## FOREST STEWARDSHIP PLAN

### ARTHUR W. BLOOD TOWN FOREST



Property Owner:
TOWN OF LANCASTER, MASSACHUSETTS
695 Main Street, Suite 1
Lancaster, MA 01523

Prepared By: Kevin Scherer Licensed Forester December, 2020



## FOREST MANAGEMENT PLAN

Submitted to: Massachusetts Department of Conservation and Recreation For enrollment in CH61/61A/61B and/or Forest Stewardship Program



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Assessor's		t/Parcel		Deed		eed	Total	(	Ch61/61A 61B	Ch61/61A	Stewshp	Stewshp
Map No.	No	) <b>.</b>	]	Book	Pa	age	Acres	Е	Excluded	61B <b>Certified</b>	Excluded	Acres
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23		15		2596		545	4.02		4.02	0.00	0.00	4.02
23		22		2765	- —	537	16.4		16.4	0.00	0.00	16.40
28		1		65.52		4558	65.52		65.52	0.00	0.00	65.52
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Plan Revised in 2020 to adjust management strategies and to add the recently acquired 26.6 acre Dolan Property.

### **RECORDS** (continued)

Assessor's Map No.	Lot/Parcel No.	Deed Book	Deed Page	Total Acres	Ch. 61/61A 61B Excluded Acres	Ch61/61A 61B <b>Certified</b> Acres	Stewshp Excluded Acres	Stewshp Acres
28	13	?	?	9.8	9.56	0.00	0.00	9.56
28	19	2993	582	255.0	255.0	0.00	0.00	255.0
33	82/82A	13169	393	20.00	20.00	0.00	0.00	20.00
23	14	LC# 09T	L087690	3.55	3.55	0.00	0.00	3.55
23	12	2253	189	6.0	5.40	0.00	0.00	5.40
29	16	LC# R90	PO225E1	24.00	24.00	0.00	0.00	24.00
29	15	3893	323	7.60	7.60	0.00	0.00	7.60
29	X	52091	328	10.2	10.2	0.00	0.00	10.2
29	22	58703	119	26.67	26.67	0.00	0.00	26.67
			TOTALS	362.8	362.8	0.00	0.00	362.8

## Survey Plans:

Town Forest Survey Plans	Reference Survey Plans
B.912 P.42	B.913 P.124
B.935 P.73	B.913 P.123
B.892 P.59	LC#11367E
	B.815 P.84
	B.132 P.33
	B.868 P.45
	B.787 P.112
	B.566 P.12
	B.758 P.50
	B.387 P.82
	B.779 P.104
	B.854 P.112
	B.758 P.50
	B.135 P.33

## HISTORY (continued):

Owner(s)	TOWN OF LANCASTER		BLOOD TOWN FOREST	Town(s)	LANCASTER
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**Location:** The property has frontage on Brockelman Road a maintained town road and Old County Road a discontinued town road in Lancaster, Massachusetts. For forest management purposes four management units were created. The abandoned AT&T phone line easement, Brockelman and Old County Roads were used to create boundaries for the units. This created a management unit west of Brockelman Road. Two management units east of Brockelman Road and west of Old County Road which were divided north and south by the abandoned AT&T phone line easement. A third management unit was created for the parcels of land east of Old County Road. The surrounding road frontage, in this part of Lancaster, is dominated by single-family residential development including a few subdivisions. Forest continues to dominate the interior landscape. To the east approximately 1-mile is the center of Lancaster. This is the nearest developed/Urban area.

**Watershed:** The property is in the Nashua River Watershed. A majority of the drainage flows northerly approximately three quarters of a mile into the Wekepeke Brook and Bartlett Pond. The Wekepeke Brook continues in a northerly direction for approximately a quarter mile where it drains into the North Nashua River. The North Nashua River flows southeast for approximately two miles where it drains into Nashua River. The protection of this forestland, and future surrounding forestland, plays an important role in protecting the Nashua River Watershed.

Access & Operability: A network of streams and wetlands make access and operability challenging for forest management purposes. Existing structures on the main access road east and west of Brockelman Road aid access, but will need improvements for use with logging equipment. Both sections of road need grading, widening, and stream crossing improvements. Old County Road is an abandoned town road that has not been maintained for many years. The road is in need of widening, grading that will require gravel, and drainage work for access with logging equipment. Operability within the upland forest is fair to good, but is challenged by numerous stream and wetland crossings. Access improvements and where resources will be best utilized will be addressed in the Management Practices section of this plan.

**Boundary Lines:** Survey plans of most of the property have been completed. Refer to page 2 of this plan for the book and page reference numbers at the Worcester County Registry of Deeds. For the most part, the boundaries are not marked by stonewall or wire fence remnants. Most of the lines have been marked with red paint. Many of the corners are marked with monuments of some kind. An effort to mark all corners and lines is in the works. Boundary work and signage will be an important part of this ten year management plan. Refer to the Forest Stand and Boundary Map and survey within this plan for details.

Land use History: Historical land use patterns and the current age and condition of the forest give an indication of past influences. One thing is certain; all of the property was cleared for wood products, agriculture, and pastureland before the period of agricultural abandonment in the mid to late 1800s. This is evident from existing stonewalls, cellar hole and wire fence remnants. Major influences of the early 1900s that changed the condition of the forest were structural lumber demands during the industrial revolution and the boxboard industry. The Hurricane of 1938 most likely had a large impact on the structure of the forest. There was no obvious evidence of the hurricane noted during the fieldwork for this plan. The occasional cut stump gives some indication that harvesting was part of the Forest's history. To what extent is difficult to say. In 1946, Arthur W. Blood donated approximately 125-acres, which was added to other town owned land between Brockelman and Old County Roads. This is the original Arthur W. Blood Town Forest. The original Town Forest Committee consisted of George W. Wheelwright, Lester R. Griswold & Paul Steeves. Their stated goals were "to manage based on forestry principles and to furnish a recreation area for Boy Scouts and Girl Scouts". They arranged for the Boy Scouts & Girl Scouts to plant 2000 white pine seedlings and the following year 500 red pine seedlings were planted.

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Between 1951 and 1959, the Boy Scouts assisted in trimming hardwood sprouts to free red pine. Throughout the 1950's, the Committee concentrated on measuring the boundaries and improving access roads through the Forest and on Old County Road, which was in poor condition. The Boy Scouts were encouraged to use the forest for camping. At this time the growth was still not sufficient for timber harvesting. However, the Forest was an attractive place for hiking and horseback riding and was used for nature study for the schools. The entrance stone was erected in 1956 to mark the Wheelwright Entrance. In 1958, the town had the forest boundary lines "brushed out". Since the creation of the forest in 1946, the two main access roads including the dam/stream crossings have been periodically repaired and improved by the Boy Scouts and the Town's DPW. Also, since the Town Forest's creation surrounding parcels have been purchased or have been acquired in land court from lack of taxes paid. Creating the Town Forest depicted in this plan. The most recent acquisition being the 26.6 acres Dyment/Dolan parcel. This project was completed in 2018 and was a joint venture between the town forest committee and conservation commission. A conservation partnership grant was utilized to pay for 66% of the cost of the project.

**Timber Harvesting History:** Beginning after World War 2 and as the forest grew and matured, some timber cutting occurred and wood was given to the elderly and other townspeople who needed it for heating their homes. In 1982, the first significant timber harvest occurred. The town received \$10,156.82 for lumber harvested in the forest and created a revolving fund. In 1986, some larger trees were removed providing revenue for the town but specific volumes or details are unknown. In 2015 and 2016, following the recently prepared Forest Stewardship Plan most of the West Lot, portions of the North Lot (Sections of Stand 6), and the recently purchased Dolan Property (Stand 21) were harvested utilizing the Shelterwood Method. The primary goals of the harvest were to remove the poorest quality growing stock to create conditions favorable for establishing diverse tree regeneration. Approximately one-third to one-half of the basal area was removed. The areas harvested are evident on the Orthophotographic Map included in this management plan. A total of 429,000 board feet, 508 cords of hardwood and 506 tons of softwood were harvested from 116 acres. For more details forest cutting plans are available under file numbers 147-7692-16 and 147-7984-16.

Forest Health: Overall forest health is currently good. Adequate growth and vigor of the dominant and codominant trees has resulted in many large diameter trees with good form and disease resistance. There are three primary health concerns. One is an infestation of the Hemlock Wooly Adelgid. Although, not detected during the fieldwork for this plan it is of concern. Hemlock on this property is a very important component of the present biodiversity. Its presence increases species diversity, wildlife habitat, and aesthetic/recreational benefits. The second concern, due to the proximity to Worcester, is the potential for an infestation of the Asian Longhorned Beetle. The wetlands on this property are dominated by red maple a preferred host. Wetlands and the benefits they provide would be negatively impacted by large scale maple mortality. The third concern is the dense Mountain Laurel growth in many areas. This is a concern because it impedes the growth of regeneration. Reducing the amount of laurel will be necessary to properly manage the forest. A fourth concern is Glossy Buckthorn growth which can be found in patches within the wetland areas. Currently it is found in low concentrations but may become a problem in the future. Other Forest health issues that currently threaten our forests such as Pine Blister Rust, Winter and Gypsy Moth, Emerald Ash Borer, Spotted Lantern fly, and Sudden Oak Death disease will be monitored and may affect future management decisions. Invasive species growth was not present during the fieldwork for this plan. Monitoring for invasive species, pests and diseases will be a component of this ten year plan.

