

March 20, 2025

NHESP Tracking No. 24-17195 (legacy 06-20539)

Lake Quinsigamond Work Plan and Monitoring Plan

Dear Ms. Marold,

In coordination with the Lake Quinsigamond Commission (LQC), the City of Worcester Lakes and Ponds Program submits this Work Plan and Monitoring Plan for invasive aquatic plant management Lake Quinsigamond in 2026.

In 2024, Dr. Don Padgett, a qualified botanist, conducted a survey searching for *P. vaseyji*. Three instances of this plant were found, located in Management Zone B. Based on the information from Dr. Padgett's survey and the August 2025 invasive and native plant survey conducted by Coastal Mapping & Sciences, several priority areas are proposed for management.

Please see Figure 1 for an overview of the proposed management areas for 2026. LQC proposes to contract Diver-Assisted Suction Harvesting (DASH) to manage approximately 3 acres of fanwort (*Cabomba caroliniana*) in the Old Faith Bay section of Lake Quinsigamond, in Management Zone B (see Figure 2). LQC also proposes to utilize the herbicide fluridone to manage approximately 45 acres of dense fanwort (*Cabomba caroliniana*) growth in the eastern lobe of Flint Pond, in Management Zone C (see Figure 3).

Management Zone B DASH, schedule, and reporting

Approximately 3 acres of fanwort are proposed for management through DASH. This effort will be conducted by a qualified lake management company on 5 to 8 consecutive workdays between mid-July and mid-August 2026, according to contractor availability. The target area avoids confirmed locations of *P. vaseyji* identified by Dr. Padgett's 2024 survey. The target area's average depth is approximately 3.5 meters, which is deeper than typical *P. vaseyji* habitats. DASH operators will be briefed on the presence of *P. vaseyji* in other areas of Management Zone B according to Dr. Padgett's survey, and will receive GPS coordinates to verify their position. DASH will not be conducted where Dr. Padgett located *P. vaseyji*. Though greater than 3 acres of fanwort are present in the target area, more extensive management is not feasible due to funding constraints. The results of the DASH effort will be verified through a follow-up survey, and a report summarizing the management effort and monitoring results will be submitted to NHESP.

Management Zone C treatment dose, schedule, and reporting

Approximately 45 acres of fanwort are proposed for management through the application of fluridone. The treatment is intended to be conducted in late May and June 2026 by a qualified lake management company. Fluridone (trade name Sonar) will be applied through slow-release pellets over two to four applications to maintain an in-water target concentration between 8 and 15 ppb for up to 60 days. The in-water concentration of fluridone will be monitored regularly, and monitoring data will guide the timing and dose of applications to maintain the target concentration. To protect *P. vaseyji* from possible impacts, the treatment will be applied during the late spring and early summer. Seasonal flow is generally high at this time and water is highly unlikely to flow backwards into Management Zone B. Historical flow monitoring information from USGS gauge 01110000, located just downstream of the treatment area, is shown in Figure 4. The results of the treatment will be verified through a follow-up survey, and a report summarizing the management effort and monitoring results will be submitted to NHESP.

Included with this submission are the plant maps contracted in August 2025.

Please let us know if you have any questions or concerns.

Sincerely,

Katie Liming

Lakes and Ponds Coordinator

Lakes and Ponds Program

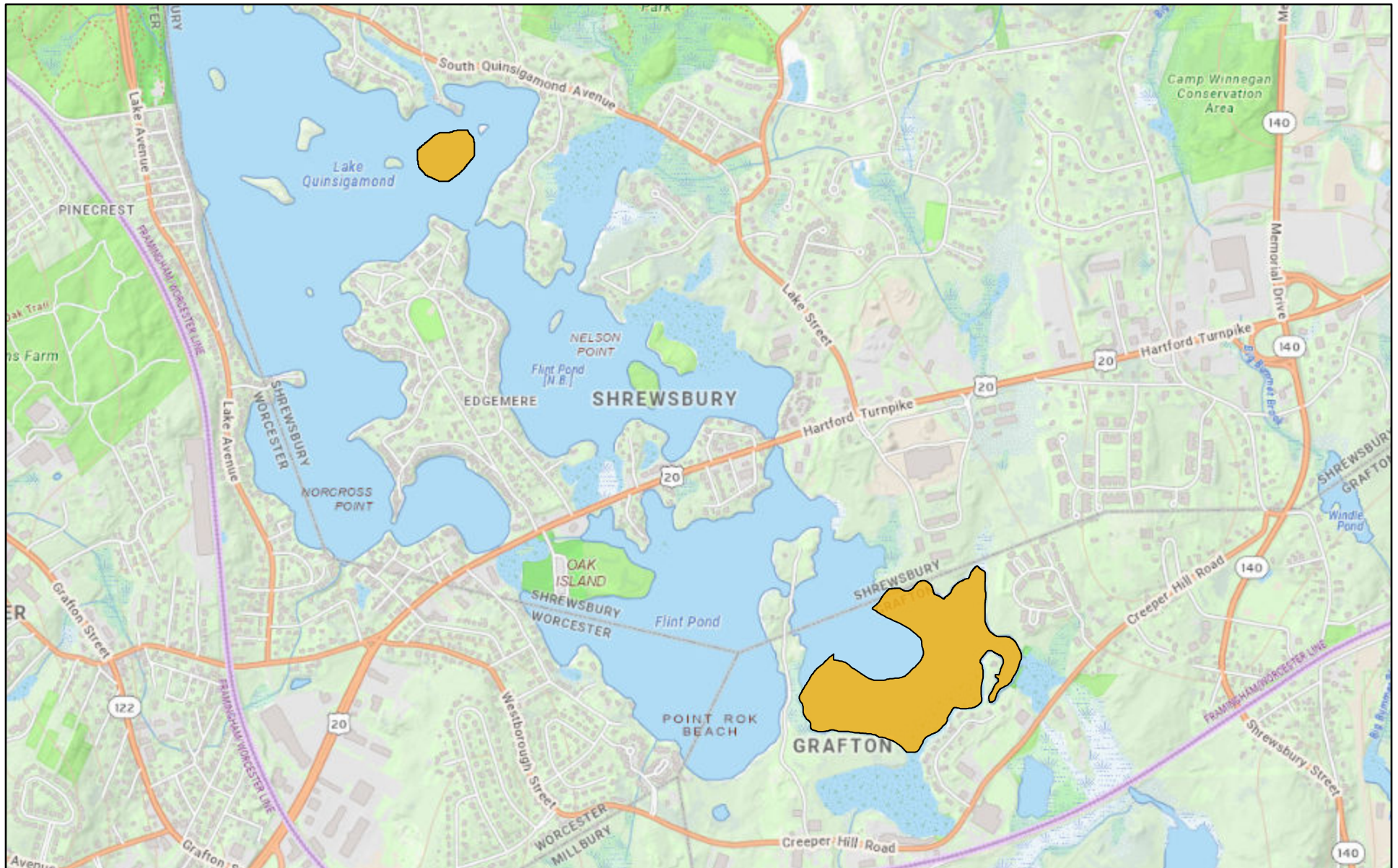
City of Worcester Department of Sustainability and Resilience

CC: Bill Nelson, Chair, Lake Quinsigamond Commission; Mike Liberty, Secretary, Lake Quinsigamond Commission

Attached:

2025 Lake Quinsigamond Aquatic Plant Survey Maps, Coastal Mapping & Sciences

Fig. 1. Proposed Fanwort Management Areas 2026 - Lake Quinsigamond and Flint Pond



3/19/2026

MassGIS_Basemap_20260208

- Red: Band_1
- Green: Band_2
- Blue: Band_3

Proposed treatment areas are prioritized from the August 2025 survey completed by Coastal Mapping & Sciences, LLC.

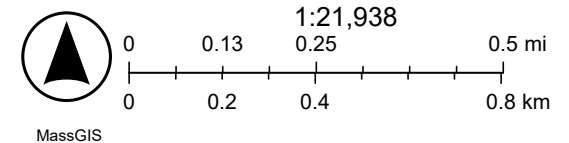
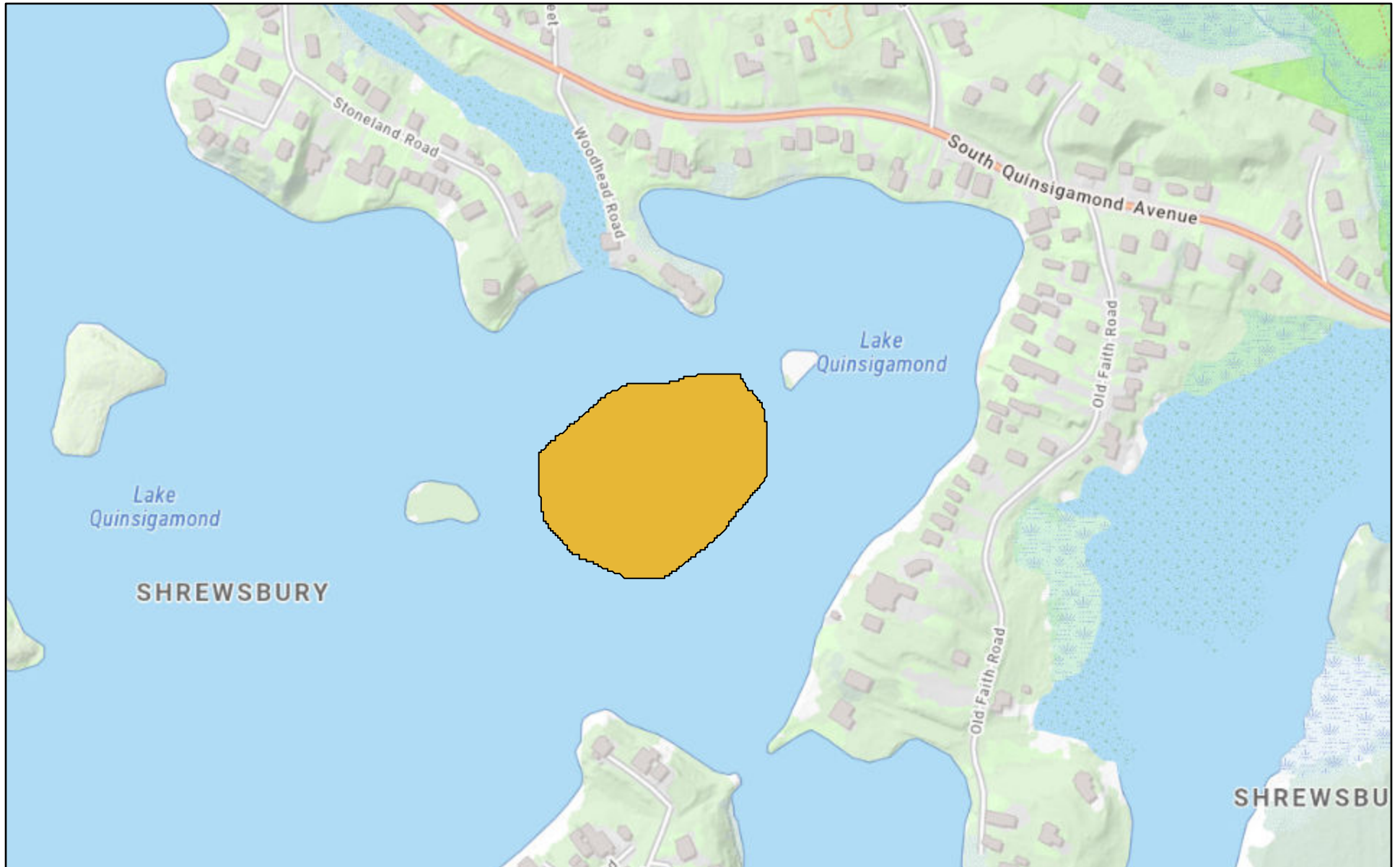


Fig. 2. Zone B Fanwort Management Area 2026 - Lake Quinsigamond



3/19/2026

MassGIS_Basemap_20260208

- Red: Band_1
- Green: Band_2
- Blue: Band_3

Proposed treatment areas are prioritized from the August 2025 survey completed by Coastal Mapping & Sciences, LLC.

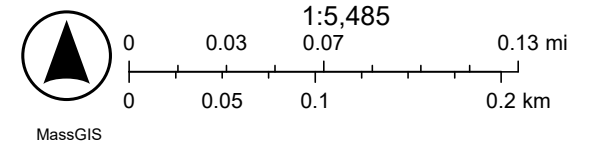
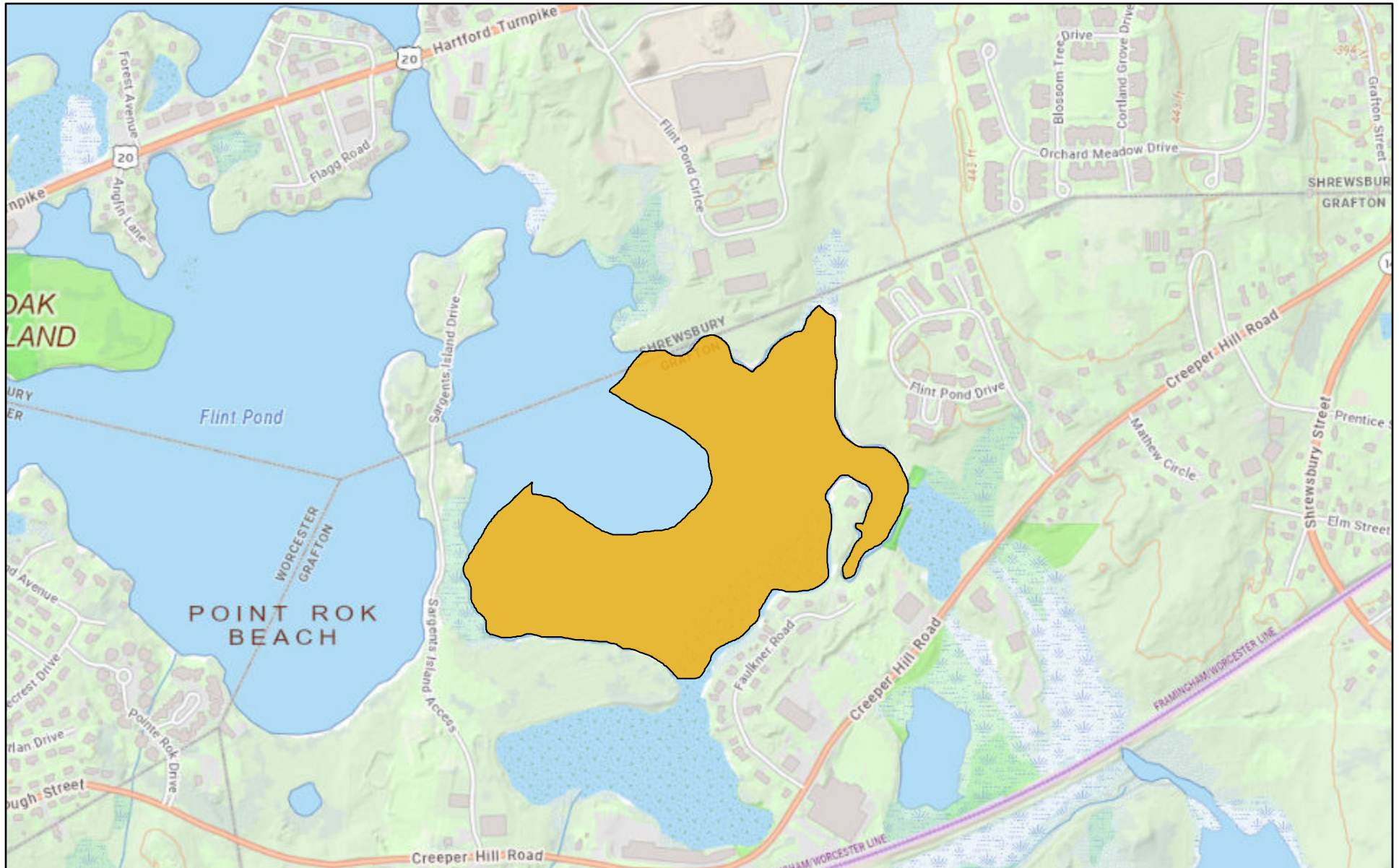


Fig. 3. Zone C Fanwort Management Area 2026 - Flint Pond

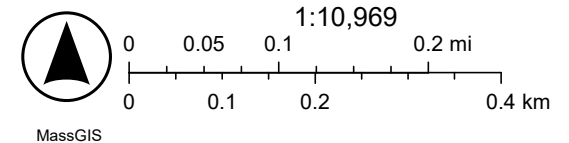


3/19/2026

MassGIS_Basemap_20260208

- Red: Band_1
- Green: Band_2
- Blue: Band_3

Proposed treatment areas are prioritized from the August 2025 survey completed by Coastal Mapping & Sciences, LLC.



