



TOWN OF HINGHAM

BOARD OF HEALTH

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January 22, 2018

Emily Wentworth, Senior Planner/Zoning Administrator
Hingham Zoning Board of Appeals
210 Central Street
Hingham, MA 02043

Re: River Stone

I received a copy of the revised plans entitled, "Comprehensive Permit Plan", and Preliminary Hydrologic Analysis, each prepared by McKenzie Engineering Group, Inc., dated January 8, 2018, for the proposed River Stone development off of Ward Street. At this time, I do not have sufficient information to fully assess the project's impacts on behalf of the Board of Health. To offer recommendations to the Board of Appeals, I would need to review those materials specified in Section IV of the *Supplementary Rules and Regulations of the Disposal of Sanitary Sewage*. I have attached the relevant pages of 6-11 for your review.

The Board of Health has always applied the standard outside the sewer districts that are nitrogen sensitive established in 310 CMR 15.215 *The State Environmental Code. Title 5. Designation of Nitrogen Sensitive Areas*.

Prior to receipt of these materials, I can provide the Board and its engineer with public records related to the property that were filed with the Board of Health by the owner in support of prior development proposals. This information may help the Board better understand challenges related to onsite soil conditions. The Board should compare this information to that more recently submitted for consistency.

I look forward to providing the Board with additional comments when more information is available.

Sincerely,

Susan Sarni, MPH
Executive Health Officer
Town of Hingham



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35. Wastewater: Sewage, industrial waste, other wastes or any combination of the three (3).

II DEFINITIONS (continued)

36. Wettest Period: That period of time during each calendar year deemed by the Board in its reasonable discretion to be the time when the Groundwater table is closest to the surface of the ground.

III. REQUIREMENTS FOR A DISPOSAL WORKS CONSTRUCTION PERMIT

A Disposal Works Construction Permit must be sought and obtained:

1. When the construction of a New Disposal System or Plant is proposed, or
2. When the Repair of a Sewage Disposal System or Plant is proposed, or
3. When the Executive Health Officer or the Board orders the Repair of a Failed Sewage Disposal System, or
4. When the potential occupancy capacity of a existing Structure is increased, or
5. When a greater volume of sewage is proposed for the existing Sewage Disposal System or Plant than the system or Plant was originally designed to accept.

IV. APPLICATION REQUIREMENTS

To be deemed Complete, the application for a Disposal Works Construction Permit must contain the following information as appropriate:

1. The application for a Disposal Works Construction Permit must be filled out and signed by the record owner of the Lot. If application is made by someone other than the owner, the application shall be signed by both the record owner of the Lot and the Applicant.
2. An application fee must be paid at the time of submission of the application for a Disposal Works Construction Permit. This fee is non-refundable.
3. In the case of the construction of a New Sewage Disposal System, Subdivision, or Plant, the Applicant shall also deposit with the Health Department at the time of application the sum set forth in the Board's Schedule of Fees under "Sewage Disposal Permit Deposit" or Plant Permit Deposit", as applicable, in the form of a certified or bank check made payable to the "Town of Hingham" to be held by the Town Treasurer and from which fees and other expenses shall be deducted which may be incurred by

the Board of Health for the hiring of consultants for the purpose of witnessing percolation tests, Groundwater Elevations and other soil and site conditions.

IV. APPLICATION REQUIREMENTS (continued)

4. A list of Direct Abutters of Applicant's Lot and evidence satisfactory to the Board that notice that an application has been made for a Disposal Works Construction Permit has been given to said Abutters by certified mail, return receipt requested, shall accompany the application.
5. If a wetlands line is located on the plan which accompanies the application, or if the Board or the Executive Health Officer questions the possible presence of wetlands on the Lot or within 200 feet of a Sewage Disposal System or Plant, confirmation in writing by the Conservation Commission that:
 - a) A final Order of Conditions or final Negative Determination has been obtained and all appeals periods lapsed in accordance with the applicable provisions of chapter 131 Section 40 of the Massachusetts General Laws, and
 - b) A final Order of conditions or final Negative Determination has been obtained and all appeals periods lapsed in accordance with the applicable provisions of the Wetlands Protection By-Laws of the Town of Hingham promulgated pursuant to Chapter 40 of the Massachusetts General Laws.
6. Evidence satisfactory to the Board showing that the Lot on which the New Sewage Disposal System or Plant will be located has a supply of potable water sufficient in quantity with adequate pressure and a quality that has been determined to not endanger the health of any potential user. If the supply of water is from a well to be drilled on the Lot, it must be in existence, drilled and tested by a laboratory approved by the Board and licensed by the Department of Environmental Protection. The water tested must meet the Commonwealth of Massachusetts Minimum Drinking Water Standards. A well drillers log and report shall also be submitted. If the potential water supply is other than a well on the Lot, then a letter of commitment from the person or utility that will provide the water service must accompany the application.
7. If a Lot on which a New Sewage Disposal System or Plant is proposed to be built is part of a subdivision, evidence that the subdivision plan has been recorded in the Plymouth County Registry of Deeds or filed with the recorder in the Plymouth County Land court must be submitted.
8. In connection with applications for Disposal Works Construction Permit for a Sewage Disposal System where the Board reasonably estimates that the maximum daily sewage flow for the project exceeds seven thousand five hundred (7500) gallons of sewage per day, the Board in its reasonable discretion may require the Applicant to file

