



***Planning Board***

Stanley H. Kellerhouse Municipal Building  
One Van Wyck Street  
Croton-on-Hudson, NY 10520-2501

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*Village Engineer*  
**DANIEL O'CONNOR, P.E.**

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**RONNIE ROSE**

TO: Mayor Pugh and the Village Board of Trustees  
FROM: Chairman Luntz, Planning Board  
DATE: December 31, 2020  
RE: Hudson National Golf Club Solar Matrix Project-- Special Permit Recommendation

At its regularly scheduled meetings on October 27, November 10, December 8 and December 22, 2020, the Village of Croton-on-Hudson Planning Board reviewed the Village Board referral of the application for a Special Use Permit for Hudson National Golf Club Solar Matrix project at 40 Arrowcrest Drive.

The Planning Board has determined that the following objectives, as stipulated in §230-58, may be achieved by this applicant subject to the conditions and provisions hereinafter set forth.

*A. The accessibility of all proposed structures to fire and police protection.*

The proposed solar matrix project is accessible to fire and police protection. There are a few fire hydrants on Prickly Pear Road and one at the golf course's maintenance yard. The hydrant at the end of the maintenance yard needs to be made accessible. The applicant will reach out to the Chief of the Fire Department since the Croton Fire Department would respond to a fire at HNGC and discuss the emergency response plan as well as provide training on responding to emergencies at the Community Solar System to address any potential hazards.

*B. The compatibility of the location, size and character of the proposed use with the orderly development of the zoning district in which it is located and with that of adjacent properties in conformity with the zoning district applicable to such properties.*

The proposed Tier 3 solar energy system is an allowable principal use in the RA-60 Zoning District. The Planning Board agreed that in order for the application to satisfy this goal, a number of items will need to be addressed at the site plan approval process. These items include subdivision, steep slopes, tree removal, stormwater management, maintenance area details, screening from neighbors, and any other matters that come before the Planning Board during site plan review. It is noted that the Planning Board received letters concerning this proposal from residents on Prickly Pear Hill Road (see attached).

- C. The safety, convenience, and congruity with the normal traffic of the neighborhood and of the pedestrian and vehicular traffic generated by the proposed use, taking into particular account the location and size of such use, the nature and intensity of operations involved in or conducted in connection therewith, its site layout and its relation to access street.*

The Planning Board noted that the safety, convenience and congruity with the normal traffic of the neighbors comes into play only during the construction process. The applicant's attorney stated that flag men were required to direct traffic during the construction of the golf course (as specified in the Amended Site Plan resolution dated 1999), and therefore, this requirement would be similarly adopted during the construction process of the Community Solar System. The Planning Board recommends that Prickly Pear Hill Road be repaved after construction is complete.

- D. The compatibility of the location and height of buildings, the location, nature and height of walls and fences and the nature and extent of landscaping on the site with adjacent land and buildings and their appropriate development.*

The Planning Board noted that during the site plan process, issues regarding the height of fencing, landscaping, neighbor screening, and stormwater management will need to be addressed. The Planning Board also noted that the Village Board might want to address this as a condition in any Special Permit resolution.

- E. The preservation of ecological or environmental assets of the site or adjacent lands:*

The Planning Board noted that the applicant intends to clearcut approximately 7 acres in what is designated as a no-disturbance area in the original special permit for the golf course and the Environmental Management Plan thereunder; and accordingly the Planning Board believes that both the Village Board and the Planning Board have the clear right to deny essential components of this application respectively coming before them. The Planning board further noted that on the approximately 7 clearcut acres where the solar panels or access/maintenance roads are to be located, there would be no trees left to preserve; the areas under panels would be replanted with a grass seed mix. The remaining approximately 5.1 acres will not be disturbed.

Therefore, based on its review and discussion, the Planning Board unanimously recommends the special permit use for the proposed solar matrix project provided that (1) the items noted above are to be addressed in more detail at the site site plan process, and that (2) the Village Board, Planning Board, and the applicant can agree on a mitigation fund due to the fact that seven acres are being disturbed in a "no-disturbance" area. This mitigation fund should be used solely for carbon offset purposes of the Village (for example, village electrical hybrid vehicles, charging stations, planting trees and making village-owned buildings more efficient).

