

TYLin

August 10, 2022

Revised August 17, 2022

Additional Revisions August 22, 2022

Additional Revisions September 9, 2022

Town of Burns
PO Box 222
10 Main Street
Canaseraga, New York 14822

ATTN: Dianne Freiner, Supervisor

RE: Norbut Solar Farm

Dear Ms. Freiner,

In accordance with your request, T.Y. Lin International Engineering and Architecture, P.C. [TYLI PC] has completed our initial review of the materials submitted to date associated with a pending application for a Solar Energy Systems Facility Permit. Our findings and recommendations are as noted below. Information submitted by the applicant is noted in regular black font. TYLin responses to submitted information are noted in blue font. Revisions to this report are based on a cursory level review of revised site plans submitted on August 5th and are noted in red font. On August 12th, Mr. Scott Winner of Norbut Solar Farms indicated that they would postpone further revisions to the Site Plans until we had completed our review of the 8/5/22 submission in order to capture more fully our latest review comments. On August 18th, we received a revised version of drawing sheet C-104A primarily showing proposed changes to Fire Apparatus Access Roads and fire access pathways which was intended to supplement a site visit with the local Fire Chief. Additional comments noted in green font are germane to information shown on that plan, an overlay plan that graphically compares the two most recent drawing sheets labeled C-104A with the later version containing the same date [7/26/22] and drawing number as the previously submitted sheet C-104A.

TYLin comments noted in purple font reflect updated findings written in response to revised drawings and a revised Operating and Maintenance Plan received from the applicant after their review of our August 22nd comments. Although we have yet to receive written response to our report, the applicant requested that we update our findings in advance of the September 14th public meeting. It should be noted that the latest drawings do not match the drawing sheet numbers of the previous submission.

Exhibit A:

Completed Town application forms;

TYLin Response

The application form submitted was incomplete, based on the following omissions:

- i. The owner's name is missing.
- ii. The application did not include a tax map or a survey.
- iii. The drawings submitted did not include a statement indicating that all work will comply with the New York State Uniform Code.
- iv. The application is signed by Jonathan Stone, who is listed as the Project Manager. A revised application signed by the owner will need to be re-submitted for the public record.

No response received to date.

Exhibit B: Project description and applicable legal standards;

TYLin Response

We defer to the Town Attorney for comments on this exhibit.

No response received to date.

Exhibit C: Proof of compliance with the Town's standards for the issuance of a Solar Energy System Facility Permit as set forth in the Solar Law;

TYLin Response

See detailed response below.

No response received to date.

Exhibit D: Justification for waiver from dimensional requirements as set forth in the Solar Law;

TYLin Response

Based on information presented to the Allegheny County Planning Department, the applicant intends to reconfigure the panel arrays to eliminate the need for an area variance for setbacks from the elements noted in the local law. See further notes paragraph 9(viii) below. Site plans submitted in August 5th show various reconfigurations to the panel arrays.

TYLI has prepared a series of layover drawings that graphically illustrate the differences between the original site plans and the revised site plans. However, revised drawings lack sufficient clarity to permit a preliminary-level review. Roadways are not well defined, setbacks lack dimensions, and gates at access roadways are noted where none exist. We recommend that the aerial image that provides the background of the site plan be reduced to grey-scale and that line weight, density, color and layering of specific design elements be enhanced to graphically depict that portion of the design to be reviewed so as to provide sufficient clarity to permit a technical review.

The arrays should be located outside of the steep side slopes of all swales.

Portions of the solar arrays appear to continue to encroach on required setback lines. The arrays no longer sit within swales.

Exhibit E: Civil/Site Plans;

TYLin Response

Revised civil/site drawings were recently submitted to replace the drawings dated 6/10/22. Insufficient time was provided for review of the revised drawings in advance of the scheduled Town Board meeting on August 10, 2022. TYLin reserves the right to amend this report upon review of the updated drawings and comparison to the initial submittal.

Amendments are contained as noted here in red and in green.

It should be noted that with the exception of fencing details, drawings received to date are limited to site plans. No civil engineering plans per se have been submitted for review at this time.

Exhibit F: Completed Long Form Environmental Assessment Form (“FEAF”);

TYLin Response

TYLin will defer to the Town Attorney with respect to a recommendation to the Town Board of environmental impact.

No response received to date.