**Soils:** Refer to the soils map within this plan for soil locations. The wetlands soils are comprised of Whitman Loam (WH), Swansea Muck, and Freetown Muck (FM/RSB). These soils are very deep, nearly level, and very poorly drained. Typically, the soil consists of black and dark reddish brown layers of highly decomposed organic material to a depth of 60-inches. The upland soils west of Brockelman Road are primarily of the Chatfield-Hollis Series (CHD & CHC) and the Woodbridge fine sandy loam series (WsB).

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This Chatfield-Hollis Series consists of small hills and ridges with many bedrock exposures throughout. Stones cover more than 3 percent of the surface in most areas. They are typically well-drained to somewhat excessively-drained. They also have a shallow depth to bedrock. Operability will be limited in some areas from the bedrock exposures and surface rocks. Tree growth, vigor, and overall health will also be poorer on these soils due to the shallow depth to bedrock. The Woodbridge fine sandy loam series are nearly level, moderately well drained, and very deep. This soil type is well suited for tree growth. There are few limitations with these soils for woodland management. The upland soils east of Brockelman Road, including the parcel east of Old County Road, are also dominated by the Chatfield-Hollis Series (see above). However, my observation is that the Chatfield-Hollis soils east of Brockelman Road are more productive. Paxton fine sandy loam (PbC, PbB) is the other primary soil east of Brockelman Road. This soil is very deep, well drained, and can be strongly sloping. There are few limitations with these soils for woodland management.

Natural Heritage Endangered Species Habitat: According to the latest NHESP MassGIS datalayer there are five certified vernal pools on the property. At least two of these vernal pools may no longer exist due to extensive flooding from beaver activity. The Forest Committee is considering on hiring Oxbow Associates to evaluate and study rare animals and plants on the property. The initial study will focus on the areas surrounding the AT&T Easement because several probable vernal pools exist and have not been mapped. Another goal of this study will be to remove certified vernal pools from the property that no longer exist. Before any harvest is implemented the NHESP resource specialist will be notified and consulted. Buffer strips and harvesting timing will be discussed and implemented at that time. At this time there are no NHESP mapped endangered habitat, priority, or endangered habitat areas within the town forest. Refer to the maps within this plan for details.

**Moose and Deer Impacts:** During the inventory work for this management plan evidence of deer was observed. Evidence of moose activity was also evident especially on the recently harvested area known as the Dolan Property. From the evidence found I would not consider the property to have high density deer or moose population. High density deer populations can be an issue because deer and moose prefer to browse the leaves and buds off of young sapling growth. This can result, with high populations of deer, in high levels of hardwood regeneration mortality and create a monoculture of white pine. It appears that hunting is keeping the population in check. Hunting stands were noted during the fieldwork for this plan.

Other Management Considerations (Cultural resources, fire danger, etc.): The potential for a devastating fire within this compartment is minimal. To reduce the risk of any fire danger during timber harvesting BMPs (Best Management Practices) will be strictly enforced. Stonewalls are an important historical landmark of New England and will be protected as such. West of Brockelman Road, in stand 1, there are the remnants of a cellar hole and a hand-dug well. A significant buffer will be maintained to protect this historical resource. Research could be conducted to find out the history of this site.

**Forest Inventory:** A forest inventory was completed to document the condition of the forest and to facilitate the preparation of this management plan. TwoDog Inventory software (version 2.0) was used for data collection and analysis. This software is a product of Fountains America. A Trimble Nomad Handheld Computer was utilized for inventory data collection. Arcpad 10, orthophotographs, and the Trimble's internal GPS were used for random plot location layout and navigation. It was a variable radius 10-factor prism inventory. The minimum sawlog DBH for timber was 12-inches. Pulpwood and hardwood cordwood were given a minimum merchantable diameter of 6-inches. International ¼-inch rule was used for calculations. See following pages for tract level data results.

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Restoring Late-Successional Forest Structure: A primary objective of the forest committee is to identify areas that can be managed for late-successional forest structure. During the fieldwork for this plan potential areas were identified in collaboration with a forest committee member. These areas were mapped on the Forest Stand Map. Any new areas identified after this plan is finalized will be mapped and described in the 2024 plan recertification. The areas currently identified for late-successional forest structure were chosen because there are large diameter (26"-32" DBH) hemlock and white pine to be preserved as legacy trees. Cores indicate the approximate age of the legacy trees to be 145-155 years old. The specific management recommendations will be outlined in the Practices section of this plan.

Land Acquisition: Over the last 6 years the Town Forest Committee has been actively acquiring or otherwise protecting surrounding parcels by collaborating with the Lancaster Conservation Commission and Lancaster Land Trust. In 2014, assessor's parcel 28-12 was acquired by the Lancaster Land Trust. This parcel is 6.8-acres in size and abuts Brockelman Road near Hilltop Road. This parcel will likely be used for a landing area for harvesting in stand 10. When harvesting is complete the landing will be made into a parking area and trailhead. In 2015, assessor's parcels 29-17 and 29-18 were acquired by the Lancaster Land Trust. These parcels are 6.8 and 7.3 acres in size and abut Old County Road near the abandoned AT&T easement. In 2018, assessor's parcel 29-22, known as the Dyment/Dolan Property, was acquired by the Town of Lancaster. This parcel is 26.8 acres in size and is just south of the abandoned AT&T easement. The project was awarded a Conservation Partnership Grant in the amount of \$61,050 by the Executive Office of Energy and Environmental Affairs. Without the grant the project would not have been possible. Currently, the committee is having discussions the Atlantic Union College about acquiring their 28 acre parcel along Old County Road. This would be another great project as its entire westerly boundary abuts the town forest.

#### FOREST MANAGEMENT OVERVIEW:

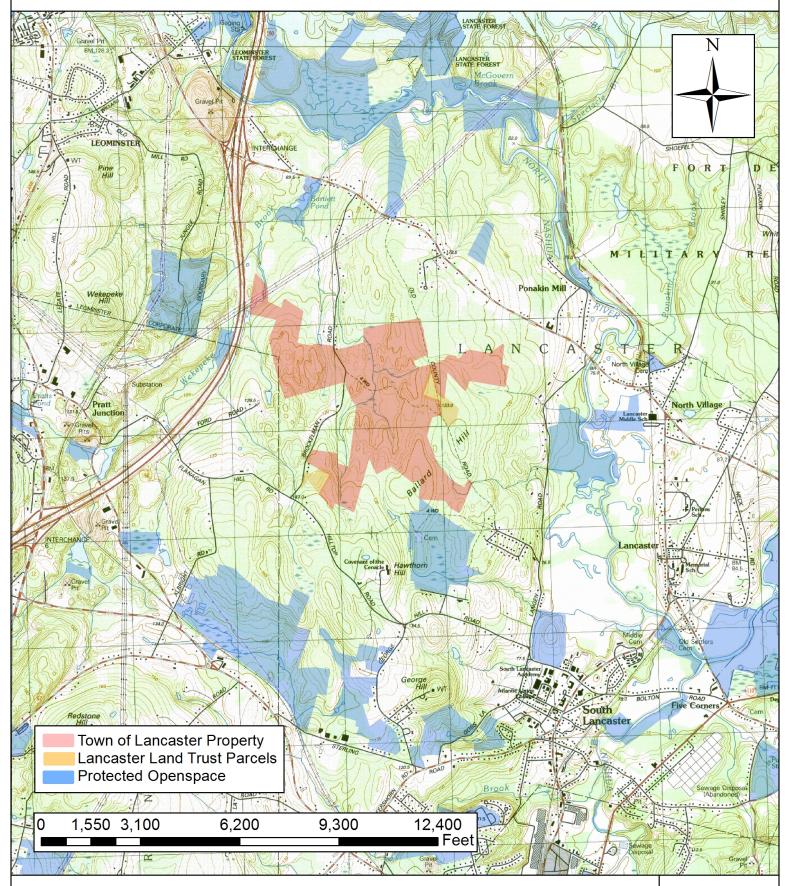
The primary objective of the Town of Lancaster's Blood Town Forest Committee is to preserve and enhance the Forest's ecological health, conserve the Town Forest's natural habitat for threatened and endangered plants and wildlife, and promote responsible use of the Forest's abundant resources for recreational and educational purposes. The Committee seeks to carry out its responsibilities by:

- Developing a biodiversity catalog of the Forest's flora and fauna and posting and enforcing such restrictions on vehicular and other uses of the Forest as may reasonably be expected to protect its living resources without unduly impeding public access and enjoyment.
- Instituting sound silviculture practices, including generating and applying a Forest Management Plan
  prepared by a licensed forester, scheduling selective logging of the Forest canopy to encourage healthy
  new growth on the ground, repairing existing roads and culverts when damaged by seasonal storms, and
  building new roads as needed to facilitate fire and emergency vehicle access to the Forest.
- Creating parking areas, trails and campgrounds and providing signage, trail maps and media promotion
  to encourage public awareness and low-impact use of the forest for all-season walking, horseback riding
  and group outings, and such seasonal activities as picnicking, hunting, cross-country skiing, skating and
  snowmobiling.
- Identify and managed areas with potential for late-successional forest structure (old growth habitat characterisities).

