

# BEALS • ASSOCIATES INC.

2 PARK PLAZA, SUITE 200, BOSTON MA 02116  
PHONE: 617-242-1120

March 9, 2023

**Karen Sherman, Town Planner**

Town of Holliston  
703 Washington Street  
Holliston, MA 01746

**RE: Submittal Items to Planning Board  
Bartzak Drive Solar Project  
0 Bartzak Drive, Holliston, MA**

Dear Karen:

On behalf of the Applicant, Bartzak PV I, LLC., our office is submitting materials in support of the proposed solar facility to be located at 0 Bartzak Drive in Holliston, MA for review and consideration by the Town of Holliston Planning Board. An Application for Site Plan and Special Permit for the proposed development was submitted to the Town of Holliston Planning Board on July 27, 2022. The following materials are included herein:

- Dover Amendment Legal Opinion Letter & Accompanying Materials, prepared by David P. Berson, Esq., dated March 8, 2023
- Question and Comment Response Letter (Hearing #4), prepared by Beals Associates, Inc., dated March 8, 2023
- Email Correspondence between Town Planner and Applicant re: Dover Amendment, dated May 17, 2021
- Electrical plan entitled "One Line", prepared by JEM Engineering, dated January 19, 2021, revised December 19, 2022
- Inverter Data Sheet
- Environmental Sound Evaluation, prepared by Cavanaugh Tocci, dated March 8, 2023

Upon review of the information provided, please contact our office with any questions. We appreciate your consideration, and the Planning Board's consideration, of these items and look forward to discussing them further during the Planning Board meeting on March 16, 2023.

Sincerely

**Beals Associates, Inc.**



Bryan Sutherlin

Project File No. C-1278

CC: Adam Maynard, *Galehead Development*  
Lucas Faria, *Galehead Development*  
David P. Berson, Esq.

# BEALS • ASSOCIATES INC.

2 PARK PLAZA, SUITE 200, BOSTON, MA 02116  
PHONE: 617-242-1120

March 8, 2023

Holliston Planning Board  
Attn: Karen Sherman, Town Planner  
703 Washington Street  
Holliston MA 01746

**Reference: Responses to Hearing #4 Questions/Comments  
0 Bartzak Drive  
Holliston, Massachusetts**

**Via: E-mail to [shermank@holliston.k12.ma.us](mailto:shermank@holliston.k12.ma.us)**

Dear Planning Board Members:

On behalf of Galehead, we are submitting the following responses to questions and comments posed by a Holliston resident to the Town Planner via e-mail on January 17, 2023.

**1. At last Thursday's (January 12th) Planning Board meeting, Devin Howe of Beals Associates spoke briefly about the amount of Industrial/Commercial land in Holliston that would be useable for large solar energy facilities. He concluded that large scale solar energy facilities could only be built on about 2.4% of the total C/I zoned land in Holliston. Mr. Howe provided several reasons why much of the C/I zoned land was excluded such as topography, accessibility to the land, and length to Eversource feeder cable. If Beals Associates has not already provided their methodology and calculations for determining how they arrived at the 2.4% value, could this be obtained so it can be reviewed in more detail?**

Slide 8 of our presentation from the January 12<sup>th</sup> Planning Board meeting includes a table that summarizes the total land in Holliston, total land within the Commercial and Industrial Districts, and the land that has potential hosting capacity – all in terms of acres and percent of the total land in town. The methodology to calculate the acreage of 'Potential Project Sites' leveraged the following data sources:

- Zoning areas as determined by Town of Holliston guidelines
- Slope of land (slope <15%)

0 Bartzak Drive

March 8, 2023

- Wetland and floodplain exclusions and setbacks
- Parcel boundary setbacks
- Distance to hosting capacity feeders (0.1 mile from distribution line)
- Minimum hosting capacity of 0.2 MW on Eversource feeders

As stated in the meeting, this does not include certain other development details like land that is actually available for sale or lease. Therefore, we consider the 2.4% of the town to be a conservative figure, meaning the actual land available for solar development would in reality be less.

**2. David Berson, Attorney for applicant, also mentioned that he would be submitting a written statement about the Dover Amendment before the next Planning Board meeting. Would it be possible to receive a copy of that statement when the Planning Board receives it?**

We are submitting the letter to the Planning Board concurrent with this response letter and in advance of the next hearing on March 16<sup>th</sup>. Once submitted, we consider it a public document that can be shared.

