

**135 Keyes Road
Concord, MA 01742**



DATE: November 20, 2024

MEMORANDUM

TO: Elizabeth Hughes, Town Planner
FROM: Jeffrey A. Murawski, P.E., Water & Sewer Superintendent
PREPARED BY: Giovanni Caceres, Public Works Engineer - Water Systems
SUBJECT: 275 Forest Ridge Road - Comprehensive Permit Plan Submission.

The Water & Sewer Division (Division) has reviewed the most recent revised **“Comprehensive Permit Plan for ‘Multi-Family Site Development, The Residences at Thoreau, 275 Forest Ridge Road in Concord, MA 01742’”** drawings set, prepared by Allen & Major Associates, Inc., dated October 18, 2024, which was revised and submitted for the above referenced project. Based on the level of detail provided, the Division would like to provide the following comments as part of the Comprehensive Permit Plan process:

1. Water Design Issues:

- a. The Applicant shall submit for approval a design conforming to the Division’s design policies, standards and practices.
- b. The proposed design introduces a “tree” water distribution system serving the proposed homes, which will have a single point of entry for water supply to the system. The Division would recommend instead to loop the arterial main feeding the system with other available existing mains (e.g.: the existing water mains along the south and east of Building 2 and the Air Support Dome structures) to provide redundancy. This will provide better water pressure and water quality.
- c. If the Applicant intends to convey the water infrastructure to the Town for acceptance and ownership of the water infrastructure, the Applicant shall provide the Town with a utility easement satisfactory to the Division’s requirements for the new water infrastructure to be accessed for operation, maintenance, repairs, replacements as required, and for emergency repair actions by the Town, if necessary. The easement shall be recorded by the Proponent at the Middlesex Registry of Deeds.
- d. If the Applicant intends to retain the built water infrastructure within the development as private infrastructure, the development ownership shall execute a Water Service Agreement with the Town.
- e. As per Town’s design policies, hydrants shall be provided no more than 500 feet along new mains to provide adequate fire protection coverage for the new development complex. Hydrants shall also be provided at the terminus of any

dead-ended water main to allow for adequate flushing. Hydrants installed onsite shall include at least one (1) iHydrant.

- f. The existing Wastewater Treatment Facility at the Thoreau Club Campus operates in accordance with an existing Groundwater Discharge Permit No. 646-4, under 314 CMR 5.00. This facility has repeatedly failed permit requirements in the past. A new location for a wastewater treatment facility has been proposed because of this development project. The Applicant shall submit to the Division for our records, a Project Development Sequence Plan which shall include the new Wastewater Facility commissioning and start of operations, and the decommissioning of the existing wastewater treatment facility. The new facility's leaching field shall be located outside (if possible), or as practicably far as possible from the Town's "Second Division Well" water source Zone II.

2. Site Suitability Issues:

In addition to the above comments, the Division would like to provide the Applicant the following "Site Suitability" comments because of the proposed development proximity to a Municipal water supply well:

- a. **Salt Storage, per 310 CMR 22.21(2)(b)2.** Wellhead protection zoning and non-zoning controls submitted to the Department in accordance with 310 CMR 22.21(1), shall collectively prohibit the siting of the following and uses within the Zone II (Ground Water Conservancy District) ... storage of sodium chloride, chemically treated abrasives or other chemicals used for the removal of ice and snow on roads, unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate;
- b. **Snow Storage, per 310 CMR 22.21(2)(a)4.** Wellhead protection zoning and non-zoning controls submitted to the Department in accordance with 310 CMR 22.21(1), shall collectively prohibit the siting of the following and uses within the Zone II (Ground Water Conservancy District) ... the stockpiling and disposal of snow or ice (within the Zone II or Ground Water Conservancy District) removed from highways and streets located outside of Zone II that contains sodium chloride, chemically treated abrasives or other chemicals used for snow and ice removal.
- c. **Soil Removal, per 310 CMR 22.21(2)(b)6.** Wellhead protection zoning and non-zoning controls submitted to the Department in accordance with 310 CMR 22.21(1), shall collectively prohibit the siting of the following and uses within the Zone II (Ground Water Conservancy District) ... the removal of soil, loam, sand, gravel or any other mineral substances within four feet of the historical high groundwater table elevation (as determined from monitoring wells and historical water table fluctuation data compiled by the United States Geological Survey), unless the substances removed are redeposited within 45 days of removal on site to achieve a final grading greater than four feet above the historical high water mark, and except for excavations for the construction of building foundations or

the installation of utility works, or wetland restoration work conducted in accordance with a valid Order of Condition issued pursuant to M.G.L. c.131, §40.

- d. **Impervious Cover, per 310 CMR 22.21(2)(b)7.** Wellhead protection zoning and non-zoning controls submitted to the Department in accordance with 310 CMR 22.21(1), shall collectively prohibit the siting of the following and uses within the Zone II (Ground Water Conservancy District) ... land uses that result in the rendering impervious of more than 15% or 2500 square feet of any lot or parcel, whichever is greater, unless a system for artificial recharge of precipitation is provided that will not result in the degradation of groundwater quality.
- e. **Infiltrating Road Runoff.** Massachusetts Stormwater Standards indicate that groundwater infiltration of roof runoff from non-metal roofing is prohibited in the Zone II.
- f. **High Intensity Uses.** Massachusetts Stormwater Handbook – V1, Ch. 1 – Standard 5 – Page 12 Paragraph 3. (<https://www.mass.gov/doc/massachusetts-stormwater-handbook-vol-1-ch-1-stormwater-management-standards/download>).