Newburyport Conservation Commission
May 2, 2023
Online Meeting
Minutes

1. Call to Order

Chair Joe Teixeira called an online meeting of the Newburyport Conservation Commission to order at 6:45 p.m.

2. Roll Call

In attendance were members Joe Teixeira, David Vine, Dan Warchol, Carole Wagan and Bill Mullen. Charlie Alovisetti and Steve Moore were absent. Conservation Administrator Julia Godtfredsen was also in attendance.

3. Minutes

The approval of the minutes of the April 18, 2023, meeting was tabled due to the lack of a quorum.

4. Old and New Business

Plum Island Updates

The UNH group headed by Greg Moore has planted over an acre of beach grass on the newly nourished dune. More planting will take place this spring and should continue in the fall.

5. Certificates of Compliance, Requests for Determinations, Requests for Minor Modifications

None

6. Public Hearings

Carole Wagan moved to open the public hearings. Bill Mullen seconded the motion. The motion was approved by a 5-0 vote (Joe Teixeira, yes; David Vine, yes; Dan Warchol, yes; Carole Wagan, yes; Bill Mullen, yes).

Kim Turner, City of Newburyport
149 High Street
Notice of Intent
DEP File #051-1071

The City of Newburyport is proposing to improve the quality of the water in the Bartlet Mall Frog Pond and to align the park to its original design. Kim Turner provided an overview of the history of the site. The Mall was the original town common and was used in the 1600s for the grazing of livestock. The supply of water to the pond was cut off when the Superior Courthouse was constructed in 1805. In the 1880s, Charles Eliot developed a plan for the site and it was transformed into a park. The fountain was installed in 1891 in an effort to clean the water in the pond.

Krista Wolfe described the existing conditions. Over the years, phosphorus and sediment has accumulated in the water, creating severe eutrophic conditions. There is no apparent connection between the pond and groundwater. Nutrients have been found in the sediment to a depth of 12 feet and urban contaminants are present in the shallow sediment. The water is now not safe for human contact.

Ms. Wolfe summarized the project, which would involve the removal of the eutrophic water from the pond. A liner would be installed in the pond and systems would be put in place to aerate and circulate the water. The pathway by which phosphorus enters the water would be cut off through the installation of a granite seating wall and the planting of a vegetated perimeter around the pond. The vegetation and the placement of benthic sediment on the bottom of the pond would provide habitat. The banks would be restored and a crushed stone pathway would be installed around the pond. The asphalt and granite entrances to the pond would be replaced with Flexipave, a permeable surface that was installed along the Pond Street side of the Mall. The playground would be upgraded with accessible play structures.

The project would involve several resource areas: land under water bodies and waterways, bank, the 100-foot buffer zone and the 25-foot no-disturb zone. A Variance is required for the alteration of the resource area. The removal of the eutrophic conditions would be the overriding public interest. There are no reasonable alternatives and mitigating measures would be employed.

Mike Sabulis provided an alternatives analysis and reviewed the conceptual project sequence. The analysis took effectiveness, cost and feasibility into consideration, along with the City's desires regarding the appearance and use of the pond. The recommended course of action includes the dewatering of the pond, the installation of the liner and the ongoing treatment of the quality of the water. The liner would be made up of a methane venting system overlaid with a geogrid, on top of which would be three inches of armor stone and three inches of benthic sediment.

Mike Igo said that once the liner has been installed, the next step would be to make the pond safe for incidental contact. The water now is stagnant, with no inlet or output. A bedrock well is being proposed on the east side of the pond to provide a supply of fresh water. The water from the well would flow around the pond to a pumphouse, where it would pass through a filtration system to a deep wet well manhole. From the wet well, the water would pass through a sand filter and would flow into the pond through perforated pipes under the stone layer of the liner. The flow of the water from the bottom up would mimic a spring-fed pond. The system would be closed, with the only source of water to the pond being from the bedrock well or rain. The granite seating wall would prevent surface runoff from entering the pond and the downspouts from the courthouse would be redirected. The fountain would be refurbished to aerate and circulate water.

