

## ASTGU ANNUAL REPORT - 2024

### 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: Paul Knowlton ☒ Farm Owner ☒ Farm Operator

Farm Name: Knowlton Family Trust

Legal Structure: ☐ Sole Proprietor ☐ LLC ☐ Corporation  
☐ Partnership ☒ Other Trust

Mailing Address: 43 Estabrook St, Grafton, MA 01519

Street Address (if different): \_\_\_\_\_

Contact Phone: 774-535-1381 Contact Email: pknowltonandsons@gmail.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: 12 acres forage, 2 acres vegetables

Gross Annual Revenue for ASTGU Farm Production: Total: Vegetables-\$2560 Livestock-\$8,000

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: BWC Lake Ripple, LLC

Solar System Company Address: 282 Century Place, Suite 2000, Louisville, CO 80027

Solar Company Contact Person/email/tel#: Aravind Satheesh Aravind.satheesh@aes.com  
813-573-0515

**ASTGU Project Start-Up/History Information:**

Date ASTGU Approved by DOER: 6/11/19

Date Solar Portion of ASTGU Project Commenced Construction: 12/31/20

Date Solar Portion of ASTGU Project was Completed & Operational: 4/6/22 (placed in service)

Date Original Agricultural Portion of the ASTGU Project Commenced: 4/1/22

Date Original Agricultural ASTGU Portion of Project Harvested/Sowed Products: 11/20/23

How many complete years, that is both solar and agricultural production, has the ASTGU been in operation? 2

**SOLAR ARRAY DESIGN – PLEASE PROVIDE AS-BUILT SYSTEM INFORMATION**

Please provide the following information regarding the solar array design:

Nameplate capacity AC (in MW): (i) 0.24MW; (ii) 1.76 MW (Note: 1 MW=1000 kW)

Expected annual generation AC (MWh): 3,971.8 MWh (Note: 1 MWh=1000 kWh)

Acreage of farmland over which array is to be installed: (i) 2.09 acres, (ii) 11.54 acres

System type: ☒ Fixed ☐ Tracking ☐ Other \_\_\_\_\_

Height of lowest panel edge (in feet): Ten feet six inches

Height of lowest elevated horizontal mounting (in feet): Ten feet

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

Description of materials and process to be used for ground penetration: An excavator with a post-driver was used to pound galvanized steel posts into the ground and all-terrain lifts were used to install the panels and wiring.

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

(i) SMALL ARRAY (fixed-tilt, 832 bi-facial Astronergy New Energy Technology panels); 410-watt modules; every third panel was removed within the racking table; rows are spaced at 16.7 feet (panel edge to panel edge).

(ii) LARGE ARRAY DESIGN - (fixed-tilt, 6,890 bi-facial Astronergy New Energy Technology panels); 410-watt modules; every third panel was removed within the racking table; rows are spaced at 16.7 feet (panel edge to panel edge).

*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 large array sends energy to an energy storage facility comprised of 16 battery modules, Samsung SDI. Storage is 1.44 MWac. Both arrays are managed as Community Shared Solar.

## 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: \_\_\_\_\_

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: Instead of processing all of the cattle as expected, five were overwintered as they were suspected of being pregnant, and three indeed birthed calves in February and May. Three cows were processed in 2024, leaving one adult female and three young animals (one male, two female) at the end of 2024. The production of pumpkins and squash performed as expected, with some loss due to woodchuck pressure. We believe the fence and panels provide protection from ground and aerial predators respectively, increasing the ability for pests to eat the crops. We installed chicken wire to the bottom 2-3 feet of the perimeter fencing to keep out rabbits which we thought were the problem, but later found evidence of a woodchuck. Lettuce production exceeded expectations for the first two successions, but the heat of late July and August resulted in poor growth and marketability for the third succession.

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

In the livestock array, the cattle were grazed freely in two acres and supplementally fed as we continued to amend the soil and overseed forage to establish pasture in the rest of the array.

With good pasture growth, we will be able to rotationally graze the cattle with internal electric fencing in the future. In the vegetable array, we planted lettuce, pumpkins, and strawberries as expected. In coordination with UMass researchers, butternut squash was planted for study along with the lettuce.

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

The lettuce performed better than expected for the first two successions (out of three total), with large and delicious heads being sold through the farmstand and wholesale channels. Lettuce is harvested by bushel at 24 heads per bushel. This year 44 bushels were harvested for sale from the first two plantings. The third planting received significant damage from woodchuck pressure, along with negative effects from the late summer heat (which turns lettuce bitter), so the majority was not harvested for sale. The butternut performed better than expected, though the woodchuck damage prevented over 200 lbs from being marketable. A little over two and a half pallet bins of butternut squash was harvested for sale, each averaging 600lbs, for a total of about 1600 lbs. The beef was very marketable and was sold through the local farmstand and phone orders. The community has given great feedback on the quality of the meat and is overall very happy to have a local source of grass-fed beef. On average, 500 pounds of packaged meat per cow is returned from the processor.

