

**MATRIX DEVELOPMENT, LLC**

153 Mercer Street, #4  
New York, New York 10012



December 23<sup>th</sup>, 2021

Attn: Mayor Pugh, Village Manager Healy and Trustees  
Croton-On-Hudson Planning Board  
1 Van Wyck Street  
Croton-on-Hudson, NY 10520

RE: Alternative Solar Site Evaluation – Old Driving Range

Dear Mayor Pugh,

At the request of the Village Trustee Len Simon, Matrix has completed a comprehensive alternative solar site evaluation of the area referred to as the “old driving range” which covers approximately 2.73 acres. Our findings are as follows:

- 1) It's important to note Matrix Development has submitted a Special Use application to permit a solar energy system that Matrix Development via Prickly Pear Solar, LLC. will own and operate. Hudson National is the landowner and lessor of the proposed subdivided property. This is not a Hudson National solar energy project, as viewed by the public. As such, Hudson National should not be required by the Village to disrupt normal golf course operations as a mandate to lease excess land. Hudson National is only listed on the application as required by Croton-On-Hudson zoning regulations. To this effect, a statement was made during the public comment period of the 12/20/21 Village Board Meeting, indicating Hudson National should make concessions to site the solar energy system in the middle of the golf course. Siting a high voltage solar energy system in close proximity to a high traffic public recreational facility poses significant legal liability and property damage exposure should Matrix be required to relocate the system.
- 2) Availability – This area is scheduled to be converted to a short course in 2023 and is not available for lease.
- 3) Liability – Siting the panels in this location could result in damage from the high-speed impact of errant golf balls. For this reason alone, this location is unacceptable.
- 4) Grade – The slope of this area is greater than 15% and would be classified as a steep slope.
- 5) Zoning – Per Tier 3 Solar system lot requirements, the minimum lot size is 4 acres. This area would be a non-conforming lot and require a variance.
- 6) Project Size – The solar energy system size would be reduced to 377 kilowatts direct current (dc), about one-fifth (20%) the size of the currently proposed Prickly Pear location, based on shading from adjacent trees and zoning setbacks required from a required subdivision property boundary.
- 7) Access Cost – Golf cart access roads are designed for the weight and width of standard golf carts. To allow for adequate fire vehicle access, approximately 840 ft of road would need to be replaced at an estimated cost of \$205,000.
- 8) Electrical Infrastructure – To support this location, Consolidated Edison would need to extend their three-phase utility lines from 16 Prickly Pear Hill Rd to the old driving range (Figure 2). 1800 feet of the new infrastructure would be installed above ground

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on new utility poles. The remaining 1100 feet utility extension would be installed underground to avoid existing golf course operations. Based on the abundance of shallow bedrock, the cost for this infrastructure would be unusually high. We estimate the total reconciled upgrade cost to be approximately \$2,000,000, and would take 18 months to install. Utility upgrade costs were a primary consideration of site selection, thus severely limiting any sites beyond the service entrance located on 16 Prickly Pear Hill Road.

- 9) Economics – Based on a solar system size of 377 kilowatts (see figure 1), gross revenues would be insufficient to pay capital costs associated with the construction of the solar array and Consolidated Edison's electrical upgrade fees without consideration for profit or development and operational expenses factored into the equation. This would also be true even if the reconciled interconnection upgrade costs were only 50% of estimated cost.
- 10) Visuals – Absent of natural geographic barriers, this area is highly visible from locations within Croton and has a direct line of site from Croton Point.
- 11) Energy Production – the reduced system size would generate approximately 440,000 kilowatt-hours. Sixty percent (60%) of the power generated would serve approximately 30 homes instead of 150 from the Prickly Pear Hill Solar project location. Final energy production and number of homes served is dependent on equipment availability, construction drawings, and resident home usage.

The remainder of the Hudson National Golf Course property is either the actual golf course, wetlands, or smaller wooded areas. All other potential areas examined are substantially farther from any point of interconnection with Con Edison and economically infeasible.

We are hopeful that this additional solar site analysis provides a sufficient level of detail to understand the conclusion reached by Matrix regarding other alternative sites prior to our application for the currently proposed location on Prickly Pear Hill Road.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Doud", written in a cursive style.

