

Town of Sudbury

Community Preservation Committee

Flynn Building
278 Old Sudbury Road
Sudbury, MA 01776
978-639-3387
Fax: 978-639-3314

cpc@sudbury.ma.us

www.sudbury.ma.us/cpc

PROJECT SUBMISSION FORM

Applicant:

Submission Date:

Group or Committee Affiliation (if any):

Applicant Address:

Purpose (please select all that apply):

Open Space & Recreation

Community Housing

Historic Resource

Applicant Email & Phone Number:

Project Manager Email & Phone Number:

Project Name:

Project Description:

Costs:

Fiscal Year	Total Project Cost	CPC Funds Requested	Other Funding Sources (Amount and Source)
2025			
2026			
2027			
2028			
2029			
Total			

How does this project meet the General Criteria and Category Specific Criteria for Community Preservation Committee projects (see attached)?

Does this project fall within the jurisdiction or interest of other Town Boards, Committees, Commissions, or Departments? If so, please list the boards, committees, commissions, or departments, whether applications and/or presentations have been made, and what input or recommendations have been given.

For Community Preservation Committee Use:

Form Received On: _____

Project Presented to CPC On: _____

Reviewed By: _____

Determination: _____



HOP BROOK PROTECTION ASSOCIATION

Restoring and Preserving Sudbury's Ponds

Box 707, Sudbury, MA 01776

Attachment to CPC Project Submission Form 10/1/2023

The Sudbury portion of the Hop Brook pond system is a series of three connected ponds with a history of environmental degradation. As a result of prior phosphorus loading, uncontrolled vegetative overgrowth, and stagnation, these lakes have become highly eutrophic. However, the upstream phosphorus source is now controlled, and our most pressing concern is the compounding proliferation of invasive water chestnut. Untreated, this invasive species will effectively kill all indigenous native plants in the ponds in only a few more years. One acre of water chestnut can produce enough seeds to cover 100 acres the following year, and produces over 40 cubic yards of additional undesirable biomass each year.

We have found that a very effective method of controlling water chestnut is use of environmentally-friendly, rapidly-decaying chemical treatment, applied multiple times annually, in decreasing amounts over a number of years. This is being used successfully in Framingham, Wayland, Concord, Acton, and elsewhere. This treatment is a key component of a comprehensive multi-modal pond management plan (still being developed) that could restore the ponds to class B recreational standards over time. We are seeking funding to continue this practical, feasible, proven approach.

Our investigations have found no effective alternatives to treatment. Other approaches (harvesting, vacuuming, ultrasound) are ineffective, are in experimental phases, or cannot be scaled up to meet our needs.

In 2019, we applied to CPC for a 5-year grant to control the water chestnut using this approach. Because of the lack of clarity of what would be required in years 4 and 5, CPC generously gave us a 3-year grant, and told us to apply for a new grant for years 4 & 5 when the requirements were more clear. We used this grant for treatments in 2020, 2022, and 2023. In 2021, our vendor failed to deliver, and no payments were made. Starting in 2022 we switched to a new vendor who did not previously exist and we are very happy with their work. Our current vendor has demonstrated he can execute the process in a practical, feasible, timely, and effective manner for the quoted cost. Overall, the treatment program has been quite successful so far, resulting in a significant reduction of water chestnut in the ponds.

Last year, in conjunction with this effort, the CPC generously gave us a 1-year grant to develop a Watershed Based Plan for the Hop Brook ponds. This work started on July 1, 2023 and will complete before June 30, 2024. As a result of this program, we expect to develop an integrated, multi-year plan for pond remediation, of which water chestnut removal will be only a part. However, that's a year or two in the future, and in the meantime, we must continue

our annual treatment of water chestnut so that we do not throw away the progress we have made. Accordingly, with this application we are requesting funds for an additional two years (years 4 & 5) of water chestnut treatment.

The treatment program allows us to preserve the essential character of the town by preventing these otherwise-threatened recreational waterways from turning into smelly swamps. This is especially important for Grist Mill Pond as the Wayside Inn complex is Sudbury's largest tourist attraction.