The Planning Board also recommends that if a subdivision is approved as part of the application, it may be necessary or appropriate to place a new "no-disturbance" area on the remaining portion of the 12.085 acres not directly used for the Community Solar System.

December 22, 2020

Dear Dan:

Thank you again for facilitating communication the residents of Prickly Pear Hill to the Planning Board as it considers the Solar Electric Project on property belonging to the Hudson National Golf Course. During the last Planning Board meeting we heard with considerable interest the caveats that we request be addressed before granting final approval:

1. A storm water runoff plan.
2. A landscaping plan.
3. A construction management plan.
4. A post construction road repair maintenance agreement.
5. An implementation assurance and dispute management agreement.

**Storm Water Run-off:**

We were heartened by Hudson National's immediate response following the last meeting to begin repairing some of the out of compliance work done on the maintenance yard. Teams began regrading out of compliance berms and installing a wood picket fence that restored some of residential/forested look of the neighborhood. The cross Prickly Pear Hill road culvert remains, as do other non-compliant construction(s). We expect these will be addressed by the complete Storm Water Drainage Plan and a Storm Water Pollution Protection Plan (SWPP) to be prepared by the consulting civil engineer and reviewed by Chazen Companies. We fully expect that both plans will include both remediation of the noncompliant changes made throughout the years, as well as the additional runoff created by the various non-permeable surfaces (item 4) created for the solar project.

**Landscaping and Screening Plan:**

As the project will be placed with-in a deciduous forest, we know that the proposed chain link fence with plastic will not suffice. We expect that where visible from the neighbors at any time of the year, evergreen planting and wood fencing be employed to keep the project and the maintenance yard from detracting from the residential zoning and forest feel of the neighborhood. We also expect that all verbal assurances that lot 2 will not developed and will be maintained be codified.

**Construction Management Plan:**

We request that this plan address the timing, noise, and safety issues be clearly stated in my previous correspondence to board.

**A post construction road repair /traffic/ maintenance agreement:**

We would like to call attention for Hudson National Golf Course Village Board Amended Special Permit 4 -1999 section 27. This stipulation as well as the storm water issues has been a considerable source of disagreement over the years between the golf course and the Prickly Pear Hill neighborhood. Which is why we are seeking Point 5: "A Project construction implementation assurance, and dispute management agreement" for the future well-being for all concerned.

Respectfully,

Mitchell Bring

Mitchell Bring on behalf of the residents and possible future residents of Prickly Pear Hill Road.

12.22.20

Hi Dan –

I'm writing in support of Mitchell Bring's December 22<sup>nd</sup> letter regarding the Solar Project on property belonging to Hudson National Golf Course.

I want to reiterate Mitchell's concerns about Hudson National Golf Course's stewardship of Prickly Pear Hill Road that I hope will be addressed in any post-construction maintenance plan. Anecdotally, I had to fill two, foot-deep potholes on the road this summer with rocks I dragged down from the hillside because the road was in such a state of disrepair.

In addition, I want to call your attention to Bob Davis' comments from the last Planning Board Meeting. (Unfortunately, the minutes are not available yet, nor is the recording, so I can only paraphrase.)

Mr. Davis stated that after the Non-Disturbance area is developed into the Solar Field, the Golf Course will be happy to designate whatever's left over as another Non-Disturbance Area. This is how rural areas, protected habitats and other areas we come to love as beautiful and serene are carved up and how Croton-on-Hudson could become Anywhere-on-Hudson.

Solar power is a worthy aim, but the unique character of Croton-on-Hudson is unequivocally at risk here. While the Board's goals are admirable, the impact on the character of the town and its natural beauty is not something that can be moderated with charging stations, discounted electricity or other infrastructural offsets might be part of any future win-win negotiations. Rather, I would like to suggest that the development of part of the Non-Disturbance area be offset with the preservation of another area that maintains the balance between development and nature that the town currently enjoys.

