

ASTGU ANNUAL REPORT - 2025

Swan Holt Dual Use Solar – 0 Rear Pond Street, Carver, MA

PURPOSE

This Annual Report form is required to be completed and submitted annually for all projects with the MA Department of Energy Resources (DOER) which received qualification as an Agricultural Solar Tariff Generation Unit (ASTGU) under the SMART program. The form is provided to demonstrate conformance with the general provisions required for ASTGUs in 225 CMR 20.00; in particular pertaining to Section 20.06(1)(d) therein as well as associated ASTGU Guidelines; and specifically pertaining to annual reporting requirements.

The completed form will be reviewed by DOER and the MA Department of Agricultural Resources (MDAR) to determine that the farm is in conformance with all ASTGU provisions in general under the SMART Program, although more specifically to the annual production requirements.

BASIC FARM INFORMATION

Farm Contact Person Name: Hank Ouimet Farm Owner
Bill Manganello Farm Operator
Farm Name: Swan Holt Farm c/o REDP Services, LLC
Legal Structure: Sole Proprietor LLC Corporation
 Partnership Other _____
Mailing Address: 99 Derby Street, Suite 200 Hingham, MA 02043
Street Address (if different): 0 Rear Pond Street, Carver, MA
Contact Phone: Bill 781-831-8496 Hank 603-770-5034
Contact E-mail: Bill Wjmang@hotmail.com Hank houimet@redpllc.com
Check all that apply: Solar facility owner Landowner Applicant

Current Type of ASTGU Farm Operation (Check all that apply):
 Vegetables Fruit Livestock Poultry Hay
 Nursery Other _____

Total Acreage in ASTGU Farm Production: approximately 6 acres

Gross Annual Revenue for ASTGU Farm Production: Total \$900

Are any major modifications to the farm business expected in the next 5 years? Yes No
(Check all that apply.)

Business Legal Structure Operation Type Expansion Diversification
 Retirement Sale Subdivision Other _____

BASIC SOLAR PROJECT INFORMATION

Solar System Company Owner: Standard Solar, Inc.

Solar System Company Address: 530 Gaither Road, Suite 900 Rockville, MD 20850
Solar Company Contact Person/email/tel#:
Jay Smith/jay.smith@standardsolar.com/301.944.5177

ASTGU Project Start-Up/History Information:

Date ASTGU Approved by DOER: 3/16/2022

Date Solar Portion of ASTGU Project Commenced Construction: 7/23/2022

Date Solar Portion of ASTGU Project was Completed & Operational: 1/12/2024

Date Original Agricultural Portion of the ASTGU Project Commenced: 3/27/2024

Date Original Agricultural ASTGU Portion of Project Harvested/Sowed Products:
Sowed 4/9/2024
First Harvest 7/20/24

How many complete years, that is both solar and agricultural production, has the ASTGU been in operation? Two

SOLAR ARRAY DESIGN – PLEASE PROVIDE AS-BUILT SYSTEM INFORMATION

Please provide the following information regarding the solar array design:

Nameplate capacity AC (in MW): 1.348 MWac (Note: 1 MW=1000 kW)
Expected annual generation AC (MWh): 2,100 MWh (Note: 1 MWh=1000 kWh)
Acreage of farmland over which array is to be installed: approximately 6 acres
System type: Fixed Tracking Other _____
Height of lowest panel edge (in feet): N/A
Height of lowest elevated horizontal mounting (in feet): 10' above grade

Type of mounting (mono poles, racking, etc.):

Single axis tracking system supported by steel piles (see attached photos)

Description of materials and process to be used for ground penetration:

Galvanized steel piles (see attached photos)

Number of panels, capacity per panel, and panel spacing:

3,458 Hyundai Solar 390W PV modules
Module spacing along rows <2"; module spacing between rows ~17'

If you wish to provide additional descriptive information regarding the solar array design, including any system changes since original completion, you may include this information below, or in a typed attachment labeled "Solar Array Design."

The solar array was constructed as permitted by the Town of Carver and approved by DOER.

AGRICULTURAL PLAN FOR DUAL-USE AREA

Planned agricultural use, Year 1. Check all that apply.

