

**TOWN OF WAREHAM
PLANNING BOARD**

DECISION

CASE #11-23 [Previously #33-21]

LANDOWNER: DAVID FLETCHER
PETITIONER: WAREHAM PV1, LLC,
of
330 Congress St, 6th Floor
Boston, MA 02210

SUBJECT PROPERTY:
ASSESSORS REF: MAP 115; LOTS 1000
ADDRESS: 0 ROUTE 25

Following a public hearing opened on (continued), the Wareham Planning Board (“Planning Board”) Members; Michael A. Baptiste, Sr., Michael King; Chair, Carl Schulz, Jane Gleason, Sam Corbitt, Sherry Quirk [Associate; not voting] voting [5-0-0] on December 18, 2023, in exercise of its discretionary powers, to **DENY** the Petition of the above Petitioner for Site Plan Review Approval to construct a large, ground-mounted photovoltaic solar energy generating facility on the above site, with findings memorialized in this Decision. The site is located off Route 25 in the R-130 Zoning District. The project is depicted on plans entitled "Proposed Large-Scale Ground-Mounted Solar Photovoltaic Installation 0 Route 25 Wareham, MA" prepared for Wareham PV1 LLC by VHB and dated June 26, 2023 with latest revision date of September 22, 2023.

An ANR type Subdivision [under GL c. 41 sec. 81P] was submitted for endorsement, on June 8, 2021 [Planning Board file #24-21] to preserve existing zoning of the property as to Use for 3 years.

Documents have been submitted by the applicant, the Planning Board’s consulting engineer, and the general public, and are considered part of public record. These submitted documents may be found at:

<https://www.wareham.ma.us/active-planning-board-applications/pages/11-23-wareham-pv-1-llc-site-plan-review-0-route-25-see-33>

and:

<https://www.wareham.ma.us/active-planning-board-applications/pages/33-21-wareham-pv-i-llc-spr-0-route-25-withdrawn-reapplied>

These documents include:

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- a. **Required Application Materials**
- b. **Supporting Application Materials**
- c. **Reports and Studies**
- d. **Public Comment Letters**
- e. **Wareham Organization and Agency Comments**
- f. **Administrative Items**

Project Narrative

THE BOARD FINDS THE FOLLOWING FACTS:

The site is approximately 22.4 acres in total, and primarily consists of about half forested upland and half cleared land. The lot is significantly off-set from Charge Pond Road which provides the access to the site. A 20' wide gravel access road via Charge Pond Road in place of the existing access way is proposed, in addition to a 20' wide gravel access road for emergency vehicles proposed around the perimeter of the site for emergency vehicle access.

Proposed is a 3.5+/- MW [AC] Large-Scale Ground-Mounted Solar Energy Facility with approximately 8 acres cleared [correspondence of VHB October 6, 2023] and used for erecting solar panels. New underground conduits will run down the gravel access way out to above-ground connections to existing electrical distribution lines in Charge Pond Road, thereby feeding the energy generated on site into the utility grid.

The subject property is located within the R-130 Zoning District where the use is allowable with the issuance of a Site Plan Approval as a Special Permit under Article 15 and under Article 590 of the Wareham Zoning By-Laws, all of which apply concurrently, as issued by the Wareham Planning Board.

The surrounding properties include cranberry bogs and solar farms generally to the east of the site and, Town-owned land to the west of the site, where the Town municipal garage is located. Other unused, town-owned land lies on the west side of the site and single-family homes are located on the frontage of Charge Pond Road.

Vegetative screening is proposed. Even with the topography and location, this will not fully shield the solar energy generating facilities from abutters. Importantly, the width of the proposed site buffer does not conform to the requirements of Wareham Zoning By-Laws, which will impact the quality of life for existing and future residents and adversely impact their health, safety and welfare.

Lighting of certain equipment is proposed. A fence is proposed to be erected around the facility at the property line which will encircle the solar facility, and the buffer and access road that runs around the outside edge of the facility.

