

MEMORANDUM

To: Janine King, Village of Croton-on-Hudson Village Manager
CC: Dan O'Connor, Village Engineer; Linda Whitehead, Village Attorney
From: Stuart Mesinger, AICP and Nick Vamvas
Date: February 8, 2021
Re: Hudson National Golf Club/Matrix Development, LLC – Solar Project - Completeness Review
Project #: 82050.00

The following are our comments on the applicant's SWPPP dated January 20, 2021. Please feel free to contact us directly with any questions.

REQUIRED COMPONENTS CHECKLIST (per NYSDEC GP 0-20-001, requirements are paraphrased for brevity)

1. ESC Component
 - a. Background info **included**
 - b. Site map **included**
 - c. Soils description **not included**
 - d. Construction phasing and sequencing **included**
 - e. Minimum ESC practices **included**
 - f. Temp and perm stabilization plan **included**
 - g. ESC plan **included**
 - h. ESC details including sizing of temp sed basins and structural practices **not included**
 - i. Maintenance inspection schedule **included**
 - j. Description of pollution control measures (litter, chemicals, debris) **not included**
 - k. Description of industrial stormwater discharges – NA
 - l. ID of any elements not in conformance - NA
2. Post-Construction SWM Practice Component
 - a. ID of all SWM practices
 - i. Dimensions **not included**
 - ii. Material specs **not included**
 - iii. Installation details **not included**
 - b. Site map showing location and size **included but needs more detail**
 - c. Modeling analysis report **included but needs more detail**
 - d. Soil test results (test pits) **not included**
 - e. Infiltration test results **not applicable unless SWM practices with infiltration are proposed**
 - f. O&M plan including inspection and maintenance schedule and ID of responsible entity **not included**
3. Enhanced Phosphorus Removal Standards (where required) - NA

VILLAGE CODE §196-6. STORMWATER POLLUTION PREVENTION PLANS

- A. No application for approval of a land development activity shall be reviewed until the appropriate approving authority has received a stormwater pollution prevention plan (SWPPP) prepared in accordance with the requirements of this article. **SWPPP has been submitted for review**
- B. All SWPPPs shall provide the following background information, erosion and sediment control, and stormwater management measures relating to stormwater quantity (some requirements are paraphrased for brevity):
- (1) Background information **included**
 - (2) Site map/construction drawings including the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent offsite surface water(s); wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of off-site material, waste, borrow or equipment storage areas; and location(s) of the stormwater discharge(s). The site map shall be at a scale no smaller than one inch equals 50 feet. **included**
 - (3) Soils description. **not included**
 - (4) Phasing plan. Not more than two acres shall be disturbed at any one time unless otherwise approved. **included but needs revision to restrict disturbance to 2 acres at a time or to request a project-specific maximum**
 - (5) Description of pollution control measures (litter, chemicals, debris). **not included**
 - (6) Description of construction waste materials stored on site and description of controls/storage. **not included**
 - (7) Temporary and permanent structural and vegetative measures for each phase. **A list of the proposed measures is provided but not broken down per phase**
 - (8) A site map/construction drawing(s) specifying the location(s), size(s) and length(s) of each erosion and sediment control practice. **included but needs more detail**
 - (9) Dimensions, material specifications and installation details for all erosion and sediment control practices, including the siting and sizing of any temporary sediment basins. **not included**
 - (10) Temporary practices that will be converted to permanent control measures. **not included**
 - (11) Implementation schedule for staging temporary erosion and sediment control practices, including the timing of initial placement and duration that each practice will remain in place until the site is stabilized. **included but needs more detail to identify which ESC practices are in place in each phase**
 - (12) Maintenance schedule to ensure continuous and effective operation of the erosion and sediment control practice. **not included**
 - (13) Name(s) of the receiving water(s) and NYSDEC classification(s), if applicable. **included**
 - (14) Delineation of SWPPP implementation responsibilities for each part of the site. **not included**
 - (15) Description of structural practices designed to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable. **included**
 - (16) Any existing data that describes the stormwater runoff at the site. **included**
 - (17) An acknowledgement by the landowner granting to the Village and other agencies having jurisdiction the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection. **not included**
 - (18) Description of each postconstruction stormwater management practice, including but not limited to dimensions, material specifications, and installation details for each postconstruction stormwater management practice. **not included**