MassGIS

Continuous data

Quinsigamond River at North Grafton, MA - USGS-01110000

[Subscribe to WaterAlert](#)

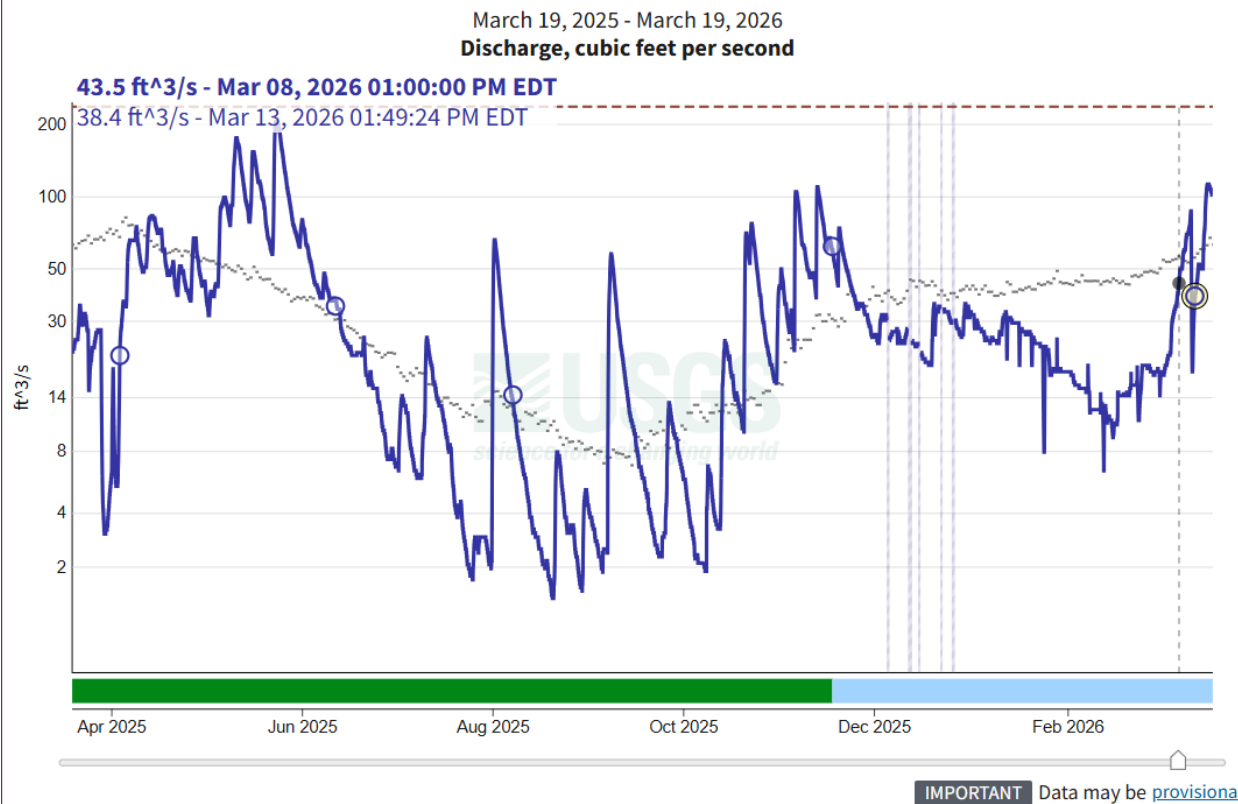


Figure 4. Historic seasonal flows from USGS station 01110000. Source: [Quinsigamond River at North Grafton, MA - USGS Water Data for the Nation](#)



1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

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The purpose of the Division's review of the proposed project under the WPA regulations is to determine whether the project will have any adverse effects on the Resource Areas Habitats of state-listed species. The purpose of the Division's review under the MESA regulations is to determine whether a Take of state-listed species will result from the proposed project.

The Plan described details of the proposed lake management activities (summarized in Table 1 of the NOI-Narrative, Attached) in each of the three (3) management zones shown in Figure 2 of the NOI (Attached). This following two aspects of the Plan, as currently proposed, **will not adversely affect** the actual Resource Area Habitat of state-protected rare wildlife species (310 CMR 10.59) and **will not this result in a prohibited Take** (321 CMR 10.18).

- 1) Annual 30" Drawdown, Management Zone A, B, and C: The Division has no rare species concerns relative to the proposed continuation of the 30" winter drawdown with the annual re-evaluation described in the filing. This activity is approved without conditions.
- 2) Management Zone A: The Plan proposes the application of the herbicides (fluridone, 2,4-D, diquat dibromide, flumioxazin, imazamox), application of algaecides (copper-based), and implementation of hand harvesting, diver-assisted suction harvesting (DASH) and hydroraking. The Division has no rare species concerns relative to these proposed activities in Management Zone A. The use of other herbicides or management techniques is not approved herein and, if proposed, requires review and written approval by the Division prior to use.

Based on the information provided and the information contained in our database, it is the opinion of the Division that a portion of this project, as currently proposed, **must be conditioned in order to avoid adverse effects** to the Resource Area Habitats of state-listed wildlife species (310 CMR 10.59) and **must be conditioned in order to avoid a prohibited Take** of state-listed species (321 CMR 10.18(2)(a)). Implementation of the plan shall comply with the following conditions:

- 3) Management Zone B: The proposed Plan includes: application of the herbicide 2,4-D, hand harvesting and DASH, with direct annual consultation with the Division. While not proposed in this application, the herbicide triclopyr may also be proposed for annual review.
 - a) *Work Plan*: The Applicant shall submit a written treatment plan to the Division for review and approval at least sixty (60) days before proposed management activities. The treatment plan shall include, at a minimum, a map of the proposed treatment areas, treatment acres, proposed date(s) of treatment(s), proposed herbicide product names and formulations, active ingredients, active ingredient target concentrations, calculated treatment concentrations, and proposed measures to protect *P. vaseyi*.
We recommend that you contact our office in advance of each annual submission to determine herbicides that can be approved subject to this determination and the maximum allowable concentrations that will avoid a Take.
 - b) *Monitoring Plan*: The Applicant shall submit a written monitoring plan to the Division for review and approval at least sixty (60) days before proposed herbicide application.

- 4) Management Zone C: The proposed Plan includes: application of the herbicides 2,4-D and glyphosate, hand harvesting, DASH and hydrosucking. Direct annual consultation is proposed for fluridone, diquat dibromide, flumioxazin, and algaecides. While not proposed in this application, the herbicide triclopyr may also be proposed for annual review.

- a) *Work Plan*. For the use of fluridone, diquat dibromide, flumioxazin, algaecides, and triclopyr, the Applicant shall submit a written treatment plan to the Division for review and approval at least sixty (60) days before proposed management activities. The treatment plan shall include, at a minimum, a map of the proposed treatment area, treatment acres, proposed date(s) of treatment(s), proposed herbicide product names and formulations, active ingredients, active ingredient target concentrations, calculated treatment concentrations, and proposed measures to protect *P. vaseyi*.

Protection measures need to eliminate any water exchange with Management Zone B. These may include, but are not limited to, the use of floating barriers, timing to avoid summer low-flow, and other such measures to ensure that the products remain within Management Zone B.

We recommend that you contact our office in advance of each annual submission to determine herbicides that can be approved subject to this determination and the maximum allowable concentrations that will avoid a Take.

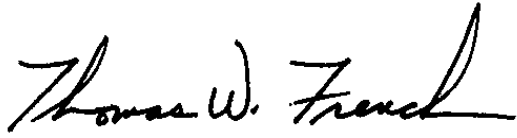
- 5) Renewal, extension or Amendment of the Order of Conditions: Upon filing for any renewal, extension, or amendment of the Orders of Conditions the Applicant shall similarly file with the Division for written response regarding impacts to state-listed species.

Provided these conditions are included in any approving Orders of Conditions issued by the Conservation Commission, and the applicant complies with the above noted conditions, the project will not result in an adverse impact to the resource area habitats of state-listed wildlife species pursuant to the WPA and will not result in a prohibited Take pursuant to the MESA. A copy of the final Order of Conditions shall be sent to the NHESP simultaneously with the applicant as stated in the Procedures section of the WPA (310 CMR 10.05(6)(e)).

We note that all work is subject to the anti-segmentation provisions (321 CMR 10.16) of the MESA. This determination is a final decision of the Division of Fisheries and Wildlife pursuant to 321 CMR 10.18. Any changes to the proposed project or any additional work beyond that shown on the site plans may require an additional filing with the Division pursuant to the MESA. This determination is valid for five years. This project may be subject to further review if no physical work is commenced within five years from the date of issuance, or if there is a change to the project.

Please do not hesitate to contact Misty-Anne R. Marold, Senior Endangered Species Review Biologist, at (508) 389-6356 (misty-anne.marold@state.ma.us) if you have any questions about this determination.

Sincerely,

A handwritten signature in black ink that reads "Thomas W. French". The signature is fluid and cursive, with the first letters of each name being capitalized and prominent.

Thomas W. French, Ph.D.
Assistant Director

cc: Peter Collins, Lake Quinsigamond Commission
Alex Patterson, ESS Group Inc.
MA DEP Central Region, Wetlands

Attachment: Table 1: Summary of Management Options for each Management Zone
Figure 2: Map of Management Zones

Table 1. Summary of Management Options for each Management Zone

Management Option		Management Zone		
		A	B	C
Water Level Control (Drawdown)		•	•	•
Herbicides	Fluridone	•		C
	2,4-D	•	C	•
	Diquat dibromide	•		C
	Flumioxazin	•		C
	Glyphosate			•
	Imazamox	•		
Algaecides		•		C
Harvesting	Hand	•	C	•
	Diver-assisted Suction Harvesting (DASH)	•	C	•
Hydroraking		•		•

• = Proposed option

C = Proposed option, subject to conditions and annual approval by NHESP

2.1 Winter Drawdown

Drawdown involves lowering the water level of a lake to expose shallow bottom sediments and associated plants to drying and/or freezing. Although drawdown can be conducted at any time, the interaction of drying and freezing that occurs with winter drawdown is usually most effective.

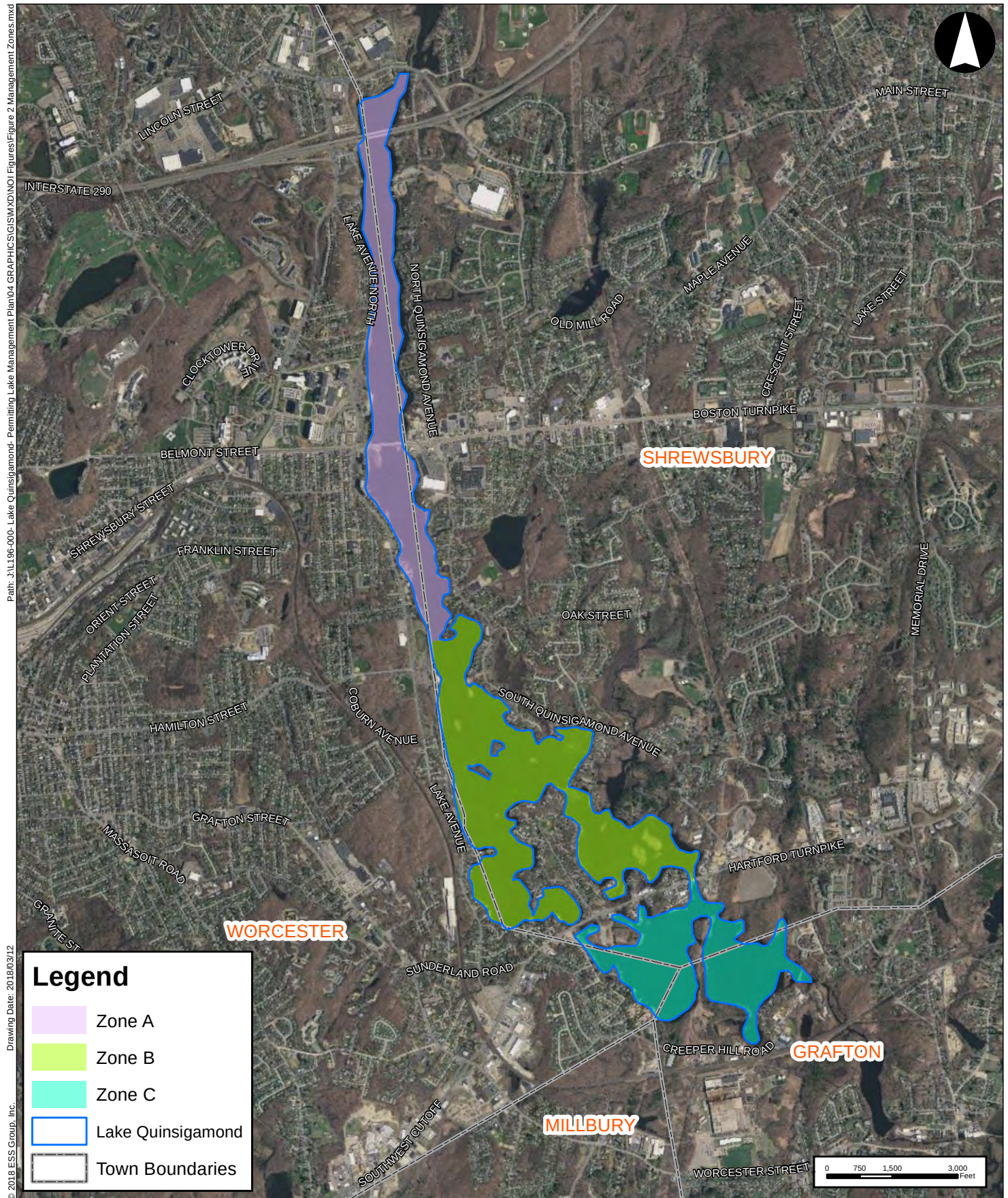
Winter drawdown is most effective against species that reproduce mainly by vegetative means, including Eurasian milfoil, fanwort, and variable-leaf milfoil. Drawdown has less of an impact on species that reproduce by seed or turions, such as brittle naiad, curly-leaf pondweed and native pondweeds, including Vasey's pondweed.

