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TOWN OF STURBRIDGE  
PLANNING BOARD

JANUARY 31, 2024

Town of Sturbridge Planning Board  
c/o Jean Bubon, AICP  
Town Planner  
301 Main Street, First Floor  
Sturbridge, MA 01566

RE: Proposed Photovoltaic System, 200 Haynes Street, Response to Peer Review, Fire Department & Public Comments

Dear Jean,

BSC Group, Inc. (BSC) has reviewed the comments provided by CMG, as contained in correspondence to the Sturbridge Planning Board, dated November 1, 2023. In addition, this letter also provides responses to comments received from the Sturbridge Fire Department and the Sturbridge Retirement Co-op. The original comments are shown below and the Applicant's responses follow in bold font.

### Peer Review Comments from CMG

#### General Engineering & Stormwater Management Design Comments

1. CMG recommends Applicant coordinate proposed site access with the Sturbridge Fire Department to determine if emergency apparatus can enter and exit the site safely. A truck turn diagram for the Sturbridge Fire Department's apparatus should be provided.

*BSC 11/20/23 Response: A diagram showing a Sturbridge Fire Department's apparatus is now included in the plan set using vehicle tracking for Civil 3D.*

CMG Comment #2: Comment Acknowledged. CMG recommends Applicant provide the Planning Board with written approval from Sturbridge Fire Department the proposed emergency access is adequate, and all Fire Department comments are addressed.

**BSC has obtained written approval from the Sturbridge Fire Department. Email correspondence is enclosed.**

2. Site Grading Plan is difficult to read due to the 1" = 60' scale and does not provide existing elevation contour labels on all proposed grading areas.

*BSC 11/20/23 Response: Plans were prepared at a scale of 1" = 60' because it is desirable to see the entire site on one sheet, rather than two. It has the added benefit of reducing unnecessary paper. However, we do recognize that it is more difficult to read. In an effort to accomplish both, we have modified the site plans to a scale of 1" = 50' and also added a sufficient number of contour labels to ease the review of the plans. A waiver from §3.01B.2 to allow presentation of site plans, at the submitted scale.*

CMG Comment #2: Waiver Request #1 – Applicant is requesting a waiver for Planning Board consideration. CMG finds the 1"=50' scale is adequate for review of the proposed grading and drainage for this project.

**No further action required.**

3. A portion of the proposed solar voltaic panels are proposed within the limits of the proposed steep grades (associated with the Infiltration Basin). Please verify constructability of the panels along this slope.

CMG Comment #2: CMG recommends the existing gravel driveway and 12" culvert located to the south be removed and the drainage ditch be reshaped, loamed, and seeded on this area as it will no longer be utilized to access the site.

**The existing gravel driveway off Haynes Street is now to be removed, loamed, and seeded. The 12" culvert located below the driveway is also to be removed, as shown on Sheet 3 of 9 in the plan set. The Grading Plan shows the proposed grading in this location to maintain the roadside drainage swale.**

8. Applicant needs to accurately locate the nearby adjacent septic system at the Sturbridge Crossing Condominium property on Bentwood Drive and verify the distance to the proposed infiltration basin. Proposed Site Infiltration Basin #1 appears to be located approximately 80 feet from the condominium's property line greater than the Massachusetts Stormwater Standards setback requirement of 50 ft. and 310 CMR 15.211 Title V setback for stormwater infiltration = 25 ft.

*BSC 11/20/23 Response: There is no obligation on the part of the Applicant to locate the existing soil absorption system that is located on an abutting parcel of land, which is not under the control of the Applicant. The proposed infiltration basin is located 72.0 feet away from the property line at its closest point, and therefore complies fully with the setback requirements of both Title V and also the MA Stormwater Management Standards. No further action is necessary in this regard.*

CMG Comment #2: Comment addressed.

