

**Report to Congress for Future Water Resources Development (WRRDA 7001) Submission
Package**

Proposal Name: Diamond Hill Pond Restoration & Preservation

Submission Date: 08/28/2019

Proposal ID Number: 23e18f13-6106-4c5f-a18f-f7bdf042530e

Purpose of Proposal: The study is to priority to Cumberland to restore Diamond Hill Pond after 40 years of deferred maintenance due to lack of capital. The current conditions at the transitioned pond to marshl and that produces foul-smelling sentiment, lack of streamflow and is an eyesore once the water evaporates. The Diamond Hill manmade Pond has become a habitat for nesting birds, frogs and other amphibians in e arly spring. It once was a centerpiece for Diamond Hill Park and beautified the picnic grove and scenic am phitheater. The Town would like to restore and maintain a healthy pond environment for expanded public use. The aforementioned project relates directly to USACE's mission and authorities under Section 20 6, the Authority provided by the Water Resources Development Act of 1996, allow the Corps to plan, desi gn and build projects to restore aquatic ecosystems for fish and wildlife. Notable projects in new England i nclude: freshwater wetland restoration, fish passage and dam removal, river restoration and nesting bird isl and restoration. The project will be of enormous benefit to the general public, young, students, adults and older citizens, by allowing them to enjoy a quality of life outdoors by the tranquil Reflection Pond.

1. Administrative Details

Proposal Name: Diamond Hill Pond Restoration & Preservation

by Agency: Mayor Office, Town of Cumberland

Locations: RI

POC Name:

POC Phone:

POC Email:

Date Submitted: 08/28/2019

Confirmation Number: 23e18f13-6106-4c5f-a18f-f7bdf042530e

Supporting Documents

File Name	Date Uploaded
Army Corps of Engineers Letter of Support.pdf	08/28/2019
Final Submittal-Memo- Reflection Pond.pdf	08/28/2019

2. Provide the name of the primary sponsor and all non-Federal interests that have contributed or are expected to contribute toward the non-Federal share of the proposed feasibility study or modification.

Sponsor	Letter of Support
Mayor Jeffrey Mutter, Town of Cumberland(Primary)	The Town of Cumberland will be the primary sponsor for the non-federal cost-sharing 35% match.

3. State if this proposal is for new feasibility study authority, a modification to an existing feasibility study authority, a modification to an existing USACE project authority, or a modification to an existing USACE Environmental Infrastructure Program authority. If it is a proposal for a modification to an existing study, project or program authority, provide the authorized water resources development feasibility study or project name.

[x] New Feasibility Study Authority

4. Clearly articulate the specific project purpose(s) of the proposed study or modification. Demonstrate that the proposal is related to USACE mission and authorities and specifically address why additional or new authorization is needed.

The study is to priority to Cumberland to restore Diamond Hill Pond after 40 years of deferred maintenance due to lack of capital. The current conditions at the transitioned pond to marshland that produces foul-smelling sentiment, lack of streamflow and is an eyesore once the water evaporates. The Diamond Hill manmade Pond has become a habitat for nesting birds, frogs and other amphibians in early spring. It once was a centerpiece for Diamond Hill Park and beautified the picnic grove and scenic amphitheater. The Town would like to restore and maintain a healthy pond environment for expanded public use. The aforementioned project relates directly to USACE's mission and authorities under Section 206, the Authority provided by the Water Resources Development Act of 1996, allow the Corps to plan, design and build projects to restore aquatic ecosystems for fish and wildlife. Notable projects in new England include: freshwater wetland restoration, fish passage and dam removal, river restoration and nesting bird island restoration. The project will be of enormous benefit to the general public, young, students, adults and older citizens, by allowing them to enjoy a quality of life outdoors by the tranquil Reflection Pond.

5. To the extent practicable, provide an estimate of the total cost, and the Federal and non-Federal share of those costs, of the proposed study and, separately, an estimate of the cost of construction or modification.

	Federal	Non-Federal	Total
Study	\$253,500	\$136,500	\$390,000
Construction	\$0	\$0	\$0

Explanation (if necessary)

BUDGET: Site Preparation_Erosion Control: \$5,000 Replacement of Inlet Structure, To Pond: \$30,000 Overflow structure rear channel: \$55,000 Modify outlet structure: \$20,000 Clean existing pond_remove 3 wall segments: \$15,000 Low flow channel_stone 'ribs: \$60,000 Regrade_replant rear channel: \$15,000 New pervious walkway: \$25,000 Rain gardens (2) at pond area: \$45,000 New (3) Irrigation fountains, 4 benches: \$20,000 Sub-Total: \$340,000 Soft-Costs (survey, design_engineering, permitting, construction administration) 15% \$50,000 TOTAL: \$390,000

6. To the extent practicable, describe the anticipated monetary and nonmonetary benefits of the proposal including benefits to the protection of human life and property; improvement to transportation; the national economy; the environment; or the national security interests of the United States.