Exhibit G: Decommissioning Plan (with decommissioning estimate); and

TYLin Response

The decommissioning plan and associated cost estimates will be reviewed upon completion of our review of the revised civil/site drawings.

Revised drawings lack sufficient clarity to permit an appropriate level computation of the units of measure noted in the estimates. We recommend that the aerial image that provides the background of the site plan be reduced to grey-scale and that line weight, density, color and layering of specific design elements be enhanced to graphically depict that portion of the design to be reviewed so as to provide sufficient clarity to permit a technical review.

Revised drawings received on 8/31/22 have been modified to provide graphic clarity that now shows some of the details and dimensions necessary to verify elements of the proposed layout.

Exhibit H: Draft Storm Water Pollution Prevention Plan (“SWPPP”)

TYLin Response

The draft Storm Water Pollution Prevention Plan will be reviewed upon completion of our review of the revised civil/site drawings.

Revised drawings lack sufficient clarity to permit a preliminary-level SWPPP review. We recommend that the aerial image that provides the background of the site plan be reduced to grey-scale and that line weight, density, color and layering of specific design elements be enhanced to graphically depict that portion of the design to be reviewed so as to provide sufficient clarity to permit a technical review.

The Draft SWPPP has not yet been reviewed in conjunction with the revised drawings.

Exhibit I: Wetland Delineation and Report

TYLin Response

The Wetland Delineation and Report will be reviewed upon completion of our review of the revised civil/site drawings.

Revised drawings lack sufficient clarity to permit a preliminary-level SWPPP review. We recommend that the aerial image that provides the background of the site plan be reduced to grey-scale and that line weight, density, color and layering of specific design elements be enhanced to graphically depict that portion of the design to be reviewed so as to provide sufficient clarity to permit a technical review.

The Wetlands Delineation Report has not yet been reviewed in conjunction with the revised drawings.

Exhibit J: Sample Decommissioning Agreement

TYLin Response

TYLin will defer to the Town Attorney with respect to this agreement.

No response received to date.

Exhibit K: Operations and Management Plan

TYLin Response

The Operations and Maintenance Plan will be reviewed upon completion of our review of the revised civil/site drawings. With respect to general comments, it is recommended that the frequency of inspections, observations and maintenance be defined for each element in the plan.

- The Property Operation and Maintenance Plan should be dated and signed by the project sponsor.

The revised plan has been signed by the Applicant. No further response required.

- Those portions of the plan identified as “additional service” should be defined in terms of the sponsor’s obligation to the Town.

Additional information noted in the revised plan did not clarify the sponsor’s obligation to the Town with respect to those elements labeled as “additional service”. This item remains unresolved.

- A line item should be added to plan for maintenance of gravel roadways, with a specific emphasis on monitoring and repair of gravel beds on a periodic basis but at least once after each significant storm event to verify wash-out.

The applicant’s revised language contains provisions for inspection and repair annually as well as “following extreme weather events”. Absent a definition of the term “extreme”, we recommend the inspection schedule be changed from annually to quarterly.

- A line item should be added to plan for periodic inspection and repair of check dams.

No response received to date.

EXHIBIT B

PROJECT DESCRIPTION AND APPLICABLE LEGAL STANDARDS

TYLin Response

No response required.

EXHIBIT C

PROJECT COMPLIANCE WITH THE APPLICABLE STANDARDS FOR A SOLAR ENERGY SYSTEM FACILITY PERMIT AS SET FORTH IN SOLAR LAW

This Exhibit will demonstrate that the Project complies with the applicable provisions of the Town’s standards for a Solar Energy System Facility Permit as set forth in the Solar Law, which are detailed below in ***bold italicized type***, followed by the Applicant’s responses in regular type. Approval requirements. ***Approval of the Solar Energy System Facility permit application requires that the Town Board find that***

the proposed Solar Energy System Facility protects adjacent land uses, assures that the proposed use is in harmony with Local Laws of the Town, will not adversely affect the neighborhood, and conforms to the following minimum requirements:

TYLin Response

The record should note that the provisions of the Town’s Local Solar Law reference paragraph number 9 and are titled Approval Requirements.

