



January 2, 2025

BY EMAIL: jeanne.guthrie@sherbornma.org

Sherborn Zoning Board of Appeals
19 Washington Street
Sherborn, MA 01770

RE: Proposed Chapter 40B Project - 34 Brush Hill Road, Sherborn, MA

Dear Zoning Board Members:

As you know, I represent Andrew and Michelle Lauterback and Dennis and Vicki Natale, direct abutters to the above-referenced proposed project.

We have reviewed the new site plans that were filed by the Applicant two days before Christmas. The new plans show a completely different project design, now featuring four single-family homes (reduced from eight), each containing three bedrooms (increased from two bedrooms). The long “loop” access road has been eliminated, replaced by a dead-end road with two spurs, each serving two homes. These spurs contain no turnaround area for emergency vehicles or delivery vehicles, and run parallel to the abutters’ rear property boundaries, set back just a few feet from the abutters’ properties. The front entrances of the proposed new homes (and their garages) face the abutters’ back yards.

As a preliminary matter, the Board should seek and receive confirmation that the Applicant is irrevocably withdrawing the 8-unit design in favor of the newly-filed 4-unit design. If the Applicant intends to reserve its right to go back to the 8-unit plan at some point in the future, the Board should know that so that it can react accordingly (i.e., evaluate both project designs). The Board should not have to evaluate two different projects on the same site at once.

Setting aside the unnecessarily offensive site layout on the 4-unit plan, the physical viability of this new design depends on a clear understanding of its potential impacts. Unfortunately, the impacts of the prior 8-unit design were never fully evaluated and understood, despite our requests for a proper hydrogeological evaluation. The primary issue of groundwater concern is the impact of the Project’s septic system and drainage structures on private drinking water wells, both on-site and on abutting properties. Relatedly, there has been no consideration to date of whether the Project’s wells will impact the water levels in wells on nearby properties, or whether they are even viable for their own purpose. As this Board knows from past precedent under Chapter 40B, the need to protect public health and safety is paramount, and cannot be compromised. While the density of the Project drives these concerns to some extent, there is

woefully insufficient information to determine whether the proposed 12-bedroom project is any safer than the former 16-bedroom project.

In other similar Chapter 40B projects that feature private septic systems in close proximity to private wells, applicants have engaged in far more research and analysis than what Mr. Murchison has performed here. The Fields at Sherborn is one example. In order to properly evaluate impacts to the Project and on abutters, I recommend that the Board require the Applicant to conduct additional data collection and analysis, as described below.

A. Water Quality Impacts - Area of Impact (AOI) and Nitrogen Loading Analyses

As our hydrologist Scott Horsley has pointed out in prior comment letters, the Applicant's submittals continue to lack any water table or groundwater flow direction data. This information is critical to determine the impacts associated with the proposed Project to be served by an on-site septic system and individual drinking water wells. There are also private wells located on four abutting properties (#s 32, 36, 42, and 46 Brush Hill Road). We believe that all of these wells are drilled into fractured bedrock and the connections to shallow groundwater has not been adequately evaluated at this Project.

Based on the limited subsurface information provided by the Applicant to date, we know the following: (a) there is a presumed water table at approximately 2-3 feet below the surface across the Project Site, based on test pit explorations; and (b) below the water table there is an overburden comprised of glacial till (which has highly variable permeability characteristics that need to be documented). Importantly, we do not know the depth of bedrock on this Site, or the connectivity between the overburden aquifer and the bedrock aquifer.

After sewage is discharged into groundwater at the proposed leaching field, it will move downgradient in the shallow soils until it encounters a bedrock fracture at the interface between the overburden (surficial materials) and the underlying bedrock. Once it encounters these fractures it can move relatively quickly (and in a direction completely different from that mapped in the overburden) to a pumping drinking water well that is drilled in the fractured bedrock (such as the abutter's wells).

So far, the Applicant has produced no **groundwater flow direction maps** or **nitrogen loading analysis** (also called a "mass balance analysis") on downgradient wells and wetlands for the proposed septic system layout. To do this, the Applicant would first have to prepare a **groundwater contour map** using groundwater elevation data collected from multiple wells. Based on the latest test pit/well location plan, there is only one monitoring well on the Project Site. Strategically-placed wells need to be installed around the Site in order to establish reliable groundwater contours, from which you can predict the direction of flow. Once groundwater flow directions are established, the Applicant can prepare an "**Area of Impact**" analysis, predicting the geographic extent of the anticipated wastewater plume from the proposed leaching field.

