

Application for use of a **Powered Mechanical Device**
 under an **Aquatic Nuisance Control Permit**
 Per 10 VSA Chapter 50, § 1455



VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
 LAKES & PONDS PROGRAM

For Aquatic Nuisance Control Permit Program Use Only

Application Number: 2015-H07

Submission of this application constitutes notice that the entities listed below intend to use a powered mechanical device in waters of the State to control aquatic nuisance plants, insects, or other aquatic life; and that the entities below have demonstrated that (1) there is acceptable risk to the nontarget environment; (2) there is negligible risk to public health; and (3) there is either benefit to or no undue adverse effect upon the public good. Submit an application fee of \$35 for a private pond or \$175 for all other waterbodies, made payable to the State of Vermont. All information required on this form must be provided, and the requisite fees must be submitted to be deemed complete.

A. Applicant Information

1. Entity's Name: ~~Aquatic Control Technology~~ **Solitude Lake Management**

2a. Mailing Address: ~~11 John Road~~ **590 Lake Street**

2b. Municipality: ~~Sutton~~ **Shrewsbury** 2c. State: **MA** 2d. Zip: ~~01590~~ **01545**

3. Phone: ~~508-865-1000~~ **508-885-0101** 4. Email: **mbellaud@aquaticcontroltech.com**

B. Powered Mechanical Device Operator Information (Check box if same as above in Section A:)

1. Entity's Name:

2a. Mailing Address:

2b. Municipality: 2c. State: 2d. Zip:

3. Phone: 4. Email:

C. Application Preparer Information (Check box if same as above: Section A or B)

1. Preparer's Name:

2a. Mailing Address:

2b. Municipality: 2c. State: 2d. Zip:

3. Phone: 4. Email:

D. Waterbody Information

1. Name of waterbody: **Lake Champlain** 2. Municipality: **Highgate, Swanton, St. Albans, Georgia, Milfon, Colchester, Burlington, Shelburn, Charlotte, Ferrisburg, Addison, Bridgeport, Shoreham, Orwell, Benson, West Haven**

3. Are there wetlands associated with the waterbody? Yes No
 Contact the Vermont Wetland Program: (802) 828-1535 for additional information.

4. Are there rare, threatened or endangered species associated with the waterbody? Yes No
 Contact the Vermont Fish & Wildlife Natural Heritage Inventory: (802) 241-3700 for additional information.

5a. Is this waterbody a private pond? Yes No If No, Skip to Question D6.

5b. Is this private pond totally contained on Applicant's property? Yes No

6. List the uses of the waterbody – check all that apply:
 Water supply Irrigation Boating Swimming Fishing Other:

E. Device Activity Information	
1a. Proposed annual activity start date: July 2015-2024	1b. Proposed annual activity end date: September 2015-2024
2. Nuisance(s) to be controlled: Dominant: Cattails (<i>Typha latifolia</i>), Water Chestnut (<i>Trapa natans</i>), Eurasian watermilfoil (<i>Myriophyllum spicatum</i>) See others listed in project description <i>Submit additional information as needed.</i>	3. Powered mechanical device to be used: Hydro-Rake and Harvester/Transport Barge <i>Submit a copy of the manufacturer's information, if applicable.</i>
4. Include a detailed waterbody map indicating the exact proposed activity location(s).	5. Enclose labeled photo(s) or schematic(s) of powered mechanical device.
6. Attach a narrative description of the proposed project to include the following items: a) Reason(s) to control the aquatic nuisance; b) Brief history of the aquatic nuisance in the waterbody; and, c) Description of the proposed control activity.	
F. Applicant/Operator Certification As APPLICANT, I hereby certify that the statements presented on this application are true and accurate; guarantee to hold the State of Vermont harmless from all suits, claims, or causes of action that arise from the permitted activity; and recognize that by signing this application, I agree to complete all aspects of the project as authorized. I understand that failure to comply with the foregoing may result in violation of the 10 VSA Chapter 50, § 1455, and the Vermont Agency of Natural Resources may bring an enforcement action for violations of the Act pursuant to 10 V.S.A. chapter 201. Applicant/Operator Signature: <u>Maie D Belland</u> Date: <u>7/27/15</u>	
G. Application Preparer Certification (if applicable) As APPLICATION PREPARER, I hereby certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Application Preparer Signature: <u>Maie D Belland</u> Date: <u>7/27/15</u>	
H. Application Fees <p style="text-align: center;">Submit this form and the \$35 or \$175 fee to: <i>(Municipalities are exempt from fees)</i></p> <p style="text-align: center;">Vermont Department of Environmental Conservation Watershed Management Division Aquatic Nuisance Control Permit Program 1 National Life Drive, Main 2 Montpelier, VT 05620-3522</p> <p style="text-align: center;">Direct all correspondence or questions to the Aquatic Nuisance Control Permit Program at: Matthew.probasco@state.vt.us or (802) 490-6133</p> <p style="text-align: center;">For additional information visit: www.watershedmanagement.vt.gov</p>	

LAKE CHAMPLAIN

2015 HYDRO-RAKING PROJECT DESCRIPTION

INTRODUCTION

Mechanical harvesting efforts to control invasive water chestnut (*Trapa natans*) growth has been completed annually under Aquatic Nuisance Control permits since 1982. The current maintenance permit (2014-H05) was issued in 2014 and is valid until 2024. The project focus is to remove all water chestnut from South Lake Champlain between July and early September each year before the plants drop their nutlets/seeds.

