P R O P E R T Y
M A N A G E M E N T P L A N

Prepared For:

LAWTON FARM
Scituate Conservation Commission
Scituate, Rhode Island

PREPARED BY:
MARC J. TREMBLAY, CF
LAND MANAGEMENT
SERVICES

303 Courthouse Lane, Pascoag, RI 02859

(401) 568-3410

EXECUTIVE SUMMARY

The Lawton Farm is a 54.4 acre parcel in the southeastern portion of the town of Scituate, with frontage on Seven Mile Road. It is owned by the Scituate Land Trust and the Town of Scituate and most of the acreage is subject to a Conservation Easement (CE) granted to the State of Rhode Island. The Purpose of the CE on the Lawton Farm, as identified under Item 1 of the CE, is to "assure that the Premises will be retained forever in its open, natural, scenic, agricultural, ecological, or educational condition and to prevent any use of the Premises that will significantly impair or interfere with the conservation values of the Premises". The CE confines the use of the Premises to:

- Maintaining the open fields in farm production to provide nesting habitat for the Eastern Meadowlark and Bobolink;
- Managing the forest under a forest management plan;
- And such uses as are consistent with the purpose of the CE and the Management Plan . . . . to preserve the natural values, public access, and other matters. . .

To address these objectives, this Plan includes the following components:

- An Open Field Habitat Management Plan for the maintenance and improvement of the open fields and early-successional areas that allows for grassland bird habitat;
- A Forest Management Plan that addresses vegetation and habitat improvements in the wooded areas, as well as providing access to those areas for implementation;
- A Recreational Use Plan that provides guidelines on recreational access that is compatible with the protection of conservation values.

The existing conditions of the property include approximately 21.5 acres of open grasslands managed for bird habitat; 13 acres of open, shrubby early-successional fields, partly divided by a hedgerow and wooded strips; and about 20 acres of woodlands, including a riparian zone for Cranberry Brook with two stream crossings, and several acres of upland woods.

The major issues at the site include a serious infestation of non-native invasive plants in the field edges and in the northwestern fields; and the continued management of recreational use, from which there could be negative effects on the nesting success of grassland birds.

The Plan's recommendations include:

- Extending CE restrictions to the southeast 15-acre parcel of grasslands;
- Continued restrictions on recreational access during nesting season;
- Continued hayland management activities to maintain the grassland conditions;
- Control of the invasive plants throughout the property;
- Review of the management of the early-successional habitat areas.

LAND MANAGEMENT PLAN
Title & Signature Page

Property Owner(s): Plan Date: September, 2019

Town of Scituate, Rhode Island
Conservation Commission and Land Trust
195 Danielson Pike
No. Scituate, RI 02857

Property Information:

Town: Scituate	Plat: 9/1	Lots: 9, 272
Total Acres: 54.4	Wooded Acres: @ 20	Open Acres: @ 35

Property Location: Westerly of Seven Mile Road, just east of Providence Water's Philip Holton Water Treatment Plant, and south of Scituate Ave. (RI Route 12), in the southeastern portion of the town of Scituate.

USGS Topo Quad: North Scituate

Signatures:

I hereby attest that this plan was prepared according to the owner's management objectives, and that all information provided is as accurate as current forestry practices allow.

_____
Plan Preparer

On behalf of the Town of Scituate, I (we) certify that this Land Management Plan is prepared in accordance with the Conservation Easement covering the referenced parcel of land, and that I (we) agree to the recommendations provided, until such plan is further revised and approved by the RI DEM.

_____ _____
Owner(s)

. . . . . .

_____ Date: _____
RI DEM representative for Plan approval

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Lawton Farm Land Management Plan

LAWTON FARM LAND MANAGEMENT PLAN

INTRODUCTION

This Land Management Plan has been developed for the purposes of documenting the natural resources of the subject parcel, and developing guidelines and recommendations for the use, maintenance, and management of the prescribed uses of these lands.

Ownership and Purpose:

The Lawton Farm is a 54.4 acre parcel owned by the Scituate Land Trust (SLT) and the Town of Scituate. 39.4 acres of that land was deeded to the SLT in May of 1992 (Deed Book 141, pp. 262-267) by resolution from the Scituate Town Council, subject to a Conservation Easement (CE) granted to the State of Rhode Island on October 2, 1990 (Deed Book Volume 133, pp 48 – 60), with the care, control, and custody of the parcel assigned to the Scituate Conservation Commission (SCC). A fifteen (15) acre parcel in the southeast portion of the property was donated to the town by the Lawton family with no use restrictions, but with the intention of its use as recreation/open space, and its care, custody, and control has been assigned to the SCC by order of the Scituate Town Council, by Town Ordinance (Parks & Recreation Ordinance, Section 9-100 – 102: Article VII, Lawton Farm Property).

The Mission of the SCC is: "Working to Conserve Scituate's Natural and Community Resources" (SCC Annual Report, 2018). The SCC is a board of the Town, with volunteer commissioners and associates whom, as part of their function, monitor and manage several properties in town on behalf of the Town. The SCC has enlisted volunteer Property Stewards to regularly monitor its various properties and report on any problems or issues for resolution.

According to the CE, a Management Plan for the property "sets forth specific procedures by which the premises shall be maintained including, but not limited to, the adequate maintenance of the Premises to preserve the natural values, public access and other matters as may be required for the preservation of the Premises". The CE provides the Town of Scituate with the right, from time to time, to amend the Management Plan, and said amended plan must be approved by the State of Rhode Island, Natural Heritage Preservation Commission (RI DEM).

The Purpose of the CE on the Lawton Farm, as identified under Item 1 of the CE, is to "assure that the Premises will be retained forever in its open, natural, scenic, agricultural, ecological, or educational condition and to prevent any use of the Premises that will significantly impair or interfere with the conservation values of the Premises". The CE confines the use of the Premises to:

- Maintaining the open fields in farm production to provide nesting habitat for the Eastern Meadowlark and Bobolink;
- Managing the forest under a forest management plan;

- And such uses as are consistent with the purpose of the CE and the Management Plan . . . to preserve the natural values, public access and other matters as may be required for the preservation of the premises.

Goals & Objectives:

The primary goal of the SCC in the management of the Lawton Farm is to protect the conservation values of the property in accordance with the CE. To accomplish this, the challenge is to balance the native wildlife habitat values with provision of public access for passive recreational uses.

This Management Plan addresses the SCC's overall Mission and their goal for Lawton Farm by providing guidelines and recommendations for the following Objectives:

- Continue the agricultural use of the farm's open fields in order to provide open grassland habitat for the Eastern meadowlark and the Bobolink, contribute to the local farm economy, and maintain the aesthetically valuable open nature of the landscape;
- Improve the productivity of the woodland areas for improved forest health and woodland habitat values;
- Provide public access for passive recreational purposes that are compatible with protecting the integrity and diversity of the wildlife habitat communities.

To address these objectives, this Plan includes the following components:

- An Open Field Habitat Management Plan for the maintenance and improvement of the open fields that allows for a combination of grassland and shrubland bird and small mammal habitat;
- A Forest Management Plan that addresses vegetation and habitat improvements in the wooded areas, as well as providing access to those areas for implementation;
- A Recreational Use Plan that provides guidelines on recreational access that is compatible with the protection of conservation values.

Criteria for Management Plans:

This Forest Management Plan has been prepared according to Forest Stewardship guidelines, as developed and implemented by the US Forest Service's Forest Stewardship Program, and in accordance with the American Forest Foundation's Tree Farm Certification Guidelines, which meet PEFC performance standards for green certification. These standards also comply with the RI DEM's standards for Open Space acquisition and Conservation Easement programs.

According to the RI DEM's Open Space Grant Management Plan Guidelines, there are certain criteria for purchasing and managing properties under those programs (NHP-Rule 11, September, 1987). A copy of those guidelines is in Appendix I of this plan.

Inventory Method:

The preparation of this Forest Management Plan has included a forest resource inventory, the results of which are included in each of the Stand Descriptions that will follow. Forest stands are determined through a combination of forest cover, geographic features, and potential management considerations, with soil types, slope, and aspect each having a major influence on the delineation of these stands.

This forest inventory was conducted by the randomized distribution of variable radius sampling plots, with the use of a 10-factor prism and measuring the diameters of all "in" trees. Extrapolation of the recorded data provides average diameter and stocking level across the stand. Data recorded includes species, determination of acceptable or un-acceptable growing stock (AGS vs. UGS), understory vegetation, and any additional site factors that influences the health and viability of the stand.

PROPERTY OVERVIEW

This 54.4-acre property is mostly open fields in various stages of vegetative growth, except for approximately 20 acres of forested land, including forested wetlands along Cranberry Brook, a wooded hedgerow, and a small stand of upland hardwoods in the southwest corner. The property is located westerly of Seven Mile Road, which runs south off of Scituate Avenue (RI Rt. 12) in the southeastern portion of the town of Scituate (see Figure 1, Locus Map).

The property is owned by the Town of Scituate and managed by the Scituate Conservation Commission. The property was purchased from Henry and Virginia Lawton, with most of the funding provided by the Open Space Bond administered by the State of Rhode Island. The Lawton Farm has historically been utilized for agricultural purposes, and that use is continued through the current management of the eastern hayfields.

The property is situated on the southern slope of Bald Hill, with a ridge of level to gently sloping open fields in the eastern portion of the property. The property is bisected by Cranberry Brook, which runs south through the property towards the Pawtuxet River.

Cranberry Brook flows southerly into the North branch of the Pawtuxet River below the village of Hope, at Jackson Flats. The flow of water from this property eventually reaches Narragansett Bay at Pawtuxet Cove. On the way it travels through a groundwater recharge area that is an important source of drinking water, wildlife habitat, and recreational flows for the residents of central Rhode Island.

The forest cover is predominately hardwoods, with Red maple in the wetland and riparian zone, and a mix of upland oaks in the small area of upland soils and in the matured hedgerow between two fields. These woodlands were at one time cleared for pasture, as is evident by the presence of stone walls and barbed wire fencing along some of the

boundaries. Those less productive, abandoned fields and wetland areas have reverted to woodlands.

The soils on the property are primarily upland Paxton very stony fine sandy loams, and Woodbridge very stony fine sandy loams underlying the open fields, with a mix of Lippitt gravelly sandy loam, very rocky, and Ridgebury extremely stony, fine sandy loams in the wooded portions of the property. Soil moisture and site quality varies somewhat between the drier sites on the eastern ridge and hillsides adjacent to the stream valley, and the poorly drained areas along the stream. These conditions produce a variety of growth and windthrow hazard conditions, but overall the property has fair soils for growing timber. Please refer to the Custom Soil Resource Report in the Appendix of this Plan for more detailed information on these soils and their suitability for management.

