

April 3, 2025

**Email** (drusso@revityenergy.com)

Ms. Lindsay McGovern

Natick Solar, LLC

349 Centerville Road

Warwick, RI 02886

[LEC File #: RE\25-069.01]

**Re: Pollinator-Friendly Site Establishment and Maintenance Plan  
Natick Avenue Solar  
Natick Avenue, Assessor's Plat 22-3, Lots 108 and 109 (Parcel B)  
Cranston, Rhode Island**

Dear Ms. McGovern:

LEC Environmental Consultants, Inc., (LEC) conducted a site evaluation on March 18, 2025 to evaluate existing conditions, soil characteristics, and document existing vegetation at the above-referenced site in Cranston, Rhode Island. The purpose of the site evaluation was to document existing conditions to support preparation of a pollinator-friendly planting plan and maintenance plan for the proposed 28± acre, 8.1-megawatt photovoltaic solar array. LEC's site evaluation took place on a sunny day with temperatures averaging 40° F, following 2.21± inches of rain within the prior 24 hours<sup>1</sup>. Below is a general site description, project description, and summary of the Pollinator-Friendly Planting Plan and Maintenance Plan.

## 1. General Site Description

The approximately 28-acre subject area (the Site) is situated within the eastern half of two commonly owned parcels (cumulatively 64.03± acres) located immediately west of Natick Avenue and generally east of Phenix Avenue in the south-central, residential section of Cranston, Rhode Island (Attachment A, Figures 1 and 2). Residential development associated with Natick Avenue and Ridgewood Road, forested uplands, and forested wetlands occur to the north, east, and/or south of the Site. Upland meadow, forested upland, a stream system, and active tree farming fields associated with Rossi's Tree Farm remain to the west on the commonly owned parcel.

The Site is comprised of forested upland and includes a network of meandering cart paths consisting of compacted gravel, degraded pavement, or dirt. A small area of upland meadow occurs centrally within the Site, and the southwestern portion of the Site is stripped of topsoil and

<sup>1</sup> <https://www.wunderground.com/calendar/us/ri/cranston/KPVD>

utilized for small soil and material stockpiling. Topography within the Site undulates dramatically, generally descending in a south direction from a topographic high point in the northern portion of the Site. Numerous rock outcrops also were observed throughout the Site.

Vegetation within forested uplands is dominated by northern red oak (*Quercus rubra*) and white oak (*Quercus alba*), and includes a mix of black cherry (*Prunus serotina*), red maple (*Acer rubrum*), pignut hickory (*Carya glabra*), American beech (*Fagus grandifolia*), eastern red cedar (*Juniperus virginiana*), and black locust (*Robinia pseudoacacia*). The understory includes saplings from the canopy and is generally devoid of shrubs with exception of patches and individuals of raspberry (*Rubus* sp.) and American holly (*Ilex opaca*). The variably sparse groundcover layer includes seedlings from the overstory and scattered patches of common greenbrier (*Smilax rotundifolia*). Areas absent of canopy cover include patches of little bluestem (*Schizachyrium scoparium*) and various grasses (*Gramineae* spp.).

## 1.1 Floodplain Designation

According to the October 2, 2015 and March 2, 2009 Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) for the City of Cranston, Rhode Island (Map Numbers: 44007C0426H and 4407C0407G), the site is located within Zone X (shaded): Areas determined to be outside the 0.2% annual chance flood-plain (Attachment A, Figure 3).

## 1.2 Soil Description

According to the Natural Resource Conservation Service (NRCS) Soil Survey (Web Soil Survey, State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties, Version 24, August 30, 2024), the Site primarily contains Canton and Charlton fine sandy loams (3-15% slopes) and Wapping very stony silt loam (0-8% slopes). Land surrounding a deciduous Swamp located southeast of the Site contains Ridgebury, Leicester, and Whitman soils (0-8% slopes, extremely stony). The NRCS Soil Survey Map is provided in Attachment A, Figure 4. NRCS describes the Canton Series as very deep, well drained soils on nearly level to very steep moraines, hills, and ridges; the Charlton Series as nearly level to very steep, well drained soils on moraines, hills, and ridges; the Wapping Series as nearly level to gently sloping soils on till plains, low ridges and hills, typically on lower slopes and in slight depressions; the Ridgebury Series as deep, poorly drained, and somewhat poorly drained in nearly level or slightly depressional areas along drainage ways; the Leicester Series as very deep, poorly drained soils in drainageways and low-lying positions on hills; and the Whitman Series as very deep, very poorly drained soils in depressions and drainageways on uplands.

LEC utilized a hand-held, Dutch style auger to evaluate the soil profile within selective areas where differing NECS Soil Survey Series were mapped within the Site. The approximate locations of evaluated soil profiles are identified on the attached *Approximate Test Pit and Soil Samples Map*, numbered 1 through 4 (Attachment A, Figure 5).

Within Test Pit (TP) 1, LEC observed a two-inch-thick sandy loam topsoil (A<sup>+</sup>-Horizon) underlain by a two-inch-thick very sandy loam subsoil (B<sup>+</sup>-Horizon). Beneath the topsoil and subsoil is a buried fine sandy loam topsoil measuring 12 inches thick (Ap-Horizon) directly underlain by a buried gravelly very fine sandy loam subsoil (B-Horizon). Redoximorphic features were observed within the A<sup>+</sup>-Horizon and the B-Horizon, indicating the seasonal high groundwater table reaches up to 16 inches below the soil surface and that rain likely slowly infiltrates slowly in the Ap-Horizon. Within TP 2, LEC observed a one-inch-thick sandy loam A-Horizon directly underlain by a 2-inch thick fine sandy loam transitioning topsoil/subsoil layer (AB-Horizon). Following the AB-Horizon, three fine sandy loam to very fine sandy loam B-Horizons were observed with differing soil matrix colors and various redoximorphic concentrations and depletions beginning six inches below the soil surface.