On this Site, it is probable that wastewater recharging below the leaching field will disperse radially (in multiple directions), and not necessarily in the direction of existing groundwater flows. DEP's *Private Well Guidelines* state that, in siting wells near septic systems, "[i]t should be kept in mind that contaminants can be transported great distances through fractured bedrock and groundwater flow in the overburden may not be in the same direction as in the bedrock." *DEP Private Well Guidelines* (rev. May, 2024), p. 18. Copy attached as Exhibit A.

Further, we cannot assume without any reliable subsurface data that wastewater discharged under the leaching field will remain in the overburden (above the bedrock), and that the Project's drinking water wells will pull water from the overburden aquifer. This is compounded by the problem that the Applicant has provided no analysis of the impact of groundwater mounding under the leaching field on groundwater flow direction.

Absent any soil analysis informing us on the connectivity between the overburden and bedrock aquifer, the prudent course would be to assume that wastewater recharged under the leaching field will seep into the bedrock aquifer. As stated above, the Project's wells, and the wells of the existing abutters, are most likely "bedrock wells," meaning they extract water from the bedrock aquifer, not the overburden aquifer. This is also an important point because it means that calculating predicted nitrogen levels in the overburden is a good place to start, but it does not provide the whole picture. To get a complete picture of the impacts from the septic system, data needs to be collected that would indicate how quickly groundwater moves through the overburden into the bedrock, in what direction groundwater flows through bedrock fractures, and how quickly groundwater moves through bedrock fractures.

These questions must be answered in order to thoroughly evaluate septic system impacts. For example, if wastewater entering the overburden beneath a leaching field immediately recharges into the bedrock, the groundwater flow direction in the overburden would be generally irrelevant. What would be more relevant is the groundwater flow direction within the fractured bedrock, something we presently know nothing about with respect to the Project Site. Notably, the Town's Groundwater Protection Committee raised this concern, and the fate and transport of pollutants such as viruses and chemical constituents such as nitrate and PFAS once those reach the bedrock aquifer, in a Memorandum to the Board dated October 21, 2024. We're not aware of any response from the Applicant. The Board of Health's "environmental impact statement" regulation, §8.0.2, would require for this project a hydrogeological evaluation that "shall include determination of geologic stratigraphy, determination of groundwater flow directions, determination of minimum groundwater elevation when relevant, evaluation of water table mounding, and prediction of down-gradient water quality impacts..." The Applicant has refused to comply with this requirement, and is requesting a waiver from it.

Finally, the Board should be concerned that the 150-foot protective radius for each of Project's proposed wells encroaches onto abutting properties that the Applicant does not control. Better planning would confine the entire protective radius on the Project Site, which the Applicant legally controls. Relatedly, the 150-foot radius around the Project's leaching field

encroaches onto the abutting property at 32 Brush Hill Road, thereby imposing a de facto encumbrance on that lot which diminishes its property value.

The necessary data to fully evaluate the Project's impacts should include additional water levels and groundwater analysis. Specifically:

1. Monitoring wells should be installed and water level data must be collected at various points on the Project Site.
2. Groundwater mounding analyses should be incorporated into a post-development water table (and groundwater flow direction) map that incorporates measured water levels on the abutter's properties.
3. Wells that are drilled for groundwater elevation data should also collect data on the hydraulic conductivity of the overburden soils and the depth to bedrock.
4. Groundwater flow through bedrock fractures should be taken into account. In the absence of site-specific fracture trace analysis and/or dye tests, conservative assumptions about flow through fractured bedrock should be made. Pump tests could also be conducted to establish connectivity between the overburden and fracture bedrock.
5. An "Area of Impact (AOI)" analysis should be developed incorporating the preceding considerations.
6. "Time-of-Travel" calculations should be performed to determine the threat of contamination from viruses from the septic system to drinking water wells on and off the Project Site.

B. Water Quantity Impacts

Sherborn has no back-up public water supply system, so if the Project's wells fail, or if the pumping from the Project's wells causes any neighbor's well to fail, the consequences will be disastrous. There is no "plan B." It is conceivable that the drawdown from the Project's new wells could impact water levels and/or available pumping rates (yield) in existing wells in vicinity.