**No further action required.**

9. Site plans show a proposed 7' height chain link fence. CMG recommends a gate detail also be provided.

*BSC 11/20/23 Response: A gate detail has been added to the site plans.*

CMG Comment #2: Gate detail and chain link fencing should provide the same type of black vinyl coated chain link fencing as requested by the Planning Board.

**The fencing and gate details have been revised accordingly.**

10. Planting Plan notes planting of trees and shrubs in certain areas but does not provide planting details and/or planting list or schedule.

*BSC 11/20/23 Response: The planting of trees is not proposed at this time. We feel that the site will be sufficiently screened, as indicated on the Planting Plan. Upon construction, if the Town Planner determines that screening is insufficient, trees will be provided at that time, as necessary. Tree planting details have been added to the site plans.*

CMG Comment #2: Project proposes tree cutting to within 50 ft of the southern property line abutting a residential use and does not provide a 200 ft landscape buffer. Therefore, CMG recommends some form of additional landscape screening and/or tree plantings proposed to mitigate the visual impacts of the proposed solar facility and stormwater basin which border the Southern residential property line (Also see Comment #31).

**In this southern portion of the property there will be a lot of emergent Pine and Sweet Birch coming in naturally. We will supplement this by planting Grey Birches, Witch-hazel's, and Bottlebrush Buckey's to quickly thicken the understory in order to provide bird and pollinator support, and stay relatively resistant to deer browsing, as well as sufficiently screening the abutting residential property. Black Spruce trees are also proposed in the understory to provide additional screening.**

**Stormwater Standard 1:** *No new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or water of the Commonwealth.*

11. How will runoff from the first 90± ft. of the proposed access driveway apron be routed and treated to prevent runoff flow into the Haynes Street roadway gutter line?

*BSC 11/20/23 Response: The concrete equipment pads have been relocated and are no longer within sub catchment area 1S. They are now within sub catchment area 5S and have been accounted for in the HydroCAD model.*

CMG Comment #2: Comment addressed.

**No further action required.**

16. The engineer shall revise the Grading Plan to include elevations associated with test pit locations.

*BSC 11/20/23 Response: The grading plan now includes elevations associated with test pit locations.*

CMG Comment #2: Comment addressed.

**No further action required.**

17. Estimated seasonal high groundwater elevations in proximity to the infiltration BMP's cannot be determined due to the scale and lack of existing contour labels on the Grading Plan.

*BSC 11/20/23 Response: The scale of the drawings has been modified to 1" = 50'. Multiple contour labels have been added to the plans for ease of review.*

CMG Comment #2: Applicant shall provide the Estimated seasonal high groundwater (ESHGW) elevations for each infiltration area to document the bottom of each area is a minimum of 2 ft higher than ESHGW. Infiltration Basin #1 detail on Sheet 8 of 9 provides a bottom elevation but no ESHGW notation and no individual cross-section details are provided for each of the three (3) drywell areas.

**As shown in Appendix D of the Stormwater Report, groundwater was not observed at any of the test pit locations. We have assumed the lowest elevation of each test pit to be the groundwater elevation. On Sheet 8 of 9 of the plan set, a table is included that provides the bottom elevation of each infiltration system, the elevation of groundwater, and the distance between the two ensuring that distance to be 2 feet or greater. Sheet 9 of 9 includes a cross-section of the proposed infiltration basin, also showing the bottom of the basin in relation to the groundwater elevation. All proposed infiltration facilities will maintain a minimum vertical separation of 2 feet from ESHGW.**

18. Infiltration basin side slopes appear to be greater than 3:1.

*BSC 11/20/23 Response: Infiltration basin #1 side slopes are graded at 3:1.*

CMG Comment #2: Grading plan notes a 3:1 slope, however, the Infiltration basin #1 construction detail on Sheet 8 of 9 notes a 6:1 slope.