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

The presence of a woodchuck severely impacted our butternut squash and pumpkin marketability. The consistent, but not too heavy, rainfall resulted in good growth in the spring and summer, especially compared to 2023 record rainfall and flooding. The heat of late July and August affected the growth of all the crops later in the season, and had an especially negative effect on the third succession of lettuce.

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

We are continuing work to remove rocks, establish permanent pasture and rotationally graze the livestock. An underground pipe was installed in the vegetable array to address impacts from intense rainfall in 2024 and prevent future erosion. That pipe is performing well and will continue to be monitored. We intend to plant more, earlier successions of lettuce to avoid late summer heat. We will also work to remove the woodchuck from the array. Continued seeding of cover crops after vegetable harvest and application of soil amendments (compost, lime, fertilizer) on both arrays will also improve production. We look forward to year two of the strawberry crop in which the first harvests are expected and will continue to be pruned and amended as needed.

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?

For years 3 and 4, we will continue raising cattle and implementing a crop rotation plan. Additional temporary electric fencing will be acquired and rotational grazing implemented with it will be compatible with the current array design since livestock waterlines were installed during construction. Lettuce and other greens (such as kale and Swiss chard) will be grown in the same areas, though with smaller, successional plantings to spread harvest out and improve



marketability (versus planting a lot at one time for the UMass study). We will continue to grow winter squash/pumpkins, and intend to plant more marketable varieties such as Honeynut (a smaller variety of butternut) and Delicata. Strawberries are planned to be harvested starting in 2025 and should yield through 2027, after which they will likely need to be replanted. We planted a few pepper and tomato plants this year to test performance, and intend to grow more in 2025 based on the good results this year. We intend to rotate the lettuce, greens, tomatoes, and peppers throughout the northern half of the array and plant the squash/pumpkins on the southern half of the array. The current equipment and array design is compatible with our crop plans.

<b>Table A: Crop Production – Current Season (2024)</b>					
<b>Crop</b>	<b>Area planted (Row length and width or acreage, as appropriate)</b>	<b>Planting date(s) (approximate)</b>	<b>Harvest date(s) (approximate)</b>	<b>Expected productivity, total pounds harvested with dual use</b>	<b>Actual productivity, pounds, with dual use</b>
<b>Lettuce</b>	A. 450 row feet  B. 1,000 row feet  C. 2,000 row feet	A. 5/15/24  B. 6/10/24  C. 7/18/24	A. 6/17/24- 7/1/24 B. 7/10/24- 7/24/24 C. N/A	A. 270 heads  B. 600 heads  D. 500 heads	A. 315 heads  B. 750 heads C. Crop loss due to UMass experiment samples, extreme heat and woodchuck
<b>Butternut Squash</b>	12,250 sq ft	6/6/24	A. 9/24/24 B. 10/?/24	500 lb	1600 lb marketable + 200 lb unmarketable, used for livestock feed
<b>Pumpkins</b>	~19,385 sqft	6/26/24	10/2/24	500 lb	250 lb
<b>Strawberries</b>	800 row feet	6/1/24	No harvest first year	No harvest first year	No harvest first year

## 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: **See Attachment A**

Planting Plan: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Soil Amendment Plan: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Cultivation Plan: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Irrigation Plan: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Pesticide/Herbicide Plan: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Harvest Plan: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

<b>Table B: Grazing Production – Current Season</b>							
<b>Type(s) of animal grazed</b>	<b>Area grazed (acreage)</b>	<b>Grazing pressure # animals per acre</b>	<b>Purpose (e.g. meat, dairy, eggs)</b>	<b>Grazing period(s)</b>	<b>Harvest date(s) if applicable</b>	<b>Expected productivity with solar array</b>	<b>Actual productivity with solar array</b>
Hereford Cattle	12 acres	.4 (average 5 cows on total)	Meat	2	June July November	1500 lbs (500lb per 1200 lb animal)	1500 lbs (500lb per 1200 lb animal)

## 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: Hereford Cattle

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

Lime was applied at 2000 lbs/acre on 3/16/24. Seeded pasture mix containing Timothy Grass, Orchard Grass, Perennial Rye, Annual Rye, and Kentucky Bluegrass in late April, and again in September. Mowed the pasture in October.

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.