The Board of Health's water supply regulations should be strictly enforced. Further, if the Board issues a Comprehensive Permit for this Project, the permit should contain a robust pre-development well testing protocol condition, under which the Project's wells are pumped for a period of at least 48 hours, and water quality and quantity impacts on abutting wells are measured and evaluated. The protocol would establish well performance standards that must be met throughout the pump test. Owners of any private well within 500 feet may participate through the monitoring of their wells during and after the pump test.

There is precedent for imposing such a condition. The Carlisle Zoning Board of Appeals imposed a well testing protocol on a small 40B project in 2016 that I worked on behalf of neighbors. That project, like this one, featured private wells and an on-site septic system in a neighborhood that was also served by private wells and septic systems. The water testing

Sherborn Zoning Board of Appeals

January 2, 2025

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protocol condition from that decision is attached as Exhibit B, for your reference, and could be used as a model here.

Thank you for your consideration of our comments.

Very truly yours,

/s/ Daniel C. Hill

Daniel C. Hill

Encs.

cc: Clients
Sherborn Board of Health
Sherborn Board of Selectmen
Paul Haverty, Esq.

EXHIBIT A – DEP Well Guidelines, p. 18

COMMONWEALTH OF MASSACHUSETTS

Department of Environmental Protection

Bonnie Heiple

Commissioner

Bureau of Water Resources

Kathleen Baskin

Assistant Commissioner

PRIVATE WELL GUIDELINES

Updated May 2024

Drinking Water Program

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WELL LOCATION

Any person intending to have a private well constructed should identify all potential sources of contamination which exist within 200 feet of the site. Where possible, a well should be located upgradient of all potential sources of contamination and should be as far removed from potential sources of contamination as the general layout of the premises and surroundings permit.

In selecting a well location, all OSHA and Dig Safe requirements must be taken into consideration. Dig Safe should be contacted at least three days before drilling begins. Additionally, every well should be located so that it will be reasonably accessible with proper equipment for repair, maintenance, testing, and inspection.

The well should be completed in a water bearing formation that will produce the required quantity of water under normal operating conditions without adversely impacting adjacent wells. Water quantity considerations are discussed in the section entitled "Water Quantity" (page 47).

RELATION TO PROPERTY LINES AND BUILDINGS

Private water supply wells should be located at least 10 feet from all property lines. The center line of a well should, if extended vertically, clear any projection from an adjacent structure by at least 5 feet.

RELATION TO ROADS AND RIGHTS-OF-WAY

All private water supply wells should be located a minimum of 25 feet from the normal driving surface of any roadway or a minimum of 15 feet from the road right-of-way, whichever is greater. Additionally, it should be noted that the "Rights-of-Way Management" regulations (333 CMR 11.00) include procedures and requirements for marking and recording the location of private drinking water supplies which are within 100 feet of any right-of-way. Private drinking water supplies that are marked and recorded in accordance with the aforementioned regulations are protected by restrictions on the use of herbicides for maintaining rights-of-way. Uniform standard signs for marking water supplies have been produced and are currently available from the Department of Agricultural Resources (DAR).

RELATION TO SURFACE WATER AND WETLANDS

Private water supply wells should be located at least 25 feet laterally from the normal high water mark of any lake, pond, river, stream, ditch, or slough. Additionally, it should be noted that land use within 100 feet of a wetland or within the 100-year floodplain of any river or stream is regulated under Chapter 131, Section 40, of the Massachusetts General Laws and 310 CMR 10.00, "Wetlands Protection." Prior to constructing a private water supply in these areas, approval must be obtained from the local Conservation Commission. Where possible, private water systems should be located in areas above the 100 year floodplain. When a well must be located in an area subject to flooding, special protection should be provided, as is discussed in the section entitled "Wellhead Completion and Alteration" (page 59).

REQUIREMENTS OF THE STATE ENVIRONMENTAL CODE TITLE 5

Pursuant to Chapter 21A, Section 13, of the Massachusetts General Laws, MassDEP promulgated 310 CMR 15.00, "Minimum Requirements for the Subsurface Disposal of Sanitary Sewage, State Environmental Code, Title 5." These regulations provide minimum standards for the location, design, construction, and operation of subsurface sanitary sewage disposal systems that discharge less than 10,000 gallons per day.

It should be noted that the standards presented in the current version of Title 5 were developed primarily to protect public health against pathogenic viruses and bacteria. Local

hydrogeologic conditions may require more stringent regulations. Boards of Health have the authority to strengthen Title 5 by implementing appropriate and reasonable local regulations.