**The Infiltration basin #1 construction detail on Sheet 8 of 9 has been revised to call out a 3:1 slope in accordance with the grades shown on the Grading & Drainage Plan.**

19. The top of berm elevation for Infiltration Basin #1 is unclear. A minimum of 1 ft. of freeboard must be provided during the 100-year storm event. Calculations indicate top of berm = 705 with peak elevation during 100-year storm = 704.4.

*BSC 11/20/23 Response: The top of berm elevation for infiltration basin #1 is 706.0', the peak elevation during the 100-year storm is 704.79' which provides 1.21' of freeboard.*

CMG Comment #2: Comment remains. Construction detail on Sheet 8 of 9 notes Infiltration Basin #1 Top Elevation = 705.0.

**The construction detail on Sheet 8 of 9 has been revised to note the top elevation of Infiltration Basin #1 is 706.0, as shown on the Grading & Drainage Plan.**

**No further action required.**

24. Due to the presence of relatively steep slopes, CMG recommends the engineer include silt fence backing as part of the erosion control compost filter sock.

*BSC 11/20/23 Response: Silt fence backing will be provided for the compost filter sock, as recommended by CMG.*

CMG Comment #2: Detail provided on Sheet 8 is not adequate as it only shows the Siltsoxx and doesn't correctly illustrate the additional silt fence installation.

**The correct detail is now included on Sheet 3 of 9 of the plan set.**

25. Erosion and Sediment control plan should provide properly sized temporary sediment basins and swale locations to control sediment laden runoff during construction.

*BSC 11/20/23 Response: Suggested location(s) of temporary sediment basins and swales have been added to the Erosion & Sediment Control Plan (Sheet 3).*

CMG Comment #2: Temporary sediment basins sizing calculations and proposed grading should be provided to insure constructability and correct placement. In addition, the "Possible Construction Staging Area" and "Dewatering Sedimentation Trap" appear to be located on top of proposed Infiltration Area #1 as shown on Sheet 3 of 9. CMG does not recommend equipment and/or stockpiling be located directly on top of any proposed infiltration areas.

**Sizing calculations for the temporary sediment basin are shown on Sheet 3 of 9, as well as the proposed grades for the basin. All erosion and sedimentation measures have been relocated to avoid the location of proposed infiltration systems.**

**Stormwater Standard 9: Long term operation and maintenance plan**

26. Standard Met – a comprehensive long-term operation and maintenance plan is included as part of the submitted stormwater report.

*BSC 11/20/23 Response: No further comment.*

CMG Comment #2: Comment addressed.

**No further action required.**

**Stormwater Standard 10: Illicit discharges**

27. A signed Illicit Discharge Statement is not provided within the O&M Plan.

*BSC 11/20/23 Response: A signed Illicit Discharge Statement has been provided by the Applicant and appended to the O&M Plan.*

CMG Comment #2: A signed Illicit Discharge Statement is not provided in the revised Stormwater Report provided to CMG. Stormwater Report Section 2.10 notes "A signed illicit discharge compliance statement will be submitted prior to the start of construction".

**A signed Illicit Discharge Compliance Statement is now included in Section 7.08 of the Stormwater Report.**

**Town of Sturbridge Zoning Bylaw (Article X Solar Energy Facilities)**

28. §300-10.3.B.(4) – Applicant proposes to utilize an anti-reflective coating on the solar panel's front glass to mitigate glint and glare. Applicant should provide manufacturer's specifications indicating the specific properties of the anti-reflective coating to document there will be "no" glare. Otherwise, CMG recommends a glare analysis be provided.

*BSC 11/20/23 Response: Total Fill = 8,022.76 cubic yards, Total Cut = 8,492.38 cubic yards, Net Volume = 469.58 cubic yards of cut*

CMG Comment #2: CMG recommends the cut/fill information noted above also be noted on the Grading Plan Sheet 5 of 9.

**A table has been included on the Grading Plan (Sheet 5 of 9), which shows the cut/fill information.**

34. §300-19.3.B.3 – Applicant is requesting a waiver not to provide a traffic study for the proposed solar project as the project will not generate traffic to and from the subject parcel, with the exception of maintenance visits. CMG defers to the Planning Board regarding this waiver request.