There is good access throughout the property, with recreational trails that have been developed and maintained by the SCC. Parking is provided for several vehicles in the southeastern corner of the property, and the hayfields are managed with accommodation for this recreational use. There are two heavily traveled stream crossings, one in the center of the property traversed by a bridge that was installed in 2016, and one at the northern end that is traversed over a concrete culvert. The streambed has a stony bottom that appears to be stable at this time. Work by the SCC over the past several years has made marked improvements to the ground conditions to the approaches to these stream crossings. These trail crossings suffice for foot traffic, and are accessible by farm tractors, but may not be suitable as access for larger equipment that may be needed for habitat restoration or forest management activities.

Management History:

The dominant historical use of the property by the Lawton family and previous owners has been agricultural, with improved hayfields the primary crop.

Property management activities by the SCC since acquiring responsibility for management of the property in 1992 have focused primarily on the development of a recreational trail system and the management of the hayfields, including some recent attempts at controlling invasive plants and removing a hedgerow in the western portion of the eastern hayfield.

Improvements to the stream crossings have included soil stabilization in the northern culvert crossing site and establishment of a footbridge at the central crossing site to minimize the erosion impact of unprotected crossings by foot, horses, and equipment.

Northern crossing with culvert, stabilized soil conditions on approaches

Central crossing with bridge and stabilized soil conditions. Stone ford at left of bridge.

At this time hayfield management has involved an agreement with a local farmer to conduct annual cuts of the eastern hayfield (Fields 1) after August 1 to allow for the grassland bird nesting season. The crop is construction-quality hay, not feed quality, due to the high weed and low nutrient components of late-season cuttings.

The same agreement includes an understanding that the farmer will mow the western field, known as Field 2, on a periodic basis to maintain an open condition. This periodic cutting is not consistent, and it currently has been 2 to 3 years since its occurred, resulting in some establishment of woody shrubs, including Autumn-olive, as can be seen in the picture below.

A contract with the USDA-Natural Resources Conservation Service for the period of 2006 through 2012 provided cost-share funding under the Wildlife Habitat Incentives Program (WHIP) for the maintenance and improvement of the grassland habitats, including removal of invasive shrubs and vines. The WHIP source of funding is no longer available from the USDA-NRCS, and its EQIP source of funding for similar activities does not include municipal entities as eligible producers. Private producers and their contracted acreages are eligible for this funding. The SCC may want to consider setting up a formal agreement with an eligible producer to apply for EQIP funding to improve the existing hayfield and control non-native invasive plants.

The hedgerow in the southwestern portion of the eastern hayfield was removed in 2009 (Photo below taken in May, 2009) except for a few ash and apple trees. Stumps were grubbed to eliminate re-sprouting, and the vegetation managed as part of the hayfield.

May, 2009

Ten years later, these small trees have developed into an open-grown condition, as seen in the picture below.

Former Hedgerow, Summer, 2019

The northwestern field (Field 3) has not been managed for the same open grassland habitat conditions as the eastern hayfield has been. This field has reverted to the early stages of successional development, with woody brush and trees becoming established in various forms, with a diversity of species, as can be seen in the photo below. This includes non-native invasive plants.

Stewardship Issues:

Wildlife habitat:

From a landscape approach, the parcel is located within an area of small farms that include forest, open agricultural lands, and aquatic habitats. (See Figure 2.) The proximity of the other forested private lands in the area, along with open fields and some brushy lands, comprise a relatively diverse mix of habitats that are valuable for a wide variety of wildlife.

The hayfields on the property are its primary habitat feature. The twenty-nine +/- acres of grassland fields are not mowed until after August 1 each year, providing nesting habitat for a variety of native bird species, including the Eastern meadowlark and Bobolink.

Management recommendations for grassland habitat for Eastern meadowlark and the Bobolink identifies the following features:

- Provision of uninterrupted grasslands, which requires removal of hedgerows that could harbor predators (such as the cowbirds that lay eggs in other bird's nests);
- Warm-season grasses that are mowed or burned on a regular basis to control woody plant intrusions;
- Elimination of disturbances during nesting season (April 1 through August 31), such as the potential presence of dogs.

The primary area for effective provision of open, uninterrupted grassland habitat for the target bird species is Field 1, a 21.5-acre field in the eastern half of the property. A significant portion of that field is not covered by the CE that covers the balance of the acreage. In the spirit of providing for this grassland in perpetuity the SCC may want to pursue the extension of the CE's legal and management provisions to the acreage owned by the town that is not currently covered.

In addition to the previously mentioned grasslands, there is some favorable habitat diversity within the property, with some mature oak/hickory woodlands that provide good crops of hard mast (nuts like acorns and hickory nuts). There is a field that supports tall grasses and shrubby growth in the northwestern portion of the property, and brushy field edges throughout the property providing early-successional habitat for birds and small mammals. These brushy edge habitats will continue to be valuable for another ten to twenty years, unless conversion back to grassy conditions is undertaken. The small wetland area and stream valley, with its riparian zone, has some diversity in its species composition, and has a heavy understory providing good cover.

One of the old-field, brushy sites lies in between the open hayfield and the mature woodlands of the stream valley. This positioning of early-successional habitat in a

transitional zone provides a feathered edge effect, which increases the value of this zone for habitat.

The northwestern field has been allowed to grow into an early-successional habitat condition, with a variety of tree and shrub species that have become established, including some non-native invasive trees, shrubs, and vines. These habitat conditions provide valuable habitat for Ruffed grouse, cottontail rabbits, and a variety of songbirds that utilize these spaces for nesting, feeding, and escape cover.

The forested wetlands provide an additional source of habitat, with nesting and feeding sites for Woodcock and a variety of other birds and mammals. Native woodland vegetation within this wetland area are competing with invasive plants such as the multi-flora rose and Japanese barberry.

Recreation:

Forest management and habitat vegetation management activities recommended in this plan will require access by harvesting and mowing equipment. Establishment of access into the proposed harvest areas by timber harvesting equipment will facilitate the development of additional trails for the recreational/educational trail system.

The issue of unauthorized access and degradation of trails by ATV's must be factored into the establishment of additional woods roads on the property, and dealt with through a consistent effort at monitoring and enforcement. Obstructing trails often provides interesting challenges for the more aggressive riders, who will put considerable effort into overcoming these challenges. Where woods roads are to be established, they should be placed in non-sensitive sites to avoid future damages.

Any improvements to the wildlife habitat conditions through vegetation management and habitat manipulation will increase the quality of the recreational and educational experiences by providing a diversity of bird and animal habitat conditions.

Aesthetics/Scenic values:

The property is located in a scenic, rural setting, and has value for its contribution to the aesthetic landscape.

The presence of trails within the property provides some opportunity for recreational use, and aesthetic practices along the sides of these trails will improve the quality of woodland walks. These aesthetic practices can include pruning of trees, slash management, and retention of visually interesting trees within view of the trails.

Silvicultural practices recommended in this plan will not adversely affect the aesthetic values of the woodlands if carried out with proper planning of skid trails. Smaller, low-

impact logging equipment and practices will minimize any adverse impacts of equipment access. Landings and main trails should be cleaned up and seeded upon completion of use.

Water Resources/Water Quality:

This property is in the watershed of the north branch of the Pawtuxet River, which helps feed a groundwater recharge area that provides an important source of groundwater in Kent County. Any activities on this property could have some affect on the quality of the water that flows off the property towards the Pawtuxet River.

The wooded riparian zone along the stream provides a good buffer to any activities on the adjacent uplands, including the management of the hayfields. Handling and application of fertilizers in those areas should be carried out with caution to prevent polluting the groundwater, which eventually will enter the stream and the well water.

Forestry practices can have an impact on water quality. Stream crossings can disturb the soil, and soil disturbance on the hillsides can lead to erosion. Sediment entering the riparian zone can impact the ability of those wetland buffers to function properly.

Implementation of best management practices (BMPs) during logging operations and for road maintenance will help protect the quality of the water that flows off the property. Please refer to the Rhode Island Best Management Practices manual for more information on planning skid trails and working within and adjacent to wetlands. Providing buffers to wetlands and the proper installation of stream crossings are important practices to consider.

The stream crossing in the central portion of the property (southern crossing) has had its approach slopes stabilized and a foot-bridge built for pedestrian use, while a stone ford is available for mowing equipment and horses.

There is an existing causeway crossing with a 36 inch concrete culvert at the northern end of the property. This existing crossing can provide a stable stream crossing for equipment that will protect the stream and its banks from any impacts related to equipment use.

Forest Health:

The silvicultural practices recommended in this plan will seek to improve forest health conditions by maintaining optimum stocking levels for vigorous tree growth. Encouraging regeneration of the appropriate tree species for the soils present in various sites will help assure sustainability of the forest into the future.

Soil conditions have the most significant impact on tree and forest health, and soil quality is expressed through the use of a site index, which is based upon the height growth of a tree species in 50 years. Certain soil types are better suited to white pine, while others are better suited to oaks or other hardwoods. The origin of the forest and its past treatment will also have an effect on current forest health conditions.

Typically, young forests and those with a variety of age classes, including young trees, are growing most vigorously, and are best suited to minimizing impacts from insects and diseases, and disturbances such as windstorms. Vigorous growth of trees will also absorb and retain carbon dioxide from the atmosphere more effectively than older, slower growing trees. This process of carbon sequestration is an atmospheric benefit that decreases as a forest approaches a mature condition.

Insect and disease problems are a normal part of forest ecosystems, but maintaining the optimum stocking levels can minimize their impacts. Recurring defoliations by both the Gypsy moth caterpillars and the Forest Tent caterpillar has had a major influence on the viability of the oak resource in Rhode Island in the past few years. Repeated defoliations and the presence of other insects and diseases, such as gypsy moth, orange-striped oakworm, Two-lined chestnut borer, and Shoestring root rot will seriously affect forest health conditions, leading to high mortality rates. Fortunately, the small area of oak-dominated forest on the Lawton Farm does not show any signs of mortality or forest health impacts from these defoliations.

Encouraging regeneration of the appropriate tree species for the soils present in various sites will help assure sustainability of the forest into the future. Impacts to the forest from a natural disturbance or from an insect or disease outbreak will be minimized when there is an established younger generation of trees available for re-stocking.

Invasive Plants:

Invasive plants can have a negative impact on native plant communities, and can interfere with any attempts at establishing regeneration of tree species. Disturbed sites and exposed areas, such as the open fields and adjacent residential sites, and the disturbances created by timber harvesting, can often lead to problems with the spread of invasive plants.

There are significant amounts of invasive plants in the wooded areas of the property, as well as in the field edges and the hedgerow within the hayfields. A detailed review of those plants, their locations, and control methods is provided in the Forest Management component of this Management Plan (page 20).

Carbon Cycle:

All forest plants and soils "store" carbon, so management influences the natural cycles of that storage in both living and dead plant material. Carbon sequestration is the process by which atmospheric carbon dioxide is consumed by trees, grasses, and other plants through photosynthesis and stored as carbon in biomass (trunks, branches, foliage, and roots) and soils.

Sustainable forestry practices can increase the ability of forests to sequester atmospheric carbon while enhancing other ecosystem services, such as improved soil and water quality. Improving forest health conditions by increasing tree vitality and growth rates through thinning and release harvesting are some of the ways to increase forest carbon in the long run. Harvesting and regenerating forests can also result in net carbon sequestration in wood products and new forest growth.

