

MHC Project Notification Form



September 2021

**CRYSTAL LAKE – LOUISE
LEVINGSTON COVE**

PREPARED FOR:
CITY OF NEWTON

SUBMITTED TO:
MASSACHUSETTS HISTORIC COMMISSION



**Newton – Crystal Lake, Levingston Cove
WSE Project No. ENG21-0021**

9/02/2021

Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

**Re: MHC Project Notification Form Filing
Crystal Lake, Levingston Cove**

To whom it may concern:

On behalf of the City of Newton, Weston & Sampson Engineers, Inc. is hereby enclosing the Massachusetts Historical Commission Project Notification Form for the improvements to Levingston Cove project for your review. This project involves

- a decking system that will cantilever out over the edge of Crystal Lake and add much needed passive recreation space to the park's small footprint
- new ADA-compliant circulation systems
- regrading and introduction of terraced walls that ease steep slopes
- new native plantings to stabilize eroded slopes and replace invasive species along the bank
- rain gardens at the toe of steep slopes that collect and convey stormwater

As part of the filing, we have attached the following:

- Project Notification Form
- Project Description
- USGS Locus Map
- Photographs
- Plans

If you have any questions regarding this submittal, please contact me at (978) 532-1900.

Very truly yours,

WESTON & SAMPSON, INC.



Alexandra Gaspar
Environmental Scientist

950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

APPENDIX A
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD
BOSTON, MASS. 02125
617-727-8470, FAX: 617-727-5128

PROJECT NOTIFICATION FORM

Project Name: Crystal Lake, Louise Levingston Cove

Location / Address: Lake Ave Ctr

City / Town: Newton

Project Proponent

Name: Luis Perez Demorizi

Address: 246 Dudley Road

City/Town/Zip/Telephone: Newton, 02459, 617-796-1500

Agency license or funding for the project (list all licenses, permits, approvals, grants or other entitlements being sought from state and federal agencies).

Agency Name

Type of License or funding (specify)

DEP

Ch91 Waterways License

Project Description (narrative):

Improvements to Levingston Cove. See attached project description for additional information.

Does the project include demolition? If so, specify nature of demolition and describe the building(s) which are proposed for demolition.

No

Does the project include rehabilitation of any existing buildings? If so, specify nature of rehabilitation and describe the building(s) which are proposed for rehabilitation.

No

Does the project include new construction? If so, describe (attach plans and elevations if necessary).

Construction of a new decking system

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APPENDIX A (continued)

To the best of your knowledge, are any historic or archaeological properties known to exist within the project's area of potential impact? If so, specify.

No

What is the total acreage of the project area?

Woodland	<u>0</u>	acres	Productive Resources:	
Wetland	<u>.03</u>	acres	Agriculture	<u>0</u> acres
Floodplain	<u>0</u>	acres	Forestry	<u>0</u> acres
Open space	<u>0</u>	acres	Mining/Extraction	<u>0</u> acres
Developed	<u>.5</u>	acres	Total Project Acreage	<u>.53</u> acres

What is the acreage of the proposed new construction? .53 acres

What is the present land use of the project area?

public recreation

Please attach a copy of the section of the USGS quadrangle map which clearly marks the project location.

This Project Notification Form has been submitted to the MHC in compliance with 950 CMR 71.00.

Signature of Person submitting this form:  Date: 8/31/2021

Name: Alexandra Gaspar

Address: 55 Walkers Brook Dr Suite 100

City/Town/Zip: Reading, MA 01867

Telephone: 978-532-1900

REGULATORY AUTHORITY

950 CMR 71.00: M.G.L. c. 9, §§ 26-27C as amended by St. 1988, c. 254.

*Guidance for Completing MHC's **Project Notification Form** (950 CMR 71.00, Appendix A)*

