose of revising the curtain drain construction was to eliminate the potential migration of contaminants from the former failed leach field and also provide proper drainage/surface water diversion upslope of the mound system. The revised curtain drain location is shown on the included **Record Drawing No. 1**.

During construction of the replacement mound wastewater system, inspections of the Singlair Model 960-500 advanced treatment system, the new 1,000 gallon concrete pump station, plowed layer beneath the mound sand, the placement of the State of Vermont approved mound sand, mound system absorption bed, the distribution piping network, and final grading was performed by me between July 24 and August 8, 2012. Results of my inspections clearly show the proper preparation of the ground surface prior to placing the mound sand, the proper placement of the State of Vermont approved mound sand (see **Attachment A** - mound sand sieve analysis) and system stone, the proper installation of the Singlair Model 960-500 advanced treatment system, proper installation of the new 1,000 gallon concrete pump station and the installation of the revised upslope curtain drain. The

final grading inspection that was performed on August 8th showed the replacement mound wastewater disposal system has been properly covered, graded, seeded and mulched.

A flow test of the piping distribution network was performed on August 1, 2012. Results of the flow test showed that the squirt height was approximately seven (7) feet high and the difference in flow (i.e. squirt height) was less than 10% between any of the pressure distribution system orifices.

Based on my inspections during the construction of the replacement mound wastewater disposal system and the successful completion of all performance tests, "I hereby certify that, in the exercise of my reasonable professional judgment, the installation-related information submitted is true and correct and the potable water supply and wastewater systems were installed in accordance with the record drawings and such record drawings are in compliance with applicable rules, were filed with the Secretary, are in accordance with all other permit conditions, were inspected, were properly tested, and have successfully met those performance tests".

It is important to note that the first two (2) years of service and maintenance of the Singlair Model 960-500 advanced treatment system are included in the purchase price of the treatment system. After the first two (2) years, the homeowner is required in accordance with State of Vermont Environmental Protection Rules (EPR) to have a service and maintenance contract with the local distributor of the system so that required annual service and maintenance of the system is performed.

Should you have any questions or comments regarding the installation information discussed above, please feel free to call me at (802) 453-2597.

Regards,



Jason S. Barnard
Licensed Designer #430-B

C: Scott and Rachel Cummings

North Middlebury Sand & Gravel AGGREGATE GRADATIONS

1555 Burpee Road

Bristol, VT 05443

802-453-3108

INSPECTOR *Alan Clark*

DATE *4/16/12*

SIEVE SIZE	CUM. RETAINED WT. G.	RETAINED %	% PASSING	ASTM C-33 SPECS % PASSING
3/8"				85-100
No. 40				25-75
No. 60				0-30
No. 100				0-10
No. 200				0-5
PAN				

FM=

SIEVE SIZE	CUM. RETAINED WT. G.	RETAINED %	% PASSING	ASTM C-33 SPECS % PASSING
No. 4				95-100
No. 8				80-100
No. 16				50-85
No. 30				25-60
No. 50				10-30
No. 100				2-10
PAN				

FM=

SIEVE SIZE	CUM. RETAINED WT. G.	RETAINED %	% PASSING	ASTM C-33 SPECS % PASSING
3/8"	<i>0</i>	<i>0</i>	<i>100</i>	85-100
No. 40	<i>.695</i>	<i>56.27</i>	<i>43.72</i>	30-50
No. 200	<i>1.195</i>	<i>96.76</i>	<i>3.23</i>	0-5
PAN	<i>1.235</i>			

FM=