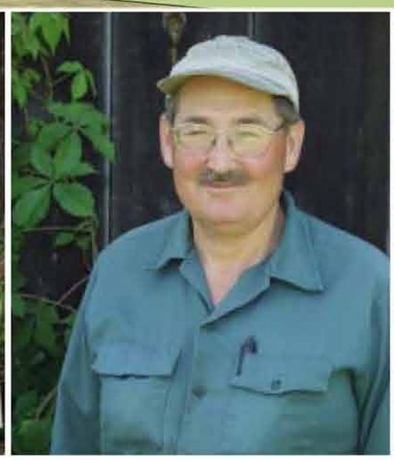
Nasami Farm, Whately, MA

New England Wild Flower Society
Native Plant Nursery & Sanctuary



ARCHITERRA

Nasami Farm, Whately MA

New England Wild Flower Society
Native Plant Nursery & Sanctuary

Native Plant Center Views

1 A trellis-covered shade porch extends east from the multi-purpose room.

2 The agricultural purpose and sustainable design of the building are expressed by its barn-like silhouette and functional ridge monitor.

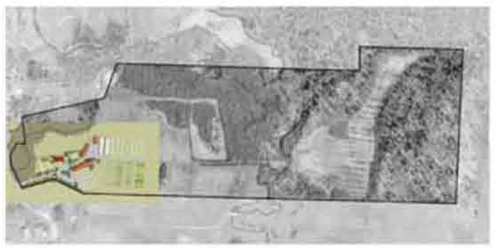
3 Visitors will be welcomed by a covered entry porch that extends west from the reception / sales area.

4 The multi-purpose room features daylighting control, natural ventilation, and panoramic views of the bucolic Nasami Farm property.

