



1285 Washington Street,
Weymouth, MA 02189
Phone/Fax: 781-335-1464

March 19, 2021

Nahant Conservation Commission
Nahant Town Hall
334 Nahant Road
Nahant, MA 01908

**RE: NOI Review
Northeastern University – Seawater Intake Project**

Dear Members:

As requested, Hardy + Man Design Group (**HMDG**) has reviewed the Notice of Intent application and supporting documents for the referenced filing. Our review is focused primarily on Stormwater Management and related engineering considerations of the project filing. We acknowledge that EcoTec, Inc is conducting a parallel review of the project as it relates to ecological and administrative aspects of the filing.

Information reviewed included:

- Notice of Intent application and supporting documentation.
- Plan set titled Nahant Seawater Pumphouse – Notice of Intent 100% Submission, dated October 1, 2020.
- Stormwater Report prepared by Nitsch Engineering, Dated October 1, 2020.
- Resident comments received via email dated March 16, 2021.

Generally, the application is considered complete and has the information required for initial review and discussion with the Board. We offer the following comments based on our initial review of the project materials received to date:

- 1) Existing conditions plan should be stamped by a Professional Land Surveyor.
- 2) The plans indicate tree removal TBD. The location, number and size of trees to be removed should be identified and restoration areas should be clearly identified.
- 3) In general, resource areas (especially flood zones & local 100-foot buffer), the limit of work and specific erosion control measures should be clarified on the plan set. This information is required to properly evaluate the project relative to regulations (including Local By-law).
- 4) There appears to be a conflict between the Civil Plans and the Landscape Plan regarding the easterly Bioretention area and the subsurface infiltration area. The plans should be revised to clarify the location of these features.

- 5) Additional information regarding the Bioretention areas is required. Proposed grading, construction details, etc. are not found in the plan set. The plans should be revised to include this information so the basins can be evaluated.
- 6) The subsurface infiltration basin appears to be within five (5) feet of the proposed building addition. While DEP design criteria offers different minimum distances for infiltration basins vs trenches, etc.; we recommend a minimum of ten (10) feet to a building foundation with basement.
- 7) Proposed grading in general is not depicted on the plan set. The plans should be revised to show all proposed grading.
- 8) Test pit data was not included with this submission. Stormwater Management Policy requires test pits in the location of proposed infiltration basins to determine soil type and depth to groundwater. This information needs to be provided to evaluate infiltration rates and proper separation to ESHGW in addition to confirming all other stormwater related calculations.
- 9) Stormwater Management Policy indicates "Mounding analysis is required when the vertical separation from the bottom of an exfiltration system to seasonal high groundwater is less than four (4) feet and the recharge system is proposed to attenuate the peak discharge from a 10-year or higher 24-hour storm (e.g., 10-year, 25-year, 50-year, or 100-year 24-hour storm)". If test pit data indicates the four-foot separation is not provided, these calculations should be submitted.
- 10) There appears to be inconsistencies in the impervious areas used in the Recharge Volume calculations and the HydroCAD calculations. The calculations should be revised for consistency or clarity.
- 11) Water Quality Volume calculations should be included in the analysis of compliance with Standards 3 and 4.
- 12) TSS removal calculations should be included in the analysis of compliance with Standard 4. The requirement for 44% removal prior to infiltration should also be included.
- 13) The Stormwater Checklist indicates that a TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided. We were unable to find this documentation in the materials provided.
- 14) We recommend that the material stockpile not be located in the AO designated flood zone. This is especially true given photos provided showing inundation of the area.
- 15) The Operation & Maintenance Plan should be revised to include required maintenance of the Bioretention Basins.
- 16) The Operation & Maintenance Plan indicates that the subsurface infiltration basin is to have observation ports. The observation ports should be indicated on the plans and construction details should be provided.

- 17) The Operation & Maintenance Plan indicates that snow shall be pushed to designated snow removal areas. We were unable to find those locations on the plans. The plans should be revised to indicate where the designated snow removal areas are located.
- 18) The submission indicates that a draft SWPPP is included in Appendix E. Appendix E, in the report, says "under separate cover". We were not provided this appendix and are requesting a copy for review.

We have made every effort to review and summarize this submission. Based on the nature of the review comments, it is anticipated that revisions and additional review will be required. If you have any questions regarding this submittal, please feel free to contact me at 781-335-1464. **HMDG** appreciates the opportunity to provide you with these engineering services.

Sincerely,

Shawn P. Hardy, P.E.