
MEMORANDUM

To: Town of North Hampton, The Nature Conservancy, NHDES Coastal Program, NHDOT Division 6

From: Craig Musselman, CMA Engineers, Inc.

Date: March 16, 2022

Re: Philbrick Pond Post-Construction Memorandum

The purpose of this memorandum is to document the effect of the reconstruction of the NHDOT Ocean Boulevard culvert inlet at Philbrick Pond in North Hampton.

In February, 2022, Northeast Earth Mechanics of Pittsfield, NH, with construction oversight by CMA Engineers, completed the installation of a concrete slab near the Ocean Boulevard culvert inlet and the dredging of the pond area between Ocean Boulevard and the trolley berm. Prior to this construction, due to the presence of a rock weir at the culvert inlet, and accumulated sediment in the pond area, the water surface elevation throughout Philbrick Pond varied by only about five inches between high and low tides. The purpose of this project was to lower low tide water surface elevations such that the twice daily variation under normal circumstances is increased from five inches to about 15 inches. This is the first phase of a multi-phase process to improve the health of the Philbrick Pond saltmarsh system.

Three photos taken on March 15, 2022 at low tide demonstrate the effect of the project. Photo #1 shows the water flowing at low tide above the concrete slab to the inlet to the NHDOT box culvert. The water level at low tide now matches the water level flowing in the box culvert. On each tide cycle, this is as low as low tide could be in Philbrick Pond.

Photo #2 shows the pond area between Ocean Boulevard and the trolley berm. In the past, only the very top of the trolley berm pipe was visible at the lowest of tide levels. The removal of the accumulated sediments in this area was critical to maintaining low water surface elevations at low tide.

Photo #3 was taken from the trolley berm looking west into the Philbrick Pond saltmarsh. The mudflats on both sides of the channel have not been seen before. This photograph clearly shows that the project has accomplished its objective. Rather than the previous conditions which resulted in near constant saturation, this more normal tidal variation will allow oxygen to penetrate to lower depths in the saltmarsh soils.



1. Philbrick Pond Culvert Inlet, March 15, 2022



2. Philbrick Pond Trolley Berm, March 15, 2022



3. Philbrick Pond Upstream, March 15, 2022