The current conditions of the hardwood stands, with some large diameter stems that store carbon effectively, and the rapid growth and development of the saplings in the old-field early-successional habitat area and the field edges, are favorable for the sequestration of carbon.

In future assessments of forest health conditions, the identification of potential improvements to growing conditions for certain stands should be included with regard to opportunities for increased carbon uptake.

Wildfire Risk Assessment:

Generally, the current condition of Rhode Island's woodlands does not constitute a major fire risk. Maturing forest conditions, the presence of intervening wetlands, streams, and rivers, and the presence of many roads and the vigilance of local residents and fire districts keeps fire incidents at a minimum.

Central Rhode Island does have a history of fire events, with some large, catastrophic fires that burned in the 1940's and 1950's, following the Hurricane of 1938 and the abandonment of many farms during the previous era, resulting in many acres of brushland and fallen timber from the hurricane.

The current situation with the mortality of the oak overstory from drought and insect defoliations has raised the fire risk situation for the foreseeable future. With many acres of standing dead oaks that will shed limbs, and the responding understory brush conditions, fire dangers during dry periods may result in some significant wildland fires occurring, with ladder fuels carrying crown fires through the landscape.

The RI DEM Division of Forest Environment is currently advising landowners to lay down trees through salvage harvesting and/or felling so that these oak crowns are in contact with the ground, which will speed up the decay process and minimize the fuel

ladder conditions. Fire breaks, cleared access roads, and cleared vegetation around structures will also improve the ability of fire departments to access and protect property when fires do break out.

The presence of public road frontage is where the risk of incendiary fires occurs, with passing vehicles, ATV's, and adjacent residential sites being the lead cause of wildland fire ignition. Fire breaks and access roads can be established keeping these abutting land uses in mind, and salvage harvests will also result in improved access roads into currently inaccessible areas of the property.

The presence of a good access road system, including stabilized crossings of Cranberry Brook, is important to minimize the risk of fire to this forest.

The upland fields that include grasses that dry quickly pose a potential threat for wildfire.

Forest products:

The yield of forest products from this property is not a high priority, but is one of several management objectives for certain portions of the property. The low value of forest products, except for several Black walnut trees that are growing along the west edge of the riparian zone in Stand 1, does not provide any particular opportunity to generate any revenue for the SCC.

Boundaries:

The perimeter boundary lines of the parcel include stone walls, old fencing, yellow blazes, and a few monumentation points that are readily identifiable as property boundaries. A boundary survey is available depicting the existing monumentation.

Cultural and Archeological Sites:

Historical use for agriculture is evident by the presence of stone walls in the upland portions of the property. These walls should be avoided during any timber harvesting activities to protect them from damage. Existing gaps in the walls should be utilized whenever possible.

Locally, the Lippitt Hill Historic District is located to the southeast, and the Scituate Reservoir is located to the west. Its dam is located where the former village of Kent was once sited along the Pawtuxet River.

Please refer to the Cultural Resources Map, Figure 4, for more information on the state's Cultural Resource Database.

Rare and Endangered Species and Habitats:

Presently, there are no known federal or state endangered plants or animal species within the 55 acres. Please refer to Figure 3, the Natural Heritage Database Map of any known Threatened & Endangered species for this area.

Grassland bird species are species of concern due to declining habitats and were a prime motivation in the purchase of this land. In order to provide and protect the grassland habitat for the referenced species, the hayfields will be managed according to the Grassland Habitat Management Plan, with no cutting prior to August 1, and dogs should not be permitted on the property between April 1 and August 31, and at other times must be on a leash not to exceed eight (8) feet in length. Furthermore, any recreational use of the property between April 1 and August 31 should be discouraged to avoid disturbing the habitat values.

Recent statewide bird studies indicate a diminishing Eastern Meadowlark population, so it is unlikely that amy adjustments in the grassland habitat management practices to further encourage the Eastern Meadowlark will result in any increase in their presence at Lawton Farm.

There have been several bird surveys conducted by URI ornithologists and graduate students. Some of those bird surveys have been posted on the SCC's website:

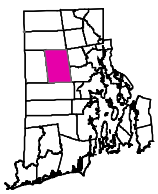
https://www.scituateriltcc.org/bird-surveys---lawton-farm.html

Parcel Locus Map

Legend

Property

0 1,000 2,000 4,000 6,000 8,000 Feet

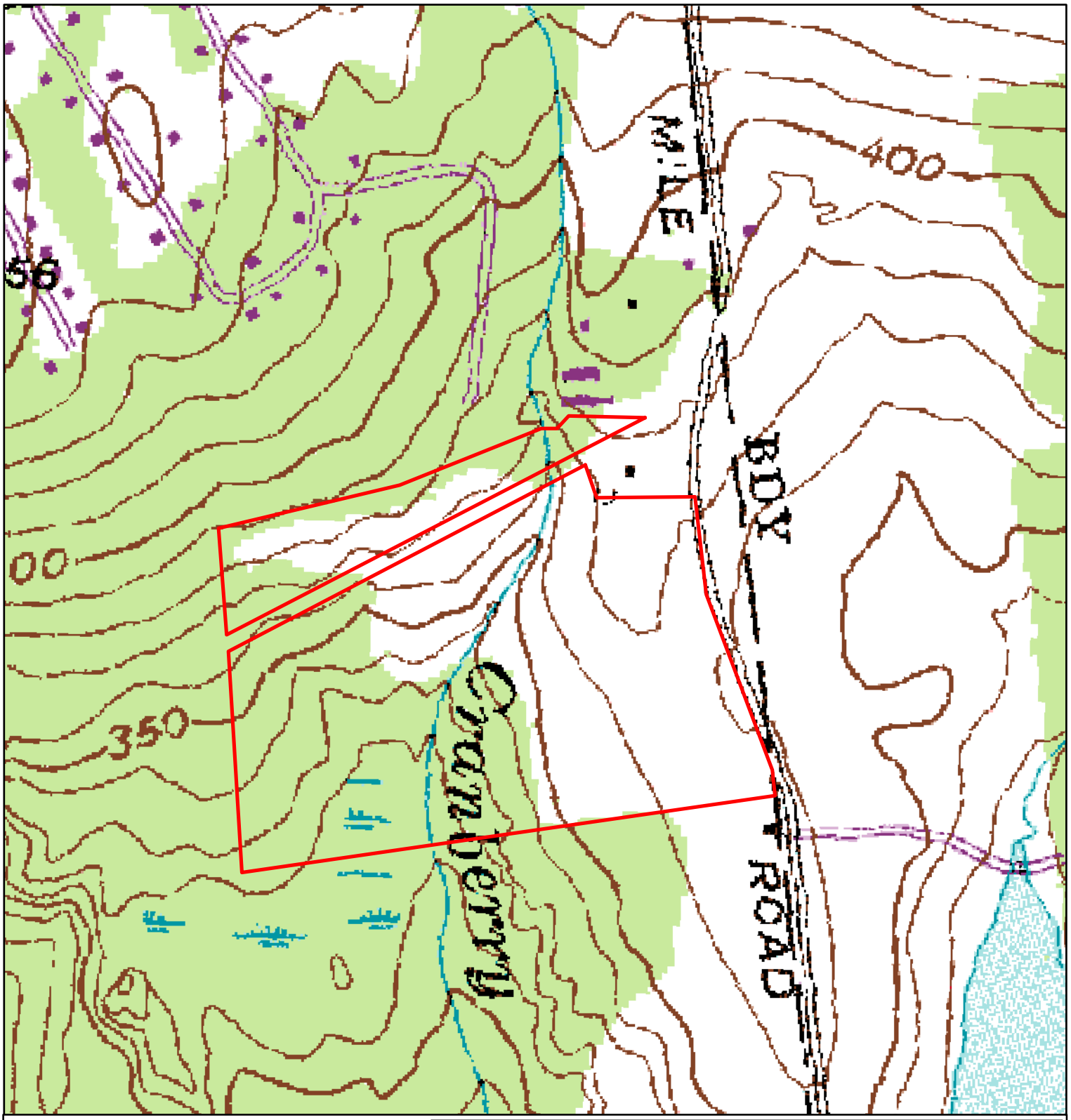


Project: Lawton Farm
Town: Scituate
County: Providence
State: Rhode Island
Date: 8/28/19
Prepared for: Land Management Services
with assistance from:
Natural Resource Services, Inc.

Figure 1

Data Sources: April 2019 aerial RI DEM Mapping, RIGIS

Topographic Map



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Property

0 250 500 1,000 1,500 2,000 Feet

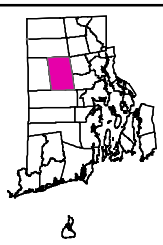

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Figure 2

Data Sources: USGS Topographic Series Contour Interval 10 Feet National Geodetic Vertical Datum of 1929, RIGIS