Respectfully,

John Ealer

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Susan Ealer  
5 Prickly Pear Hill Rd.  
Croton On Hudson  
NY, 10520

12.9.20

## Resident Comments Re: Hudson National Matrix Solar Array Project

Dear Planning Board,

My husband and I have been residents of 5 Prickly Pear Hill Rd. since 2016. I am writing to you to express some concerns I have regarding the proposed Hudson National Matrix Solar Array Project. In addition, I am a licensed architect and have worked on large scale institutional projects for over 25 years. My experience is informing the comments and questions I outline below.

1. **Firstly, I want to state my full support:** for the letter written by our neighbor Mitchell Bring titled "December 8 Planning Board Comments." I will attempt not to restate his concerns, which I share, in the list below but to add on some of my own.
2. **Process – Community Engagement:** As someone who has been involved in many institutional master plan projects, I was surprised to learn that this project was allowed to proceed as far as it has without a community meeting involving Hudson National and their design team, The Planning Board, and the affected neighbors in the community. **I would like to request such a meeting to allow all involved to review the proposal, ask questions, and voice concerns.**
3. **Stormwater Plan:** In addition to the stormwater issues already raised by Mitch, we have some of our own. Our property is located down a steep hill from the site and thus downstream from the proposed site runoff. We have already experienced an increase in runoff from the unpermitted and incompletely designed drainage solutions. We have increased water incursion at the back of the house and the street is eroded along the entire frontal perimeter of our property. We have a septic system and are concerned that the ground will become too saturated, causing the system to back up. **I understand that Mitch is already requesting a full stormwater plan be prepared and implemented but I would also like to request a peer review of that plan by an independent entity if this is not already part of the Planning Process.**
4. **Neighborhood Degradation:** While I am in full support of providing more solar energy to the community and I applaud Hudson National for making a choice to do so with their property, I am concerned that the implementation of the project will destroy the quality of the neighborhood. Over 500 trees will be removed to

create this project and there is no landscape plan developed to screen the array from the neighborhood. Black plastic fencing is not consistent with the quality of the houses on Prickly Pear Hill. **I would like to request that Hudson National prepares a landscape/hardscape plan for the portions of site that are visible to the neighbors that is consistent with the quality of the landscaping provided for their members.**

5. **Maintenance:** Prickly Pear Hill Rd. is currently under maintained by the golf course. There are large potholes up and down the street. This will be exacerbated with the coming construction/facility. **I would like to request that Hudson National be required to maintain the road.**
6. **Traffic/Construction Plan:** The new project has the potential to cause a lot of traffic and noise during construction and a lot of traffic on a permanent basis. **I would like to request that plans be developed and presented to the community to minimize both.**

December 7, 2020

Dear Dan:

I am writing to comment on the new material submitted December 4<sup>th</sup> for consideration by the Planning Board December meeting December 8<sup>th</sup> regarding the Hudson National Golf Course planned Solar project. This material consists of the completeness review by the Chazen Companies as well as changes to the plans and responses by both Matrix Solar Development and Ralph Mastromonaco, PE. PC.

My comments below are along 4 general lines:

1. Storm Water Control Issues
2. Changes to the sub-division of the property
  - a. Associated permitted use
  - b. Landscaping and Screening

I make these comments and observations from my perspective as a neighbor living on Prickly Pear Hill Road next to the Hudson National Golf Club since 1997. I have been an Adjunct Professor of Architecture at the State University of New York at Buffalo for the past 8 years. I am not a practicing Architect, land use attorney, nor a civil engineer. I currently consult with Architects and manufacturers in developing high performance energy efficient and sustainable building skins.

#### **Storm Water Control**

The Chazen Completeness Review Page 12 Comment F. A stormwater pollution prevention plan (SWPPP) are both listed as incomplete and that they should be provided.