Title 5 requires that a potable well or suction line is located a minimum of:

- (1) 10 feet from a building sewer constructed of durable corrosion resistant material with watertight joints, or 50 feet from a building sewer constructed of any other type of pipe
- (2) 50 feet from a septic tank
- (3) 100 feet from a leaching field
- (4) 100 feet from a privy

Title 5 also requires that irrigation wells be located a minimum of 25 feet from a leaching field, and 10 feet from a septic tank.

For (3) and (4) above, Title 5 notes that "100 feet is a minimum acceptable distance and no variance shall be granted for a lesser distance except with prior written approval of MassDEP."

In regard to pressurized water supply lines, Title 5 states that "it is suggested that the disposal facilities be installed at least 10 feet from and 18 inches below water supply lines. Wherever sewer lines must cross water supply lines, both pipes shall be constructed of class 150 pressure pipe and should be pressure tested to assure watertightness."

Part II of Title 5 includes procedures for obtaining a variance. Generally, the local Board of Health may grant a variance but there are also specific requirements for which Title 5 expressly states that only MassDEP (Wastewater Management Program) may grant variances. In order to grant a variance, however, it is important to have site specific hydrogeologic information submitted which documents that adequate protection can be provided without complying with the standards required by Title 5. All variances granted by the local Board of Health must be sent to MassDEP for review. MassDEP has the authority to overrule the Board of Health's decision.

SETBACK DISTANCES

These distances may be used as guidance for locating a potable well and they may be adopted in the local regulation because of the potential hazard to a well. Lesser setback distances may be applied for non-potable wells in accordance with Title 5 regulations.

Consideration should also be given to the direction of ground-water flow and the location of any groundwater discharge to a surface water body. Where possible, wells should be located upgradient of potential sources of contamination. Wells should not be located between a potential source of contamination and an area where groundwater discharges to the land surface. Other considerations for locating a well include the permeability, transmissivity, and composition of the subsurface geologic materials. It should be kept in mind that contaminants can be transported great distances through fractured bedrock and groundwater flow in the overburden may not be in the same direction as in the bedrock.

EXHIBIT B – Carlisle 40B (2017) well protection conditions

TOWN OF CARLISLE, MASSACHUSETTS
ZONING BOARD OF APPEALS
AMENDED DECISION UPON APPLICATION OF
LIFETIME GREEN HOMES, LLC
FOR A COMPREHENSIVE PERMIT UNDER
MASSACHUSETTS GENERAL LAWS CHAPTER 40B

RECEIVED
FEB 28 2017

TOWN CLERK-CARLISLE
CHARLENE M. HINTON

I. BACKGROUND

APPLICANT: Lifetime Green Homes, LLC (the "Applicant")

PROPERTY: 100 Long Ridge Road, Carlisle, MA

ZONING: Residence District B

PROPOSAL: Twenty (20) for-sale, single-family detached residential condominium units, of which nineteen (19) are new construction and one (1) is an existing house, to be served (subject to permitting by the Massachusetts Department of Environmental Protection) by a Public Water System and an on-site septic system made up of four separate component systems (three new systems plus the existing system that serves the existing house), to be located on a 9.84 acre parcel.

DECISION DATE: February 27, 2017.

ORIGINAL HEARING: July 28, 2014, August 11, 2014, August 27, 2014, September 15, 2014, October 6, 2014, October 27, 2014, November 3, 2014, November 17, 2014, January 5, 2015, February 4, 2015, March 26, 2015, April 6, 2015, April 22, 2015, May 4, 2015, May 20, 2015, June 1, 2015, June 8, 2015, June 15, 2015, June 22, 2015 and June 29, 2015.

REMAND HEARING ON
REVISED APPLICATION: August 8, 2016, October 4, 2016, November 28, 2016, December 21, 2016, January 4, 2016 and January 19, 2016

Water Quality and Water Quantity Conditions:

86. The Applicant shall comply with the Board of Health's Supplementary Regulations for Sewage Disposal Systems except as specifically waived in Section VI, above. In accordance with the foregoing, the Applicant shall demonstrate to the Board of Health, through analyses prepared by qualified engineering professionals, at such time as it seeks a permit authorizing the proposed septic systems, that there shall be no greater than 5 mg/L concentration of total nitrogen at the perimeter boundary, and that the proposed SAS configuration will be designed so that mounding will not increase the saturated thickness of the overburden at the property line by more than 2%.