- ❖ Please make sure you **type or print legibly** the Project Notification Form (PNF) and fill out **all** sections of the form.
- ❖ Please submit a PNF for **each** project separately. This will facilitate MHC's review of multiple project submissions.
- ❖ Please include the street and number in the address line of the project area. Please be sure to specify the town name.
- ❖ Please make sure you fill out *both* the **project address section** and the **project contact** section. Please note that these two addresses may be the same in some cases. It is important for MHC to have a contact person in order to facilitate review, should questions arise.
- ❖ The funding, licensing, and permitting section **must be completed** in order for MHC to review the PNF. Be sure to list *all* funding, licensing and permitting involved with the entire project; this includes **federally** funded, licensed, and permitted projects, as well as **state** funded, licensed, and permitted projects. Some examples of common funding, licensing, and permitting agencies and funding sources are: **Army Corps of Engineers; Federal Communications Commission; Community Development Block Grants; School Building Assistance from the Massachusetts Department of Education; Department of Housing and Community Development; Department of Environmental Protection (permits such as sewer connection, wetlands, or Chapter 91 permits); Massachusetts Highway Department (curb cut permits), etc. There are many others.**
- ❖ Please be sure to **describe** the proposed project in **detail**. Attach additional pages if necessary. If dates of construction on buildings or dates of alterations to a site are known, please be sure to include this information in your project description.
- ❖ Please include photographs of the proposed project site. If the project involves demolition or rehabilitation of a building(s), be sure to include photos of major elevations of the building(s). Please also be sure to label photographs. Attach the most current project plans and elevations if available.
- ❖ **Please be sure to include a photocopy of the pertinent section of the U.S.G.S. map with your submission.** The MHC cannot review a PNF without a U.S.G.S. section map. You can purchase U.S.G.S. maps at local camping, hiking, and sporting goods stores, or download U.S.G.S. maps from the World Wide Web at www.topozone.com; or make a photocopy of U.S.G.S. maps at libraries.
- ❖ Do not use other maps instead of the U.S.G.S. map. However, additional maps such as plot plans or assessors' maps may be included **in addition** to the U.S.G.S. section map.
- ❖ **Boundaries of the project area** should be specific. Do not circle a large plot of land on the U.S.G.S. map and indicate that the project falls within the circle.

This guidance document is offered to assist in compliance with M.G.L. Chapter 9, Section 26-27c, as amended by Chapter 254 of the Acts of 1988 (950 CMR 71.00)

PROJECT DESCRIPTION

Background

Levingston Cove, located on Lake Avenue between Berwick Avenue and Lakewood Avenue in Newton, Massachusetts, is a small, yet much loved neighborhood green space where residents have long congregated for fishing, walking, picnicking, sunbathing, and enjoying the views to Crystal Lake. The park's long and narrow geographic footprint, very steep terrain, heavy tree canopy, and poorly managed circulation have resulted in considerable erosional and stormwater issues into the lake, degraded walking surfaces and lack of vegetation growth in high use zones. These planned improvements seek to correct these issues by incorporating the following:

- a decking system that will cantilever out over the edge of Crystal Lake and add much needed passive recreation space to the park's small footprint
- new ADA-compliant circulation systems
- regrading and introduction of terraced walls that ease steep slopes
- new native plantings to stabilize eroded slopes and replace invasive species along the bank
- rain gardens at the toe of steep slopes that collect and convey stormwater

Site Description

The Park is comprised of approximately 0.5 acres of open land used for recreational activities listed above. Its landscape consists of open lawn under deciduous tree canopy, a non-compliant concrete ramp, walkway along a 99-year-old concrete retaining wall and water access areas. See Appendix G for site photographs.

Crystal Lake forms the eastern edge of the park. Lake Avenue forms the western edge. 230 Lake Avenue and 170 Lake Avenue form the northern and southern edges, respectively. The surrounding neighborhood is comprised of a residential neighborhood to the west, north and south.

Scope of Work

Much of the park consists of highly eroded slopes. In the northern area of the park, a terraced walkway and cantilever deck system will sit above and over the existing retaining wall, elevating grades and reducing the slope from Lake Avenue as a result. The slope between Lake Avenue and the walkway will be planted with native species to further stabilize and restore the slope. In the core of the park where slopes are severely eroded and experience significant use by the public, a multipronged strategy will ease the steepness of the slope and strengthen the turf itself. The following, in combination, will improve the slope in this critical area of the park:

- Regrading around two terraced retaining walls will lift the slope
- The soil profile will be augmented with a turf reinforcement system that utilizes the stabilization and reinforcement of base, root zone mix, and turf while offering an improved drainable soil profile. New loam blended into a custom 70-20-10 sand-soil-

superpeat mix will be added that maximizes water holding capacity in the absence of irrigation. The synthetic turf reinforcement material will be mixed off-site to eliminate any possibility of the material migrating into Crystal Lake during installation.

