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**Groton Utilities / Statement on Proposed Avery Brook Subdivision
December 2, 2022**

LAND USE DEPARTMENT

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Re: Application of Avery Brook Homes, LLC for a permit to conduct regulated activities in upland review areas with respect to properties located at 94, 96, 98 and 100 Stoddards Wharf Road, Ledyard, Connecticut

To date, Groton Utilities has prepared review comments pertinent to the above project. These review comments were originally prepared for a proposed subdivision of 36 lots with a private road, individual septic systems, individual wells and no provision for stormwater management. To date these plans have been revised to a 26-lot subdivision with a proposed Town-owned road and partial stormwater facilities, but still with individual septic systems and individual wells. While downsized in scope, our concerns remain the same, in that there is insufficient data provided by the applicant that this subdivision, with its density of housing, its individual on site subsurface sewage disposal systems, its individual well layout and the limited stormwater treatment will not have a deleterious impact on the quality of water to the directly adjacent drinking water supply reservoir.

To reiterate our previous points, to which additional reference and inclusion is hereby made:

(1) **Soils** – The data provided on the plans indicates a high degree of permeability for soils throughout the site, as evidenced by the test pit data and percolation rates for the site of each proposed lot. This points to a relatively rapid discharge and migration of effluent to the underlying water table and to areas immediately surrounding the subsurface sewage disposal system, resulting in significant nutrient loadings detrimental to a safe drinking water supply.

(2) **Water Supply** – A study had been previously prepared by GEI Consultants examining the adequacy of water supply for the number of lots and the anticipated number of individuals expected to inhabit the area. This study was prepared for greater than 30 lots, the previous submittals, but no revised report has been submitted with respect to the current proposal. The study did point out that the amount of required water for supply could not be met from onsite groundwater alone, but would have to rely on drawdown from properties adjacent to this site. Since Groton Utilities is a major abutter to the site, we assume that, without more specificity, the drawdown would impact the Groton property as well as other abutting and nearby landowners. Again, it is important to note that the study addressed only adequacy of supply, but not the quality of existing groundwater, nor the potential impact of drawdown from multiple wells in close proximity to other lots and to the adjacent neighborhood. Nor does it address, as previously pointed out, the potential issue of drawing water from a water table that has significant effluent dispersal from multiple subsurface sewage disposal systems in close proximity to each other.

(3) **Subsurface Sewage Disposal Systems** – The concentration of the proposed subsurface sewage disposal systems, although less in number than the previous proposal, still represents a dense layout with a hydraulic profile that includes effluent discharge from multiple systems combined along the same slope and outflow directions. All effluent is discharged toward Groton Utilities property from these systems, with wetlands and open water in close proximity to a drinking water supply reservoir. **We ask that an in-depth study of the water table's hydraulics and the ability of the soils to treat or renovate the wastewaters prior to dispersal onto Groton Utilities property be provided.** Though lots have been tested, designed and reviewed on an individual basis, it is critical to consider this type of dense layout as a cumulative impact that must meet certain standards at the property line – particularly because that property line and underlying groundwater and surrounding wetlands are directly linked to a drinking water supply that affects adjacent towns¹ as well as the Town of Ledyard.

(4) **Stormwater** – This issue has been partially addressed with the proposed stormwater quality basin, but still maintains runoff without pretreatment or detention before reaching the Groton Utilities' reservoir area. We find this unacceptable, particularly with respect to the high percolation rates and the gravelly soils encountered and documented in the test hole information included with this latest proposal. With such high permeability, we feel that the proposal has not adequately addressed the potential impact of directing non-treated stormwater runoff to our reservoir system.

In addition, due to the increase in paved and landscaped (lawn) areas, there is a risk of increased runoff of pollutants and nutrients that could directly impact the adjacent wetlands and open water areas. The applicant has indicated that sheet flow over pervious areas would decrease or, in this case, eliminate the need for any detention facilities and referred to a Town Ordinance that implies runoff without detention to the Groton Utilities reservoir system. We have addressed this ordinance in previous reviews and are in disagreement with the concept. We know that runoff water will reach us in any case, but we ask that it be as clean as possible when it reaches us. Our wetlands and open bodies of surface waters, where adjacent to residential or commercial lands, should not be regarded as pretreatment for a drinking water supply.

(5) **Town Road** – The change has been made to now consider the interior road as a Town road, in which case we presume that it will be given to and maintained by the Town in the future. As the treatment of roads for wintertime maintenance has now changed, it is our understanding that the road will be treated only with sodium related products. We have been tracking both sodium and chlorides in our reservoir system for many years and have analyses that indicate an increase in sodium levels since 2013, the year that Connecticut DOT, as well as most Towns, changed over to

¹ Note that Groton Utilities is a regional supplier to other area towns, in addition to Groton and Ledyard.

the use of sodium products rather than using sand or a combination of the two. Our process at the Water Treatment Plant, as most drinking water purveyors in the State, are not set up for the treatment of sodium. As such, any increase in the amount of sodium detected in the raw water supply must be considered as a potential treatment issue that could incur additional costs to the consumers within the surrounding communities.

(6) CDR Maguire 2014 Report – A sample issue identified in the CDR Maguire report included a reference to the Avery Hill and Aljen Heights areas of the Town of Ledyard, approximately 2 to 3 miles west of the currently proposed location, where lots were in the range of 0.25 to 1.0 acre in size. These areas required a public water supply in order to address "..... groundwater contamination and limitations in capacity of private wells and small community systems". We feel this is an apt comparison due to the density of the housing and the proximity of the sewage disposal systems and wells to each other without further analysis.

In summary, there is no question in the certainty of the direction of both surface and groundwater flows, in that it will reach our reservoir surface and groundwater within a short distance and short period of time. We have previously asked for and now reiterate the need, based on the above points and the previously submitted comments, to prepare a study, a renovation analysis, to ascertain the impact of the proposed development to our drinking water supply reservoir. This should include, specifically because of the density of the proposed lots, the guidelines for renovation and hydraulic analysis found in the DEEP's "GUIDANCE FOR DESIGN OF LARGE-SCALE ON-SITE WASTEWATER RENOVATION SYSTEMS" and the DPH's "Design Manual - Subsurface Sewage Disposal Systems for Households and Small Commercial Buildings". We feel strongly that this type of analysis is necessary to make an informed decision as to the impact to our reservoir system, as well as to the impact on lots adjacent to each other within the proposed subdivision.

Prepared by Karl F. Acimovic, P.E. & L.S.
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