Island Grown Farm Master Plan Phase 1
DRI 212-M

Martha’s Vineyard Commission
January 13, 2022
Island Grown Farm Master Plan Phase 1

**Applicant:** Island Grown MV / South Mountain Co.

**Owner:** The Island Grown Initiative Ltd.

**Permits:** Building permit, special permit for exemption from local zoning under MGL Chapter 40A, septic and well permits; the property is also subject to a MV Land Bank Agricultural Preservation Restriction, and the Land Bank has approved of the site plan.

**Checklist:** 3.1b (Development of commercial space – 3,500+ ft²), 8.6a (Development of current/former farmland), 1.3D (Previous DRI); mandatory review

*LUPC: 10/25/21*

*Site visit: 1/11/22*

*Hearing: 1/13/22*
Project history

• MVC approved DRI 212 (Thimble Farm) with conditions in 1986, allowing for the construction of a 30,000 ft² greenhouse and 4,000 gallons of fuel storage.

• The farm was owned by Bencion and Patricia Moskow, and later by Laurence Benson and Eric Grubman, who leased the land to Andrew Woodruff, who ran a CSA program for several years.

• Island Grown Initiative (IGI) purchased the land in 2012, restored the greenhouse and began licensing the fields to local farmers.

• In recent years, IGI and Woodruff have worked to establish regenerative agricultural practices that support the land, and the farm has become a hub for agricultural activity, including a CSA, field trips, gleaning, and community gardens.
Proposal

Island Grown Farm Master Plan:

• Consolidate IGI operations
• Expand educational programming
• Provide additional housing for IGI workers

Phase 1:

• Education and Innovation Center (EIC): One story, 4,240 ft\(^2\), offices and educational space
• Housing #1: One story, 1,703 ft\(^2\), two one-bedroom units for farmworkers
• Housing #2: One story, 2,247 ft\(^2\), two two-bedroom units for farmworkers
• Installation of three seasonal yurts (16’ diameter; 600 ft\(^2\))
• Existing 1,345 ft\(^2\) hoop house will be removed
• Smaller hoop house will be relocated
Proposal

Future phases:
• Agricultural building #1: 800 ft\(^2\)
• Agricultural building #2: 960 ft\(^2\)
• Pole barn: 1,625 ft\(^2\)
# Island Grown Farm Square Footage Summary

## Existing Structures

<table>
<thead>
<tr>
<th>Structure</th>
<th>Sq. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shed (along north property line)</td>
<td>340</td>
</tr>
<tr>
<td>Shed (along north property line)</td>
<td>245</td>
</tr>
<tr>
<td>Shed (along north property line)</td>
<td>150</td>
</tr>
<tr>
<td>Shed (community garden)</td>
<td>70</td>
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<tr>
<td>Shed (greenhouse)</td>
<td>55</td>
</tr>
<tr>
<td>Well house</td>
<td>135</td>
</tr>
<tr>
<td>Greenhouse</td>
<td>32,125</td>
</tr>
<tr>
<td>Prop house</td>
<td>1,010</td>
</tr>
<tr>
<td>Hydroponic trailer</td>
<td>385</td>
</tr>
<tr>
<td>Food storage</td>
<td>1,860</td>
</tr>
<tr>
<td>Bathroom</td>
<td>30</td>
</tr>
<tr>
<td>Workshop &amp; apartment</td>
<td>2,150</td>
</tr>
<tr>
<td>Fly trailer</td>
<td>320</td>
</tr>
<tr>
<td>Chicken coop</td>
<td>1,400</td>
</tr>
<tr>
<td>Hoop house</td>
<td>1,345</td>
</tr>
</tbody>
</table>

**Total Existing Square Footage:** 41,820

## Existing Structures to Be Removed

<table>
<thead>
<tr>
<th>Structure</th>
<th>Sq. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hoop house</td>
<td>1,345</td>
</tr>
</tbody>
</table>

**Total Existing to Be Removed:** 1,345

## Proposed Structures (Phase I)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Education &amp; Innovation Center</td>
<td>3,200</td>
<td>1,040</td>
<td>4,240</td>
</tr>
<tr>
<td>Housing - (2) 1-Bedroom Units</td>
<td>1,288</td>
<td>415</td>
<td>1,703</td>
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<tr>
<td>Housing - (2) 2-Bedroom Units</td>
<td>1,792</td>
<td>455</td>
<td>2,247</td>
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<tr>
<td>(3) Seasonal Yurts</td>
<td>600</td>
<td>600</td>
<td>600</td>
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</tbody>
</table>