an application for a Plant Permit. If, after reviewing both the application for a Disposal Works Construction Permit for a Sewage Disposal System and for a Plant, the Board determines in its reasonable judgement that the environment and the health and well-being of the residents of the Town would be better protected by the utilization of a Plant rather than a Sewage Disposal System, the Board can decline to grant the application

IV. APPLICATION REQUIREMENTS (continued)

for a Disposal Works Construction Permit for the Sewage Disposal System.

9. Percolation test results, soil observations, and findings as to the Maximum Groundwater Elevations are required to accompany the application. At least two percolation tests must be performed in the primary Leaching Area and two percolation tests performed in the reserve Leaching Area. Four Deep Observation Holes (two in the primary area and two in the reserve area) must also be dug to a minimum depth of ten feet or six feet below the bottom of the proposed Leaching Area, whichever is deeper, unless this depth is unattainable because of bedrock. If a seepage pit is proposed as the Leaching Facility on a Lot, one percolation test and an observation hole is required in the location of each proposed pit and also in the reserve area for each pit. All percolation tests and Groundwater elevation observation tests must be witnessed by the Executive Health Officer or a representative authorized to act in his behalf. Dewatering of soil to perform a percolation test is not permitted.

All percolation test results and Groundwater elevation observations shall be considered valid for two years if accompanied by a plan submitted by the Designing Engineer conducting the tests which plan shall show the Lot lines, Groundwater elevations, the accurate location of test pits on the Lot, ties from the test pits to the nearest permanent monument, results of percolation tests, soil logs of deep test pits and the engineer's opinion based on conditions observed at the time of the testing.

10. **Six (6)** sets of plans submitted by a Registered Professional Engineer, signed, dated and certified with the stamp of the person responsible for the design. The plans must be drawn to scale *not less than* 1" = 20' and contain the following information:
- a) Name and address of owner, Lot number, assessor's Lot number.
 - b) Lot lines and dimensions established by a Professional Land surveyor.
 - c) Location of street, Structure, garage, out-buildings, driveway.
 - d) Accurate perpendicular distance from street and both sidelines to building.
 - e) Proposed elevation of top of foundation, cellar floor, garage floor.
 - f) Existing proposed street centerline grade.

- g) Location and dimensions of Sewage Disposal System and expansion area.
- h) Location and results of all soil observation pits and percolation tests conducted by the Designing Engineer.

IV. APPLICATION REQUIREMENTS (continued)

- i) Location and log of deep observation holes and the Maximum Groundwater Elevation in the area of the primary reserve areas. Soil logs shall be professionally and neatly presented on typical soil log forms which may be either bound in booklet form or presented on plan sheets with the project plans. When presented with the project plans, the logs shall be appropriately referenced on the plan index sheets and a common base elevation above mean Seal Level shall be shown for each line of soil logs. The soil surface and strata for each soil log will indicate the relative elevation above the common base elevation. Each soil log shall contain the following information: project name, Lot number, owner, soil technician, supervising Registered Professional Engineer, data for each change in soil description and stratus depth for each change in soil in accordance with requirements set forth above, depth and elevation of Groundwater, rock, ledge, bottom of test hole, test hole number, percolation rate, coordinates to the nearest 0.10 feet tied by transit and tape to permanent monumentation, the name of the witnessing agent representing the Board of Health and the elevation above Mean Sea Level of the ground surface.
- j) Elevations of ground surface at test pit, bottom of test pit and of any rock formations or other impervious strata, observed Groundwater encountered, and percolation test.
- k) Profile of the Sewage Disposal System, including invert elevations at building Drain, inlet and outlet from septic tank, inlet and outlet from distribution box, invert of leach lines and bottom elevation of leaching Area. A horizontal base line with a designated elevation located below the bottom of the test pits must be carried through the profile cross-section and test data sections.
- l) Cross-section of Sewage Disposal System showing all construction details.
- m) Existing and proposed grading at building corners, front Lot corners Leaching Area and at such other areas where the existing ground contours are being changed. All proposed and existing contours shall be shown at two-foot intervals with flow arrows.
- n) Design calculations.
- o) Location of all Structures within 200 feet of a Plant.

