Town of East Greenbush
Conservation Advisory Council
TOWN HALL, 225 COLUMBIA TURNPIKE, RENSSELAER, NY 12144 (518)477-2005 FAX (518)477-2386

Conservation Advisory Council monthly meeting
November 22, 2021 - 7PM
East Greenbush Town Hall
Community Room

Meeting agenda:

- 7:00 PM - Call to order
- Review and approval of meeting minutes (Oct 25, 2021)
- Reports of Board agendas/minutes
- Business item updates
- Projects for CAC review
    - Best Rd Solar - Motion to adopt CAC report (details below)
    - Others
- Discussions
    - 2022 Budget/project ideas
    - Revisit project review checklist and process
- Public Comment
- Wrap-up/Review action items

Written comments may be submitted to the CAC by email to info@eastgreenbush.org or by mail to the CAC, Attn: Supervisor's Office Town of East Greenbush, 225 Columbia Turnpike, Rensselaer, New York 12144 at any time prior to the meeting.

Town of East Greenbush Conservation Advisory Council

Land Development Application Review Recommendation to the Town of East Greenbush Planning Board for the

BEST ROAD - COMMUNITY SOLAR PROJECT
1266 BEST RD
LARGE SCALE SOLAR ENERGY SYSTEM SPECIAL USE PERMIT
(PB File No. 21-15)

November 22, 2021

MOTION to ADOPT THE AFOREMENTIONED REPORT AND FORWARD IT TO THE PLANNING BOARD

A Motion was made by _____ as follows:

The Town of East Greenbush Conservation Advisory Council (CAC), having reviewed the proposed proposal, and in accordance with its powers and duties under local law 2 of 2021, hereby adopts the attached report, dated November 6, 2021, and forwards the same to the Town of East Greenbush Planning Board.

Seconded by _____ & roll called as follows:

J. Hixon	VOTED:
F. Henson	VOTED:
V. Manieri	VOTED:
A. Tobey	VOTED:
J. Dean	VOTED:

DRAFT - Pending Motion at next CAC meeting (November 22, 2021)

CAC Review of the Best Rd Solar Development Proposal
November 6, 2021

The Conservation Advisory Council has reviewed the application for Best Rd 5MW Solar installation. From a natural resources perspective, the major impacts of the proposed project would be the clearing of 26 acres of undeveloped forested land and disturbance near a headwater stream of Mill Creek, a Classification C stream that may support trout spawning [C(TS)].

As documented in the "Town of East Greenbush Solar Assessment," large-scale solar developments should generally be discouraged when negatively impacting valued natural resources, and encouraged when sited in good solar opportunity areas, such as degraded lands and developed sites.

If this project is approved, measures can help reduce the impacts of this project on natural resources, such as:

- Implement Best Management Practices to prevent the spread of invasive species into and within the area. For example, clean construction equipment before entering and leaving the site to remove soil and plant material.
- Provide for wildlife movement in and out of the newly fragmented area, such as looking for forest corridor opportunities and exploring fencing styles that permit wildlife movement.
- To offset carbon loss from the clearing of trees, consider using the downed trees for harvested wood products
- Minimize soil disturbance and compaction to reduce runoff and turbidity into the trout stream.
- Any proposed stream crossing modifications to existing culverts should be examined to avoid disruption of habitat connectivity. If the project offers an opportunity to improve existing fish passage by replacing an existing problem culvert with one that more effectively passes fish this should be seen as an advantage.
- Refer to the "Town of East Greenbush Solar Assessment" for vegetation planting recommendations and references, such as plantings to encourage native pollinators and herbivores.

Below are additional details and research from the CAC assessment of this proposal.

East Greenbush Conservation Advisory Council
CHECKLIST FOR SITE RESOURCE ASSESSMENT

Project: Best Road Solar Date: July 27, 2021
Location: 1266 Best Road, East Greenbush, NY 12061

Water Resources: Streams, Floodplains, Wetlands and Aquifers
(NRI Section: 3, Maps 9-13, 17-18)