**Total Added - Phase I:** 8,790

## Proposed Structures (Phase II)

<table>
<thead>
<tr>
<th>Structure</th>
<th>Sq. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Building</td>
<td>800</td>
</tr>
<tr>
<td>Agricultural Building</td>
<td>940</td>
</tr>
<tr>
<td>Pole Barn</td>
<td>1,625</td>
</tr>
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</table>

**Total Added - Phase II:** 3,385

## Total Proposed Square Footage

<table>
<thead>
<tr>
<th>Total Proposed Square Footage</th>
<th>(%) Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>52,650</td>
<td>25%</td>
</tr>
</tbody>
</table>

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*Note: The numbers in the table may not add up due to rounding.*
Planning concerns

• Wastewater
• Cultural resources
• Stormwater
• Energy
• Traffic
• Economic and social development
• Housing
• Lighting and landscape
Wastewater

- Located in the Lagoon Pond watershed
- Will include a distributed denitrifying septic system (Schofield, Barbini and Hoehn, in collaboration with KleanTu Wastewater Treatment Technologies).
- The farm currently has three 1,000-gallon above-ground liquid petroleum (LP) storage tanks, including two within a protected concrete enclosure. The third tank, which is unprotected, will be relocated to within the enclosure with the other two.
- The farm also has a 165-gallon above-ground diesel tank in a protected enclosure, and two 120-gallon above-ground LP tanks near an existing prop house that are unprotected. The hoop house and 120-gallon tanks will be relocated to the west side of the greenhouse.
- A list of fertilizers, biocides, and other substances that may be used at the site has been provided.
Nitrogen loading

- SBH has calculated that the development envelope including wastewater, runoff, and landscape maintenance (no landscape maintenance proposed) would generate 19.6 kilograms of nitrogen per year, which is 62% more than the allowable load for the property (12.08 kg/year).
- The SBH calculation does not account for other farm activities including the composting program.
ISLAND GROWN FARM

MARTHY'S VINEYARD COMMISSION
OCTOBER 19, 2021

SEPTIC SYSTEM

Not to Scale

General Notes

- Existing site is an approximate area from existing drainfields.
- Existing site is shown in black and white square pattern.
- Proposed site is shown in green and white square pattern.
- New drainfield area is shown in green and white square pattern.
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Nitrogen: Mitigation

• To mitigate the overage (7.52 kg/year) for the development envelope, the applicant has proposed installing 1-2 residential NitROE Innovative/Alternative (I/A) systems elsewhere in the Lagoon Pond watershed, and plans to work with the Tisbury Board of Health and others to identify a location.

• This would likely require servicing more than one property.

• Should include testing and a management/monitoring plan.
Nitrogen: Composting

805.95 kg/year (total N content of compost produced onsite)
169 kg/year (soluble N – based on composting test results)

• Applicant has stated that most or all N applied on the farm is taken up by the plants, with minimal potential for leaching or runoff.
• IGI follows Mass Dept of Agriculture regulations and UMass Nutrient Guide for best practices.
• Landscape management can further reduce N leaching and runoff.
• All compost would be contained with liners, etc.
Landscape Modifications for Nutrient Management

Native Shade Meadow: 6 acres
Native Wet Meadow: ~2.5 acres
Native Meadow

Native field borders
native hedgerows

Vegetated swale

Filter strips
Trench catch
Filtration area

Wetland

Swale & berm

Native Oak Savannah: ~2 acres

Pond
3.5 Agricultural DRI Projects

“...agricultural DRI Projects are not required to meet nitrogen-loading limits if sufficient documentation is provided to assure that environmental impacts are minimized.”

Documentation:

• **USDA Natural Resource Conservation Service farm plan addressing nutrient management.**

• **Commitment to become certified organic, or use specified nitrogen reduction and water quality protection techniques.**
Cultural resources

The Public Archaeology Lab (PAL) issued a Cultural Resources Due Diligence Assessment for a 1.3-acre portion of the property in March 2020, which included the following conclusions and recommendations:

• A pre-contact archaeological site known as Site C, recorded in 1978 by the MV Historical Society, is within or immediately adjacent to the project area, although the actual site boundaries are unknown.

• Any archaeological deposits in the area would likely provide important new information about Native American land use and activity.

• The project should be designed to avoid ground disturbance as much as possible (efforts could include constructing buildings on slabs, raising the ground surface for access and parking, installing only above-ground utilities, etc.).
Cultural resources

• PAL conducted an intensive archaeological survey in December 2021, which revealed both ancient and post-contact cultural materials. As a result, PAL recommended the following:
  • Machine excavation should be conducted in the area of the proposed housing units, which may necessitate additional consultation and investigation.
  • No other investigations are required for the project site.
• A report on the machine excavation is expected sometime in January, after which MHC will issue a final response within 30 days.
Stormwater

• The applicant has stated that hardscape will include reclaimed stone and untreated wood that has a minimal energy footprint.