- p) Location of all surface and subsurface Drains within one hundred (100) feet of the Sewage Disposal System or of the Plant.
- q) Location of water courses, streams, brooks, ponds, lakes, swamps, marshes, wetlands as defined in Chapter 131 Section 40 of the Massachusetts General

IV. APPLICATION REQUIREMENTS (continued)

Laws or the Town of Hingham's Wetlands Protection By-Law, flood plain and any mean high tidal water within two hundred (200) feet of the Sewage Disposal System.

- r) Location of existing wells, including any wells owned by the Massachusetts American Water company and any suction lines and surface Water Supplies within five hundred (500) feet of the Sewage Disposal System or Plant. Location of any Protected Water Bodies within three hundred fifty (350) feet of the Sewage Disposal System or Plant. Any water service line on the Lot shall also be given.
- s) The location of existing Sewage Disposal Systems on Lots Directly Abutting Applicant's Lot.
- t) A bench mark reference within one hundred fifty (150) feet of the Lot shall be permanently established.
- u) A north arrow.
- v) Location of all underground utilities, including electric, telephone, gas, cable TV, fuel oil lines and underground tanks.
- w) All easements on the Lot.
- x) Any and all other data required by the Guidelines, Title 5 of the State Environmental code or the Town of Hingham Board of Health. If a plan has been submitted to the Board and a change is later made, such change or modification shall be made by revision change and dated so that it can be easily distinguished from the original plan.

11. If, upon review of the foregoing, the Executive Health Officer or the Board determines that further information is needed before the application will be deemed Complete, then he may require additional testing to further identify the soil or Groundwater elevation or determine its extent; or to locate, test, and evaluate well water proposed for domestic use. Such additional testing as shall be required may be sieve analysis, hydrometer analysis, on site permeability tests and Groundwater observation wells. The Executive

Health Officer or the Board in its discretion may also require additional information and studies to be performed at the site, or adjacent to the site as related thereto such as: hydrological studies and calculations for the mean annual, ten-year, and 100-year storm incident for which the high water determination shall be shown on the submitted plans and the corresponding hydrological calculations submitted; environmental studies; water quality studies and analyses; and other studies and analyses related to the designs and performance of the Sewage Disposal System or Plan (herein collectively called "Additional Studies").

IV. APPLICATION REQUIREMENTS (continued)

12. Should the Applicant's initial deposit required under paragraph 3 of this Section be insufficient to pay the consultants' fees to witness tests or to review the Additional Studies required by the Board, the board in its discretion may require additional amounts as may be necessary: An initial deposit as set by the Board of Health in its fee structure, but in no case to exceed five thousand dollars (\$5000.00) per Lot for a Sewage Disposal System (SDS); an initial deposit as set by the Board of Health in its fee structure, but in no case to exceed forty-five thousand dollars (\$45,000.00) per Subdivision; an initial deposit as set by the Board of Health in its fee structure, but in no case to exceed twenty-five thousand dollars (\$25,000.00) per Lot for a Plant to be paid by the Applicant, for the consultant review before any decision is issued. After all Board consultant fees and expenses have been accounted for and paid, the Board will return any unused deposit balance plus accrued interest to the Applicant. A final report of said account will be made available to the Applicant if so requested.
13. Applicant may appeal to the board of Selectmen of the Town the choice of a consultant made by the Board on either of two grounds: a) that a the consultant selected has a conflict of interest or, b) does not possess the minimum required qualifications to perform the required work. The minimum qualifications shall consist either of an educational degree in or related to the field at issue or three or more years of practice in the field at issue or a related field.

In the event that no decision is made by the Board of Selectmen within one month following the filing of the appeal, the choice made by the Board will stand.

14. The application shall not be deemed Complete until certified as such on the face of the application by the Executive Health Officer whose determination shall be conclusive absent a finding of gross and manifest error by the Board of Health after a written request for such a determination by the Applicant.
15. When the Board of Health approves an application with conditions and where said conditions must be Completed prior to the issuance of a Disposal Works Construction Permit, the Board shall establish a deadline by when the conditions must be Completed. Failure by the Applicant to Complete the conditions established by the Board in the time allotted may result in the denial and/or revocation of the Board's approval.