- (19) Site map/construction drawing(s) showing the specific location(s) and size(s) of each postconstruction stormwater management practice. **not included**
 - (20) Hydrologic and hydraulic analysis for all structural components of the stormwater management system for the applicable design storms, as per the manual specified in § 196-8A(1) herein. **not included**
 - (21) Comparison of postdevelopment stormwater runoff conditions with pre-development conditions. **included but needs more detail**
 - (22) Maintenance schedule to ensure continuous and effective operation of each postconstruction stormwater management practice. **not included**
- C. In addition to the information requirements of § 196-6B, SWPPPs for land development activities disturbing one or more acres, whether or not these land development activities involve discharging a pollutant of concern to either an impaired water identified on the Department's 303(d) list of impaired waters or a total maximum daily load (TMDL) designated watershed for which pollutants in stormwater have been identified as a source of the impairment, must provide the following water quality controls (poststormwater construction controls):
- (1) Description of each postconstruction stormwater management quality practice. **not included**
 - (2) Site map/construction drawing(s) showing the specific location(s) and size(s) of each postconstruction stormwater management quality practice. **not included**
 - (3) Hydrologic and hydraulic analysis for all structural components of the stormwater management quality system for the applicable design storms, as per the manual specified in § 196-8A(1) herein. **not included**
 - (4) Dimensions, material specifications and installation details for each postconstruction stormwater management quality practice. **not included**
 - (5) Maintenance schedule to ensure continuous and effective operation of each postconstruction stormwater management quality practice. **not included**
 - (6) Maintenance easement(s), where required, to ensure access to all stormwater management practices at the site for the purpose of inspection and repair. Easements shall be recorded and shall remain in effect with transfer of title to the property. **Not included but may not be applicable if the stormwater management practices are within the lease controlled by the applicant.**
 - (7) Inspection and maintenance agreement recorded and binding on all subsequent landowners served by the on-site stormwater management measures in accordance with § 196-9 of this article. **not included**

SWPPP COMMENTS

1. "Regulatory"

- a. Page 2: The applicant asserts this project does not require post-construction stormwater management practices based on NYSDEC solar panel construction SWPPP guidance. The referenced memorandum includes two project scenarios, and the applicant appears to assert the project falls under Scenario 1 which allows for the project SWPPP to be developed to address erosion and sediment controls only. However, criteria #5 under Scenario 1 states "the project does not include the construction of any traditional impervious areas (i.e. buildings, substation pads, gravel access roads or parking areas, etc.)." This project, therefore, falls under Scenario 2 because of the installation of "traditional impervious areas" including the equipment pad and gravel access roads. Thus, the SWPPP must address post-construction stormwater management controls.

2. "Specific Erosion Control Measures"

- a. Page 3: Temporary Sedimentation basins are noted as flow control measures. The applicant should provide sizing calculations and typical details of the basins for review.
- b. Page 3: Permanent detention basin is noted as a practice to reduce peak flows. The applicant should provide sizing calculations and typical details of the basin for review.
- c. Page 3: Splash pads are an effective way to minimize erosion in the solar array, however many of the splash pads run perpendicular to contours which may cause concentration of flow. The applicant should consider additional measures to ensure concentrated flows are returned to sheet flow.
- d. Page 3: Provide typical details for level spreaders, organic mat or jute netting, geo-grid, and construction fencing.

3. "Hydrology"

- a. Pages 9 and 10: The applicant's assertion that the proposed condition would have "little effect on the runoff characteristics" within the drainage area can not be verified. The hydrologic analysis doesn't take in to account the impervious areas to be constructed as part of this project. Nor does it account for the changes in grades and their affect on the flow paths. In accordance with NYSDEC GP 0-20-001, Part III.B.2.c., a stormwater modeling and analysis report should be provided for review. The report must include:
 - i. Updated drainage area maps including pre- and post- construction subcatchment boundaries, flow paths, and design points;
 - ii. Hydrologic and hydraulic analysis for the 1-, 10-, and 100-year, 24-hour storm events including supporting calculations and summary table comparing pre- and post- runoff rates;
 - iii. Supporting calculations demonstrating the post-construction stormwater management practice(s) has/have been designed in conformance with NYSDEC sizing criteria;
 - iv. Identification of any sizing criteria that is not required based on NYSDEC GP 0-20-001; and
 - v. Identification of any elements of design that are not in conformance with the performance criteria contained in the NYSDEC design manual.

4. Notice of Intent

- a. The NOI is incomplete and must be modified to include responses to questions 23 and 27-39.

- b. Question #4 must be updated to indicate the area of gravel driveways and equipment pads.
 - c. Question #5 must be answered.
 - d. Question #6 should include the percentage of D soils in the disturbed area.
 - e. Question #22 should be answered "yes."
5. Other comments
- a. SWPPP must be updated to include WQv and RRV calculations, must address which runoff reduction techniques will be applied, and must address how any remaining WQv will be treated.
 - b. A more complete description of on-site soils is necessary to determine suitability of the proposed stormwater management practices. Test pits or borings should be provided in all practice areas, and infiltration testing should be provided for practices with a filtering component.
 - c. SWPPP must be updated to include a description of the pollution prevention measures that will be used to control litter, debris, and construction chemicals.