The Mayor's vision is to restore Diamond Hill Pond so it can be preserved as a gathering place for families, residents, Rhode Islanders and those folks who live in the Blackstone Valley Corridor; youth to older citizens to reconnect with nature is more important than ever especially as science is emphasizing its importance to one's long-term health. The preservation efforts to restore the Pond and convert it into a Reflection Pond will impact health and wellness. The project will also impact the Diamond Hill environment and its inhabitants such as native turtles, beavers, eagles, falcons, fresh-water fish, foxes, coyotes and other mammals. It will also preserve the rare insects and plants, Red Bellied Beetle Dusted Skipper, Ditch-Sone-Crotop and Blue Cohosh that have a strong physical presence and enjoy life at the Pond.

7. Does local support exist? If 'Yes', describe the local support for the proposal.

Yes

Local Support Description

Local Support: The Town of Cumberland who will provide the non-federal cost sharing match of 35%.
State Support: RI DEM: \$600,000

8. Does the primary sponsor named in (2.) above have the financial ability to provide for the required cost share?

Yes

Primary Sponsor Letter of Support

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Army Corps of Engineers Letter of Support.pdf



**TOWN OF
CUMBERLAND**

Office of Mayor Jeffrey J. Mutter,
Linda Teel, Chief of Staff,
Sarah King, Administrative Assistant

August 26, 2019

U.S. Army Corps of Engineers
Assistant Secretary Rickey James
441 G Street NW
Washington, DC 20314-1000

Dear Assistant Secretary James:

Respectfully I submit this letter of support, on behalf of the Town of Cumberland, to the Corps of Engineers to determine and evaluate if the restoration of Diamond Hill Pond meets Federal participation. Cumberland acquired Diamond Hill Town Park, from RI DEM, July 1998. It is a treasured resource offering over 373 acres of open space and conservation land to the general public for expanded recreational use. It also boasts the Warner Trail, an Appalachian Mountain Club 30-mile gem that runs between Diamond Hill and Sharon, MA. From the hill's scenic summit, the trails provide a view of the Boston skyline and Mount Wachusett.

The Town has invested in a master plan to transform Diamond Hill that includes: a new ski lodge and community space; Decksides a wrap-around sunrise porch and deck that faces picturesque Diamond Hill; new gravel parking lot and two entranceways to improve traffic flow, install storm water run-off system where none currently exists to protect groundwater, new septic system, new public restrooms and a multi-use gathering lawn with an amphitheater for performing art events.

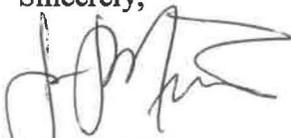
Diamond Hill is a recreational asset not only to residents but all Rhode Islanders and residents living in the Blackstone Valley Corridor. The Town is seeking funding to restore the manmade pond that has turned into a marshland, lacks stream flow and destroys the natural habitat and replaces it with foul-smelling sediment. The Town, in partnership with RI DEM wetland specialists have created a plan to maintain the pond in its current size and shape and protect the habitat year-round. Diamond Hill Pond is home to native turtles and frogs, assorted fresh-water fish, beavers, foxes and other mammals. Also home to rare insects and plants such as the Red Bellied Tiger Beetle, The Dusted Skipper, Ditch-Stone Crop and Blue Cohosh. The solution is to rebuild the two water control structures and allow the stream to flow through the pond to maintain a healthy living pond environment. Our plan will restore the marshland into a reflection pond with irrigation fountains, benches and new landscaping.

Prior Administrations wanted to fill in the pond, at a cost of \$1M, which would devastate our residents, wildlife, rare insects and plants.

RI DEM has awarded the Town \$600,000 to redevelop Diamond Hill, the Town is using a one-time solar payment of \$500,000 to improve restrooms, parking, groundwater run-off. The Town is seeking \$390,000 for the restoration of the Pond, to preserve it and maintain it as a Reflection Pond, and agrees to the cost sharing match of 35% of non-federal funds.

I very much appreciate your consideration of this very important project and priority for the Town of Cumberland. If I can be of further assistance, please feel free to contact me directly.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jeffrey J. Mutter', written over a white background.