Attached is a quote from our new vendor. (Note, the quote includes some items for FY 2024 which will be paid out of existing HBPA funds). In addition to this quote, we have budgeted \$700/year for drone photos of the ponds. We have found that taking these photos before and after each treatment makes it much easier for ourselves, and the vendor, to assess the effectiveness of treatment.

This program has the strong support of the Wayside Inn, the Sudbury Conservation Commission, and of Lori Capone, the Conservation Coordinator. Please check with Lori if you have any questions related to their support. The initial 5-year grant request also had the explicit support of the Selectboard, and the Ponds and Waterways Committee.

Please give this application serious consideration. The Hop Brook Pond system is an essential part of Sudbury's character and a valuable town asset. Without control and eventual eradication of this invasive species, 80 acres of ponds and wetlands currently used for recreation and wildlife would be turned into a stagnant and unattractive bog.

ESTIMATE



Prepared For

Hop Brook Protection Association
PO Box 707
Sudbury, MA 01776
(978) 558-0110

Water & Wetland, LLC

PO Box 142
South Grafton, MA 01560
Phone: (888) 493-8526
Email: joe@waterandwetland.com
Web: www.waterandwetland.com

Estimate # 20759
Date 09/15/2023
Business / Tax ID: 85-1677147, CT Bus
Tax # Reg #: PMBR.03620

Description

Total

2024 Hop Brook Ponds Water Chestnut Control Program	\$30,235.00
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Prepare and File State Pesticide Use Permit (WM04) (FY2024)	\$400.00
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In February/March, Water & Wetland, LLC will prepare and file the required State Pesticide Use Permits (WM04) with Massachusetts Department of Environmental Protection (MA-DEP). As required in the Order of Conditions, copies of the WM04 Permits will be provided to Sudbury Conservation Commission and all work will be performed in accordance with the permits. Price includes filing fees paid to the State.

Pre-Management Survey & Water Quality Collection (FY 2024)	\$1,400.00
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In early-mid June, Water & Wetland, LLC will conduct a pre-management survey of the ponds. The pre-management survey will be conducted from a motored jon-boat and will utilize visual observation and a standard throw-rake, as necessary. GPS will be used to document locations of the species within the ponds. The purpose of the pre-management survey is to determine native and non-native plant populations and their abundances throughout each of the three waterbodies. Additionally, the pre-management survey is used to determine effects of the management activities on both native and non-native populations.

During the pre-management survey, water quality data will be collected. As required in the Order of Conditions, each pond will be sampled (one sample per pond) for: nitrate nitrogen, total kjeldahl nitrogen (TKN), ammonia, total phosphorus, dissolved phosphorus, algae ID and enumeration, E. coli enumeration, turbidity, true color, apparent color, alkalinity. These samples will be sent to the appropriate laboratories for analysis. Additionally, secchi disk clarity will be measured, temperature and dissolved oxygen profiles, and pH will be measured on-site using calibrated meters.

Work Plan Preparation and Submittal (FY 2024) \$200.00

Following the pre-management survey, prior to the commencement of vegetation control, Water & Wetland, LLC will prepare and submit a 2024 work plan to Sudbury Conservation Commission. The work plan will show the expected treatment areas via polygon maps. A letter will also be included addressing potential impacts on non-target native vegetation, water quality, fish, invertebrate and aquatic life that could result from the 2024 work.

Pre-Work Site Visit Attendance (FY 2024) \$0.00

Prior to chemical treatment, Water & Wetland, LLC will set a pre-work site visit with the Sudbury Conservation Coordinator (if elected). The purpose of the pre-work site visit is to review the scope of work, access points, and conditions contained in the Order of Conditions.

Water Chestnut Treatments (FY 2025) \$23,685.00

In early July, Water & Wetland, LLC will initiate the initial treatment of water chestnut in all three waterbodies. Clearcast (imazamox) herbicide will be paired with a non-ionic surfactant and applied directly to the water chestnut in the ponds. An airboat or other most appropriate boat will be launched in the ponds. The herbicide mixture will be applied to the water chestnut plants through foliar application from the airboat/treatment boat, which is equipped with a calibrated pump/spray system. Treatment will occur once the leaves of the water chestnut plants have reached the surface. One follow-up treatment will occur later in the season targeting any remaining water chestnut or water chestnut non-impacted from the initial treatment due to boat passes, splashing, etc. The second application will occur prior to the water chestnut plants setting seed (typically mid-August). Prior to treatment(s), brightly colored posters will be hung around the shoreline noting the treatment, affiliated water-use restrictions, and Water & Wetland's contact information. The Conservation Commission will be notified a minimum of 48 hours in advance of any treatments.