*BSC 11/20/23 Response: No further comment.*

CMG Comment #2: Waiver request #2 – CMG understands Planning Board is agreeable to granting a waiver to not require a traffic study.

**No further action required.**

#### **Town of Sturbridge Planning Board Rules & Regulations**

35. §3.01B.2 – Site Plan Review applications shall include a site plan with a scale of one-inch equals 40 feet (Also See Comment #2).

*BSC 11/20/23 Response: As noted above, BSC shall submit a waiver from §3.01B.2 to allow presentation of site plans at the submitted scale.*

CMG Comment #2: Waiver Request #1 – for Planning Board consideration (Also see Comment #3).

**No further action required.**

#### **Town of Sturbridge Wetlands Regulations**

36. §365-3.4B & 365-6.2 – Tree cutting is proposed within the 100' to 200' wetland buffer along the north end of the project. Applicant should document compliance with this section based on discussions with the Conservation Commission.

*BSC 11/20/23 Response: The Applicant is aware of this requirement and has discussed the proposed tree bearing with the Conservation Agent.*

CMG Comment #2: Condition of Approval for Planning Board Consideration.

**No further action required.**

37. §365-3.7.A – The proposed surface stormwater basin does not contain a sediment forebay.

*BSC 11/20/23 Response: A sediment forebay is not necessary because there are no impervious surfaces conveying stormwater runoff to this facility.*

CMG Comment #2: Comment addressed.

**No further action required.**

38. §365-3.7.C – Stormwater maintenance plans must be submitted to and approved by the DPW Director before the Sturbridge Conservation Commission will accept them.

*BSC 11/20/23 Response: Stormwater maintenance plans shall be submitted to the Sturbridge DPW director.*

CMG Comment #2: "Vehicle Washing Controls" section shown on the first page of the O&M Plan should be deleted.

4. Where does Infiltration Basin 1 overflow?

**There is no proposed overflow for the Infiltration Basin. The basin has over 1.2 feet of available freeboard in the 100-year storm. Further, the Infiltration basin has sufficient volume to accommodate a 1,000-year storm (12.4 inches of rainfall) without overflowing. That means that we are talking about a rainfall event that theoretically occurs once in one thousand years, which would be an extreme and unlikely event. The basin would surcharge in all directions, rather than as a point discharge.**

5. Where are the stumps, boulders and other deleterious soils to be disposed of?

**All excavated materials not reused on site will be removed by the Contractor and disposed of in accordance with local, state and federal regulations.**

6. Could the Siltsoxx and temporary diversion swale with check dams to remain as long as possible?

**No, all proposed erosion and sedimentation controls will be removed prior to the filing of a Notice of Termination, as required by NPDES.**

Please do not hesitate to contact us should you have further questions or concerns. We look forward to discussing the revised site plans at the next public hearing.

Sincerely,

BSC Group, Inc.



**Brian G. Yergatian, P.E., LEED AP**

Manager of Civil Engineering, Senior Associate

I see the vehicles depicting the turn radius, but there is no scale or measurement for the vehicle listed on this plan. Our longest vehicle is 47.7' long. In our proposed incident control plan, depending on the extent of the incident, this vehicle may be required at the site to protect exposures. Could you please update the plans to indicate the example vehicles measurements?

Respectfully,

On Fri, Jan 26, 2024 at 11:41 AM Mackenzie Morrison <[mcmorrison@bscgroup.com](mailto:mcmorrison@bscgroup.com)> wrote:

Hi Jennifer,

Please see the attached site plan which shows the fire apparatus movement coming into and leaving the site. Please let me know if you have any questions or concerns! Feel free to give me a call, 508-272-8416.

Best,

**Mackenzie Morrison** (she, her)

Civil Designer

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Lt. Jennifer Ashe C5

Lieutenant/Paramedic

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