	Yes	No	Not Sure
Are there intermittent or perennial streams on or near the site?	x		
● If so, are the streams classified as "trout" or "trout spawning" or "sensitive coldwater streams?	x		
Is there a mapped flood zone or riparian zone on the site?	x		
● If so, have the proposed development features been located outside of those zones?			x
Is there a mapped unconsolidated aquifer on the site?	x		
● If so, does the proposed development avoid or minimize impervious surfaces in the aquifer area?	x		
Are there mapped wetlands or wetland soils on the site?	x		
● Have wetlands been delineated onsite, surveyed, and mapped onto a site-specific plan or subdivision plot?			x
If there are streams or wetlands on or near the site, have the proposed development features been located to preserve broad, undisturbed buffer zones along the streams and around the wetlands?			x
Are stormwater management measures designed to preserve pre-construction patterns and volumes of surface water runoff from the site?			x

Habitats and Wildlife
(NRI Section: 4, Maps 14-17)

	Yes	No	Not Sure
If there is a forest on the site, is it part of a large forest?	x		
● If there is a large forest on (or partially on) the site, have proposed development features been located to minimize fragmentation of the forest?		x	
If there is a meadow on the site, is it part of a large (≥ 10 ac) meadow?			x
● If there is a large meadow on (or partially on) the site, have proposed			x

development features been located to minimize fragmentation of the meadow?			
Are there other unusual or sensitive habitats on the site? If so, name them here: Stream with migratory fish, trout spawning water, important interior forest habitat	x		
Are there Areas of Known Importance[1] on or adjoining the site?			x
Is the site within or adjoining a Critical Environmental Area adopted by the municipality, or in a regulated Overlay District designated in the municipal code? If so, name the CEA or the Overlay District here:		x	

Agricultural Resources
(NRI Section: 6, Map 23)

	Yes	**No**	**Not Sure**
Are there Prime Farmland Soils or Farmland Soils of Statewide Importance on the site?	x		
If there are good farmland soils on the site, have the proposed development features been located to minimize encroachment on those soils		x	

Conservation, Recreation and Scenic Resources
(NRI Section: 6, Maps 24-25)

	Yes	**No**	**Not Sure**
Have the proposed development features been located to preserve broad connectivity between onsite and offsite habitats?			x
Is the parcel in view of a certified Scenic Byway or Scenic Road, or within another area of scenic significance?	x		
• If this is in a scenic location, has the project been designed to minimize the visual impacts of the viewshed	x		
Would the proposed development significantly alter the visual character of the viewshed?			x

Adapted from the Hudsonia Ltd. Checklist for Site Resources Assessment
for use by the East Greenbush Conservation Advisory Council

[1] Areas of Known Importance are areas delineated and mapped by the New York Natural Heritage Program that are deemed to be important for the continued persistence of rare plants, rare animals, and significant ecosystems. These areas have been identified and delineated through analysis of known occurrences of exemplary ecological communities or rare plants and animals, their life histories and habitats, are physical and hydrological features of the landscape.

Forest Resource Considerations for Best Road Solar Farm Proposal

The proposed solar development would clear 26 acres of forest. As part of an undeveloped forest system greater than 200 acres, this area is identified in the town's Natural Resources Inventory as Stepping Stone Forest. It is also part of an area defined as Important Interior Forest Habitat by the Rensselaer Land Trust Conservation Land Plan.

Large unfragmented forest tracts provide many benefits to the region, such as increased wildlife habitat, climate modulation, and clean water. As forests become fragmented into isolated patches by roads and development, they become less resilient to extreme weather events, support fewer forest interior species, and are more prone to establishment of invasive plants and insects. The increased ratio of edge to interior and encroachment of invasive shrubs have also been shown to amplify the population of ticks carrying agents for diseases such as Lyme[1].

To reduce the ecological impacts of clearing this forest track, the developers should consider implementing Best Management Practices to clean construction equipment before entering and leaving the site to prevent invasive species infestations. Also, suppression of existing populations of invasive shrubs on the property will help limit further spread into the remaining forest areas. Providing corridors of forest that connect to other forest patches will help wildlife move in and out of the newly fragmented area. Also, for the required fencing around the installation, explore fencing styles that permit wildlife movement.

Forests also sequester carbon dioxide from the air and store the carbon in the soil and tree biomass, helping to mitigate the effects of climate change. Across the US, forests sequestered enough C to offset approximately 12% of the gross greenhouse gas emissions from the United States in 2019[2]. Rough calculations estimate 5.2 years of 5MW solar production are needed to offset the carbon lost from the 26 acres of forest removed[3]. Using the downed trees for harvested wood products will store the carbon longer for bigger benefits[4].