Within TP 3, LEC observed no A-Horizon and documented a veneer of sapric organic material (Oa-Layer) atop a 17-inch-thick very fine sandy loam B-Horizon. A second very fine sandy loam B<sub>2</sub>-Horizon measuring three inches thick was observed with redoximorphic concentrations and depletions. Within TP 4, LEC observed a 1-inch thick Oa-Layer directly underlain by a one-inch-thick fine sandy loam A-Horizon. Three fine sandy loam to very fine sandy loam B-Horizons follow, measuring ten inches (B<sub>1</sub>-Horizon), five inches (B<sub>2</sub>-Horizon), and nine inches (B<sub>3</sub>-Horizon) thick.

Based on the observed soil characteristics summarized above, the Site generally contains between a veneer and 1 inch of organic material, and topsoil generally ranging between zero and two inches thick. TP 1 contained “fill” atop a native soil profile; however, this test pit was located at the base of a slope and the fill may be indicative of erosion and sedimentation occurring over time. Additionally, the Ap-Horizon beneath the fill layer in TP 1 is indicative of historic agriculture or livestock use at the Site. Typically, natural A-Horizons are between two and three inches, whereas Ap-Horizons are thicker and the “p” is applied to indicate the historic land use. Fine sandy loams and very fine sandy loams are consistent throughout the Site.

## 2. Project Description

The project includes installation of an approximately 28-acre, 8.1-megawatt photovoltaic solar array; inverter and equipment pads; a 20-foot-wide crushed stone access road extending from Natick Avenue; a 10-foot-wide access road; a six-foot-tall chain link fence enclosure (with a six-inch gap at the base for wildlife passage); and stormwater management infrastructure.

Installation of the aforementioned features will result in vegetation removal, grubbing, removal of all tree stumps, and regrading portions of the Site. Areas around the array and appurtenances will result in cutting vegetation to a maximum of 15 feet in height, or cut flush to the ground and not grubbed. Buffer planting areas including a variety of evergreen and deciduous saplings and shrubs are proposed outside the array fencing perimeter to the northwest, north, northeast, southeast, and southwest. The proposed solar panels will be installed in rows situated in an east-west direction, while maintaining a minimum 13.6-foot spacing between rows at a southerly

facing angle, ranging between 3 to 12 feet above the finished grade. Long, linear stretches of the Site between the solar panels will be revegetated, including areas beneath a majority of the solar panel array. Some solar panel rows will be built above a crushed stone, linear swale to meter out and infiltrate stormwater.

### 3. Pollinator Planting Plan

The Pollinator Planting Plan and Maintenance Plan described below shall be implemented to provide, and continue to support, food sources and habitat for a variety of pollinator species, including bees, wasps, flies, beetles, butterflies, moths, birds, and mammals which may travel to and from the Site. Establishment of native vegetation is critical to providing suitable food sources for native species. Further, a diverse array of flower colors, flowering duration, stem type, height, and a mix of wildflowers and grasses are strong considerations to support a variety of pollinator species throughout their lifecycles.

Based on the existing Site conditions and proposed conditions, LEC selected the Mesic to Dry Native Pollinator seed mix, prepared by Ernst Seeds, based out of Pennsylvania, to be applied throughout the solar array and surrounding Buffer areas. This seed mix includes a diverse variety of flowering plants with different colors including white, yellow, red, orange, purple to attract a variety of nocturnal and diurnal pollinators. Flowering plants will bloom generally between April to October, encouraging continued pollinating activity throughout the growing season. Details of the coloration and bloom duration are provided in Attachment B. Additionally, select grasses are included to promote alternative sources of nesting materials. For example, little bluestem is used by many bee species for overwintering or resting spaces with the moderately dense overlap of the leaves and inflorescence. A seed bank of existing vegetation, such as raspberry and little bluestem, may be present in the topsoil and may reemerge following completion of construction through re-use of the existing topsoil throughout the project footprint. Raspberry is a native plant with a pithy stem that provides habitat for cavity-nesting species and will be recommended to leave in place if it is observed.

Notably, the seed mix includes a cumulative 1.7% of milkweed (*Asclepias* spp.), an obligate plant species for the Monarch Butterfly. The Monarch Butterfly has a unique lifecycle and migration pattern spanning from Mexico to Canada, and only feeds on nectar from common milkweed and lays eggs only on this species of plant to continue migration. Milkweed comprises a small percentage of the overall seed mix, so LEC is recommending incorporating an additional 10% of common milkweed (*Asclepias syriaca*) seeds to the Mesic to Dry Native Pollinator seed mix to be applied in the Buffer areas outside the perimeter fence. Based on existing conditions, application of the supplemental common milkweed seed mix is anticipated along the northern, western, eastern, and southern perimeter, where appropriate. Common milkweed grows up to five feet tall and prefers full sun, so growth may be stunted throughout the array footprint. As such,



supplementing the seed mix in the Buffer area where the plant will receive more sunlight and have limited restrictions to growth will increase density. Nonetheless, common milkweed spreads through a rhizome root system and produces many seeds that travel through migrating animals and/or wind, so dispersal throughout the Site may increase over the years.