**3. Since part of the Bartzak solar lot is zoned Agricultural-Residential in which large scale solar (>= 250 kW) is prohibited, does this require the issuance of a "use variance" before the A-R portion of the lot can be approved for solar? According to the Town of Holliston Permitting Guide 2022, the Zoning Board of Appeals is responsible for issuing a use variance and it would need to do so in this case regardless of the Dover amendment. Is this a correct statement?**

The portion of the solar project within the A-R zoning district is allowed through the Dover Amendment and therefore would not require a Use Variance.

Sincerely,

**Beals Associates, Inc.**



Patrick Connolly

C-1278 Holliston



Lucas Faria &lt;lucas.faria@galeheaddev.com&gt;

---

**Re: [Town of Holliston MA] Bartzak Dr Large-Scale Solar System - Galehead (Sent by Lucas Faria, lucas.faria@galeheaddev.com)**

---

Sherman, Karen &lt;shermank@holliston.k12.ma.us&gt;

Mon, May 17, 2021 at 12:46 PM

To: Lucas Faria &lt;lucas.faria@galeheaddev.com&gt;

1. Yes (and the Dover Amendment would exempt the residential portion anyway)
2. Yes, panels themselves.

On Mon, May 17, 2021 at 12:43 PM Lucas Faria &lt;lucas.faria@galeheaddev.com&gt; wrote:

Hi Karen,

Hope all is well! Thank you for sending these files and apologies for the late reply. I wanted to follow up with you regarding two items we discussed during or last call. Would you please confirm the following:

1. The majority of the property contains an industrial zoning area but there is a small portion of residential zoning that encroaches on the property. Would you please confirm we may consider the zoning for this property as industrial and develop it as such for a large-scale solar array?
2. In regards to the language shown on the Holliston Zoning Bylaws which states that solar projects must have a "minimum perimeter setbacks shall be 50 feet from any component to any lot line," please confirm that the 50 ft setback refers to the solar panels and that we are allowed to place a fence within the 50 ft setback (about 10-15 ft away from the panel area)?

Please let me know if you have any questions and provide a response **to this email as soon as you're able**. My phone number is 617-971-7823 in case you'd like to discuss. Thank you!

Best,  
Lucas

On Wed, Mar 24, 2021 at 1:30 PM Sherman, Karen &lt;shermank@holliston.k12.ma.us&gt; wrote:

Scans of prior site plan an survey base map by Thompson Farland (now Farland Corp in New Bedford). Also, the lot split they did which should be referred to in the deed.

Let me know if you have questions.

- Karen

On Wed, Mar 17, 2021 at 3:33 PM Contact form at Town of Holliston MA &lt;cmsmailer@civicplus.com&gt; wrote:

Hello ksherman,

Lucas Faria (lucas.faria@galeheaddev.com) has sent you a message via your contact form (<https://www.townofholliston.us/users/ksherman/contact>) at Town of Holliston MA.

If you don't want to receive such e-mails, you can change your settings at <https://www.townofholliston.us/user/81/edit>.

Message:

Good Afternoon Karen,

Hope you are doing well. We spoke a few months ago about a potential large-scale ground-mounted solar project in Holliston within the Northern Industrial district, circled in red on the attached file. Our company, Galehead Development, has decided to move forward with a Purchase Option with the property landowner. With that in mind, I'd like to speak with you in some more detail about our proposed project on this specific property. We are not quite ready to file for a Special Permit application, but I wanted to introduce the proposed project and share some of our preliminary plans that we have drafted. Please note these are subject to change and show the buildable area for the ground-mounted solar array.

The project address is 0 Bartzak Drive Holliston, MA 01746 with Parcel ID 014.0-0004-0021.4 (Book, Page:52595,

31). The attached Site Plan contains a buildable area shaded in red, where the ground-mounted solar array would be constructed. The Point of Interconnection would lead towards the circuit line on Bartzak Drive to the West.

Please let me know if you'd be free for a brief call on Friday 3/19 between 10:30 am to 12:00 pm. Feel free to call me at 617-971-7823 in the meantime to discuss further. Thank you!