*All equipment will be inspected and cleaned prior to being launched within any of the Hop Brook Ponds. No treatment will occur during periods of heavy winds and/or with precipitation forecasted during the day of treatment.

**Notwithstanding the foregoing, all services provided by Water & Wetland, LLC will be performed in compliance with The Massachusetts Department of Environmental Protection – Form 5 – Order of Conditions (“OOC”) as attached hereto and marked as Exhibit A and as incorporated by reference into this Agreement. The OOC outlines all services to be provided to Hop Brook Protection Association (“HBPA”) by Water & Wetland, LLC.

***The cost breakdown for each treatment is \$16,660 for the initial treatment, and \$7,025 for the follow-up treatment.

Post-Management Survey & Water Quality Collection (FY 2025) \$3,550.00

In September, Water & Wetland, LLC will conduct a post-management survey of the ponds. The post-management survey will be conducted from a motored jon-boat and will utilize visual observation and a standard throw-rake, as necessary. GPS will be used to document locations of the species within the ponds. The purpose of the post-management survey is to determine native and non-native plant populations and their abundances throughout each of the three waterbodies. Additionally the post-management survey is used to determine effects of the management activities on both

native and non-native populations.

During the post-management survey, water quality data will be collected. As required in the Order of Conditions, each pond will be sampled (one sample per pond) for: nitrate nitrogen, total kjeldahl nitrogen (TKN), ammonia, total phosphorus, dissolved phosphorus, algae ID and enumeration, E. coli enumeration, turbidity, true color, apparent color, alkalinity. These samples will be sent to the appropriate laboratories for analysis. Additionally, secchi disk clarity will be measured, temperature and dissolved oxygen profiles, and pH will be measured on-site using calibrated meters.

Year-End Reporting (FY 2025) \$1,000.00

Prior to December 1st, Water & Wetland, LLC will submit a year-end summary report to both Hop Brook Protection Association and Sudbury Conservation Commission. The year end report will meet the specifications required in the Order of Conditions and will include a summary of all work conducted, area/acreage treated, chemicals and quantity used, relative effectiveness of treatments, monitoring results, water quality summary, impacts of the treatment, and 2025 recommendations.

2025 Hop Brook Ponds Water Chestnut Control Program \$27,076.00

Prepare and File State Pesticide Use Permit (WM04) (FY 2025) \$400.00

In February/March, Water & Wetland, LLC will prepare and file the required State Pesticide Use Permits (WM04) with Massachusetts Department of Environmental Protection (MA-DEP). As required in the Order of Conditions, copies of the WM04 Permits will be provided to Sudbury Conservation Commission and all work will be performed in accordance with the permits. Price includes filing fees paid to the State.

Pre-Management Survey & Water Quality Collection (FY 2025) \$1,400.00

In early-mid June, Water & Wetland, LLC will conduct a pre-management survey of the ponds. The pre-management survey will be conducted from a motored jon-boat and will utilize visual observation and a standard throw-rake, as necessary. GPS will be used to document locations of the species within the ponds. The purpose of the pre-management survey is to determine native and non-native plant populations and their abundances throughout each of the three waterbodies. Additionally, the pre-management survey is used to determine effects of the management activities on both native and non-native populations.

During the pre-management survey, water quality data will be collected. As required in the Order of Conditions, each pond will be sampled (one sample per pond) for: nitrate nitrogen, total kjeldahl nitrogen (TKN), ammonia, total phosphorus, dissolved phosphorus, algae ID and enumeration, E. coli enumeration, turbidity, true color, apparent color, alkalinity. These samples will be sent to the appropriate laboratories for analysis. Additionally, secchi disk clarity will be measured, temperature and dissolved oxygen profiles, and pH will be measured on-site using calibrated meters.

Work Plan Preparation and Submittal (FY 2025) \$200.00

Following the pre-management survey, prior to the commencement of vegetation control, Water&

Wetland, LLC will prepare and submit a 2025 work plan to Sudbury Conservation Commission. The work plan will show the expected treatment areas via polygon maps. A letter will also be included addressing potential impacts on non-target native vegetation, water quality, fish, invertebrate and aquatic life that could result from the 2025 work.

