



Stantec

Stantec Consulting Services Inc.

65 Network Drive 2nd Floor, Burlington, MA 01803-2767

February 18, 2021

File: 179411004

Attention: Mr. Richard Gosselin, Chairman

MILLBURY PLANNING BOARD

Municipal Office Building

127 Elm Street

Millbury, Massachusetts 01527

Reference: Millbury Fire Station

130 Elm Street

Millbury, Massachusetts

Dear Mr. Gosselin:

Pursuant to the Board's request, Stantec Consulting Ltd. has reviewed the Millbury Fire Headquarters submittal located at 130 Elm Street in Millbury.

The following materials were received on February 6, 2021 and by email on February 10, 2021.

- Site Plan (16 Sheets), dated January 25, 2021; Site Plan Review and Checklist, Millbury Fire Station Planning Board Narrative; Drainage Analysis, dated January 25, 202 and supporting documentation each as submitted by Garcia-Galuska-DeSousa Consulting Engineers, Inc. (GGD)

The Site Plan submittal was reviewed for conformance with the Town's Zoning Bylaws, the Board's Design Standards, and generally accepted engineering practice. We offer the following comments regarding the *Millbury Fire Headquarters Site Plan* submittal for the Board's consideration.

SITE VISIT

As part of the Stantec's review, Mr. David Glenn (Stantec) conducted a site visit to review existing surface features and site conditions.

SITE PLAN

The Millbury Fire Station Headquarters is proposed on approximately 1.84 acres of land with frontage on River Street, Elm Street, Waters Street and located within the Residential 1 (R-1) Zone. The project site is bounded to the west and north by residential lots with access off River and Waters Street. Development of the site will require removal of an existing three-story building, bituminous concrete driveways, walkways, basketball court, parking areas, and selected tree, brush, and lawn area.

The site plan identifies a proposed 17, 535 sq. ft. fire station headquarters, thirty-one parking spaces with access driveways, stormwater facilities, public water, and sewer. Ingress and egress to the project site is via a proposed 52-foot-wide paved drive off Elm Street and 24-foot-wide paved drive off Waters Street.



February 18, 2021
Mr. Richard Gosselin, Chairman
Page 2 of 7

**Reference: Millbury Fire Station
130 Elm Street**

Section 12.4 - *Site Plan Review*, Subsection 12.44 – *Contents and Scope of Application* of the Town's *Zoning Bylaws* requires specific information be shown on the Site Development Plan. **Stantec has performed a technical review of these requirements with the understanding the Town Planner will perform an independent review of the Site Plan for conformance with the site plan review zoning bylaw. In general, the site plan conforms to the Town's *Zoning Bylaws*, with the following exceptions. The following list refers to the Millbury Planning Board Submission of Site Plan Review Checklist:**

- a) We recommend existing natural features such as stone retaining walls, steps, trees, chain link fence.... etc be labeled as retained or removed on sheet C1.0.
- b) Request Elm Street, River Street and Waters Street right-of-way width and public or private be labeled to the site plan.
- c) Location of proposed on-site snow storage be shown on the site plan.
- d) Provide property line plan with distances and bearing.
- e) We note zoning information/proposed set back dimensions included on sheet C1.1 are not in agreement with table provided in the Planning Board Narrative.
- f) Request capacity of the existing off-site water, sewer and drainage utilities be addressed by the consultant engineer.
- g) We recommend location, type and intensity of proposed site lighting be identified on the site plan.
- h) Provide locus plan at scale 1-inch equals 100-feet.
- i) The Site Plan identifies a total of thirty-one (31) parking spaces with two (2) handicap accessible space within the paved parking areas. We recommend additional documentation be provided to confirm the number of parking spaces proposed are consistent with the proposed building use to illustrate compliance. Request loading, storage and drop off/service areas be shown on the site plan.
- j) Request Site Plan be stamped and signed by a registered professional engineer and/or registered architect.

Development Impact Statements are to be prepared by the applicant to identify all significant positive or adverse impacts and propose an acceptable program to prevent or mitigate adverse impacts. We offer the following comments:

- a. **Traffic Impact Assessment: A waiver has been requested by the consultant engineer. Stantec notes off-site improvements include a proposed 52-foot-wide curb cut/access and elimination of five (5) parallel parking spaces on Elm Street, curb extensions on the north side of Elm Street and west side of Waters Street to accommodate the sidewalk reconstruction/ramps and landscape strip/plantings. We request status of review from the Town Department of Public Works (DPW) regarding these improvements be addressed by GGD and recommend these improvements be discussed with the Board and Town DPW.**



February 18, 2021
Mr. Richard Gosselin, Chairman
Page 3 of 7

**Reference: Millbury Fire Station
130 Elm Street**

- b. **Environmental Impact Assessment:** The planning board narrative addressed erosion and sedimentation control measures to reduce potential impacts during construction; preparation of a Stormwater Pollution Prevention Plan (SWPPP) and proposed drainage system in regard to water quantity and quality. The site, as indicated by the applicant, will be serviced by public water and sewer. **Please refer to "Stormwater Management" for comments regarding the proposed drainage system and compliance with the ten performance standards as per the MassDEP Stormwater Management Handbook.**
- c. **Fiscal Impact Statement:** A waiver has been requested by GGD.
- d. **Historic Impact:** A waiver has been requested by GGD.