For the past several years, the shore-based disposal operations have occurred from the Red Rock Bay Access site on the eastern shoreline. The bay is separated from the main channel of the lake by an “island” comprised of emergent and wetland vegetation that runs north-to-south and is approximately 2400 feet long, 250 feet wide at its widest point and less than 100 feet wide at the southern end. The primary access to Red Rock Bay is at the northern end, where there is a 250-foot wide channel opening. During high water conditions there are channels at the southern end of Red Rock Bay that are navigable by boats and even by the Harvesters as they travel to and from the shoreline off-loading site. When the water level is low, the Harvesters and Transport Barge cannot pass through the primary southern channel due to the extensive growth of primarily cattails (*Typha latifolia*) and their dense root mat. Now that the majority of the water chestnut harvesting activity occurs to the south of Red Rock Bay, maintaining an open channel would greatly enhance the efficiency of the harvesting operation by cutting in half the travel distance to the shoreline off-loading location.



Channel at south end of Red Rock Bay under high water conditions in July 2011. A harvester is traveling south toward the channel opening in this image.



Channel at south end of Red Rock Bay under low water conditions in May 2015. The southernmost opening is the channel where widening is proposed.

SCOPE OF WORK

The proposed Hydro-Raking project will involve the removal of cattails, other aquatic vegetation and accumulated sediment from the channel area at the southern end of Red Rock Bay. The proposed work area is shown on Figure 1 (attached). The area to be hydro-raked is estimated to be less than 4000 square feet (25 feet wide by 160 feet long). The work is expected to require 1-2 workdays to complete.

The mid-point location of the channel is at the following coordinates: N43.6756389 and W73.40526389.

The Hydro-Rake is essentially a floating backhoe that is propelled by paddle wheels. There is a York/landscape rake attachment on the front of the hoe that digs through the sediment and removes aquatic plants, root structures and attached hydro-soils. Similar to the Harvesters, the Hydro-Rake is powered by a diesel engine and hydraulics. A vegetable-based, biodegradable hydraulic oil is used in the machine.

Each rake-full of material will be deposited onto a Harvester or the Transport Barge. The raked material will then be transported to the shoreline off-loading point in Red Rock Bay, transferred into dump trucks, and will ultimately be deposited at the dewatering and



final composting location. In total, an estimated maximum of 150-200 cubic yards of vegetation, root structures and attached hydro-soils will be removed from the channel area. The actual amount of material removed may actually be significantly less than that depending on the final composition of the material.

NON-TARGET IMPACTS

Impacts to Native Plant Community

The channel area was surveyed by Ann Bove, DEC Aquatic Invasive Species, Watershed Management Division on July 14, 2015. The following list of species was observed during the survey:

7/14/15 species list for the Red Rock channel and emergents:

Polygonum amphibium

Spirodela polyrhiza

*Myriophyllum spicatum**

Zosterella dubia

*Trapa natans**

Typha latifolia

Elodea canadensis

Sagittaria sp.

Najas flexilis

Nymphaea odorata tuberosa

* Non native, invasive

The following photographs of the channel area were also provided by Ann Bove:



Channel looking west.



Channel looking east.



Close up of emergent cattails.