Pre-Work Site Visit Attendance (FY 2025) \$0.00

Prior to chemical treatment, Water & Wetland, LLC will set a pre-work site visit with the Sudbury Conservation Coordinator (if elected). The purpose of the pre-work site visit is to review the scope of work, access points, and conditions contained in the Order of Conditions.

Water Chestnut Treatments (FY 2026) \$20,526.00

In early July, Water & Wetland, LLC will initiate the initial treatment of water chestnut in all three waterbodies. Clearcast (imazamox) herbicide will be paired with a non-ionic surfactant and applied directly to the water chestnut in the ponds. An airboat or other most appropriate boat will be launched in the ponds. The herbicide mixture will be applied to the water chestnut plants through foliar application from the airboat/treatment boat, which is equipped with a calibrated pump/spray system. Treatment will occur once the leaves of the water chestnut plants have reached the surface. One follow-up treatment will occur later in the season targeting any remaining water chestnut or water chestnut non-impacted from the initial treatment due to boat passes, splashing, etc. The second application will occur prior to the water chestnut plants setting seed (typically mid-August). Prior to treatment(s), brightly colored posters will be hung around the shoreline noting the treatment, affiliated water-use restrictions, and Water & Wetland's contact information. The Conservation Commission will be notified a minimum of 48 hours in advance of any treatments.

*All equipment will be inspected and cleaned prior to being launched within any of the Hop Brook Ponds. No treatment will occur during periods of heavy winds and/or with precipitation forecasted during the day of treatment.

**Notwithstanding the foregoing, all services provided by Water & Wetland, LLC will be performed in compliance with The Massachusetts Department of Environmental Protection – Form 5 – Order of Conditions (“OOC”) as attached hereto and marked as Exhibit A and as incorporated by reference into this Agreement. The OOC outlines all services to be provided to Hop Brook Protection Association (“HBPA”) by Water & Wetland, LLC.

***The cost breakdown for each treatment is \$14,370 for the initial treatment, and \$6,156 for the follow-up treatment.

Post-Management Survey & Water Quality Collection (FY 2026) \$3,550.00

In September, Water & Wetland, LLC will conduct a post-management survey of the ponds. The post-management survey will be conducted from a motored jon-boat and will utilize visual observation and a standard throw-rake, as necessary. GPS will be used to document locations of the species within the ponds. The purpose of the post-management survey is to determine native and non-native plant populations and their abundances throughout each of the three waterbodies. Additionally the post-management survey is used to determine effects of the management activities on both native and non-native populations.

During the post-management survey, water quality data will be collected. As required in the

Order of Conditions, each pond will be sampled (one sample per pond) for: nitrate nitrogen, total kjeldahl nitrogen (TKN), ammonia, total phosphorus, dissolved phosphorus, algae ID and enumeration, E. coli enumeration, turbidity, true color, apparent color, alkalinity. These samples will be sent to the appropriate laboratories for analysis. Additionally, secchi disk clarity will be measured, temperature and dissolved oxygen profiles, and pH will be measured on-site using calibrated meters.

Year-End Reporting (FY 2026) \$1,000.00

Prior to December 1st, Water & Wetland, LLC will submit a year-end summary report to both Hop Brook Protection Association and Sudbury Conservation Commission. The year end report will meet the specifications required in the Order of Conditions and will include a summary of all work conducted, area/acreage treated, chemicals and quantity used, relative effectiveness of treatments, monitoring results, water quality summary, impacts of the treatment, and 2026 recommendations.