- (i) ***All ground-mounted panels shall not exceed fifteen (15) feet in height from finished grade. The height of the panels shall be measured from the highest natural grade below each solar panel to its maximum potential height.***

(The Applicant Commented) The Applicant proposes panels at 16.5 feet in height, and therefore seeks a waiver from this requirement for the additional 1.5 feet in height. The Applicant believes that the additional 1.5 feet in height will not adversely affect the surrounding area and is otherwise in harmony with the Town’s local laws and community. See Exhibit D, below.

“The Applicant submits that the 1.5-foot waiver request for the height of its proposed solar panels is a reasonable request that will not adversely affect the public health, safety, or general welfare. First, the request is only for 1.5 feet, so it is not a substantial waiver request. Second, the solar panels will be set back off of Route 70 by many acres, and are otherwise buffered by a surrounding wooded area, and so no traffic or other safety concerns will be raised by the additional 1.5 feet in height. Finally, the Applicant will comply with all glare and other requirements set forth in Section 9 regarding the ground-mounted solar panels. Accordingly, the waiver request is reasonable and will not adversely affect the public health, safety, or general welfare.”

TYLin Response

We agree with the applicant’s contention that the waiver request is reasonable and that the additional 1.5 feet in height constitutes a change-so-slight that will not adversely affect the public health, safety, or general welfare. Therefore, we recommend that the Board consider granting the requested waiver.

- (ii) ***All mechanical equipment on a Solar Energy System Facility, including the Solar Collectors and including any structure for batteries or storage cells, are completely enclosed by a minimum eight (8) foot high fence with a self-locking gate. See enclosed Site Plan for description and dimensions of fencing.***

(The Applicant Commented) See enclosed Site Plan for description and dimensions of fencing.

TYLin Response

Details shown on drawing sheet C-124 should note which fence details are being proposed throughout the development (typical of alternate) and graphic dimensions added for clarity.

We recommend that the aerial image that provides the background of the site plan be reduced to grey-scale and that line weight, density, color and layering of specific design elements be enhanced to graphically depict that portion of the design to be reviewed so as to provide sufficient clarity to permit a technical review.

New details on drawing sheet C-122 have been revised to show only one type of perimeter fence and gate. No further response required.

- (iii) ***The Solar Energy System Facility shall use architectural features, landscaping, or other screening methods to provide year-round screening that will harmonize with the character of the property and surrounding area, so that the views of the solar array and appurtenant structures, including but not limited to equipment shelters, storage facilities, transformers and substations, are minimized to the extent reasonably practicable from public right of ways and neighboring non-participating residential properties. If the buffer utilizes vegetative screening, it shall contain evergreen trees or bushes planted no more than 8 feet apart, or, alternatively, other noninvasive species of trees and/or shrubs as recommended by a landscape architect to provide the appropriate level of year-round screening. To the maximum extent practicable, at the time of planting installed vegetation should be a minimum four (4) feet tall and shall adequately screening the Solar Energy System Facility within 5 growing seasons. Existing vegetation may be used to satisfy all or a portion of the required landscaped screening.***

(The Applicant Commented) See enclosed Site Plan. Further, there is natural screening from the surrounding properties being heavily wooded and the Project Site being set back off of Route 70.

TYLin Response

A planting legend will need to be provide for each type of proposed plant material along with a graphic illustration of plant spacing along with identification of existing vegetation they are proposing to utilize to meet these requirements.

No response received to date.

- (iv) ***Because of neighborhood characteristics and topography, the Town Board shall examine the proposed location on a case-by-case basis in order to ensure no detrimental impact to Town residents, businesses, or traffic.***

(The Applicant Commented) The Project will not generate any additional traffic and will provide a benefit to the residents of the Town through lower utility bills. The Site was carefully selected as one that could support the Project and its infrastructure while providing minimal impact to the community. Further, the Site is set back off of Route 70 and surrounded by heavily wooded lands, and therefore will not be readily visible from the road.

TYLin Response

No response required.

- (v) ***All solar energy production systems are designed and located in order to prevent reflective glare toward any habitable buildings, as well as streets and rights-of-way.***

(The Applicant Commented) The Project will be designed to prevent reflective glare. The Site is on vacant land, and so therefore there are no concerns to nearby buildings or streets. Additional notes were contained in the Summary Glint and Glare Analysis prepared by Fisher Associates including a note stating that “existing and proposed vegetative screening will be utilized throughout the project to mitigate any potential views of the project from neighboring residences and along the New York State Route 70. This will prevent any glint and glare issues for occurring at these locations.”