Drawdown at Lake Quinsigamond has been limited to three feet or less under prior permits, which exposes approximately 30 acres (4%) of the lake bottom at maximum drawdown. This depth of drawdown is expected to provide efficient nuisance vegetation control in the affected areas while remaining protective of aquatic life. Continued implementation of winter drawdown on an as-need basis will help control nuisance growths in marginal shallow waters. The need for winter drawdown will be re-evaluated on an annual basis, based on monitoring results during the growing season.

2.2 Herbicide Treatments

In the short-term, herbicide treatment is usually the most effective means by which to rapidly achieve the goal of reducing aquatic weed biomass over a large area. Herbicides may also be used over the long-term to treat areas of recurring infestations that are not readily controllable through other means.

The six herbicide options with potential to be useful for aquatic plant control in Lake Quinsigamond are fluridone, 2,4-D, diquat dibromide, flumioxazin, glyphosate and imazamox. These options are discussed



Lake Quinsigamond **Long-term Vegetation Management Plan** Shrewsbury, Worcester & Grafton, Massachusetts

1 inch = 3,000 feet

Source: 1) MassGIS, Half-Meter Resolution, 2013 - 2014
 2) MassGIS, Municipal Boundaries, 3) MassGIS, Roads

Management Zones

Figure 2



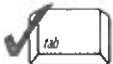
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
349-1200
MassDEP File #
eDEP Transaction #
Worcester
City/Town

A. General Information

Please note:
this form has
been modified
with added
space to
accommodate
the Registry
of Deeds
Requirements

Important:
When filling
out forms on
the
computer,
use only the
tab key to
move your
cursor - do
not use the
return key.



1. From: City of Worcester
Conservation Commission
2. This issuance is for
(check one): a. ☒ Order of Conditions b. ☐ Amended Order of Conditions
3. To: Applicant:
Peter Collins
a. First Name b. Last Name
Lake Quinsigamond Commission
c. Organization
PO Box 4476 TS
d. Mailing Address
Shrewsbury MA 01545
e. City/Town f. State g. Zip Code
4. Property Owner (if different from applicant):
Commonwealth of Massachusetts
a. First Name b. Last Name
c. Organization
d. Mailing Address
e. City/Town f. State g. Zip Code
5. Project Location:
Lake Quinsigamond Worcester
a. Street Address b. City/Town
MA-DEP - QUINS
c. Assessors Map/Plat Number d. Parcel/Lot Number
Latitude and Longitude, if known: d m s d m s
d. Latitude e. Longitude



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

CC-2018-034
Lake Quinsigamond Long Term Aquatic
Vegetation Maintenance Plan
(NHESP No. 06-20539)

Provided by MassDEP:
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A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):
Worcester
a. County
N/A Great Pond
c. Book
d. Page
b. Certificate Number (if registered land)
7. Dates: 4/23/2018 5/21/2018 6/11/2018
a. Date Notice of Intent Filed b. Date Public Hearing Closed c. Date of Issuance
8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):
Notice of Intent Application Materials
a. Plan Title
ESS Group, Inc.
b. Prepared By
3/12/2018
d. Final Revision Date
Lake Quinsigamond Long Term Aquatic Vegetation Maintenance Plan
f. Additional Plan or Document Title
c. Signed and Stamped by
1" = 3,000'
e. Scale
April 2018
g. Date

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:
Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply:
- a. ☒ Public Water Supply b. ☐ Land Containing Shellfish c. ☒ Prevention of Pollution
d. ☒ Private Water Supply e. ☒ Fisheries f. ☒ Protection of Wildlife Habitat
g. ☒ Groundwater Supply h. ☒ Storm Damage Prevention i. ☒ Flood Control
2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

- a. ☒ the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

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B. Findings (cont.)

Denied because:

- b. ☐ the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. ☐ the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**
3. ☐ Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a) a. linear feet

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☐ Bank	<u> </u> a. linear feet	<u> </u> b. linear feet	<u> </u> c. linear feet	<u> </u> d. linear feet
5. ☒ Bordering Vegetated Wetland	<u><1 acre*</u> a. square feet	<u><1 acre*</u> b. square feet	<u><1 acre*</u> c. square feet	<u><1 acre*</u> d. square feet
6. ☒ Land Under Waterbodies and Waterways	<u>7,143,840*</u> (164 Acres) a. square feet <u>0</u> e. c/y dredged	<u>7,143,840*</u> (164 Acres) b. square feet <u>0</u> f. c/y dredged	<u>7,143,840*</u> (164 Acres) c. square feet *Temporary Disturbance Only	<u>7,143,840*</u> (164 Acres) d. square feet
7. ☐ Bordering Land Subject to Flooding	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. square feet	<u> </u> d. square feet
Cubic Feet Flood Storage	<u> </u> e. cubic feet	<u> </u> f. cubic feet	<u> </u> g. cubic feet	<u> </u> h. cubic feet
8. ☐ Isolated Land Subject to Flooding	<u> </u> a. square feet	<u> </u> b. square feet		
Cubic Feet Flood Storage	<u> </u> c. cubic feet	<u> </u> d. cubic feet	<u> </u> e. cubic feet	<u> </u> f. cubic feet
9. ☐ Riverfront Area	<u> </u> a. total sq. feet	<u> </u> b. total sq. feet		
Sq ft within 100 ft	<u> </u> c. square feet	<u> </u> d. square feet	<u> </u> e. square feet	<u> </u> f. square feet



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Sq ft between 100-
200 ft

g. square feet

h. square feet

i. square feet

j. square feet

B. Findings (cont.)

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. ☐ Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. ☐ Coastal Beaches	a. square feet	b. square feet	c. ^{cu yd} nourishment	d. ^{cu yd} nourishment
14. ☐ Coastal Dunes	a. square feet	b. square feet	c. ^{cu yd} nourishment	d. ^{cu yd} nourishment
15. ☐ Coastal Banks	a. linear feet	b. linear feet		
16. ☐ Rocky Intertidal Shores	a. square feet	b. square feet		
17. ☐ Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18. ☐ Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19. ☐ Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20. ☐ Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	a. c/y dredged	b. c/y dredged		
21. ☐ Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		
22. ☐ Riverfront Area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet



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Sq ft between 100-
200 ft

g. square feet

h. square feet

i. square feet

j. square feet

B. Findings (cont.)

* #23. If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here.

23. ☐ Restoration/Enhancement *:

a. square feet of BVW

b. square feet of salt marsh

24. ☐ Stream Crossing(s):

a. number of new stream crossings

b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. The work is a maintenance dredging project as provided for in the Act; or
 - b. The time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
 - c. If the work is for a Test Project, this Order of Conditions shall be valid for no more than one year.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order. An Order of Conditions for a Test Project may be extended for one additional year only upon written application by the applicant, subject to the provisions of 310 CMR 10.05(11)(f).
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on _____ unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.



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C. General Conditions Under Massachusetts Wetlands Protection Act

8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]

"File Number 349-1200 "
11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.
19. The work associated with this Order (the "Project")
 - (1) ☐ is subject to the Massachusetts Stormwater Standards
 - (2) ☒ is NOT subject to the Massachusetts Stormwater Standards

If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
 - i. all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
 - ii. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
 - iii. any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

CC-2018-034
Lake Quinsigamond Long Term Aquatic
Vegetation Maintenance Plan
(NHESP No. 06-20539)

Provided by MassDEP:
349-1200
MassDEP File #

eDEP Transaction #
Worcester
City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;

v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following:

i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and

ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.



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WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

CC-2018-034
Lake Quinsigamond Long Term Aquatic
Vegetation Maintenance Plan
(NHESP No. 06-20539)

Provided by MassDEP:
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Worcester
City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
 2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
 3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.
- k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.
- l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

See Attachments A and B.

20. For Test Projects subject to 310 CMR 10.05(11), the applicant shall also implement the monitoring plan and the restoration plan submitted with the Notice of Intent. If the conservation commission or Department determines that the Test Project threatens the public health, safety or the environment, the applicant shall implement the removal plan submitted with the Notice of Intent or modify the project as directed by the conservation commission or the Department.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

CC-2018-034
Lake Quinsigamond Long Term Aquatic
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D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? ☒ Yes ☐ No
2. The City of Worcester Conservation Commission hereby finds (check one that applies):

- a. ☐ that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:
City of Worcester Wetlands Protection Ordinance & Regulations COW GRO
1. Municipal Ordinance or Bylaw Part 1. Ch. 6.
2. Citation

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

- b. ☒ that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:
City of Worcester Wetlands Protection Ordinance & Regulations COW GRO
1. Municipal Ordinance or Bylaw Part 1. Ch. 6.
2. Citation
3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

See Attachments A and B

ATTACHMENT A
Worcester Conservation Commission
Special Order of Conditions

City of Worcester Wetlands Protection Ordinance & City of Worcester Wetlands Protection Regulations
(City of Worcester Revised Ordinance Part I, Chapter 6)

And

Massachusetts General Laws, Chapter 131, §40 - Massachusetts Wetlands Protection Act

Lake Quinsigamond (CC-2018-034)

Project Description: Completion of a comprehensive aquatic nuisance vegetation, algae, and cyanobacteria management program using a variety of methods including herbicides, algaecides, mechanical methods, drawdown and associated site work.

Project Waiver: A waiver of the requirements of performance standard 4.2.4. of the City of Worcester Wetlands Protection Regulations for the public benefit of managing the lake, improving water quality and preventing eutrophication.

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Notes:

- **Office of the Commission** is located at the Division of Planning and Regulatory Services (455 Main Street 4th floor, Worcester, MA), which can be contacted by e-mailing planning@worcesterma.gov or calling 508-799-1400 ext. 31440.
- **Asterisked (*) conditions** are standard conditions of approval for all projects.

I. Conditions to Meet Prior to and During Construction

21. Person Responsible for Compliance with the Order of Conditions* – A person shall be designated to be responsible to monitor compliance with the Order of Conditions. Their name and contact information (24/7) shall be provided to the Office of the Commission prior to start of any activity. This person shall conduct:
 - a) periodic inspections to assure the adequacy and continued effectiveness of erosion and sediment controls;
 - b) inspections of said controls following 0.5-inch or greater rain events, or after a heavy snow melt.
22. Contract* - This Order of Conditions and all approved plans shall be included as part of any contract and subcontract and shall be posted in a prominently displayed location in the supervisory office on site during all phases of construction.
23. Notification* - The applicant shall notify the Office of the Commission a minimum of 48 hours prior to the start of any activity and post notifications of treatment dates around the water body at conspicuous locations.

II. Conditions to Meet Before the Start of Any Activity

24. Stormwater Pollution Prevention Plan (SWPPP)* – That one (1) copy of the SWPPP submitted to the EPA in compliance with the NPDES permit requirements, if applicable, shall be provided to the Office of the Commission prior to commencement of work.
25. Tree Cutting* – Tree cutting is allowed following installation of erosion and sediment controls; otherwise, it may be allowed, prior to such installation, with the explicit permission of the Commission or its Agents.
26. Trees To Remain* – All trees to remain post construction shall be marked on site as shown on the approved plan so that the Commission or its representative can verify them before any clearing takes place.
27. Pre-Construction Conference* -
 - a) The Conservation Commission or its Agents shall conduct a pre-construction conference prior to commencement of activities in each phase of the project. Phasing, if any, shall conform to the approved plans.
 - b) The property owner / applicant and any person performing work that is subject to this Order are responsible for understanding and complying with the requirements of this Order, the Wetlands Protection Act, 310 CMR 10.00 and City of Worcester Wetlands Protection Ordinance and Regulations. Said persons shall acknowledge such in writing prior to commencement of activities.
28. Inspections Prior to Site Preparation and Site Work* - Erosion and sediment controls shall be installed and verified, in compliance with final approved plans, by the Commission or its Agents prior to the commencement of any excavation, grubbing and/or stumping of vegetation, grading, construction, or other site preparation.

III. Conditions to Meet During Construction

29. Limit of Work* – No removal, filling, dredging or altering of jurisdictional areas shall take place outside the approved work under this Order of Condition.
30. Work Sequencing* – Activities shall take place in accordance with all phasing and sequencing shown on the plan and/or provided in the application materials on file with the Office of the Commission and shall follow any lot opening restrictions otherwise provided herein.

31. Erosion Stabilization -

- a) Erosion and Sediment Controls* - All erosion and sediment controls shall be monitored, maintained, and adjusted for the duration of the project to prevent adverse impacts to jurisdictional areas. Additional erosion and sediment controls may be utilized on site as needed.
- b) Off Site Impacts* - There shall be no off-site erosion, flooding, ponding, or flood-related damage from runoff caused by the project activities.
- c) Unanticipated Drainage or Erosion* - The applicant shall control any unanticipated drainage and/or erosion conditions that may cause damage to jurisdictional areas and/or abutting or downstream properties. Said control measures shall be implemented immediately upon need. The Office of the Conservation Commission shall be notified if such conditions arise and of the measures utilized.
- d) Soil Stabilization due to Delay in Work* - If there is an interruption of more than 10, but less than 60 days between completion of grading and revegetation, the applicant shall sow all disturbed areas with annual rye grass to prevent erosion. If soils are to be exposed for longer than 60 days, a temporary cover of rye or other grass should be established following US Soil Conservation Services procedures, as recently amended, to prevent erosion and sedimentation. Once final grading is complete, loaming and seeding of final cover should be completed promptly.
- e) Stockpile Maintenance* - Any stockpiling of loose materials shall be properly stabilized to prevent erosion into and sedimentation of jurisdictional areas. Preventative controls such as haybales or erosion control matting shall be implemented to prevent such an occurrence.
- f) Stockpile Location – Harvested biomass shall be stockpiled more than 50 feet away from any wetland or storm drain inlet or removed immediately by live loading, with containers removed from the site daily.

32. Treatment & Monitoring Program – The applicant shall develop and implement a management monitoring program to be conducted during and after the drawdown and other management activities. Monitoring shall be on-going throughout the year to minimize impacts to fisheries, shellfish, wildlife habitat, non-target native species, and/or water quality (e.g. flow, clarity, etc.) and to evaluate and maintain the effectiveness of the treatment and minimize any related impacts. On an annual basis, treatment and work plans, and monitoring data/reports shall be provided to the office of the Commission.