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695 Main Street, Suite 1, Lancaster, MA 01523

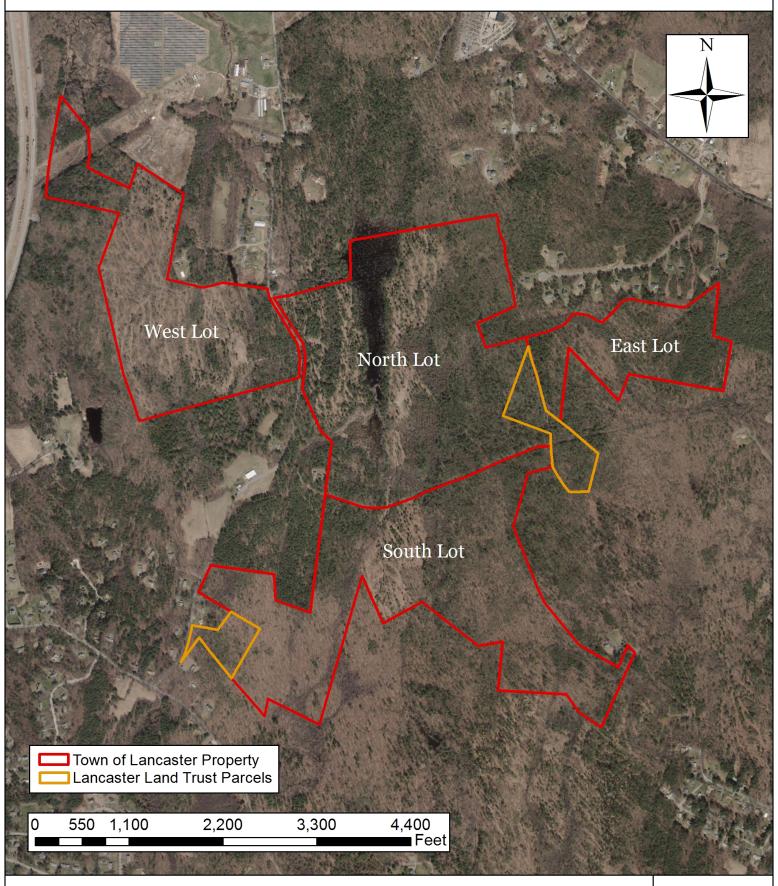
Locus



Data Sources: USGS and Openspace data taken from MassGIS. Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

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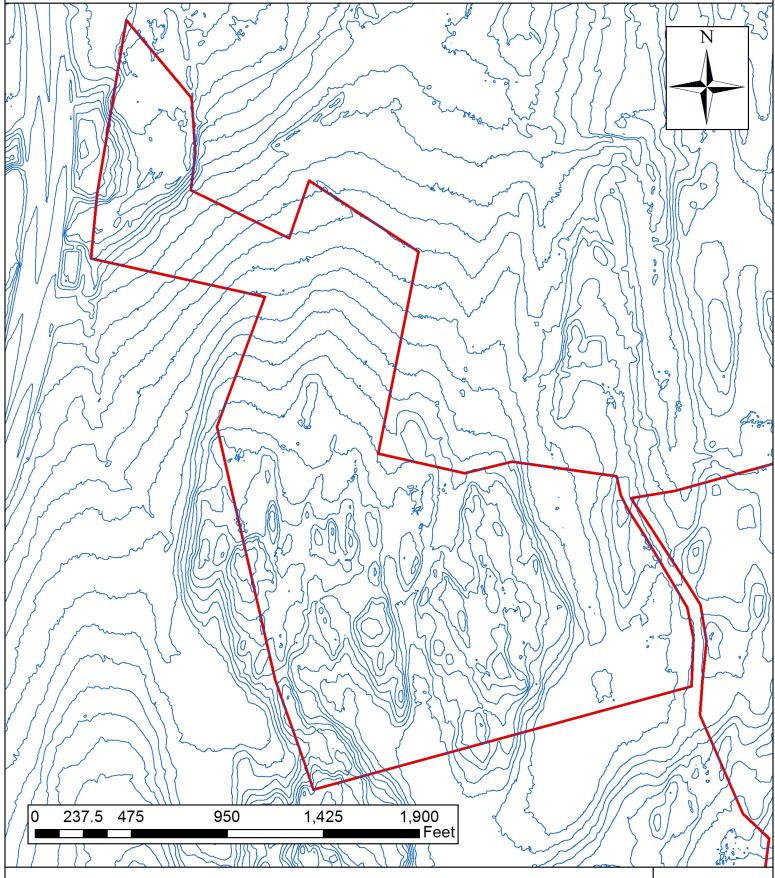
Master Lot Map



Data Sources: Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

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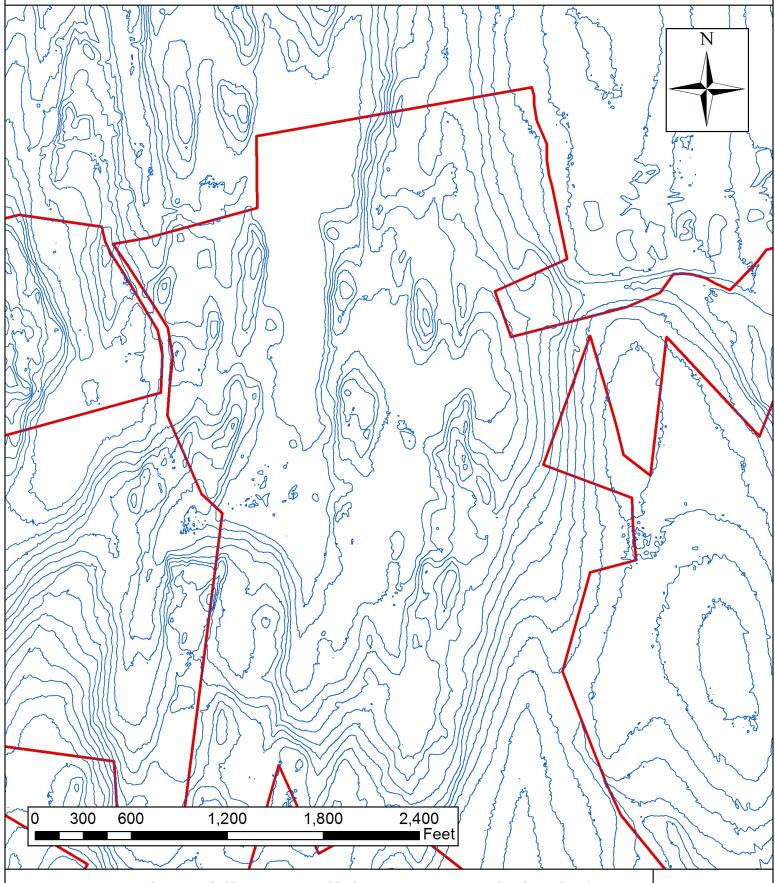
West Lot, Contour