### 3.1 Establishment of Vegetation

#### 3.1.1 Topsoil Preparation

Based on the proposed regrading within portions of the Site, it is anticipated that topsoil will be scraped from a majority of the Site prior to installing solar arrays and associated infrastructure and appurtenances. It is LEC's understanding that existing topsoil will be stockpiled on Site for re-use.

Considering that some areas within the Site are absent of topsoil (i.e. dirt/gravel paths and areas stripped of topsoil), LEC recommends spreading stockpiled topsoil and/or importing clean, weed-free, organic-rich topsoil (as needed) to achieve a depth of topsoil between four and six inches throughout the Site. Accordingly, LEC recommends exposing as much topsoil as possible to have good soil to seed contact when spreading the seed mix. Tilling with an appropriately sized machine (i.e. Bobcat with six-inch tilling attachment) is likely the most efficient method unless there are stumps and large boulders etc. that might cause some issues for tilling. The Site appears to contain a reasonable amount of organic content within the observed topsoil (A-Horizons); however, LEC recommends that existing and any imported topsoil be tested to confirm organic content ranges between 5-10%. LEC has collected three (3) topsoil samples during the March 18, 2025 site evaluation and will coordinate soil testing with UMass Amherst prior to the start of construction. LEC will recommend if any amendments to the soil with leaf compost will be required to achieve preferred organic content.

#### 3.1.2 Seed Mix Application

It is LEC's understanding that the proposed project will be constructed in two phased areas (north and south) within the Site. As such, it is reasonable to presume that one phase (or both) may be completed prior to the appropriate time of year to apply the pollinator seed mix. Applying the seed mix via hydroseeding or spreading mulch/straw is recommended to reduce the risk of erosion or scour prior to germination. Additionally, it may be necessary to implement a nurse seed (e.g. field peas, radish, etc.) to stabilize the Site. LEC recommends that if needed, the selected nurse seed is a native, annual species in order to avoid potentially overcrowding and/or outcompeting the intended pollinator seed mix. Further, testing of the existing soil pH may produce results which will determine an appropriate nurse seed. If the time of year is appropriate, LEC recommends spreading the pollinator seed mix concurrently with the nurse seed to begin the germination process for certain plant species with a two-year germination cycle. The most appropriate time of year to apply the pollinator-friendly seed mix is in late fall prior to overnight

frost temperatures (October-December) to allow seeds to overwinter and begin the germination cycle.

A gentle soaking of water is recommended the same day the seed mix is applied, or application within damp soil (following watering or a rain event). The need for supplemental watering and reseeded will be assessed to ensure sufficient vegetative growth and coverage.

### 3.2 Pollinator-Friendly Habitat

### 3.3 Fencing and Signage

Based on review of the plans, it is LEC's understanding that there is a six-inch gap at the bottom of the chain link security fence encompassing the Site. This gap should remain clear and continue to be monitored and maintained, as provided in the Maintenance Plan in Section 3.6 below. If not explicitly clear in ongoing maintenance documents, LEC recommends signage in visible areas throughout the Site indicating "No Spray," "No Herbicides/Pesticides," or similar, to ensure continued protection of vegetation and pollinator species.

### 3.4 Monitoring

During construction, LEC will inspect seed mix and planting orders to ensure no invasive, non-native, or cultivar species are delivered to the Site prior to installation. LEC also will inspect plantings upon arrival to ensure they meet planting specifications and may reject plantings or seed mixes if they do not meet specifications. LEC may recommend supplemental shrub plantings and/or seed mix in select buffer areas to enhance pollinator-friendly vegetation. LEC will work closely with Natick Solar to implement supplemental plantings and seed mix during construction, if necessary.

Following completion of construction, LEC will perform post-construction monitoring of the solar array for three (3) growing seasons to ensure the successful establishment of the pollinator-friendly seed mix and Buffer plantings. LEC will conduct up to three (3) site visits per monitoring year in spring, mid-summer, and fall, to document the continued transition of flowering vegetation within the Site. The post-construction monitoring also will include observations and documentation of any colonizing invasive, non-native species. LEC will coordinate with Natick Solar to resolve any action items identified during post-construction site evaluations, such as recommendations for invasive species removal/management and/or supplemental plantings/seed mix.

### 3.5 Invasive Species Management

Invasive species management is critical within the first few years after establishing a new vegetative cover type. Opening the canopy, clearing vegetation, and disturbing soils creates a viable habitat for opportunistic, non-native, invasive species to colonize, or for seed banks to reemerge and potentially out-compete native species. Additionally, a risk of importing topsoil is that it could arrive with a seed bank including such species. As such, inspection and confirmation

of a viable source for any imported topsoil is an important component to ensure future success of the pollinator-friendly planting plan. Based on existing vegetation, anticipated invasive species include black locust. Additional common invasive species include common reed (*Phragmites australis*), reed canary grass (*Phalaris arundinacea*), and Japanese knotweed (*Fallopia japonica*). As noted above in Section 3.4, LEC will conduct post-construction monitoring for three (3) growing seasons and will document the presence/absence of invasive species. While few existing invasive, non-native species occur within the Site; if observed, invasive species removal/management may include hand-removal or spot-treatment of herbicides at the end of the growing season. Wide-spread herbicide (e.g. foliar spray) application will not be recommended.