**Incomplete. The Applicant should provide information relevant to subsections B, C, and F. Regarding subsection F, the Applicant states there is no increase in impervious surfaces associated with this project. However, the applicant also notes that steep portions of the access drive will be constructed of compacted Item 4 an impervious surface treatment. Thus, a SWPPP that contains post-construction stormwater management practices will be required. The SWPPP should also include hydrologic modeling to demonstrate how temporary sediment basins will mitigate peak runoff rates during construction.**

**HGNC should provide information as it relates to the amended special permit application pursuant to ZS 230-9.1A(6).**

Mr. Mastromonaco responds: "The SWPPP in this case would be an erosion control plan which has been filed already. A final SWPPP would be provided before construction."

We respectfully disagree. The filed erosion control plan relies on an "existing" non-complying, non-engineered overburdened "system". Mr. Mastromonaco does not address Chazen's observation that the **submitted erosion control plan is in itself contradictory**, in that he states there will be no additional runoff, but he has specified item 4, an impervious material.

Dan, as you and I discussed during your visit on November 29, and my letter of December 3, the Golf Course has made substantial non-compliant changes to the topography and drainage along Prickly Pear Hill road causing both flooding and damage to me and my neighbors. Our requests for corrections have

gone un-headed by several subsequent golf course managers. The problem simply doesn't exist as far as they are concerned, and no un-permitted site and drainage changes have been made.

Chazen repeats the SWPP requirement 3 times in the report:

Page 15 #6:

(6) A stormwater pollution prevention plan (SWPPP) consistent with the requirements of Chapter 196, Article I, Stormwater Management and Erosion and Sediment Control, shall be required for any site development plan approval that qualifies as or authorizes a land development activity as defined in Chapter 196, Article I. The SWPPP shall meet the performance and design criteria and standards in Chapter 196, Article I. The approved site development plan shall be consistent with the provisions of Chapter 196, Article I.

Page 1 item 11:

The Applicant should provide a cost-benefit analysis, demonstrate consistency with the Comprehensive Plan, and provide a Stormwater Pollution Prevention Plan (SWPPP). See below Per ZS 230-57.

Furthermore, the filed Short Environmental Impact Form, question 17 question b. asks:

b. **Will storm water discharges flow to adjacent properties?**

**Had this question been answered correctly Yes**, instead of No, I believe that Chazen would have stated that the General Form Water Management Plan would also be required.

As we saw during the site visits the existing conveyance is non-compliant and obviously discharges flow to adjacent properties. All water from the maintenance yard, a large portion of Prickly Pear Hill on golf course property, and any additional water from the Solar Project does and will flow to the Sediment Drain a few feet uphill from 16 Prickly Pear Hill.

We believe it essential to provide designs for a storm water control system, that 1) remediates the non-conforming non-engineered "existing" conditions and 2) will demonstrate that is capable of accommodating added water runoff during and after construction. This is a requirement of the application and should be provided **before** issuing permits for the project.



### **Questions about Changes to the sub-division of the property.**

The recently submitted plans have an area labeled "Access easement for Lot 2" adjoining Prickly Pear Hill Road. I assume this is lot 2. Is this correct?

What are the permitted uses of Lot 2. What are the maintenance requirements for Lot 2?

Currently this area contains a number of downed trees, one overhanging Prickly Pear Hill Road right of way, and a pile of tree trunks presumably moved to the area from another location.

What easement access will be permitted? Is a driveway going up the steep slope planned and for what purpose?

### **Proposed Screening and Landscaping**

Point 9 of the Chazen Completeness review states:

"The site plan does not include proposed screening or landscaping. See below ZS 230-48.1.G(3)(k)."

Mr. Mastromonaco responds: The Black vinyl fencing, as shown on the detail, will provide screening. The wooded area will also provide screening. There is no landscaping planned other than the existing forest area that provides a natural landscaping screen.

My Comments:

I look out my front door and across the road today and through the "natural landscaping screen" I see several concrete bin walls, pieces of heavy equipment, and something that looks like a shipping container, that may be a truck size garbage storage device. These sit atop a non-compliant fill wall.

The site lines on the drawings of future views of the Solar Array were prepared surreptitiously by surveyors who misrepresented to my neighbors and myself about what they were doing.