• A stormwater management summary prepared by SBH and Whole Systems Design Collaborative indicates that runoff will be handled by two bio-retention areas capable of handling at least a 25-year storm, along with two forebays (small pools) that would help filter the runoff and handle most smaller storm events.
STORM WATER MANAGEMENT SUMMARY

The proposed stormwater management strategy will capture runoff from all new impervious surfaces in a series of bio-retention areas that allow for infiltration. The bio-retention areas would remain dry most of the time except for during large storm events wherein the stormwater is anticipated to fully infiltrate within 72 hours or less. The retention areas are planted with native well-loving grasses and forbs.

The plan currently includes 9,035 SF of impervious surface that has been divided into two management areas: the Education & Innovation Center (EIC) area with 4,065 SF of impervious surface and the Housing (HO) area with 4,970 SF of impervious surface. A 25-year storm event at Island Grown Farm would generate approximately 5.70' of rain over a 24-hour period based on current rainfall intensity curves. During such an event, the EIC area would generate approximately 1900 FT³ of stormwater and the HO area would generate approximately 1850 FT³ of stormwater over a 24-hour period.

Based on test pit data, the A and B soil horizons on site are all loams with clay that are not ideal for good infiltration rates. At 3-4 FT below horizons A/AB soil horizon C (the subsoil) is a sand gravel mix that is valued by state and federal standards as a soil type with the highest possible infiltration rates at 8.37 in per hour.

The bio-retention areas are designed to a depth of 3.4 FT in order to reach soil horizon C with the high infiltration rate. Granted to these depths, each retention area has enough volume to accommodate the amount of stormwater generated during a 25-year storm event without the added benefit of infiltration (which will occur at a high rate) during the event taken into account. Each management area includes a small forebay that drains into the larger bio-retention areas. The forebay is intended help settle out solids and potential pollutants while also handling most smaller storm events.
Energy

• The new buildings will be all-electric, with rooftop solar panels on the IEC and one of the housing structures that will potentially allow the buildings to be net energy producers (negative energy footprint).

• Electric vehicle charging stations are proposed at seven locations on the property, including four adjacent to the housing units.
Energy

• The applicant is working with Eversource to install a new electric connection from Edgartown-Vineyard Haven Road (at Eversource’s expense), which will likely serve other properties along Head of the Pond Road to the east that are currently served by a private connection.

• The new connection will also enable the proposed onsite solar generation.
Customer to install, own, & maintain 3 sets of 4-600kcmil UG cables in conduit from each new pole xfer to new 800kVAmp service. DJ's = ?

Customer to install, Eversource to own & maintain 2-4" pipes in concrete with 1-400kA ground from 10168/060 to & including 2 new 3ph concrete xfer pads via & including 2 M1216 primary pull boxes as shown. 4 sections, TDL = 895' +/-. 

Note: A single phase PRIVATE UG system exists along this route. Eversource does not own or maintain this private system.

Eversource to:
- tap from bottom open wire conductors & install 3-1/0AL 25kV OH primary cable + neutral from P9276/35.5 to new P9376/35.5-B via 9276/35.5-A. 2 sections, TDL = 100'+/-.
- install 3-40T fused cutouts on P9276/35.5 towards new 3ph lateral.
- install 3-25T fused cutouts & new 3ph primary riser on both new P9276/35.5-A & 9276/35.5-B.
- install 3-1/0AL 25kV UG primary in loop configuration from new poles to new pm xfers with normal open as shown. 22 sections, TDL = DL = 7,915'+/-.
- install a 500kVA, 3ph, 22.8/13.2kV, 277/480x19 pm xfer at new 090.
- install a 300kVA, 3ph, 22.8/13.2kV, 120/208x19 pm xfer at new 110.
- make new secondary connections at new pm xfer (customer to provide all terminations).

Note: See Eversource WO #6247456 for new conduit installation from new poles to 10168/060 along Head of the Bay Rd, Oak.

Note: With the request of 2 separate voltages to same parcel of land, Town wiring inspector &/or Fire Dept is required to approve any buildings with 2 different voltages, as well as buildings required to be slighted.
Traffic and transportation

• Access to the farm will be primarily from Head of the Pond Road to the east (near Island Alpaca), with secondary access via Stoney Hill Road to the west.

• The applicant does not expect a significant increase in traffic, in part because the reduction in trips from the current IGI offices in West Tisbury would help offset any new trips created by the expansion. (The total number of employees onsite will increase from 15 to 25.)

• Based on a conservative evaluation of the projected trip generation, the project is expected to generate about 47 daily trips. This assumes there will be several employees already living onsite, reducing the total number of trips per day.
Traffic and transportation

• Given the location and position of access to the site, the traffic volumes should not present an issue on the main roads of entry.

