

CITY OF WASHBURN
119 Washington Avenue
P.O. Box 638
Washburn, WI 54891



715-373-6160
715-373-6161
FAX 715-373-6148

This meeting may have members participating via tele or web conferencing. Public participants can listen to the proceedings by utilizing a computer or smart phone and using the link <https://us02web.zoom.us/j/89103404024?pwd=YlVueXY0cS80WkRxB3dLVU0SFFUZz09> or by calling 1 (877) 853-5247 (Toll Free) and entering Webinar ID: **891 0340 4024** and entering passcode **987971** as opposed to being present for the meeting.

NOTICE COMMISSION MEETING

DATE: Thursday, October 13, 2022
TIME: 5:30 PM
PLACE: Washburn City Hall – 119 Washington Ave

AGENDA:

- Call to Order/Roll Call
- Discussion & Action on Site Plan Approval to Install Free Standing Solar System, Request for Special Exception(s) to Adjust Setback Pursuant to 8-549(d), and Allow Front Yard Placement Pursuant to 8-549(e) - Northern Lights Services 706 Bratley Drive-Next Energy System Petitioner
- Adjourn

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Date: October 7, 2022
To: Honorable Mayor and Plan Commission Members
From: Tammy DeMars, Deputy Zoning Administrator
RE: Northern Lights Services Solar Project

Northern Lights Services is located at 706 Bratley Drive, in the C-2 General Commercial District:

This application requires site plan approval as outlined in article 7 section 7-75 Basis of decision – The Plan Commission in making its recommendation/decision by the Common Council in making its decision shall consider the following factors:

- (1) Effects of the project on traffic safety and efficiency and pedestrian circulation, both on -site- and off-site;
- (2) Effects of the project on the natural
- (3) Effects of the project on surrounding properties;
- (4) Compliance with the general site design principles enumerated in s. 8-163;
- (5) Compliance with the design principles for parking lots enumerated in s. 127-3;
- (6) Compliance with other applicable requirements contained in this chapter; and
- (7) Any other factor that relates to the purposes of the chapter set forth in s. 1-5 or as allowed by state law.

Article 8-549 outlines the standards required for a free- standing solar energy system:

8-549(a) Surface area. The surface area of a free-standing solar energy system shall not exceed 5 percent of the lot area. ***This requirement has been met.***

8-549(b) Number There is no limit on the number of free-standing solar energy systems on a parcel of land.

8-549(c) Maximum height. A free-standing solar energy system in any position shall not exceed 15 feet in height as measured from the surrounding grade. ***Per the application the maximum height is 13.6'***

8-549(d) Setback. A free-standing solar energy system in any position shall not extend into the setback of a front yard, side yard, shore yard or rear yard as established for the zoning district in which the parcel is located. Pursuant to the procedures and requirements in article 7, the Plan Commission may approve a special exception to allow a free-standing solar energy system to extend into the setback when no other location on the parcel is acceptable and the encroachment is the least necessary to allow the system to operate. ***Front yard setbacks determined from the submitted plan do NOT meet requirements.***

The applicant would like to request a special exception to allow them to use the 10' setback rule for the C-2 district, instead of the averaging rule outlined in Appendix B-Dimensional Standards, that states when the

The City of Washburn is an equal opportunity provider, employer, and lender.

property abuts a more restrictive zoning district, the setback requirement is the average of the minimum setback for the two zoning districts, in this case it would be 30'.

8-549(e) Placement in yards. A free-standing solar energy system located in a residential or commercial zoning district shall only be located in the rear or side yard. Pursuant to the procedures and requirements in Article 7, the Plan Commission may approve a special exception to allow a free-standing solar system in the front yard when no other location on the parcel is acceptable and the encroachment is the least necessary to allow the system to operate.

The applicant is asking for a special exception to allow the solar system to be placed in the front yard.

8-549(f) Certification. A free-standing solar energy system shall be certified by one of the following: Underwriters laboratories, Inc., National Renewable energy Laboratory, Solar rating and Certification Corporation, or other recognized body as approved by the zoning administrator. The building inspector may approve the use of a homemade panel. ***Certification attached***

8-549(g) Requires the proposed layout of the panels and their impact of late to vehicular traffic. ***No documentation received on this.***

8-549(h) Approval by electric utility company. If the solar energy system is designed to produce electricity, the property owner shall submit documentation acceptable to the building inspector indicating the system meets all applicable regulations and requirements of the affected electric utility company. ***This will be supplied when approved by the utility company.***

8-549(i) Termination of use. The zoning administrator determines that a free-standing solar energy system has not been operational for a continuous period of 12 months, the administrator shall follow the procedure outlined in Article 7 related to the termination of an approval

8-549(j) Compliance with state law. The provisions in this section are intended to satisfy the requirements of s.66.0401(1m), Wis. Stats. On a case-by-case basis, if the restrictions of this subsection are found not to comply with the authority of s. 66.0401(1m), Wisconsin Statutes, they shall not be required. The Plan Commission shall have the ability to add additional restrictions on a case-by-case basis, provided they are within the authority of the city pursuant to s. 66.0401(1), Wis Stats., and the restriction must satisfy one of the following conditions: 1) Serves to preserve or protect public health or safety. 2) Does not significantly increase the cost of the system or significantly decrease its efficiency. 3) Allows for alternative system of comparable cost and efficiency.

When granting special exceptions, the commission must follow Article 7-154 (attached). The applicant has attached their reasoning based of article 7-154 for your review.

**DIVISION 4
SITE PLAN**

Sections

7-71	Generally	7-78	Staff report content
7-72	Applicability	7-79	Content of decision document
7-73	Initiation	7-80	Effect of approval
7-74	Review procedure	7-81	Expiration of an approval
7-75	Basis of decision	7-82	Amendment of an approved site plan
7-76	Imposition of conditions		
7-77	Application form and content		

7-71 Generally

The way in which a land use occupies a lot has a direct effect on the overall functionality of the site, the extent to which the land use can be expanded on the site in the future, effects of the land use on nearby properties, and impacts on existing and anticipated public and private infrastructure. This division describes the requirements and procedures for reviewing site plans.

7-72 Applicability

Those land uses designated as requiring site plan review in the land-use matrix (Exhibit 8-1) must comply with the requirements in this division.

7-73 Initiation

The owner of the subject property may submit an application for a site plan.

7-74 Review procedure

(a) **All zoning districts except in MUW district.** The general steps outlined below shall be used in the review of a site plan application in all zoning districts except in the Mixed-Use Waterfront (MUW) district.

- (1) **Submittal of application materials.** The applicant shall submit a completed application and other required materials to the zoning administrator along with the application fee as may be established by the Common Council.
- (2) **Staff review.** Within 30 calendar days of submittal, the zoning administrator shall either place the matter on the agenda for the meeting at which the matter will be considered allowing for proper public notice or make a determination that the application is incomplete and notify the applicant of any deficiencies. If the application is incomplete, the applicant has 3 months to resubmit the application or forfeit the application fee. The zoning administrator shall take no further steps to process the application until the deficiencies are remedied. The incomplete application shall be retained as a public record.
- (3) **Staff report preparation and distribution.** The zoning administrator shall prepare a written staff report as described in this division and provide a copy of it to each member of the Plan Commission and the applicant prior to the meeting at which the matter will be considered. The zoning administrator shall also provide a copy to interested people upon request.
- (4) **General notice.** Consistent with Division 2 of Article 6, the zoning administrator shall place the matter on the meeting agenda of the Plan Commission.
- (5) **Meeting.** Allowing for proper notice, the Plan Commission shall consider the application at a regular or special meeting.
- (6) **Decision.** The Plan Commission shall (i) approve the site plan, (ii) approve the site plan with conditions, or (iii) deny the site plan. The Plan Commission may render its decision at the same meeting the matter was initially considered or at a subsequent meeting, but no later than 40 calendar days after the public meeting unless the applicant agrees to an extension of a specified duration.
- (7) **Preparation of decision document.** Based on the action of the Plan Commission, the zoning administrator shall prepare a decision document consistent with this division.

signed. If the signed decision document is not returned within the initial or extended time period, if any, the decision shall become null and void without any further action by the City. The decision document shall only become effective when all required signatures have been obtained and the original signature copy is returned to the zoning administrator.

(13) **Public record copy.** A duplicate copy of the decision document shall be retained as a public record.

7-75 Basis of decision

The Plan Commission in making its recommendation/decision and the Common Council in making its decision shall consider the following factors:

- (1) effects of the project on traffic safety and efficiency and pedestrian circulation, both on-site and off-site;
- (2) effects of the project on the natural environment;
- (3) effects of the project on surrounding properties;
- (4) compliance with the general site design principles enumerated in s. 8-163;
- (5) compliance with the design principles for parking lots enumerated in s. 17-3;
- (6) compliance with other applicable requirements contained in this chapter; and
- (7) any other factor that relates to the purposes of this chapter set forth in s. 1-5 or as allowed by state law.

7-76 Imposition of conditions

(a) **Generally.** The reviewing authority may impose one or more conditions deemed necessary to further the intent and purposes of this chapter. Such conditions, for example, may relate to landscaping and screening, revisions to the site design, and outdoor lighting.

(b) **Effect on contracts with another party.** The reviewing authority shall not condition or withhold approval based upon the property owner entering into a contract or discontinuing, modifying, extending, or renewing any contract, with a third party under which the third party is engaging in a lawful use of the property.⁸

7-77 Application form and content

The application submittal shall include an application form as may be used by the City and a site plan prepared at a scale of 1" = 20' or other appropriate scale depicting the information listed in Appendix A.

7-78 Staff report content

The staff report shall contain the following:

- (1) a description of the proposed project;
- (2) preliminary findings for the decision criteria listed in this division;
- (3) a recommendation to approve the application, approve the application with conditions, or deny the application;
- (4) a preliminary list of conditions whether the staff recommendation is for approval or denial; and
- (5) other information deemed necessary.