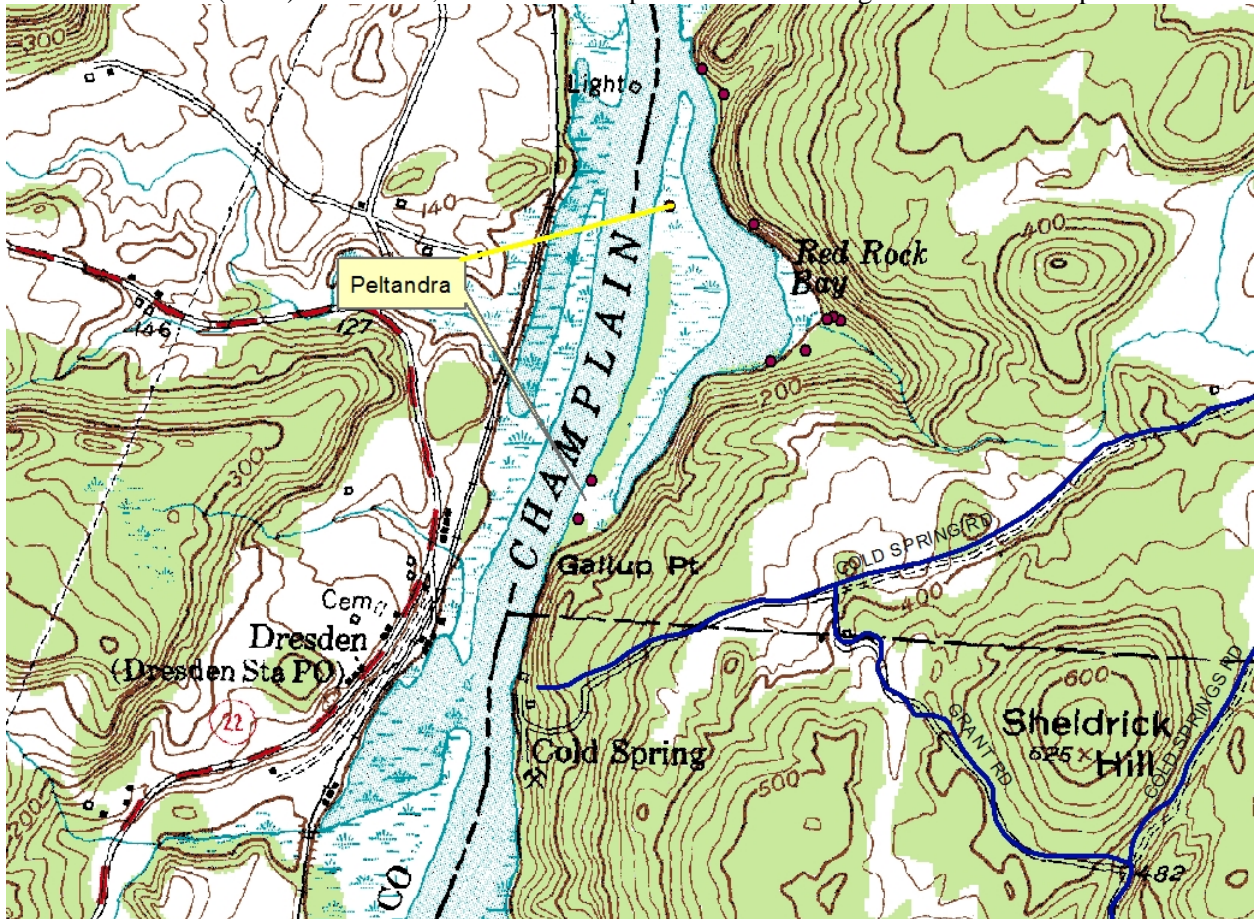
Impacts to State-Listed Species

In the most recent permit (ANC Permit No. 2014-H05) issued for this project, the following findings were made relative to State Listed Species:

“The Vermont Department of Fish and Wildlife (DFW) Wildlife Diversity Program/Natural Heritage Inventory expressed concerns about harvest activity occurring in areas with extant or historic populations of the State-threatened species, water-cress (*Neobeckia aquatica*), a threatened species, along the northern shoreline of Catfish Bay, in lower