The site is not listed within the Mass Wildlife's Natural Heritage & Endangered Species Program's (NHESP) Priority Habitat for Rare Species, Estimated Habitat of Rare Wildlife or Natural Community. The Site is not mapped within an Area of Critical Environmental Concern or Massachusetts BioMap2 Critical Natural Landscape/Core Habitat. Review of the US Fish & Wildlife Services Information for Planning and Consultation (IPAC) determined that there are no critical habitats at this location.

No polyfluoroalkyl substances [PFAS] are claimed to be used in the manufacturing of the proposed solar panels. Other substances, e.g. cadmium telluride [CdTe], used in the making of the panels could become hazardous to human health if they enter the environment in an active form [see Assessment of the Risks Associated with Thin Film Solar Panel Technology by The Virginia Center for Coal and Energy Research, Virginia Tech, 8 March 2019].

Noise will be generated by the transformers and inverters.

The site lies over a portion of the Plymouth-Carver Aquifer, which the U.S. EPA designates as a Sole Source Aquifer, and is the only source of drinking water for the Town of Wareham water districts. If this aquifer is polluted, the town will be without a reasonable and reliable source of potable water.

The surface of the site is not being made impervious but the clearing of the forest and the installation of the panels, causes the stormwater that falls on the site to flow off more quickly and therefore has an impact that must be managed to protect adjacent properties, downstream wetland resources, and discharges to the Sole Source Aquifer. A comprehensive stormwater management system is proposed to reduce the increased flow of stormwater from the Site.

However, this stormwater management system does not mitigate all potential pollutants which can be associated with the operation and management of a solar energy generating facility. The potential impacts were made clear in the testimony

of Scott Horsley, Hydrogeologist, where the pollutants entering the environment were shown to be connected to the down-gradient water resources.

Compliance Under Article 15 Site Plan Review Bylaw

In accordance with Wareham Zoning By Laws, Article 15: "Site Plan Review," the submitted site plans have been reviewed with due consideration for the following:

(a) Convenience and safety of vehicular and pedestrian movement within the Site and in relation to adjacent areas

The proposed Project **will not impact** vehicular or pedestrian movement in relation to adjacent areas due to the location and the limited amount of activity anticipated on the Site. Furthermore, public vehicular and/or pedestrian access will not be permitted to occur on the Site. Access for maintenance and emergency services around the solar panels within the proposed fenced area has been accommodated by the incorporation of a 20-foot wide access way around the arrays. Maintenance and emergency access to the Site will be through a locked gate. The Planning Board finds this **acceptable** due to the lack of traffic generation.

(b) Adequacy of facilities of handling and disposal of refuse and other production by-products

After construction, the proposed Project use **will not result** in the generation of much refuse or by-products, until such time it is decommissioned. However, waste that is generated must be carefully managed to prevent materials used in the manufacture of the equipment from entering the environment.

Construction debris must be managed and disposed of in accordance with current local, state and federal regulations. The same applies to the panels and related equipment when they are decommissioned, or disposed of during regular maintenance of the solar panels. This requires monitoring, testing and reporting.

The Planning Board finds this Project **unacceptable** without the proper handling of the waste generated by the decommissioning and normal operation of the facilities.

(c) Protection of environmental features on the Site and in adjacent areas

Tree clearing will be required for all construction and open areas on the site.

Stormwater management facilities have been proposed to reduce the impacts from the changes in drainage from the site onto adjacent properties as a result of these changes.

The Conservation Commission has reviewed this Project and issued their permissions.

The Site is not located within Priority Habitat as identified on the Natural Heritage and Endangered Species Program (NHESP) maps.

There will be impacts to the groundwater and the Sole Source Aquifer, which leads to downstream impacts to wetland resources and water quality impacts from the potential pollutants in the runoff, [testimony of Scott Horsley].

The Planning Board finds this project **in non-compliance with the criteria** because of the potential significant impacts to water resources, including the Sole Source Aquifer.

