Stantec Consulting Services Inc.
45 Blue Sky Drive, 3rd Floor, Burlington MA 01803-2767

December 9, 2023
File: 179411162

Attention: Mr. Kenneth Perro, Chair
MILLBURY BOARD OF APPEALS
Municipal Office Building
127 Elm Street
Millbury, Massachusetts 01527

Dear Mr. Perro,

Reference: Comprehensive Permit Application (40B)
Rice Pond Village Residential Development
17 Rice Road

Pursuant to the Board's request, Stantec Consulting Services Inc. (Stantec) has reviewed the Comprehensive Permit Application for proposed residential development consisting of 192 Units located within three 4 story buildings with access off Rice Road in Millbury. Materials received to date relate to date to this submittal include the following:

- Comprehensive Permit Application and supporting documentation as submitted by SJV Investments, LLC
- Rice Pond Village Site Plan of Land (27 Sheets) dated October 24, 2023; Drainage Report dated October 24, 2023, and supporting documentation each as prepared by Azimuth Land Design, LLC (ALD).
- Traffic Impact Study Update, dated September 2022 as prepared by AK Associates

The Comprehensive Permit Application/Site Plan submittal was reviewed for conformance with the Board's Rules & Regulations Governing Comprehensive Permit Applications Under General Laws 40B and generally accepted engineering practice. Stantec reviewed the Traffic Impact Statement Update submittal for the proposed development under separate letter report dated December 4, 2023.

We offer the following comments and recommendations regarding the stormwater management system of the *17 Rice Road Comprehensive Permit Application* for the Board's consideration.

STORMWATER MANAGEMENT SYSTEM

The submitted Comprehensive Permit/Site Plan submittal provides a layout of the proposed open and closed storm drainage system facilities, including drain manholes, catch basins, piping, and subsurface infiltration chamber systems. The Drainage Report under a separate cover with the Comprehensive Application includes a narrative with attachments and a pre- and post-development condition site hydrology analysis for the 2-, 10-, 25- and 100-year storm events.

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The Town's Comprehensive Permit Rules and Regulations Section 3.8 Drainage Calculations identifies information required for the Board to evaluate the environmental impact, effectiveness, and acceptability of the proposed measures, as well as meet the Massachusetts Stormwater Management Standards as set by the Department of Environmental Protection (DEP).

MassDEP STORMWATER STANDARDS

We offer the following comments on the proposed stormwater management system, specifically for compliance with the ten performance standards as outlined in the MassDEP Stormwater Management Standards. To assist in our review, we recommend the MassDEP Stormwater Check List be provided by ALD.

1. Standard 1 – No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

   The project is designed with no new untreated stormwater discharges into wetlands. We note the proposed three subsurface infiltration chamber systems are designed for the 2 through 100-year storm events and have no outlet. We recommend ALD provide stormwater calculations to confirm each subsurface infiltration chamber system will drain within 72 hours.

2. Standard 2 – Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development discharge rates.

   The drainage analysis identifies a Type III 24-hr storm frequency for the 2 through 100-year storm events. We recommend rainfall amounts used be based on the 1998 Cornell University Study, NOAA Atlas Volume 10 Point Precipitation Frequency in estimating the pre and post development peak discharge rates for the 2, 10, 25, 50 and 100 yr. storm events as identified below.

Storm Frequency	24 Hour Rainfall
2 Year Storm	3.2 Inches
10 Year Storm	4.9 Inches
25 Year Storm	6.1 Inches
50 Year Storm	7.3 Inches
100 Year Storm	8.5 Inches

We recommend the Pre-Development and Post-Development Drainage Area Maps be revised to include the location, labels, and boundaries of all sub catchments. The maps should also include the location and labels of the drainage reaches and point of interest.

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Pre-Development sub catchment 503S and Post-Development sub catchment 504S have been addressed in the HydroCAD model but is not shown on the Drainage Area Maps and is not included in the peak flow rate summary. Pre-Development sub catchment 33S and post-development sub catchment 233S have been addressed in the HydroCAD model but is not included in the peak flow rate summary.

As noted in the drainage report, the proposed three subsurface infiltration chamber systems are designed for the 2 through 100-year storm events and have no outlet. We recommend ALD provide hydraulic calculations of the closed drainage system identifying the drainage areas and system capacities for the 25 through 100-year storm events.

3. Standard 3 – Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures, including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

   Stantec recommends ALD provide calculations to confirm the annual recharge from the post-development approximated pre-development conditions. We also request soil logs for test pit nos. 20 thru 23 be identified on the site plan and ALD address the labeling "Soil Test Results as Unofficial"

4. Standard 4 – Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:

   a) Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;
   b) Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and
   c) Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook

   We recommend the ALD provide the required Water Quality Volume and TSS Calculations.

5. Standard 5 – For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If, through source control and/or pollution prevention, all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as loads shall also comply with the requirements of the

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Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26 53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

The project is not associated with a land use with higher potential pollutant load; therefore, this standard is not applicable.

6. Standard 6 – Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other Critical Area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a Critical Area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "stormwater discharge" as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

   The project is not associated with stormwater discharges near a critical area; therefore, the standard is not applicable.

7. Standard 7 – A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural stormwater control measure requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

   This project is a new development; therefore, this standard is not applicable.

8. Standard 8 – A plan to control construction-related impacts, including erosion, sedimentation, and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.

   The Site Plan identifies an erosion control barrier and limit of work along segments of the site. We recommend details of the proposed erosion control measures; limit of the erosion control measures and a construction/phasing schedule that minimizes land disturbance be identified on the site plan. The project will require coverage under the NPDES Construction General Permit and preparation of a Stormwater Pollution Prevention Plan. We recommend this plan be provided to the Board.

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9. Standard 9 – A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.

   A long-term operation and maintenance plan was not included within the drainage report.

10. Standard 10 – All illicit discharges to the stormwater management system are prohibited.

    An illicit discharge statement was not included as part of this submission.

GENERAL COMMENTS

- No calculations regarding the average annual load of Total Phosphorus and estimated pollution removal were included in the submittal. We question if the applicant has requested a waiver from the Board.
- We recommend cross-sections of the three subsurface infiltration chamber systems as shown on Detail Sheet No. 3 identify the existing grade profile thru the cross-section.
- We recommend all drainage pipes shall be a minimum of 12-inches in diameter.

If there are any questions regarding our comments and recommendations, please do not hesitate to call at 781-221-1134.

Regards,

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cc. Mr. Conor McCormack, Director of Planning & Development