• Sight distances at the study area intersection of Head of the Pond Road and Edgartown-Vineyard Haven Road are adequate.

• The EIC would be open from 8-6, Monday-Saturday, with occasional weekend and evening workshops.

• The farm is about 0.75 miles from the shared-use path and nearest VTA stop on Edgartown-Vineyard Haven Road.
Traffic and transportation

• The applicant estimates there is currently room for about 26 cars, although the spaces are unmarked.

• The plans call for 57 marked spaces, distributed in six different areas with trees providing shade in most cases. The applicant has stated that the 57 spaces exceed the estimated need for 49 spaces, as well as the required number of spaces under Tisbury Zoning Bylaw 07.07.
# Island Grown Farm Parking Summary

<table>
<thead>
<tr>
<th>Education &amp; Innovation Center</th>
<th># People</th>
<th>Ratio</th>
<th>Total # Spots</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Staff (Dedicated)</td>
<td>8</td>
<td>1:1</td>
<td>8</td>
<td>Daily Full Time Office Staff</td>
</tr>
<tr>
<td>Office Staff (Floaters)</td>
<td>5</td>
<td>1:1.5</td>
<td>4</td>
<td>Part Time Office Staff</td>
</tr>
<tr>
<td>Short Term (Visitors)</td>
<td>10</td>
<td>1:1</td>
<td>10</td>
<td>Workshop Attendees &amp; CSA Pickup</td>
</tr>
<tr>
<td>Community Garden</td>
<td>5</td>
<td>1:1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal:</strong></td>
<td><strong>27</strong></td>
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<td></td>
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<table>
<thead>
<tr>
<th>Housing</th>
<th># People</th>
<th>Ratio</th>
<th>Total # Spots</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Term (Residents)</td>
<td>8</td>
<td>1:1</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Short Term (Visitors)</td>
<td>2</td>
<td>1:1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal:</strong></td>
<td><strong>10</strong></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Farm</th>
<th># People</th>
<th>Ratio</th>
<th>Total # Spots</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm Staff (Dedicated)</td>
<td>2</td>
<td>1:1</td>
<td>2</td>
<td>Matthew, Taz</td>
</tr>
<tr>
<td>Farm Staff (Floaters)</td>
<td>5</td>
<td>1:1.5</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Farm Vehicles</td>
<td>1</td>
<td>1:1</td>
<td>1</td>
<td>Farm Truck</td>
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<tr>
<td>Dedicated Vehicles</td>
<td>2</td>
<td>1:1</td>
<td>2</td>
<td>Mobile Market &amp; Refrigerated Van</td>
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<tr>
<td>Short Term (Visitors)</td>
<td>4</td>
<td>1:1.5</td>
<td>3</td>
<td>Volunteers, Dropoff/Deliveries</td>
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<tr>
<td><strong>Subtotal:</strong></td>
<td><strong>12</strong></td>
<td></td>
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</tbody>
</table>

**Estimated Parking Spaces Required:** 49

57 Spaces on Current Master Plan
Economic and social development

• The project aims to expand and enhance the current IGI offerings, which include educational programs and community events, including the Mobile Market, prepared meals programs, adult education workshops, and job-readiness programs for people with disabilities.

• The new facilities will allow IGI to extend educational programs to other groups such as Camp Jabberwocky and the MV Community Services Family Center, which are unable to participate due to the conditions in the greenhouse.

• The applicant expects a total of 25 employees at the farm, including 15 existing and 10 employees who will relocate from the IGI offices in West Tisbury.
Housing

• Workforce housing would be year-round for IGI staff members and farmworkers, including families, and occasionally for interns or seasonal staff if a unit is available.

• Applicant is willing to apply an income restriction of up to 150% median family income for the units.

• Unit A: two bedrooms, up to three tenants, 896 ft\(^2\)
• Unit B: two bedrooms, up to three tenants, 896 ft\(^2\)
• Unit C: one bedroom, up to two tenants, 644 ft\(^2\)
• Unit D: one bedroom, up to two tenants, 644 ft\(^2\)

Total capacity: 10 tenants
Lighting and landscape

Preliminary landscape plan features native species.

Goals:
• Increase pollinator habitat
• Build soil
• Reduce erosion
• Provide learning opportunities
• Seasonal food and herbal medicine for onsite use
PLANTING PALETTE

A diverse selection of species are chosen with several primary goals: to showcase native species, provide pollinator habitat, build soil while increasing ecological remedies, reduce erosion, add an aesthetic level and medicine sources for on-site use, and provide highly tangible learning opportunities for visitors and staff on the farm.

The species shown here are samples from our preliminary plant list. When composed on-site, they will contribute to the refined and low-key pastoral character we aim to achieve.