

ECR

Environmental Consulting & Restoration, LLC



POTENTIAL VERNAL POOL ANALYSIS MEMO

TO: Massachusetts Natural Heritage & Endangered Species Program
FROM: Brad Holmes
DATE: June 12, 2018
RE: River Stone, Off Ward Street/Viking Lane, Hingham

Environmental Consulting & Restoration, LLC (ECR) has performed reviews of the existing conditions at the proposed River Stone development site located off Ward Street/Viking Lane in Hingham (the Site) throughout this spring season. The purpose of the review was to examine a Potential Vernal Pool (PVP) located within the Bordering Vegetated Wetland (BVW) at the site. Please note, this PVP is not mapped as a potential or certified Vernal Pool by MassGIS Oliver Mapping Program. ECR conducted four site reviews of the PVP on April 5th, May 14th, May 22nd and May 31st of 2018. The weather during the latest review on May 31st was sunny, clear and warm (approximately 75 degrees) with light wind and dry site conditions. During the reviews, ECR analyzed the PVP in accordance with the Natural Heritage & Endangered Species Program's Guidelines for the Certification of Vernal Pool Habitat. Each analysis included an evaluation of the biological and physical criteria of the PVP by means of photographing the site, wading through the PVP, dip-netting, etc.

The first two reviews of the PVP revealed that the pool contained Fairy Shrimp (*Eubranchipus spp.*) larva that could potentially meet the biological criteria necessary to qualify as a Certified Vernal Pool per MaNHESP. In order to meet the biological criteria using the presence of Fairy Shrimp, adult specimen of Fairy Shrimp would need to be documented. The first review on April 5th was at the beginning of the spring season, which biologically started later than normal this year in this region. During the first three reviews, the PVP was also documented containing water. In order to meet the physical criteria of a certifiable Vernal Pool under the MaNHESP guidance, the PVP must be documented to hold water for a minimum of 2 months. During the final review of May 31st, ECR documented that the PVP was completely dry and not holding any amount of water; staining remained within the footprint of the Mean High Water to the pool, but there was no standing water. ECR has also reviewed the precipitation data from NOAA's National Weather Service Forecast Office, which documents a total of 25.70 inches of precipitation during 2018 at the Hingham weather station¹. This is compared to a normal of 22.32 inches of precipitation during January thru May¹. Based on the evidence of higher than normal precipitation this year and the documentation of the PVP being dry during the May 31st review, it is unlikely that this PVP holds water long enough to meet the physical criteria to be considered a certifiable vernal pool or provide suitable habitat for the documented Fairy Shrimp larva to mature to adult specimen.

Based on the four reviews of the PVP located off Ward Street/Viking Lane, it is ECR's opinion that the PVP does not meet the physical and biological criteria to be a certifiable vernal pool under NHESP's guidelines. Included as part of this review are photographs of the potential vernal pool area. Upon review of this memo, please contact me at (617) 529 – 3792 or brad@ecrholmes.com with any questions or requests for additional information.

Thank you,
Brad Holmes, Professional Wetland Scientist #1464
Manager

1. NOAA National Weather Service Forecast Office, <http://w2.weather.gov/climate/xmacis.php?wfo=box>



Photograph #1 – View of the Potential Vernal Pool (PVP) during the May 31st site inspection when the entire pool was dry.



Photograph #2 – View of the PVP during the May 31st site inspection when the entire pool was dry.

**PVP Site Photographs 5/31/18
River Stone, Hingham**



Photograph #3 – View of the PVP during the May 31st site inspection when the entire pool was dry.



Photograph #4 – View of the PVP during the May 31st site inspection when the entire pool was dry.