

Michelle R. Buck, Town Planner
Leicester Development and Inspectional Services
3 Washburn Square
Leicester, Massachusetts 01524

September 10, 2018
Revised: November 21, 2018

RE: Site Plan Review
Boutilier Road Solar Field
ZPT Energy Solutions, LLC
Map 35/Parcel B.3

Dear Ms. Buck,

On behalf of our client ZPT Energy Solutions, LLC, Hannigan Engineering, Inc. is submitting additional information relative to an application for a Site Plan Review for the installation of a solar field on land of Nicholas A. Casello, located off Boutilier Road in Leicester, Massachusetts (Map 35/Parcel B.3). The project is located within the Business Residential-1 Zoning District and Site Plan Review is required by the Bylaw under Section 5.2.02.1(g) Large-Scale Ground-Mounted Solar Photovoltaic Installations.

The revised and updated Site Development Plans of the project depicting the proposed construction, along with the Drainage Analysis & Report which outlines the impacts and mitigation of the construction project relative to Stormwater Management and submitted herewith. The site is located on the northerly side of Boutilier Road is predominantly a mixture of woodland and brush. Wetland areas, located along the northerly property line and at the southeasterly corner of the project, were delineated by Caron Environmental in May of 2019.

It is the intent of the applicant to install a large-scale ground-mounted solar facility with an estimated capacity of approximately 4.5-Megawatt AC on the property. As is typical with these types of projects, much of the existing woodland vegetation will be cleared for construction of the facility and to provide adequate sun-exposure, minimizing the effects of shading on the array. This process will entail the initial cutting of the trees and removal of the majority of the wood product from the site. Upon completion of the tree cutting, the installation of the appropriate erosion control measures will occur to prevent the transport of soils and sediments to the lower elevations of the site. Construction of the detention basin areas will precede the full grubbing and stump removal of the site. Additional erosion controls will be installed during construction as needed to direct stormwater to settling areas to allow the construction to advance from the lower portion of the site to the higher portion of the site. This will ensure the proper management of the site construction relative to erosion and sediment control. The total area of alteration associated with the project will be approximately 36.2-acres.

Access to the site will be via a 20-foot gravel access drive off of Boutilier Road. This gravel drive will run along the southerly limits of the project and be the permanent access to the site. It is anticipated to be utilized on a periodic basis for general maintenance and inspections of the facility.

The entire array will be surrounded by a chain-link security fence to ensure that unauthorized personnel do not enter the array. A gate will be provided at the entrance to the site with a Knox Box to allow emergency personnel to enter if deemed necessary. Additional access gates will be provided along the Boutillier Road to allow for access to the proposed drainage infrastructure. Additionally, as required by the Bylaw, a sign will be added at the entrance of facility with the appropriate contact information for the operator and emergency contacts.

With respect to lighting, the only lighting for the project will be located in the area of the inverter system and be operated by a motion sensor. Should maintenance be required, it is typically performed during daylight hours.

As part of the review, Stormwater Management Regulations are applicable, and the Stormwater Drainage Analysis and Report is included with this submission. As this project is being completed by the same developer as the recently completed solar array to the immediate south of Boutillier Road, the drainage analysis was performed in conjunction with the previous project, taking into account land disturbance activities for the entire construction area. To provide compliance with Stormwater Management Regulations for this project, several dry-detention basins will be constructed to mitigate the increases in peak rate of runoff. Stormwater generated by the completed project site will be transmitted via overland flow and by several 4-ft wide stone-bottom swales to the detention basins. Two of the proposed detention basins will be equipped with a PVC sub-drain system and an outlet structure consisting of various orifices to control the discharge rate of the flow. During smaller storm events, the stormwater will back up in the detention basin and be controlled by the discharge flow allowed by the subdrain system and outlet control structure.

The utility connection will utilize underground electrical conduits to transmit the generated electricity from the array to an inverter pad to be installed within the facility. From there, additional underground conduits will transmit the power to a series of connection poles for final connect to the grid. The final design and connection location will be established by National Grid and is not under control of the applicant.