The used a measure 5.5 feet above the garage floor. The main living level of our homes are 10 to 12' higher, and that will change those views.

I believe that large and maintained evergreens will mitigate the existing situation, and possibly the solar array, and will need more information about the plans for lot 2.

Please forward this letter to the members of the planning board for their consideration.

Thank you again,

Mitchell Bring

December 2, 2020

Dan O'Connor, Village Engineer  
Croton-on-Hudson, NY

Dear Dan:

Thank you for taking the time to visit me Wednesday Nov. 25 to discuss my own and my neighbors' concerns over the Hudson National Golf Course planned Solar Electric Farm project.

Upon seeing the erosion control plans for the proposed solar fields using the "existing" drainage course as a suitable solution, my neighbors and I were deeply concerned. Our position is:

1. The "existing" drainage course was apparently established illegally without review, permit, or professional engineering. It is significantly overburdened during a storm; under storm conditions runoff water causes damage to our properties.
2. Adding more water to this "existing" situation without proper re-engineering and installation of functional storm water runoff controls meeting code and best practices should not be permitted. The original EIF submitted to the board for the Solar project, misrepresents this condition.
3. The existing situation needs to be remedied whether or not the Solar Electric project is permitted.

Together, you and I looked at aerial and ground photos, the original golf course plans as well as those for the solar electric project. We also walked along Prickly Pear Hill Road to assess the actual situation on the ground.

You asked that I send you copies of the photos that we reviewed. I have attached them with this letter. If you need original files, I can send you a drop box link as the original files are large.

You also offered to send me original digital files of the plans, and tree inventories.

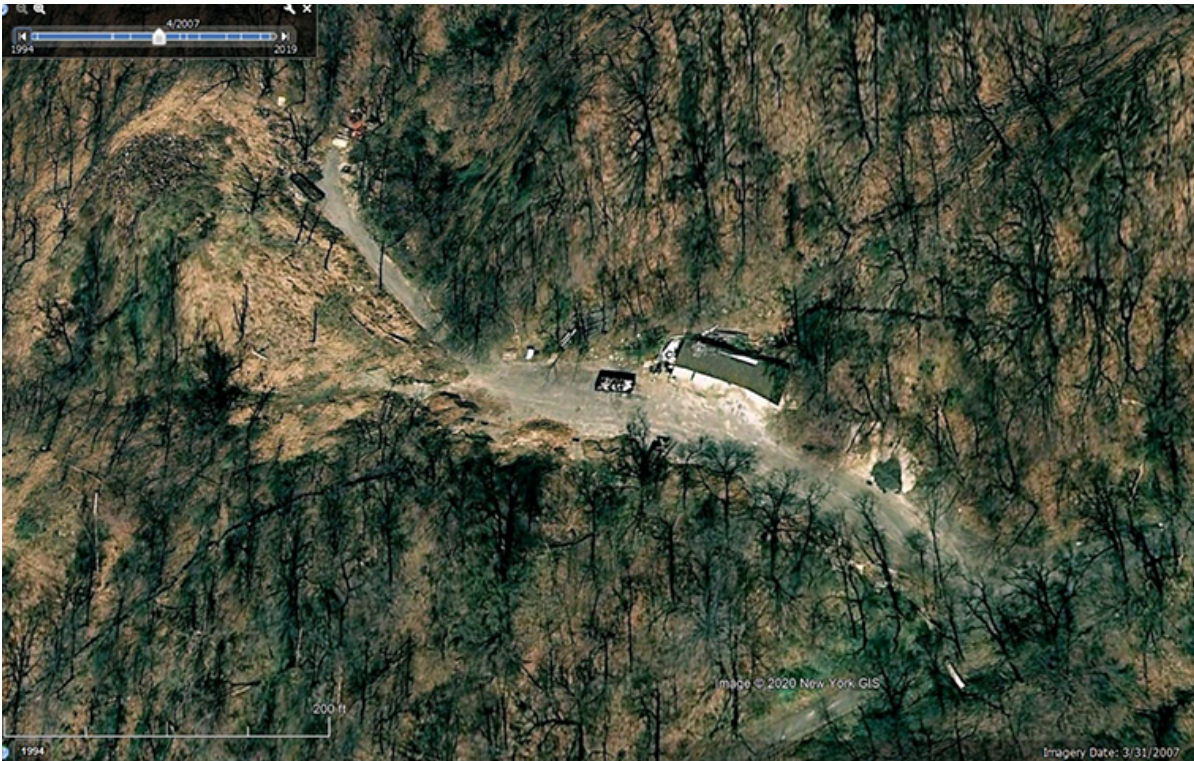
I asked if we could review the original operating plan and permit for the golf course. I believe there are clauses in those documents that address a number of Prickly Pear Hill Road conditions for operation and maintenance.