7-79 Content of decision document

(a) **Approval.** If the application for a site plan is approved, the decision document shall include the following:

- (1) a statement that the application is approved,
- (2) a description of the proposed project,
- (3) reasons for the decision based on the criteria listed in this division,

⁸ Commentary: See s. 62.23(7)(gm), Wis. Stats. The City, for example, could not require an applicant to terminate an existing contract with another party that is engaged in a lawful use of the property.

(d) **Placement on a façade.** A solar energy system may be mounted on the façade of a commercial building if integrated into the overall design of the building. Such installations shall not project more than 4 feet from the face of the wall.

(e) **Certification.** A solar panel shall be certified by one of the following: Underwriters Laboratories, Inc.; National Renewable Energy Laboratory; Solar Rating and Certification Corporation; or other recognized body as approved by the zoning administrator. The building inspector may approve the use of a homemade panel.

(f) **Glare.** A solar panel shall be positioned so as to minimize glare towards vehicular traffic and adjacent properties.

(g) **Approval by electric utility company.** If the solar energy system is designed to produce electricity, the property owner shall submit documentation acceptable to the building inspector indicating that the system meets all applicable regulations and requirements of the affected electric utility company.

(h) **Termination of use.** If the zoning administrator determines that more than 50 percent of the panels (measured by total area) have not been operational for a continuous period of 12 months, the administrator shall follow the procedure outlined in Article 7 relating to the termination of an approval.

(i) **Compliance with state law.** The provisions in this section are intended to satisfy the requirements of s. 66.0401(1m), Wis. Stats. On a case by case basis, if the restrictions of this subsection are found not to comply with the authority of s. 66.0401(1m), Wisconsin Statutes, they shall not be required. The Plan Commission shall have the ability to add additional restrictions on a case by case basis, provided they are within the authority of the City pursuant to s. 66.0401(1m), Wis. Stats., and in particular the restriction must satisfy one of the following conditions:

- (1) Serves to preserve or protect the public health or safety.
- (2) Does not significantly increase the cost of the system or significantly decrease its efficiency.
- (3) Allows for alternative system of comparable cost and efficiency.

8-549 Solar energy system, free-standing³⁷

(a) **Surface area.** The surface area of a free-standing solar energy system shall not exceed 5 percent of the lot area.

(b) **Number.** There is no limit on the number of free-standing solar energy systems on a parcel of land.

(c) **Maximum height.** A free-standing solar energy system in any position shall not exceed 15 feet in height as measured from the surrounding grade.

(d) **Setback.** A free-standing solar energy system in any position shall not extend into the setback of a front yard, side yard, shore yard, or rear yard as established for the zoning district in which the parcel is located. Pursuant to the procedures and requirements in Article 7, the Plan Commission may approve a special exception to allow a free-standing solar energy system to extend into a setback when no other location on the parcel is acceptable and the encroachment is the least necessary to allow the system to operate.

(e) **Placement in yards.** A free-standing solar energy system located in a residential or commercial zoning district shall only be located in the rear or side yard. Pursuant to the procedures and requirements in Article 7, the Plan Commission may approve a special exception to allow a free-standing solar energy system in the front yard when no other location on the parcel is acceptable and the encroachment is the least necessary to allow the system to operate. A solar panel in a manufacturing zoning district may be located in any yard area.

(f) **Certification.** A free-standing solar energy system shall be certified by one of the following: Underwriters Laboratories, Inc.; National Renewable Energy Laboratory; Solar Rating and Certification Corporation; or other recognized body as approved by the zoning administrator. The building inspector may approve the use of a homemade panel.

(g) **Glare.** A free-standing solar energy system shall be positioned so as to minimize glare towards vehicular traffic and adjacent properties.

(h) **Approval by electric utility company.** If the solar energy system is designed to produce electricity, the property owner shall submit documentation acceptable to the building inspector indicating that the system meets all applicable regulations and requirements of the affected electric utility company.

³⁷ Commentary: If the total surface area of the solar energy system exceeds the standards stated in this section or if two or more separate arrays are used, such use is considered a solar power plant, which is a principal use and is listed in the 12 series.

- (8) other information the Plan Commission or administrator deems appropriate,
- (9) the signature of the zoning administrator on behalf of the Plan Commission or Common Council on appeal, and
- (10) the date of the decision.

(b) **Denial.** If the application for a special exception is denied, the decision document shall include the following:

- (1) a statement that the application is denied,
- (2) a description of the special exception,
- (3) reasons for the decision based on the criteria listed in this division,
- (4) a statement indicating that the denial does not limit the applicant's ability to resubmit a revised application for consideration,
- (5) a statement that the decision may be appealed as provided for in this division,
- (6) other information the Plan Commission or zoning administrator deems appropriate,
- (7) the signature of the zoning administrator on behalf of the Plan Commission or the Common Council on appeal, and
- (8) the date of the decision.

7-139 Effect of approval

An approval of an architectural plan shall run with the land and is binding on all subsequent property owners.

7-140 Expiration of an approval

An approval of an architectural plan shall automatically expire 12 months after the date of issuance unless substantial work has commenced and continues in good faith to completion. Upon petition and with cause, the zoning administrator may grant a one-time extension not to exceed 12 months provided (i) the permit holder requests the extension prior to the expiration of the permit, (ii) the permit holder clearly demonstrates that circumstances beyond his or her control prevented the start of construction and the continuation of the same, and (iii) the project complies with this chapter in effect at the time the extension is granted.

7-141 Amendment of an approval

Following approval of an architectural plan, the Plan Commission shall review all proposed changes to the approval. If in the opinion of the Plan Commission, the proposed change constitutes a minor alteration, the Plan Commission may approve the requested change in writing at a regular or special meeting of the Plan Commission without following the review procedure in this division. If the proposed change constitutes a major alteration, the review procedure in effect at the time of submittal shall be followed.

7-142 to 7-150 Reserved

**DIVISION 8
SPECIAL EXCEPTION**

Sections

7-151	Generally	7-157	Application form and content
7-152	Initiation	7-158	Staff report content
7-153	Review procedure	7-159	Content of decision document
7-154	Basis of decision	7-160	Effect of approval
7-155	Imposition of conditions	7-161	Expiration of an approval
7-156	Limitations on issuing a special exception		

7-151 Generally

Upon written petition, the Plan Commission may, on a case-by-case basis, grant a special exception for those development standards specifically noted as special exceptions in this chapter.

Amendment(s):

1. Ordinance 21-001, adopted January 12, 2021

7-152 Initiation

The owner of the subject property may submit an application for a special exception.

7-153 Review procedure

The general steps outlined below shall be used in the review of a special exception application.

- (1) **Submittal of application materials.** The applicant shall submit a completed application and other required materials to the zoning administrator along with the application fee as may be established by the Common Council.
- (2) **Staff review.** Within 30 calendar days of submittal, the zoning administrator shall either place the matter on the agenda for the meeting at which the matter will be considered allowing for proper public notice or make a determination that the application is incomplete and notify the applicant of any deficiencies. If the application is incomplete, the applicant has 3 months to resubmit the application or forfeit the application fee. The zoning administrator shall take no further steps to process the application until the deficiencies are remedied. The incomplete application shall be retained as a public record.
- (3) **Staff report preparation and distribution.** The zoning administrator shall prepare a written staff report as described in this division and provide a copy of it to each member of the Plan Commission and the applicant prior to the meeting at which the matter will be considered. The zoning administrator shall also provide a copy to interested people upon request.
- (4) **General notice.** Consistent with Division 2 of Article 6, the zoning administrator shall place the matter on the meeting agenda of the Plan Commission.
- (5) **Meeting.** Allowing for proper notice, the Plan Commission shall consider the application at a regular or special meeting.
- (6) **Plan Commission decision.** The Plan Commission shall make a final decision based on the decision criteria in this division to (i) approve the special exception, (ii) approve the special exception with conditions, or (iii) deny the special exception. The Plan Commission may render its decision at the same meeting the matter was initially considered or at a subsequent meeting, but no later than 40 calendar days after the public meeting unless the applicant agrees to an extension of a specified duration.
- (7) **Transmittal of decision.** If the Plan Commission decision is favorable, the zoning administrator shall prepare a decision document effectuating its determination. If the Plan Commission decision is not favorable, the Plan Commission shall report its determination to the Common Council including its reasons for denial.
- (8) **General notice.** Consistent with Division 2 of Article 6, if the Plan Commission denies a special exception request, the zoning administrator shall place the matter on the meeting agenda of the Common Council.
- (9) **Common Council meeting.** Allowing for proper notice, for any special exception application denied by the Plan Commission, the Common Council shall consider the application at a regular or special meeting.
- (10) **Decision.** After considering all of the information submitted by the applicant, the staff report, and the Plan Commission's recommendation, the Common Council shall make a decision based on the decision criteria contained in this division to (i) approve the special exception, (ii) approve the special exception with conditions, or (iii) deny the special exception.
- (11) **Preparation of final decision document.** Based on the final action of the Plan Commission or Common Council, the zoning administrator shall prepare a final decision document consistent with this division.

- (12) **Applicant notification.** Within a reasonable time following the Plan Commission or Common Council's final decision, the zoning administrator shall mail the decision document to the applicant by regular mail.
- (13) **Acceptance by property owner.** If the application is approved, the property owner shall sign the decision document to acknowledge the terms of the approval and return the same to the zoning administrator within 6 months of the decision. Prior to the expiration of the previously specified time period, the property owner may submit a petition to the City Clerk requesting an extension and the Common Council may, with cause, extend the period within which the decision document must be signed. If the signed decision document is not returned within the initial or extended time period, if any, the decision shall become null and void without any further action by the City. The decision document shall only become effective when all required signatures have been obtained and the original signature copy is returned to the zoning administrator.
- (14) **Public record copy.** A duplicate copy of the decision document shall be retained as a public record.