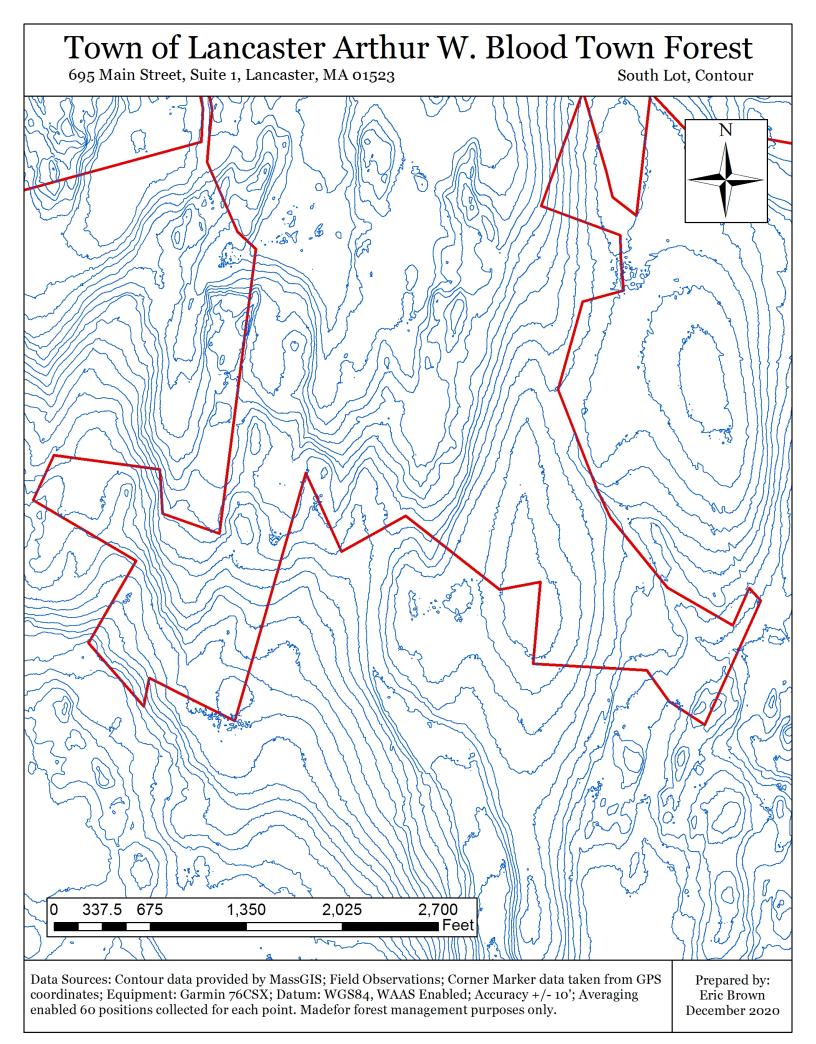
Data Sources: Contour data provided by MassGIS; Field Observations; Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

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North Lot, Contour

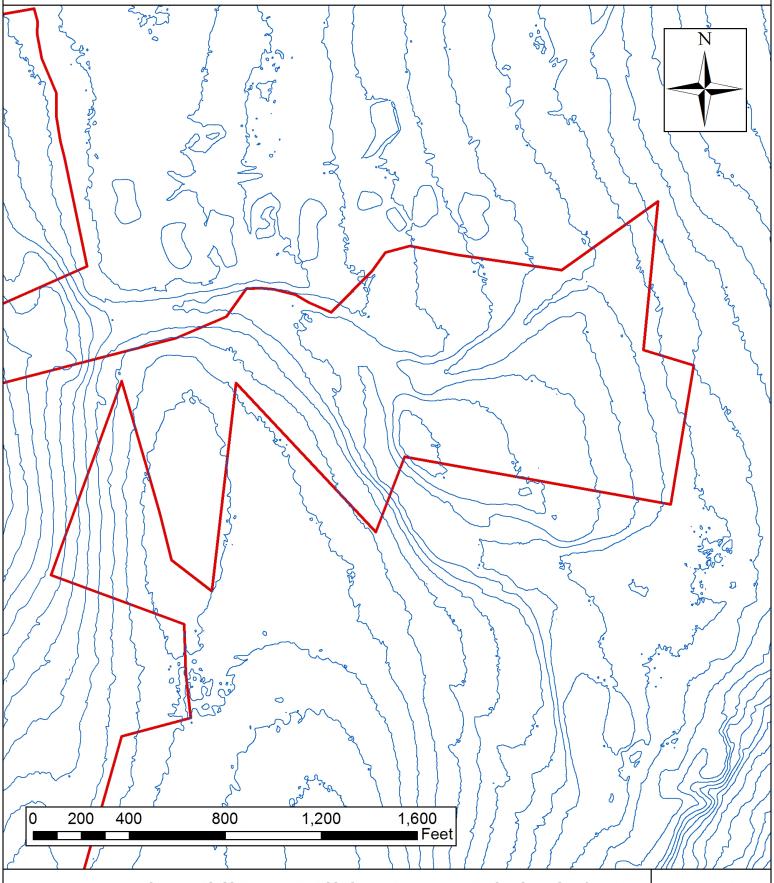


Data Sources: Contour data provided by MassGIS; Field Observations; Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.



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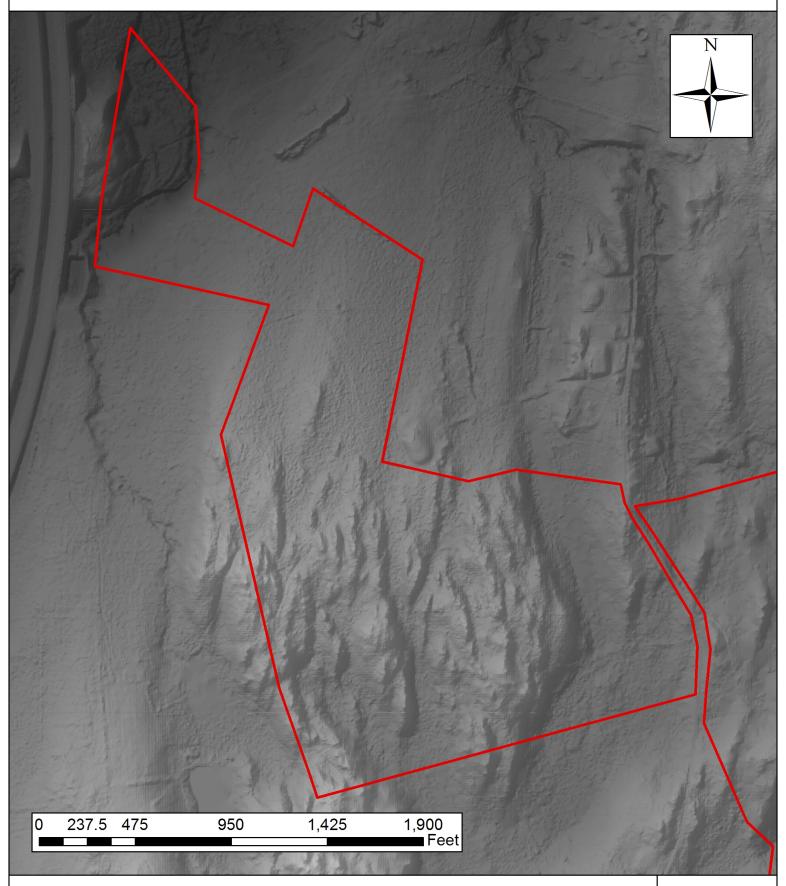
East Lot, Contour



Data Sources: Contour data provided by MassGIS; Field Observations; Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

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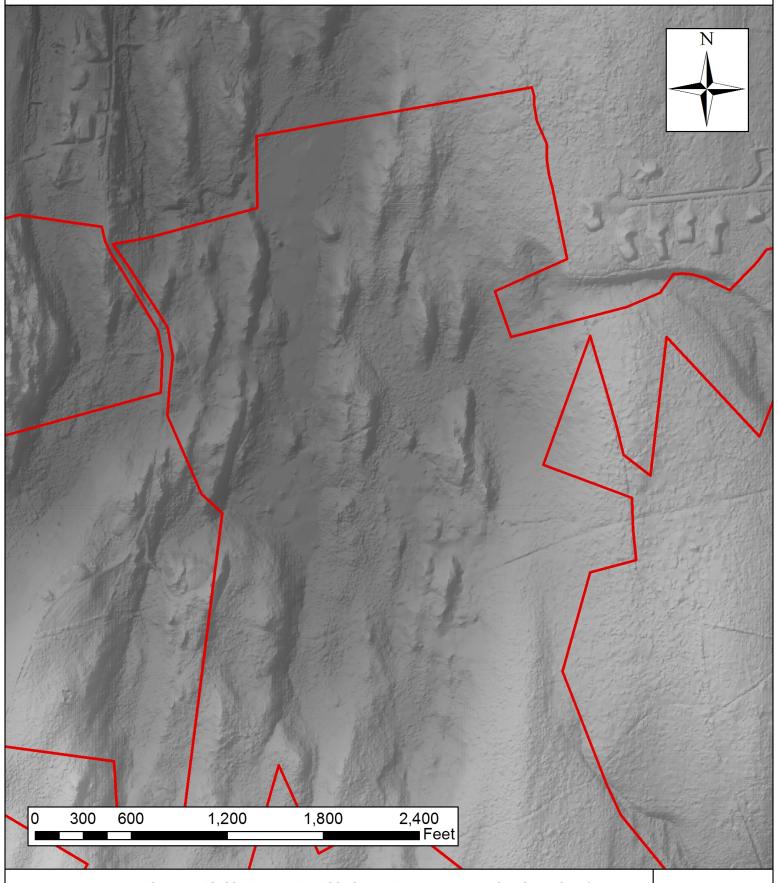
West Lot, LiDAR



Data Sources: Contour data provided by MassGIS; Field Observations; Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