Dan, I believe you and I agreed that the storm water runoff plans the Hudson National consulting engineer completes must address these existing run off problems, as well as the additional burden the solar fields construction and maintenance roads would add. I firmly asked that 50- and 100-year storm calculations be applied.

That plan we agreed, will be thoroughly reviewed by the environmental engineer retained through the village.

Thank you again Dan for your patience and professionalism.

Mitchell Bring  
12 Prickly Pear Hill Road  
Croton on Hudson, NY



Both Photos are  
at the same scale,  
camera angle and  
altitude.

2007



2019

Aerial photos from 2007 and 2019 from Google Earth, which show an unpermitted large expansion of what is now called the Golf Course Maintenance yard. (not so labeled on the original plans). The site now presents an industrial landscape adjoining its neighbors.





Photos from fall of 2015 showing a particularly large expansion without permit. Notice fill and asphalt curb that redirected additional water which would have naturally flowed down the hill on the other side of Prickly Pear Hill Road.



ALL water from the unpermitted expanded yard was now redirected to the unpermitted drainage trench crossing Prickly Pear Hill road north to south.

This trench was need because of the additional runoff created by the unpermitted expansions and curb. Run-off Water and could not drain along original northside drainage swale along Prickly Pear Hill Road which was abandoned due to neglected maintenance.





Golf course workers chose instead to force all the drainage via the trench to an ad hoc sediment containment ditch; all water then flows on to the adjoining land belonging to my neighbor at 16 Prickly Pear Hill. During storms, they have seen overflowing water come into their swimming pool, as well as flood and pool on the driveway.



Water now intermittently flows through and under 16 Prickly Pear Hill driveway, and floods my front yard at 12 Prickly Pear Hill Road. This photo shows heavy a heavy rain on May 5<sup>th</sup> 2017 and the Fall 2016 changes drainage flow at the maintenance yard. This did not occur during Hurricane Floyd in September 1999.

This same new water course, then flows on to my neighbor's yard further down "stream" at 4 Prickly Pear Hill: They reported that the additional run off raised the water table and prevented the normal operation of their septic field. A licensed contractor diagnosed the situation and it required expensive installation of additional drainage pipes surrounding the field to allow the field to continue functioning.





The new solar field plans draped over Google Earth photography and exaggerated 3x topology. This clearly shows that Prickly Pear Hill Road is itself the natural drainage basin for the entire site of the solar field water; this is in addition to the upper portion of the road all the way to up to the sharp curve at the eastern edge of the photo.

N →

December 8, 2020

Dear Dan:

I would like to add these planning questions and comments to those of yesterday regarding the Hudson National Solar Project. Please forward them to the Planning Board members.

### **Carbon Offset Calculations and Changes to the Tree Plan**

Sea Bright sells Photovoltaic Panels, and as such, will bias the equations as much as possible toward their products listing very specific numbers, questioned by Chazen for the benefits of a specific solar field, without presenting the benefits of this specific forest land.

I believe that both the Sea Bright and Matrix Solar presentations are incomplete:

- The calculations of net Carbon Sequestration do not include the Carbon Cost of manufacturing the solar panels. Typically, this cost is approximated at 3 years for the panels themselves. **The total output of the field will yield 22 years of carbon reduction and not 25.**
- If the solar field is decommissioned at the end of the 25-year projected life span how long will it take the forest to regenerate to its current level of carbon sequestration? That is also a cost that should be calculated in the long-term climate change equation.
- The loss of the oxygen production might also be considered.