- A custom shade-loving seed mix will be utilized in this zone. This mix will consist of grasses that grow during the early spring, late spring, summer and early fall seasons with the intention that turf is growing during the full extents of the season.

Stormwater test pits revealed sandy soils with high infiltrative capacity, as outlined in the stormwater report included in Appendix B. Four rain gardens will be located at the toe of slope, along the park's lakeside pathway, and installed with overflow drains and drainage pipe that runs to outfalls at the lake. Each outfall includes flared end sections and riprap to minimize erosion and better disperse flows into the lake.

This project will also include the addition of stone veneer to the outside face of the existing retaining wall. To accomplish this, the surrounding area must be dewatered. A cofferdam and sandbags will be utilized to ensure impacts to surrounding areas is minimal.

Invasive species along the bank have been identified and located. These plants will be removed by way of the recommended method included in the attached memorandum included in Appendix H. The removal areas will be naturally vegetated with grass and shrub species to bring an improved aesthetic and habitat value along the entire length of the bank. The design calls for the planting of native species that will help promote ecological diversity along the riverbank. We believe this restoration plan will help to reduce the erosion and create a much more diverse habitat than what is currently on site.

Environmental Considerations

Two resource areas protected by the Massachusetts Wetland Protection Act will be impacted as a result of this project. Top of Bank (Bank) will be impacted due to removal and treatment of invasive plant species, installation of riprap, installation of granite blocks and riverstone for slope stabilization, and native planting. Land Under Water will be impacted to accommodate the river stone bank stabilization at the terraced seating locations, as well as the dewatering occurring to add stone veneer to the face of the existing retaining wall.

This project will also impact the Watershed Protection Area associated with Crystal Lake; a zone protected by the City of Newton Floodplain Ordinances.

Before work begins, sedimentation and erosion control devices will be placed at the site to minimize sediment migration off-site into Crystal Lake. This will include staked silt fence and staked compost sock at the downgradient most work area, between the work area and wetland resource area. A turbidity curtain will be installed just off the water's edge in Crystal Lake. Inlet sediment controls will be installed in all Lake Avenue catch basins adjacent to the park property.

Please see below for our response to the General Performance Standards for each impacted resource area.

Land Under Water

Where the presumption set forth in 310 CMR 10.56(3) is not overcome, any proposed

work within Land under Water Bodies and Waterways shall not impair the following:

1. The water carrying capacity within the defined channel, which is provided by said land in conjunction with the banks;

As this is a lake and not a stream, no impacts to defined channel are anticipated.

2. Ground and surface water quality;

There will be no impacts to ground and surface water quality.

3. The capacity of said land to provide breeding habitat, escape cover and food for fisheries; and

This project will improve the capacity of the land to provide suitable habitat. Aquatic plantings will be added in multiple areas, which will increase the amount of breeding habitat, escape cover and food.

4. The capacity of said land to provide important wildlife habitat functions. A project or projects on a single lot, for which Notice(s) of intent is filed on or after November 1, 1987, that (cumulatively) alter(s) up to 10% or 5,000 square feet (whichever is less) of land in this resource area found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. Additional alterations beyond the above threshold may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures established under 310 CMR 10.60.

See answer above. This project will improve the quality of wildlife habitat in the area.