Endangered Species Map

Legend

- Property
- Natural Heritage Area

0 1,000 2,000 4,000 6,000 8,000 Feet

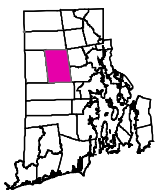

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Figure 3

Data Sources: April 2019 aerial RI DEM Mapping, RIGIS

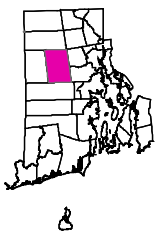
Cultural Map

Legend

- Property
- Historic Sites
- Historic Districts
- Historic Candidate Sites

Figure 4

0 1,000 2,000 4,000 6,000 8,000 Feet



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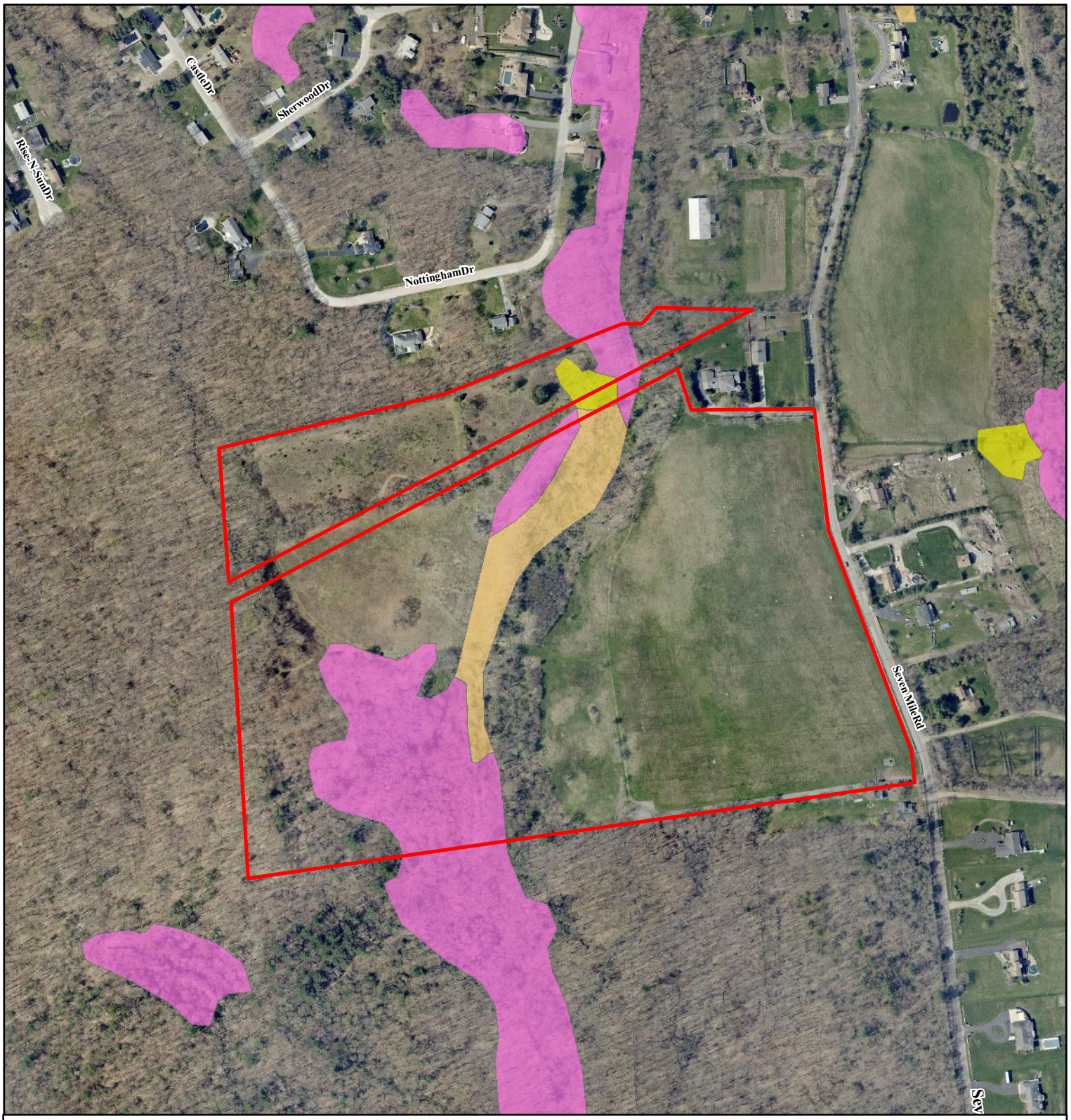
Data Sources: April 2019 aerial RI DEM Mapping, RIGIS

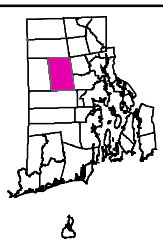
Wetlands Map



Legend

- Property
- Emergent Wetland: Marsh/Wet Meadow
- Forested Wetland: Deciduous
- Scrub-Shrub Swamp

0 200 400 800 1,200 1,600 Feet

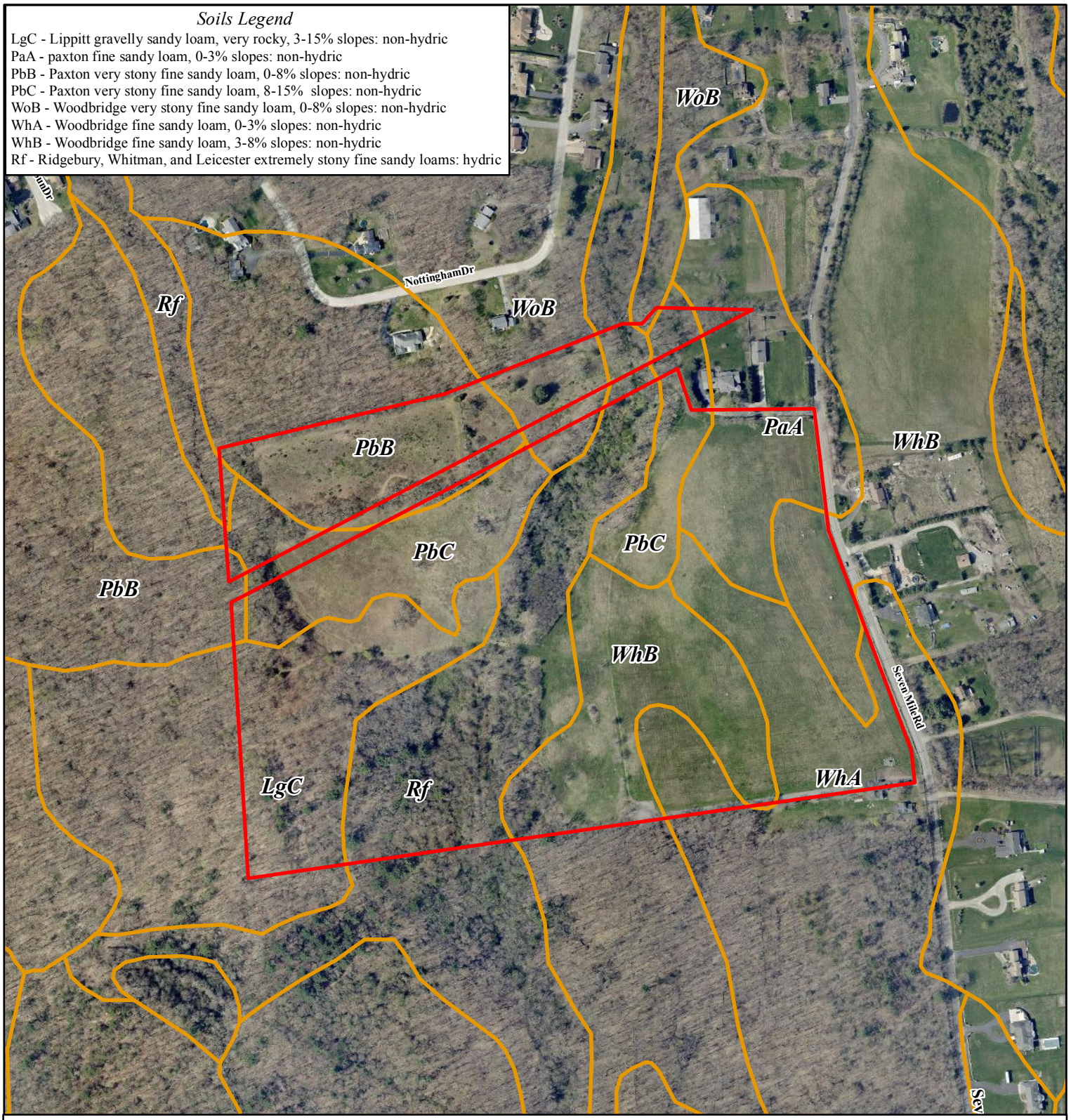


Project: Lawton Farm
Town: Scituate
County: Providence
State: Rhode Island
Date: 8/28/19
Prepared for: Land Management Services
with assistance from:
Natural Resource Services, Inc.

Figure 5

Data Sources: April 2019 aerial RI DEM Mapping, RIGIS

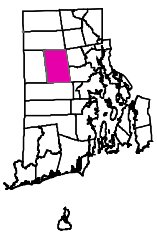
Soils Map



Legend

- Property
- Soils

0 200 400 800 1,200 1,600 Feet

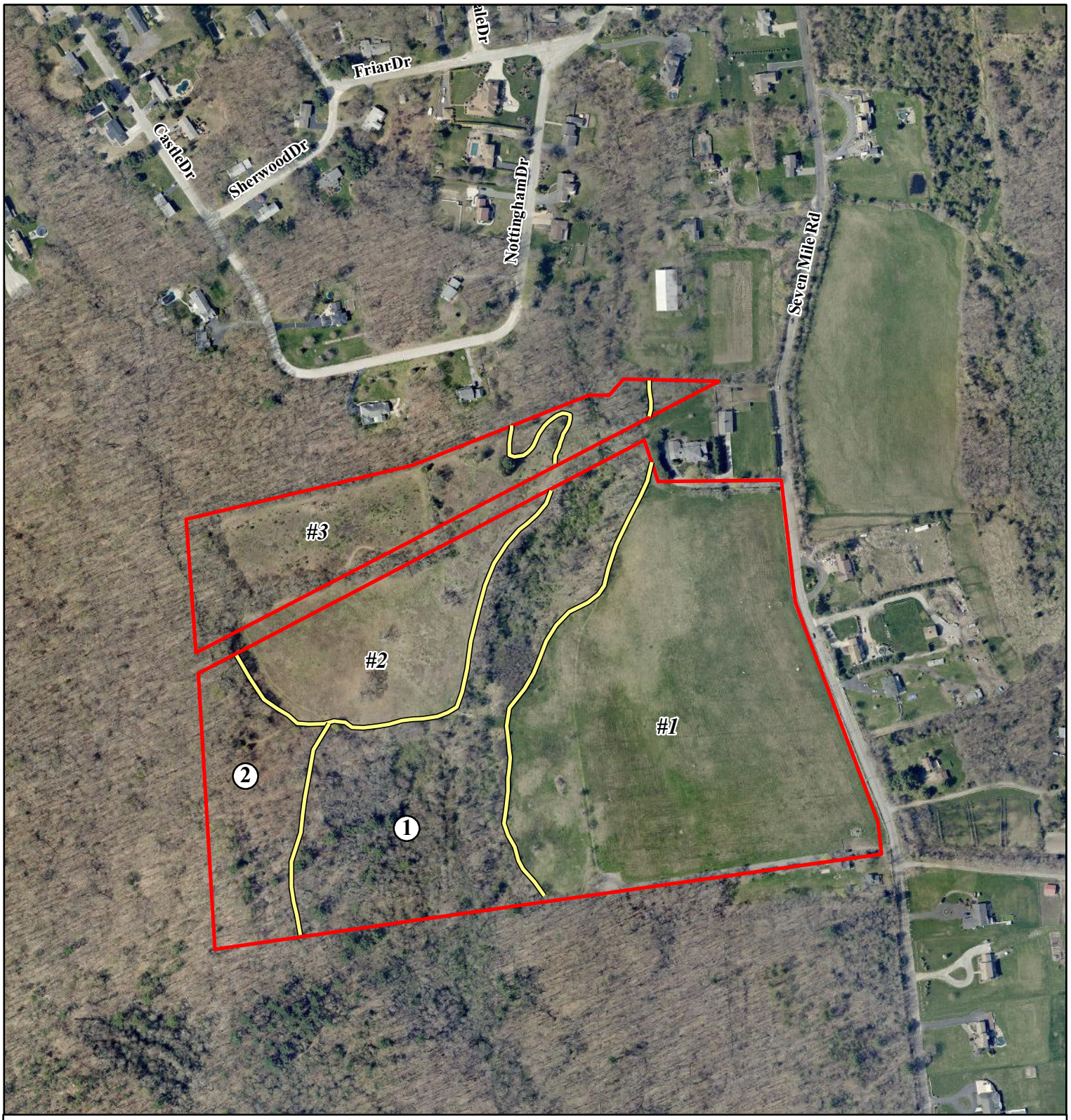


Project: Lawton Farm
Town: Scituate
County: Providence
State: Rhode Island
Date: 8/28/19
Prepared for: Land Management Services
with assistance from:
Natural Resource Services, Inc.

