



Stantec

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

June 9, 2022
File: 179411068

Attention: Mr. Richard Gosselin, Chairman

MILLBURY PLANNING BOARD
Municipal Office Building
127 Elm Street
Millbury, Massachusetts 01527

Dear Mr. Gosselin,

**Reference: Site Plan/Stormwater Permit Application
Millbury Landfill Solar PV Array Project
207 Riverlin Street**

Pursuant to the Board's request, Stantec Consulting Services Inc. (Stantec) has reviewed the *Site Plan/Stormwater Permit for Millbury Landfill Solar PV Array Project, 207 Riverlin Street*, a proposed photovoltaic (PV) project located in the Town of Millbury. The following materials were received electronically on May 18 and 19, 2022.

- Site Plan for Millbury Landfill Solar PV Array Project, 207 Riverlin Street, Millbury, Massachusetts, 01527 (10 Sheets), dated May 13, 2022; Application for Site Plan and Stormwater Permit, dated May 2022; and supporting documentation, each as prepared by Weston & Sampson Engineers, Inc. (WSE)

The Site Plan submittal was reviewed for conformance with the Town's Zoning Bylaws, the Board's Design Standards, and generally accepted engineering practice. The 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.

We offer the following comments regarding the Site Plan/Stormwater Management Permit 207 Riverlin Street submittal for the Board's consideration.

SITE VISIT

As part of Stantec's review, Mr. David Glenn (Stantec) conducted a site visit on June 2, 2022 of the project area to observe general site conditions and other relevant features.

Design with community in mind



June 9, 2022
Mr. Richard Gosselin, Chairman
Page 2 of 9

**Reference: Site Plan/Stormwater Permit
207 Riverlin Street**

SITE PLAN

The Solar Photovoltaic (PV) Array project is proposed on the 20-acre Town's capped landfill/ transfer station property having frontage on Riverlin Street. The site is bounded northerly by N-F Joshua Waits property; westerly by Town of Millbury parcels and easterly by parcel owned by Riverlin Street Reality LLC.

Site features include the existing capped landfill, transfer station and associated wetland areas located along the site perimeter. Topographic features of the site are typified by moderate to steep slopes ranging on average from 10% to 25% with selected areas exceeding 30%. In general, the site slopes generally fall off in a north to south direction toward the associated wetlands areas. **Stantec recommends WSE provide a statement to the Board relative to the wetland delineations and acceptance by the Millbury Conservation Commission.**

Ingress and egress to the site property is shown off Riverlin Street via an existing 22 foot-wide paved drive. Access to the Solar Photovoltaic (PV) Array project area is off the existing paved drive via a proposed 16-foot wide gravel access drive to be installed on the west side of the landfill up to the equipment pad for a distance of approximately 670 feet in length. The dead-end gravel access drive is provided at the closed end with a t-shaped turn-around.

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. **In general, the PV Project Site Development Plan appears to conform 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:

- j) We recommend existing conditions plan Sheet V101 label/identify the parcel frontage on Riverlin Street and provide the one hundred and twenty-five foot offset from the property line as stated in the zoning bylaw. We question the one hundred foot offset as shown on the existing plan.
- P) According to the Site Plans lighting is not proposed; however, we recommend lighting for security measures within the solar panels/equipment area be considered by the applicant.
- 3. A landscape plan showing proposed landscape features and improvements was not included within the submission. We recommend the existing vegetative buffer between Riverlin Street and the proposed solar array panels be discussed with the Board and determine if a waiver request is required by WSE.



June 9, 2022
Mr. Richard Gosselin, Chairman
Page 3 of 9

**Reference: Site Plan/Stormwater Permit
207 Riverlin Street**

7. 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.
 - a. Traffic Impact Assessment: In general, Stantec concurs with WSE statement regarding there will be no traffic impacts upon project completion. However, we do recommend the applicant provide documentation regarding anticipated traffic generation by the project site during construction.
 - b. Environmental Impact Assessment: We offer the following comments for the Board's consideration:
 - i. The applicant should further define the limited areas of disturbance and grading related to the access gravel drive and solar array facility areas. Site plan sheets C102 thru C105 identify solar array facilities to be constructed on steep slopes exceeding 25 percent. We recommend construction means/methods and the ballast mounted solar array detail as shown on sheet C502 be modified to address this site condition. We also request center line profile including existing and proposed elevations of the access gravel drive to the equipment pad be provided for review
 - ii. Stantec recommends the applicant provide additional details regarding the access gravel drive cross section/existing drainage swale and evaluate the need for a barrier or guard rail adjacent to the existing 3:1 side slope. We also recommend WSE provide inlet/outlet protection (i.e., headwall/flared end/riprap) at the culvert crossing.
 - c. Fiscal Impact Statement: WSE did not provide a statement. We defer this comment to the Board.
 - d. Historic Impact: WSE did not provide a statement. We defer this comment to the Board.

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 PV Project Site Development Plan appears to conform to the Town's *Design Standards*, with the following exceptions.**



June 9, 2022
Mr. Richard Gosselin, Chairman
Page 4 of 9

**Reference: Site Plan/Stormwater Permit
207 Riverlin Street**

- d) Surface Water Drainage: See comments under “Stormwater Management”
- i) We recommend construction means/methods and layout of the proposed electrical lines adjacent to the access gravel drive and to the solar array panels be shown on the site plan.
- u) With respect to personal safety, the site shall be designed to be accessible by fire, police, and other emergency personal and equipment. As previously noted, access to the subject property is via a 16-foot wide gravel dead-end drive of approximate 670 feet in length. Stantec recommends this issue and access to the northerly and easterly area of the solar array panels be further reviewed with the Board and the Town’s Safety Officials.