### 3.6 Maintenance Plan

Most critical to the success of a pollinator-friendly Solar Array and allowing flowering plants to bloom throughout the growing season is yearly mowing practices. Considering that the solar panels will extend three (3) to 12 feet above the ground surface, it is important that the selected seed mix includes species that grow to three feet or less on average to avoid shading the panels or requiring more frequent mowing. Some species in the selected seed mix can grow above three feet; however, these plants typically prefer full sun and potential shading from the solar panels may stunt growth and reduce the full height. Additionally, the low-growth herbaceous cover will not require substantial mowing to allow sunlight to reach the full solar panel. However, the annual or semi-annual frequency may be adjusted depending on Site establishment and growing conditions. Other notable maintenance activities include maintaining safe accessways, repairing structures and appurtenances, and maintaining a stable Site. In addition to the annual Maintenance Plan provided below, the invasive species management monitoring and maintenance should continue in perpetuity (following the three-year biologist monitoring may be conducted by the Owners landscaper).

Annual/Semi-Annual Maintenance Plan for Pollinator-Friendly Solar Array	
Year(s) Following Construction	Action Items
1-3 Years (Establishment Period)	<ul style="list-style-type: none"> <li>Mow once (October 1-May 1, preferably March-May) without authorization from the biologist. Mowing equipment must be washed before and after use at the site to prevent spread of invasives between sites. Mow at low gear, low speed, and set mower height at 7-12" above ground level. Mow in a pattern allowing wildlife to escape the equipment (i.e. central to outer edges of the array). Mowed material shall be left in place.</li> <li>If weed-whacking is required, follow the procedures outlined above.</li> </ul>

	<ul style="list-style-type: none"> <li>• Mow up to two (2) additional times following a site visit and coordination with the biologist. Follow mowing instructions provided above.</li> </ul>
	<ul style="list-style-type: none"> <li>• Implement necessary invasive species removal methods per botanist recommendation.</li> </ul>
	<ul style="list-style-type: none"> <li>• Inspect surrounding chain link fence. Repair, replace, or reposition fallen logs. Remove any obstructions to 6” opening at the bottom of the fence.</li> </ul>
	<ul style="list-style-type: none"> <li>• Spread additional seed mix as necessary per the botanist recommendation.</li> </ul>
	<ul style="list-style-type: none"> <li>• Leaf blowing: only use a leaf blower to relocate leaves off internal driveways, from electrical equipment, and stormwater management features. Blow leaf litter towards vegetated Buffer plantings and under arrays to encourage overwintering habitat and decomposition.</li> </ul>
<p>3+ Years (Following completion of botanist monitoring)</p>	<ul style="list-style-type: none"> <li>• Mow once (October 1-May 1) only if necessary. Depending on the growth year, mowing may not be necessary at all. Mowing equipment must be washed before and after use at the site to prevent spread of invasives between sites. Mow at low gear, low speed, and set mower height at 7-12” above ground level. Mow in a pattern allowing wildlife to escape the equipment (i.e. central to outer edges of the array). Mowed material shall be left in place.</li> </ul>
	<ul style="list-style-type: none"> <li>• If weed whacking is required, follow the procedures outlined above.</li> </ul>
	<ul style="list-style-type: none"> <li>• Implement necessary invasive species removal methods if invasive species are observed. An ongoing maintenance guidance document may be prepared by the botanist to be implemented in perpetuity.</li> </ul>
	<ul style="list-style-type: none"> <li>• Inspect surrounding chain link fence. Repair, replace, or reposition fallen logs. Remove any obstructions to 6” opening at the bottom of the fence.</li> </ul>
	<ul style="list-style-type: none"> <li>• Spread additional seed mix as necessary in bare areas susceptible to erosion and sedimentation. If bare soil is in a flat area not at risk of erosion, scour, or sedimentation, consider leaving bare soil to promote ground-nesting bees. Take note of the location – if within a highly trafficked area near electrical equipment, it may not be a safe location to promote ground-nesting bees.</li> </ul>
	<ul style="list-style-type: none"> <li>• Leaf blowing: only use a leaf blower to relocate leaves off internal driveways, from electrical equipment, and stormwater management features. Blow leaf litter towards vegetated Buffer plantings and under arrays to encourage overwintering habitat and decomposition.</li> </ul>



#### 4. Summary

Thank you for the opportunity to provide you with this report. If you have any questions or require additional information, do not hesitate to contact me in our East Providence office at 401-685-3109 or at [choogeboom@lecenvironmental.com](mailto:choogeboom@lecenvironmental.com).

Sincerely,

**LEC Environmental Consultants, Inc.**

A handwritten signature in black ink that reads "Claire Hoozeboom".

Claire A. Hoozeboom  
Wetland Scientist

A handwritten signature in black ink that reads "Andrea Kendall".

Andrea Kendall, PWS  
Senior Environmental Scientist

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Federal Emergency Management Agency Flood Insurance Rate Map, City of Cranston (*Community Panels 44007C0407G and 44007C0426H*), effective March 2, 2009 and October 2, 2015.

US Department of Agriculture Natural Resources Conservation Service, Web Soil Survey, <https://websoilsurvey.nrcs.usda.gov/app/>

*Field Indicators for Identifying Hydric Soils in New England* (Version 4, June 2020)  
[https://drive.google.com/file/d/1WHXaCEPSwHKkjyG6tmN\\_1cxyzziOy\\_qS/view](https://drive.google.com/file/d/1WHXaCEPSwHKkjyG6tmN_1cxyzziOy_qS/view)

USDA Natural Resources Conservation Service, Rhode Island Pollinator Gardens Design Guide, [https://www.nrcs.usda.gov/sites/default/files/2024-08/RI-Pollinator-Brochure-2024\\_508.pdf](https://www.nrcs.usda.gov/sites/default/files/2024-08/RI-Pollinator-Brochure-2024_508.pdf)