- Vegetable, fruit, grains, for human consumption
- Hay
- Livestock production
- Poultry production
- Horticulture
- Floriculture
- Aquaculture
- Other, please describe: Pumpkins & squash beneath PV rows

Please fill the Crop Table results following this section for horticulture, flowers, vegetable, fruit, grain, and hay crops for your present year of operation. Fill out one Crop Narrative for each crop, detailing anticipated crop management (planting, irrigation, soil amendments, harvesting) and equipment to be used. **Crop Table – Current Season** follows this section. Also, please also fill out a **Crop Table – Next Season** and corresponding narrative at the end of this section with your best information available.

Please fill out the Grazing Table results following this section for livestock and poultry production for your present year of operation. Please also fill out the Grazing Narrative, detailing anticipated pasture and animal management and equipment to be used. **Grazing Table – Current Season** follows the Crop Table section. Also please fill out a **Grazing Table – Next Season** and corresponding narrative at the end of this section with your best information available.

Additional comments regarding agricultural production for Year 1:

How did the Agricultural Production perform versus expectations? Please explain why/why not if you can:

Hay production for our second season was below our expectations due to a significant drought for the majority of the growing season. In addition, deer ravaged the pumpkin and squash crops soon after the plants leafed out in the spring. We expect the hay yields to improve considerably next season given adequate rainfall, as we continue to build soil health through soil amendments.

Did you plant the crops/graze the animals as you originally intended when your Pre-Determination Application was approved? If not please explain.

Yes. Our PDA contemplated a partnership with Brookside Farm in Plympton. Brookside Farm operates a local grass-fed beef operation, and needs hay and forage area in order to expand its operation. Accordingly, growing forage grasses along with a small area of pumpkins and squash was selected as the initial crop plan.

As stated in our PDA, the project has resulted in the creation of new, arable farmland in an area that had previously served as a partially-mined sandpit for the adjacent cranberry farm. The SMART dual use program allowed this low utility agricultural land to be converted into an actively cultivated area.

Were the products marketable anticipated? Please explain how the production values (weight/bushels etc.) were determined.

Initial planting of the permanent hay crop was conducted in May 2023 while construction of the PV system was still underway and consisted of a mixture of Timothy, Orchard Grass, Tall Fescue, Ryegrass and White Clover. Overseeding with Red Clover, Hairy Vetch and Alfalfa was done in April 2024, and again in October 2025, using a rotary spreader. The first and only cut of marketable hay this season was harvested on July 6th, 2025. Total yield was 90 bales of hay, at an average weight of 50 lbs/bale. This represents a 50% increase in yield compared to the first year, despite the drought conditions.

What occurred during the current season that wasn't anticipated? Positive & Negative.

Overall, we were satisfied with the 2nd year hay crop given the significant drought during the growing season, and fully expect our yields to significantly increase as a result of our continued soil amendment plan.

Pumpkins and squash were seeded in the swales beneath the ASTGU drivelines in late May, fertilized and protected with hay mulch. Unfortunately, once the plants had leafed out, the deer devastated all of the plants. This is the second season that the vegetable crop has been wiped out by deer; we are evaluating alternatives for crop diversification.

What Changes/Modifications do you expect to make to improve on production if needed?

Our focus for the coming season will be to continue to build soil health with soil amendments and to foster increased seed germination and grass growth. Planned amendments include:

- additional lime application in early spring to raise and stabilize soil pH
- two light starter fertilizer applications in early spring
- fertilizer application after first cut of hay

As a result of these efforts, we expect our hay yields in season 3 will meet if not exceed our expected yields.

Do you expect to grow the same crops on the land in years 2 and 3? Briefly describe your crop rotation plan and what you expect to be growing on the land for the next 5 years. Will the same

equipment be used? If not, is current array design compatible with future crop management needs and equipment?

In year 3, Brookside Farm expects to continue to grow mixed grasses for hay and forage. Due to the past two years of crop decimation from deer, Brookside Farm is considering focusing all of its efforts on increasing hay production over the entire site. The same equipment will continue to be used for cutting, tedding and baling the hay.

Table A: Crop Production – Current Season					
Crop	Area planted (Row length and width or acreage, as appropriate)	Planting date(s) (approximate)	Harvest date(s) (approximate)	Expected productivity, total pounds harvested with dual use	Actual productivity, pounds, with dual use
Mixed Grasses*	6 acres	April 9, 2024	July 6th, 2025	7,800 lbs**	4,500 lbs

*Mixed grasses include the following species: Climax Timothy, Orchard Grass VNS, Teton II Tall Fescue, TetraSween Perennial Ryegrass (Tetraploid), White Clover (Stamina Intermediate) – OMRI Nitro Coated.