Joe Teixeira asked if the fountain would penetrate the liner. Kim Turner said it is expected the fountain would be set on top of the liner.

Carole Wagan asked about the wildlife that currently lives in the pond. Mike Igo said it is expected that the amphibious creatures would migrate during the drawdown of the pond. The correct process for handling fish is being investigated, as they could be diseased.

Bill Mullen said information on surface or subsurface aeration has not been shown on the plans. He said that while the sediment has been determined to be the cause of the phosphorus,

testing took place only on one day. He would like to review the calculations to determine how much loading is coming from the surrounding lawn. He also said information has not been provided on the quality of the ground water.

Mike Igo said surface aerators are not being proposed because they would disturb the smooth surface of the pond. The pump station would deliver air to the pond from below the surface through the perforated pipe. Water fowl has contributed to the phosphorus level, but fertilizer has not been used on the banks for some time. He is confident about the source of phosphorus being the sediment. The calculations were reviewed but were not provided to the Commission. The presence of arsenic and iron in ground water is a concern in the Merrimack River valley. The water from the bedrock well would not be pumped directly into the pond. Its quality is variable and it would be tested. The drilling of the well would be the first step in the process and information from the testing results would be included in the construction documents.

David Vine asked if the composition of the benthic sediment layer has been determined. He asked about the runoff from the banks, the use of the dock, how the construction would impact Yankee Homecoming and if the canoe tilt would again take place. Mike Igo said they are working on the right blend for a sediment layer in a New England pond to provide habitat. The existing sediment would be re-graded but not removed. The dock would both provide access to the pond and protect the intake pipe. Details must still be developed on the treatment of runoff from the banks. As many walkways as possible would be left open during construction, but access to the pond would be blocked. After construction, the water would be like that of a normal pond and the bottom would be firm. Kim Turner said the Parks Commission would be responsible for a program for the dock and the Commission has been interested in having a flat-bottom skiff in the pond. Construction is expected to take three to four months and would begin in the fall.

The hearing was opened to comments from the public. Anita Greenwood, 151 High Street, asked about the design of the pumphouse, noise from the pump and the removal of trees. She was told the Parks Commission would be involved with the design of the pumphouse. It would be insulated and it would allow almost no sound to be heard from the pump. No trees are to be removed for the construction of the pumphouse. The steps from Auburn Street would be removed and replaced with a Flexipave walkway. The staging area would not block access to the basketball court.

The Commission members will attend a site visit. They asked to receive additional information on the following details of the proposal:

- the plan for migration during dewatering.
- information on public safety on the dock and the removal of the dock in winter.
- the plan for oxygen or ozone for subsurface aeration.
- an analysis of phosphorus in the water column and its source.
- the testing of the ground water quality from the bedrock well and the need for a filtration system.
- the composition and grading of the benthic layer and the habitat that would be provided.
- the plan for the infiltration of stormwater from the banks.
- the identification of a designated position for the management of the automated system.
- details on the design of the pumphouse shed.

Carole Wagan moved to continue the public hearing to the May 16 meeting. Dan Warchol seconded the motion. The motion was approved by a 5-0 vote (Joe Teixeira, yes; David Vine, yes; Dan Warchol, yes; Carole Wagan, yes; Bill Mullen, yes).

Carole Wagan moved to close the public hearings. David Vine seconded the motion. The motion was approved by a 5-0 vote (Joe Teixeira, yes; David Vine, yes; Dan Warchol, yes; Carole Wagan, yes; Bill Mullen, yes).

7. Enforcement/Violations

None

8. Order of Conditions

None

9. Adjournment

Carole Wagan moved to adjourn the meeting at 8:30 p.m. Bill Mullen seconded the motion. The motion was approved by a 5-0 vote (Joe Teixeira, yes; David Vine, yes; Dan Warchol, yes; Carole Wagan, yes; Bill Mullen, yes).