RIDEM, Native Plants and Pollinators, Gardening for Pollinators, <https://dem.ri.gov/sites/g/files/xkgbur861/files/2023-09/pollinator-friendly-gardening.pdf>

RIISC, Invasive Plants in Rhode Island (2020), [https://rinhs.org/wp-content/uploads/2021/10/Invasive-and-Weedy-Plants-in-RI-2020\\_FINAL.pdf](https://rinhs.org/wp-content/uploads/2021/10/Invasive-and-Weedy-Plants-in-RI-2020_FINAL.pdf)

RIDEM, Butterflies of Rhode Island, [https://dem.ri.gov/sites/g/files/xkgbur861/files/2023-01/Butterflies%20fact%20sheet%20-%20FINAL\\_0.pdf](https://dem.ri.gov/sites/g/files/xkgbur861/files/2023-01/Butterflies%20fact%20sheet%20-%20FINAL_0.pdf)

RIDEM, Wild Bees of Rhode Island, <https://dem.ri.gov/sites/g/files/xkgbur861/files/2025-01/Wild%20Bees%20fact%20sheet%20-%20update%201-16-25.pdf>

RIDEM, Flower Flies of Rhode Island, <https://dem.ri.gov/sites/g/files/xkgbur861/files/2023-08/Flower%20Flies%20fact%20sheet%20-%20DRAFT.pdf>

UMass Clean Energy Extension, Best Management Practices for Pollinator-Friendly Solar Arrays, [https://www.umass.edu/agriculture-food-environment/sites/default/files/pdf-doc-ppt/pollinator\\_friendly\\_bmps\\_for\\_solar\\_arrays\\_ua.pdf](https://www.umass.edu/agriculture-food-environment/sites/default/files/pdf-doc-ppt/pollinator_friendly_bmps_for_solar_arrays_ua.pdf)

Ernst Seeds, <https://www.ernstseed.com/>



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## **Attachment A**

Figure 1: USGS Topographic Map

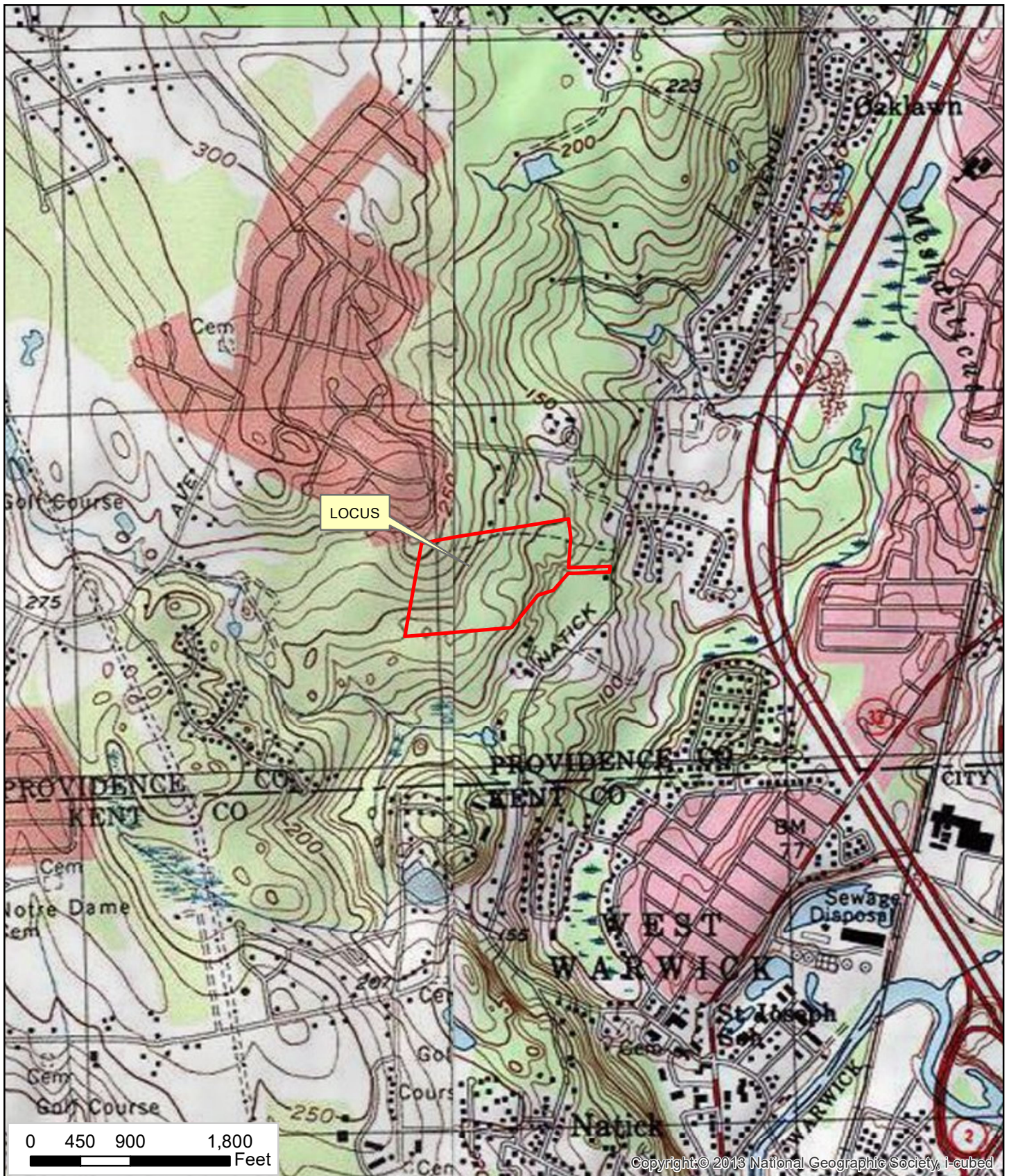
Figure 2: Aerial Map

Figure 3: FEMA Flood Insurance Rate Map

Figure 4: NRCS Soil Survey Map

Figure 5: Approximate Test Pit and Soil Samples Map





LEC Environmental Consultants, Inc.