Best,  
Lucas

--

Karen Sherman, Town Planner  
Town of Holliston  
[703 Washington Street](#)  
[Holliston, MA 01746](#)  
(508)429-0635  
(508)429-0639 (fax)

Office Hours: M-Th 7:30 - 1:30 and Fri 7:30 - 12 or by appointment

--

Karen Sherman, Town Planner  
Town of Holliston  
[703 Washington Street](#)  
[Holliston, MA 01746](#)  
(508)429-0635  
(508)429-0639 (fax)

Office Hours: M-Th 7:30 - 1:30 and Fri 7:30 - 12 or by appointment



# SG125HV

String Inverter for 1500 Vdc System



## High Yield

- Patent five-level topology, max. efficiency 98.9 %, European efficiency 98.7 %, CEC efficiency 98.5 %
- Full power operation without derating at 50 °C
- Patented anti-PID function optional



## Easy O&M

- Virtual central solution, easy for O&M
- Compact design and light weight for easy installation



## Saved Investment

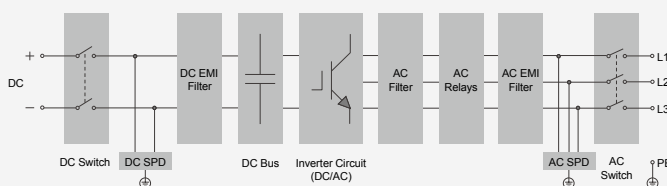
- DC 1500 V, AC 600 V, low system initial investment
- 1 to 5 MW power block design for lower MV transformer and labor cost
- Max. DC/AC ratio up to 1.5
- Night Static Var Generator (SVG) function optional



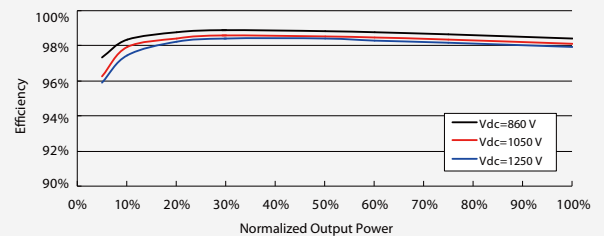
## Grid Support

- Compliance with both IEC and UL safety, EMC and grid support regulations
- Low/High voltage ride through (L/HVRT)
- Active & reactive power control and power ramp rate control

### Circuit Diagram



### Efficiency Curve



**Input (DC)****SG125HV**

Max. PV input voltage	1500 V
Min. PV input voltage / Startup input voltage	860 V / 920 V
Nominal input voltage	1050 V
MPP voltage range	860 – 1450 V
MPP voltage range for nominal power	860 – 1250 V
No. of independent MPP inputs	1
No. of DC inputs	1
Max. PV input current	148 A
Max. DC short-circuit current	240 A

**Output (AC)**

AC output power	125000 VA @ 50 °C
Max. AC output current	120 A
Nominal AC voltage	3 / PE, 600 V
AC voltage range	480 – 690 V
Nominal grid frequency / Grid frequency range	50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz
THD	< 3 % (at nominal power)
DC current injection	< 0.5 % I <sub>n</sub>
Power factor at nominal power / Adjustable power factor	> 0.99 / 0.8 leading – 0.8 lagging
Feed-in phases / Connection phases	3 / 3

**Efficiency**

Max. efficiency / Euro. efficiency / CEC efficiency	98.9 % / 98.7 % / 98.5 %
---	--------------------------

**Protection**

DC reverse connection protection	Yes
AC short-circuit protection	Yes
Leakage current protection	Yes
Grid monitoring	Yes
DC switch / AC switch	Yes / Yes
Night SVG function	Optional
Anti-PID function	Optional
Overvoltage protection	DC Type II / AC Type II

**General Data**

Dimensions (W*H*D)	670*902*296 mm <b>26.4"*35.5"*11.7"</b>
Weight	76 kg <b>167.5 lb</b>
Isolation method	Transformerless
Degree of protection	IP 65 <b>NEMA 4X</b>
Night power consumption	< 4 W
Operating ambient temperature range	-25 to 60 °C (> 50 °C derating) <b>-13 to 140 °F (&gt; 122 °F derating)</b>
Allowable relative humidity range (non-condensing)	0 – 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m (> 3000 m derating) <b>13123 ft (&gt; 9843 ft derating)</b>
Display / Communication	LED, Bluetooth+APP / RS485
DC connection type	OT or DT terminal (Max. 185 mm <sup>2</sup> <b>350 Kcmil</b> )
AC connection type	OT or DT terminal (Max. 185 mm <sup>2</sup> <b>350 Kcmil</b> )
Compliance	CE, IEC 62109-1/-2, IEC 61000-6-2/-4, IEC 61727, IEC 62116, IEC 61000-3-11/-12, UL 1741, UL 1741 SA, IEEE 1547, IEEE 1547.1, CSA C22.2 107.1-01 and California Rule 21
Grid support	SVG, LVRT, HVRT, active & reactive power control and power ramp rate control
Type designation	SG125HV-10