(d) Promotion of appropriate arrangement of structures within the Site and in relation to existing structures within the district and neighborhood

The array and energy storage equipment within the Site have been arranged to create an efficient and feasible Site layout in order to maximize the collection and generation of solar energy. Given the Site's location, the arrangement of the infrastructure within the Site in relation to existing structures within the district and neighborhood is found **in non-compliance**, in that the Applicant has stated they cannot function with the required 75-foot buffer setback and so cannot comply with this dimensional standard that protects the district and neighborhood.

(e) Coordination with and improvement of systems of vehicular and pedestrian access, drainage, water supply, sewage disposal, lighting, landscaping, wetlands, water courses, buildings and other features that support the neighborhood

Issues of concern include: visual impact, noise, stormwater runoff, and groundwater impacts. These have been addressed in a variety of ways in the proposal. There is no pedestrian or public access, there is no demand for water and sewer, there is minimal lighting proposed, a landscaping plan has been submitted, and wetland impacts have been reviewed by the Conservation Commission.

The structures are spread out over 20 acres and are unusual for a residential neighborhood. A concern is for the potential impacts to the Sole Source Aquifer. There are serious consequences to its impairment because it is the only source of potable water for this town's residents. Another concern is for

the impact to the present and future residents in the area that are impacted by the visibility, glare and noise of the facilities which could effect their quality of life.

The Board finds these elements and features to be **in non-compliance** until mitigation is provided to protect the Sole Source Aquifer, and the full 75-foot buffer is accepted in the design.

Site Plan Review Impact Statement

As required and pursuant to Section 1534, an “Impact Statement” is to be provided in the submission. Following are the Planning Board’s findings regarding the impact criteria.

Part 1: Impact of the proposed project on:

(a) All applicable town services including but not limited to schools, sewer service, water systems, parks, fire, and police protection

The proposed development is **not** anticipated to have an adverse impact to municipal services such as schools, sewer service, water systems, parks, or police protection. However, **special training is necessary** for responding to emergencies on site.

The Planning Board finds this **unacceptable**, unless training is provided to the Fire Department in responding to emergencies at the site.

(b) The roads in the immediate vicinity of the proposed development

The proposed Project will not result in an increase in traffic or the incidents of traffic accidents on local roadways. Vehicle trips to the Site will be limited to the construction period and to any subsequent, but infrequent, trips related to maintenance. For this reason, the requirement of the Bylaw to report peak and average daily trips to the Site is of no value.

The Planning Board finds this **in compliance** due to the lack of traffic generation.

(c) The ecology of the area within the Site and any significant off-Site impacts

There are no activities proposed in the wetland resource areas located in the proposed Project site. The concern is for the down-gradient wetland resources and water supplies that are impacted by land use and pollutant runoff. These impact the water quality in the Sole Source Aquifer as described by Scott Horsley, Hydrogeologist, in testimony before the Board.

Most of the materials within the solar equipment are inert and, therefore, are not potential pollutants. Inverters are solid state with no internal fluids and will be properly housed per electric code standards so as to avoid potential pollution. However, some components of the solar panels and equipment are health hazards when introduced into the environment. Consequently, during maintenance operations; e.g. replacing damaged panels or equipment, and during demolition, the equipment must be carefully handled and processed to avoid exposure.

The Planning Board finds this Project **in non-compliance with the criteria**, unless additional mitigative measures are proposed regarding handling and processing of solar energy generating equipment to prevent any pollutants from entering the groundwater which is the Sole Source Aquifer.

(d) Reduce the area of wetland vegetation displaced

No wetlands exist within the Project construction site. There will be no displacement or impact to vegetated wetlands and permission has been granted by the Wareham Conservation Commission for work in jurisdictional buffer zones.

The Planning Board finds this Project **in compliance** with the criteria.

(e) Reduce soil erosion

Erosion control barriers will surround the work areas, as needed during construction. Other sediment and erosion control elements are shown on the plans.

The Planning Board finds this Project **in compliance** with the criteria.

