

April 29, 2025

Town of Ulster
Town Planning Board
584 East Chester Street Bypass
Kingston, New York 12401

**RE: Praetorius and Conrad, P.C. Comment Response
Tuytenbridge Solar Project
Lightstar Renewables, LLC**

Dear Town Planning Board Members:

Lightstar Renewables, LLC (Lightstar) and LaBella Associates, DPC (LaBella) received a copy of the Praetorius and Conrad, P.C. review letter for the Tuytenbridge Solar Project, dated December 12, 2024. Please find comment responses below.

Full Environmental Assessment Form

1. Email correspondence provided between the applicant and Lisa Masi of the NYSDEC dated September 12, 2023 regarding Northern Long Eared Bats and Bald Eagles mentioned the NYSDEC determination was valid for a 1 year period. Applicant should verify the previous NYSDEC determination has not changed. Bald Eagle nests are known to be in the vicinity of this project site.

Acknowledged.

Wetlands

1. New wetland regulations are going to take effect in New York State on 1 January 2025. 6 NYCRR Part 664 Freshwater Wetland Jurisdiction and Classification shall be amended. The amendments will not limit NYSDEC's jurisdiction to the wetland areas that are currently mapped. Regardless of size, wetlands that are determined to be of "Unusual Importance" will now fall under NYSDEC jurisdiction. The applicant will need to verify that the wetland areas shown on the project site do not fall under the jurisdiction of the NYSDEC, along with any possible associated buffer zones.

Acknowledged.

Stormwater

1. The proposed project will disturb more than 1 acre; therefore, the project falls under the requirements of NYSDEC SPDES Permit GP-0-20-001. The report states approximately 24 acres of woodland will be removed. Please note that the revised NYSDEC SPDES Permit for Stormwater Discharges from Construction Activity is anticipated to become effective on 29 January 2025, GP-0-25-001.

Acknowledged.

2. NYSDEC issued a Solar Panel Construction Stormwater Permitting/SWPPP Guidance document dated April 6, 2018. This document describes two scenarios for determining the SWPPP requirements for a solar project. Solar projects which can demonstrate will



not alter hydrology from the pre-development conditions to the post development conditions will only need to address issues related to erosion and sediment control. Projects which cannot demonstrate they will not alter hydrology are required to provide post construction stormwater management practices designed in accordance with the NYS Stormwater Management Design Manual. The new GP-0-25-001 permit anticipated to become effective on 29 January 2025 has been revised to include language regarding solar array fields in Appendix B Tables 1 and Table 2.

The revised or added language basically remains the same as the April 2018 Guidance document; however, the added language includes a maximum slope requirement of 8%. Therefore, solar arrays on slopes over 8% that cannot maintain sheet flows using management practices in the Blue Book or Design Manual will be required to provide Post Construction Stormwater Management Practices to achieve quality and quantity goals.

Acknowledged.

3. The previously mentioned guidance document also states that solar projects that only provide erosion and sediment control measures must also meet other criteria, such as having the panels spaced apart so that rainwater can flow off the down gradient side of the panel and continue as sheet flow across the ground surface. This item refers to Maryland's "Stormwater Design Guidance-Solar Panel Installations". The Maryland guidance document discusses stormwater measures that may be necessary on varying slope percentages to maintain sheet flow. The Maryland Guidance document was included in Appendix K of the SWPPP prepared for this project. The guidance document shows that solar panels installed on slopes between 5% and 10% shall have a level spreader located at the drip edge of each row of panels.

The grading plans for this project do not show level spreaders at the drip edge of each row of panels for slopes exceeding 5%. The NYSDEC Blue Book also states that level/flow spreaders are limited to slopes of 10%. There are currently solar panels shown on slopes exceeding 10%. It is our understanding that the runoff from solar panels on slopes exceeding 10% can no longer be considered as "Non-Rooftop Disconnection", therefore, the solar panels would be considered as impervious surfaces requiring post construction stormwater treatment. It is also our understanding that the solar array will be a tracking type system, therefore, the applicant will need to demonstrate how they are proposing to dissipate the runoff energy and maintain sheet flow on both sides of the panels.

It is LaBella's interpretation, and project permitting experience, of the NYSDEC and MDE guidance documents that on slopes greater than 8% some form of energy dissipator needs to be utilized to maintain sheet flow and allow the panels to be considered pervious. Typically, these are either level spreaders or water bars. Specifically, the NYSDEC has required LaBella to follow spacing guidelines from the Blue Book's water bar specification, and to install the energy dissipators along the contours, not along the drip edge. On this project, level spreaders are utilized as the energy dissipator and are shown on the plans along the contours, spaced at various intervals based on the slope of the ground.

4. The SWPPP report states that the solar project will include a solar array, pervious gravel access road, equipment pads, and fencing. Our office did not see the equipment pad locations, please label the pad areas.