- a) Written work plans and a monitoring plan shall be submitted to the Massachusetts Division of Fisheries and Wildlife as specified in the No Take Determination letter from the Natural Heritage and Endangered Species Program (No. 06-20539), dated May 23, 2018. See **Attachment B** for specific requirements. Copies of these work plans and monitoring plan shall be submitted to the office of the Commission at the same time.
- b) End of year monitoring reports shall be submitted to the office of the Commission. These reports shall include all management and treatment measures employed in that year, the results of said measures and recommendations for management for the following year. At minimum annual monitoring, and associated reporting information, shall include the following:
 - i. During the winter months - evaluation of dissolved oxygen to ensure successful overwintering of organisms;
 - ii. During the summer months – evaluation of nutrients.

33. Invasive Insects* -

- a) *Plantings* – No trees to be planted shall be species susceptible to the Asian Longhorned Beetle or Emerald Ash Borer.
- b) *Wood Removal* – All tree, brush & wood removal shall adhere to the most recently amended requirements set forth by the Massachusetts Department of Conservation & Recreation for any project located in the Asian Longhorned Beetle Quarantine Zone.

34. Chemical Treatments – Only chemicals (i.e. algacides, herbicides, etc.) approved by the Commission - applied in accordance with the specifications on file with the Office of the Commission - shall be used for chemical treatment of the waterbody.

35. Invasive Vegetation – The goal of this condition is to keep jurisdictional areas (buffer zone and resource areas) free of all invasive, likely invasive, and potentially invasive species as identified in *The Evaluation of Non-native Plant Species for Invasiveness in Massachusetts*, published by the MA Invasive Plant Advisory Group in April 1, 2005.

- a) *Material Introduction* – All imported materials and equipment, such as boats, tools, etc. shall be inspected for evidence of invasive vegetation prior to use within jurisdictional areas at the site in order to prevent introduction and/or the spread of invasive vegetation. No materials with evidence of invasive vegetation shall be used in jurisdictional areas. Materials and equipment shall be cleaned outside of any resource areas and the 100' buffer zone thereto.
- b) *On-going Management* - A weeding program must be implemented within all jurisdictional areas that are disturbed as part of the project. The weeding program shall begin within one month of when final grades are reached and shall continue, at a minimum of, twice per growing season until a Certificate of Compliance is issued for the project.

36. Dust Control* - Provisions for dust control shall be provided during all construction and demolition activities. Such provisions shall be conducted in compliance with all City of Worcester Water Use Restrictions, if in effect, during such activities.

37. Dewatering* – If dewatering is required,

- a) Notice of such activities shall be given to the Office of the Commission within 24 hours of commencement;
- b) There shall be no discharge of untreated dewatered stormwater or groundwater to jurisdictional areas either by direct or indirect discharge to existing drainage systems;
- c) Any discharge to surface waters or drainage structures must be visibly free of sediment;
- d) To the maximum extent practicable, proposed dewatering activities should be located outside of the 100' buffer. If such activities must be located within the 100' buffer, they shall be monitored at all times when the pumps are running;
- e) Dewatering activities shall be confined within an area of secondary containment at all times.

38. Boat Washing – Boats and equipment shall not be washed out in any resource area or buffer zone area, or into any drainage system.

39. Spill Prevention* -

- a) No fuel, oil, or other pollutants shall be stored in any resource area or the buffer zone thereto, unless specified in this Order;
- b) No refueling shall take place within resource areas or 100-ft to a resource area;
- c) The applicant shall take all necessary precautions to prevent discharge or spillage of fuel, oil or other pollutants onto any part of the site;
- d) A spill kit shall be present on site at all times.

IV. Drawdown

Drawdown activities shall follow the Performance Guidelines contained in Section 4.2.6.3 of "Eutrophication and Aquatic Plant Management in Massachusetts, Final Generic Environmental Impact Report," including but not limited to:

40. Depth - The annual drawdown shall be limited to a maximum of 3 feet;

41. Drawdown Timeframe –

- a) The annual drawdown shall commence no sooner than November 1st in order to lessen impacts to wildlife;
- b) The target drawdown depth shall be achieved by December 1st in order to allow wildlife to move to deeper water, locate alternate lodge sites, or relocate food caches prior to ice formation and substrate freezing; and to minimize impacts to fish spawning and other non-target organisms that may have water level requirements for reproduction;

42. Outflow Rates –

- a) During the drawdown outflow rates shall be kept below a discharge equivalent to 4 cfs per square mile of watershed;
- b) Once the target water level is achieved, outflow rates shall match inflow rates to the greatest extent possible in order to maintain a stable water level; and
- c) Outflow during refill shall be kept above a discharge equivalent to 0.5 cfs per square mile of watershed.

43. Refill Timeframe - Full lake level shall be achieved by April 1.

V. Conditions to Meet at Completion of Project

44. Site Stabilization* - All disturbed areas shall be properly stabilized with well-established perennial vegetation or other approved methods before the project is considered complete.

45. Erosion and Sediment Controls* - Erosion and sediment controls shall not be removed from the site until all disturbed areas have been stabilized with final vegetative cover and approval has been received from the Commission or its Agents to do so. The controls must then be removed within two weeks of receipt of that certification.

46. Certificate of Compliance* - Upon completion of the project, the applicant shall request in writing a Certificate of Compliance from the Commission. If the project has been completed in accordance with plans stamped by a registered professional engineer, architect, landscape architect, or land surveyor, certification must include a written statement by such professional certifying the same.

- a) If the project required compliance with the Massachusetts Stormwater Standards and/or work was conducted within Riverfront Area or Bordering Land Subject to Flooding, a certified as-built plan-of-land shall be provided showing final grades, resource areas, and all constructed improvements;

47. Extension/Amendment - Upon filing for any renewal, extension, or amendment of the Orders of Conditions, the Applicant shall similarly file with the Massachusetts Division of Fisheries and Wildlife for written response regarding impacts to state-listed species. See Attachment B.

VI. General Conditions

48. Change in Ownership* - If a change in ownership takes place while this Order is still in effect, it is the responsibility of the new owner to notify the Commission of the change and to provide the name of the person responsible for compliance with the Order.
49. Conservation Agent's Power to Act* - With respect to all conditions the Conservation Commission designates the Conservation Agent, as its Agent with full powers to act on its behalf in administering and enforcing this Order, unless the Agent determines approval from the Commission is appropriate.
50. Right to Inspect* - A member of the Conservation Commission or its Agent may enter and inspect the property and the activity that are the subjects of this Order at all reasonable times, with or without probable cause or prior notice, and until a Certificate of Compliance is issued, for the purpose of evaluating compliance with this Order (and other applicable laws and regulations).
51. Changes to the Plan or Errors & Omissions* -
- (a) If any plan, calculation, or other data presented to the Office of the Commission is in error or have omissions, and are deemed significant by the Commissioners or their Agents, all work will stop at the discretion of the Commission, until the discrepancies have been rectified to the Commission's satisfaction.
 - (b) The applicant must notify the Commission in writing of any changes in the plans or implementation of the proposed activity where mandated by any local, state, or federal agencies having jurisdiction over the proposed activity. If, in the opinion of the Commission, any changes in the plans or implementation of the proposed activity so require, then the Commission may modify, amend or rescind this Order in a way consistent with:
 - M.G.L. Chapter 131, Section 40,
 - 310 CMR 10.00, *Wetlands Protection*,
 - the City of Worcester's *Wetlands Protection Ordinance*, and
 - the Commission's *Wetlands Protection Regulations*
- If any provisions of any conditions, or application thereof is held to be invalid, such invalidity shall not affect any other provisions of this Order. If the Commission deems that a proposed change is major or substantial, a new hearing may be required.
52. Liability* - The applicant shall indemnify and save harmless the Commonwealth, the City of Worcester, the Conservation Commission, and its Agents against all sites, claims or liabilities of every name and nature arising at any time out of or in consequence of the acts of the Commission or its Agents in the performance of the work covered by this Order and/or failure to comply with the terms and conditions of this Order whether by itself or its employees or subcontractors.



MASSWILDLIFE

ATTACHMENT B

DIVISION OF FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389 6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

May 23, 2018

Worcester Conservation Commission
City Hall, Room 404
455 Main Street
Worcester, MA 01608

Shrewsbury Conservation Commission
100 Maple Avenue
Shrewsbury, MA 01545

Grafton Conservation Commission
30 Providence Road
Grafton, MA 01519

Peter Collins
Lake Quinsigamond Commission
P.O. Box 4476 TS
Shrewsbury, MA 01545

RE: Applicant: Lake Quinsigamond Commission
 Project Location: Lake Quinsigamond & Flint Pond
 Project Description: Drawdown, herbicide and algaecide treatments, harvesting, and
 hydrotanking for control of aquatic invasive plants
 NHESP Tracking No. 06-20539
 DEP Wetlands File No.: Shrewsbury: 285-1803; Worcester: 349-1200; Grafton: 164-0952

Dear Commissioners & Applicant:

The Natural Heritage and Endangered Species Program (NHESP) of the Division of Fisheries and Wildlife (Division) received a Notice of Intent for the proposed LAKE QUINSIGAMOND LONG-TERM VEGETATION MANAGEMENT PLAN (Project Narrative, dated April 2018, prepared by ESS Group, Inc., hereinafter the 'Plan') pursuant to the rare wildlife species provision of the Massachusetts Wetlands Protection Act (WPA) and its implementing regulations (310 CMR 10.59). Supplemental information was provided for review pursuant to the Massachusetts Endangered Species Act (MESA, M.G.L. c. 131A) and its implementing regulations (321 CMR 10.18).

The Division has determined that a portion of Lake Quinsigamond is within the habitat for the *Potamogeton vaseyi* (Vasey's pondweed), an Endangered aquatic plant. This species and its habitats are protected pursuant to the MESA. Fact sheets for state-listed species can be found at www.mass.gov/nhesp.

MASSWILDLIFE

The purpose of the Division's review of the proposed project under the WPA regulations is to determine whether the project will have any adverse effects on the Resource Areas Habitats of state-listed species. The purpose of the Division's review under the MESA regulations is to determine whether a Take of state-listed species will result from the proposed project.

The Plan described details of the proposed lake management activities (summarized in Table 1 of the NOI-Narrative, Attached) in each of the three (3) management zones shown in Figure 2 of the NOI (Attached). This following two aspects of the Plan, as currently proposed, **will not adversely affect the actual Resource Area Habitat of state-protected rare wildlife species (310 CMR 10.59) and will not this result in a prohibited Take (321 CMR 10.18).**

- 1) Annual 30" Drawdown, Management Zone A, B, and C: The Division has no rare species concerns relative to the proposed continuation of the 30" winter drawdown with the annual re-evaluation described in the filing. This activity is approved without conditions.
- 2) Management Zone A: The Plan proposes the application of the herbicides (fluridone, 2,4-D, diquat dibromide, flumioxazin, imazamox), application of algaecides (copper-based), and implementation of hand harvesting, diver-assisted suction harvesting (DASH) and hydroraking. The Division has no rare species concerns relative to these proposed activities in Management Zone A. The use of other herbicides or management techniques is not approved herein and, if proposed, requires review and written approval by the Division prior to use.

Based on the information provided and the information contained in our database, it is the opinion of the Division that a portion of this project, as currently proposed, **must be conditioned in order to avoid adverse effects to the Resource Area Habitats of state-listed wildlife species (310 CMR 10.59) and must be conditioned in order to avoid a prohibited Take of state-listed species (321 CMR 10.18(2)(a)).** Implementation of the plan shall comply with the following conditions:

- 3) Management Zone B: The proposed Plan includes: application of the herbicide 2,4-D, hand harvesting and DASH, with direct annual consultation with the Division. While not proposed in this application, the herbicide tricopyr may also be proposed for annual review.
 - a) Work Plan: The Applicant shall submit a written treatment plan to the Division for review and approval at least sixty (60) days before proposed management activities. The treatment plan shall include, at a minimum, a map of the proposed treatment areas, treatment acres, proposed date(s) of treatment(s), proposed herbicide product names and formulations, active ingredients, active ingredient target concentrations, calculated treatment concentrations, and proposed measures to protect *P. vaseyi*.
We recommend that you contact our office in advance of each annual submission to determine herbicides that can be approved subject to this determination and the maximum allowable concentrations that will avoid a Take.
 - b) Monitoring Plan: The Applicant shall submit a written monitoring plan to the Division for review and approval at least sixty (60) days before proposed herbicide application.

- 4) Management Zone C: The proposed Plan includes: application of the herbicides 2,4-D and glyphosate, hand harvesting, DASH and hydrotanking. Direct annual consultation is proposed for fluridone, diquat dibromide, flumioxazin, and algaecides. While not proposed in this application, the herbicide triclopyr may also be proposed for annual review.
- a) Work Plan. For the use of fluridone, diquat dibromide, flumioxazin, algaecides, and triclopyr, the Applicant shall submit a written treatment plan to the Division for review and approval at least sixty (60) days before proposed management activities. The treatment plan shall include, at a minimum, a map of the proposed treatment area, treatment acres, proposed date(s) of treatment(s), proposed herbicide product names and formulations, active ingredients, active ingredient target concentrations, calculated treatment concentrations, and proposed measures to protect *P. vaseyi*.
Protection measures need to eliminate any water exchange with Management Zone B. These may include, but are not limited to, the use of floating barriers, timing to avoid summer low-flow, and other such measures to ensure that the products remain within Management Zone B.
We recommend that you contact our office in advance of each annual submission to determine herbicides that can be approved subject to this determination and the maximum allowable concentrations that will avoid a Take.
- 5) Renewal, extension or Amendment of the Order of Conditions: Upon filing for any renewal, extension, or amendment of the Orders of Conditions the Applicant shall similarly file with the Division for written response regarding impacts to state-listed species.

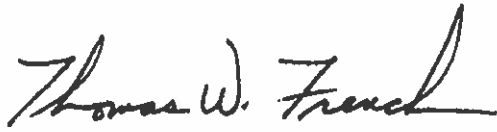
Provided these conditions are included in any approving Orders of Conditions issued by the Conservation Commission, and the applicant complies with the above noted conditions, the project will not result in an adverse impact to the resource area habitats of state-listed wildlife species pursuant to the WPA and will not result in a prohibited Take pursuant to the MESA. A copy of the final Order of Conditions shall be sent to the NHESP simultaneously with the applicant as stated in the Procedures section of the WPA (310 CMR 10.05(6)(e)).

We note that all work is subject to the anti-segmentation provisions (321 CMR 10.16) of the MESA. This determination is a final decision of the Division of Fisheries and Wildlife pursuant to 321 CMR 10.18. Any changes to the proposed project or any additional work beyond that shown on the site plans may require an additional filing with the Division pursuant to the MESA. This determination is valid for five years. This project may be subject to further review if no physical work is commenced within five years from the date of issuance, or if there is a change to the project.

Please do not hesitate to contact Misty-Anne R. Marold, Senior Endangered Species Review Biologist, at (508) 389-6356 (misty-anne.marold@state.ma.us) if you have any questions about this determination.