(f) Reduce the area of impervious surface

The amount of impervious area has been minimized by limiting impervious areas to only those necessary, as follows: the base for the arrays; and concrete pads for the required inverters and related equipment. The remainder of the Project will be pervious, and vegetated with low-growing herbaceous species. The stormwater runoff is still proposed to be increased in intensity because of the panel surfaces, the clearing of forest, and the exposure of the predominant soil types. This requires a stormwater detention system that controls the runoff and detains it in basins for a period of time and meters it out so that the concentration of flow does not exceed the current flows. This in turn, allows pollutants in the basins to concentrate pollutants which enter the groundwater table, which in this case is the Plymouth Carver Sole Source Aquifer.

The Planning Board finds this Project is **in non-compliance** due to the potential impacts to the resource areas.

Site Plan Review Evaluation Standards

Pursuant to Subsection 1540, an evaluation of the listed objectives is as follows:

Subsection 1541: "Natural Features"

Finish Site contours approximate the character of the natural Site and the proposed project achieves the following objectives:

Minimal grading is required with the exception of the stormwater drainage management system. The proposed topography is dictated by the proposed solar use, which requires a generally sloping area to accommodate the array. The proposed topography is visually consistent with the existing topography as well as the geologic form.

The Planning Board finds this Project **in compliance** with the criteria.

(a) *Reduce the volume of cut and fill*

Limited cut and fill is required to accommodate the solar array and associated appurtenances. Most earth movement is associated with the stormwater drainage system.

The Planning Board finds this Project **in compliance** with the criteria.

(b) *Reduce the number of removed trees*

Over 8 acres of trees and forest will potentially be removed or kept clear to allow construction of the project. If any additional clearing is needed, it will be limited to tree trimming along access roads, or as needed to accommodate the design requirements. The project requires an open area with access to maximum sunlight over as long a period of time per day as possible. A planting plan is proposed by the Applicant to create a buffer and mitigate the loss or lack of vegetation. However, this buffer is only proposed to be 50 feet in width.

The Planning Board finds this Project **in non-compliance** in that the buffer is only 50 feet in width, whereas the zoning bylaws call for 75 feet.

(c) *Reduce the pollutants reaching the water table*

Vehicular traffic will not be regularly occurring and, sanding and salting of the access roads are not anticipated, thereby eliminating that from the amount of Total Suspended Solids from the Site.

There is no sewage disposal system proposed or required for the Site.

The Planning Board finds this Project **in non-compliance** with the criteria, because the stormwater runoff will be exposed to potential unusual pollutants that could be carried into the Sole Source Aquifer.

(g) *Reduce the amount of stormwater runoff from the Site*

The plan to manage stormwater runoff includes dividing the Site into drainage areas and installing detention basins to capture increased runoff and slow it down before it goes off site, thereby compensating for the change in runoff caused by the loss of existing vegetation. While this will control total suspended solids, this will not control all potential pollutants that could reach the Sole Source Aquifer.

The Planning Board finds this Project **in non-compliance** with the criteria because it does not mitigate all potential pollutants that could enter the Sole Source Aquifer.

Compliance Under Section 590. Solar Energy Generation Facilities

The Project is **not sited appropriately** because the Applicant stated that they **cannot comply** with applicable zoning criteria and therefore **the Project endangers** the public health, safety, and welfare.

The proposed Project **does not comply** with the applicable requirements of the Bylaw as found in section 590:

The pertinent bylaw dealing with solar energy generation facilities is found in Article 5, section 590. The Applicant and the Board agree that the dimensional standards in the April 20, 2022 version of the Wareham Zoning By Laws, apply to this proposal. An Approval Not Required type plan was filed prior to that and further amendment of the Solar Energy Generation Facilities zoning bylaw found at section 590, thereby freezing the zoning applicable for use, but did not provide protection from changes in dimensional standards in the bylaw, as identified.