Amendment(s):
 1. Ordinance 21-001, adopted January 12, 2021

7-154 Basis of decision

The Plan Commission and the Common Council in making its decision shall consider the following factors:

- (1) the size of the property in comparison to other properties in the area;
- (2) the extent to which the issuance of the special exception permit would be in keeping with the overall intent of the this chapter;
- (3) whether there are any unique circumstances and the nature of those circumstances that warrant the issuance of the special exception;
- (4) the nature and extent of anticipated impacts to the natural environment that could potentially occur if the special exception was granted;
- (5) the nature and extent of anticipated positive and negative effects on properties in the area;
- (6) actions the applicant will undertake to mitigate the negative effects, if any, of the proposed special exception;
- (7) a factor specifically listed under a section of this chapter authorizing the issuance of a special exception; and
- (8) any other factor that relates to the purposes of this chapter set forth in s. 1-5 or as allowed by state law.

Amendment(s):
 1. Ordinance 21-001, adopted January 12, 2021

7-155 Imposition of conditions

(a) **Generally.** In approving a special exception, the Plan Commission or Common Council may impose one or more conditions deemed necessary to further the intent and purposes of this chapter.

(b) **Effect on contracts with another party.** The Plan Commission or Common Council shall not condition or withhold approval based upon the property owner entering into a contract or discontinuing, modifying, extending, or renewing any contract, with a third party under which the third party is engaging in a lawful use of the property.¹¹

¹¹ Commentary: See s. 62.23(7)(gm), Wis. Stats. The City, for example, could not require an applicant to terminate an existing contract with another party that is engaged in a lawful use of the property.

To: City of Washburn Plan Commission

Ref: Northern Lights Services Ground Mount Solar PV – Request for Special Exception

Applicant: Next Energy Solution and Cheq Bay Renewables for Northern Lights Services

Dear Commission:

It has been brought to our attention that placing free-standing solar panels in a front yard is not allowed per Zoning code 8-549(e). We also understand, according to 8-549(e), that we may request a special exception to this rule in writing which is the intent of this document.

We have formatted our reasoning for granting this exception to follow the criteria listed in 7-154, and it listed here:

Review criteria (7-154):

1. *“The size of the property in comparison to other properties in the area”*
 - a. Response: The adjacent land with a common property line to the north of the proposed site is a 20-acre tract owned by Ann & Donn Christensen, supporters of the solar project and its proposed site location. Directly across the street (Bratley Drive) the land is platted but an undeveloped wooded tract. A single owner owns several city blocks. East of the site is a nearly 10-acre tract owned by Bayfield County.
2. *“The extent to which the issuance of the special exception permit would be in keeping with the overall intent of this chapter”*
 - a. Response: The overall intent of this chapter would not be violated by approving this exception. We believe the intent is not to harm the environment, detract from visual aesthetics, reduce adjacent property values, or otherwise “harm” the neighborhood. This project will improve the environment through clean energy and will enhance the area as a resiliency hub because of its clean-energy-generation benefit associated with the ongoing backup generator and electrical service upgrades. The project is also in-line with the recently released RFP by Bayfield County for a sustainably built housing development, just east of the site.
3. *“Whether there are any unique circumstances and the nature of those circumstances that warrant the issuance of the special exception”*
 - a. Response: Yes, there are several unique circumstances that warrant the issuance of this special exception:
 - i. The project will save Northern Lights Services approximately \$14,000 per year in reduced electric bills, money that can be used for patient care.
 - ii. The site, even though it is in the “front yard”, when viewed from an overall complex is actually in the “back yard” and a not-used or never-will-be-used section of land.
 - iii. The community has overwhelmingly approved of this project with community support in the tune of \$25,000 in donations. Corporate sponsors include Memorial Medical Center and Essentia Health. The community at large has raised over \$21,500 through direct checks and a GoFundMe site.

- iv. The ground mount solar array will pilot a first-in-the-area bifacial solar panel with increased efficiency that will be documented with a state-of-the-art data logger; information that can enhance future community clean energy projects.
- v. There is no other ground available for a solar array, except in the actual front yard off Superior Street. The project wanted to avoid that for aesthetic reasons.

- 4. *"The nature and extent of anticipated impacts to the natural environment that could potentially occur if the special exception was granted"*
 - a. Response: There are no anticipated negative impacts to the environment. Clean energy produced by the array will benefit not only the environment but the overall health of the community and the seniors living at Northern Lights, our most vulnerable citizens.
- 5. *"The nature and extent of anticipated positive and negative effects on properties in the area"*
 - a. Response: Northern Lights is in a commercial zone and the solar array should not affect property values in the adjacent area. Beauty is in the eye of the beholder, but we believe a solar array represents self-assurance in energy, and comforts rather than detracts from the area properties.
- 6. *"Actions the applicant will undertake to mitigate the negative effects, if any, of the proposed special exemption"*
 - a. Response: We do not see any negative effects by granting the special exemption. In contrast, the positive outpouring from the community would be devastated if the special request was not granted.
- 7. *"A factor specifically listed under a section of this chapter authorizing the issuance of a special exception; and"*
 - a. Response: It is specifically stated that the Plan Commission may, on a case-by-case basis, grant a special exception. The point in case, is the exception of placing a solar array in the "front yard". The site could be considered a back or side yard, being that Superior Street is the complex's front yard. There is no good alternative. It is stated in Article 8-549 that "the Plan Commission may approve a special exception to allow a free-standing solar array system in the front yard when no other location on the parcel is acceptable and the encroachment is the least necessary to allow the system to operate." This condition is applicable to this request.
- 8. *"Any other factor that relates to the purposes of this chapter set forth in s. 1-5 or as allowed by state law."*
 - a. Response: Wis. Stat. § 60.61 specifically authorizes towns to enact zoning ordinances to provide "adequate access to sunlight for solar collectors". Further, under Wis. Stat. § 66.0401, local governments -- counties, towns, cities and villages -- may not place any restriction on the installation or use of solar or wind energy systems unless the restriction:
 - i. serves to preserve or protect public health or safety
 - ii. does not significantly increase system cost or efficiency
 - iii. allows for an alternative system of comparable cost and efficiency
 - b. The proposed solar installation will not jeopardize public health or safety, in fact it will enhance it, and there are no reasonable alternatives given the site restrictions. We had considered a roof installation, but costs were significantly higher and solar efficiencies significantly reduced because of winter snow cover.

Special Requests:

1. Because winter is fast approaching and the necessity to set posts in concrete and trench underground electrical conduit, the applicant respectfully requests a special meeting to "fast track" the permit review. Many factors have led to this permit application being delayed, including solar panels missing a boat from India, engineering approval delays, and personnel health issues. Delaying to next spring could jeopardize grant conditions and would be a financial hardship on Northern Lights Services, a condition that this project is meant to improve, not to add too.
2. Because the site has a slope near the parking lot, and to allow for adequate snow removal in that area, the applicant requests the solar array be allowed within the 30' "averaged" setback, and instead be allowed a 10' setback from the property line, consistent with the General Commercial C-2 zoning. It is stated in 8-549 (d) Setback, that the "Plan Commission may approve a special exception to allow a free-standing solar energy system to extend into a setback when no other location on the parcel is acceptable and the encroachment is the least necessary to allow the system to operate". We believe that this is the case and request this exception.

Attachment: Letter of Support from Bayfield County Administrator, Mark Abeles-Allison

Signed,

Foley Quinn

Foley Quinn, Next Energy Solution

William Bailey

William (Bill) Bailey, Cheq Bay Renewables

Pauline Darling

Pauline Darling, Northern Lights Services

CONSTRUCTION PERMIT APPLICATION

Permit Request: Remodeling Windows Doors Roofing Siding Plumbing/HVAC
 New Construction Deck Flat Work Electrical Other

Complete the following with name, address, (house # and mailing address) & telephone

Owner Northern Lights Services - Pauline Darling E-Mail pdarling@nlhealth.org
 Construction Contractor Next Energy Solution, Inc. Phone 715-373-6424
 Address 505 US Hwy 63 Shell Lake, WI 54871 License # 1313880
 Excavation Contractor _____ Phone: _____
 Address _____ License # _____

Owner is ultimately responsible for all code compliance related to the work for which this permit is issued.

PROJECT INFORMATION

Site Address 706 Bratley Dr Washburn, WI 54891 Pin # 04-291-2-49-04-33-2 03-000-20000
 RE Tax ID # 32580 Zoning District _____ Lot Area 6.918 Acres 3A 348 58 4*

Description of work Installation of ground mounted solar array

 Estimated Project Cost \$96,500

NEW CONSTRUCTION	Area Involved	Water & Sewer:
Building Height _____	Basement _____ sq ft	Water <input type="checkbox"/> Municipal or <input type="checkbox"/> Private Well
<input type="checkbox"/> 1-story <input type="checkbox"/> Other _____	Living Area _____ sq ft	Sewer <input type="checkbox"/> Municipal or <input type="checkbox"/> Septic
<input type="checkbox"/> 2-story <input type="checkbox"/> Basement	Garage _____ sq ft	Permit Numbers _____
	Total _____ sq ft	