TYLin Response

Compliance with the provisions stated in 9(iii) above will need to be adhered to and demonstrated in revised drawings in order to justify this statement.

No response received to date.

- (vi) ***All onsite utility and transmission lines are, to the extent feasible, placed underground. See enclosed Site Plan.***

(The Applicant Commented) The Applicant will so comply.

TYLin Response

No response required.

- (vii) ***The installation of a clearly visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and substations.***

(The Applicant Commented) The Applicant will so comply. See also additional safety features proposed by Applicant, such as fencing, contained in the Site Plan.

TYLin Response

No response required.

- (viii) ***With the exception of designated, seasonal public roads, all Solar Collectors and structures shall have a minimum one hundred (100) foot setback from the centerline of public roads, fifty (50) foot side and rear setbacks from non-participating non-residential property lines, one hundred (100) foot side and rear setbacks from non-participating residential property line, and two hundred fifty (250) foot setbacks from any non-participating principal residential structures. The foregoing side and back setback requirements shall not apply to adjacent participating parcels that share a common boundary line. For designated, seasonal public roads, all Solar Collectors and structures shall have a minimum twenty-five (25) foot setback in the front from edge of the right of way of the road. The Applicant seeks a waiver from the 100-foot side and rear setback of the non-participating residential property lines. The proposed setbacks are fifty (50) feet in certain areas.***

(The Applicant Commented) See Exhibit D below and enclosed Site Plan. The Applicant complies with the remainder of the requirements in this subsection.

TYLin Response

- (ix) ***A sign is required that identifies that owner and operator with an emergency telephone number where the owner and operator can be reached on a 24-hour basis. There shall be no other signs except announcement signs, such as "No Trespassing" signs or any signs required to warn of danger.***

(The Applicant Commented) The Applicant will so comply.

TYLin Response

No response required at this time.

- (x) ***There shall be a minimum of two (2) parking spaces to be constructed and maintained for use in connection with the periodic maintenance and inspection of the solar photovoltaic facility and the site. Such parking spaces shall not be used for permanent storage of vehicles or equipment.***

(The Applicant Commented) The Applicant will so comply.

TYLin Response

No response required at this time.

- (xi) ***Vehicular Paths. Vehicular paths within the site shall be designed to minimize, to the maximum extent practicable, the extent of impervious materials and soil compaction consistent with the New York State Standards and Specifications for Erosion and Sediment Control and the Solar Energy System Facilities' Stormwater Pollution Prevention Plan, as applicable, and, in consultation with the Fire Department and Code Enforcement Officer, shall be demonstrated to be compliant with access requirements of the Fire Code for emergency responders.***

(The Applicant Commented) See enclosed Site Plan for a detailed description of the proposed access road.

TYLin Response

- a. The site plans lack sufficient detail to demonstrate compliance with the stated requirements.
- b. Portions of the proposed access roadways exceed a 10% slope for inordinately long distances.

Although roadways have been reconfigured, slope profiles have not been provided for all new roads. See also comments on page # 11.

- c. Some of the fenced-in solar arrays have no access roadways interior to the installation at all and would therefore be unreachable if necessary.

Fire department access has been resolved, pending final conditions of approval. See also comments on page #

- d. Where they are provided, required turnarounds in the access roadways are several hundred feet apart, exceeding the maximum distance in Section 503.2.5 of the Fire Code.

Section 503.1.1 of the Fire Code states that Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the

requirements of this section and shall extend to within 150 feet of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.

Exception # 2 provides for relief at the discretion of the Fire Code Official by stating that **Where approved by the fire code official, fire apparatus access roads shall be permitted to be exempted or modified for solar photovoltaic power generation facilities.**

The 2018 Edition of the International Fire Code Commentary indicates the intent of this provision with the following clarification.

