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

February 8, 2022
File: 179410990

Attention: Mr. Richard Gosselin, Chairman
MILLBURY PLANNING BOARD
Municipal Office Building
127 Elm Street
Millbury, Massachusetts 01527

Dear Mr. Gosselin,

Reference: Site Development Plan/Stormwater Permit
4 Abbott Place
1497 Grafton Road (Route 122)

Subsequent to our letter report of January 5, 2022 and pursuant to the Board's request, Stantec Consulting Services Inc. (Stantec) has reviewed the Revised *Site Development Plan/Stormwater Permit for 4 Abbott Place,* a proposed two-family building located in Millbury. The following materials were received on February 4 and 5, 2022.

- Site Development Plan for 4 Abbott Place (9 Sheets), revised February 3, 2022; Stormwater Management Report, revised February 3, 2022; Drainage Maps, revised February 3, 2022; Operation and Maintenance Plan for Abbott Place, revised February 3, 2022; Response to Stantec's comment letter, dated January 5, 2022; Response to Planner Director's comment letter, dated January 10, 2022 and supporting documentation each as prepared by as prepared by J.M. Grenier Associates, Inc. (JMGA)

The Revised Stormwater Management Permit submittal was reviewed for conformance with the Town's Zoning Bylaws; Municipal Code Chapter 13.15 Post-Construction Stormwater Management of New Developments and Redevelopments, Massachusetts Department of Environmental Protection Stormwater Management Standards, and generally accepted engineering practice.

In general, the R*evised Stormwater Management Permit* submission adequately addresses Stantec's previous comments. We offer the following comments and recommendations on the remaining items in bold text which are cross-referenced to our January 5, 2022 letter report for the Board's consideration.

STORMWATER MANAGEMENT

The Stormwater Management Report is included under a separate cover of the same name with the Site Plan submission. The report includes a narrative with attachments that address the Town's General Bylaws for Stormwater Management, which includes Municipal Code Chapter 13.15 Post-Construction Stormwater Management of New Developments and Redevelopments which

Reference: Site Development Plan-4 Abbott Place
1497 Grafton Road (Route 122)

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).
Stantec offers the following comments for the Board's consideration.

The following list refers to the Millbury Planning Board Submission of Stormwater Plan Review Checklist. Our review has only included "design" related items as part of the checklist.

g) In general, the location of existing and proposed utilities are identified on the Site Plan. We recommend pipe diameter and direction of flow of existing culvert at Grafton Road be identified on the plan.

Stantec (02/08/2022) We recommend invert of existing 30-inch culvert at Grafton Road and assumed direction of flow to the existing 30-inch culvert be confirmed by JMGA. Review of the existing conditions plan (sheet 2 of 9) identifies an elevation of 407 at the existing buried culvert and elevation of 413 at the existing 30-inch culvert.

l) Seasonal high groundwater elevation has been provided on Sheet 2 of 8, entitled Existing Conditions. We note test pit no.1 is not located within the footprint of the propose subsurface infiltration chamber system and recommend an additional test pit be performed by JMGA.

Stantec (02/08/2022) JMGA is requesting to perform an additional test within the proposed subsurface infiltration chamber system prior to construction.

o) A sequence of construction has been provided in the Stormwater Report. We recommend the construction sequence be added to the Site Plan.

Stantec (02/08/2022) Comment addressed by revised site plan sheet 7 of 9.

<u>MassDEP Stormwater Standards</u>

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 applicant provided rip-rap sizing calculations to confirm no erosion or scour at Outlet 1. We recommend discharge from the outlet be redirected to the existing vegetated wetland and required maintenance (removal of sediment/debris) be performed on the existing buried culvert.

Reference: Site Development Plan-4 Abbott Place
1497 Grafton Road (Route 122)

Stantec (02/08/2022) Proposed discharge from outlet is redirected to the existing vegetated wetland. We recommend a note be added to the site plan requiring maintenance (removal of sediment/debris) be performed on the existing buried culvert prior to construction.

2. Standard 2 – Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development discharge rates. As identified in the summary, the project will not result in an increase in peak flows under post- development conditions for the 2, 10, and 100-yr storm events.

   As noted in the Stormwater Management Report, proposed infiltration chamber system is designed for the 2 through 100-year storm events. It appears modifications to the storm drainage system may be required to ensure during the 25 through 100-year storm events, the estimated drainage areas as identified in the analysis are tributary to the proposed infiltration chamber system. We recommend JMGA provide additional hydraulic calculations identifying the proposed closed drainage system capacities for storm events greater than the 25- year event.

   Stantec (02/08/2022) Comment addressed by calculations provided in the Revised Stormwater Management Report.

3. Loss of annual recharge to groundwater should be eliminated or minimized using infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type.

   The applicant provided calculations to confirm the annual recharge from the post-development approximated pre-development conditions. We note the calculations included an infiltration rate of 8.27 inches/hour which is not in agreement with the infiltration rate of 1.02 inches/hour associated with a sandy loam as identified in the test pit log. We recommend this item be addressed by JMGA

   Stantec (02/08/2022) Comment addressed by calculations provided in the Revised Stormwater Management Report.

4. 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.

Reference: Site Development Plan-4 Abbott Place
1497 Grafton Road (Route 122)

An erosion and sedimentation control plan are included as part of the site plan submittal. The Erosion Control Plan (Sheet 6 of 9) identifies the erosion control barrier/limit of disturbance along segments of the site. We recommend the erosion control/limit of disturbance line be extended around the entire site perimeter (northerly property line).

Stantec (02/08/2022) Comment addressed by revised site plan sheet 7 of 9.

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

An operation and maintenance plan are included as part of the stormwater report submittal. We recommend the Applicant provide information regarding the following: snow storage, vehicle washing and management of de-icing chemicals.

Stantec (02/08/2022) Comment addressed by operation and maintenance plan provided in Revised Stormwater Management Report.

GENERAL COMMENTS

Stormwater

1. The Stormwater Report Calculations for G-613-POST list the ADS_StormTech MC-3500 as 20 chambers in 2 rows. The site plan shows that there are 15 chambers. We recommend this item be addressed by JMGA

   Stantec (02/08/2022) As noted by JMGA, revised stormwater report calculations and revised site plan identifies a total of 28 infiltration chambers in 4 rows.

2. We recommend cross section of the proposed subsurface infiltration chambers as shown on sheet 7 of 8 identify items such as existing grades and seasonal high groundwater.

   Stantec (02/08/2022) We recommend estimated seasonal high groundwater (ESHGW) as shown on the proposed subsurface infiltration chambers cross section be reviewed by JMGA.

3. We recommend additional information/specification be provided regarding the proposed polyethylene barrier and fill material as shown on the impervious barrier detail located on sheet 7 of 8.

Reference: Site Development Plan-4 Abbott Place
1497 Grafton Road (Route 122)

Stantec (02/08/2022) We recommend fill material specification and construction methods as referenced in response letter be provided on sheet 9 of 9.

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

Regards,

STANTEC CONSULTING SERVICES INC.

Vannary Tan
Civil Designer
Phone: 781-221-1114
Vannary.Tan@stantec.com

David Glenn, P.E.
Senior Transportation Engineer
Phone: 781-221-1134
Cell: 617-610-0031
david.glenn@stantec.com

cc.Ms. Laurie Connors, Planning Director