Jeffrey J. Mutter
Mayor

Map Document

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Final Submittal-Memo- Reflection Pond.pdf

Diamond Hill Park, Cumberland, Rhode Island

Restoration of Diamond Hill Reflection Pond

Proposed Improvements
August 2019

MEMO



B E T A

6 Blackstone Valley Place
Suite 101
Lincoln, Rhode Island 02865
401.333.2382
www.BETA-Inc.com

Diamond Hill Park, Cumberland, Rhode Island

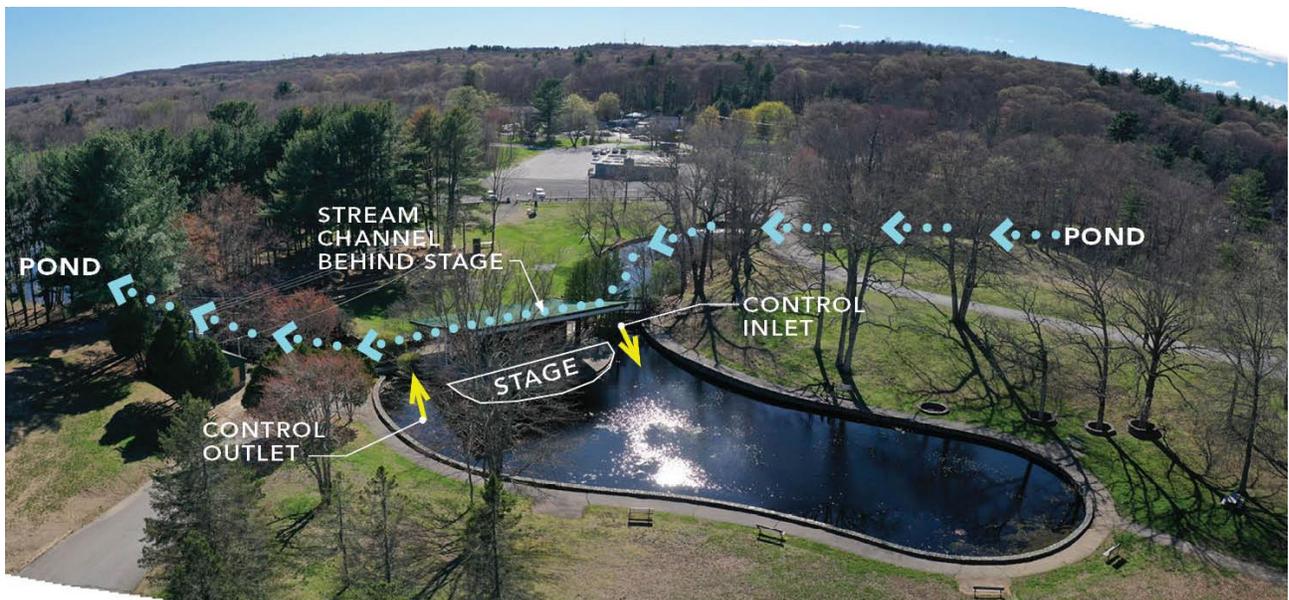
Re: Diamond Hill Park, Cumberland, Rhode Island

After 40 years of deferred maintenance due to lack of capital, Mayor Jeff Mutter commissioned Beta Engineering who developed a master plan to transform Diamond Hill – a 370-acre conservation area that is a recreational asset not only to Cumberland but all of Rhode Island. Home to native turtles and frogs, assorted fresh-water fish, beavers, foxes, and other mammals, it was also once home to rare insects and plants such as the Red Bellied Tiger Beetle (*Cicindela rufiventris*), the Dusted Skipper (*Atrytonopsis hianna*), Ditch-Stone-Crop (*Penthorum sedoides*) and Blue Cohosh (*Caulophyllum thalictroides*).

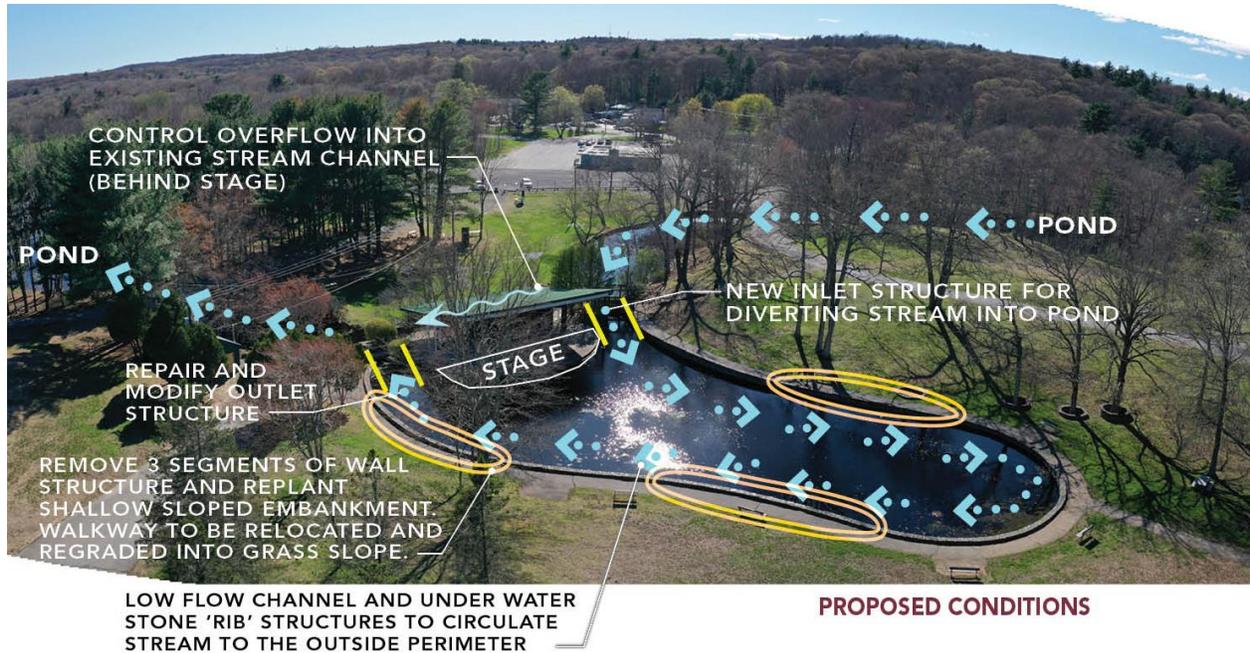
Two \$300,000 grants from RIDEM and a one-time payment of \$500,000 from a solar project will be used to improve restrooms, parking, groundwater run-off and as seed money to begin the construction of a new welcome center. We are respectfully asking for \$390,000 to fund the restoration of the manmade pond.