[1] Ostfeld, Richard S., Taal Levi, Felicia Keesing, K. Oggenfuss, and Charles D. Canham. 2018. "Tick-Borne Disease Risk In A Forest Food Web". Ecology 99 (7): 1562 - 1573.

[2] Environmental Protection Agency (EPA), Inventory of U.S. Greenhouse Gas Emissions and Sinks, 1990-2019, EPA430-R-21-005, April, 2021.

[3] Assuming a 5 MWac system can optimistically produce 7,500 MWh per year, saving 848,092 pounds of carbon from being emitted through the NYS electrical grid (113 lbs C/MWh). And assuming 169,708 lbs C stored per acre of typical secondary northeast forests.

[4] Volk, T.A., R.W. Malmsheimer, and H. Ha. 2021. Preliminary Estimates of Carbon Storage in NYS Harvester Wood Products from Sawtimber from 1990 to 2018. Climate and Applied Forest Research Institute. SUNY ESF.

Aquatic Resource Considerations for Best Road Solar Farm Proposal

Because the proposed solar installation is in the headwaters of Mill Creek, C(TS) trout stream, the potential for the project to degrade the quality of coldwater stream habitat must be carefully considered.

1. To live and reproduce, trout require a reliable flow of cold, clear water. Forest canopy is ideal for maintaining cool temperatures and promoting the infiltration of precipitation to replenish the groundwater sources of the stream. Any of the following changes would result in a degradation of habitat quality:
    a. Reduction of groundwater replenishment due to soil compaction, impermeable surfaces or an increase in overland runoff
    b. Increase in turbidity due to fine sediments carried into the stream from erosion and runoff
    c. Increase in water temperatures due to loss of shade
2. The ability of trout to move upstream and downstream to access a variety of habitats including spawning gravels and spring seeps that provide thermal refuge in hot weather is critical. Any proposed stream crossing modifications to existing culverts should be examined to avoid disruption of habitat connectivity. If the project offers an opportunity to improve existing fish passage by replacing an existing problem culvert with one that more effectively passes fish this should be seen as an advantage.

The effects of the proposed project on the above described habitat factors should be considered relative to the effects that could be expected from alternative development projects permissible under the current 2 acre residential zoning.

Comparison to Natural Resource Inventory Maps - 1266 Best Road, Tax Parcel 156.-3-9

5. Steep slopes - No steep slopes on proposed site, although there are steep slopes elsewhere on the property.
7. Surficial geology - The proposed development is on an area of glacial till, although there are also areas of recent alluvium on the property.
9. Major aquifers - Corner of site is on top of unconsolidated aquifer.
10. Streams and watersheds - The property is in the Mill Creek Watershed. Mill Creek and one of its tributaries are on the property. The access road will cross the tributary, but the area of proposed development has no marked streams.
11. Floodplains & riparian areas - The property is not in a flood plain. The access road will cross a riparian area.
12. Water quality classification - Property contains Class C streams with trout spawning water. Access road will cross Class C tributary of Mill Creek.
13. Wetlands - The access road may cross an important wetland complex.
14. Land cover and land use - Proposed area of development is covered by evergreen, mixed, and deciduous forest.
15. Significant ecological features - Proposed development would require clearcutting of 26 acres of Important Interior Forest Habitat
16. Large forests - Project would require clearcutting in Stepping Stone Forest, and possibly in Important Forest Interiors.
17. Stream habitats - The access road would cross a Low Gradient, Cool Creek in a trout spawning stream segment. There are already two culverts (no data) in the streams.
21. Land use - The property is residential, R-OS (residential open space).
23. Agricultural resources - Project is in an area with a County Agricultural District Designation. Property has both Prime Farmland Soils and Prime Farmland Soils if Drained, but apparently not in the area of proposed development.
24. Conservation assets - Property has no Conservation, Recreation & Scenic Areas indicated.
25. Historic sites - Property is located in Sensitive Historic Area (Best Road Corridor 1700s & Early 1800s), but proposed area of development falls outside this corridor. According to March 18, 2021 letter from Matrix Solar, “It is possible that 0.13 acres of the allowable 2.5 acres [proposal is for 8.5 acres] fall within the viewshed of northbound motorist [sic] through a narrow opening created by the 125’ wide National Grid transmission parcel. Traveling at approximately 40 mph (posted speed limit), the solar array will be available for 2 seconds to passing motorists.”