The cattle resided in the heavy use area during inclement weather. Their water source is an agricultural well that was installed onsite. The cattle and calves were grazed in a 2-acre area for the spring while the rest of the pasture area was seeded. Starting in July, they had access to all twelve acres. There is no evidence of disease in the herd; no medications administered. A dump truck and tractor were used to load and feed hay bales as supplemental feed as needed. Throughout the year, three cows were processed at New England Meat – one in each of the following months: April, June, and November. The staggered processing allows sales to occur throughout the year and manage freezer storage space.

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.

Livestock fencing was installed at each of the gaps between the posts where the electrical relay was located so that the cattle would go around those bays. There have been no electrical issues as a result of the cows being present.

<b>Table C: Crop Production – Next Season (2025)</b>					
<b>Crop</b>	<b>Area planted (Row length and width or acreage, as appropriate)</b>	<b>Planting date(s) (approximate)</b>	<b>Harvest date(s) (approximate)</b>	<b>Expected productivity, total pounds harvested without dual use</b>	<b>Expected productivity, total pounds, with dual use</b>
<b>Lettuce</b>	<b>~3,000 row feet</b>	<b>May-June in successions (every 2-3 weeks)</b>	<b>As needed based on growth, starting in June.</b>	<b>1,500 heads</b>	<b>1,500 heads</b>
<b>Winter squash / pumpkins</b>	<b>~20,000 sqft</b>	<b>Early June</b>	<b>September/October as ready</b>	<b>1,600 lbs</b>	<b>1,600 lbs</b>
<b>Greens (kale, Swiss chard, etc)</b>	<b>~1600 row feet</b>	<b>April-June in successions</b>	<b>June through August as ready</b>	<b>400 bunches</b>	<b>400 bunches</b>
<b>Strawberries</b>	<b>~2,500 sqft (planted in 2024)</b>	<b>Planted 4/15/24</b>	<b>May to June (or until plants stop producing)</b>	<b>250 qt</b>	<b>250 qt</b>
<b>Tomatoes</b>	<b>~900 row feet</b>	<b>Transplant early to Mid June</b>	<b>August through October (or until frost)</b>	<b>900 lb</b>	<b>900 lb</b>
<b>Peppers</b>	<b>~900 row feet</b>	<b>Transplant early to Mid June</b>	<b>August through October (or until frost)</b>	<b>360 lb</b>	<b>360 lb</b>

## CROP NARRATIVE – Next Season

*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: **See Attachment B**

Planting Plan: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Soil Amendment Plan: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Cultivation Plan: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Irrigation Plan: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Pesticide/Herbicide Plan: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Harvest Plan: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Table D: 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
Hereford Cattle	~12 acres	2.7	Meat	8	Every 2-3 months	500 lbs/head processed	500 lbs/head processed



## 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: Hereford Cattle

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

The intent is to graze the array to manage vegetation and fertilization. Mowing and spot-weeding may occur as needed. A soil test was taken in the fall; the pasture will be seeded and/or amended as recommended.

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.

As one adult female will be overwintered 2024-2025 and planned to be processed in April. Three calves will be overwintered with the intent to breed the two females. The young male may be kept as a stud. In addition, four yearlings are intended to be purchased in 2025 to bring the heard back to 8 head of cattle. The plan is to rotationally graze the herd through the array in 4 individual paddocks, two grazing periods per paddock. They will have access to their water source and shelter in each paddock. They will all be monitored for health and fed supplementally as needed.

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.

No new design changes are planned.

## **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](mailto:DOER.SMART@mass.gov).

**\*\*Please note that this project was approved in June of 2019 and is subject to the ASTGU guidelines in place at that time, thus we do not believe we are 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.

### Landowner

I hereby certify that I have personally examined and am familiar with the information submitted herein, and, based upon my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

Paul R Knowlton  
Signature of Landowner

12-03-2024  
Date

### Farm Operator and Landowner

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.

Paul R Knowlton  
Signature of Farm Operator

12-03-2024  
Date

Paul R Knowlton  
Signature of Landowner

12-03-2024  
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.

Ivy Williams

12/9/2024

\_\_\_\_\_  
Signature of Solar Facility Owner

\_\_\_\_\_  
Date

## **Attachment A**

### **CROP NARRATIVE – Current Season (2024)**

**Crop:** Lettuce

**Planting Plan:** Lettuce was transplanted in successions during the spring. Buckwheat cover crop was seeded in the fall.