5. Work on a stream crossing shall be presumed to meet the performance standard set forth in 310 CMR 10.56(4)(a) provided the work is performed in compliance with the Massachusetts Stream Crossing Standards by consisting of a span or embedded culvert in which, at a minimum, the bottom of a span structure or the upper surface of an embedded culvert is above the elevation of the top of the bank, and the structure spans the channel width by a minimum of 1.2 times the bankfull width. This presumption is rebuttable and may be overcome by the submittal of credible evidence from a competent source. Notwithstanding the requirements of 310 CMR 10.56(4)(a)4., the impact on Land under Water Bodies and Waterways caused by the installation of a stream crossing is exempt from the requirement to perform a habitat evaluation in accordance with the procedures established under 310 CMR 10.60.

Not applicable

Top of Bank

Where the presumption set forth in 310 CMR 10.54(3) is not overcome, any proposed work on a Bank shall not impair the following:

1. the physical stability of the Bank;

This project will result in an improvement of bank stability. In their current condition, the banks are highly eroded. As noted above, this project will improve bank stability by doing the following:

- Regrading around two terraced retaining walls will lift the slope
- The soil profile will be augmented with a turf reinforcement system that utilizes the stabilization and reinforcement of base, root zone mix, and turf while offering an improved drainable soil profile. New loam blended into a custom 70-20-10 sand-soil-superpeat mix will be added that maximizes water holding capacity in the absence of irrigation. The synthetic turf reinforcement material will be mixed off-site to eliminate any possibility of the material migrating into Crystal Lake during installation.
- A custom shade-loving seed mix will be utilized in this zone. This mix will consist of grasses that grow during the early spring, late spring, summer and early fall seasons with the intention that turf is growing during the full extents of the season.

2. the water carrying capacity of the existing channel within the Bank;

As this is a lake and not a channel, the carrying capacity will not be impacted.

3. ground water and surface water quality;

Groundwater and surface water will likely be improved by the addition of aquatic and native plantings.

4. the capacity of the Bank to provide breeding habitat, escape cover and food for fisheries;

The addition of native and aquatic plantings is anticipated to improve the habitat.

5. the capacity of the Bank to provide important wildlife habitat functions. A project or projects on a single lot, for which Notice(s) of Intent is filed on or after November 1, 1987, that (cumulatively) alter(s) up to 10% or 50 feet (whichever is less) of the length of the bank found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. In the case of a bank of a river or an intermittent stream, the impact shall be measured on each side of the stream or river. Additional alterations beyond the above threshold may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures contained in 310 CMR 10.60.

As this project impacts over 50 feet of bank habitat, a Wildlife Habitat Assessment has been completed as part of this project.

Watershed Protection Area – Crystal Lake

Work will be occurring within the Watershed Protection Area of Crystal Lake. This area is defined as area below el. 149 CNVD (this was converted to 142.5 NAVD88 for plan and

compensatory storage purposes) . Below please find the response to each purpose of the Floodplain/Watershed Protection District.

(1) assure the continuation of the natural flow patterns of watercourses within the city;

As work is occurring within a lake and not a flowing stream/channel, it is not anticipated that flow patterns of watercourses will be impacted.

(2) provide adequate and safe floodwater storage capacity in order to protect persons and property against increase in the hazards of flood inundation.

A compensatory storage table has been prepared, please see below. These calculations are based on the elevation 142.5 NAVD88.