**As noted in our application, Brookside Farm typically expects a hay yield of approximately 0.93 tons/acre from its existing 40 acres of managed hay fields. A reduction factor of 30% has been applied for the “with dual use” scenario to account for PV system impacts (beneath the columns, shading, etc.) as well as slower biomass accumulation for a new hay field.

CROP NARRATIVE – Current Season

*Please detail the crop management for this past season, including approximate **dates** and **equipment** used. The purpose of this form is to provide empirical data regarding compatible equipment usage and crop management needs. If you need additional space, please include a typed attachment labeled “Crop Narrative.”*

Crop: Mixed grasses for hay

Planting Plan:

After the PV system installation was complete and the PV system became operational in January 2024, the planting area was overseeded with the desired forage grass mix in April 2024.

Soil Amendment Plan:

Once PV system installation was mechanically complete, we applied another application of lime in the late spring of 2023, and again in the spring of 2024 just prior to when we planted our first hay crop. This season, we again applied lime at the rate of 500 lbs/acre in April, followed by the application of 50/50 slow-release Nitrogen at the rate of 25 lbs/acre.

Cultivation Plan:

Overseeding with Red Clover, Hairy Vetch and Alfalfa was done in October 2025, using a rotary spreader.

Irrigation Plan:

No irrigation is planned for the ASTGU. We expect moisture retention to improve as the organic content of the soils continues to improve.

Pesticide/Herbicide Plan:

Given the lack of substantial pest or disease damage, no pesticides or herbicides were applied during this season.

Harvest Plan:

The hay crop was harvested by Brookside Farm using their existing equipment, including a tractor-pulled disc cutter, tedding rig, and baler. Brookside’s equipment easily navigated the widely spaced rows of PV panels and traversed beneath the PV system driveshafts, and all grass up to within a foot or so of each column line was successfully harvested.

Photos of this season’s crop are attached as Exhibit A.

Table B: Grazing Production – Current Season							
Type(s) of animal grazed	Area grazed (acreage)	Grazing pressure # animals per acre	Purpose (e.g. meat, dairy, eggs)	Grazing period(s)	Harvest date(s) if applicable	Expected productivity with solar array	Actual productivity with solar array
N/A							

GRAZING NARRATIVE – Current Season

*Please detail the past season animal and pasture management, including **dates** and **equipment** used. The purpose of this form is to provide empirical data regarding compatible equipment usage and production needs. If you need additional space, please include a typed attachment labeled “Grazing Narrative.”*

Type(s) of Animals Grazed:

No grazing during past season

Pasture Management Plan: List any anticipated seeding, soil amendment, irrigation, pesticide, mowing, etc., including approximate dates and equipment used.

N/A

Animal Management Plan:

For each type of animal grazed, describe management regarding housing/shelter, water source, fencing, movement, disease treatment, harvest, etc. that was carried out within the solar array area. Describe equipment used in these activities.

N/A

Describe any modifications to the solar array design that were made in order to reduce the risk of animal damage to the solar array, or risk of electrocution to animals.

N/A

Table A: Crop Production – Next Season (Season 3)					
Crop	Area planted (Row length and width or acreage, as appropriate)	Planting date(s) (approximate)	Harvest date(s) (approximate)	Expected productivity, total pounds harvested without dual use**	Expected productivity, total pounds, with dual use**
Mixed grasses*	~ 6 acres	April	July and late-September	11,200 lbs	7,800 lbs
Pumpkins***	~ 0.5 acre	July	October	600 lbs	400 lbs

*Mixed grasses include the following species: Climax Timothy, Orchard Grass VNS, Teton II Tall Fescue, TetraSween Perennial Ryegrass (Tetraploid), White Clover (Stamina Intermediate) – OMRI Nitro Coated.

**As noted in our application, Brookside Farm typically expects a hay yield of approximately 0.93 tons/acre from its existing 40 acres of managed hay fields. A reduction factor of 30% has been applied for the “with dual use” scenario to account for PV system impacts (beneath the columns, shading, etc.) as well as slower biomass accumulation for a new hay field.