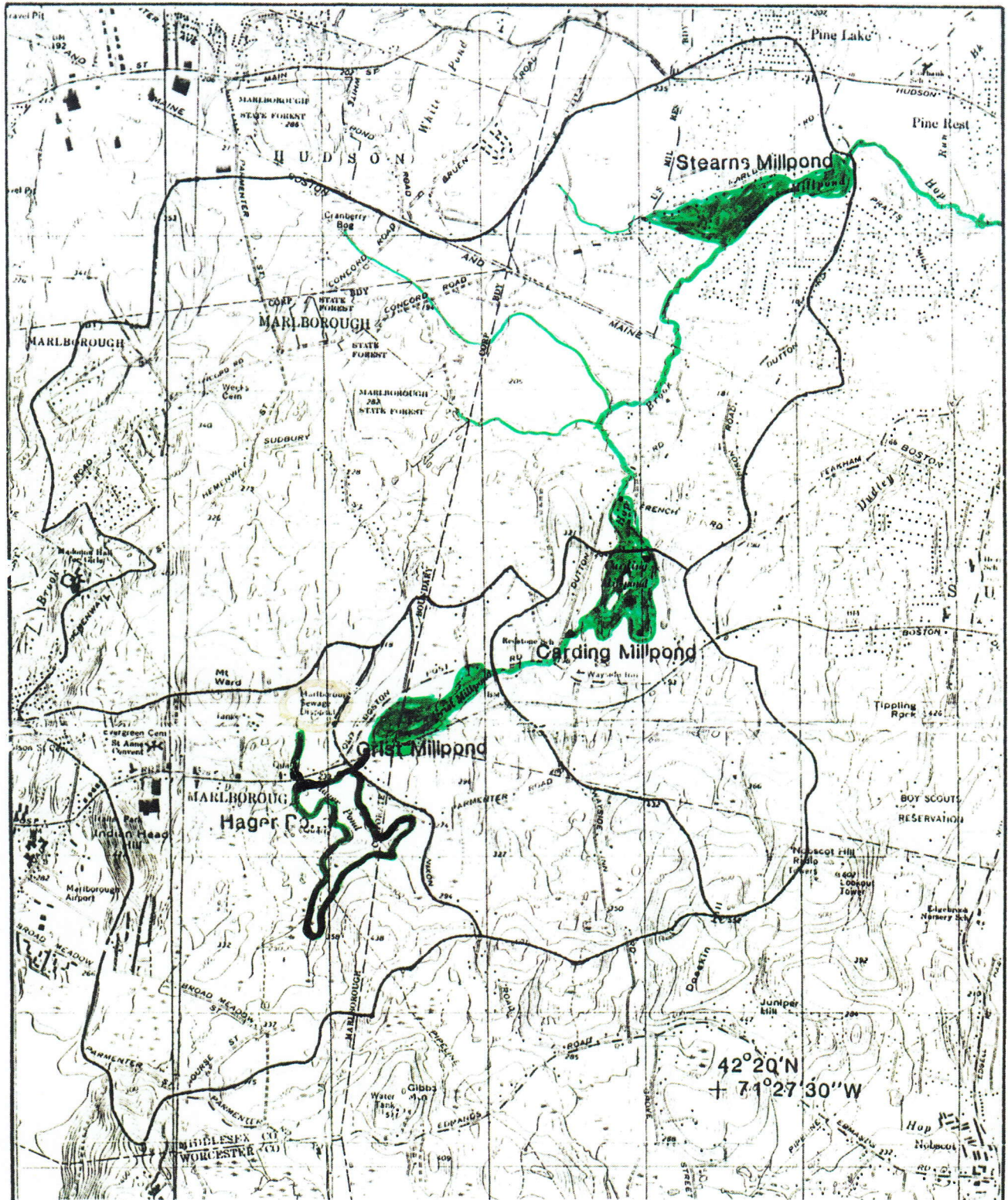
Subtotal	\$57,311.00
<hr/>	
Total	\$57,311.00

Notes:

Work will be invoiced upon completion according to the costs provided above. The quoted price does not include crane costs.

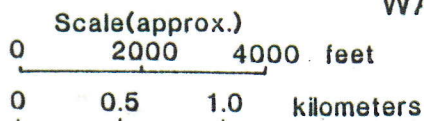
In an effort to provide timely permitting, planning, and treatment, we kindly ask that all quotes be signed by December 15, 2023. Quoted price is valid until December 15, 2023.

Please note our new mailing address for all payments (top left corner of invoice)



HOP BROCK POND STUDY

WATERSHED AREAS



Source: USGS 7.5' Topoquads
 (Framingham, Hudson, Marlboro, Maynard)

BEFORE
TREATMENT



SEVERAL MONTHS
AFTER TREATMENT