COMPENSATORY STORAGE CALCULATIONS		
ELEVATION	CUT (CY)	FILL (CY)
143-144	0.92	0.75
144-145	0.37	0.28

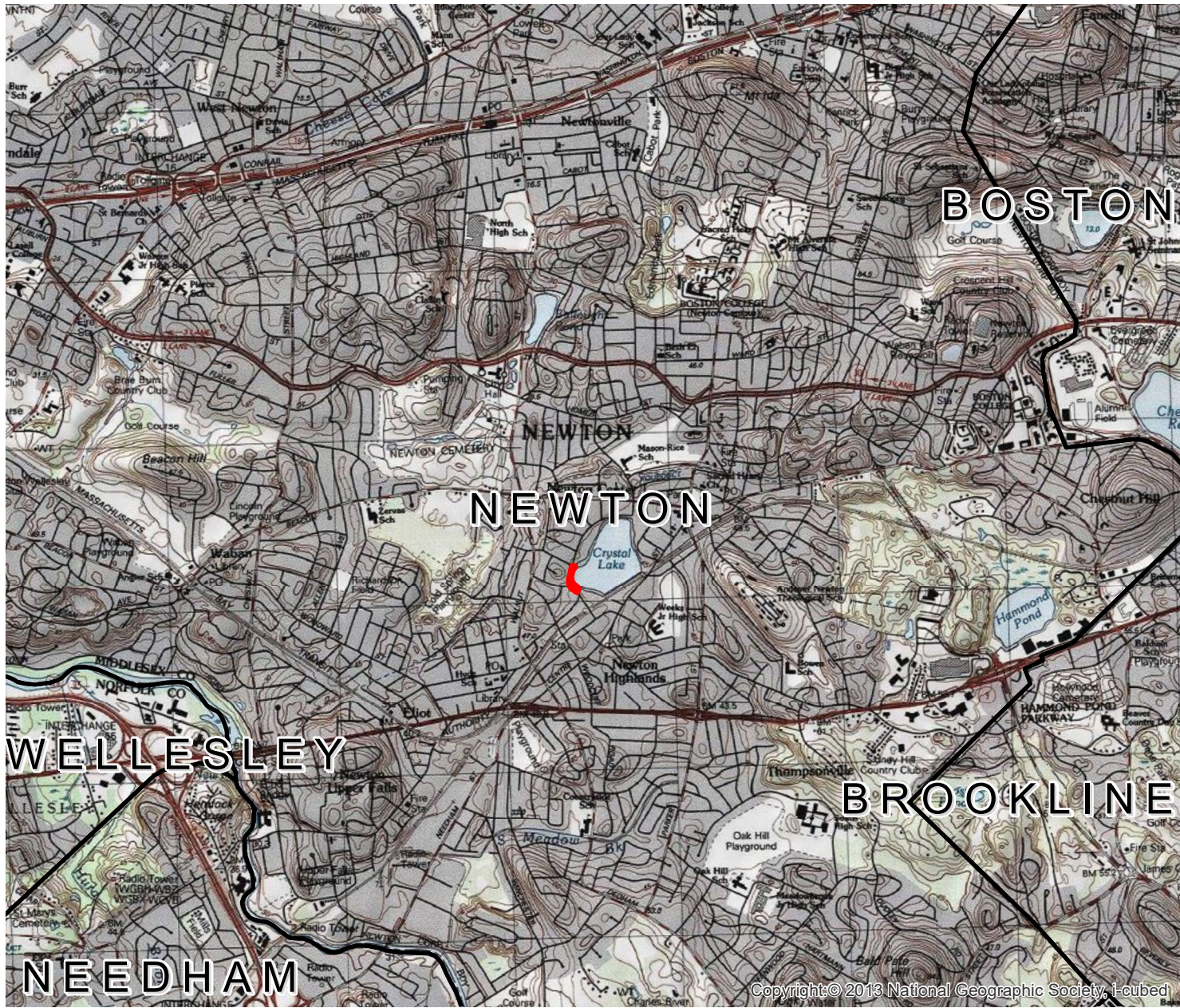
(3) protect and preserve the water table and groundwater recharge areas within the city; and

The water table and groundwater recharge areas throughout the City will be preserved

(4) allow the city to maintain compliance with the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973, and the regulations promulgated pursuant thereto.

Compliance with the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 will be preserved. Proper compensatory storage will be utilized to ensure that compliance is maintained throughout the project.

P:\MA\Newton\Crystal Lake Livingston Cove\Permitting\Notice of Intent\Appendix A - Project Description\PROJECT DESCRIPTION.doc

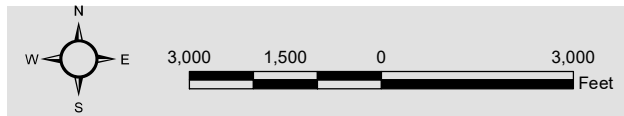


Legend
 Work Area

FIGURE 1

Levingston Cove
Newton, MA

Locus Map



Data Source: Office of Geographic and Environmental Information (MassGIS),
Commonwealth of Massachusetts Executive Office of Environmental Affairs





Photo 1



Photo 2



Photo 3