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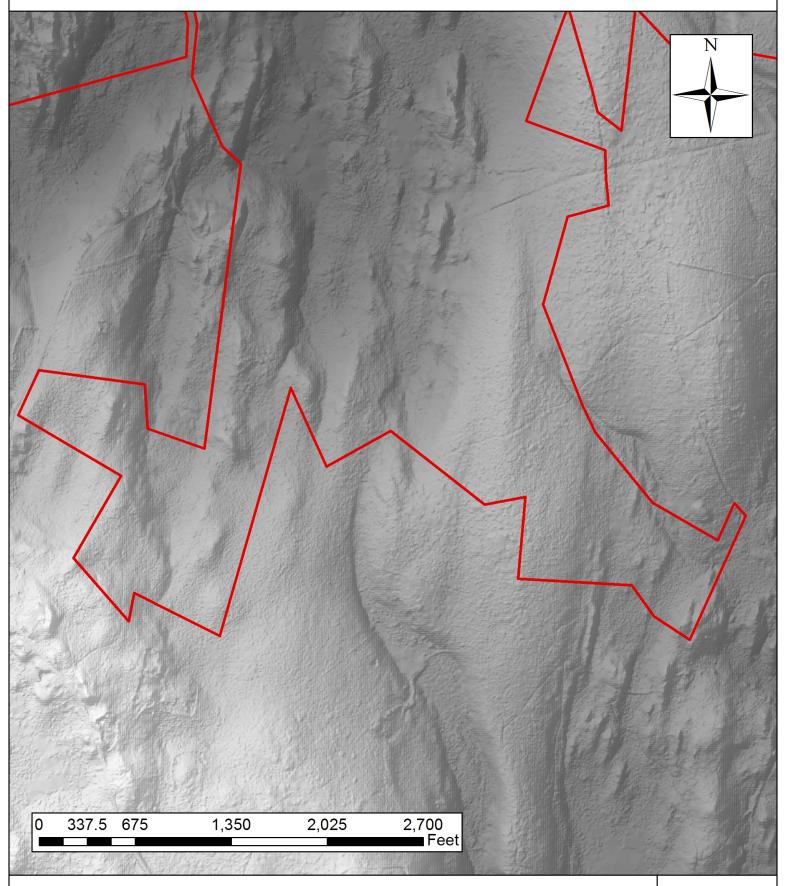
North Lot, LiDAR



Data Sources: Contour data provided by MassGIS; Field Observations; Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

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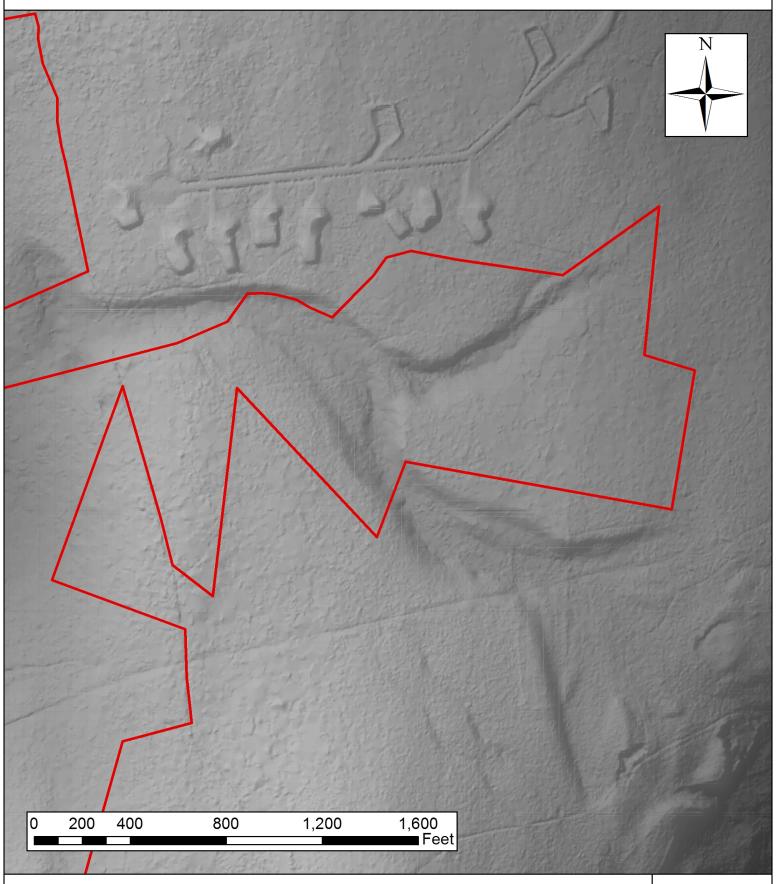
South Lot, LiDAR



Data Sources: Contour data provided by MassGIS; Field Observations; Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

695 Main Street, Suite 1, Lancaster, MA 01523

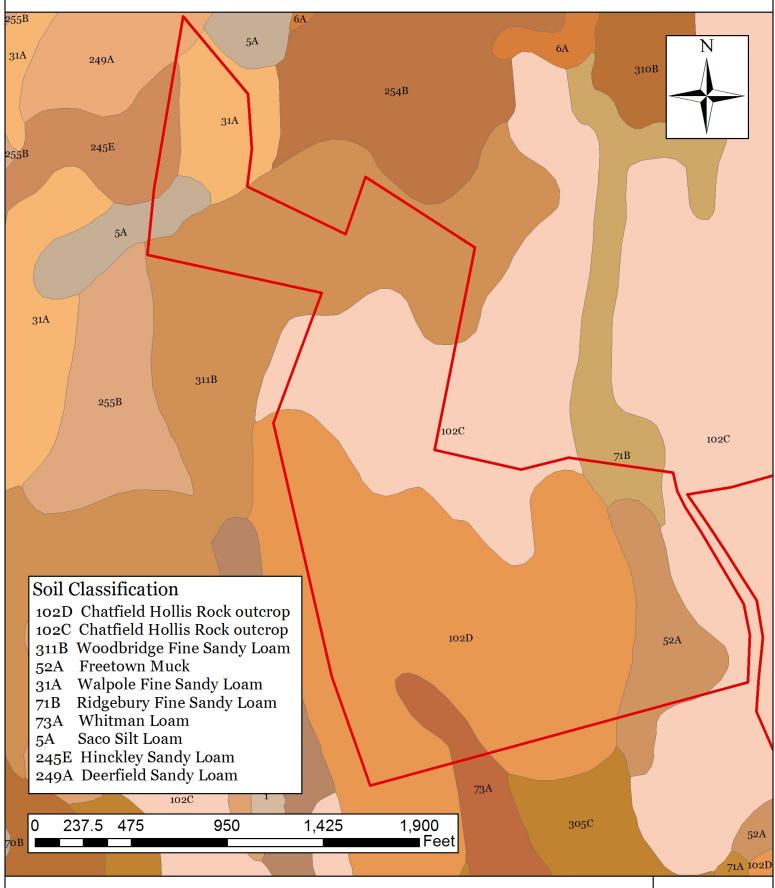
East Lot, LiDAR



Data Sources: Contour data provided by MassGIS; Field Observations; Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

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West Lot, Soils



Data Sources: Soils data provided by MassGIS; Field Observations; Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

# Town of Lancaster Arthur W. Blood Town Forest 695 Main Street, Suite 1, Lancaster, MA 01523 North Lot, Soils 73A 71B 51A 310B 102C 102C 306C 306B 52A

102C 102D 262B 102C 52A 73A 73A 102D 305C 71B 306C 71A Soil Classification 102C 102C Chatfield Hollis Rock outcrop 306C Paxton Fine Sandy Loam Ridgebury Fine Sandy Loam 71B 305B Whitman Loam 73A Freetown Muck 52A 51A Swansea Muck 306B 71A 2,400 300 600 1,200 1,800 0 73A Feet 311B

Data Sources: Soils data provided by MassGIS; Field Observations; Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