ARCHITERRA

Nasami Farm, Whately MA

New England Wild Flower Society
Native Plant Nursery & Sanctuary

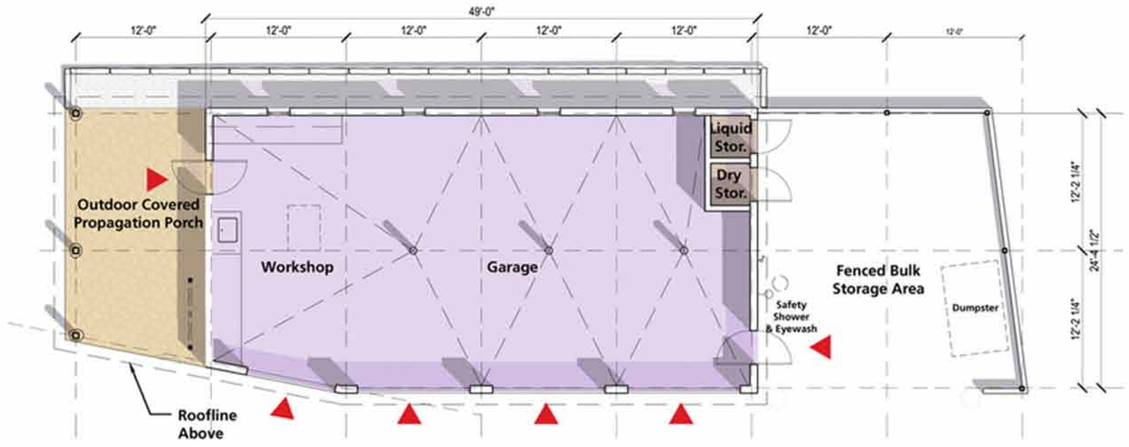


ARCHITERRA

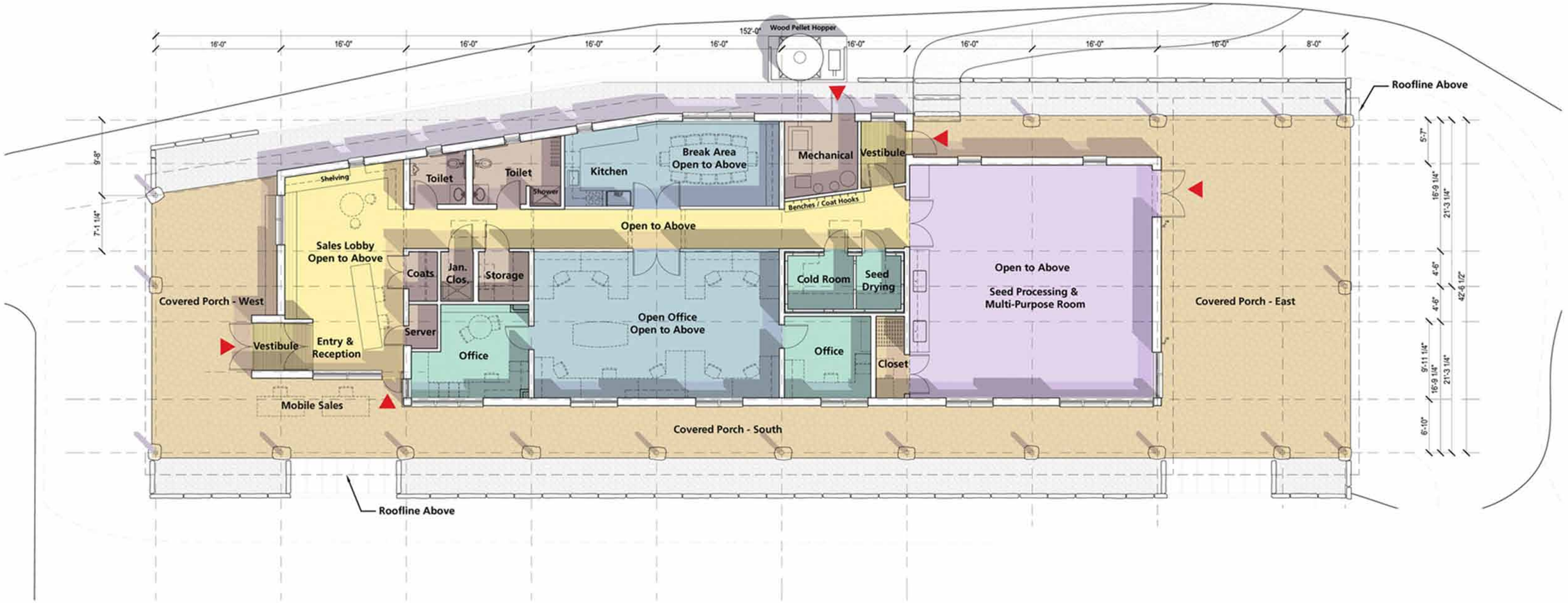
Nasami Farm, Whately, MA

New England Wild Flower Society
Native Plant Nursery & Sanctuary

Detached Garage
1,228 SQ FT (Enclosed)
1,665 SQ FT (Roof)



Native Plant Center
3,834 SQ FT (Enclosed)
7,151 SQ FT (Roof)



ARCHITERRA

NASAMI FARM, WHATELY, MA

NEW ENGLAND WILD FLOWER SOCIETY
NATIVE PLANT NURSERY & SANCTUARY

The Nasami Farm Native Plant Center is designed to meet the LEED[1] Gold standard for sustainable design and construction, and is expected to be one of the first 200 buildings in the United States to receive this designation from the U. S. Green Building Council.

WHAT MAKES THIS A GREEN BUILDING

1. Existing Site: The new Native Plant Center and Detached Garage utilize a previously developed site, occupied in part by the existing Tobacco Barn, existing driveway, and existing parking lot, thereby limiting the environmental impacts of additional development, including soil erosion and loss of agricultural land.

2. Solar Orientation: The Native Plant Center is optimized for solar benefits, including daylighting and passive solar heating, by virtue of its siting, massing, and fenestration. Specifically, the footprint extends east-west, elongating the south-facing exposure; the majority of the windows face south, shaded from the summer sun but allowing winter sun to penetrate; and the roof monitor allows daylight to penetrate deep into the interior.