“Exception 2 addresses photovoltaic panel system/array power generation facilities and provides guidance to jurisdictions in determining if a fire apparatus access road is needed for hazard mitigation or if it can be exempted. Consideration must be given to the purpose of fire access roads in these facilities and how the provisions would be applied. Several issues arise when applying Section 503 of the Code to ground-mounted arrays. When considering the issues noted below, the Fire Code Official should also consider other available code requirements that provide for appropriate hazard mitigation and risk reduction. Issues for consideration include:

- 1. Risk/hazard to me mitigated.*
- 2. Risk/hazard to firefighters and other emergency responders.*
- 3. Interest of public safety and welfare.*
- 4. Economics.*
- 5. Intended access use.*
- 6. Fuel load of the facility and adjacent areas that impact the facility.*
- 7. Array configuration (tightly spaced, access aisles, height)*
- 8. Actual hazard to public safety and welfare.”*

While we recognize that solar farm fires are rare, other incidents may occur that require emergency (or non-emergency) responders to access these sites. To the extent that it is economically reasonable, some level of access should be considered. It is therefore our recommendation that the applicant present revised plans that carefully weigh these issues for additional consideration by the Town and its consultants.

Revised drawings lack sufficient clarity to show the details of the roadway, and no detailed description has been provided. We recommend that the aerial image that provides the background of the site plan be reduced to grey-scale and that line weight, density, color and layering of specific design elements be enhanced to graphically depict that portion of the design to be reviewed so as to provide sufficient clarity to permit a technical review.

The latest drawing shows two types of access lanes throughout the site: (1) somewhat conventional gravel roadways located mostly at the perimeter of solar arrays, 20 feet in width, capable of supporting the imposed loads of fire apparatus (up to 75 kips) and surfaced so as to provide all-weather driving capabilities; and (2) unconventional access pathways located mostly interior to and west of the primary access roadway. The applicant proposes to provide

these paths by simply clearing vegetation, in a 20-foot-wide swath, with no preparation of the base material.

We've spoken with Shawn Grasby of Grasby Consulting and Jeffrie Wilkinson with TYLin, both of whom accompanied the Fire Chief on a walk-thru of the site last week while discussing the latest fire access plans submitted by the Applicant. It is our understanding that this group generally felt that further to the latest proposed plan should, at a minimum, consider the following modifications:

- a. Extending the primary access roadway from station 9+00 (+/-) westerly, to the most southwest array, culminating at a second fire department staging area and including a code-compliant turn-around;

The Fire Code Official and the Town's solar consultant have agreed in principle to allow modifications to the requirements of Section 503.1.1 with the following conditions:

- (i) All proposed primary fire apparatus access roads (gravel roadways) will be designed, constructed and tested to ensure compliance with Sub-Section FCD102.1 of Appendix 'D' of the Fire Code which states that Facilities, buildings or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an approved fire apparatus access road with an asphalt, concrete or other approved driving surface capable of supporting the imposed load of fire apparatus weighing up to 75,000 pounds.
 - (ii) All primary (gravel) and secondary (dirt) access roads will be inspected, repaired and maintained in accordance with the final approved Operating and Maintenance Plan.
 - (iii) Final drawings should show slope profiles of all new roadways. Such profiles remain subject to review. Where slopes exceed 10%, revisions to the overall slope of the site may be required.
- b. Relocating the proposed northernmost jog in the primary access roadway located at station 41+00 (+/-) to extend to station 47+60 (+/-) before turning westward to culminate at the most northwest array and including a code-compliant turn-around.

The road extending westward has been eliminated and the road now extends to the north end of the property. Turnarounds have been provided. See additional comments above.

- c. While we defer to the Fire Chief and the Town's other consultants to weigh in on other options for improving emergency access to the site, we offer the following comments:

Similar to recommendations for additional language in the operating and management plan noted on page 4 under Exhibit K above, line items would need to be added to plan for maintenance of soil paths, with a specific emphasis on monitoring and repair of all pathways on a periodic basis.

While additional information was provided in the revised Operating Plan, no response has been received to date with respect to maintenance of the dirt roadways.

- (xiii) ***If applicable, the Solar Energy System Facility will comply with the construction, restoration, monitoring, development and operation.***

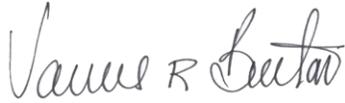
(The Applicant Commented) The Applicant will so comply.

TYLin Response

No response required at this time.

Respectfully Submitted,

T.Y. Lin International Engineering and Architecture, P.C.



James R. Burton

Mgr. Compliance Services

C: Shawn Grasby, Grasby Consulting
 Dwight Kanyuck, Knauf Shaw, LLP
 David Norbut, Norbut Solar Farms
 Jeffrie Wilkinson, TYLin
 Nathan Buczek, TYLin

Enc: Overlay Drawings in pdf format

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