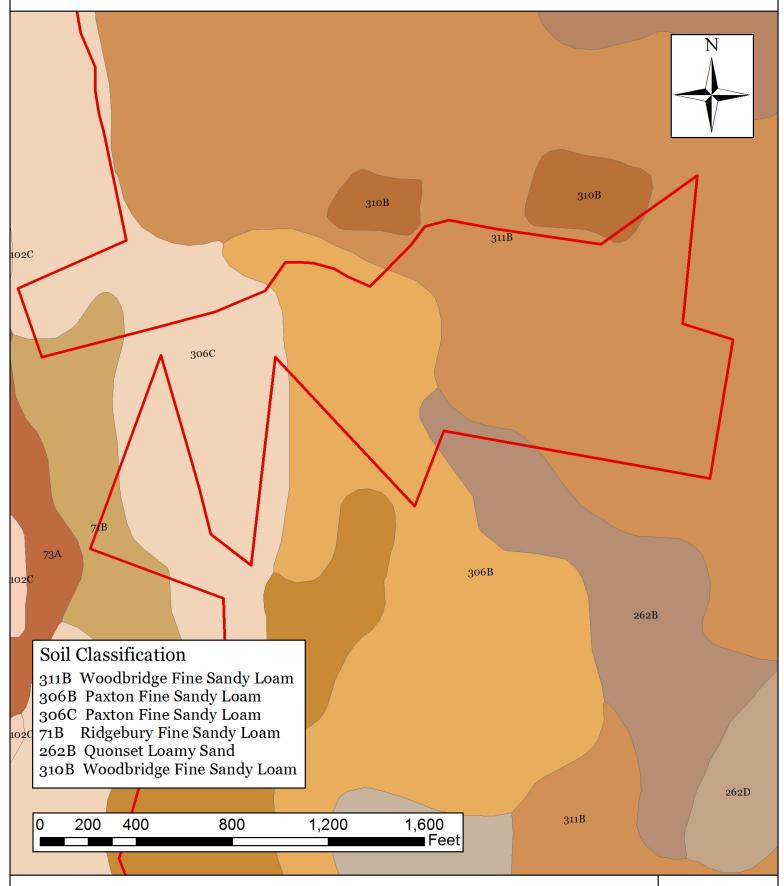
#### Town of Lancaster Arthur W. Blood Town Forest 695 Main Street, Suite 1, Lancaster, MA 01523 South Lot, Soils 52A 102D 2C 102C 102C 52A 71B 73A 73A 306B 102D 305C 71B 306C 71A 102C 102C 305B 306C 71B 71A 306B 306B 311B 311B Soil Classification 73A 73A 102C Chatfield Hollis Rock outcrop 306B Paxton Fine Sandy Loam 311B Woodbridge Fine Sandy Loam 305B 306C Paxton Fine Sandy Loam 306C Ridgebury Fine Sandy Loam 71B Ridgebury Fine Sandy Loam 71A Whitman Loam 102C 73A 306D 337.5 675 1,350 2,025 2,700 0 70A Feet 70A

Data Sources: Soils data provided by MassGIS; Field Observations; Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

305B

695 Main Street, Suite 1, Lancaster, MA 01523

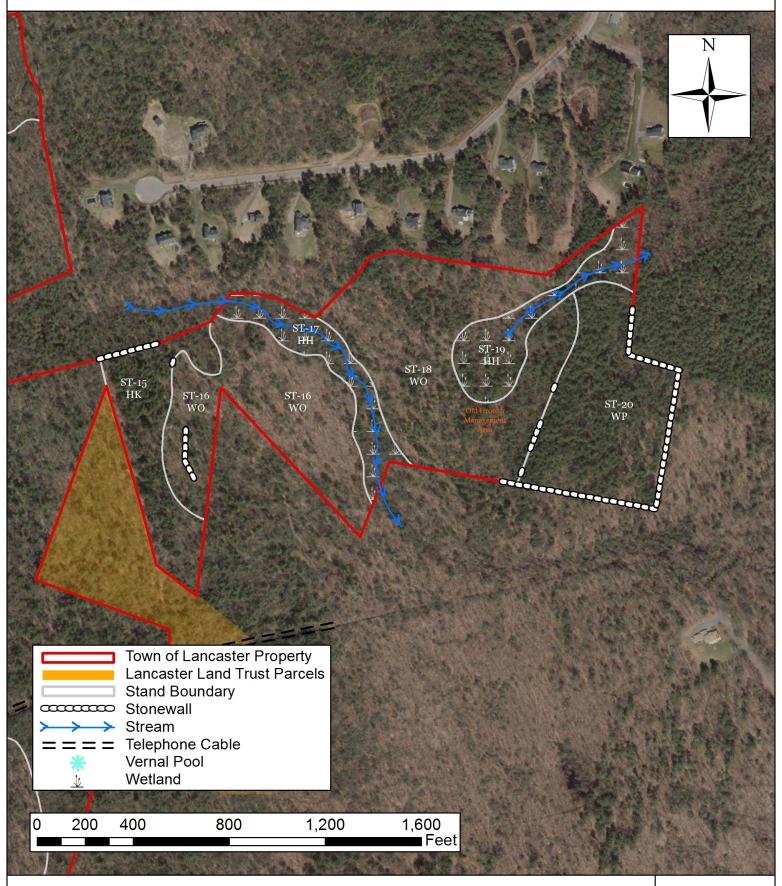
East Lot, Soils



Data Sources: Soils data provided by MassGIS; Field Observations; Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

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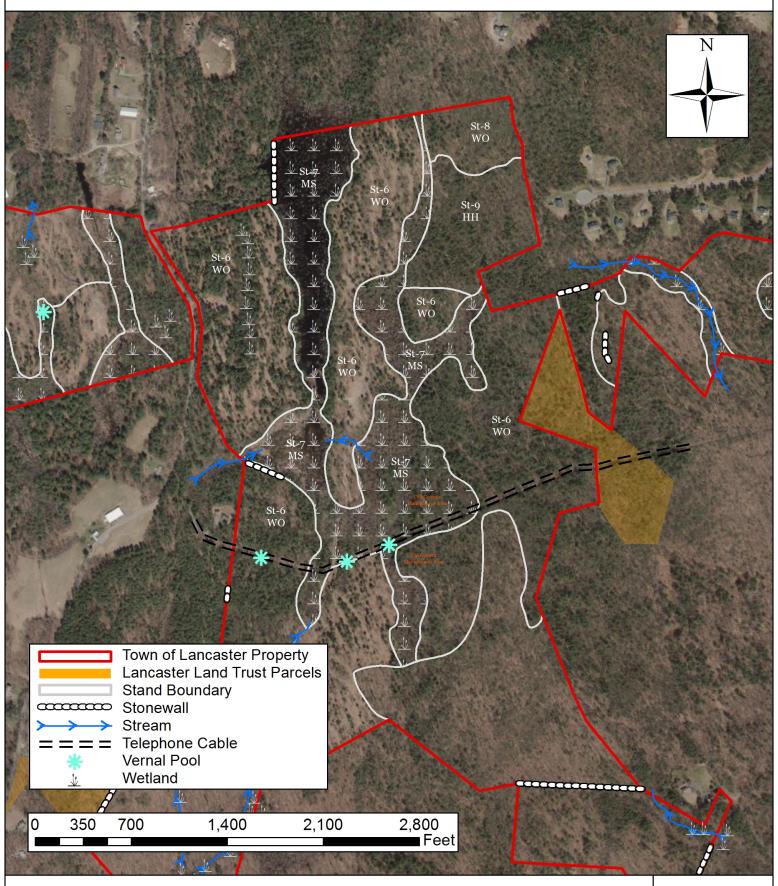
East Lot Ortho



Data Sources: Orthographic photographs taken from MassGIS. Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

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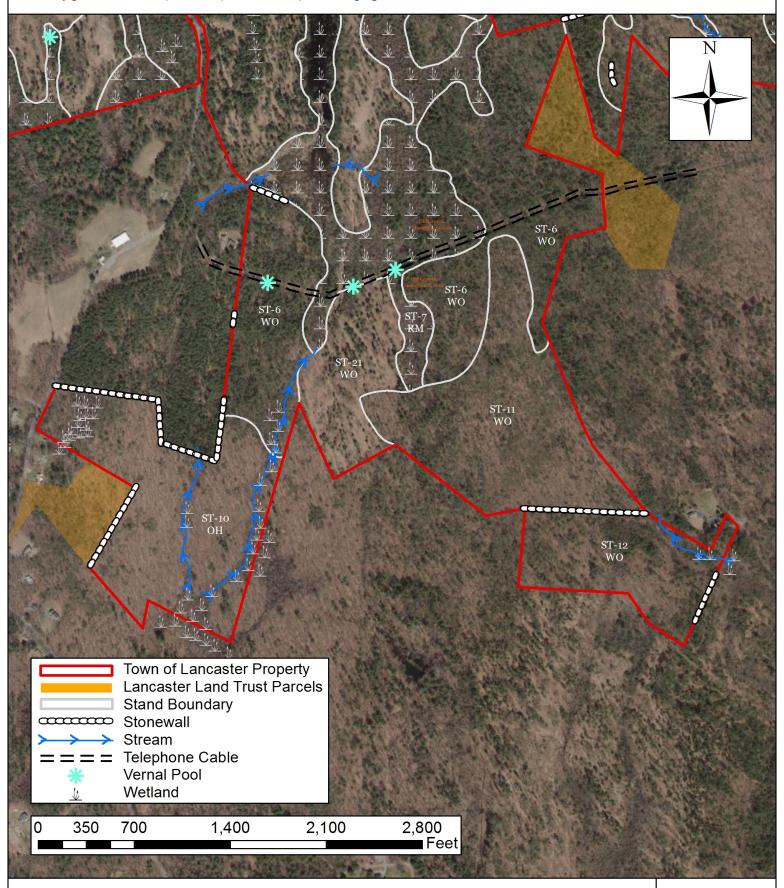
North Lot Ortho



Data Sources: Orthographic photographs taken from MassGIS. Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

