
February 13, 2024

Ms. Jean Bubon, AICP
Town Planner
Sturbridge Planning Board
301 Main Street First Floor
Sturbridge, MA 01566

**Re: Peer Review #3 - Stormwater and Zoning Compliance Review
Sturbridge PV, LLC – 200 Haynes Street (Formerly 200 Route 15), Sturbridge, MA
CMG ID 2023-218**

Dear Jean,

CMG is providing this letter report detailing our third engineering peer review of the stormwater management system design and Application for Site Plan Approval Submission #3 for the proposed Large-Scale Ground-Mounted Solar Energy Facility located at 200 Haynes Street, Sturbridge, MA” (the “Site”).

The project is located on a 13.92 +/- Acre parcel within the “Special Use” zoning district and includes ground mounted solar voltaic arrays, a gravel access road, associated utilities, and an on-site stormwater management system. The proposed project limits are within the Town of Sturbridge Conservation Commission’s 200-FT wetland buffer zone and 500-FT buffer zone of areas with 8% slope or greater to areas subject to protection.

CMG is in receipt of the following documents:

- BSC Group Response Letter entitled “Proposed Photovoltaic System, 200 Haynes Street, Response to Peer Review, Fire Department & Public Comments”, date 1/31/24.
- Site Plan entitled “Ground-Mounted Photovoltaic System, 200 Route 15, Sturbridge, MA” plans, prepared by BSC Group – 349 Main Street, West Yarmouth, MA 02673, dated 8/1/2023, revise date 1/31/24.
- Stormwater Management Report entitled “Stormwater Report – Ground-Mounted Photovoltaic System, 200 Route 15, Sturbridge, MA” prepared by BSC Group – 349 Main Street, West Yarmouth, MA 02673, dated April 2023, revise date January 2024.

BSC Group’s (BSC) January 31, 2024 plan revisions address the majority of CMG’s 1/03/24 engineering peer review comments. CMG’s remaining comments are provided below along with our original comments and BSC’s responses for Planning Board consideration:

General Engineering & Stormwater Management Design Comments

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

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 be 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).

BSC Response (1/31/24): 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 drowsing, as well as sufficiently screening the abutting residential property. Black Spruce trees are also proposed in the understory to provide additional screening.

CMG Comment #3: Planting Plan Sheet 7 of 9 adds twenty-one (21) trees within 50 ft. of the southern property line. Applicant must demonstrate how this will provide the equivalent screening for the adjacent residential condominium development as an alternative to providing a 200 ft. landscape buffer. CMG recommends the Applicant provide additional information to the Planning Board to justify the reduced landscape buffer.

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.

CMG Comment #2: Proposed grass swales should be called out on the Grading & Drainage plan sheets and a construction detail provided.

BSC Response (1/31/24): The Drainage Plan sheet now calls out the proposed grass swales and a cross-section of the driveway with both swales is included on Sheet 8 of 0 of the plan set.

CMG Comment #3: Minor plan revision: still need to label grass swales on the plans.

12. Site's interior gravel access road appears to be super elevated with proposed catch basin locations on the high side of the road. Catch basins should be located on the low side in order collect roadway runoff. In addition, CMG recommends catch basin grates be constructed with concrete collars and a detail provided for all locations within the gravel access road.

CMG Comment #2: Catch basin grates should be constructed with concrete collars and a construction detail provided for all locations within the gravel access road. The area downgradient of Catch Basin CB-3 should be bermed to prevent larger storms from bypassing and running towards the property to the South as the gravel driveway will not have a curb.

BSC Response (1/31/24): A concrete collar detail is shown on Sheet 8 of 9. The detail includes a table that specifies the required length of the collar on each side of the grate. Catch Basin 3 is now bermed at the south end, as shown in the Grading Plan.

CMG Comment #3: Minor plan revision: CB-3 rim grade and "berm" are shown as the same elevation and should be revised to define an adequate berm height.

14. Rational method pipe sizing calculations are not included in the submitted stormwater report for the proposed drain pipes.

CMG Comment #2: The culvert sizing calculations provided in Stormwater Report Section 7.06 do not provide the correct design flow rate necessary to evaluate proper culvert sizing (Also See Comment #5).

BSC Response (1/31/24): The culvert sizing calculations provided in Stormwater Report Section 7.06 have been revised to include the correct design flow rate and they now include the portion of Haynes Street that discharges to the roadside drainage swale.

CMG Comment #3: Minor Stormwater Report revision: report is missing rational method calculations for the other four (4) drain pipes which were included in the previous report.

21. The Site is > 1 Acre therefore an NPDES SWPPP is required to be submitted prior to construction. CMG recommends the Planning Board make this a condition of approval.

BSC Response (1/31/24): The Applicant is aware of the NPDES Phase II requirements and will comply fully.

Condition of Approval for Planning Board consideration.

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 Response (1/31/24): No further action required.

Condition of Approval for Planning Board Consideration – Applicant is providing two documents entitled “Statement about modules’ reflection” date 11/07/23 and “Solar Glare Hazard and Evaluation Methodology” System Bulletin No 2 date October 2014 for Planning Board review and consideration.

31. §300-10.5.B –The project does not meet the 200’ buffer setback from a residential use for the Sturbridge Crossing Condominiums property located to the South.

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 be proposed to mitigate the visual impacts of the proposed solar facility and stormwater basin which border the Southern residential property line (Also see Comment #10).

BSC Response (1/31/24): 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 drowsing, as well as sufficiently screening the abutting residential property. Black Spruce trees are also proposed in the understory to provide additional screening. (See response to Comment 10).

CMG Comment #3: *See Comment 10. Regarding Planting Plan.

36. §365-3.4.B & 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 clearing with the Conservation Agent.

BSC Response (1/31/24): No further action required.

Condition of Approval for Planning Board Consideration

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

BSC Response (1/31/24): This section has been deleted from the O&M Plan

Condition of Approval for Planning Board consideration.

Please contact me or Rob Lussier if you have any questions at (774) 241-0901.

Sincerely,
CMG



David T. Faist, PE
Principal Engineer



Robert Lussier, EIT
Project Manager