This version of section 590 was prepared by the Solar Bylaw Committee appointed by the Select Board in 2021. The Solar Bylaw Committee worked diligently for over a year, responding to a previous attempt to amend the bylaw. The previous attempt was rejected by the Attorney General as not conforming with the State law regarding protections for solar energy facilities found in G.L. c. 40A sec 3. Learning from that error the Committee fashioned a bylaw that was overwhelmingly approved by Town Meeting on April 20, 2022. After a lengthy review period, the Attorney General approved the amended bylaw, as conforming with State law [“to disapprove a by-law (or any portion thereof), the Attorney General must cite an inconsistency between the by-law and the state Constitution or laws.” Statement in a letter from the Attorney General’s office.], and so

presumably is in conformance with the State-mandated protections for solar energy facilities found in G.L. c. 40A sec. 3.

As a consequence, the project before the Board, which was protected as to use but not dimensional standards by an earlier Approval Not Required type of filing, was subject to the new dimensional standards after the Notice of amendment to the zoning bylaws was published.

Following are the considerations of the Planning Board under the pertinent bylaw as approved by Town Meeting and the Attorney General.

Section 595. Design Standards, states that;

“[u]nless otherwise expressly provided by Section 590 ... the Wareham Zoning By-Law requirements of the underlying zoning district shall apply, except and in addition, the following design standards which shall apply.”

In those following design standards, a key design provision, presently in dispute, is in section 595.1, subsection 3., which calls for a 75-foot setback:

“The distance shall be 75 feet from the residential property line which may be increased to reduce or eliminate visibility and noise at the discretion of the SPGA.”

Since this property and the adjacent properties are in the R-130 zoning district, this means the property line for the Site is the residential property line. Importantly, as stated in the bylaw, the 75-foot buffer may be increased to mitigate impacts, but cannot be reduced by the Board.

Another related provision is found in section 595.1, subsection 21., which specifies the 75-foot buffer must be vegetated, graded and designed to clearly create a buffer for noise, visibility, light, and other impacts:

“Setbacks shall provide for adequate screening of noise and glare from abutting uses and structures. Techniques such as dense natural vegetated plantings of native plants, earthen berms and/or increased setbacks will be required, depending upon site specific conditions. Setbacks shall not be disturbed by access roads, except where allowed by the permit granting authority for access to the site. Setbacks shall not be used for any purpose other than natural vegetation or other screening required by the reviewing board. Setbacks from property lines shall be as provided above for the type of large ground-mounted solar energy facilities.”

It is clear that the authors of the bylaw, and in turn Town Meeting by a vote with a substantial margin, recognized solar energy generation as an unusual land use, with decidedly foreign characteristics, which need to be shielded from view, and shielded to prevent glare, noise, and to provide ‘other screening,’ to preserve the public health, safety and welfare. This is particularly important in a residential zoning district such as where the subject site is located, hence the larger setback.

order, than the Zoning Board of Appeals is the appropriate venue for gaining that relief. However, the Applicant has not ventured to obtain a Variance, even though the situation of a uniquely shaped lot, the steep slope and other topography, and the impact on the project scope, all point to a reasonable basis for hardship.

Decision

The Planning Board finds this Project proposal **in non-compliance** with the Bylaw standards, and so hereby **DENIES** the proposed Project.

In summary the reasons are:

- **The Project as proposed has the potential for significant impact to the area water resources, including the Plymouth Carver Sole Source Aquifer, the drinking water source for Wareham.**
- **A 75-foot buffer is required but the Applicant has stated that the Project cannot function under that design constraint.**
- **The Applicant has asked the Planning Board to grant relief, but the Planning Board does not have the power to grant relief under the State and local laws and bylaws.**
- **Relief is possible under a Variance from the Zoning Board of Appeals under Article 14 of the Wareham Zoning Bylaws and GL c.40A sec.10, yet the Applicant has not yet appealed for relief from the 75-foot buffer under those laws.**
- **Since the project cannot be designed to accommodate a 75-foot buffer, and the Applicant has not sought relief through the available process, the Planning Board hereby DENIES the proposed large-scale solar energy generating facility as not conforming to the applicable bylaws.**

By vote of the Planning Board 5-0-0.