For example, I found this in a 1996 article considering the question of replacing forest with a solar field.

“An approximate value for a 50-year-old oak forest would be 30,000 pounds of carbon dioxide sequestered per acre,” said Timothy J. Fahey, professor of ecology in the department of natural resources at Cornell University. “The forest would be emitting about 22,000 pounds of oxygen.”

**In the interest of informed environmental stewardship, might the Planning Board and the Board of Trustees consider asking an unbiased professional to present the complete environmental case for or against clear cutting mature Oak Forest for a Solar Field? This indeed would be the kind of relevant cost benefit analysis cited as incomplete in the Chazen review.**

### **Updates to the Tree Plan**

Due to the Chazen concerns about the 6” diameter cut off for counting trees down to 4” diameter, and those trees on a steep slope, the number of trees has increased by 387 trees to 948. Would it be possible to get this new tree chart in excel format so the trees could be

sorted by species, diameter, assessed value etc.? This would be needed for an expert opinion as described above.

Whether or not this updated chart will require a new tree map, could those trees over 6" be made more legible?

The current map uses a thin light-yellow border around a see-through background so they are very difficult to read. Since these are the most valuable and oldest trees, they should stand out.

### **Construction Schedule, Project Management Strategy, Post Construction Road Remediation; Acoustic and traffic impact on the Residents of Prickly Pear Hill Road**

1. Tree cutting and timber removal.
  - a. How long will process take?
  - b. What days and hours will this process be permitted?
  - c. Will the trunks be harvested and hauled on long beds?
  - d. Will the trunks be cut with chainsaws or uprooted with more sophisticated equipment?
  - e. Will chippers be used on site, or off site.
  - f. Given that all the residents are at home due to covid restrictions, has or will any consideration been given to noise abatement. Croton-on-Hudson famously banned leave blowers partially for this reason.
  - g. Have any decibel limitations been established.
2. Solar Panel installation
  - a. How long will this process take?
  - b. What days and hours will this process be permitted.
  - c. What heavy equipment will be required for ground hole drilling, and placement.
  - d. Have any decibel descriptions available for these pieces of equipment and limitations been established.
3. Traffic control
  - a. Will the large trucks proceeding through the gate (needing widening by a few feet) (How many feet?) return back down Prickly Pear Hill Road, or will they exit uphill?
  - b. Where will the workers who enter via the main golf course entrance park? How will they exit?
  - c. What is the maximum number of trucks expected during a single work day.
  - d. What is the traffic control enforcement plan? Flaggers will be needed on state road 9A. Will these entries (and or exists) be timed so residents can plan for leaving their homes?
4. The current gate system took years of negotiation to establish between the golf course and ourselves. It is different from the existing operating plan established when the golf course first opened, which stated that all golf course personnel exit not down Prickly



Pear Hill, but out the main golf course exit. A do not enter sign facing the golf course at the gate is the last vestige of the original operating plan for Prickly Pear Hill. Should that plan be amended? Can we receive a copy of that plan and any amendments that pertain to the present Prickly Pear Hill Road situation?

5. Will the gate be repaired to its original width once the project is finished?
6. What is the plan to remediate any other repairs to the road caused by the heavy truck and other construction traffic?
7. Most of the current golf course employees descend down Prickly Pear Hill Road at a safe speed. Some do not. As it is a private road, with little or no Police supervision can two speed bumps be installed, one just uphill from the driveways at 16 and 5 Prickly Pear Hill road to assure pedestrian and child safety?

#### **General Procedural Question**

1. Why haven't the home owners whose land has been surveyed, and live adjoining the project, been notified by the Village about these deliberations?
2. Can we obtain their names from the Village to notify them?

Thank you,  
On behalf of my neighbors along Prickly Pear Hill Road.

Mitchell Bring