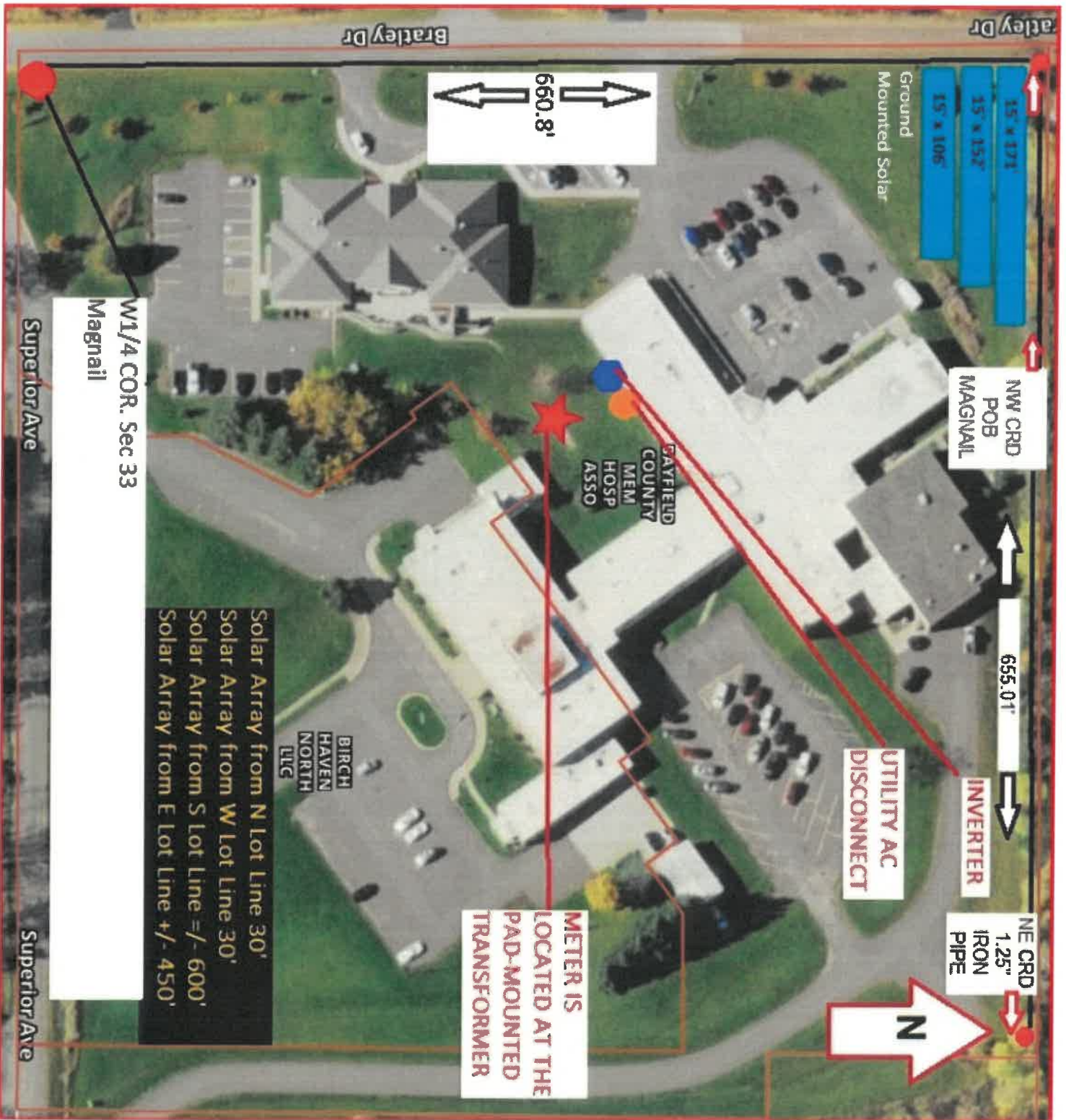
Additional permits that may not be covered by this application: Driveways; Sewer; Water, Demolition, Sidewalks

I agree to comply with all applicable codes, statutes and ordinances and with the conditions of this permit; understand that the issuance of the permit creates no legal liability, express or implied, on the State of Wisconsin or the City of Washburn; and certify that all of the above information is accurate. If I am an owner applying for an erosion control or construction permit, I have read the cautionary statement regarding contractor financial responsibility on the reverse side of this application form.

Applicant Signature _____ Date _____

CONDITIONS OF APPROVAL This permit is issued pursuant to the following conditions. Failure to comply with these conditions may result in suspension or revocation of this permit or other penalty.
 See Attached Condition Letter

NOTES	<u>FEES (per Title 15 Municipal Code)</u>		PERMIT ISSUED BY:
	<input type="checkbox"/> Remodeling <input type="checkbox"/> New Construction <input type="checkbox"/> Fence <input type="checkbox"/> Flat Work <input type="checkbox"/> Siding <input type="checkbox"/> Roofing <input type="checkbox"/> Driveway	<input type="checkbox"/> Demolition <input type="checkbox"/> Deck <input type="checkbox"/> Shelter <input type="checkbox"/> _____ <input type="checkbox"/> Early Start	DATE ISSUED _____
	TOTAL _____		PERMIT NO. _____



Bratley Dr

15' x 171'
15' x 152'
15' x 106'

Ground Mounted Solar

NW CRD
POB
MAGNAIL

655.01'

INVERTER

NE CRD
1.25"
IRON
PIPE

UTILITY AC
DISCONNECT

GAYFIELD
COUNTY
MEM
HOSP
ASSO

660.8'

BIRCH
HAVEN
NORTH
LLC

METER IS
LOCATED AT THE
PAD-MOUNTED
TRANSFORMER

W1/4 COR. Sec 33
Magnail

Solar Array from N Lot Line 30'
Solar Array from W Lot Line 30'
Solar Array from S Lot Line +/- 600'
Solar Array from E Lot Line +/- 450'

Superior Ave

Superior Ave



Appendix B. Dimensional standards

Zoning district	Minimum lot area	Minimum lot width	Minimum street frontage	Maximum front-yard setback	Minimum front-yard setback [1,9]	Minimum side-yard setback [2,3]	Minimum rear-yard setback	Maximum building height [4]	Maximum building coverage	Maximum impervious coverage	Minimum residential living area per dwelling unit	Maximum garage area [5]	Maximum shed area [5]	Maximum number of accessory buildings [6]
Section in Code	s. 8-62	s. 8-63	s. 8-64		s. 8-65	s. 8-65	s. 8-65	s. 8-66	s. 8-67	s. 8-68	s. 8-69(a)	s. 8-69(b)	-	s. 8-72
Rural Residential (R-1)	4 acres	250 ft.	55 ft. on cul de sac; 250 ft. all other	NA	50 ft.	Principal: 50 ft. total of both sides with no less than 20 ft. on one side Detached accessory: 15 ft. Building housing livestock: 50 ft.	Principal: 50 ft. Detached accessory: 3 ft. without alley; 8 ft. with alley	Principal: 35 ft. or 2.5 stories, whichever is less Accessory: 25 ft. or height of principal building, whichever is less	20 percent [8]	25 percent [8]	400 sq. ft.	2,400 sq. ft., plus 250 sq. ft. for every full acre over 4 acres	Aggregate total of 500 sq. ft. plus an additional 250 sq. ft. of shed space for every full acre over 4 acres per parcel	2 garages attached or detached, plus 2 yard sheds
Single-Family Residential (R-2)	1.5 acres if served by on-site well and septic; 8,700 sq. ft. if served by city water and sewer	165 ft. on corner lot; 150 ft. all other lot types	55 ft. on cul de sac; 150 ft. all other	NA	30 ft.	Principal: 50 ft. total of both sides with no less than 20 ft. on one side Detached accessory: 5 ft.	Principal: 50 ft. Detached accessory: 3 ft. without alley; 8 ft. with alley	Principal: 35 ft. or 2.5 stories, whichever is less Accessory: 25 ft. or height of principal building, whichever is less	35 percent [8]	50 percent [8]	400 sq. ft.	2,400 sq. ft., plus 250 sq. ft. for every full acre over 4 acres	Aggregate total of 500 sq. ft. plus an additional 250 sq. ft. of shed space for every full acre over 4 acres per parcel	2 garages attached or detached plus 2 yard sheds
Mixed Residential (R-6)	4,300 sq. ft. for each dwelling unit	65 ft. on corner lot; 50 ft. all other lot types	55 ft. on cul de sac; 75 ft. all other	NA	20 ft.	Principal: 20 ft. total of both sides with no less than 8 ft. on one side Detached accessory: 3 ft.	Principal: 25 ft. Detached accessory: 3 ft. without alley; 8 ft. with alley	Principal, single-family: 35 ft. Principal, multi-family: 35 ft. Accessory: 25 ft. or height of principal building, whichever is less	30 percent [8]	50 percent [8]	Single-family: 400 sq. ft. Multi-family: [7]	2,400 sq. ft., plus 250 sq. ft. for every full acre over 4 acres	Aggregate total of 500 sq. ft. plus an additional 250 sq. ft. of shed space for every full acre over 4 acres per parcel	1 attached or detached garage plus 2 yard sheds
Waterfront Residential (R-7)	1.5 acres if served by on-site well and septic; 8,700 sq. ft. if served by city water and sewer	100 ft. on corner lot; 90 ft. all other lot types	55 ft. on cul de sac; 90 ft. all other	NA	30 ft.	Principal: 30 ft. total of both sides with no less than 8 ft. on one side Detached accessory: 30 ft.	Principal: 30 ft. Detached accessory: 3 ft. without alley; 8 ft. with alley	Principal: 35 ft. Accessory: 25 ft. or height of principal building, whichever is less	45 percent [8]	65 percent [8]	Single-family: 1,000 sq. ft. Multi-family: [7]	2,400 sq. ft., plus 250 sq. ft. for every full acre over 4 acres	Aggregate total of 500 sq. ft. plus an additional 250 sq. ft. of shed space for every full acre over 4 acres per parcel	1 attached or detached garage plus 2 yard sheds
Collage Commercial (C-1)	5,000 sq. ft.	165 ft. on corner lot; 150 ft. all other lot types	50 ft.	NA	25 ft.	Principal: 20 ft. total of both sides with no less than 8 ft. on one side Detached accessory: 3 ft.	Principal: 10 ft. Detached accessory: 3 ft. without alley; 8 ft. with alley	Principal: 35 ft. Accessory: 25 ft. or height of principal building, whichever is less	30 percent [8]	50 percent [8]	1,000 sq. ft.	NA	Aggregate total of 500 sq. ft. plus an additional 250 sq. ft. of shed space for every full acre over 4 acres per parcel	1 attached or detached garage plus 2 yard sheds
General Commercial (C-2)	7,000 sq. ft.	50 ft.	50 ft.	NA	10 ft.	Principal: 10 ft.; 15 ft. when abutting a residential district Detached accessory: 3 ft.	Principal: 25 ft. Detached accessory: 3 ft. without alley; 8 ft. with alley	Principal: 35 ft. Accessory: 25 ft. or height of principal building, whichever is less	50 percent [8]	80 percent [8]	Multi-family: [7]	NA	No restriction	1 detached garage or 1 yard shed
Downtown Commercial (C-3)	None	50 ft.	50 ft.	10 feet	0 ft.	Principal: 0 ft. Detached accessory: 5 ft.	Principal: 8 ft. Detached accessory: 3 ft. without alley; 8 ft. with alley	Principal: 45 ft. Accessory: 25 ft. or height of principal building, whichever is less	80 percent	100 percent	Multi-family: [7]	NA	No restriction	1 detached garage or 1 yard shed
Light Industrial (I-1)	15,000 sq. ft.	100 ft.	100 ft.	NA	25 ft.	Principal: 15 ft.; 40 ft. when abutting a residential district Accessory: 5 ft.	Principal: 25 ft. Detached accessory: 3 ft. without alley; 8 ft. with alley	Principal: 45 ft. Accessory: 25 ft. or height of principal building, whichever is less	75 percent	85 percent	NA	NA	No restriction	1 detached garage and 1 yard shed
Mixed-Use Waterfront (MUW)	12,000 sq. ft.	50 ft.	50 ft.	NA	25 ft.	Principal: 10 ft.; 15 ft. when abutting a residential district Detached accessory: 3 ft.	25 ft.	Principal: 45 ft. Accessory: 25 ft. or height of principal building, whichever is less	65 percent	85 percent	Multi-family: [7]	NA	No restriction	No restriction
Lakefront Corridor (L-1)	20,000 sq. ft.	100 ft.	100 ft.	NA	30 ft.	Principal: 10 ft.; 15 ft. when abutting a residential district Detached accessory: 3 ft.	25 ft.	Principal: 35 ft. Accessory: 25 ft. or height of principal building, whichever is less	20 percent	35 percent	NA	NA	No restriction	No restriction
Marina (M)	None	100 ft.	100 ft.	NA	25 ft.	Principal: 10 ft.; 15 ft. when abutting a residential district Detached accessory: 3 ft.	25 ft.	Principal: 45 ft. Accessory: 25 ft. or height of principal building, whichever is less	80 percent	100 percent	NA	NA	No restriction	No restriction