MASSWILDLIFE

Sincerely,

A handwritten signature in black ink that reads "Thomas W. French". The signature is fluid and cursive, with the first letters of each name being capitalized and prominent.

Thomas W. French, Ph.D.
Assistant Director

cc: Peter Collins, Lake Quinsigamond Commission
Alex Patterson, ESS Group Inc.
MA DEP Central Region, Wetlands

Attachment: Table 1: Summary of Management Options for each Management Zone
Figure 2: Map of Management Zones

Table 1. Summary of Management Options for each Management Zone

Management Option		Management Zone		
		A	B	C
Water Level Control (Drawdown)		•	•	•
Herbicides	Fluridone	•		C
	2,4-D	•	C	•
	Diquat dibromide	•		C
	Flumioxazin	•		C
	Glyphosate			•
	Imazamox	•		
Algaecides		•		C
Harvesting	Hand	•	C	•
	Diver-assisted Suction Harvesting (DASH)	•	C	•
Hydroraking		•		•

• = Proposed option

C = Proposed option, subject to conditions and annual approval by NHESP

2.1 Winter Drawdown

Drawdown involves lowering the water level of a lake to expose shallow bottom sediments and associated plants to drying and/or freezing. Although drawdown can be conducted at any time, the interaction of drying and freezing that occurs with winter drawdown is usually most effective.

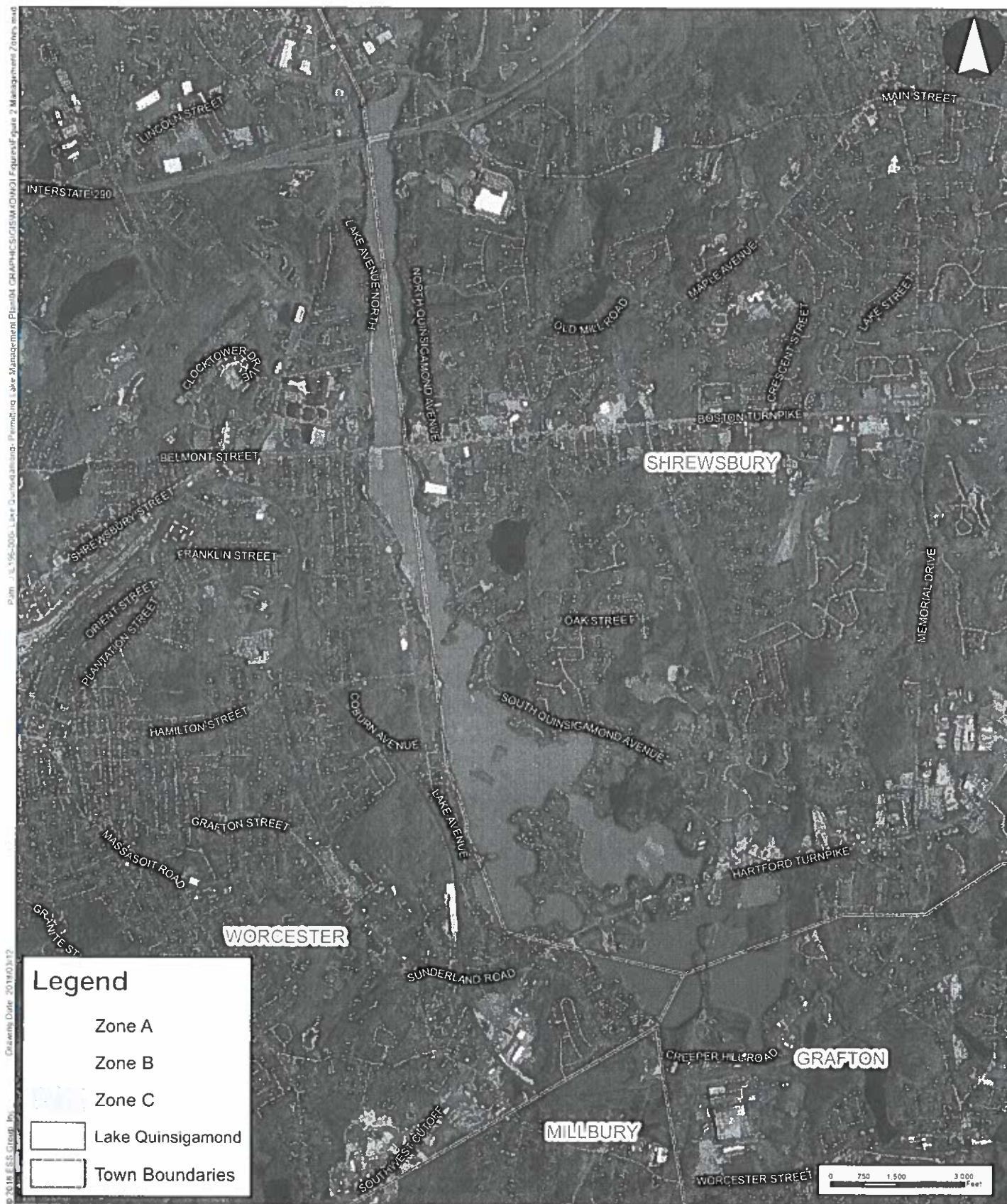
Winter drawdown is most effective against species that reproduce mainly by vegetative means, including Eurasian milfoil, fanwort, and variable-leaf milfoil. Drawdown has less of an impact on species that reproduce by seed or turions, such as brittle naiad, curly-leaf pondweed and native pondweeds, including Vasey's pondweed.

Drawdown at Lake Quinsigamond has been limited to three feet or less under prior permits, which exposes approximately 30 acres (4%) of the lake bottom at maximum drawdown. This depth of drawdown is expected to provide efficient nuisance vegetation control in the affected areas while remaining protective of aquatic life. Continued implementation of winter drawdown on an as-need basis will help control nuisance growths in marginal shallow waters. The need for winter drawdown will be re-evaluated on an annual basis, based on monitoring results during the growing season.

2.2 Herbicide Treatments

In the short-term, herbicide treatment is usually the most effective means by which to rapidly achieve the goal of reducing aquatic weed biomass over a large area. Herbicides may also be used over the long-term to treat areas of recurring infestations that are not readily controllable through other means.

The six herbicide options with potential to be useful for aquatic plant control in Lake Quinsigamond are fluridone, 2,4-D, diquat dibromide, flumioxazin, glyphosate and imazamox. These options are discussed



Lake Quinsigamond
Long-term Vegetation Management Plan
Shrewsbury, Worcester & Grafton, Massachusetts

1 inch = 3,000 feet

Source: 1) MassGIS. Half-Meter Resolution, 2013 - 2014
2) MassGIS. Municipal Boundaries. 3) MassGIS. Roads

Management Zones

Figure 2



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
349-
MassDEP File #

eDEP Transaction #
Worcester
City/Town

E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

Please indicate the number of members who will sign this form.

This Order must be signed by a majority of the Conservation Commission.

6/11/18

1. Date of Issuance

2. Number of Signers

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

Signatures:

Amanda Amory

[Signature]

[Signature]

[Signature]

☐ by hand delivery on

☒ by certified mail, return receipt requested, on

6/11/18

Date

Date

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

G. Recording Information

Prior to commencement of work, this Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Conservation Commission

Please be advised that the Order of Conditions for the Project at:

Project Location

MassDEP File Number

Has been recorded at the Registry of Deeds of:

County

Book

Page

for:

Property Owner

and has been noted in the chain of title of the affected property in:

Book

Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

DEP File Number:

**Request for Departmental Action Fee
Transmittal Form**

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. Request Information

1. Location of Project

a. Street Address _____ b. City/Town, Zip _____
c. Check number _____ d. Fee amount _____

2. Person or party making request (if appropriate, name the citizen group's representative):

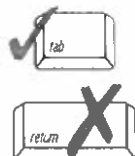
Name _____
Mailing Address _____
City/Town _____ State _____ Zip Code _____
Phone Number _____ Fax Number (if applicable) _____

3. Applicant (as shown on Determination of Applicability (Form 2), Order of Resource Area Delineation (Form 4B), Order of Conditions (Form 5), Restoration Order of Conditions (Form 5A), or Notice of Non-Significance (Form 6)):

Name _____
Mailing Address _____
City/Town _____ State _____ Zip Code _____
Phone Number _____ Fax Number (if applicable) _____

4. DEP File Number: _____

Important:
When filling
out forms on
the computer,
use only the
tab key to
move your
cursor - do
not use the
return key.



B. Instructions

1. When the Departmental action request is for (check one):

- ☐ Superseding Order of Conditions – Fee: \$120.00 (single family house projects) or \$245 (all other projects)
☐ Superseding Determination of Applicability – Fee: \$120



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

DEP File Number:

**Request for Departmental Action Fee
Transmittal Form**

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

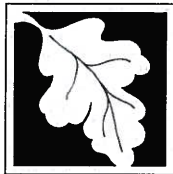
☐ Superseding Order of Resource Area Delineation – Fee: \$120

B. Instructions (cont.)

Send this form and check or money order, payable to the *Commonwealth of Massachusetts*, to:

Department of Environmental Protection
Box 4062
Boston, MA 02211

2. On a separate sheet attached to this form, state clearly and concisely the objections to the Determination or Order which is being appealed. To the extent that the Determination or Order is based on a municipal bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.
3. Send a **copy** of this form and a **copy** of the check or money order with the Request for a Superseding Determination or Order by certified mail or hand delivery to the appropriate DEP Regional Office (see <http://www.mass.gov/eea/agencies/massdep/about/contacts/>).
4. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

285-1803

MassDEP File #

eDEP Transaction #

Shrewsbury

City/Town

A. General Information

Please note:
this form has
been modified
with added
space to
accommodate
the Registry
of Deeds
Requirements

1. From: Shrewsbury Conservation Commission
Conservation Commission

2. This issuance is for
(check one): a. ☒ Order of Conditions b. ☐ Amended Order of Conditions

3. To: Applicant:

Peter

a. First Name

Collins

b. Last Name

Lake Quinsigamond Commission

c. Organization

PO Box 4476 TS

d. Mailing Address

Shrewsbury

e. City/Town

MA

f. State

01545

g. Zip Code

4. Property Owner (if different from applicant):

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

5. Project Location:

Lake Quinsigamond

a. Street Address

Shrewsbury

b. City/Town

c. Assessors Map/Plat Number

d. Parcel/Lot Number

Latitude and Longitude, if known:

d. Latitude

d

m

s

e. Longitude

d

m

s

Important:
When filling
out forms on
the
computer,
use only the
tab key to
move your
cursor - do
not use the
return key.





Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
285-1803
MassDEP File #

eDEP Transaction #
Shrewsbury
City/Town

A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):
N/A
- | | |
|-----------|--|
| a. County | b. Certificate Number (if registered land) |
| N/A | N/A |
| c. Book | d. Page |
7. Dates: April 23, 2018 May 15, 2018 June 12, 2018
 a. Date Notice of Intent Filed b. Date Public Hearing Closed c. Date of Issuance
8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):
Lake Quinsigamond Long-term Vegetation Management Plan
- | | |
|--------------------------------------|--------------------------|
| a. Plan Title | |
| <u>ESS Group</u> | |
| b. Prepared By | c. Signed and Stamped by |
| | |
| d. Final Revision Date | e. Scale |
| | |
| f. Additional Plan or Document Title | g. Date |
| | |

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:
- Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply:
- | | | |
|--|--|---|
| a. ☒ Public Water Supply | b. ☐ Land Containing Shellfish | c. ☒ Prevention of Pollution |
| d. ☐ Private Water Supply | e. ☒ Fisheries | f. ☒ Protection of Wildlife Habitat |
| g. ☒ Groundwater Supply | h. ☒ Storm Damage Prevention | i. ☒ Flood Control |
2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

- a. ☒ the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

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Shrewsbury

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B. Findings (cont.)

Denied because:

- b. ☐ the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. ☐ the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**
3. ☐ Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a) a. linear feet

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☐ Bank	a. linear feet	b. linear feet	c. linear feet	d. linear feet
5. ☒ Bordering Vegetated Wetland	~ 1 acre a. square feet	~ 1 acre b. square feet	N/A - temporary	d. square feet
6. ☒ Land Under Waterbodies and Waterways	~ 772 acres a. square feet	~ 772 acres b. square feet	N/A - temporary	d. square feet
	e. c/y dredged	f. c/y dredged		
7. ☐ Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8. ☐ Isolated Land Subject to Flooding	a. square feet	b. square feet		
Cubic Feet Flood Storage	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
9. ☐ Riverfront Area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet



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Bureau of Resource Protection - Wetlands

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Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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B. Findings (cont.)

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. ☐ Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. ☐ Coastal Beaches	a. square feet	b. square feet	cu yd c. nourishment	cu yd d. nourishment
14. ☐ Coastal Dunes	a. square feet	b. square feet	cu yd c. nourishment	cu yd d. nourishment
15. ☐ Coastal Banks	a. linear feet	b. linear feet		
16. ☐ Rocky Intertidal Shores	a. square feet	b. square feet		
17. ☐ Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18. ☐ Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19. ☐ Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20. ☐ Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	a. c/y dredged	b. c/y dredged		
21. ☐ Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		
22. ☐ Riverfront Area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet



Massachusetts Department of Environmental Protection
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WPA Form 5 – Order of Conditions

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Provided by MassDEP:

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Shrewsbury

City/Town

B. Findings (cont.)

* #23. If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here.

23. ☐ Restoration/Enhancement *:

a. square feet of BVW

b. square feet of salt marsh

24. ☐ Stream Crossing(s):

a. number of new stream crossings

b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. The work is a maintenance dredging project as provided for in the Act; or
 - b. The time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
 - c. If the work is for a Test Project, this Order of Conditions shall be valid for no more than one year.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order. An Order of Conditions for a Test Project may be extended for one additional year only upon written application by the applicant, subject to the provisions of 310 CMR 10.05(11)(f).
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on _____ unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.



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Provided by MassDEP:

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Shrewsbury

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act

8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]

"File Number 285-1803 "

11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.



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Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

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eDEP Transaction #

Shrewsbury

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.
19. The work associated with this Order (the "Project")
 - (1) ☐ is subject to the Massachusetts Stormwater Standards
 - (2) ☒ is NOT subject to the Massachusetts Stormwater Standards

If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
 - i. all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
 - ii. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
 - iii. any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

285-1803

MassDEP File #

eDEP Transaction #

Shrewsbury

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;

v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following:

i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and

ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

285-1803

MassDEP File #

eDEP Transaction #

Shrewsbury

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

g) The responsible party shall:

1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.

h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.

i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.

j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.

k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.

l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

See Page 9A of 12.

20. For Test Projects subject to 310 CMR 10.05(11), the applicant shall also implement the monitoring plan and the restoration plan submitted with the Notice of Intent. If the conservation commission or Department determines that the Test Project threatens the public health, safety or the environment, the applicant shall implement the removal plan submitted with the Notice of Intent or modify the project as directed by the conservation commission or the Department.

