

13 February 2024

Dear Members of the Sherborn Board of Health and Sherborn Zoning Board of Appeals:

Regarding the Washington Street Sherborn Homes project, we believe that at the last BOH meeting it was commented that at this time the Board of Health was only reviewing septic plans. With this in mind, we must request that before any construction is started that the applicant be required to drill 3 monitoring wells in proper locations to document present groundwater levels and direction of groundwater flow. These wells should also be sampled for Mass. DEP water quality parameters, including radon, uranium, and PFAS by EPA method 537.1 to establish baseline groundwater chemistry. The location of the wells must be such that future sampling will capture downgradient conditions from the septic field, should post-construction and other future sampling be necessary. If, after determining the direction of groundwater flow, the location of the three wells will not adequately represent upgradient and downgradient conditions, additional wells will need to be installed to properly assess the groundwater conditions around the septic field. The monitoring wells will need to be deep enough to characterize the drinking water aquifer. If multiple aquifers are present (shallow where the septic field is and deep where drinking water is sourced from), then additional wells may be needed to characterize each aquifer.

Once the rental units are inhabited, regular sampling (at least quarterly for 3 years) of the monitoring wells and septic system effluent should be conducted, especially for PFAS analyzed by EPA 537.1. The effluent sampling should be conducted at a location immediately upstream of the septic field to best characterize the septic system discharge. Should any of the testing parameters exhibit values greater than the samples taken prior to construction of the septic field, the applicant must be required to install proper treatment processes to reduce the condition to levels that are consistent with the baseline groundwater chemistry to prevent further increases being introduced by the septic field effluent.

A study was conducted of the groundwater on Cape Cod and its major contaminants. PFAS chemicals, particularly from carpeting, were found to be a serious problem. Septic systems can be a vector for PFAS plumes in bedrock aquifers emanating from the dumping of wastewater and chemicals involved in the carpet cleaning process into the septic system as shown in this study. Attached is an abstract of the report. The full report is available at: <https://www.sciencedirect.com/science/article/pii/S0048969715312353>

In closing, in the interest of protecting the ground water levels and quality of the groundwater and wells of the present residents of the Greenwood and Washington Streets area, we request the following specific requirements be included in the permitting of construction of the Washington Street project:

- Perform baseline water level monitoring over a 12 month period (quarterly measurements at minimum), including months with the least rainfall (September), prior to turning on the pumps in the new wells.
- Perform water level monitoring and sampling in 3 groundwater wells after the septic field is activated until at least 36 months after residential units are occupied. These wells should be located around the septic field so as to be able to determine the direction of flow of the groundwater and possible contamination. These monitoring wells will need to be deep enough to characterize the drinking water aquifer. If multiple aquifers are present (shallow where the septic field is and deep where drinking water is sourced from), then additional wells may be needed to characterize each aquifer.
- Conduct a long-term aquifer test to delineate the area of drawdown for the new wells.
- Monitor effluent from new septic systems for PFAS (EPA 537.1) at least quarterly for 3 years following residential occupancy.
- Require PFAS-free carpeting in the development.

Pat & Jack Mulhall
48 Greenwood Street
Sherborn, MA 01770