- Notes:
- In certain circumstances, the minimum front-yard setback may be less than or greater than what is stated if setback averaging applies. See the referenced section of the zoning code for applicable standards.
 - If the lot width for a existing lot is less than what is required, the side-yard setback may be reduced proportionately to the ratio between the actual width and the required width, provided the side-yard setback is reduced to not less than 75 percent of the required setback.
 - If a parcel abuts a more restrictive zoning district, the setback shall be the average of the minimum setbacks for the two districts.
 - An institutional building (e.g., governmental office, or school) may exceed the height limitation established for the zoning district, up to a maximum height of 45 feet, provided the minimum required side-yard and rear-yard setbacks are increased one foot for each additional foot of height in excess of the permitted maximum of the district.

MAP OF SURVEY

THE NORTH LINE OF THE W 1/2 OF THE S 1/2 OF THE SW 1/4 OF THE NW 1/4, ALL IN SECTION 33, T. 49 N., R. 4 W., IN THE CITY OF WASHBURN, BAYFIELD COUNTY, WISCONSIN

SURVEYOR'S CERTIFICATE

I, PETER A. NELSON, PROFESSIONAL LAND SURVEYOR IN THE STATE OF WISCONSIN, HEREBY CERTIFY:

THAT ON THE ORDER OF FOLEY QUINN, I HAVE SURVEYED AND MAPPED THE NORTH LINE OF THE W 1/2 OF THE S 1/2 OF THE SW 1/4 OF THE NW 1/4 IN SECTION 33, T. 49 N., R. 4 W., IN THE CITY OF WASHBURN, BAYFIELD COUNTY, WISCONSIN;

THAT THIS MAP IS A TRUE REPRESENTATION OF SAID SURVEY;

THAT SAID SURVEY AND MAP FULLY COMPLY WITH THE PROVISIONS OF CHAPTER A-E 7 OF THE WISCONSIN ADMINISTRATIVE CODE; AND

THAT SAID SURVEY AND MAP ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BEARINGS ARE REFERENCED TO THE WEST LINE OF THE NW 1/4 OF SECTION 33, WHICH BEARS N 00°06'32" W



DESCRIPTION OF SURVEYED LINE:

THE NORTH LINE OF THE W 1/2 OF THE S 1/2 OF THE SW 1/4 OF THE NW 1/4 OF SECTION 33, T. 49 N., R. 4 W., IN THE CITY OF WASHBURN, BAYFIELD COUNTY, WISCONSIN, DESCRIBED AS FOLLOWS:

TO LOCATE THE POINT OF BEGINNING, COMMENCE AT THE WEST 1/4 CORNER OF SAID SECTION 33 AND RUN N 00°06'32" W, 680.80 FEET ON THE WEST LINE OF THE NW 1/4 OF SAID SECTION 33 TO A MAGNAIL, WHICH IS THE POINT OF BEGINNING.

THENCE FROM SAID POINT OF BEGINNING BY METES AND BOUNDS:

LEAVING SAID WEST LINE, N 89°52'56" E, 655.01 FEET TO A 1-1/4" IRON PIPE, AND THE TERMINUS OF SAID SURVEYED LINE.

NW COR.
SEC. 33
1" REBAR

2643.20'

1982.40'

SECTION 33
SECTION 33

P.O.B.
MAGNAIL

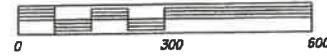
N 89°52'56" E 655.01'

1-1/4" IRON PIPE

N 00°06'32" W
680.80'

W 1/4 COR.
SEC. 33
MAGNAIL

SCALE: ONE INCH = 300 FEET



CS
189

LEGEND

● FOUND MONUMENT, AS NOTED

PIPE DIMENSIONS ARE OUTSIDE DIAMETER

CLIENT: NEXT ENERGY SOLUTIONS

JOB NO.: N22/150 FILE: N/149NR4W/SEC33
SCALE: ONE INCH = 300 FEET ACAD: N22_150_NEXT ENERGY
DATE: 8/30/2022 PSDATA: N11_034
FIELDWORK COMPLETED: 8/23/22 DRAFTED BY: T2B

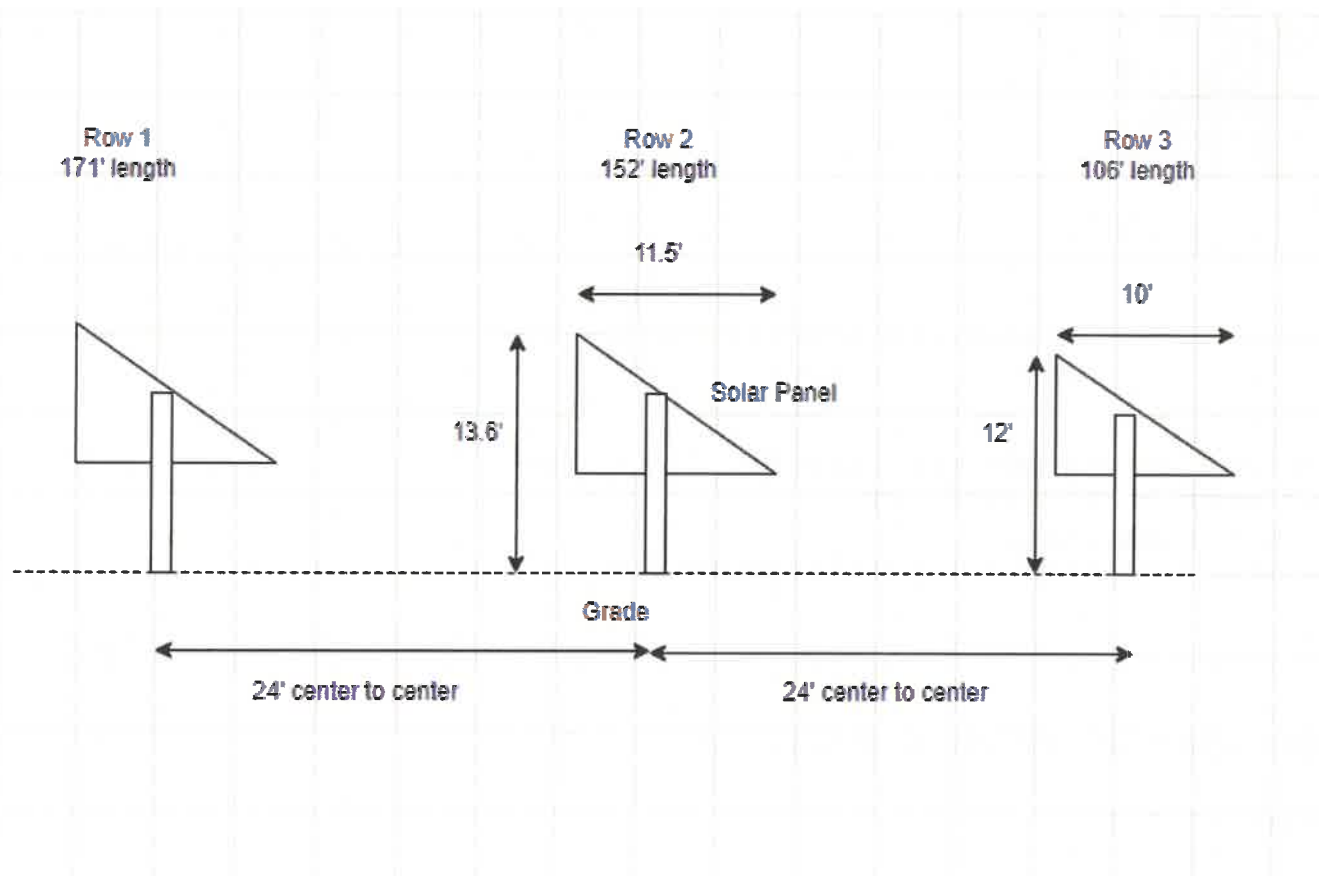
NELSON SURVEYING INCORPORATED

ESTABLISHED YOUR TRUST SINCE 1854
MAP NO. CSM 3261

101 W. MAIN STREET
SUITE 100
ASHLAND, WISCONSIN 54806
(715) 895-5800
WWW.NELSONSURVEYING.COM

From: billebailey2@gmail.com
Sent: Monday, October 3, 2022 5:38 PM
To: tdemars@cityofwashburn.org
Subject: RE: Northern Lights Services Permit Application; Solar