**Soil Amendment Plan:** Lime and fertilizer was applied in the spring.

**Cultivation Plan:** Beds were tilled before planting and weeded with a tractor-mounted 2-row cultivator as needed.

**Irrigation Plan:** Overhead irrigation was installed and used at planting and as needed throughout growth cycle.

**Pesticide/Herbicide Plan:** None used.

**Harvest Plan:** The first two successions were harvested as the heads matured. Initial harvests of the third succession showed that the lettuce had turned bitter from the late summer heat, so it was not harvested for sale.

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**Crop:** Butternut Squash

**Planting Plan:** Butternut squash was direct seeded in the spring. Buckwheat cover crop was seeded in the fall.

**Soil Amendment Plan:** Lime was applied in the spring and fertilizer was applied at planting and as needed throughout the season.

**Cultivation Plan:** Beds were tilled before planting.

**Irrigation Plan:** None used.

**Pesticide/Herbicide Plan:** Soil was sprayed with pre- and post-emergent herbicides prior to planting.

**Harvest Plan:** The squash was harvested in the fall.

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**Crop:** Pumpkins

**Planting Plan:** Pumpkins were direct seeded in the spring. Buckwheat cover crop was seeded in the fall.

**Soil Amendment Plan:** Lime and fertilizer was applied in the spring.

**Cultivation Plan:** Beds were cultivated prior to planting.

**Irrigation Plan:** None used.

**Pesticide/Herbicide Plan:** None used.

**Harvest Plan:** Harvested in October.

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**Crop:** Strawberries

**Planting Plan:** Planted in June.

**Soil Amendment Plan:** Lime and fertilizer was applied in the spring.

**Cultivation Plan:** Beds were cultivated prior to planting.

**Irrigation Plan:** Overhead irrigation was installed and used as needed.

**Pesticide/Herbicide Plan:** Soil was sprayed with pre- and post-emergent herbicides prior to planting.

**Harvest Plan:** No harvest was intended for the first year. The strawberries grew roots and established themselves. The first harvest is expected in the spring of 2025.

## **Attachment B**

### **CROP NARRATIVE – Next Season (2025)**

**Crop:** Greens (Lettuce, Kale, Chard, Other)

**Planting Plan:** The greens will be transplanted in successions throughout the spring.

**Soil Amendment Plan:** Soil will be fertilized/amended as needed based on soil tests.

**Cultivation Plan:** Beds will be cultivated prior to planting and as needed.

**Irrigation Plan:** Irrigation will be installed at planting and used as needed throughout the season.

**Pesticide/Herbicide Plan:** None planned. Plants will be scouted regularly by an IPM specialists, and material will be applied at recommended rates as necessary.

#### **Harvest Plan:**

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**Crop:** Winter Squash and Pumpkins

**Planting Plan:** Plants will be direct seeded in the spring.

**Soil Amendment Plan:** Soil will be fertilized/amended as needed based on soil tests.

**Cultivation Plan:** Beds will be cultivated prior to planting and as needed.

**Irrigation Plan:** None planned. Overhead irrigation may be installed in the instance of major drought.

**Pesticide/Herbicide Plan:** Spray with pre- and post-emergent herbicides prior to planting. Plants will be scouted regularly by an IPM specialists, and material will be applied at recommended rates as necessary.

**Harvest Plan:** Harvest in the fall as crops mature.

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**Crop:** Strawberries

**Planting Plan:** Planted in 2024.

**Soil Amendment Plan:** Soil will be fertilized/amended as needed based on soil tests.

**Cultivation Plan:** Hand or mechanical weeding as needed.

**Irrigation Plan:** Overhead irrigation will be installed and used as needed to prevent frost and for crop growth.

**Pesticide/Herbicide Plan:** Plants will be scouted regularly by an IPM specialists, and material will be applied at recommended rates as necessary.

**Harvest Plan:** Strawberries will be harvested in June and July as the different varieties of strawberries mature and as labor is available.

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**Crop:** Tomatoes and Peppers