Section 12.4 - *Site Plan Review*, Subsection 12.45 – *Design Standards* of the Town's *Zoning Bylaws* requires applicant to adhere to general principles regarding site design. **In general, the Site Plan of Land appears to conform to the Town's Design Standards, with the following exceptions.**

- a. **Surface Water Drainage:** See "Stormwater Management" for comment requesting additional documentation regarding hydraulic capacity of existing drainage system located on Elm Street.
- b. **Ground Water Recharge:** See "Stormwater Management" for comment regarding ground water recharge.
- c. We recommend the applicant address proposed exterior signage or signage affixed to the building.
- d. **Parking:** Proposed parking area located along the northwest property line is located within the rear setback requirement of 10 feet. We recommend consideration of a guard rail be provided adjacent to proposed parking area located along the northwest property line adjacent to the approximate 8-foot-high stone retaining wall. Proposed parking area location in front of the building is not in compliance with the recommended location of on the side or rear of the building.

Section 33 – *Parking and Loading Requirement*, Subsection 33.2 – *Schedule of Requirements* of the Town's *Zoning Bylaws* identifies off-street parking requirements for Suburban Zoning District. **As previously noted, we recommend additional documentation be provided to confirm the number of parking spaces proposed are consistent with the proposed building use to illustrate compliance.**

STORMWATER MANAGEMENT

The Millbury Fire Station Site Plan provides a layout of the proposed drainage system, including Best Management Practices (BMPs) such as deep catch basins, hydrodynamic water quality structures and subsurface detention basins. The Drainage Analysis included under a separate cover of the same name with the Site Plan submission. The applicant has provided information and calculations, including the stormwater checklist to show compliance with the Town of Millbury Stormwater Permit and ten performance standards as per the MassDEP Stormwater Management Handbook.



February 18, 2021
Mr. Richard Gosselin, Chairman
Page 4 of 7

**Reference: Millbury Fire Station
130 Elm Street**

Stantec offers the following comments and recommendations regarding the Stormwater Permit Application for the Board's consideration:

1. Request the Stormwater Checklist be stamped and signed by a registered professional engineer.
2. Estimated seasonal high groundwater elevation in area of the infiltration chamber system was not provided by LDC. We recommend additional test pits be performed within the footprint of the infiltration subsurface chamber system to verify estimated seasonal high groundwater elevation and soil texture.
3. Stantec recommend additional site-specific details including cross section of the three proposed subsurface infiltration systems. Request cross section identifying items such as existing and proposed grades, refusal and/or seasonal high groundwater be provided on the site plan.
4. Provide calculations regarding the average annual load of Total Phosphorus and estimated pollution removal as per the Town's General Bylaw Municipal Code Chapter 13.15 Post-Construction Stormwater Management of New Developments and Redevelopments
5. We recommend an Erosion & Sediment Control Plan Control identifying measures as noted on Sheet CO.1 be prepared by GGD.
6. We request hydraulic calculations of the closed drainage system including catch basins and pipe network s be provided in a separate analysis.
7. Description and drawings of all components of the proposed drainage system:
 - a. We recommend perforated interceptor dimensions be provided on the site plan.
 - b. Provide a detail of deep sump catch basin as noted in Stormwater Management Report (Sub-catchment N1B).
 - c. Weir cutout is missing on the orifice plate detail for OCS#2 and #3.
8. In the Drainage Analysis Narrative, the USDA indicates that the project site is composed of both Hydraulic Soil Groups 'B' and 'D'. In the HydroCAD analysis, summary subcatchments for both existing and proposed conditions list only areas with HSG D.
9. Existing catchment volume for DP4 in the narrative (0.152 af) does not match with HydroCAD summary (0.191 af) for the 100-year rainfall.
10. Proposed peak flow for DP2 in the narrative is listed as 0.03 cfs for the 25-year rainfall, but the HydroCAD summary is listed as 0.25 cfs.



February 18, 2021
Mr. Richard Gosselin, Chairman
Page 5 of 7

**Reference: Millbury Fire Station
130 Elm Street**

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.

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

As identified in the drainage analysis approximately 1.71 acres of the site runoff will be collected and discharged to the municipal drainage system located in Elm Street. We recommend additional documentation regarding the hydraulic capacity of existing catch basin no.1 and drainage system located on Elm Street be provided by GGD and recommend status of review by the Town Department of Public Works (DPW).

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

The post-development peak flow rates do not exceed pre-development peak flow rates; therefore, this standard is met.

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.

We recommend GGE provide groundwater recharge calculations to confirm the annual recharge from the post-development approximated pre-development conditions.

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 note that TSS removal worksheets are provided and meet the 80% TSS requirement. The water quality volume provided meets the requirements for water quality. In Stantec's opinion the standard is met.

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



February 18, 2021
Mr. Richard Gosselin, Chairman
Page 6 of 7

**Reference: Millbury Fire Station
130 Elm Street**

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 provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Water Act, M.G.L. c. 261, §§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. 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, considering 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 within a critical area; therefore, this standard is not applicable.

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 best management practice 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 redevelopment and is required to meet the above Stormwater Management Standards.

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.

An erosion and sedimentation control plan has been included as part of the stormwater management plan, as shown on the site plans. In Stantec's opinion, the project will require coverage under the NPDES Construction General Permit and require the preparation of a Stormwater Pollution Prevention Plan (SWPPP). We recommend the SWPPP be provided to the Board prior to construction.



February 18, 2021
Mr. Richard Gosselin, Chairman
Page 7 of 7

**Reference: Millbury Fire Station
130 Elm Street**

9. 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 has been included as a separate report. In Stantec's opinion the standard is met.

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

As stated by GGD, no illicit discharges are proposed to the stormwater management system. We recommend a signed illicit discharge statement be provided by the applicant.

If there are any questions regarding our comments and recommendations, please do not hesitate to call at 1-781-221-1134.

Regards,

STANTEC CONSULTING SERVICES INC.

Vannary Tan

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

David Glenn

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

cc.Ms. Laurie Connors, Town Planner