A buffer of 75 feet is still less than that which is commonly recommended for environmental benefits. [see *Buffers and Vegetative Filter Strips*, Helmers, et al. for a review of the literature]

In addition, there are similar Site Plan Review considerations. In accordance with Article 15: "Site Plan Review," Section 1510: "Purpose", the submitted site plans are reviewed with due consideration for:

"(a) Protection of adjacent areas against detrimental or offensive uses on the Site by provisions of adequate surface water drainage, buffers against lighting, sight, sound, dust, vibration, and the allowance of sun, light, and air"

The 75-foot buffer was adopted and is applied for those same purposes.

In responsive filings with the Board, the Applicant made claim that a financial hardship is created by the larger setback because it significantly reduces the number of panels and areas on the site where it is possible to erect panels. This in turn makes it impossible to build a viable solar energy generation facility according to the Applicant's statement. However, the bylaw does not consider the financial burden and smaller facilities are possible under the laws. In accordance with Section 593.16 Application for Site Plan Review, the following criteria applies:

"593.16 Financial impacts are not sufficient reason for approval of project with significant environmental impact"


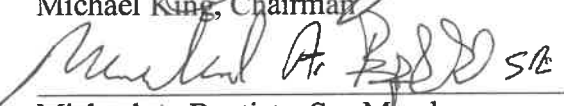
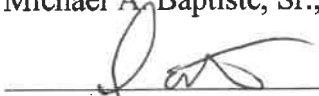
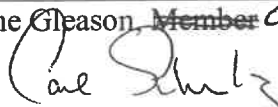
It has been determined that this project has a significant environmental impact from the clearing of trees, increase in runoff, and installation of panels with potentially polluting content over and into the Sole Source Aquifer. Consequently the claim of financial impact when following the standards of the bylaws does not protect the Project or provide any relief.

The reduced size of the facility when designed in accordance the 75-foot setback makes it still larger than the minimum size of a large scale solar energy facility, defined as 250kW. This minimum size originates from the State model bylaw. Moreover, smaller and similar-sized solar generating facilities have been erected in the town. In addition, the Massachusetts Supreme Court's decision on *Bellows Farms v Building Inspector of Acton* 364 Mass. 253 [1973] clarified the fact that a significant reduction in the size of a project is possible by a zoning bylaw amendment if the project is only protected against changes in allowed use criteria by the filing of an Approval Not Required [ANR] type subdivision.

Regardless, there is no provision in the State law or local bylaws for the Planning Board to provide relief from the minimums of the Zoning Bylaw. That is a function of the Zoning Board of Appeals. If the Applicant feels that relief is in

We hereby certify that copies of this decision were filed with the Town Clerk (and Director of Inspectional Services) on December 19, 2023.

WAREHAM PLANNING BOARD

 _____ Michael King, Chairman	VOTE: Denied
 _____ Michael A. Baptiste, Sr., Member	Denied
 _____ Sam Corbitt, Member	Denied
_____ Jane Gleason, Member	Denied
 _____ Carl Schulz, Clerk VICE CHAIR	Denied
_____ Sherry Quirk, Associate Member	

This decision shall not take effect until (a) a copy of this decision certified by the Town Clerk to the effect that twenty (20) days have elapsed since the decision was filed in the Office of the Town Clerk without any appeal having been filed or that any appeal filed has been dismissed or denied has been recorded in the Plymouth County Registry of Deeds or with the Assistant Register of the land Court for Plymouth County, and (b) a certified copy indicating such Registry recording has been filed with the Board. Notwithstanding the foregoing, however, each petitioner may exercise his rights hereunder prior thereto, at its own risk that this approval may be appealed, as set forth below, and that a court may reverse this approval, and that any construction performed hereunder may be ordered undone, per Massachusetts General Laws, Chapter 40A, Section 11.

Any person aggrieved by a decision of the Planning Board has the right to appeal such decision to the Superior Court, the Land Court, or the District Court of the Commonwealth of Massachusetts pursuant to Massachusetts General Laws, Chapter 40A, Section 17, by filing such appeal within twenty (20) days after the date on which the decision was filed with the Town Clerk.