Maybe this will also help to visualize:



Row 1 is the same dimensions as Row 2, Row 3 is a bit smaller.

Bill Bailey

From: billebailey2@gmail.com <billebailey2@gmail.com>
Sent: Monday, October 3, 2022 4:55 PM
To: tdemars@cityofwashburn.org
Subject: RE: Northern Lights Services Permit Application; Solar

The solar arrays are in three rows, 171' long, 152' long and 106' long, which in total adds in up to 429' in length.

The height of the first two rows is 13.6', the third row is 12' high (smaller panels)

The width of the first two rows is 11.5' each, the third row is 10' wide.



Certificate of Compliance

Certificate: 2760387 **Master Contract:** 203213
Project: 70163421 **Date Issued:** 2017-12-29
Issued to: Fronius International GmbH
 Guenter Fronius Strasse 1
 Wels-Thalheim, 4600
 AUSTRIA

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: *Peter Lim*
Peter Lim

PRODUCTS

CLASS - 531109 - POWER SUPPLIES-Distributed Generation Power Systems Equipment
CLASS - 531189 - POWER SUPPLIES - Distributed Generation-Power Systems Equipment - Certified to U.S. Standards

Transformerless Special Purpose Grid Support Interactive Inverter, Models Fronius Symo 10.0-3 208-240, Fronius Symo 10.0-3 208-240 Lite, Fronius Symo 12.0-3 208-240, Fronius Symo 12.0-3 208-240 Lite, Fronius Symo 10.0-3 480, Fronius Symo 10.0-3 480 Lite, Fronius Symo 12.5-3 480, Fronius Symo 12.5-3 480 Lite, Fronius Symo 15.0-3 480, Fronius Symo 15.0-3 480 Lite, Fronius Symo 17.5-3 480, Fronius Symo 17.5-3 480 Lite, Fronius Symo 20.0-3 480, Fronius Symo 20.0-3 480 Lite, Fronius Symo 22.7-3 480, Fronius Symo 22.7-3 480 Lite, Fronius Symo 24.0-3 480, and Fronius Symo 24.0-3 480 Lite, permanently connected, system.

APPLICABLE REQUIREMENTS

- CSA-C22.2 No.107.1-16 - General Use Power Supplies
- *UL Std No. 1741-Second Edition - Inverters, Converters, Controllers and Interconnection System Equipment For Use With Distributed Energy Sources (Rev. September 7, 2016)
- UL CRD - Non-Isolated EPS Interactive PV Inverters Rated Less Than 30kVA



Certificate: 2760387

Master Contract: 203213

Project: 70163421

Date Issued: 2017-12-29

- UL 1699B - Outline of Investigation for Photovoltaic (PV) DC Arc-Fault Circuit Protection (Issue Number 2, January 14, 2013)
- CSA TIL M-07 - Interim Certification Requirements for Photovoltaic (PV) DC Arc-Fault Protection (Issue Number 1, March 11, 2013)
- CSA C22.2 No.290 - 15 Photovoltaic combiners (December 2015)

Notes:

- (1) Conformity to UL 1741-Second Edition (Rev. September 7, 2016) includes compliance with applicable requirements of UL1741 Supplement SA - GRID SUPPORT UTILITY INTERACTIVE INVERTERS AND CONVERTERS, California Rule 21(SRDs), Hawaiian Electric Co. Rule 14, Hawaiian Electric Co. SRD-UL-1741-SA-V1.0, IEEE 1547, IEEE 1547a and IEEE 1547.1.
- (2) To fulfill the rapid shutdown requirements of the NEC Article 690.12 and CEC Sec 64-218 with the Fronius Symo, the inverter can be used together with an approved rapid shut down device evaluated with the respective inverter. Or the inverter must be mounted within the boundary values given in the NEC and CEC Article. The ac output of the inverter complies with the requirements of following standards to ensure the ac conductors are within the controlled limits of 30Vdc, 15Vac and 8A within the 30s (and 10s respectively for CEC):
 - a. IEC62109-1:2010 §7.3.9
 - b. UL62109-1:2014 §7.3.9
 - c. CAN/CSA C22.2 No. 62109-1:16 §7.3.9
 - d. UL1741 2nd Edition (with SA)§11
 - e. CAN/CSA C22.2 No. 107.1-16



Supplement to Certificate of Compliance

Certificate: 2760387

Master Contract: 203213

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
70163421	2018-12-29	Update Report 2760387 to Evaluate Firmware Changes That Address Software Bugs Associated with Power Stage Change Issues.
70156295	2017-10-16	Update Report 2760387 to include UL1741 SA requirement for remaining models Fronius Symo 208V-240V series.
70130879	2017-07-27	Update Symo Series Report 2760387 to include new UL1741 SA.
70091556	2016-09-19	Update report 2760387 to include firmware revision and acceptance of test data under the CSA SMTC program.
70065229	2016-06-10	Update report 2760387 (SYMO 10KW to 24KW Series) to include hardware alterations and roach firmware revision, and acceptance.
70057183	2016-01-21	Update report 2760387 to include firmware revision, alternate construction and acceptance of test data under the CSA SMTC program.
70039562	2015-11-11	Update report 2760387 to include firmware revision with acceptance of data under the CSA SMTC program.
70030415	2015-05-28	Update report 2760387 to include firmware revision (H1, H2, H3 setup) and acceptance of CSA SMTC test data.
2783673	2015-02-19	Update to report 2760387 to include firmware revision and alternate components.
2760387	2014-10-15	Transformerless Utility Interactive Inverter, Fronius Symo series. (C/US)

Harvest the Sunshine

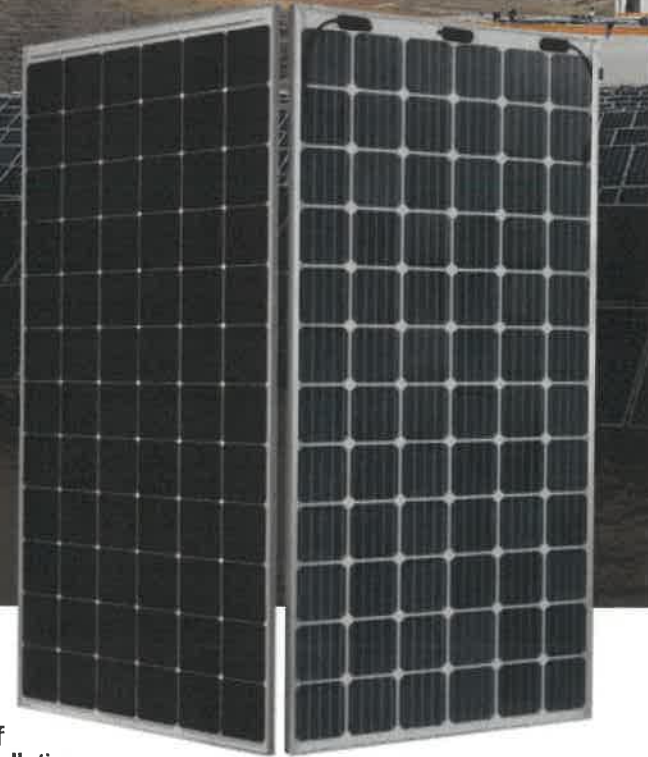


390W Bifacial Mono PERC Double Glass Module

JAM72D09 370-390/BP Series

Introduction

These double-glass modules assembled with bifacial PERCIUM cells have the capability of converting lights incident on their rear side into electricity on top of what is being generated by the front side, making them the best-performed and the most cost-effective modules in terms of solar energy generation as well as tolerance for harsh environment and extreme weather conditions.