SITE PLAN REVIEW

Per the Leicester Planning Board Site Plan Review Rules and Regulations, further information relative to the final project is required in aiding in the Planning Board's decision for Site Plan Approval. As stated above, the subject property is located at 500 Boutillier Road on land of Nicholas Casello with an approximate land area of 44.77-acres. Currently, the property contains a single-family structure that is in a state of disrepair and will be removed as part of the overall project. Upon the completion of construction, there will no habitable structures on the property, with the only structures on the property being the solar array tables and associated electrical equipment.

A portion of the project property is located within the Watershed Overlay District. As shown on the updated site plans, all work will be located outside this District with no new impervious areas being proposed within that area.

Due to the nature of the project, parking areas are generally not required. In addition, the need for sewer and water connections are not required as there are no facilities on the project. A waiver has been requested from providing a review of the availability of water and sewer in the project area. Upon the completion of construction, there will be no on-site employees with no set hours of operation. The only instance that workers will be on-site will be during maintenance operations once every few months which will take place during daylight hours.

As for the construction timeline, it is the intent of the applicant to start construction of this project in the Fall of 2018 or the Spring of 2019, pending local approvals and financing. Upon start it typically takes six to eight months to complete the project, which will be completed within a single phase of construction.

In addition to seeking Major Site Plan Approval from the Leicester Planning Board, a Notice of Intent has been filed with the Leicester Conservation Commission and the Department of Environmental Protection (DEP) for the work being performed within the jurisdictional areas under the Wetland Protection Act.

As for the overall scope of the solar array project, the total area of disturbance for the project will be approximately 36.2-acres which encompasses the area of tree clearing and fenced areas. Of that land area approximately 29.55-acres of woodland will be cleared with the panels occupying approximately 23.13-acres of land. The only areas within the project scope that are considered impervious are the proposed inverter and concrete pads, which combined are approximately 2,434 square feet. The typical height of the solar table is approximately 8-feet, with no structure being more than 15-feet.

The existing land uses surrounding the proposed array include other solar energy facilities to the south and north, with areas residential housing along the easterly limits of the project. To provide screening from these dwellings, a 25-foot undisturbed woodland buffer will remain along the immediate property line. The area between the proposed tree line and fence line will remain as grassed area or as a *Shade Buffer*. Within this shade buffer, the larger trees will be cut to grade with the smaller low growth vegetation and smaller trees cut to a height of no greater than six feet. This will maintain much of the existing vegetation and provide additional screening from the array. Reference is made to the provided sightline profiles on Sheet #6 of the Site Development Plans.

As previously mentioned, this project requires the filing of a Notice of Intent with the Conservation Commission for the proposed work. As part of that review, it was found that the land does not contain any NHESP habitat areas or vernal pools. As part of that filing the applicant is required to mitigate the potential impacts to the resource areas, generated by the construction process. As such erosion control measures in the form of staked straw wattles and silt fence will be placed along the limit of work.

Furthermore, due to the scope of the project, a filing for the Construction General Permit with the EPA will be required along the creation of a Stormwater Pollution Prevention Plan (SWPPP). Within these documents further detail will be provided relative to additional erosion control measures that may be required during construction. In addition to the SWPPP, regular inspections of erosion control and the site in general will be required to insure that the contractor is complying with the approved plan and that all measures in place are properly functioning.

STANDARDS FOR SITE PLAN REVIEW

Per the Leicester Planning Board Zoning Bylaw, as part of the Site Plan review, certain considerations must be given to the proposed use and the impacts to the town. These are reviewed as follows:

A.) The use complies with all provisions of the Leicester Zoning Bylaw

As described above the project is located within the Business Residential-1 Zoning District and is allowed by right with Major Site Plan Approval from the Leicester Planning Board. A portion of the site is located within the Watershed Protection Overlay District. No construction is proposed in this area.

B.) The use will not materially endanger or constitute a hazard to the public health and safety

The solar arrays are comprised of inert solid materials. In the event of failure it is not anticipated that these materials would “leak” or emit any fluid or gas. In addition, the entire array area will be surrounded by a seven-foot-tall chain-link fence which will prevent any unauthorized personnel from entering the facility.

C.) The use will not create undue traffic congestion or unduly impair pedestrian safety

Due to the nature of intended use, upon the completion of construction, traffic to the site will be limited to service crews to perform the required inspections and maintenance to insure the facility operates properly.