695 Main Street, Suite 1, Lancaster, MA 01523

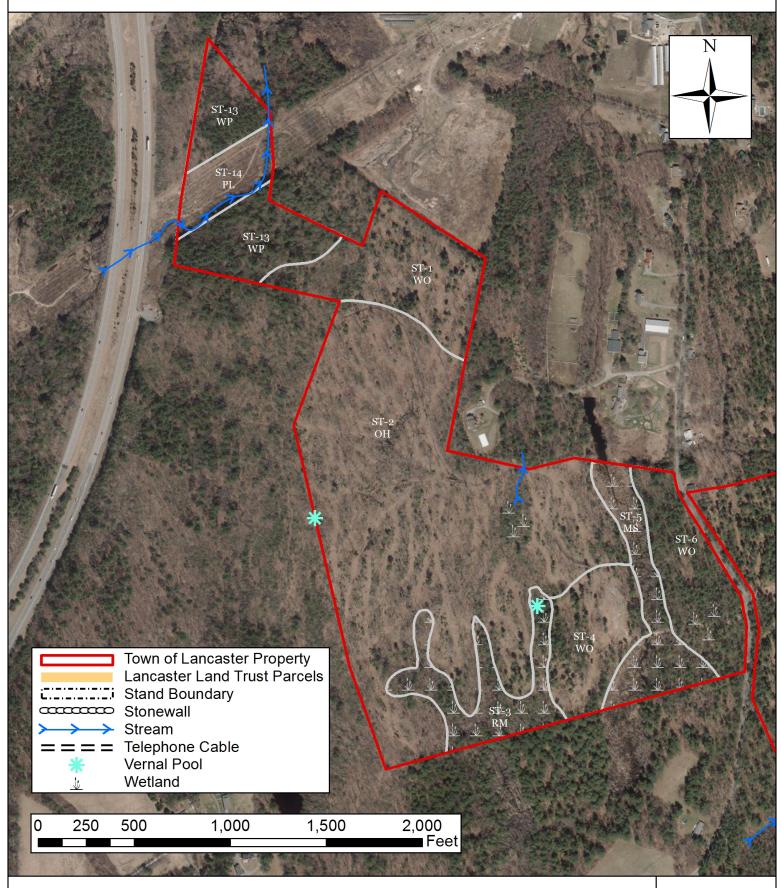
South Lot Ortho



Data Sources: Orthographic photographs taken from MassGIS. Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

695 Main Street, Suite 1, Lancaster, MA 01523

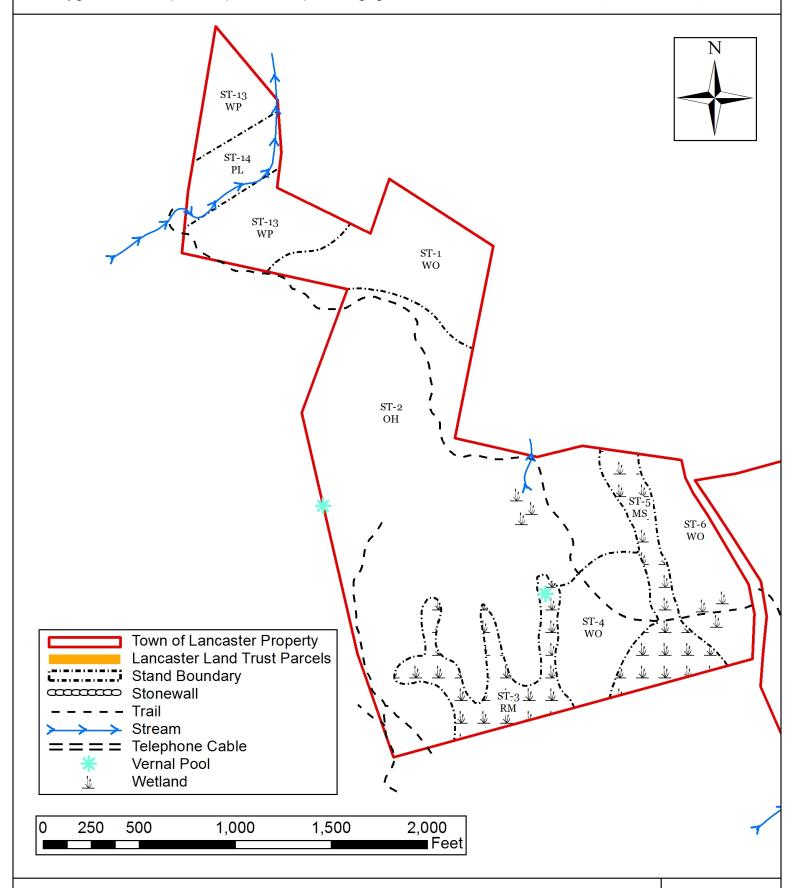
West Lot Ortho



Data Sources: Orthographic photographs taken from MassGIS. Corner Marker data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

695 Main Street, Suite 1, Lancaster, MA 01523

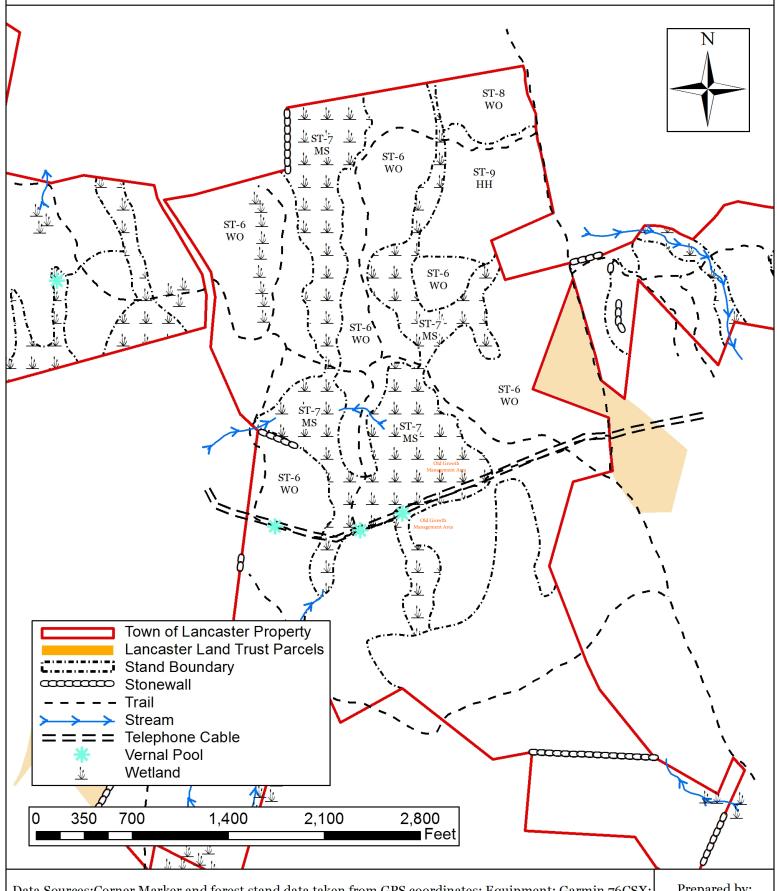
West Lot Forest Stand



Data Sources:Corner Marker and forest stand data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

695 Main Street, Suite 1, Lancaster, MA 01523

North Lot Forest Stand



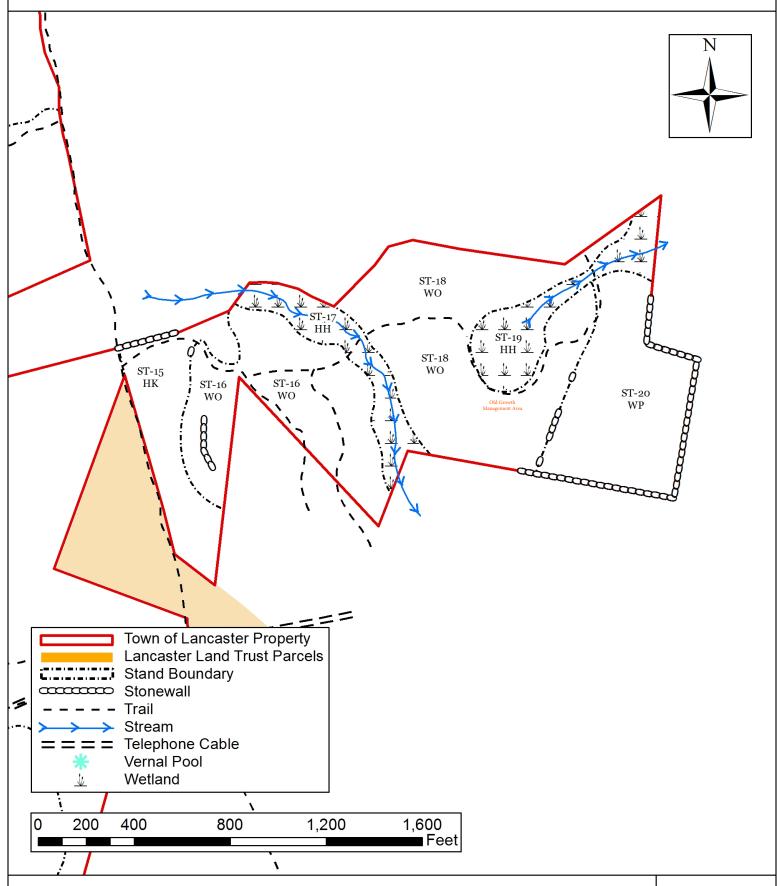
Data Sources:Corner Marker and forest stand data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