3%~15% more energy generation



framed design, ease of transportation and installation



Superior low irradiance performance

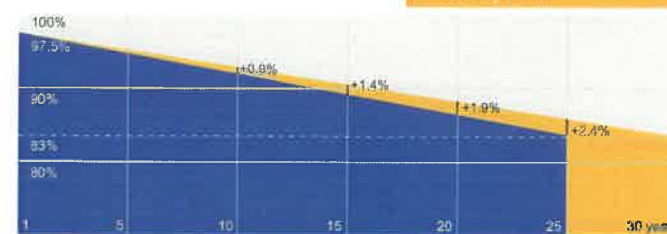


Excellent temperature dependent performance

Superior Warranty

- 12-year product warranty
- 30-year linear power output warranty

0.5% Annual Degradation Over 30 years



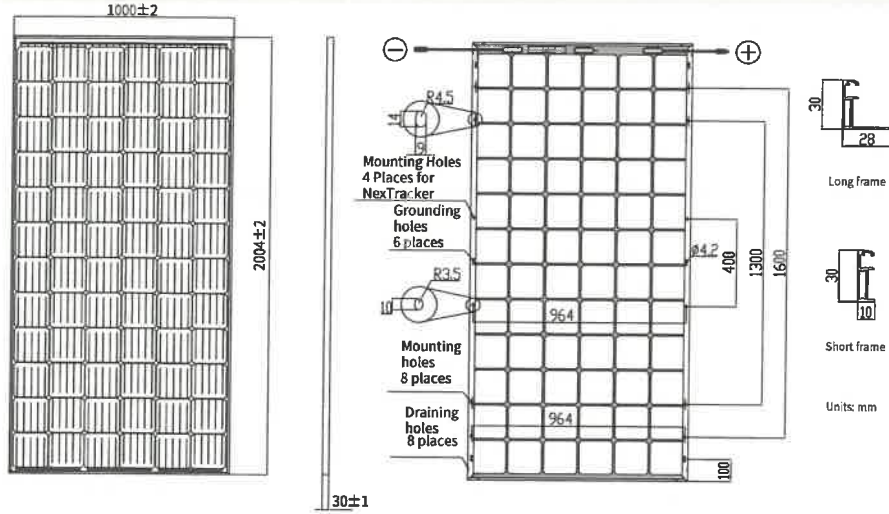
■ Additional Value From 30-Year Warranty ■ JA Standard

Comprehensive Certificates

- IEC 61215, IEC 61730, UL 61215, UL 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- OHSAS 18001: 2007 Occupational health and safety management systems
- IEC TS 62941: 2016 Terrestrial photovoltaic (PV) modules – Guidelines for increased confidence in PV module design



MECHANICAL DIAGRAMS



Remark: customized frame color and cable length available upon request

SPECIFICATIONS

Cell	Mono
Weight	29.8kg±3%
Dimensions	2004±2mm×1000±2mm×30±1mm
Cable Cross Section Size	4mm ² (12AWG)
No. of cells	72(6x12)
Junction Box	IP68, 3 diodes
Connector	QC 4.10-35
Cable Length (Including Connector)	Portrait:300mm(+)/400mm(-); Landscape:1200mm(+)/1200mm(-)
Packaging Configuration	34 Per Pallet

ELECTRICAL PARAMETERS AT STC

TYPE	JAM72D09-370/BP	JAM72D09-375/BP	JAM72D09-380/BP	JAM72D09-385/BP	JAM72D09-390/BP
Rated Maximum Power(Pmax) [W]	370	375	380	385	390
Open Circuit Voltage(Voc) [V]	48.20	48.51	48.81	49.11	49.42
Maximum Power Voltage(Vmp) [V]	39.41	39.73	40.02	40.33	40.63
Short Circuit Current(Isc) [A]	9.91	9.97	10.03	10.09	10.14
Maximum Power Current(Imp) [A]	9.39	9.44	9.50	9.55	9.60
Module Efficiency [%]	18.5	18.7	19.0	19.2	19.5
Power Tolerance	0~+5W				
Temperature Coefficient of Isc(α _{Isc})	+0.060%/°C				
Temperature Coefficient of Voc(β _{Voc})	-0.300%/°C				
Temperature Coefficient of Pmax(γ _{Pmp})	-0.370%/°C				
STC	Irradiance 1000W/m ² , cell temperature 25°C, AM1.5G				

Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer.They only serve for comparison among different module types.
*Bifaciality=Pmax,rear/Rated Pmax,front

ELECTRICAL CHARACTERISTICS WITH DIFFERENT REAR SIDE POWER GAIN(REFRENE TO 385W FRONT)

	5%	10%	15%	20%	25%
Backside Power Gain					
Rated Max Power(Pmax) [W]	404	424	443	462	481
Open Circuit Voltage(Voc) [V]	49.11	49.11	49.11	49.21	49.21
Max Power Voltage(Vmp) [V]	40.33	40.33	40.33	40.43	40.43
Short Circuit Current(Isc) [A]	10.59	11.10	11.60	12.11	12.61
Max Power Current(Imp) [A]	10.02	10.51	10.98	11.43	11.90

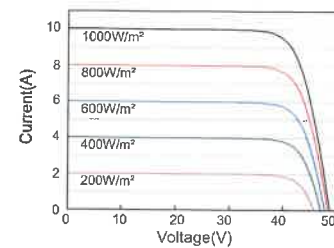
OPERATING CONDITIONS

Maximum System Voltage	1500V DC(UL)
Operating Temperature	-40°C~+85°C
Maximum Series Fuse	20A
Maximum Static Load,Front*	5400Pa(112 lb/ft ²)
Maximum Static Load,Back*	2400Pa(50 lb/ft ²)
NOCT	45±2°C
Bifaciality*	70%±5%
Fire Performance	Type 29

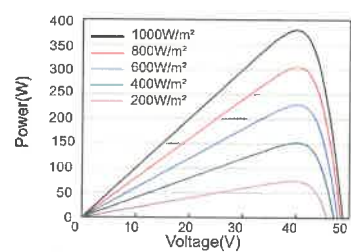
*For NexTracker installations static loading performance: front load measure 2400Pa, while back load measures 2400Pa.

CHARACTERISTICS

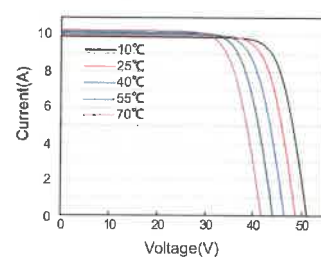
Current-Voltage Curve JAM72D09-380/BP



Power-Voltage Curve JAM72D09-380/BP



Current-Voltage Curve JAM72D09-380/BP



PARADEA

HIGH EFFICIENCY BI-FACIAL GLASS-GLASS PV MODULES

525-545W

MAXIMUM EFFICIENCY %

21.13

POSITIVE POWER TOLERANCE WP

0~+4.99

CELLS

M10 144

MODULE TECHNOLOGY

HALF CUT & MICRO GAP DESIGN

WITH IMPROVED SHADE TOLERANCE



RELIABILITY IS IMPROVED with minimum exposure to corrosion from sand & salt mist with low risk of module warping & micro cracking



Bifacial gain of **UP TO 25%** with dual glass module, capable of energy generation with both direct and reflected sunlight



Additional Power yield with **30 YEARS OF PERFORMANCE LIFE** with 0.5% annual power degradation



LCOE IS CUT BACK with **LESS BOS COST** which improves value proposition of the product with competitive **ROI**



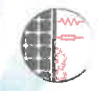
TWO PEAK PERFORMANCE TIME, during sun rise and sun set with optimum utilization of dual facial generation



Hassle-free installation with ability to **INSTALL VERTICALLY IN EAST WEST DIRECTION**, with improved soiling resistant



Implementation of bypass diodes in split JB series-parallel connections enable the module to perform in **PARTIAL SHADOW CONDITIONS** with respect to full-cell module



LOWER INTERNAL RESISTANCE boosts module power helping to achieve minimal power loss with respect to previous variant modules



FRAME	SUPERSTRATE	SUBSTRATE
SILVER	GLASS	GLASS

APPLICATIONS

- On-grid large scale utility systems
- On-grid rooftop industrial and commercial systems
- Rooftop residential systems

Monocrystalline Solar PV Modules, Bifacial, MBB, M10 Half-Cell, PARADEA VSMDH.72.AAA.05

THIS DATASHEET IS APPLICABLE FOR: PARADEA VSMDH.72.AAA.05 (AAA=525-545)

Electrical Data^{1,2} All data refers to STC (AM 1.5, 1000 W/m², 25°C)

Peak Power P _{max} (Wp)	525	530	535	540	545
Maximum Voltage V _{mpp} (V)	41.4	41.5	41.6	41.7	41.8
Maximum Current I _{mpp} (A)	12.69	12.78	12.87	12.95	13.04
Open Circuit Voltage V _{oc} (V)	49.2	49.3	49.4	49.5	49.6
Short Circuit Current I _{sc} (A)	13.4	13.48	13.56	13.64	13.73
Module Efficiency η (%)	20.36	20.55	20.75	20.94	21.13

1) STC: 1000 W/m² irradiance, 25°C cell temperature, AM1.5g spectrum according to EN 60904-3. 2) Power measurement uncertainty is within +/- 2%.

