

April 9, 2018

Town of Hingham
Zoning Board of Appeals
210 Central Street
Hingham, MA 02043

Re: Supplemental Report - Wetland Resource Area Review
River Stone Development
Off Ward Street & Viking Way

Dear Board Members:

Subsequent to the February 25, 2018 wetland delineation review letter associated with the Town of Hingham Zoning Board of Appeals' (ZBA) review of the Comprehensive Permit application for the proposed River Stone residential development (Project), the ZBA requested additional information regarding the presence of vernal pool habitat within the bordering vegetated wetland located within the property. As stated within the February 25, 2018 letter: The term "vernal pool" is defined under the Hingham Wetland Regulations (HWR) as any confined basin or depression not occurring in existing lawns, gardens, landscaped areas, or driveways which, at least in most years, holds water for a minimum of two continuous months during the spring and/or summer, is free of adult fish populations, and provides essential breeding and rearing habitat functions for amphibian, reptile, or vernal pool community species, regardless of whether the wetland site has been certified as a vernal pool by the Massachusetts Division of Fisheries and Wildlife and Fisheries. The western lobe of the BVW is a confined depression that could potentially function as a vernal pool per HWR.

Field Investigation

On April 5, 2018, I conducted a field review of the potential vernal pool area to determine: 1.) the overall accuracy of the resource areas identified on the Project Plans (revised through March 9, 2018) subsequent to the February 25, 2018 letter, and 2.) the presence or absence of obligate vernal pool species. Based on increased temperatures and several significant precipitation events between the initial field review and the vernal pool investigation, some individuals of obligate vernal pool breeding species such as wood frogs (*Rana sylvatica*) and spotted salamanders (*Ambystoma maculatum*) have migrated to vernal pools; however the traditional 'big night' when the majority of the amphibians migrate to the pools has not yet occurred. The field review consisted of wading through the pool and systematically searching for egg masses of obligate species and also using a dip net to examine the leaf substrate for the presence of fairy shrimp (*Anostraca* sp.) which are also considered an obligate vernal pool species.

Results

No evidence of breeding activity by obligate amphibian species (egg masses, breeding adults) was identified during the field review. Examination of the leaf litter within the pool did positively identify the presence of adult fairy shrimp within the wetland (See attached photographs).

Jurisdiction

MA Natural Heritage and Endangered Species Program

Per the MA Natural Heritage and Endangered Species Program (MA NHESP) *Guidelines for the Certification of Vernal Pool Habitat* (2009), the pool meets both the physical and biological criteria necessary for certification. Based on the presence of fairy shrimp (biological) and lack of permanently flowing outlet from the portion of the wetland containing standing water (physical), the area is positively confirmed as vernal pool habitat. To date, the vernal pool has not been certified by MA NHESP.

Massachusetts Wetland Protection Act

The Massachusetts Wetlands Protection Act (Act) only provides protection for vernal pools that are certified through the MA NHESP. Under the Act, the area subject to protection includes the limits of the vernal pool and 100 feet laterally from the vernal pool boundary but only when it is also located within a wetland resource area. In the case of the pool within the subject property, should the vernal pool be certified at a later date, the vernal pool habitat would extend only to the delineated boundary of the bordering vegetated wetland.

Town of Hingham Wetlands Protection By-Law, Rules and Regulations

Per Section 2.0 of the Town of Hingham Wetlands Regulations (“HWR”), the Bylaw and Regulations provide protection for Resource Areas and their wetland values. Resource Areas protected under the Bylaw are ANY of the following: “freshwater or coastal wetland, isolated wetland, beach, dune, flat, marsh, wet meadow, bog, swamp, **vernal pool**, creek, river, stream, pond, lake, estuary, or ocean”. The term “vernal pool” under the HWR is defined as any confined basin or depression not occurring in existing lawns, gardens, landscaped areas, or driveways which, at least in most years, holds water for a minimum of two continuous months during the spring and/or summer, is free of adult fish populations, and provides essential breeding and rearing habitat functions for amphibian, reptile, or vernal pool community species, regardless of whether the wetland site has been certified as a vernal pool by the Massachusetts Division of Fisheries and Wildlife and Fisheries.

The HWR also provides for the following performance standards with respect to vernal pools: (1) Except as authorized by the Commission, no activity or alteration shall be permitted within 100 feet of a vernal pool, whether it be certified or uncertified but accompanied by credible evidence of its viability as a vernal pool. The 100-foot zone around the defined vernal pool boundaries shall be known as “Vernal Pool Protection Zone”. (2) Projects shall not have any adverse effect on vernal pools, whether certified or uncertified, provided such wetlands meet the physical and biological requirements for certification as described in the Massachusetts Division of Fisheries and Wildlife 1988 Guidelines for Certification of Vernal Pools. The Conservation Commission may require more than the minimum protective undisturbed buffer strip.

Recommendations

Based on the information collected during the field review of the bordering vegetated wetland, South River Environmental recommends the following:

- The applicant should delineate the limits of the vernal pool habitat within the bordering vegetated wetland and depict the limits on the site plans;
- The applicant or applicant’s representative should conduct additional field investigations in April and May 2018 to determine the presence or absence of obligate vernal pool breeding amphibians within the pool and provide documentation to the ZBA regarding the findings. If obligate vernal pool breeding amphibians are present, the associated upland dispersal habitat within the buffer zone to the vernal pool will likely be significant to the protection of the wildlife habitat interest associated with the vernal pool resource area. Fairy shrimp do not

immigrate to or emigrate from the vernal pool and do not typically depend upon the upland habitat within the 100-foot buffer zone;

- The applicant should provide a narrative discussion regarding as to how the vernal pool habitat will be protected against adverse impacts associated with the proposed Project including the removal of buffer zone vegetation, modifications to hydrologic regime of the vernal pool and best management practices to be implemented during construction; and
- The applicant should provide a list of specific waiver requests, if applicable, from the vernal pool performance standards within the HWR.

SRE appreciates the opportunity to provide this information. Should you have any questions regarding this report, please do not hesitate to contact me at 978-697-0854 or via email at southernriverenvironmental@gmail.com.

Sincerely,
South River Environmental



John Zimmer
Wetland Scientist

SITE PHOTOGRAPHS



View of potential vernal pool habitat within bordering vegetated wetland



View of adult fairy shrimp captured in pool with dip net



Adult fairy shrimp caught within vernal pool within bordering vegetated wetland