Figure 6

Data Sources: April 2019 aerial RI DEM Mapping, RIGIS

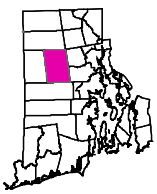
Forest Stand Map



Legend

- Property
- Stand Boundary
- (1) Stand Number

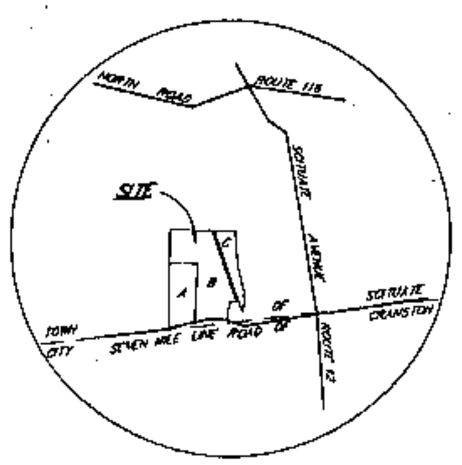
0 200 400 800 1,200 1,600 Feet



Project: Lawton Farm
Town: Scituate
County: Providence
State: Rhode Island
Date: 8/28/19
Prepared for: Land Management Services
with assistance from:
Natural Resource Services, Inc.

Figure 7

Data Sources: April 2019 aerial RI DEM Mapping, RIGIS



LOCATION PLAN
SCALE: 1"=2000'

LEGEND:

■ CB	CONCRETE BOUND FOUND
■ GB	GRANITE BOUND FOUND
○ GB	GRANITE BOUND SET
● DH	DRILL HOLE FOUND
○ DH	DRILL HOLE SET
○ IR	IRON ROD SET
○ IP	IRON PIPE SET
—●—	UTILITY POLE
—x—x—x—	BARBED WIRE FENCE
ooooooooo	STONE WALL
A.P.	ASSESSOR'S PLAT
N/F	NOW OR FORMERLY

REFERENCES:

1. SHEET 8-1 OF A PLAN ENTITLED "CITY OF PROVIDENCE WATER SUPPLY BOARD – PLAT OF LANDS IN THE – TOWN OF SCITUATE – AND – CITY OF CRANSTON CONDEMNED BY THE CITY OF PROVIDENCE – FOR WATER SUPPLY PURPOSES – UNDER CHAPTER 1232 OF THE – PUBLIC LAWS OF 1915. PREPARED BY THE – WATER SUPPLY BOARD – FEBRUARY 28, 1917." FILED IN THE LAND EVIDENCE RECORDS OF THE TOWN OF SCITUATE.
2. "CITY OF PROVIDENCE, R.I. – ENGINEERING DEPARTMENT – SHOWING LAND PROVIDED BY – CITY OF PROVIDENCE IN TOWN OF SCITUATE DRAWN BY GARTSIDE – CHECKED BY MEARY – SCALE: 1"=200' DATE NOV. 2, 1938" OBTAINED FROM THE FILES OF THE PROVIDENCE WATER SUPPLY BOARD IN SCITUATE, RHODE ISLAND.
3. "CITY OF PROVIDENCE – WATER SUPPLY BOARD – SCITUATE AQUEDUCT – TUNNEL – PLAN AND PROFILE – STATION 20+00 TO STATION 70+00 – SCALE 1"=200' – JULY 26, 1927" OBTAINED FROM THE FILES OF THE PROVIDENCE WATER SUPPLY BOARD IN SCITUATE, RHODE ISLAND.
4. "RHODE ISLAND POWER TRANSMISSION CO. – PLAN OF – HOPE-PAWTUCKET – LINE – SHEET NO. 2 – SCALE 1"=200' – DATE DEC. 10, 1917. P-1048" OBTAINED FROM THE FILES OF THE NARRAGANSETT ELECTRIC COMPANY IN PROVIDENCE, RHODE ISLAND.

NOTES:

1. NO EFFORT HAS BEEN MADE IN THIS SURVEY TO LOCATE OR ESTABLISH THE COMMON LINE MARKING THE EASTERLY BOUNDARY OF THE TOWN OF SCITUATE AND THE WESTERLY BOUNDARY OF THE CITY OF CRANSTON. ALL SOURCES CONSULTED, HOWEVER, INDICATE THE SUBJECT PARCELS TO LIE WHOLLY WITHIN THE TOWN OF SCITUATE.
2. PARCEL "A" IS SUBJECT TO CERTAIN EASEMENT RIGHTS OVER A STRIP OF LAND NOT EXCEEDING 100' IN WIDTH DESCRIBED IN A DEED FROM CHARLES A. BRAYTON AND HATTIE B. BRAYTON TO RHODE ISLAND POWER TRANSMISSION COMPANY DATED AUGUST 3, 1918 AND RECORDED IN THE TOWN OF SCITUATE LAND EVIDENCE IN BOOK 45 AT PAGE 394. NO PHYSICAL EVIDENCE OF THE THEN CONTEMPLATED POLE OR TRANSMISSION LINE WAS FOUND.
3. THE RIGHTS OF WAY SHOWN HEREON BETWEEN PARCEL "B" AND PARCEL "L" WERE RESERVED BY CHARLES A. BRAYTON AND HATTIE B. BRAYTON IN A DEED TO THE CITY OF PROVIDENCE DATED JULY 28, 1933, AND RECORDED IN THE TOWN OF SCITUATE LAND EVIDENCE RECORDS IN DEED BOOK 49 AT PAGE 534. SAID RIGHTS OF WAY ARE SHOWN ON THE PLAN DESCRIBED IN REFERENCE 2.
4. PARCEL "B" IS SUBJECT TO A 25' WIDE RIGHT OF WAY RUNNING ALONG THE SOUTHERLY BOUNDARY OF LAND NOW OR FORMERLY OF ARTHUR H. KNIGHT AND HENRIETTE J. KNIGHT. SEE DEED RECORDED IN TOWN OF SCITUATE LAND EVIDENCE RECORDS IN DEED BOOK 93 AT PAGE 388.

RECEIVED FOR RECORD
TOWN OF SCITUATE
93 FEB -5 PM 3:35
ROGER D. HEDBURY, CLERK
#423

Envelope 131

SCITUATE SURVEYS, INC.
416 TIOGUE AVENUE
COVENTRY, RHODE ISLAND 02816
401-821-8101
LAND SURVEYING / MAPPING / SITE PLANNING

SCALE IN FEET: 1"=100' 100 50 0 100 200 300

NO CERTIFICATION IS EXPRESSED OR IMPLIED UNLESS THIS MAP BEARS THE EMBOSSED SEAL OF THE LAND SURVEYOR WHOSE SIGNATURE APPEARS HEREON

THIS SURVEY AND PLAN CONFORM TO A CLASS B STANDARD AS ADOPTED BY THE RHODE ISLAND SOCIETY OF PROFESSIONAL LAND SURVEYORS.

BY: _____ 3/29/1993
JOHN MENSINGER, REGISTERED LAND SURVEYOR NO. 1806

JOHN MENSINGER 1806 REGISTERED LAND SURVEYOR

PLAN OF SURVEY OF PROPOSED DIVISION OF LAND OF HENRY A. LAWTON AND VIRGINIA LAWTON
LOT 9 A.P. 9
SEVEN MILE LANE ROAD
SCITUATE, RHODE ISLAND
PREPARED FOR: TOWN OF SCITUATE

SCALE: 1"=100' DATE: MARCH 28, 1990 REVISION:

PROJECT: 55 1093
DRAWING: 55 1416
SHEET 1 OF 1

Figure 8

FOREST MANAGEMENT PLAN -- STAND INFORMATION

STAND: 1 ACRES: 13.5 COVER TYPE: Mixed Hardwoods

MANAGEMENT OBJECTIVE(S): Provide Wetland Wildlife Habitat through the enhancement of native tree and shrub species, while protecting the quality of the water that flows through the stand's riparian zone.

SITE QUALITY: Fair. Soils are Ridgebury extremely stony fine sandy loam, with a site index of 55 for Red maple and a site index of 63 for White pine. Where soil conditions are not completely saturated, White pine and Northern red oak can become established and become productive for timber purposes.

FOREST RESOURCE DATA:

STAND DENSITY: 112 SQ. FT. OF BASAL AREA/ACRE

TREES/ACRE: 135 AVG. DIAMETER (DBH): 12"

STOCKING LEVEL: Fully-stocked at 70% on Red maple chart

STAND DESCRIPTION:

This stand occupies the riparian zone along Cranberry Brook through the central portion of the property.

The northern portion of the stand is a narrow band of relatively young woodlands, having sprouted up since the 1970's from previously open fields. The mix of species within this northern strip of the stand includes Red maple, American elm, and White ash, with Speckled Alder and Spicebush shrubs along the edges. Invasive shrubs within the field edges of this portion of the stand include Multi-flora rose and Autumn-olive.

The southern portion of the stand is stocked with an older stand of Red maple and White pine in a wider patch of wetlands, with the stream flowing through the eastern portion of the stand. The White pines and a few Red oaks are found in the western portion of the stand, within the transition zone to the better-drained site of Stand 2. The eastern portion of the stand is dominated by the Red maple, which represents about 75% of the stocking.

Understory species in this portion of the stand include hickory and white pine saplings in the western portion, Green briers, Sweet Pepperbush and, in the eastern portions of the stand, invasive Japanese barberry and Multiflora rose. The eastern edges of the stand along the field include alder clumps, as well as invasive plants.

HABITAT & WILDLIFE USE:

This stand provides important wetland wildlife habitat, with thickets of shrubs that provide cover, nesting sites, and food sources.

RECREATIONAL OPPORTUNITIES:

The recreational trail system on this property includes two stream crossings in this stand for access to western portions of the property.

1. The northern stream crossing, which is partially located on a ROW across the Providence Water tunnel strip, consists of the historic equipment crossing, with a 36 inch concrete culvert and earthen approaches. A former path adjacent to this culverted crossing has since grown in with vegetation and stabilized.

2. The southern stream crossing is basically a stone ford just above the wetland in the southern half of the stand. This is an unimproved crossing with wet soil conditions on the approaches, particularly on the eastern approach. Just upstream from the stone ford is a footbridge that was installed in 2016 to provide pedestrian access. The muddy approaches to the stone ford can not be utilized in the spring by equipment.

POTENTIAL FOR TIMBER PRODUCTION:

Low. Red maple and alder have low timber values and typically poor form. Some timber potential is present in the transition zone along the western edge of the stand where White pine and Red oak is found.

WATER QUALITY ISSUES:

The presence of two stream crossings and the presence of horses and dogs are issues for the protection of water quality in this riparian zone. Recent improvements have stabilized these crossings.