East Providence  
401.685.3109  
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## Figure 1: USGS Topographic Map

Natick Solar - Natick Avenue  
Cranston, Rhode Island



March 19, 2025





East Providence  
401.685.3109  
www.lecenvironmental.com

**Figure 2: Aerial Map**  
Natick Solar - Natick Avenue  
Cranston, Rhode Island



March 19, 2025



# National Flood Hazard Layer FIRMette



71°30'13"W 41°44'24"N



1:6,000

71°29'35"W 41°43'57"N

Basemap Imagery Source: USGS National Map 2023

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **3/19/2025 at 3:27 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

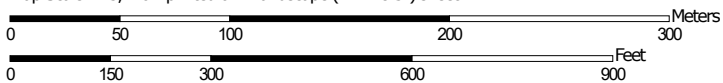
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



# Soil Map—State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties



Map Scale: 1:3,440 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84



**Natural Resources  
Conservation Service**

Web Soil Survey  
National Cooperative Soil Survey

3/17/2025  
Page 1 of 3

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties

Survey Area Data: Version 24, Aug 30, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 14, 2022—Jul 1, 2022

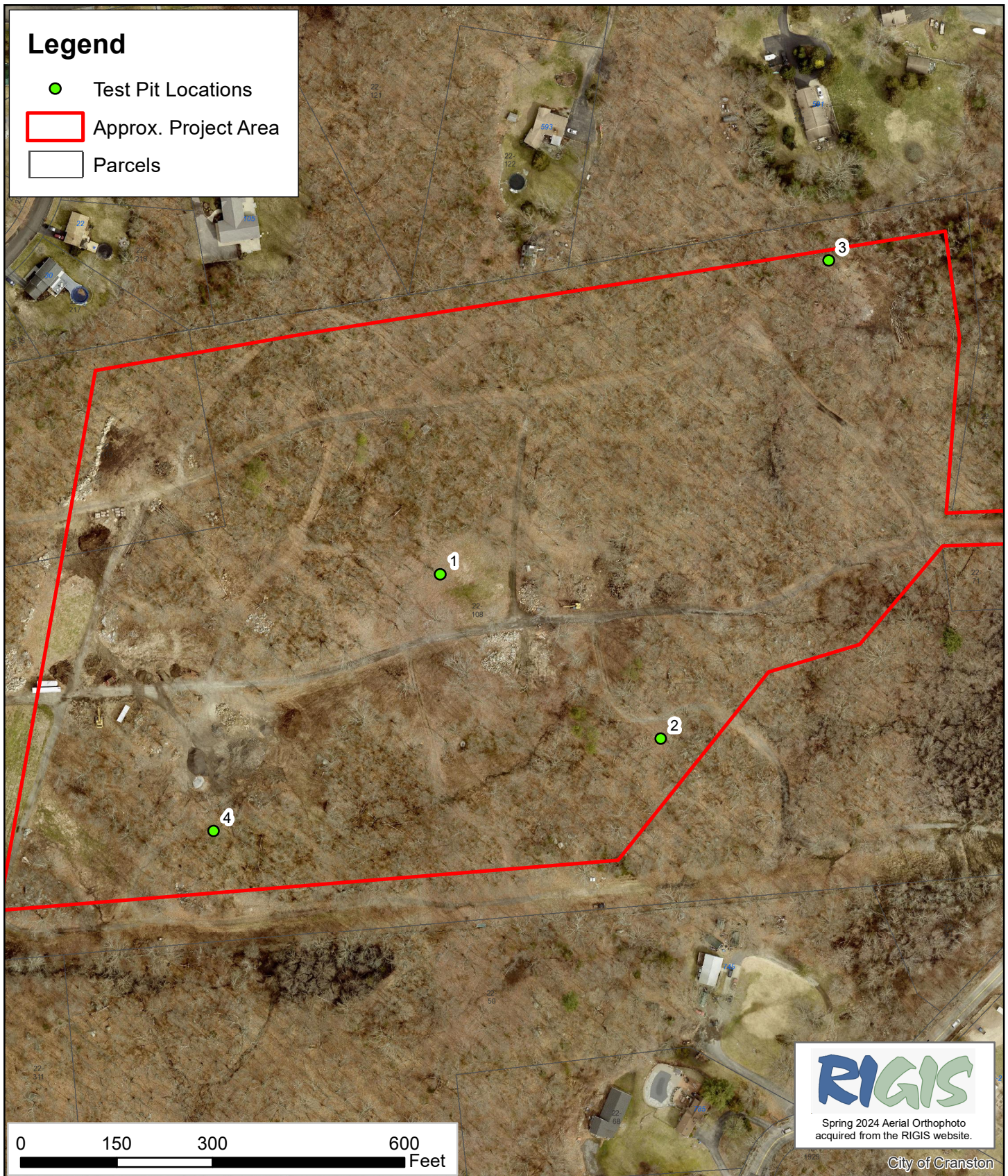
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CeC	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, very rocky	32.4	76.6%
Rf	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	4.2	9.9%
WcB	Wapping very stony silt loam, 0 to 8 percent slopes	5.7	13.5%
<b>Totals for Area of Interest</b>		<b>42.3</b>	<b>100.0%</b>





LEC Environmental Consultants, Inc.