3. Building Efficiency: The compact footprints and efficient floor plan layouts produce highly efficient buildings that limit the amount of construction required to meet the organization's needs.

4. Future Adaptability: Future expansion is anticipated by storage lofts and covered porches which can be adapted to meet needs for additional enclosed space well into the future.

5. Renewable Energy: Heating is provided by a wood pellet boiler fueled by locally supplied, wood chips or pellets made from sawmill waste. Only on very cold days does the building use supplemental heat from non-renewable sources.

6. Natural Ventilation: Except for one or two spaces, the building relies entirely on natural ventilation and architectural solar shading, thereby greatly limiting energy consumption. The roof monitor induces passive ventilation through temperature stratification and convection, while clerestory fans offer mechanical assistance on extremely hot or humid days.

7. Stormwater Management: The Native Plant Center uses gravity to help rain and snow return to the aquifer. Water drains over the edge of the sloped roofs, falls into a gravel-filled splash bed, runs into drainage structure where it is carried to natural swales with wet plants, then slowly seeps back into the ground.

8. Wastewater Management: Bathrooms are equipped with low-flow toilets that operate with minimal water. Sensor-operated faucets further reduce water consumption.

9. Daylighting: The design ensures ample daylight through the use of clerestory windows and reflective light-colored ceilings. Solar control is provided by architectural means, including overhangs on the south and covered porches to the east and west.

10. Materials – Local, Durable & Low Maintenance: Building materials favor local production, durability, and low maintenance. Key features include heavy timber structure, metal roof shingles, stained wood shingles, stone paving, hardwood flooring, and linoleum.

11. Thermal Envelope: The building's foundation, walls, doors, windows, and roof are designed as a continuously insulated, air-tight enclosure system, incorporating air and moisture barriers, to meet demanding energy performance criteria. Triple-glazed windows are limited to less than a third of the overall exterior wall area. Structural support for roof extensions is separated from the primary roof structure to prevent thermal transfer (heat loss) and uncontrolled condensation (mold, deterioration of materials).

12. Landscaping – Native & Non-Irrigated: The design provides for the protection and preservation of the twin birch and single spruce. Native plants and woody shrubs will be added to enhance the site, control soil erosion, and promote plant sales. Drought-resistant plant selections preclude the need for irrigation and save water.

13. Radiant Heating: Heat distribution is by means of a radiant floor system that conserves energy by harnessing the thermal mass of the concrete floor to supply heat. This system also promotes occupant comfort by limiting radiant heat loss and dampening thermal swings. Heat transfer is by means of closed loop piping that re-circulates water with minimal use of energy. Multiple zones permit even greater energy conservation.

14. Lighting: Fluorescent lighting is used throughout the building to limit energy consumption, using just one-fifth the amount of electricity as incandescent lighting. State-of-the-art bulb technology delivers warm white light (avoiding the cold, harsh effects of earlier fluorescents) while supporting dimmable fixtures. Light fixtures are zoned to automatically turn off when daylight sensors detect adequate natural light levels.

15. Community: The new building provides flexible community space, indoors and out, supporting a wide variety of education and environmental programs as well as volunteer efforts. Circulation space doubles as display space, reinforcing the organization's community-oriented programming.

16. Education: The building is designed, in whole and in part, to educate visitors about the mission of the organization, which has for 100 years, led conservation efforts and environmental awareness.

[1] **LEED stands for Leadership in Energy and Environmental Design.**

ARCHITERRA

Nasami Farm, Whately, MA

New England Wild Flower Society
Native Plant Nursery & Sanctuary

3

1

2

Site Views

1. Existing Tobacco Barn, Proposed Detached Garage and Native Plant Center Looking East (rendering)
2. Existing Tobacco Barn
3. Map of Massachusetts, showing Whately, site of Nasami Farm Nursery & Sanctuary

ARCHITERRA