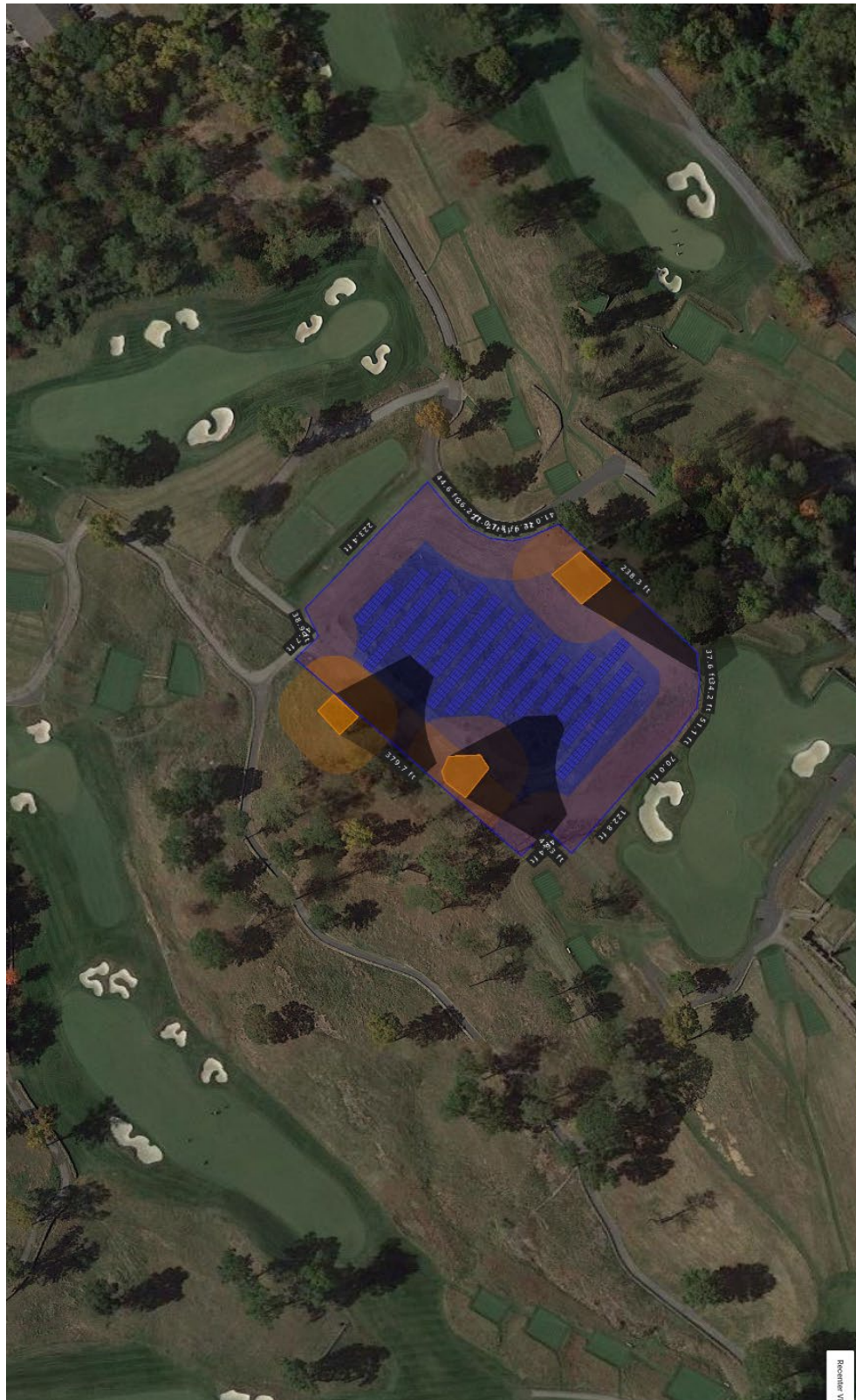
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Figure (1) – Solar Panel Layout (Old Driving Range)





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Figure (2) – Utility Line Extension