East Providence  
401.685.3109  
www.lecenvironmental.com

## Figure 5: Approximate Test Pit and Soil Samples Map

Natick Solar - Natick Avenue  
Cranston, Rhode Island



March 19, 2025



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**Attachment B**

Seed Mix Table

Seed Mix Specifications



# ERNST SEEDS

**Ernst Conservation Seeds**  
8884 Mercer Pike  
Meadville, PA 16335  
(800) 873-3321 Fax (814) 336-5191  
[www.ernstseed.com](http://www.ernstseed.com)

**Date: March 25, 2025**

## Mesic to Dry Native Pollinator Mix - ERNMX-105

	<b>Botanical Name</b>	<b>Common Name</b>	<b>Price/Lb</b>
30.00 %	<i>Schizachyrium scoparium, Fort Indiantown Gap-PA Ecotype</i>	Little Bluestem, Fort Indiantown Gap-PA Ecotype	20.40
19.00 %	<i>Elymus virginicus, Madison-NY Ecotype</i>	Virginia Wildrye, Madison-NY Ecotype	11.10
12.30 %	<i>Sorghastrum nutans, PA Ecotype</i>	Indiangrass, PA Ecotype	18.13
7.50 %	<i>Echinacea purpurea</i>	Purple Coneflower	46.80
5.00 %	<i>Panicum clandestinum, Tioga</i>	Deertongue, Tioga	23.87
3.00 %	<i>Chamaecrista fasciculata, PA Ecotype</i>	Partridge Pea, PA Ecotype	13.00
3.00 %	<i>Coreopsis lanceolata</i>	Lanceleaf Coreopsis	31.20
3.00 %	<i>Penstemon digitalis, PA Ecotype</i>	Tall White Beardtongue, PA Ecotype	182.00
3.00 %	<i>Rudbeckia hirta</i>	Blackeyed Susan	33.80
2.50 %	<i>Verbena hastata, PA Ecotype</i>	Blue Vervain, PA Ecotype	41.60
1.50 %	<i>Heliopsis helianthoides, PA Ecotype</i>	Oxeye Sunflower, PA Ecotype	36.40
1.30 %	<i>Lespedeza capitata, RI Ecotype</i>	Roundhead Lespedeza, RI Ecotype	124.80
1.30 %	<i>Zizia aurea, PA Ecotype</i>	Golden Alexanders, PA Ecotype	78.00
1.00 %	<i>Senna hebecarpa, VA &amp; WV Ecotype</i>	Wild Senna, VA & WV Ecotype	31.20
0.70 %	<i>Asclepias incarnata, PA Ecotype</i>	Swamp Milkweed, PA Ecotype	192.40
0.70 %	<i>Asclepias tuberosa, PA Ecotype</i>	Butterfly Milkweed, PA Ecotype	468.00
0.60 %	<i>Aster pilosus, PA Ecotype</i>	Heath Aster, PA Ecotype	286.00
0.50 %	<i>Baptisia australis, Southern WV Ecotype</i>	Blue False Indigo, Southern WV Ecotype	104.00
0.50 %	<i>Eupatorium perfoliatum, PA Ecotype</i>	Boneset, PA Ecotype	208.00
0.50 %	<i>Gaura biennis, PA Ecotype</i>	Biennial Beeblossom, PA Ecotype	163.80
0.50 %	<i>Pycnanthemum tenuifolium</i>	Narrowleaf Mountainmint	260.00
0.50 %	<i>Rudbeckia triloba, WV Ecotype</i>	Browneyed Susan, WV Ecotype	62.40
0.40 %	<i>Aster lateriflorus</i>	Calico Aster	364.00
0.30 %	<i>Asclepias syriaca, PA Ecotype</i>	Common Milkweed, PA Ecotype	104.00
0.30 %	<i>Aster umbellatus, PA Ecotype</i>	Flat Topped White Aster, PA Ecotype	520.00
0.30 %	<i>Monarda fistulosa, Fort Indiantown Gap-PA Ecotype</i>	Wild Bergamot, Fort Indiantown Gap-PA Ecotype	104.00
0.30 %	<i>Solidago nemoralis, PA Ecotype</i>	Gray Goldenrod, PA Ecotype	312.00
0.10 %	<i>Lobelia siphilitica, PA Ecotype</i>	Great Blue Lobelia, PA Ecotype	416.00
0.10 %	<i>Mimulus ringens, PA Ecotype</i>	Square Stemmed Monkeyflower, PA Ecotype	260.00
0.10 %	<i>Pycnanthemum incanum</i>	Hoary Mountainmint	468.00
0.10 %	<i>Solidago bicolor, PA Ecotype</i>	White Goldenrod, PA Ecotype	312.00
0.10 %	<i>Solidago juncea, PA Ecotype</i>	Early Goldenrod, PA Ecotype	364.00
<b>100.00 %</b>		<b>Mix Price/Lb Bulk:</b>	<b>\$44.22</b>

**Seeding Rate:** Expect to apply about 20 lbs per acre.

Herbaceous Flowering Species - Herbaceous Perennial; Pollinator Favorites; Uplands & Meadows

**Price quotes guaranteed for 30 days.**  
**All prices are FOB Meadville, PA.**  
**Please check our web site at [www.ernstseed.com](http://www.ernstseed.com)**  
**for current pricing when placing orders.**