ADDITIONAL SPECIAL CONDITIONS:

21. The contractor, site engineer, or other individual in charge of work on the site shall have a copy of this Order available on site at all times.
22. By this Order, the Conservation Commission and/or its assigns shall have authorization to enter on the subject premises for determination of compliance with this or any inspection functions the Commission deems necessary.
23. The Commission reserves the right to make further requirements and conditions of the applicant and/or his assigns if deemed necessary to protect resource areas and interests as defined in MGL Chapter 131 Section 40 (310 CMR 10.00).
24. Any damage caused as a result of this project to any wetland resource areas shall be the responsibility of the applicant to repair, restore and/or replace to original conditions. Sedimentation or erosion into these areas shall be considered damage to wetland resource areas. If sediment reaches these areas, the Conservation Commission shall be contacted immediately by the applicant. A plan for abatement of the disturbance and restoration shall be submitted to and approved by the Conservation Commission.
25. Copies of the Annual Monitoring Plan report shall be provided to the Conservation Commission upon request.
26. All work shall comply with the conditions listed in the letter issued by the Division of Fisheries and Wildlife dated May 23, 2018 (attached to this Order).
27. The drawdown shall comply with the Eutrophication and Aquatic Plant Management in Massachusetts – Final Generic Environmental Impact Report.
28. This Order of Conditions will expire five years from the date of issuance.



Massachusetts Department of Environmental Protection
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WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
285-1803
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eDEP Transaction #
Shrewsbury
City/Town

D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? ☐ Yes ☒ No
2. The _____ hereby finds (check one that applies):
Conservation Commission

- a. ☐ that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:

1. Municipal Ordinance or Bylaw

2. Citation

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

- b. ☐ that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

1. Municipal Ordinance or Bylaw

2. Citation

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
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SHREWSBURY
 City/Town

E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

Please indicate the number of members who will sign this form.

This Order must be signed by a majority of the Conservation Commission.

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

JUNE 12, 2018

1. Date of Issuance

FOUR

2. Number of Signers

Signatures:

[Signature]
[Signature]

[Signature]
[Signature]

☒ by hand delivery on

JUNE 12, 2018
 Date

☐ by certified mail, return receipt requested, on

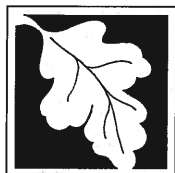
Date

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

285-1803

MassDEP File #

eDEP Transaction #

Shrewsbury

City/Town

G. Recording Information

Prior to commencement of work, this Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Shrewsbury Conservation Commission, 100 Maple Avenue, Shrewsbury, MA 01545

Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Shrewsbury Conservation Commission, 100 Maple Avenue, Shrewsbury, MA 01545

Conservation Commission

Please be advised that the Order of Conditions for the Project at:

Lake Quinsigamond

Project Location

285-1803

MassDEP File Number

Has been recorded at the Registry of Deeds of:

County

Book

Page

for:

Property Owner

and has been noted in the chain of title of the affected property in:

Book

Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant



MASSWILDLIFE

DIVISION OF FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

May 23, 2018

Worcester Conservation Commission
City Hall, Room 404
455 Main Street
Worcester, MA 01608

Shrewsbury Conservation Commission
100 Maple Avenue
Shrewsbury, MA 01545

Grafton Conservation Commission
30 Providence Road
Grafton, MA 01519

Peter Collins
Lake Quinsigamond Commission
P.O. Box 4476 TS
Shrewsbury, MA 01545

RE: Applicant: Lake Quinsigamond Commission
 Project Location: Lake Quinsigamond & Flint Pond
 Project Description: Drawdown, herbicide and algaecide treatments, harvesting, and
 hydrotanking for control of aquatic invasive plants
NHESP Tracking No. 06-20539
DEP Wetlands File No.: Shrewsbury: 285-1803; Worcester: 349-1200; Grafton: 164-0952

Dear Commissioners & Applicant:

The Natural Heritage and Endangered Species Program (NHESP) of the Division of Fisheries and Wildlife (Division) received a Notice of Intent for the proposed LAKE QUINSIGAMOND LONG-TERM VEGETATION MANAGEMENT PLAN (Project Narrative, dated April 2018, prepared by ESS Group, Inc., hereinafter the 'Plan') pursuant to the rare wildlife species provision of the Massachusetts Wetlands Protection Act (WPA) and its implementing regulations (310 CMR 10.59). Supplemental information was provided for review pursuant to the Massachusetts Endangered Species Act (MESA, M.G.L. c. 131A) and its implementing regulations (321 CMR 10.18).

The Division has determined that a portion of Lake Quinsigamond is within the habitat for the *Potamogeton vaseyi* (Vasey's pondweed), an Endangered aquatic plant. This species and its habitats are protected pursuant to the MESA. Fact sheets for state-listed species can be found at www.mass.gov/nhesp.

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The purpose of the Division's review of the proposed project under the WPA regulations is to determine whether the project will have any adverse effects on the Resource Areas Habitats of state-listed species. The purpose of the Division's review under the MESA regulations is to determine whether a Take of state-listed species will result from the proposed project.

The Plan described details of the proposed lake management activities (summarized in Table 1 of the NOI-Narrative, Attached) in each of the three (3) management zones shown in Figure 2 of the NOI (Attached). This following two aspects of the Plan, as currently proposed, **will not adversely affect** the actual Resource Area Habitat of state-protected rare wildlife species (310 CMR 10.59) and **will not this result in a prohibited Take** (321 CMR 10.18).

- 1) Annual 30" Drawdown, Management Zone A, B, and C: The Division has no rare species concerns relative to the proposed continuation of the 30" winter drawdown with the annual re-evaluation described in the filing. This activity is approved without conditions.
- 2) Management Zone A: The Plan proposes the application of the herbicides (fluridone, 2,4-D, diquat dibromide, flumioxazin, imazamox), application of algaecides (copper-based), and implementation of hand harvesting, diver-assisted suction harvesting (DASH) and hydroraking. The Division has no rare species concerns relative to these proposed activities in Management Zone A. The use of other herbicides or management techniques is not approved herein and, if proposed, requires review and written approval by the Division prior to use.

Based on the information provided and the information contained in our database, it is the opinion of the Division that a portion of this project, as currently proposed, **must be conditioned in order to avoid adverse effects to the Resource Area Habitats of state-listed wildlife species (310 CMR 10.59) and must be conditioned in order to avoid a prohibited Take of state-listed species (321 CMR 10.18(2)(a)).** Implementation of the plan shall comply with the following conditions:

- 3) Management Zone B: The proposed Plan includes: application of the herbicide 2,4-D, hand harvesting and DASH, with direct annual consultation with the Division. While not proposed in this application, the herbicide triclopyr may also be proposed for annual review.
 - a) Work Plan: The Applicant shall submit a written treatment plan to the Division for review and approval at least sixty (60) days before proposed management activities. The treatment plan shall include, at a minimum, a map of the proposed treatment areas, treatment acres, proposed date(s) of treatment(s), proposed herbicide product names and formulations, active ingredients, active ingredient target concentrations, calculated treatment concentrations, and proposed measures to protect *P. vaseyi*.
We recommend that you contact our office in advance of each annual submission to determine herbicides that can be approved subject to this determination and the maximum allowable concentrations that will avoid a Take.
 - b) Monitoring Plan: The Applicant shall submit a written monitoring plan to the Division for review and approval at least sixty (60) days before proposed herbicide application.

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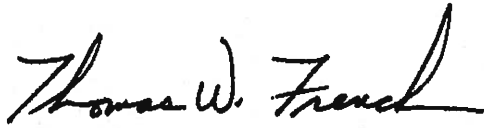
- 4) Management Zone C: The proposed Plan includes: application of the herbicides 2,4-D and glyphosate, hand harvesting, DASH and hydroraking. Direct annual consultation is proposed for fluridone, diquat dibromide, flumioxazin, and algaecides. While not proposed in this application, the herbicide triclopyr may also be proposed for annual review.
- a) *Work Plan*. For the use of fluridone, diquat dibromide, flumioxazin, algaecides, and triclopyr, the Applicant shall submit a written treatment plan to the Division for review and approval at least sixty (60) days before proposed management activities. The treatment plan shall include, at a minimum, a map of the proposed treatment area, treatment acres, proposed date(s) of treatment(s), proposed herbicide product names and formulations, active ingredients, active ingredient target concentrations, calculated treatment concentrations, and proposed measures to protect *P. vaseyi*.
Protection measures need to eliminate any water exchange with Management Zone B. These may include, but are not limited to, the use of floating barriers, timing to avoid summer low-flow, and other such measures to ensure that the products remain within Management Zone B.
We recommend that you contact our office in advance of each annual submission to determine herbicides that can be approved subject to this determination and the maximum allowable concentrations that will avoid a Take.
- 5) Renewal, extension or Amendment of the Order of Conditions: Upon filing for any renewal, extension, or amendment of the Orders of Conditions the Applicant shall similarly file with the Division for written response regarding impacts to state-listed species.

Provided these conditions are included in any approving Orders of Conditions issued by the Conservation Commission, and the applicant complies with the above noted conditions, the project will not result in an adverse impact to the resource area habitats of state-listed wildlife species pursuant to the WPA and will not result in a prohibited Take pursuant to the MESA. A copy of the final Order of Conditions shall be sent to the NHESP simultaneously with the applicant as stated in the Procedures section of the WPA (310 CMR 10.05(6)(e)).

We note that all work is subject to the anti-segmentation provisions (321 CMR 10.16) of the MESA. This determination is a final decision of the Division of Fisheries and Wildlife pursuant to 321 CMR 10.18. Any changes to the proposed project or any additional work beyond that shown on the site plans may require an additional filing with the Division pursuant to the MESA. This determination is valid for five years. This project may be subject to further review if no physical work is commenced within five years from the date of issuance, or if there is a change to the project.

Please do not hesitate to contact Misty-Anne R. Marold, Senior Endangered Species Review Biologist, at (508) 389-6356 (misty-anne.marold@state.ma.us) if you have any questions about this determination.

Sincerely,

A handwritten signature in black ink that reads "Thomas W. French". The signature is fluid and cursive, with the first letters of each name being capitalized and prominent.

Thomas W. French, Ph.D.
Assistant Director

cc: Peter Collins, Lake Quinsigamond Commission
Alex Patterson, ESS Group Inc.
MA DEP Central Region, Wetlands

Attachment: Table 1: Summary of Management Options for each Management Zone
Figure 2: Map of Management Zones

Table 1. Summary of Management Options for each Management Zone

Management Option		Management Zone		
		A	B	C
Water Level Control (Drawdown)		•	•	•
Herbicides	Fluridone	•		C
	2,4-D	•	C	•
	Diquat dibromide	•		C
	Flumioxazin	•		C
	Glyphosate			•
	Imazamox	•		
Algaecides		•		C
Harvesting	Hand	•	C	•
	Diver-assisted Suction Harvesting (DASH)	•	C	•
Hydroraking		•		•

• = Proposed option

C = Proposed option, subject to conditions and annual approval by NHESP

2.1 Winter Drawdown

Drawdown involves lowering the water level of a lake to expose shallow bottom sediments and associated plants to drying and/or freezing. Although drawdown can be conducted at any time, the interaction of drying and freezing that occurs with winter drawdown is usually most effective.

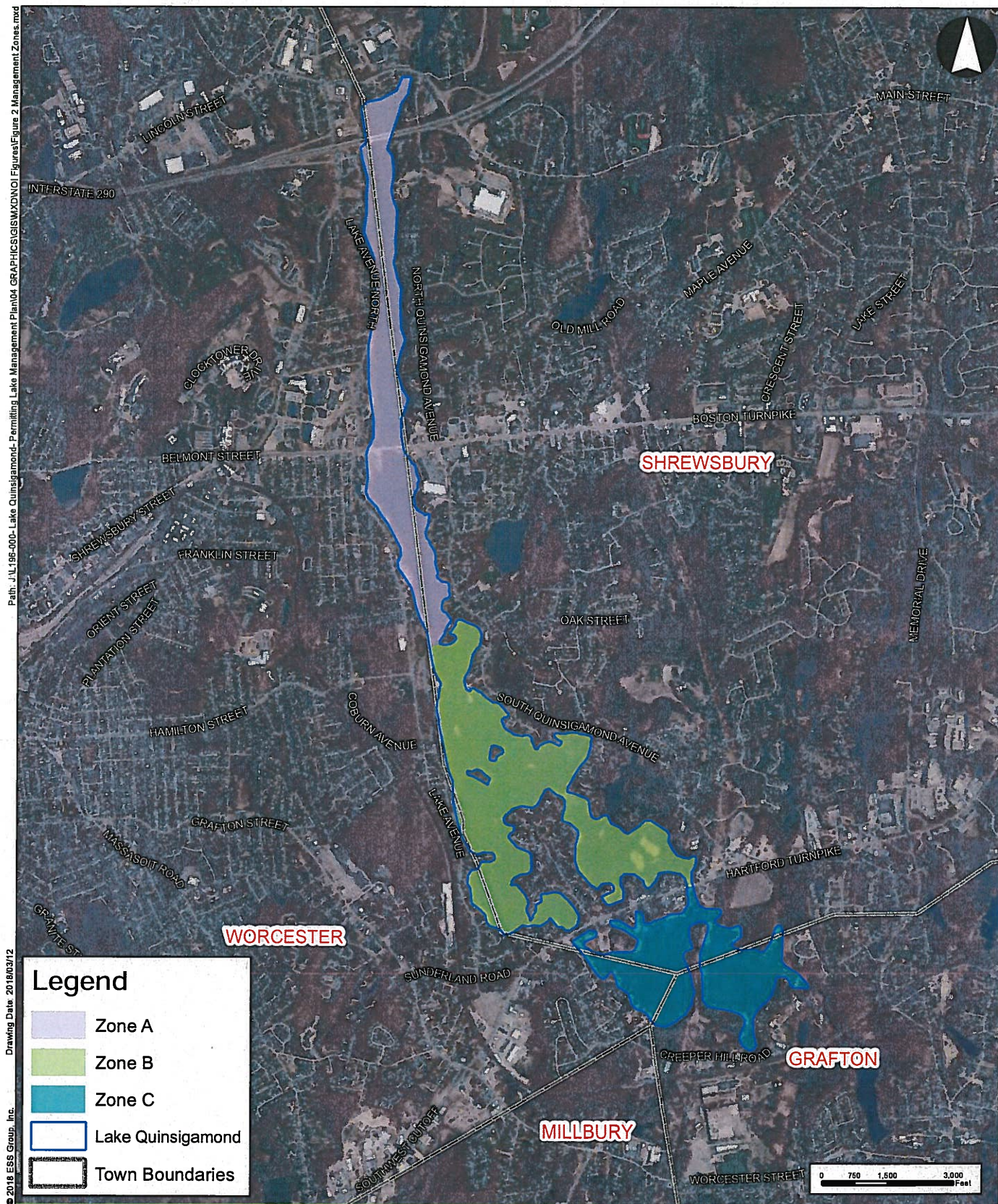
Winter drawdown is most effective against species that reproduce mainly by vegetative means, including Eurasian milfoil, fanwort, and variable-leaf milfoil. Drawdown has less of an impact on species that reproduce by seed or turions, such as brittle naiad, curly-leaf pondweed and native pondweeds, including Vasey's pondweed.