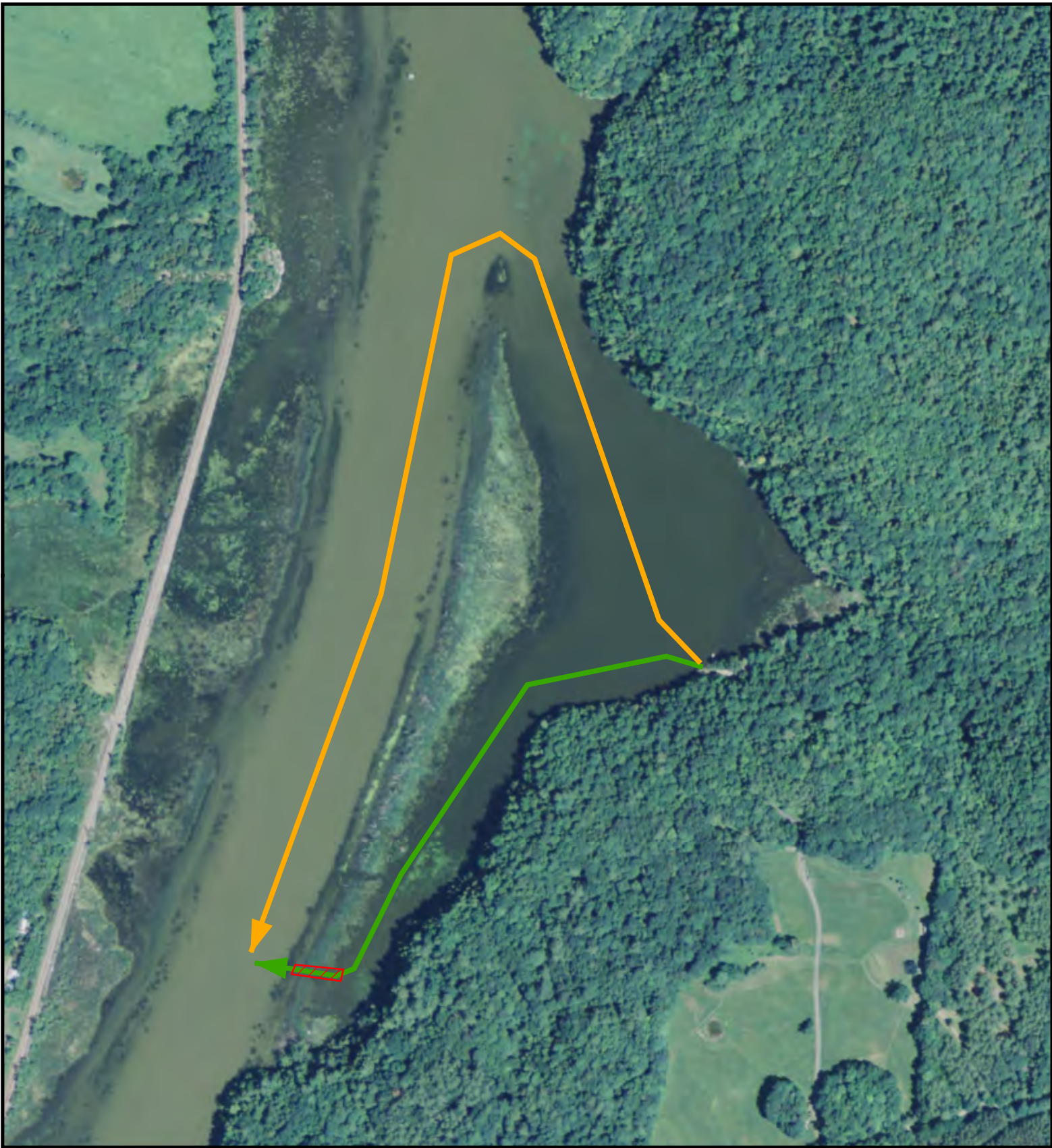
East Creek, and in Beadles Cove. Thus, the harvesting of any lake cress has been prohibited under this permit. It also cannot occur without a Threatened or Endangered Species Takings Permit from the DFW. The DFW program identified four rare/uncommon submerged or emergent species: salt-marsh bulrush, (*Scirpus maritimus*), an emergent species as well as slender naiad (*Najas gracillima*), gaudalpe naiad (*Najas guadalupensis*), and Nutall's waterweed (*Elodea nuttalli*), all submerged species, that may also exist in the harvest areas. The Lakes & Ponds Program has required the Permittee to be capable of identifying these species in order to avoid harvesting them if/when they are observed. The DFW staff also commented that the common musk turtle (*Sternotherus odoratus*) and other aquatic turtle species) are known to exist in the areas proposed for harvesting. The Lakes & Ponds Program has prohibited that injuring or killing of any turtles.”

In addition, according to Bob Popp, Department Botanist, Vermont Department of Fish and Wildlife, Natural Heritage Inventory, a population of Green Arrow-Arum (*Peltandra virginica*) which is Rare/Uncommon (S2S3) in the state, occurs on that spit of land extending north from Gallup Point.



The plants were observed in 2013. The plants occurred between the southern two points and then again at the northern point. No plants were observed between these areas.




None of the State-Listed Species were observed in the proposed work area during Ann Bove's survey performed on July 14, 2015.

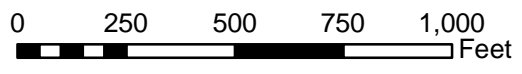


Lake Champlain Harvesting Map

Red Rock Bay, Benson, VT

Legend:

-  Proposed Hydro-Raking Site (25' x 160')
-  Desired Route: 2,100' (>50% shorter)
-  Current Route: 4,300'



AQUATIC CONTROL TECHNOLOGY

11 JOHN ROAD
SUTTON, MASSACHUSETTS 01590
PHONE: (508) 865-1000
FAX: (508) 865-1220
WEB: WWW.AQUATICCONTROLTECH.COM

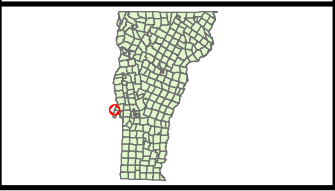


FIGURE:	SURVEY DATE:	MAP DATE:
1rev	2015	07/24/15