Section 51 – *Large-Scale Ground-Mounted Solar Photovoltaic Installations*, Subsection 51.5 – *Application Procedure* of the Town’s *Zoning Bylaws* requires specific information to be included with the site plan. As part of this review, Stantec did not review the technical aspects of the *Application Procedure*, but only if the required documents were provided as specified for this bylaw. In general, the PV Project Site Development Plan appears to conform to the Town’s *Application Procedure*.

Subsection 51.6 – *Design Standards and Siting Requirements* of the Town’s *Zoning Bylaws* requires applicant to adhere to general principles regarding design. **In general, the PV Project Site Development Plan appears to conform to the Town’s Design Standards and Siting Requirements, with the following exceptions.**

- 1) Dimensional Requirements: Stantec recommends the existing conditions plan and proposed site plan sheets identify the one hundred and twenty-five offset from the property line as stated in the bylaw. We note it appears several solar array panels are located within the one hundred and twenty-five required setback.
- 2) Height Requirements: Stantec recommends height of solar array panels be provided on the ballast mounted solar array detail on Sheet C502. We note several of the solar array panels are located on an existing slope greater than 25 percent and request the ballast mounted solar array detail be modified to address this site condition.
- 4) Fencing: WSE is requesting waivers from 8 foot to 7-foot height and “mini-mesh material to standard 1-3/4 inch to 2-inch mesh material.
- 6) Screening: We recommend the existing vegetative buffer between Riverlin Street and the proposed solar array panels be discussed with the Board and determine if a waiver request is required by WSE.



June 9, 2022
Mr. Richard Gosselin, Chairman
Page 5 of 9

**Reference: Site Plan/Stormwater Permit
207 Riverlin Street**

9) Signs: We recommend details of all proposed signage be provided on the site plan.

Subsection 51.9 – *Performance Guarantee* of the Town's *Zoning Bylaws* requires a surety in an amount sufficient to assure satisfactory removal of the system. WSE has not provided a decommissioning estimate for removal of the installation as part of the site development plan and has requested a waiver to extend the removal timeline from 90 days to 180 days.

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 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 is identified on the Site Plan.
- i) The existing site hydrology is shown on the Site Plan. An Existing Hydrology Map is also included in Appendix J – Stormwater Narrative.
- l) The location of the test pits and the seasonal high groundwater elevation has not been identified on the Site Plan. We note the project is located on a landfill and seasonal high groundwater elevations are not applicable.
- m) Existing and proposed ground cover and runoff coefficients have been provided Appendix J – Stormwater Narrative.
- n) A drainage area map showing pre and post conditions have been provided in the Stormwater Narrative.
- o) See general stormwater comments at the end of this letter report.



June 9, 2022
Mr. Richard Gosselin, Chairman
Page 6 of 9

**Reference: Site Plan/Stormwater Permit
207 Riverlin Street**

- p) The location of proposed improvements has been identified on the plans.
- q) A sequence of construction has been provided on the Site Plan on sheet C001.

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.

WSE stated the existing stormwater management includes rip rap swales that discharges to the perimeter wetlands and grass berms and swales channeling runoff into a basin. We recommend location of the basin be shown on the site plan. We note the existing drainage swale is a combination of riprap/grass and in need of maintenance/removal of debris along the northerly and easterly area of the site.

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 Drainage Analysis Report, the proposed underground detention/infiltration system is designed for the 2 through 100-year storm events. The Report includes hydrology analysis for the 2, 10, 25, and 100-year storm events for the existing (pre-development) conditions, but only analysis for the 100-year storm event for the proposed (post-development) site conditions.

We note the proposed hydrologic map, catchment B2 flow path arrows do not reflect the length noted on the site plans.

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.



June 9, 2022
Mr. Richard Gosselin, Chairman
Page 7 of 9

**Reference: Site Plan/Stormwater Permit
207 Riverlin Street**

The project is a redevelopment at an existing landfill cap and has met Standard 3 to the maximum extent possible.

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

WSE has not provided a worksheet or calculations to confirm that the stormwater management system is designed to meet the required TSS removal rate of 80%. We recommend this item be addressed by WSE.

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 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. 21, §§26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

The project area 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 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,



June 9, 2022
Mr. Richard Gosselin, Chairman
Page 8 of 9

**Reference: Site Plan/Stormwater Permit
207 Riverlin Street**

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 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, 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 on a landfill cap. The standard is met to the maximum extent possible.

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 an additional erosion control barrier be provided between the access gravel drive and the solar array panel area.

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

We recommend the submitted Operation and Maintenance Plan be revised to address the stormwater management system facilities.

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

An illicit discharge statement was included in the submission.



June 9, 2022
Mr. Richard Gosselin, Chairman
Page 9 of 9

**Reference: Site Plan/Stormwater Permit
207 Riverlin Street**

GENERAL COMMENTS

Stormwater

1. The Stormwater narrative notes that there is a stormwater basin. We recommend location of the basin be identified on the Site Plan.
2. A detail for temporary erosion control blanket has been included on the Site Plan. We recommend including the location of the temporary erosion control blanket be identified on the site plan.
3. We recommend hydraulic calculations for the proposed 12-inch culvert at the gravel access drive be provided for review.

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

Vannary Tan
Civil 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. Mr. Connor McCormack, Planning Director