At the time of submission the equipment pad location had not been finalized. This has been added to the plan set.

5. The Town of Ulster requires drainage culverts and channels to be designed to safely convey the stormwater runoff from a 25-year storm event. Please add the 25-year storm event to the other storms being evaluated.

The 25-year storm event has been added to the HydroCAD reports.

6. The grading plan shows varying slopes throughout the site. Perhaps it would be helpful to have a slope analysis plan highlighting slopes between 0 and 5%, 5% to 8% or 10%, and slopes exceeding 8% or 10%. This would help identify the slopes where the solar arrays are being constructed for stormwater management purposes.

A heat map showing the different slopes on site has been added to the plan set.

7. The SWPPP report states the required Water Quality Volume calculations have been provided in Appendix C. Appendix C of the report was not included for our review.

Appendix C in the SWPPP report is for the NYSDEC Green Infrastructure (GI) sheets. At the time of submission, no impervious surfaces were included on the plan set. The GI sheets are now included in the SWPPP.

8. The SWPPP report states sheet flow to Riparian Buffers/Filter Strips will be used to provide the Runoff Reduction and Water Quality Volumes required. The plans should show the riparian buffers/filter strips to be preserved by conservation easements to be created. Please note that riparian buffers/filters are limited to slopes of less than 10%, as well as the slope of the maximum contributing development length of 150', as per Section 5.3.2 of the design manual.

The report does not mention how the areas beyond the maximum contributing length of 150' or the areas with slopes exceeding 10% will address water quality requirements.

Along with the equipment pads, grass filter strips have been added to the plans. These are utilized to treat the equipment pads only and do not have any contributing areas outside of 150'. The filter strip areas have been graded to maintain slope requirements per the NYSDEC

9. The SWPPP report states that they will be disturbing more than 5 acres of soil at one time. The report also states they will provide a phasing plan that defines the maximum disturbed area per phase, and which shows the required cuts and fills once a contractor has been selected. The phasing plan should be included with the SWPPP report at this time for review. If soil disturbances are going to be planned during the winter months, then winter stabilization measures should be included in the erosion and sediment control plans.

A phasing plan has been generated and is included with this submission package.

10. The drainage analysis included 3 design points; however, there appears to be some additional areas where water leaves the project site that should also be analyzed. There is a wetland area in the northwesterly corner of the property that does not appear to exit the site at Design Point 1. There is a wetland area at the northeasterly corner of the



project site that does not appear to exit the property at Design Point 3. Please provide full size scaled maps of the Pre and Post Development Area Maps provided in the appendix of the report for review.

Both Design Point 1 and Design Point 3 were re-evaluated with additional topographic information found publicly online for areas off site. Both wetlands ultimately drain to the same location as the remaining portion of the drainage areas shortly off-site. Due to this the drainage areas were not adjusted. Full size maps have been provided as part of this submission.

11. The rainfall data was reported to be obtained from NRCS rainfall information. The models used to analyze the Pre and Post Development conditions appear to use Type II 24-hour rainfall distribution curves. NRCS rainfall information cannot be used with Type II rainfall distribution curves. IDF curves should be used with NRCS rainfall data.

The HydroCAD analysis has been updated to utilize IDF curves.

12. The time of concentration calculation for drainage area ES-1 appears to include the stream located on the property. Stream flow is typically modeled as a channel flow and not as a shallow concentrated flow.

The HydroCAD analysis has been updated to channel flow within the stream portion of the time of concentration path.

13. Drainage area ES-3 contains a cover type described as "FAE UNKNOWN???" with a CN value of 77. Please clarify what this cover type is and the corresponding CN value.

The FAE cover type is for rock outcropping, the CN value has been updated to reflect this and the name has also been changed. This soil cover type is being modeled as a D soil.

14. The time of concentration calculation for post development drainage area PS-1 appears to include the same stream section located on the property that was used for pre-development drainage area ES-1; however, the slope of this section was revised from the pre-development slope of 3.3% to 1.5% in the post development calculation. Please clarify the change in slope if this is in fact the same stream section.

The slope percentage has been updated to be the same in the pre and post development models.

15. The time of concentration calculations for all the post development drainage areas include multiple sections of sheet flow. TR-55 methodologies used for this analysis limit post development sheet flows to a total maximum length of 100'. Please justify having multiple sections of sheet flow exceeding the total maximum length of 100', as per TR-55 methodology.

Additional sections of sheet flow were utilized when a time of concentration path crossed a level spreader within the array. The level spreaders are designed to re-establish sheet flow.



If you have any questions or require any additional information, please do not hesitate to contact me by phone at (607) 308-4233 or via email at emcneill@LaBellaPC.com.

Respectfully submitted,

LaBella Associates

Emily McNeill
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