Drawdown at Lake Quinsigamond has been limited to three feet or less under prior permits, which exposes approximately 30 acres (4%) of the lake bottom at maximum drawdown. This depth of drawdown is expected to provide efficient nuisance vegetation control in the affected areas while remaining protective of aquatic life. Continued implementation of winter drawdown on an as-need basis will help control nuisance growths in marginal shallow waters. The need for winter drawdown will be re-evaluated on an annual basis, based on monitoring results during the growing season.

2.2 Herbicide Treatments

In the short-term, herbicide treatment is usually the most effective means by which to rapidly achieve the goal of reducing aquatic weed biomass over a large area. Herbicides may also be used over the long-term to treat areas of recurring infestations that are not readily controllable through other means.

The six herbicide options with potential to be useful for aquatic plant control in Lake Quinsigamond are fluridone, 2,4-D, diquat dibromide, flumioxazin, glyphosate and imazamox. These options are discussed



**Lake Quinsigamond
Long-term Vegetation Management Plan
Shrewsbury, Worcester & Grafton, Massachusetts**

1 inch = 3,000 feet

Source: 1) MassGIS, Half-Meter Resolution, 2013 - 2014
2) MassGIS, Municipal Boundaries, 3) MassGIS, Roads

Management Zones

Figure 2



Grafton Conservation Commission

GRAFTON MEMORIAL MUNICIPAL CENTER
30 PROVIDENCE ROAD

GRAFTON, MASSACHUSETTS 01519

Phone: (508) 839-5335 ext. 1138 • FAX: (508) 839-4602

www.grafton-ma.gov • concom@grafton-ma.gov

June 12, 2018

Peter Collins
Lake Quinsigamond Commission
P.O. Box 4476 TS
Shrewsbury, MA 01545

Subject: DEP # 164-952 / WP #783 – Order of Conditions Approval with Special Conditions
Lake Quinsigamond Long-Term Plan

Mr. Collins:

Enclosed, please find your approved Order of Conditions and Grafton Wetlands Protection Bylaw Permit with special conditions for property located at the above referenced location. Please review these documents and follow all conditions. Some of these conditions will need to be met prior to commencing work at the site.

Please be advised that it is your responsibility to have these documents recorded with the Worcester Registry of Deeds. Once recorded, please submit a copy of the page containing the registry bar code label to the Conservation Commission office prior to commencing work.

If you have any questions or concerns, please contact the office at 508-839-5335 extension 1138, or via e-mail at: concom@grafton-ma.gov

Sincerely,

A handwritten signature in blue ink that reads "Leah Cameron".

Leah Cameron
Conservation Assistant

Enclosures

Cc: Alex Patterson, ESS Group, Inc.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 - Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File #:164-0952
eDEP Transaction
#:1023581
City/Town:GRAFTON

A. General Information

1. Conservation Commission GRAFTON
2. Issuance a. ☒ OOC b. ☐ Amended OOC

3. Applicant Details

a. First Name PETER b. Last Name COLLINS
c. Organization LAKE QUINSIGAMOND COMMISSION
d. Mailing Address PO BOX 4476 TS
e. City/Town SHREWSBURY f. State MA g. Zip Code 01545

4. Property Owner

a. First Name PETER b. Last Name COLLINS
c. Organization LAKE QUINSIGAMOND COMMISSION
d. Mailing Address PO BOX 4476 TS
e. City/Town SHREWSBURY f. State MA g. Zip Code 01545

5. Project Location

a. Street Address LAKE QUINSIGAMOND (AND FLINT POND)
b. City/Town GRAFTON c. Zip Code 01519
d. Assessors N/A e. Parcel/Lot# N/A
Map/Plat#
f. Latitude 42.23972N g. Longitude 71.73117W

6. Property recorded at the Registry of Deed for:

a. County b. Certificate c. Book d. Page

7. Dates

a. Date NOI Filed : 4/24/2018 b. Date Public Hearing Closed: 6/5/2018 c. Date Of Issuance: 6/12/2018

8. Final Approved Plans and Other Documents

a. Plan Title: b. Plan Prepared by: c. Plan Signed/Stamped by: d. Revised Final Date: e. Scale:
LAKE
QUINSIGAMOND
LONG-TERM
VEGETATION
MANAGEMENT
PLAN ESS GROUP, INC. N/A APRIL 2018 N/A

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act

Following the review of the the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act.

Check all that apply:

a. ☒ Public Water Supply	b. ☐ Land Containing Shellfish	c. ☒ Prevention of Pollution
d. ☒ Private Water Supply	e. ☒ Fisheries	f. ☒ Protection of Wildlife Habitat



**Massachusetts Department of Environmental
Protection**

Bureau of Resource Protection - Wetlands

WPA Form 5 - Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File #:164-0952

eDEP Transaction #:1023581

City/Town:GRAFTON

☒ g. Ground Water Supply ☒ h. Storm Damage Prevention ☒ i. Flood Control

2. Commission hereby finds the project, as proposed, is:

Approved subject to:

- a. ☒ The following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

Denied because:

- b. ☐ The proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect interests of the Act, and a final Order of Conditions is issued. A description of the performance standards which the proposed work cannot meet is attached to this Order.
- c. ☐ The information submitted by the applicant is not sufficient to describe the site, the work or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).

3. ☐ Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310CMR10.02(1)(a).

a. linear feet

Inland Resource Area Impacts:(For Approvals Only):

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☐ Bank	a. linear feet	b. linear feet	c. linear feet	d. linear feet
5. ☒ Bordering Vegetated Wetland	43560 a. square feet	43560 b. square feet	43560 c. square feet	43560 d. square feet
6. ☒ Land under Waterbodies and Waterways	33628320 a. square feet	33628320 b. square feet	33628320 c. square feet	33628320 d. square feet
	0 e. c/y dredged	0 f. c/y dredged		
7. ☐ Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8. ☐ Isolated Land Subject to Flooding	a. square feet	b. square feet		



**Massachusetts Department of Environmental
Protection**
Bureau of Resource Protection - Wetlands
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Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
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eDEP Transaction #:1023581
City/Town:GRAFTON

Cubic Feet Flood Storage	<u> </u> c. cubic feet	<u> </u> d. cubic feet	<u> </u> e. cubic feet	<u> </u> f. cubic feet
9. ☐ Riverfront Area	<u> </u> a. total sq. feet	<u> </u> b. total sq. feet		
Sq ft within 100 ft	<u> </u> c. square feet	<u> </u> d. square feet	<u> </u> e. square feet	<u> </u> f. square feet
Sq ft between 100-200 ft	<u> </u> g. square feet	<u> </u> h. square feet	<u> </u> i. square feet	<u> </u> j. square feet

Coastal Resource Area Impacts:

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. ☐ Land Under the Ocean	<u> </u> a. square feet	<u> </u> b. square feet		
	<u> </u> c. c/y dredged	<u> </u> d. c/y dredged		
12. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. ☐ Coastal Beaches	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. c/y nourishment	<u> </u> d. c/y nourishment
14. ☐ Coastal Dunes	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. c/y nourishment	<u> </u> d. c/y nourishment
15. ☐ Coastal Banks	<u> </u> a. linear feet	<u> </u> b. linear feet		
16. ☐ Rocky Intertidal Shores	<u> </u> a. square feet	<u> </u> b. square feet		
17. ☐ Salt Marshes	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. square feet	<u> </u> d. square feet
18. ☐ Land Under Salt Ponds	<u> </u> a. square feet	<u> </u> b. square feet		
	<u> </u> c. c/y dredged	<u> </u> d. c/y dredged		
19. ☐ Land Containing Shellfish	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. square feet	<u> </u> d. square feet
20. ☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	<u> </u> c. c/y dredged	<u> </u> d. c/y dredged		
21. ☐ Land Subject to Coastal Storm Flowage	<u> </u> a. square feet	<u> </u> b. square feet		



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22.

☐ Restoration/Enhancement (For Approvals Only)

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c & d or B.17.c & d above, please entered the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

23.

☐ Streams Crossing(s)

If the project involves Stream Crossings, please enter the number of new stream crossings/number of replacement stream crossings.

a. number of new stream crossings

b. number of replacement stream
crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. the work is a maintenance dredging project as provided for in the Act; or
 - b. the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not exceed the issuance date of the original Final Order of Conditions.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.
8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work..



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10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

" Massachusetts Department of Environmental Protection"
[or 'MassDEP']
File Number : "164-0952"

11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before Mass DEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.
17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

NOTICE OF STORMWATER CONTROL AND MAINTENANCE REQUIREMENTS

19. The work associated with this Order(the "Project") is (1) ☐ is not (2) ☒ subject to the Massachusetts Stormwater Standards. If the work is subject to Stormwater Standards, then the project is subject to the following conditions;
- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollutant Discharge Elimination System Construction General Permit as required by Stormwater Standard 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that: *i.* all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all



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construction period sediment trapped in inlet and outlet control structures; *ii.* as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized; *iii.* any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10; *iv.* all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition; *v.* any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

- c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 19(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following: *i.*) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and *ii.*) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.
- d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollutant Discharge Elimination System Multi-Sector General Permit.
- e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 19(f) through 19(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 19(f) through 19(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.
- f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.
- g) The responsible party shall:
 - 1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
 - 2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
 - 3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Order of Conditions shall not be changed without the



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prior written approval of the issuing authority.

- k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.
- l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions:

SEE ATTACHED "EXHIBIT A"



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D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? ☒ Yes ☐ No

2. The Conservation Commission hereby (check one that applies):

a. ☐ DENIES the proposed work which cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw specifically:

1. Municipal Ordinance or Bylaw _____

2. Citation _____

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued. Which are necessary to comply with a municipal ordinance or bylaw:

b. ☒ APPROVES the proposed work, subject to the following additional conditions.

1. Municipal Ordinance or Bylaw
GRAFTON
WETLANDS
PROTECTION
BYLAW

2. Citation _____

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows:
SEE ATTACHED "EXHIBIT A"



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1023581
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Grafton
City/Town

E. Signatures

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

Please indicate the number of members who will sign this form.

This Order must be signed by a majority of the Conservation Commission.

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy must be mailed, hand delivered or filed electronically at the same time with the appropriate MassDEP Regional Office.

6/12/18
1. Date of Issuance
4
2. Number of Signers

Signatures:

[Handwritten signatures]

[Handwritten signature]

☐ by hand delivery on

☒ by certified mail, return receipt requested, on

Date

Date

6/12/18

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.



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(M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

G. Recording Information

This Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

GRAFTON

Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

GRAFTON

Conservation Commission

Please be advised that the Order of Conditions for the Project at:

LAKE QUINSIGAMOND (AND FLINT POND)

Project Location

164-0952

MassDEP File Number

Has been recorded at the Registry of Deeds of:

County

Book

Page

for:

Property Owner PETER COLLINS

and has been noted in the chain of title of the affected property in:

Book

Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number



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Signature of Applicant

Rev. 4/1/2010

EXHIBIT 'A'

This Order of Conditions and Grafton Wetlands Permit are issued with the following special conditions:

General Conditions

1. The work shall be completed as described in the plan titled "**Lake Quinsigamond Long-term Vegetation Management Plan**" prepared by ESS Group, Inc. and dated **April 2018**.
2. This Order of Conditions and Permit are valid for five years from the date of issuance.
3. Prior to vegetation removal, a plan shall be submitted to the Conservation Commission for approval, showing the location, limit of disturbance and erosion control measures for the vegetation disposal site and associated staging or dewatering areas.
4. A comprehensive monitoring report shall be submitted to the Conservation Commission by October 15 of each year that monitoring actions have been taken, as detailed in the approved Long-term Vegetation Management Plan.
5. The drawdown shall be conducted to comply with the criteria contained in the MA EOE Final Generic Environmental Impact Report for Eutrophication and Aquatic Plant Management in Massachusetts.
6. The Commission reserves the right to require additional measures if deemed necessary to protect resource areas and interests as defined in MGL Chapter 131 Section 40 (310 CMR 10.00) and the Grafton Wetlands Protection Bylaw and Regulations or the Grafton Stormwater Management Bylaw and Regulations.
7. This document shall be included in all construction contracts, subcontracts, and specifications dealing with the work proposed and shall supersede any conflicting contract requirements. The Applicant shall ensure that all contractors, subcontractors, and other personnel performing the permitted work are fully aware of these terms and conditions. Thereafter, the contractor will be held jointly liable for any violation of this permit resulting from failure to comply with its conditions. Nothing in this paragraph shall limit or restrict the liability of the Applicant for violations of this permit.
8. **Phasing** shall comply with all approved plans and documents as well as the actions listed in the following conditions.
9. This permit and a copy of approved drawings and plans shall be available at the project site at all times for easy reference.
10. Work shall be halted on the site if the Conservation Commission, Agent or DEP determines that any of the work is not in compliance with this permit.

Conditions required by NHESP

11. **Management Zone B:** The proposed Plan includes: application of the herbicide 2,4-D, hand harvesting and DASH, with direct annual consultation with the Division of Fisheries and Wildlife. While not proposed in this application, the herbicide triclopyr may also be proposed for annual review.
 - a. **Work Plan:** The Applicant shall submit a written treatment plan to the Division for review and approval at least sixty (60) days before proposed management activities. The

treatment plan shall include, at a minimum, a map of the proposed treatment areas, treatment acres, proposed date(s) of treatment(s), proposed herbicide product names and formulations, active ingredients, active ingredient target concentrations, calculated treatment concentrations, and proposed measures to protect *P. vaseyi*. The Division must be contacted in advance of each annual submission to determine herbicides that can be approved subject to this determination and the maximum allowable concentrations that will avoid a Take.

- b. **Monitoring Plan:** The Applicant shall submit a written monitoring plan to the Division for review and approval at least sixty (60) days before proposed herbicide application.
12. **Management Zone C:** The proposed Plan includes: application of the herbicides 2,4-D and glyphosate, hand harvesting, DASH and hydroraking. Direct annual consultation is proposed for fluridone, diquat dibromide, flumioxazin, and algaecides. While not proposed in this application, the herbicide triclopyr may also be proposed for annual review.
 - a. **Work Plan.** For the use of fluridone, diquat dibromide, flumioxazin, algaecides, and triclopyr, the Applicant shall submit a written treatment plan to the Division for review and approval at least sixty (60) days before proposed management activities. The treatment plan shall include, at a minimum, a map of the proposed treatment area, treatment acres, proposed date(s) of treatment(s), proposed herbicide product names and formulations, active ingredients, active ingredient target concentrations, calculated treatment concentrations, and proposed measures to protect *P. vaseyi*.

Protection measures need to eliminate any water exchange with Management Zone B. These may include, but are not limited to: the use of floating barriers, timing to avoid summer low-flow, and other such measures to ensure that the products remain within Management Zone B.

The Division must be contacted in advance of each annual submission to determine herbicides that can be approved subject to this determination and the maximum allowable concentrations that will avoid a Take.
13. **Renewal, extension or Amendment of the Order of Conditions:** Upon filing for any renewal, extension, or amendment of the Orders of Conditions, the Applicant shall similarly file with the Division for written response regarding impacts to state-listed species.