D.) Sufficient off-street parking exists or will be provided to serve the use

Due the nature of this type of project, off-street parking is not required.

E.) The use can be adequately served by water, sewer and other necessary utilities, or if these are unavailable, that they will be brought to the site at the owner's expense; or, the Planning Board is satisfied that the proposed alternatives will comply with all applicable regulations;

Due the nature of this type of project, the need for water and sewer is not necessary. A waiver has been requested relative to performing a review of the availability of such utilities. The only utility connection that will be required will be an overhead electrical connection to the existing infrastructure within Boutilier Road.

F.) The use will not result in a substantial increase of volume or rate of surface water runoff to neighboring properties and streets, nor will result in pollution or degradation of surface water or groundwater

The proposed project has been designed in accordance with the DEP Stormwater Management Regulations and will be reviewed by the Town.

G.) *The use will not result in any undue disturbance to adjoining property owners or the Town caused by excessive or unreasonable noise, smoke, vapors, fumes, dust, glare, etc...*

Upon the completion of construction, the project will not generate any smoke, vapors, dust or glare as part of the project. The noise generated by project is isolated to the inverter and battery pad areas which will generate noise no more than that typical of a HVAC unit. Furthermore, these structures will be located in excess of 300-feet from the Right of Way of Boutilier road and nearby residential properties. As the arrays are intended to absorb light in the generation of electricity, the glare from the array is also anticipated to be minimal. It is noted that the residential properties abutting the property will have a vegetative buffer to screen and mitigate any noise and glare that may be generated from this project.

WAIVER REQUESTS

Per the Leicester Planning Board Site Plan Review Rules and Regulations, the Planning Board may waive any of the requirements upon submittal of information by the applicant that substantiates the waiver request. As required by the Zoning Bylaw several of the aspects of site plan review are not applicable to a project of this type specifically, traffic and water/sewer availability.

Due to the nature of this project, portions of this Site Plan Application are not applicable and waivers to these sections are requested as follows:

II.D: Traffic Study

- Due to the nature of the project, it is not anticipated that the project would have an adverse affect on traffic surrounding the site. Specifically, vehicular traffic is not anticipated with the exception of the occasional maintenance and inspection. During construction, construction vehicles and equipment will be accessing the site by a proposed gravel drive from the paved portion of Boutilier Road via Henshaw Street. Additional signage could be placed along this area to alert drivers of construction activity in this area. This activity will cease upon completion of the project with the only traffic from the project after that being for inspection and maintenance.

The applicant, therefore, requests a waiver to II.D: Traffic Study of the Bylaw.

II.E: Availability of Water and/or Sewer

-Due to the nature of the project, the project will not require any connections to the public water supply or any sewerage connections.

The applicant, therefore, requests a waiver to II.E: Availability of Water and/or Sewer of the Bylaw.

Hannigan Engineering, Inc. is submitting this updated information to the Leicester Planning Board for their review and eventual Site Plan Approval for this project. As this is a Business Residential-1 Zone, the type of use would not be inconsistent with those uses allowed by right in the Bylaw. Upon completion of the construction, it is our opinion that the use would be relatively innocuous.

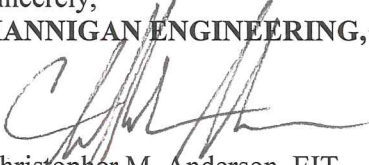
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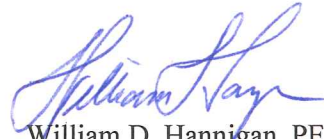
CIVIL ENGINEERS & LAND SURVEYORS

On behalf of our client, Hannigan Engineering, Inc. is requesting that this project be put on the agenda for the next available meeting. Representatives of this office and of the Applicant will be available to address any questions or concerns raised at that time. Should you require additional information prior to the meeting, please do not hesitate to contact this office. We appreciate the Town's assistance in this process as we look forward to working with you to obtain the anticipated approval of this project.

Sincerely,
HANNIGAN ENGINEERING, INC



Christopher M. Anderson, EIT
Project Engineer



William D. Hannigan, PE
President

pc: Brendan Gove, ZPT Energy Solutions II, LLC
 Pete Forte, ZPT Energy Solutions II, LLC
 Ernie Mellow, ZPT Energy Solutions II, LLC

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