***Brookside Farm is evaluating vegetable cultivation/crop diversification given the crop losses to date due to deer

CROP NARRATIVE – Next Season (Season 3)

*Please detail the crop management planned for next season, including approximate **dates** and **equipment** used. The purpose of this form is to provide planned data for the upcoming season regarding compatible equipment usage and crop management needs. If you need additional space, please include a typed attachment labeled “Crop Narrative.”*

Crop: Mixed grasses for hay

Planting Plan:

For the hay crop, we will evaluate the germination of the overseeding conducted in the fall and potentially overseed in weaker areas with a broadcast spreader in April, after the application of lime and fertilizer as described below.

Soil Amendment Plan:

To continue to improve soil pH and build soil health, we are planning an early season application of lime at the rate of 450 lbs/ac followed by an application of 19-19-19 fertilizer at the rate of 50 lbs/ac immediately before overseeding.

Cultivation Plan:

Depending on hay growth, we will consider a mid-season application of 18-24-12 slow-release N.

Irrigation Plan:

No irrigation is anticipated to be needed for the coming season.

Pesticide/Herbicide Plan:

For the hay crop, no pesticide or herbicide application is anticipated.

Harvest Plan:

The hay crop will be harvested by Brookside Farm using their existing equipment, including a tractor-pulled disc cutter, teddering rig, and baler. It is anticipated that there will be 2 hay cuts, assuming adequate rainfall.

Table B: Grazing Production – Next Season							
Type(s) of animal grazed	Area grazed (acreage)	Grazing pressure # animals per acre	Purpose (e.g. meat, dairy, eggs)	Grazing period(s)	Harvest date(s) if applicable	Expected productivity without solar array	Expected productivity with solar array
N/A							

GRAZING NARRATIVE – Next Season

*Please detail the next season animal and pasture management, including **dates** and **equipment** used. The purpose of this form is to provide planned data for the upcoming season regarding compatible equipment usage and production needs. If you need additional space, please include a typed attachment labeled “Grazing Narrative.”*

Type(s) of Animals Grazed:

No grazing is planned for next season

Pasture Management Plan: List any anticipated seeding, soil amendment, irrigation, pesticide, mowing, etc., including approximate dates and equipment used.

N/A

Animal Management Plan:

For each type of animal grazed, describe management regarding housing/shelter, water source, fencing, movement, disease treatment, harvest, etc. that was carried out within the solar array area. Describe equipment used in these activities.

N/A

Describe any modifications to the solar array design that were made in order to reduce the risk of animal damage to the solar array, or risk of electrocution to animals.

N/A

Waiver for Decreased Yield

i. Waiver for Decreased Yield

Due to unforeseen circumstances, such as but not limited to weather events, pests, or change in crops, the projected agricultural yield for any given year may be lower than stated in the agricultural plan or previous year's annual report. In these instances, an applicant can request a waiver to the Department for the decreased yields. The applicant must demonstrate to the satisfaction of the Department, and in consultation with MDAR, that a waiver is warranted for good cause. Waiver requests must be submitted by November 1st of the applicable calendar year and sent to DOER.SMART@mass.gov.

Response: With respect to the reporting obligations associated with qualification of this project as an Agricultural Solar Tariff Generation Unit (ASTGU) under the SMART program, we would note that a Pre-Determination Application was filed in February 2021 and a Pre-Determination Letter was issued by DOER in March 2022. The project is subject to the ASTGU guidelines in place at that time (Guideline effective date April 26, 2018). Accordingly, the Swan Holt ASTGU project is not subject to this provision.

ii. Failure to Report

If the ASTGU fails to submit an annual report, the Department may declare the project ineligible for the ASTGU adder for one year. If the annual report is not completed for a second year, then the Department may permanently disqualify the ASTGU from continuing to receive the ASTGU Adder for the remainder of the STGU's tariff term.

SIGNATURES AND ATTESTATIONS

Prior to submitting the Pre-Determination Form, please read and sign as directed below.