87. The Applicant shall fully comply with the Board of Health's Water Supply Regulations and policies with respect to the irrigation and fire cistern wells. Site clearing for the well pump tests shall only be to the extent necessary to conduct the pump tests.

88. Contemporaneous with its pump tests associated with the permitting of the public water supply, the Applicant shall monitor the impact of the pump tests on all existing private wells located at 132 Long Ridge Road, 200 Long Ridge Road, 68 Garnet Rock Lane, 55 Suffolk Lane Extension, and all other existing private wells within 500 feet of any proposed well in accordance with the Well Monitoring Plan and Protocol ("WMPP") set forth under Condition 90, below:

The purpose of the WMPP is to determine whether the Project, under simulated conditions, will have a detrimental effect on the quantity and/or quality of private drinking water wells on abutting properties. The WMPP shall be implemented before the issuance of building permits for the Project or any Post-Well Test Site Activities. The costs of implementing the WMPP shall be borne by the Applicant. The Applicant shall retain a civil engineer to perform the services under the WMPP and oversight of the pump testing shall be provided by an independent qualified engineer retained by the ZBA at the Applicant's expense. The Applicant shall indemnify any abutter for damage to private property caused by its own negligence, recklessness, or intentional conduct, or that of its contractors and subcontractors, in carrying out the WMPP.

If the results of the water well testing protocol indicate that the Water Well Performance Standard ("WWPS") forth in Condition 89 below will be exceeded, the Applicant may not apply for a building permit or commence additional site clearing work until such time as the WWPS can be met.

89. Well monitoring plan and protocol. The testing of the above private wells shall be governed by the following Well Testing Protocol:

i. Water Quality.

For those residences participating in the WWMP, a baseline water quality sample shall be collected from each residence and shall be submitted for laboratory analysis by a qualified independent laboratory for the constituents listed in the table entitled "Long Ridge Road Water Quality Testing for Abutter Existing Wells" shown below.

Long Ridge Road
Water Quality Testing for Abutters' Existing Wells

Parameter	Parameter
Alkalinity	Hardness
Chloride	Arsenic
Color	Calcium
Nitrate Nitrogen	Copper
Nitrite Nitrogen	Iron
Odor	Magnesium
pH	Manganese
Sediment	Radon
Sulfate	Sodium
Turbidity	Lead
Total Dissolved Solids	Total Coliforms

This same water quality analysis shall be completed at the end of the public water supply pump test for the Project and again approximately 2-4 days after the transducers have been removed from the wells and the wells have been chlorinated. Another water quality analysis shall be completed once the project's blasting activities (if any) are complete. Additional water quality analyses shall be completed eighteen (18) months after full occupancy of Phase 1 and eighteen (18) months after full occupancy of Phase 2, provided that the Phase 1 analysis may be waived if it appears, at the time of the required test, that Phase 2 is being built out in a timely fashion in accordance with the CMP. The costs for the water quality testing shall be borne by the Applicant. If the post-blasting test results and/or the post-construction test results for any abutter's well exceeds the previous test results by a statistically significant (95% confidence interval) margin for any of the constituents, the Applicant shall restore the abutter's previous water quality at its own expense. The data collected from the water quality testing shall be reported to the Board of Health with the pump test results within 15 days of completion of the chemical analysis.

No perchlorate shall be used by the Applicant in blasting activities. The Applicant shall test each consenting abutter's well for perchlorate at least once before any blasting is performed on the Property, and once no later than two weeks after blasting has been concluded, and report the results to the Board of Health within 15 days of completion of the chemical analysis.

ii. Water Quantity.

In accordance with Board of Health regulations, the pumping test for the public water supply shall include all existing wells within 500 feet of any new well on the Property.

Transducers shall be installed and will be set to record on an automatic monitoring device, baseline water levels every 2 minutes for a minimum of 10 days before commencement of the pumping test, continuing during the required pumping tests,

and for 7 days following the pumping test or until 90 percent recovery of all wells, whichever is longer; After this time they will be removed from the wells.

Utilizing the data from the transducers, the maximum self-induced drawdown ("Baseline Self-induced Drawdown Range") in each private well shall be calculated. This is the range between the depth to the non-pumping average static water level and the depth to the lowest pumping water level in each well. Next, the 180-day projected test-induced drawdown ("Test-Induced Drawdown") on each private well (if observed) shall be calculated by creating a drawdown versus log of time graph of the decline in the normal static water levels (if observed) due to pumping the Project's wells. Lastly, after determining the pump depth in each well (either by pump installers records, Board of Health records, or by probing the well), the total available water column above the well pump as the difference between the depth to the non-pumping average static water level and the depth to the well pump ("Total Available Water Column") shall be calculated.