Pedestrian and equipment access across the two stream crossings can lead to erosion and sedimentation within the stream channel as well as on the approaches. Foot traffic and soil compaction, which prevents vegetation from growing in the riparian zone adjacent to the stream crossing, results in bare soil conditions and erosion problems.

The presence of horses and dogs in uncontrolled numbers in this popular recreation area introduces manure that can increase nutrient loading to the stream, as well as potential disease problems.

MANAGEMENT RECOMMENDATIONS:

- Control Invasive Plants

Heavy stands of well established Multi-flora rose, bittersweet vines, and Autumn-olive shrubs requires an initial mechanical brush removal, followed up by herbicidal treatment of cut stumps, and spot treatment with herbicides on re-sprouting stumps for several years.

The initial removal effort will require cutting with brush cutters within the wooded areas that are not accessible by heavy mowing equipment. Due to the dominance of the multi-flora rose in the wetland, shrub removal should be done in stages to avoid creating a potential erosion problem and violation of RI DEM Wetland Regulations. One-third of the shrubs could be cut in each of a 3-year period, within the time frame of the NRCS contract. Manual cutting is a more favorable approach to provide a more selective cutting process, allowing some of the native vegetation that may be found there to remain.

Stump treatment with herbicide to minimize sprouting involves the use of herbicidal concentrate painted on the freshly-cut stumps. Addition of a dye to the herbicide will facilitate tracking the application to improve control. For several years following the initial treatments, spot treat the sprouting and newly-established invasive plants with a diluted spray mixture of the chosen herbicide, according to the approved label directions.

There are several commercial herbicide products available for this purpose, including Round-up or Rodeo (glyphosate), Brush-B-Gone (triclopyr), and Frontline (2,4-D). A brush-on-stump application of Rodeo concentrate, which is formulated for use within wetland areas due to a lack of a sticker compound which is harmful to fish, is recommended. Any application of these chemicals should be carried out by a licensed applicator.

STAND: 2 ACRES: 6.5 COVER TYPE: Oak/Hardwoods

MANAGEMENT OBJECTIVE(S): Improve forest health and upland wildlife habitat conditions.

SITE QUALITY: Poor. Lippitt gravelly sandy loam soil is a somewhat excessively drained soil that has low productivity for both Red oak and White pine. Site index for Red oak equals 47 while that of White pine equals 55.

FOREST RESOURCE DATA:

STAND DENSITY: 105 SQ. FT. OF BASAL AREA/ACRE

TREES/ACRE: 134 AVG. DIAMETER (DBH): 12”

STOCKING LEVEL: fully-stocked at 86% on Upland Central Hardwood chart

STAND VOLUME ESTIMATE: 5,200 BF/ACRE 9 CORDS/ACRE

STAND DESCRIPTION:

This small stand is located in the southwest corner of the property, and also includes a strip of trees between the two fields in the western portion of the property.

The overstory is predominately mixed Red and White oaks, with Black and Northern red oaks the most prevalent species. The mixed upland red oaks represent about 50% of the total stocking. Other species in the stand include Pignut and Mockernut hickory, Red maple, small diameter Black cherry, and Pitch pine. There are a few large diameter White pines in the southern portion of the stand, in the transition zone to the wetter sites of Stand 1.

The sawtimber-sized trees in the stand, which represent about half of the total stocking, include White oak, hickory, Black oak and the pines in all sawtimber size classes, with some White and Black oaks in the 20 to 24 inch diameter size classes along the western boundary.

The smaller diameter trees in the stand, which are typically subject to Timber Stand Improvement (TSI) activities, include all oaks in the 4 to 10 inch dbh size classes, some hickory, and the black cherry.

The understory includes White oak and American beech saplings, small diameter Eastern redcedar, some highbush blueberry, and a ground-level presence of lowbush blueberry and greenbriers.

HABITAT & WILDLIFE USE:

Mature oaks and hickories provide a crop of hard mast (acorns and nuts) as well as nesting sites. These areas are productive feeding sites, particularly in conjunction with the adjacent heavy brush conditions to the east, open fields, and a larger wooded area to the west.

RECREATIONAL OPPORTUNITIES:

A trail runs into this stand from the main recreational trails in the fields. There are some openings along the boundary where the trail runs onto Providence Water property, which constitutes an unauthorized use of their property.

POTENTIAL FOR TIMBER PRODUCTION:

Oak sawtimber and firewood is available for harvest during stand improvement operations, and the creation of small openings should encourage the development of some white pine regeneration. TSI should focus on improving habitat conditions rather than timber production due to the poor soil conditions and the lack of commercial quantities of timber in such a small stand.

WATER QUALITY ISSUES:

Access for harvesting equipment must utilize the established stream crossing in the northern portion of Stand 1. The culverted crossing site does have some trees growing along its edges that will require removal, and the soil has eroded from the top of the culvert, which will require some improvement, prior to its utilization for equipment access.

MANAGEMENT RECOMMENDATIONS:

Conduct Timber Stand Improvement (TSI) to release oak and hickory crowns for increased mast production. Poorly formed trees that may be competing with the crop trees for crown space and soil resources should be marked for removal and harvested for use as firewood.

The benefits of TSI also include the increased production of understory plants and sprouting stumps that increase the availability of browse for wildlife.

A couple of the larger cull hardwoods that are not providing good nut crops could be girdled rather than be cut for firewood, in order to provide standing dead trees that increase the diversity of the habitat conditions.

OPEN FIELD HABITAT MANAGEMENT PLAN

This plan component applies to approximately 35 acres of open grassland and fields that are in various stages of vegetative development. (see figure #6, Forest Stand Map, for field identifications).

EXISTING CONDITIONS:

Field #1 is the larger, open grassland field (21.5 acres) in the eastern half of the property that is subject to the hayland management recommendations that follow. The management objective of this field is to provide grassland bird habitat conditions while yielding some agricultural product.

Field #2, in the west-central area of the property (7.5 acres), is in various conditions that include some open grassy areas and some brushy areas, with some non-native invasive shrubs and Ailanthus stems becoming established. The management objective of this field is to provide open grassland and edge habitat conditions.

Field #3, in the northwest corner of the property, is in a forest regeneration stage, with early-successional habitat conditions that can now be managed for that type of habitat. The management objective of this field is to provide early-successional and edge habitat conditions.

The soils are in the Paxton and Woodbridge series, are well and moderately well drained fine sandy loams located on the crests and side hills of glacial uplands. Permeability in the substratum is slow or very slow. Woodbridge soils have a seasonal high water table at a depth of about 20 inches from late fall through mid-Spring.

The hay is mainly a grass mixture. The hay continues to be predominantly Orchardgrass with some alfalfa still existing in Field 1. Golden rod and Queen Anne's Lace are becoming very abundant in field 1 with Poison ivy also present to varying degrees. These weeds can addressed through better soil fertility and proper timing of the mowing or haying process.

The summary of management recommendations for these open fields and shrublands is included in the overall plan's summary page.

Field 1, Grassland:

The SCC seeks to manage the grassland fields at the Lawton Farm for multiple purposes, with the provision of grassland habitat for Eastern meadowlark and Bobolink being the primary purposes. Supporting local agriculture and providing a scenic, passive recreational resource are secondary purposes of the management of these grasslands.

These purposes are mutually attainable provided that the SCC is able to implement a harvesting and recreational use plan that accommodates the primary purpose of the grassland habitat values.

Management of the grasslands for provision of bird-nesting habitat requires disturbance minimization practices: mowing for hay is conducted after August 1 each year; trail use through the middle of fields is restricted during nesting season; and all dogs, restrained or not, are restricted during nesting season.

Under that mowing schedule, the quality of the hay is going to be below that necessary for forage. Management practices to improve the quality of the hay may not be feasible. Application of lime and fertilizer may increase the volume of hay, and may be feasible for that purpose. Treatment of the grasses to remove weeds is not a feasible activity, and will reduce the wildlife food quality of the grassland.

The SCC currently has an agreement with a local vendor to mow the fields after August 1, harvesting whatever hay is available, without any further consideration between the two parties. This arrangement provides the farmer with a low value hay crop and provides the SCC with the periodic mowing service that is required to maintain a grassland condition. Mowings for that purpose could be less frequent, but the hay value would be even less and the SCC would face a periodic cost for that activity.

MANAGEMENT PRACTICES:

To maintain the fields in their existing conditions the following management practices are recommended. They were provided by Chris Modisette of the USDA-NRCS following a visit during the summer of 2019.

“Our records indicate that the last soil tests were completed in 2015. We recommend that soil test be updated every three (3) years.

All of the fields have a high potential to leach nitrogen below the root zone which has implications for fertilizer application rates and the timing of those applications. These risks can be managed by applying fertilizer closer to the times when the crop can utilize the applied nitrogen. For perennial crops such as hay we recommend splitting the recommended application between two periods including early spring and late summer.

We note that the yield goals set by the Land Trust could be adjusted down especially in light of the fact that the primary purpose of the field is to maintain an acceptable grassland for nesting bird species not the production of forage for livestock.
The stated yield goal is 4.0 tons/acre but for the Land Trust’s purposes this number could be adjusted down to as low as 1.0 ton/acre. This would have the immediate impact of reducing fertilizer costs and reduce potential impact to Cranberry Brook.

Timing of mowing:

For the purposes of hay you could do an early season clipping (early to mid-May) with little impact to bird nesting habitat followed by a mowing in mid-August. If only one (1) mowing is feasible then we recommend a mowing in mid-August which will reduce of the amount of seed from weed species. Delaying mowing much beyond early September allows weed species to drop their seed prior to mowing."

Additional management recommendations were provided in the 2009 plan by previous NRCS agronomists, to include the following relevant information:

> Develop and implement a soil test program for each of the fields. Take soil samples for testing every three years. The pH for grasses and legumes should be maintained between 6.0 and 6.5.
>
> **LIME:** If a soil test is unavailable, 2 tons of ground limestone per acre, applied every third year will maintain the pH at current levels.
>
> **FERTILIZATION:** Fertilize according to soil tests. If soil test is not available, grass fields need 80 to 120 pounds of nitrogen annually in split application, 40 to 90 pounds of phosphate P205 and 100 pounds of potash K20. More exact fertilizer recommendations are possible with a soil testing program.
>
> Mixed legume-grass fields need 30 to 60 pounds of phosphate P205 and 90 to 100 pounds of potash K20 per acre once a year. The higher rates are for presently less productive fields. The lower rates are for fields that receive up to 10 tons of manure per year or are presently highly productive. Good grass-legume fields need no nitrogen.
>
> **MANURE APPLICATION**: Based on soils, crops, and if dairy cattle manure is used, approximately 12 tons of manure per acre per year would meet crop N needs.

More intensive hayland management practices were also included in the 2009 plan, however these are not relevant for the current level of hayland management that is expected under the current scenario for grassland bird habitat.