Farm Operator and Farm Owner

I/we hereby certify that the information submitted regarding the current farm conditions and practice and the Agricultural Plan for the Dual-Use Area is accurate and complete to the best of my/our knowledge and intentions, and that I/we have engaged with the University of Massachusetts Amherst Clean Energy Extension and thereby its agricultural extension service to review the Agricultural Plan and its compatibility with the solar array structures and shading. Further, I/we agree, conditional on being provided eligibility to the SMART program as an ASTGU, to submit a report, through a template provided by the University of Massachusetts Clean Energy Extension, annually throughout the duration of the SMART incentive with ASTGU adder, on the operations and productiveness of the solar array and agriculture along with any changes to the Agricultural Plan for the following year. I/we understand that failure to maintain productive agricultural activities and annual reporting may result in the disqualification of the facility as an ASTGU in the SMART program.



Hank Ouimet, Manager
REDP Services, LLC
Farm Owner

Date

Bill Manganello
Brookside Farm, LLC
Farm Operator

Date

Solar Facility Owner

I hereby certify that the information submitted regarding the Solar Array Description and inputs and outputs of the Shading Analysis is accurate and complete to the best of my/our knowledge and intentions.



Jay Smith, Director of Asset Management
Standard Solar, Inc.
Solar Facility Owner

1/20/2026

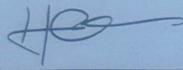
Date

SIGNATURES AND ATTESTATIONS

Prior to submitting the Pre-Determination Form, please read and sign as directed below.

Farm Operator and Farm Owner

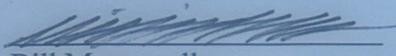
I/we hereby certify that the information submitted regarding the current farm conditions and practice and the Agricultural Plan for the Dual-Use Area is accurate and complete to the best of my/our knowledge and intentions, and that I/we have engaged with the University of Massachusetts Amherst Clean Energy Extension and thereby its agricultural extension service to review the Agricultural Plan and its compatibility with the solar array structures and shading. Further, I/we agree, conditional on being provided eligibility to the SMART program as an ASTGU, to submit a report, through a template provided by the University of Massachusetts Clean Energy Extension, annually throughout the duration of the SMART incentive with ASTGU adder, on the operations and productiveness of the solar array and agriculture along with any changes to the Agricultural Plan for the following year. I/we understand that failure to maintain productive agricultural activities and annual reporting may result in the disqualification of the facility as an ASTGU in the SMART program.



Hank Ouimet, Manager
REDP Services, LLC
Farm Owner

1/7/26

Date



Bill Manganello
Brookside Farm, LLC
Farm Operator

1/19/26

Date

Solar Facility Owner

I hereby certify that the information submitted regarding the Solar Array Description and inputs and outputs of the Shading Analysis is accurate and complete to the best of my/our knowledge and intentions.

Jay Smith, Director of Asset Management
Standard Solar, Inc.
Solar Facility Owner

Date

SIGNATURES AND ATTESTATIONS

Prior to submitting the Pre-Determination Form, please read and sign as directed below.

Farm Operator and Farm Owner

I/we hereby certify that the information submitted regarding the current farm conditions and practice and the Agricultural Plan for the Dual-Use Area is accurate and complete to the best of my/our knowledge and intentions, and that I/we have engaged with the University of Massachusetts Amherst Clean Energy Extension and thereby its agricultural extension service to review the Agricultural Plan and its compatibility with the solar array structures and shading. Further, I/we agree, conditional on being provided eligibility to the SMART program as an ASTGU, to submit a report, through a template provided by the University of Massachusetts Clean Energy Extension, annually throughout the duration of the SMART incentive with ASTGU adder, on the operations and productiveness of the solar array and agriculture along with any changes to the Agricultural Plan for the following year. I/we understand that failure to maintain productive agricultural activities and annual reporting may result in the disqualification of the facility as an ASTGU in the SMART program.

Hank Ouimet, Manager
REDP Services, LLC
Farm Owner

Date

Bill Manganello
Brookside Farm, LLC
Farm Operator

Date

Solar Facility Owner

I hereby certify that the information submitted regarding the Solar Array Description and inputs and outputs of the Shading Analysis is accurate and complete to the best of my/our knowledge and intentions.

Jay Smith, Director of Asset Management
Standard Solar, Inc.
Solar Facility Owner

Date

Exhibit A

Photos of 2025 crop

Swan Holt ASTGU 2025

Early season growth
(mid-May 2025)





Swan Holt ASTGU 2025

Late season growth after
first cut showing signs of
prolonged drought
(late-August 2025)