Over time, the manmade pond has become a habitat for nesting birds, frogs and other amphibians in the early spring. The pond, once a contributor to the scenic beauty of the amphitheater and surrounding picnic grove, becomes an eyesore once the waters evaporate. Not only does it detract from the park, but the lack of streamflow destroys the natural habitat and replaces it with foul-smelling sediment.

Previous administrations considered filling in the pond. However, recent discussions between the town and RIDEM wetland specialists have led to a plan that maintains the pond in its current size and shape and protects the habitat year-round. The solution is to rebuild the two water control structures and allow the stream to flow through the pond, which is essential for maintaining a healthy pond environment.



EXISTING CONDITIONS



With the stream diverted into the pond, the current channel behind the stage becomes overflow for significant rain events. This section of the channel will be vegetated with emergent wetland species that can survive periodic flood events and will provide wildlife habitat including escape cover, food source, and potential nesting sites.

The new concept delivers a constant year-round flow into the pond and with the addition of a low flow channel and under water stone ‘rib’ structures, a uniform flow pattern will support a healthy selection of both plants and animals.

Outside the low flow braided stream channel within the impoundment, aquatic and wetland plant species can be established that will add both beauty and edge habitat for birds and small mammals for use the area during quieter times around the amphitheater and surrounding parkland. Grading around the low flow stream channel would create areas that are drier but will still support wet meadow species that can withstand extended flooded conditions. The goal of the planting would be to create an aesthetically pleasing native habitat that provides food, shelter and breeding habitat for wildlife and overwintering areas for mammals and reptiles.

The main improvements will be rebuilding the intake control structure and the release structure. The inlet structure will maintain maximum flow into the pond along with a diversion structure that controls overflow going to the rear channel behind the stage. The rear channel area is also intended to be modified to allow for increased volume during flood conditions along with revegetating the embankment with low native plant material.

The outlet structure will control the ponds height and will be designed to allow lowering the pond level so that periodic maintenance can occur within the pond if necessary, such as to remove invasive species or accumulated sediments. It is intended that both the inlet and outlet structures are built within

the existing containment walls of the channels leading to and from the pond. This will simplify the required engineering and control construction cost.

Other improvements adjacent to the pond will include removing portions of the stone wall edge and introducing sloped embankments with low native vegetation. This will allow for a diversity of wildlife to enter and exit the pond. This edge treatment will also enhance the natural character of the surrounding picnic grove and allow the pond to engage with the pedestrian path and seating areas. The asphalt walkway will be replaced with pervious pavers and any run-off from the surrounding grassy hillside will be captured by a series of small rain gardens. Seating will also be updated and incorporated into the hillside slope.



Existing Conditions of inlet, viewed from the stage



Existing view from the outlet.

Diamond Hill Park, Cumberland, Rhode Island

Preliminary Budget	\$ k
Site Preparation / Erosion Control	5k
Replacement of inlet structure (to pond)	30k
Overflow structure at rear channel	55k
Modify outlet structure	20k
Clean existing pond / remove 3 wall segments	15k
Low flow channel / stone 'ribs'	60k
Regrade / replant the pond edge	50k
Regrade / replant rear channel	15K
New pervious walkway	25k
Rain gardens (two) at pond area	45k
New benches	<u>20k</u>
Sub-total	340k
Soft Cost (Survey, Design/Engineering, Permitting, Construction Admn.)	
15%	50k
Total +/-	390k