Field 2, Mixed Grassland and Emerging Shrub/Edge Habitat:

This field had been under the same hayland management schedule as Field 1 until recently. There remain some open grassland areas of this field, with a few scattered large pasture oaks in the southern portion of the field, and edge strips of trees in the northern area of the field.

Mowing practices have not been maintained, allowing the establishment of some woody shrubs and trees in some areas of this field. These include Autumn-olive shrubs, multi-flora rose, and Ailanthus (Tree-of-heaven) stems. See photo on Page 9.

In order to maintain the open conditions of this field, some mechanical treatment will be required to both control the non-native invasive plants and reduce the establishment of woody shrubs and trees. Favorable edge habitat conditions are present, and open grassy conditions can be maintained by heavy-duty bush-hog mowing every 2 or 3 years. There are more grassy areas within the field where annual mowing, after August 1, will continue to provide some measure of grassland habitat conditions, although the field is not sufficient in size to provide habitat for the targeted grassland birds.

Field 3, Emerging Shrub and Trees, Early-Successional Habitat:

This field has not been mowed for several years, with resulting seeding in and growth of tree species (Grey birch, Sassafras, Black cherry, Quaking aspen (poplar), Hickory, White ash, Black oak, Scarlet oak, White pine, and Ailanthus) and woody shrubs and vines (Glossy buckthorn, Autumn-olive, Honeysuckle, Bittersweet, Multi-flora rose, Poison Ivy, and Sumac) with Golden-rod and grasses mingled throughout.

See photo on Page 10.

These emerging trees and shrubs provide thickets of cover that have high value for certain species of wildlife, with birds and small mammals all benefiting from the escape cover, food sources, and breeding/nesting sites. This attracts raptors and predators.

In order to maintain these early-successional habitat conditions, with enhanced edge habitat, periodic cutting of the entire field, or sections of the field on a rotating basis, will provide opportunities to both control the non-native establishment while renewing the density of the vegetation. The cover values tend to decline after about 15 years, with stem development of the trees leading to the shading out of the shrubs.

Lawton Farm Recreational Use Management Plan

The purpose of this Management Plan component is to provide a set of guidelines for the public use of the Lawton Farm with respect to the primary purpose of providing the grassland habitat values.

In accordance with the guidelines provided by the RI DEM Natural Heritage Program for Management Plans, the following outline is utilized. Reference is made to the following parcels that make up the Lawton Farm property, as identified on a 1990 site plan prepared by Scituate Survey Co. (Figure 8):

- Parcel A: 15 acres in southeast portion of the farm, donated to the Town of Scituate by the Lawton family, and not subject to the Conservation Easement (CE). The SCC has been tasked by the Town Council with managing the parcel in the same manner as Parcels B and C;
- Parcel B: 31.2 acres south of the Providence Water Tunnel strip, subject to the CE;
- Parcel C: 8.15 acres north of the Providence Water Tunnel strip, subject to the CE.

1. **Public Use**

   a. Public Access is provided at the southeast corner off of Seven Mile Road. The access is located on Parcel A. A two lane crushed stone drive has been constructed to provide all weather access. A gate is present, and should be kept closed during the nesting season to limit the use of the property.

   b. Vehicle Parking is provided at the southeast corner of Parcel A. A parking area provides parking for 15 cars and is surfaced with crushed stone. No paving will be allowed. Should parking need to be expanded, construction will be limited to the area along the southerly boundary on Parcel A and no impermeable surfacing or salting will be allowed.

   c. Vehicle limitations. No vehicles will be allowed on the property except for agricultural vehicles and emergency needs. Stream crossings will be limited to agricultural vehicles and to the existing crossings. Parking and vehicle access will be limited to the indicated areas along the southerly boundary of Parcel A.

   d. Trails. The existing trails in the fields and woodland will be maintained by mowing (in the open fields) and periodic clearing of fallen debris. Trails should be limited to the perimeters of the fields to avoid disturbing nesting birds. This may require elimination of a couple of the existing trails during nesting season, and allowing their use during the fall and winter months.

   e. Trail maintenance. Trails will be trimmed to a maximum width of 5’ by the Town of Scituate Public Works Department. The Town may pursue the

development of a continued trail system on the adjacent private property to the south and west.

f. Litter pick-up and trash removal will be provided by the Town of Scituate Public Works Department on a weekly basis. In addition, during the early Spring an annual clean-up will be organized by the SCC to remove any materials that may have accumulated during the winter.

g. Permitted uses. Passive recreation only, i.e. walking, cross-country skiing, nature observation, environmental education. During the growing season (April through August) access is limited to the property trails. **Dogs on leashes are permitted on trails only during the months of September through March**, and dog owners are expected to clean up after their dogs. Suitable signs should be posted at the road access and at the parking area to explain the importance of restricting dogs during nesting season. The gate should be closed during nesting season to limit the use of the property.

h. General Surveillance. The Town of Scituate Police Department will provide daily surveillance in addition to the weekly visits of the Public Works Department and the regular inspections of the SCC Property Stewards. A Property Inspection Checklist has been developed by the SCC as a monthly reporting form.

i. Scheduling. For passive recreational uses, large school groups and other large groups should contact the Town Clerk who will consult with the Recreation Director and the Conservation Commission Chair to provide scheduling services. Small groups wishing to use Lawton Farm for passive recreation purposes do not need to schedule.

2. Environmental Education

The natural resource values of the Lawton Farm will provide a good educational resource for local school groups and as a study site for Natural Resource students at all levels. The SCC should invite and encourage this type of use, and coordinate or schedule its use by groups and for formal research to prevent conflicting activities.

The SCC from time to time conducts publicized walks at its properties for the public, and has utilized the Lawton Farm for this purpose.

3. Department of Environmental Management Requirements

A posting of property boundaries by signs or paint on the trees will be provided. Signs will identify the entrance, type of use, month and hours of use.

A suitable permanent public acknowledgement of Open Space Bond and Recreation Bond Fund, year, logo, the Scituate Conservation Commission and other relevant information will be provided.

LAWTON FARM MANAGEMENT PLAN

SUMMARY OF RECOMMENDATIONS

STAND	TREATMENT
Open Fields	Grassland & Early-Successional Habitat Management

- Pursue the extension of Conservation Easement conditions to the southeast 15-acre parcel to provide permanent conservation management protections;
- Remove the trees in the former hedgerow in the southwest area of Field 1 to minimize predation of nests by the brown cowbird;
- Eliminate the mowed trails that cut through the middle of the fields during nesting season to minimize disturbance of the nests;
- Avoid any application of weed-control;
- Conduct brush removal and re-treatments of invasive plants along field edges and in Fields 2 & 3 (see treatment recommendations on page 11);
- Continue to pursue the annual mowing of hay in Field 1 and the annual brush mowing in Field 2 after August 1;
- Field 3 can be managed by cutting every 5 to 7 years to maintain early-successional, scrub-shrub habitat conditions. Cutting can be of the entire field, or a checkerboard pattern with new patches cut every 2 or 3 years;
- Continue to enforce rules to prevent the presence of dogs and horses in the fields between April and August to prevent disturbance of the nests.
-

Forest Stands

1	Control invasive plants (see treatment recommendations on page 20)
2	Girdle a couple of the large wolf trees to create standing dead trees for habitat diversity

Access Management:

- Keep the gate closed during the nesting season (April into August);
- Restrict any dog access, leashed or not, from the property during nesting season;
- Limit trails to perimeters of fields during nesting season;

APPENDIX I

Rhode Island Department of Environmental Management

Open Space Grants
Management Plan Guidelines

When writing the required management plan, the following points should be addressed. Where issues are not applicable, please indicate and explain why they are not applicable. A detailed property map with management actions keyed to their locations is required.

1. Property Maps

Each Management Plan should be accompanied by a **two maps** 8 ½ x 11 (or folded to that size)

- *Physical and natural features* including property boundaries, roads, streams, walls, existing and proposed trails, scale and north arrow, vegetation types (forest, forested swamp, pasture, etc), habitats, with locations of management activities clearly indicated
- *Topographic Map* including property boundaries

2. General Information:

General description of the property including vegetation types, habitats, physical features, historic land use.

3. General Maintenance

The following issues should be addressed

- Identify posted public access sites and hours of use (if applicable)
- Identify location and number of vehicular parking spots (if applicable)
- Describe the location of trails and outline their intended uses (if applicable)
- Describe planned trail maintenance activities (if applicable)
- Identify party responsible for scheduling public activities (if applicable)
- Describe litter pick-up and trash removal plan
- Identify party responsible for general surveillance
- Outline the cost of maintenance activities and identify the sources of funding

If the property has been protected via the purchase of development rights, please explain the conditions under which public access will be permitted and how it will be arranged.

4. Property Management

The property must either be maintained in its current condition or enhanced **for those conditions for which it was selected**. Properties with exceptional natural or scenic elements require management to protect these elements.

The Management plan must address the condition of the property and how it will be maintained.

- Describe the existing conditions of the property
- Describe the desired future conditions
- Identify each management technique, which area it will be used in, and how it will be used to attain desired objectives. Identify the responsible party for each technique and any special considerations.
- Describe the schedule of management activities over a 5 year plan. This should include an identification of each technique, how many acres it covers, and how often it will be performed (seasonally, annually, etc).
- Outline the cost of management activities and identify the sources of funding

5. Rare Species Protection

If the property was selected to protect of rare species, describe how the rare species will be protected from activities occurring on the property. For example, the management of a property with rare plants may entail determining where the plant populations are so that a trail system and use of the trails will not impact the plants. Issues to be addressed include:

- Restricting the collection or disturbance of plants
- Restricting the disturbance of nesting birds and other wildlife

6. Environmental Education

If the property is to be used for environmental education and/or research, describe how these options will be made available to the general public and designate a contact person who will schedule these events.