All data from the pumping tests shall be conveyed to the Board of Health for permanent preservation within 30 days of test completion. Additionally, data from each abutter's well tests shall be conveyed to each abutter within 30 days of test completion.

Based on the above data, if the sum of the Baseline Self-Induced Drawdown Range and the Test-Induced Drawdown (1) exceeds 50% of the Total Available Water Column, and at least 10% of this total is the Test-induced Drawdown, or (2) exceeds 75% of the Total Available Water Column, and at least 2% of this total is the Test-induced Drawdown, then the well shall be deemed to be impacted.

90. Subject to DEP approval, it is recommended that well pump tests shall be conducted during August or September.

91. Before the issuance of the first occupancy permit granted for the Project, the Applicant shall deposit into escrow \$30,000 which shall be held by the Board of Health in escrow until 18 months after issuance of the final certificate of occupancy for the Project to cover expenses incurred by the Applicant or by the abutting well owners listed above to treat or correct deficiencies or to address impacts on the private wells caused by the Project's wells. Escrowed monies shall be released by the Board of Health to aggrieved well owners only upon request of the aggrieved well owner and only if the WWPS has been breached and the requested disbursement constitutes a reasonable reimbursement, in the Board of Health's discretion, of the well owner's expenses to restore the well to its pre-pump test Total Available Water Column. The Applicant may deposit the requisite funds as cash or as a letter of credit. Town Counsel shall approve any letter of credit used to satisfy this condition. The Applicant must maintain \$25,000 in the account. If an approved disbursement reduces the amount of funds within the account below \$25,000, the Applicant must replenish the account within three business days.

This provision shall not be interpreted as precluding any private cause of action any aggrieved well owners may have against the Applicant or its successors or assigns.

Any escrowed funds remaining 18 months after full occupancy shall be released to the Applicant, with any accrued interest.

92. Annual yield data from the Project's wells, including the irrigation well, shall be submitted to the Board of Health prior to October 15 for the preceding 12 months (October 1 to September 30). The wells shall be instrumented as needed to gather this yield data.

Wastewater Management

93. Consistent with United States Environmental Protection Agency's Final Ground Water Rule promulgated November 8, 2006, the Applicant shall demonstrate to the satisfaction of the Board of Health that any septic system that is upgradient or cross-gradient of any property boundary that abuts lots containing existing domestic water supply well will achieve at least 99.99% inactivation or removal of viruses from the groundwater at the Site's downgradient and cross-gradient property boundaries. If the Applicant believes the groundwater already contains viruses, it may achieve this performance standard by demonstrating that the septic system will generate no additional viruses, or higher concentrations of viruses, at those locations.

94. Consistent with the Board of Health's regulations, the Applicant shall demonstrate to the satisfaction of the Board of Health through use of a hydrogeological evaluation using a three dimensional model such as ModFlow, performed by a qualified engineer or geologist, that the standards of 5 mg/L total nitrogen will be met at the downgradient and cross-gradient property boundaries.

95. The Applicant shall install three shallow overburden monitoring wells (a/k/a "soldier wells") downgradient and cross-gradient from each soil absorption area in locations specified by the Board of Health before issuance of the final certificate of occupancy for the Project, and shall perform readings quarterly upon initial occupancy on any unit served by the respective septic system, then quarterly for two years following full occupancy of all units served by the respective septic system, and then annually thereafter unless the Board of Health requires more frequent monitoring, submitting data to the Board of Health at the Applicant's and successor Condominium Association's own expense. The wells shall be sampled for *E. coli* coliform bacteria, total phosphorus, nitrate nitrogen, and ammonia nitrogen.

96. The septic systems shall be designed so that mounding will not increase the saturated thickness of the overburden at the property line by more than 2%. To monitor groundwater, permanent monitoring wells shall be installed at locations acceptable to the Board of Health along property boundaries downgradient from any soil absorption area. Samples shall be collected from these wells monthly from January through June during the first year of occupancy. Copies of the monitoring reports shall be provided to the Board of Health with 15 days of data collection.

Affordability Requirements:

97. No less than five (5) of the single family residences within the Project shall be made available for purchase by Households earning 80% or less of the area