Conditions Prior to Commencement of Construction

14. Prior to commencement of construction, a sign shall be displayed at the entrance to the site, not less than two square feet, nor more than three square feet, bearing the words "Grafton Wetlands Permit # 783." In addition, the DEP file # must be displayed as required by the Order of Conditions.
15. Prior to commencement of construction, the general contractor shall designate a **construction staging area**, located outside all resource areas and buffer zones. All construction trailers, portable sanitary facilities, material storage and overnight parking of equipment shall be located in the staging area. The perimeter of the staging area shall be protected as necessary with silt fence and the ground surface shall be protected with washed stone or another suitable non-erosive material. Any leakage or spillage of oil, hydraulic fluid, gasoline, or other pollutants must be cleaned up immediately and disposed of off the site. All fueling of equipment shall be performed outside of wetland resource areas and buffer zones. The Commission shall be notified immediately in the event of any spillage.

Conditions During Construction

16. **In any disturbed areas, erosion control inspections** must be conducted by the site owner or an authorized representative at least once every fourteen (14) calendar days and within twenty-four (24) hours of the end of a storm event of one quarter (1/4) inch or greater from the start of

construction until the site is permanently stabilized. Inspection reports must be provided to the Conservation Commission upon request.

17. **In any disturbed areas, loaming and seeding** shall occur within seven (7) days of final grading. If any disturbed portion of the project is inactive for more than fourteen (14) days, disturbed areas must be stabilized by seeding with a temporary stabilizing seed mix, unless the fourteen (14) days are in the winter. If this winter condition should occur, the applicant shall request a determination from the Commission as to whether seeding or an alternative measure should be conducted. Seed stock to restore project denuded areas shall emphasize the natural flora and be of proven value to local wildlife.
18. **Materials shall not be stockpiled within one hundred (100) feet** of a protected resource area boundary. Soil stockpiles must be stabilized or covered at the end of each workday. Stockpile side slopes shall not be greater than two to one (2:1). Stockpiles shall be surrounded by erosion control barriers.
19. All silt fencing, stakes, and any non-biodegradable erosion control shall remain in place until the site is fully stabilized but shall be removed prior to the issuance of a complete Certificate of Compliance.
20. Upon completion of the work described herein, the applicant shall submit to the Conservation Commission:
 - I. A written Request for Certificate of Compliance (WPA Form 8A & Town of Grafton Form 8A);
 - II. A letter from a Registered Professional Engineer certifying compliance of the property with this permit, and detailing any deviations that exist, and their potential effect on the project. A statement that the work is in "substantial compliance" with no detailing of the deviations shall not be accepted;
 - III. A complete, on the ground As-Built plan, signed and stamped by a Registered Professional Engineer or Land Surveyor showing post-construction conditions within all areas under the jurisdiction of the Massachusetts Wetlands Protection Act, Grafton Wetlands Protection Bylaw, and Grafton Stormwater Bylaw including, but not limited to:
 - a. Buildings, roadways, driveways, patios, walls, utilities, locations and elevations of all drainage and stormwater management facilities/structures, location of all wetland resource areas, no-disturb zone boundary and signs, buffer zones, edge of lawn and tree-shrub lines, wetland replication areas and any other areas of work associated with this project.
 - b. Elevations shall be shown in one (1) foot contours.
 - c. As-built drawings shall be shown as bolded overlays on proposed plans with deviations shown in red. As-built drawings shall be in the same scale as the approved site plans.
 - d. As-built drawings shall be submitted in hard copy and in electronic PDF and electronic format compatible with ARCVIEW GIS.

Ongoing Conditions:

21. A minimum twenty-five (25) foot no-disturb wetland buffer shall be maintained along the upland edge of bordering vegetated wetlands and resource areas. This is an ongoing condition and does not expire with the issuance of a Certificate of Compliance.



Grafton Conservation Commission

GRAFTON MEMORIAL MUNICIPAL CENTER
30 PROVIDENCE ROAD

GRAFTON, MASSACHUSETTS 01519

Phone: (508) 839-5335 ext. 1138 • FAX: (508) 839-4602

www.grafton-ma.gov • concom@grafton-ma.gov

Form 5: Wetlands Permit
Grafton Wetlands Protection Bylaw & Regulations

Rev. 5/17

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Grafton Wetlands Permit #: Project Location:

Assessor's Map #: Lot #:

Applicant: Address:

Owner: Address:

This Permit is issued as follows:

☒ Wetlands Permit OR ☐ Amended Wetlands Permit
OR ☐ Order of Resource Area Delineation (ORAD)

☒ Approved OR ☐ Denied

☒ In conjunction with Order of Conditions # and/or SW Permit
issued on .

The property is recorded at the Worcester Registry of Deeds, Book: Page:

The Grafton Conservation Commission has reviewed and held a public hearing on the above referenced application and plans. Based on the information available to the Commission at this time, the Commission has determined that the area on which the proposed work is to be done is significant to the interests protected by the Grafton Wetlands Protection Bylaw and orders that all work shall be performed in accordance with the conditions found in the attached "Exhibit A." To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the application, the conditions shall control.

If an Order of Conditions, pursuant to MGL Ch. 131 § 40, has been issued for all or part of the project, said Order of Conditions (referenced above) is incorporated into this Permit and appended hereto.

This Permit is valid for three years from the date of issuance, unless otherwise specified by the Commission.

The applicant is responsible for ensuring that this Permit is recorded at the Registry of Deeds or the Land Court for the district in which the land is located. After recording, submit a copy of the page containing the registry bar code label to the Conservation Commission office.



Grafton Conservation Commission

GRAFTON MEMORIAL MUNICIPAL CENTER
30 PROVIDENCE ROAD
GRAFTON, MASSACHUSETTS 01519
Phone: (508) 839-5335 ext. 1138 • FAX: (508) 839-4602
www.grafton-ma.gov • concom@grafton-ma.gov

Form 5
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Grafton Wetlands Permit #: 783

Project Location: Lake Quinsigamond / Flint Pond

This Permit is issued to the applicant and delivered as follows:

☐ by hand delivery or ☒ by certified mail, return receipt requested

on (Date of Issuance): 6/12/18

Signatures:

This Permit must be signed by a majority of the Commission.

Any person aggrieved by this Permit or decision of the Commission, whether or not previously a party to the proceeding, may appeal according to MGL Ch. 249 §4. Appeals shall be made to Worcester Superior Court within sixty (60) days of the date of the signing and/or issuance of said Permit or decision, whichever is the later. Notice of the appeal and a copy of the complaint shall be sent by certified mail, or hand-delivered, to the Commission, the Town Clerk, its authorized representative, and Town Counsel, so as to be received within ten (10) days. The appeal shall contain any facts pertinent to the issue, a copy of the decision being appealed, bearing the date of filing thereof, the complete name and address of the party filing the appeal, the name and address of the attorney, if any, representing the person filing the appeal, and the relief being sought. If the appeal is filed by some person or persons other than the original applicant, appellants, or petitioner, the original applicant and all members of the Commission shall be named as parties defendant.

EXHIBIT 'A'

This Order of Conditions and Grafton Wetlands Permit are issued with the following special conditions:

General Conditions

1. The work shall be completed as described in the plan titled "**Lake Quinsigamond Long-term Vegetation Management Plan**" prepared by ESS Group, Inc. and dated **April 2018**.
2. This Order of Conditions and Permit are valid for five years from the date of issuance.
3. Prior to vegetation removal, a plan shall be submitted to the Conservation Commission for approval, showing the location, limit of disturbance and erosion control measures for the vegetation disposal site and associated staging or dewatering areas.
4. A comprehensive monitoring report shall be submitted to the Conservation Commission by October 15 of each year that monitoring actions have been taken, as detailed in the approved Long-term Vegetation Management Plan.
5. The drawdown shall be conducted to comply with the criteria contained in the MA EOE Final Generic Environmental Impact Report for Eutrophication and Aquatic Plant Management in Massachusetts.
6. The Commission reserves the right to require additional measures if deemed necessary to protect resource areas and interests as defined in MGL Chapter 131 Section 40 (310 CMR 10.00) and the Grafton Wetlands Protection Bylaw and Regulations or the Grafton Stormwater Management Bylaw and Regulations.
7. This document shall be included in all construction contracts, subcontracts, and specifications dealing with the work proposed and shall supersede any conflicting contract requirements. The Applicant shall ensure that all contractors, subcontractors, and other personnel performing the permitted work are fully aware of these terms and conditions. Thereafter, the contractor will be held jointly liable for any violation of this permit resulting from failure to comply with its conditions. Nothing in this paragraph shall limit or restrict the liability of the Applicant for violations of this permit.
8. **Phasing** shall comply with all approved plans and documents as well as the actions listed in the following conditions.
9. This permit and a copy of approved drawings and plans shall be available at the project site at all times for easy reference.
10. Work shall be halted on the site if the Conservation Commission, Agent or DEP determines that any of the work is not in compliance with this permit.

Conditions required by NHESP

11. **Management Zone B:** The proposed Plan includes: application of the herbicide 2,4-D, hand harvesting and DASH, with direct annual consultation with the Division of Fisheries and Wildlife. While not proposed in this application, the herbicide triclopyr may also be proposed for annual review.
 - a. **Work Plan:** The Applicant shall submit a written treatment plan to the Division for review and approval at least sixty (60) days before proposed management activities. The

treatment plan shall include, at a minimum, a map of the proposed treatment areas, treatment acres, proposed date(s) of treatment(s), proposed herbicide product names and formulations, active ingredients, active ingredient target concentrations, calculated treatment concentrations, and proposed measures to protect *P. vaseyi*. The Division must be contacted in advance of each annual submission to determine herbicides that can be approved subject to this determination and the maximum allowable concentrations that will avoid a Take.

- b. **Monitoring Plan:** The Applicant shall submit a written monitoring plan to the Division for review and approval at least sixty (60) days before proposed herbicide application.
12. **Management Zone C:** The proposed Plan includes: application of the herbicides 2,4-D and glyphosate, hand harvesting, DASH and hydrosucking. Direct annual consultation is proposed for fluridone, diquat dibromide, flumioxazin, and algaecides. While not proposed in this application, the herbicide triclopyr may also be proposed for annual review.
 - a. **Work Plan.** For the use of fluridone, diquat dibromide, flumioxazin, algaecides, and triclopyr, the Applicant shall submit a written treatment plan to the Division for review and approval at least sixty (60) days before proposed management activities. The treatment plan shall include, at a minimum, a map of the proposed treatment area, treatment acres, proposed date(s) of treatment(s), proposed herbicide product names and formulations, active ingredients, active ingredient target concentrations, calculated treatment concentrations, and proposed measures to protect *P. vaseyi*.

Protection measures need to eliminate any water exchange with Management Zone B. These may include, but are not limited to: the use of floating barriers, timing to avoid summer low-flow, and other such measures to ensure that the products remain within Management Zone B.

The Division must be contacted in advance of each annual submission to determine herbicides that can be approved subject to this determination and the maximum allowable concentrations that will avoid a Take.
13. **Renewal, extension or Amendment of the Order of Conditions:** Upon filing for any renewal, extension, or amendment of the Orders of Conditions, the Applicant shall similarly file with the Division for written response regarding impacts to state-listed species.

Conditions Prior to Commencement of Construction

14. Prior to commencement of construction, a sign shall be displayed at the entrance to the site, not less than two square feet, nor more than three square feet, bearing the words "Grafton Wetlands Permit # 783." In addition, the DEP file # must be displayed as required by the Order of Conditions.
15. Prior to commencement of construction, the general contractor shall designate a **construction staging area**, located outside all resource areas and buffer zones. All construction trailers, portable sanitary facilities, material storage and overnight parking of equipment shall be located in the staging area. The perimeter of the staging area shall be protected as necessary with silt fence and the ground surface shall be protected with washed stone or another suitable non-erosive material. Any leakage or spillage of oil, hydraulic fluid, gasoline, or other pollutants must be cleaned up immediately and disposed of off the site. All fueling of equipment shall be performed outside of wetland resource areas and buffer zones. The Commission shall be notified immediately in the event of any spillage.

Conditions During Construction

16. **In any disturbed areas, erosion control inspections** must be conducted by the site owner or an authorized representative at least once every fourteen (14) calendar days and within twenty-four (24) hours of the end of a storm event of one quarter (1/4) inch or greater from the start of

construction until the site is permanently stabilized. Inspection reports must be provided to the Conservation Commission upon request.

17. **In any disturbed areas, loaming and seeding** shall occur within seven (7) days of final grading. If any disturbed portion of the project is inactive for more than fourteen (14) days, disturbed areas must be stabilized by seeding with a temporary stabilizing seed mix, unless the fourteen (14) days are in the winter. If this winter condition should occur, the applicant shall request a determination from the Commission as to whether seeding or an alternative measure should be conducted. Seed stock to restore project denuded areas shall emphasize the natural flora and be of proven value to local wildlife.
18. **Materials shall not be stockpiled within one hundred (100) feet** of a protected resource area boundary. Soil stockpiles must be stabilized or covered at the end of each workday. Stockpile side slopes shall not be greater than two to one (2:1). Stockpiles shall be surrounded by erosion control barriers.
19. All silt fencing, stakes, and any non-biodegradable erosion control shall remain in place until the site is fully stabilized but shall be removed prior to the issuance of a complete Certificate of Compliance.
20. Upon completion of the work described herein, the applicant shall submit to the Conservation Commission:
 - I. A written Request for Certificate of Compliance (WPA Form 8A & Town of Grafton Form 8A);
 - II. A letter from a Registered Professional Engineer certifying compliance of the property with this permit, and detailing any deviations that exist, and their potential effect on the project. A statement that the work is in "substantial compliance" with no detailing of the deviations shall not be accepted;
 - III. A complete, on the ground As-Built plan, signed and stamped by a Registered Professional Engineer or Land Surveyor showing post-construction conditions within all areas under the jurisdiction of the Massachusetts Wetlands Protection Act, Grafton Wetlands Protection Bylaw, and Grafton Stormwater Bylaw including, but not limited to:
 - a. Buildings, roadways, driveways, patios, walls, utilities, locations and elevations of all drainage and stormwater management facilities/structures, location of all wetland resource areas, no-disturb zone boundary and signs, buffer zones, edge of lawn and tree-shrub lines, wetland replication areas and any other areas of work associated with this project.
 - b. Elevations shall be shown in one (1) foot contours.
 - c. As-built drawings shall be shown as bolded overlays on proposed plans with deviations shown in red. As-built drawings shall be in the same scale as the approved site plans.
 - d. As-built drawings shall be submitted in hard copy and in electronic PDF and electronic format compatible with ARCVIEW GIS.

Ongoing Conditions:

21. A minimum twenty-five (25) foot no-disturb wetland buffer shall be maintained along the upland edge of bordering vegetated wetlands and resource areas. This is an ongoing condition and does not expire with the issuance of a Certificate of Compliance.