### Seed Mix Specifications (Ernst Mesic to Dry Native Pollinator Mix - ERNMX-105)

Common Name	Scientific Name	Percentage of mix	Flower Color	Approx. Bloom Period	Sun/Shade	Soil Requirements
Little Bluestem, Fort Indiantown Gap-PA Ecotype	<i>Schizachyrium scoparium, Fort Indiantown Gap-PA Ecotype</i>	30.00%	N/A	N/A	full sun	mesic to dry
Virginia Wildrye, Madison-NY Ecotype	<i>Elymus virginicus, Madison-NY Ecotype</i>	19.00%	N/A	N/A	partial shade, shade	mesic
Indiangrass, PA Ecotype	<i>Sorghastrum nutans, PA Ecotype</i>	12.30%	N/A	N/A	full sun	mesic to dry
Purple Coneflower	<i>Echinacea purpurea</i>	7.50%	purple, pink	April - Sept	sun to partial shade	dry
Deertongue, Tioga	<i>Panicum clandestinum, Tioga</i>	5.00%	N/A	N/A	partial shade, shade	mesic
Partridge Pea, PA Ecotype	<i>Chamaecrista fasciculata, PA Ecotype</i>	3.00%	yellow	June - Aug	full sun, partial shade	mesic to dry
Lanceleaf Coreopsis	<i>Coreopsis lanceolata</i>	3.00%	yellow	April - June	sun, part shade, shade	dry
Tall White Beardtongue, PA Ecotype	<i>Penstemon digitalis, PA Ecotype</i>	3.00%	white, pink	April - May	sun, part shade	dry
Blackeyed Susan	<i>Rudbeckia hirta</i>	3.00%	yellow	June - Oct	sun	mesic to dry
Blue Vervain, PA Ecotype	<i>Verbena hastata, PA Ecotype</i>	2.50%	purple	June - Aug	full sun to partial shade	moist to mesic
Oxeye Sunflower, PA Ecotype	<i>Heliopsis helianthoides, PA Ecotype</i>	1.50%	yellow	June - Sept	sun to partial shade	dry
Roundhead Lespedeza, RI Ecotype	<i>Lespedeza capitata, RI Ecotype</i>	1.30%	white	July - Sept	sun	dry
Golden Alexanders, PA Ecotype	<i>Zizia aurea, PA Ecotype</i>	1.30%	yellow	April - Aug	sun to partial shade	moist
Wild Senna, VA & WV Ecotype	<i>Senna hebecarpa, VA &amp; WV Ecotype</i>	1.00%	yellow	July - Aug	sun to partial shade	moist
Swamp Milkweed, PA Ecotype	<i>Asclepias incarnata, PA Ecotype</i>	0.70%	purple, pink	June - Oct	sun to partial shade	moist, wet
Butterfly Milkweed, PA Ecotype	<i>Asclepias tuberosa, PA Ecotype</i>	0.70%	orange, yellow	May - Sept	sun	dry, moist
Heath Aster, PA Ecotype	<i>Aster pilosus, PA Ecotype</i>	0.60%	white, pink, yellow, blue	Aug - Oct	sun	dry
Blue False Indigo, Southern WV Ecotype	<i>Baptisia australis, Southern WV Ecotype</i>	0.50%	blue, purple	April - July	sun	moist
Ecotype Boneset, PA Ecotype	<i>Eupatorium perfoliatum, PA</i>	0.50%	white	June - Oct	sun, partial shade, shade	moist, wet
Biennial Beeblossom, PA Ecotype	<i>Gaura biennis, PA Ecotype</i>	0.50%	white, pink	June - Oct	partial shade, shade	moist, wet
Narrowleaf Mountainmint	<i>Pycnanthemum tenuifolium</i>	0.50%	white	June - Sept	sun to partial shade	dry, moist
Browneyed Susan, WV Ecotype	<i>Rudbeckia triloba, WV Ecotype</i>	0.50%	yellow	June - Oct	sun to partial shade	dry, moist
Calico Aster	<i>Aster lateriflorus</i>	0.40%	white, purple	August - Oct	sun	moist, mesic
Common Milkweed, PA Ecotype	<i>Asclepias syriaca, PA Ecotype</i>	0.30%	white, purple	June - Aug	sun	moist
Flat Topped White Aster, PA Ecotype	<i>Aster umbellatus, PA Ecotype</i>	0.30%	white	Aug - Sept	sun	moist, wet
Wild Bergamot, Fort Indiantown Gap-PA Ecotype	<i>Monarda fistulosa, Fort Indiantown Gap-PA Ecotype</i>	0.30%	white, pink, purple	May - Sept	sun to partial shade	dry, moist
Gray Goldenrod, PA Ecotype	<i>Solidago nemoralis, PA Ecotype</i>	0.30%	yellow	June - Oct	sun, partial shade, shade	dry
Great Blue Lobelia, PA Ecotype	<i>Lobelia siphilitica, PA Ecotype</i>	0.10%	blue	July - Oct	sun, partial shade, shade	moist, wet
Square Stemmed Monkeyflower, PA Ecotype	<i>Mimulus ringens, PA Ecotype</i>	0.10%	red, pink, blue, purple	June - Sept	sun	moist, wet
Hoary Mountainmint	<i>Pycnanthemum incanum</i>	0.10%	white, purple	June - July	sun to partial shade	dry, moist
White Goldenrod, PA Ecotype	<i>Solidago bicolor, PA Ecotype</i>	0.10%	white, yellow	July - Oct	sun, partial shade, shade	dry
Early Goldenrod, PA Ecotype	<i>Solidago juncea, PA Ecotype</i>	0.10%	yellow	June - Aug	sun, partial shade, shade	dry, moist