7. Department of Environmental Management Requirements

- Property boundaries must be posted by signs or blazed trees
- If public access if allowed, the entrance location, type of use, and hours of use must be posted on the property
- A permanent sign must be erected on the property acknowledging the use of Open Space Bond assistance

APPENDIX II

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties

Lawton Farm, Scituate, RI

September 10, 2019

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

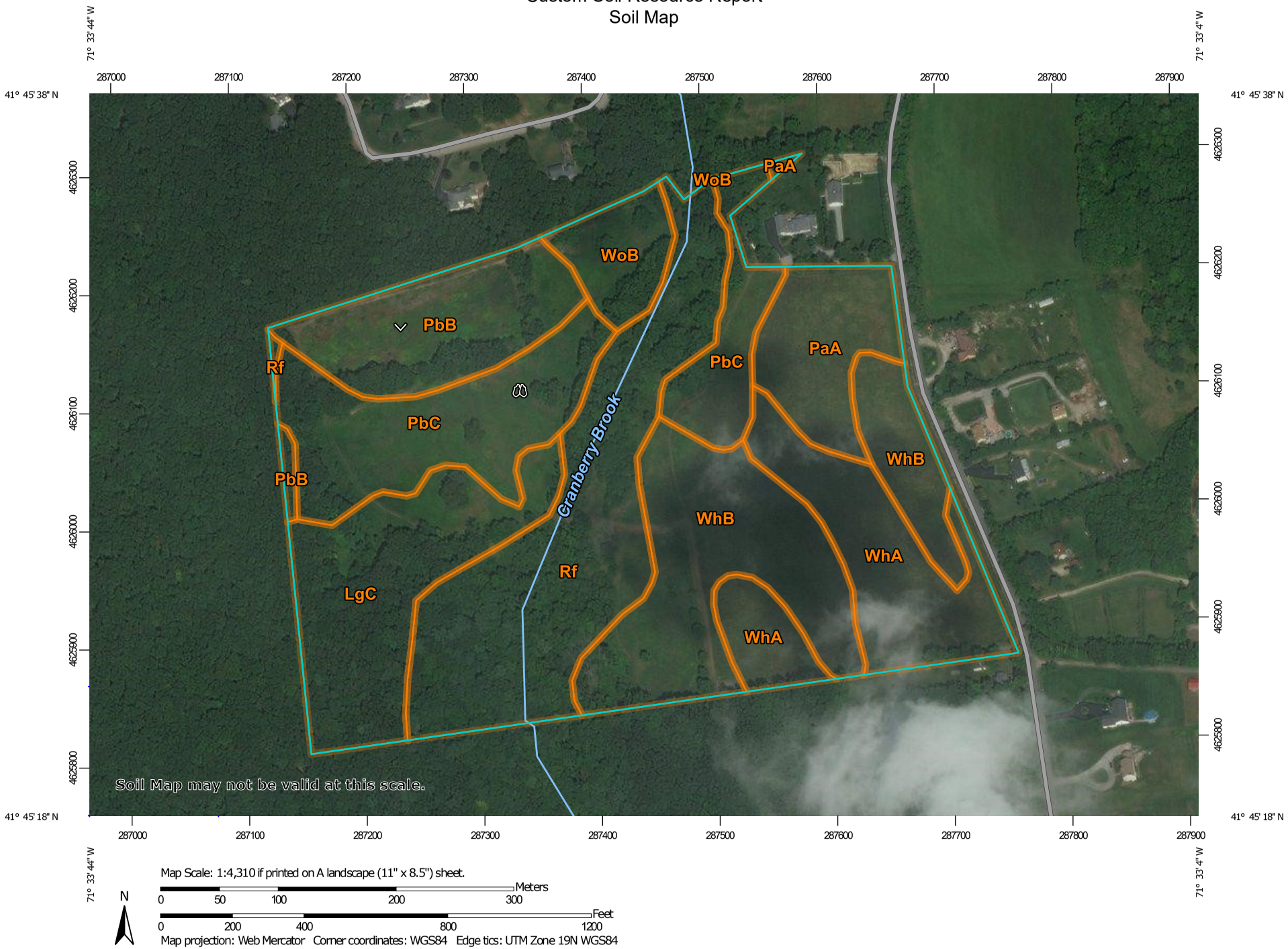
alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



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 18, Dec 6, 2018

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

Date(s) aerial images were photographed: May 14, 2010—Apr 1, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND	MAP INFORMATION
	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
LgC	Lippitt gravelly sandy loam, very rocky, 3 to 15 percent slopes	7.0	12.9%
PaA	Paxton fine sandy loam, 0 to 3 percent slopes	3.5	6.5%
PbB	Paxton fine sandy loam, 0 to 8 percent slopes, very stony	5.2	9.6%
PbC	Paxton fine sandy loam, 8 to 15 percent slopes, very stony	8.7	16.1%
Rf	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	11.2	20.7%
WhA	Woodbridge fine sandy loam, 0 to 3 percent slopes	6.5	12.1%
WhB	Woodbridge fine sandy loam, 3 to 8 percent slopes	9.9	18.4%
WoB	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	2.0	3.6%
Totals for Area of Interest		**53.9**	**100.0%**

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Vegetative Productivity

This folder contains a collection of tabular reports that present vegetative productivity data. The reports (tables) include all selected map units and components for each map unit. Vegetative productivity includes estimates of potential vegetative production for a variety of land uses, including cropland, forestland, hayland, pastureland, horticulture and rangeland. In the underlying database, some states maintain crop yield data by individual map unit component. Other states maintain the data at the map unit level. Attributes are included for both, although only one or the other is likely to contain data for any given geographic area. For other land uses, productivity data is shown only at the map unit component level. Examples include potential crop yields under irrigated and nonirrigated conditions, forest productivity, forest site index, and total rangeland production under of normal, favorable and unfavorable conditions.

Forestland Productivity

This table can help forestland owners or managers plan the use of soils for wood crops. It shows the potential productivity of the soils for wood crops.

Potential productivity of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forestland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service, National Forestry Manual.

Report—Forestland Productivity

Forestland Productivity–State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties				
Map unit symbol and soil name	**Potential productivity**			**Trees to manage**
	Common trees	**Site Index**	**Volume of wood fiber**	
			Cu ft/ac/yr	
LgC—Lippitt gravelly sandy loam, very rocky, 3 to 15 percent slopes				
Lippitt	Eastern white pine	55	86.00	Eastern white pine, White spruce
	Northern red oak	47	29.00	
	Red spruce	37	72.00	
	Sugar maple	56	29.00	
	White spruce	60	143.00	
PaA—Paxton fine sandy loam, 0 to 3 percent slopes				
Paxton	Black oak	67	—	Eastern white pine, European larch, Northern red oak, Norway spruce, Red pine, Scarlet oak, Sugar maple, Tuliptree, White ash, White oak
	Eastern white pine	68	114.00	
	European larch	80	—	
	Northern red oak	66	43.00	
	Red pine	68	114.00	
	Scarlet oak	67	—	
	Sugar maple	75	43.00	
	White ash	89	—	
	White oak	60	—	

Forestland Productivity–State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties				
Map unit symbol and soil name	**Potential productivity**			**Trees to manage**
	Common trees	**Site Index**	**Volume of wood fiber**	
			Cu ft/ac/yr	
PbB—Paxton fine sandy loam, 0 to 8 percent slopes, very stony				
Paxton, very stony	Black oak	67	—	Eastern white pine, European larch, Northern red oak, Norway spruce, Red pine, Scarlet oak, Sugar maple, Tuliptree, White ash, White oak
	Eastern white pine	66	114.00	
	European larch	80	—	
	Northern red oak	65	43.00	
	Red pine	67	114.00	
	Scarlet oak	67	—	
	Sugar maple	75	43.00	
	White ash	89	—	
	White oak	60	—	
PbC—Paxton fine sandy loam, 8 to 15 percent slopes, very stony				
Paxton, very stony	Black oak	67	—	Eastern white pine, European larch, Northern red oak, Norway spruce, Red pine, Scarlet oak, Sugar maple, Tuliptree, White ash, White oak
	Eastern white pine	66	114.00	
	European larch	80	—	
	Northern red oak	65	43.00	
	Red pine	67	114.00	
	Scarlet oak	67	—	
	Sugar maple	75	43.00	
	White ash	89	—	
	White oak	60	—	

Forestland Productivity–State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties				
Map unit symbol and soil name	**Potential productivity**			**Trees to manage**
	Common trees	**Site Index**	**Volume of wood fiber**	
			Cu ft/ac/yr	
Rf—Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony				
Ridgebury, extremely stony	Eastern white pine	63	114.00	American elm, Blackgum, Green ash, Pin oak, Red maple, Swamp white oak, Yellow birch
	Northern red oak	66	43.00	
	Red maple	62	—	
	Sugar maple	56	29.00	
	White ash	60	—	
Leicester, extremely stony	Eastern white pine	69	129.00	Green ash, Red maple, Tuliptree
	Northern red oak	56	43.00	
	Red maple	70	43.00	
	Yellow birch	—	—	
Whitman, extremely stony	Blackgum	52	—	—
	Eastern white pine	56	100.00	
	Northern red oak	70	—	
	Red maple	60	29.00	
	Red spruce	44	86.00	
	White oak	57	—	
WhA—Woodbridge fine sandy loam, 0 to 3 percent slopes				
Woodbridge	Black oak	77	—	Ash, Northern red oak, Sugar maple, Tuliptree, White oak
	Eastern white pine	67	114.00	
	Northern red oak	72	57.00	
	Red pine	65	114.00	
	Red spruce	50	114.00	
	Sugar maple	65	43.00	
	White oak	—	—	
	Yellow poplar	84	—	
WhB—Woodbridge fine sandy loam, 3 to 8 percent slopes				
Woodbridge, fine sandy loam	Black oak	77	—	Ash, Northern red oak, Sugar maple, Tuliptree, White oak
	Eastern white pine	76	114.00	
	Northern red oak	72	57.00	
	Red pine	65	114.00	
	Red spruce	50	114.00	
	Sugar maple	65	43.00	
	Yellow poplar	84	—	

Forestland Productivity–State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			Cu ft/ac/yr	
WoB—Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony				
Woodbridge, very stony	Black oak	77	—	Ash, Northern red oak, Sugar maple, Tuliptree, White oak
	Eastern white pine	67	114.00	
	Northern red oak	72	57.00	
	Red pine	65	114.00	
	Red spruce	50	114.00	
	Sugar maple	65	43.00	
	Yellow poplar	84	—	

Nonirrigated Yields by Map Unit

The average yields per acre that can be expected of the principal crops under a high level of management are shown in this table. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

If yields of irrigated crops are given, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative

Extension Service can provide information about the management and productivity of the soils for those crops.

The land capability classification of map units in the survey area is shown in this table. This classification shows, in a general way, the suitability of soils for most kinds of field crops (United States Department of Agriculture, Soil Conservation Service, 1961). Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels: capability class, subclass, and unit.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

- Class 1 soils have slight limitations that restrict their use.
- Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.
- Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.
- Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.
- Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.
- Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.
- Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.
- Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject to little or no erosion.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in all soil surveys.

Reference:
United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210.

Report—Nonirrigated Yields by Map Unit

Nonirrigated Yields by Map Unit–State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties		
Map symbol and soil name	**Land capability**	**Grass hay**
		Tons
LgC—Lippitt gravelly sandy loam, very rocky, 3 to 15 percent slopes		2.00
Lippitt	4e	
PaA—Paxton fine sandy loam, 0 to 3 percent slopes		—
Paxton	2s	
PbB—Paxton fine sandy loam, 0 to 8 percent slopes, very stony		—
Paxton, very stony	6s	
PbC—Paxton fine sandy loam, 8 to 15 percent slopes, very stony		—
Paxton, very stony	6s	
Rf—Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony		—
Ridgebury, extremely stony Leicester, extremely stony Whitman, extremely stony	7s 7s 7s	
WhA—Woodbridge fine sandy loam, 0 to 3 percent slopes		—
Woodbridge	2w	
WhB—Woodbridge fine sandy loam, 3 to 8 percent slopes		—
Woodbridge, fine sandy loam	2w	
WoB—Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony		—
Woodbridge, very stony	6s	