Electrical Parameters at NOCT³

Power (W)	387	393	397	399	402
V@P _{max} (V)	38.2	38.3	38.4	38.5	38.6
I@P _{max} (A)	10.14	10.29	10.34	10.37	10.43
V _{oc} (V)	45.7	45.9	46	46.1	46.2
I _{sc} (A)	10.83	10.89	10.96	11.03	11.09

3) NOCT irradiance 800 W/m², ambient temperature 20°C, wind speed 1 m/sec

Equivalent Bifacial Output

Bifacial Gain	Overall Power output (W)				
5%	551	557	562	567	572
10%	578	583	589	594	600
15%	604	610	615	621	627
20%	630	636	642	648	654
25%	656	663	669	675	681

Temperature Coefficients (Tc) permissible operating conditions

Tc of Open Circuit Voltage (β)	-0.27%/°C
Tc of Short Circuit Current (α)	0.050%/°C
Tc of Power (γ)	-0.35%/°C
Maximum System Voltage	1500V
NOCT	45°C ± 2°C
Temperature Range	-40°C to + 85°C

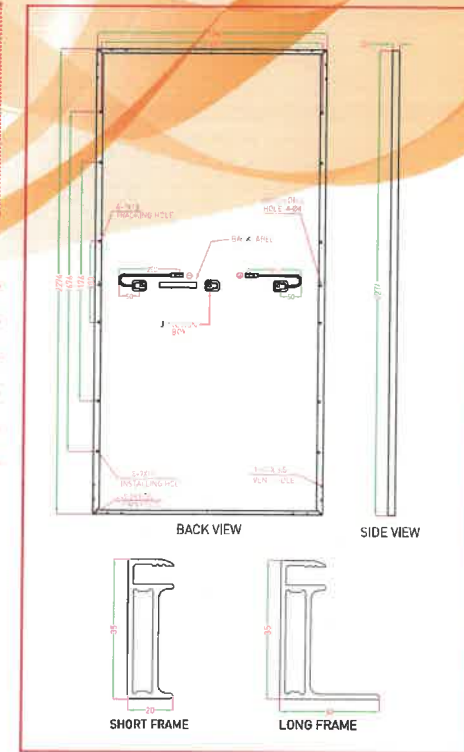
Mechanical Data

Length × Width × Height	2274 × 1134 × 35mm (89.53 × 44.65 × 1.38 inches)
Weight	33.4 Kg (73.63 lbs)
Junction Box	IP68, Split Junction Box with individual bypass diodes
Cable & Connectors [#]	200 mm (+ve terminal) and 300 mm (-ve terminal) length cables, MC4 Compatible/MC4 Connectors
Application Class	Class A (Safety class II)
Superstrate	2.0 mm (0.098 inches) high transmission low iron content, semi-tempered glass, AR coated
Cells	72 Mono PERC (144 half-cells) P-Type Bifacial solar cells
Substrate	2.0 mm (0.098 inches) high transmission low iron content, heat strengthened glass
Frame	Anodized aluminium frame with twin wall profile
Mechanical Load Test	5400 Pa (Snow load), 2400 Pa (Wind load)
Cell Encapsulant	Polyolefin (POE)
Maximum Series Fuse Rating	25 A

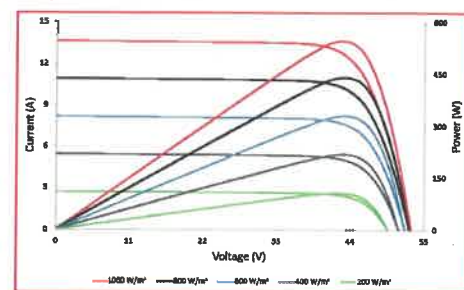
Warranty and Certifications

Product Warranty**	12 years
Performance	Linear Power Warranty for 30 years with 2% for 1st year degradation and 0.5% from year 2 to year 30

Dimensions in mm

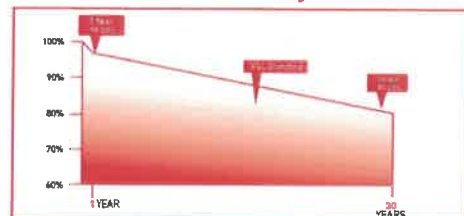


Typical I-V Curves⁴



4) Average relative efficiency reduction of 5% at 200 W/m² according to EN 60904-1.

Performance Warranty



Packaging Information

Quantity /Pallet	31
Pallets/Container (40' HC)	20
Quantity/Container (40' HC)	620

* All (*) certifications under progress. ** Refer to Vikram Solar's warranty document for terms and conditions. † 400mm(15.75 inches), 1000mm(39.37 inches), 1200mm (47.24 inches) cable lengths are also available



Bayfield County Administrator

117 E 5th Street, PO Box 878, Washburn, WI 54891
Ph: 715-373-6181 Fx: 715-373-6153

Mark Abeles-Allison, *County Administrator*
Kristine Kavajecz, *Human Resources Director*
Paige Terry, *Clerk III*

September 28, 2022

Scott Kluver, City Administrator
City of Washburn Plan Commission

Re: Northern Lights Services, Solar PV, Request for Special Exception

Dear Mr. Kluver:

Please accept this letter of support for the proposed Northern Lights Services Solar installation in the City of Washburn.

Specifically, I share my support for the request for special exemption to the City Zoning Code, 8-549e based on the current location, size of existing lots, consistency with current development, financial savings to Northern Lights Nursing Home (the only non-profit nursing home in Bayfield County) and positive impacts to the environment.

If you have any questions, please let me know.

Sincerely,

Mark Abeles-Allison
Bayfield County Administrator

tdemars@cityofwashburn.org

From: Stacia Amundson <stacia@nextenergysolution.com>
Sent: Tuesday, September 27, 2022 5:02 PM
To: washburnadmin@cityofwashburn.org
Cc: tdemars@cityofwashburn.org; billebailey2@gmail.com
Subject: Northern Lights Services Permit Application; Solar
Attachments: Survey NLS 2022.pdf; permit app northern lights services solar.pdf

Hello Scott, Tammy -

We are requesting a permit for an accessory structure solar array on the back hill at Northern Lights Services. I am sending two attachments:

1. The permit app and site plan, measurements
2. A recent survey completed by Nelson Surveying Inc.

Please let us know what the next steps are, and of course, if you require further documentation of the array plans.

I have included in this email Bill Bailey, who is supporting the community fundraising and planning for this solar project.

You are more than welcome to contact Bill with any questions you may have as well.

Thank you for your assistance,

Stacia Amundson

Stacia Amundson

Next Energy Solution, Inc., Project Development



Cell: (715) 733-1115
505 US Hwy 63
Shell Lake, WI 54871
<https://nextenergysolution.com/>

I have included in this email Bill Bailey, who is supporting the community fundraising and planning for this solar project.

You are more than welcome to contact Bill with any questions you may have as well.

Thank you for your assistance,

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Cell: (715) 733-1115

505 US Hwy 63

Shell Lake, WI 54871

<https://nextenergysolution.com/>

From: tdemars@cityofwashburn.org <tdemars@cityofwashburn.org>
Sent: Wednesday, September 28, 2022, 1:05 PM
To: Stacia Amundson <stacia@nextenergysolution.com>
Subject: RE: Northern Lights Services Permit Application; Solar

Stacia,

After reviewing the documents, you sent I have found the following issues.

1. You have the setback on your drawing from the center of Bratley Drive, we need the setback from the property line, keep in mind Bratley Drive is considered the front yard, and since this property abuts a more restrictive zoning district, the setback requirement is the average of the minimum setbacks for the two districts, in this case that would be 30' from the property line. (See Appendix B -Dimensional Standards)
2. Your plan has the panels placed in the front yard; this is not allowed per Zoning code 8-549(e).
3. We will need the certification outlined in section 8-549(f) and the documentation for the electric company section 8-549(f)

I have attached Zoning Code Article 8-549 Solar Energy System, free-standing, Division 8 Special Exception, and Appendix B for you review. If you decide to apply for the special exceptions, we will need your request in writing, and reasoning as to why your special exceptions should be approved. Note the criteria that will be need to be met for special exceptions in 7-154 of the attached material.

The next Plan Commission meeting is scheduled for October 24, 2022, we would need your request and updated drawing with the setbacks by October 17th.

One other thing, the survey map you sent is not complete, there is no map just description.

If you have any further questions, please don't hesitate to contact me.

Sincerely,
Tammy L. DeMars
Treasurer/Deputy Clerk
City of Washburn
119 N. Washington Ave.
PO Box 638
Washburn, WI 54891
tdemars@cityofwashburn.org
715 373-6160 Ext. 3
715 373-6148 Fax

The City of Washburn is an equal opportunity provider, employer, and lender

From: Stacia Amundson <stacia@nextenergysolution.com>
Sent: Tuesday, September 27, 2022 5:02 PM
To: washburnadmin@cityofwashburn.org
Cc: tdemars@cityofwashburn.org; billebailey2@gmail.com
Subject: Northern Lights Services Permit Application; Solar

Allison@bayfieldcounty.wi.gov>

Subject: RE: Northern Lights Services Permit Application; Solar

Hi Tammy,

Thank you for your quick response to Northern Lights Services construction permit application. Attached please find the following documents:

1. A revised site plan showing a 30' offset from the north and west property lines. Reference to the centerline of the streets has been removed.
2. An updated survey map from Nelson Surveying. This survey shows the north property line (solid line) and identifies the NW, NE and SW corner of the property. These three survey marks are identified in the revised site map.
3. A Request for Special Exception to allow the solar array to be located in the front yard
4. Certification of the solar system showing UL listing of the equipment used.

Please note that in the Request for Special Exception, at the end of the document, we have made two additional requests for you to consider, a special meeting to "fast track" the application, and an exception to the average setback rule as per 8-549(d). We understand that there is a fee for a special meeting and are OK with paying that fee assuming the special meeting can take place in the near future. Please notify us if that meeting can take place and a date in which it could occur.

The interconnection agreement with Xcel Energy is in process. We understand that approval of the interconnection agreement from Xcel Energy is not a requirement for the special meeting to take place or approve the site location or setback requirements.

Thank you for your consideration and please let me know if any additional information is required.

William (Bill) Bailey

billebailey2@gmail.com

715.209.2218

www.cheqbayrenewables.org



From: tdemars@cityofwashburn.org <tdemars@cityofwashburn.org>

Sent: Wednesday, September 28, 2022, 1:05 PM

To: Stacia Amundson <stacia@nextenergysolution.com>

Subject: RE: Northern Lights Services Permit Application; Solar

Stacia,

CITY OF WASHBURN
PO BOX 638
WASHBURN, WI 54891

Receipt Nbr: 33417
Date: 10/10/2022
Check

RECEIVED FROM CHEQUAMEGON BAY RENEWABLES INC \$460.00

<u>Type of Payment</u>	<u>Description</u>	<u>Amount</u>
Accounting	ZONING PERMITS	100.00
	SOLAR PANEL SITE PLAN/EXCEPTIONS	
	MISCELLANEOUS REVENUES	360.00
	SPECIAL MTG CHARGE/PLAN COMM. 10/13/2022	
<hr/> TOTAL RECEIVED		460.00