**Planting Plan:** Plants will be transplanted in the late spring after the chance of frost has passed.

**Soil Amendment Plan:** Soil will be fertilized/amended as needed based on soil tests.

**Cultivation Plan:** Beds will be cultivated and hand weeded as necessary.

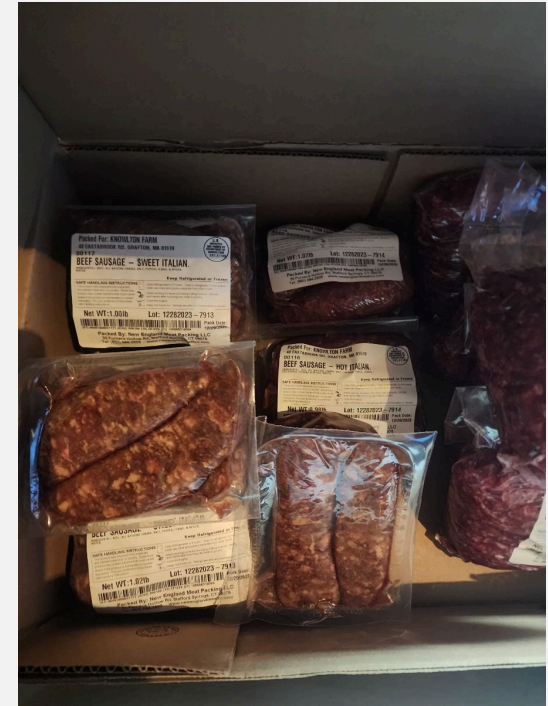
**Irrigation Plan:** Drip irrigation will be installed at planting and used as needed.

**Pesticide/Herbicide Plan:** Plants will be scouted regularly by an IPM specialists, and material will be applied at recommended rates as necessary.

**Harvest Plan:** Tomatoes and peppers will be harvested in late summer as the crops mature.



# Grafton ASTGU



Winter – Meat Processed



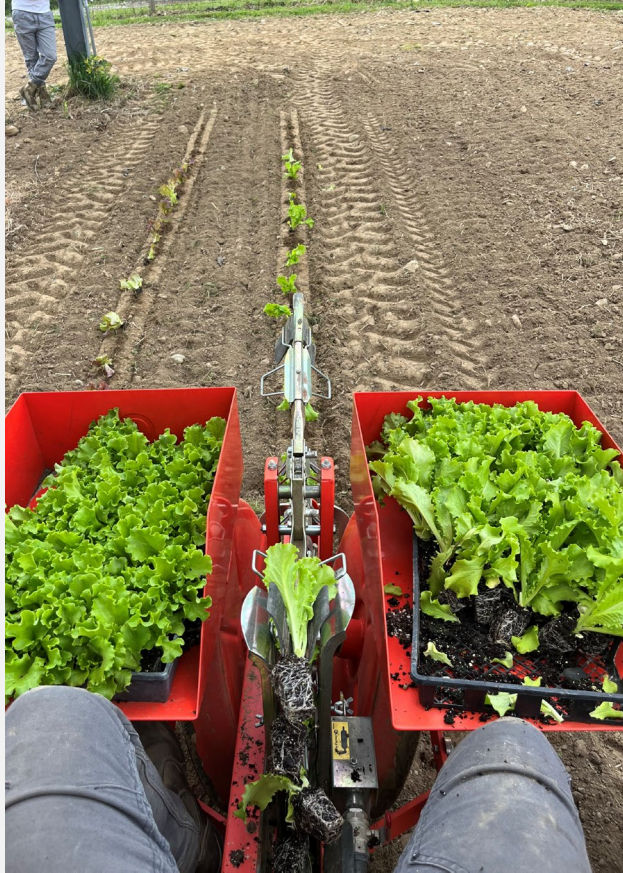
# Grafton ASTGU



May – Cultivation/Bed Preparation



# Grafton ASTGU



May – Lettuce Planting



# Grafton ASTGU



May – Lettuce Planting cont'd



# Grafton ASTGU



May – Rabbit Fencing Installed



# Grafton ASTGU



June – Strawberries Planted



# Grafton ASTGU



June – Lettuce Crop



# Grafton ASTGU



June – Butternut Squash Emergence



June – Lettuce Harvest



# Grafton ASTGU



Underground Pipe and Rock Installation



# Grafton ASTGU



July – Butternut Squash



# Grafton ASTGU



July – Third Lettuce Planting (Trial)



# Grafton ASTGU



August – Lettuce



# Grafton ASTGU



August – Butternut Squash



# Grafton ASTGU



September – Butternut Squash Harvest



# Grafton ASTGU



August – Butternut Squash Woodchuck Damage



# Grafton ASTGU



October – Cattle



# Grafton ASTGU



October – Pumpkin and Butternut Squash Harvest



# Grafton ASTGU



October – Buckwheat Cover Crop

# Electronic Record of Contracts

This document was generated as a record of certain contracts created, accepted and stored electronically.



## Summary of Contracts

This document contains the following contracts.

Title	ID
Letter (Paul Knowlton and AES)	1fd97a5f-284c-43c3-98ae-ff21b85246dd

## Contract signed by:

Ivy Willyams		Signer ID:	3752a66d-ff4d-4f92-a6a1-131d049e9cca
		Email:	ivy.willyams@aes.com
Date / Time:	Dec 9, 2024 at 4:03 PM EST		
IP Address:	12.97.27.80		
User Agent:	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/131.0.0.0 Safari/537.36		