# Town of Lancaster Arthur W. Blood Town Forest 695 Main Street, Suite 1, Lancaster, MA 01523 South Lot Forest Stand ST-6 WO WO ST-21 ST-11 ST-10 ST-12 WO Town of Lancaster Property Lancaster Land Trust Parcels Stand Boundary Stonewall Trail Stream Telephone Cable Vernal Pool Wetland 0 350 700 1,400 2,100 2,800

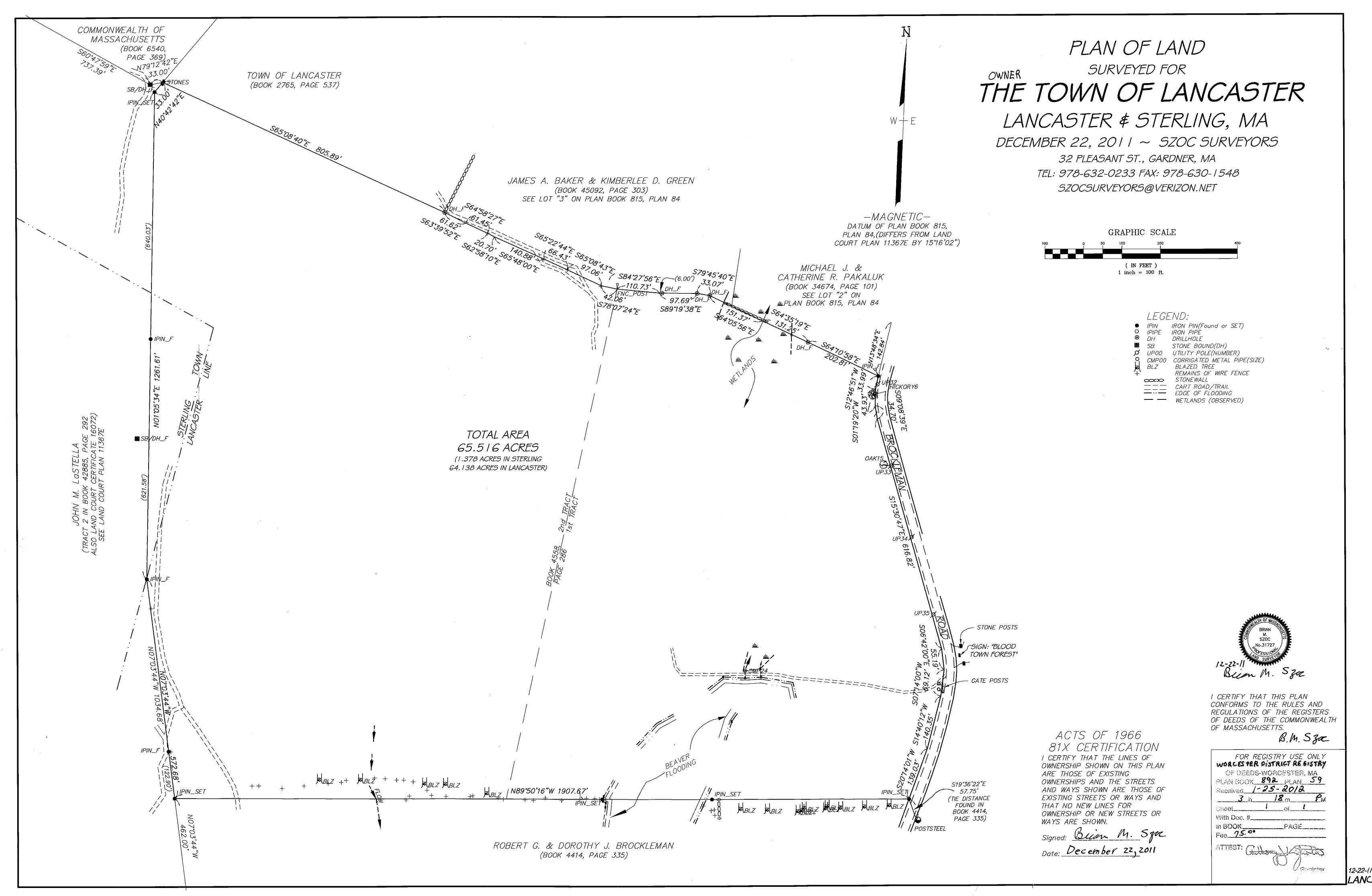
Data Sources:Corner Marker and forest stand data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.

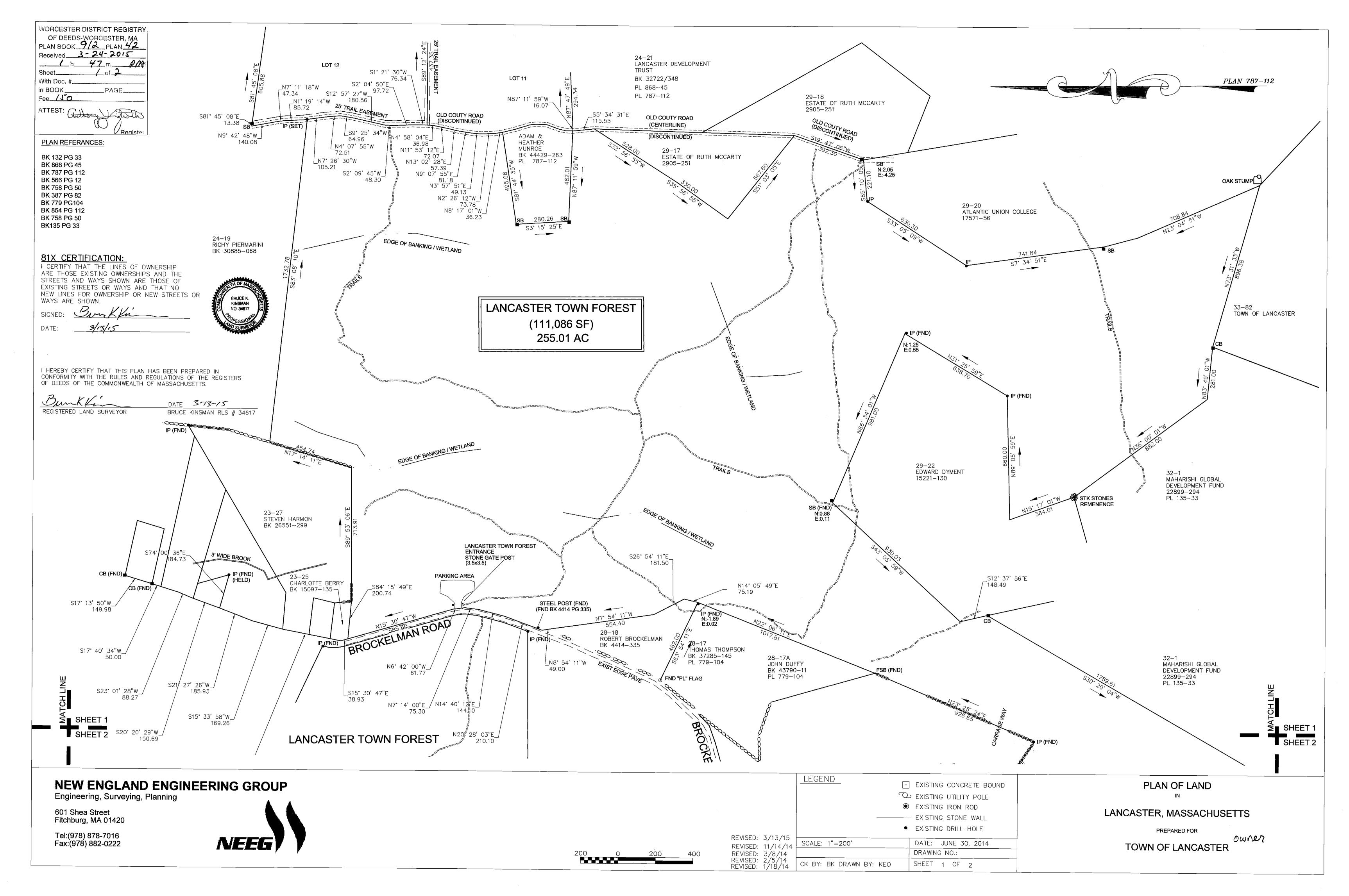
695 Main Street, Suite 1, Lancaster, MA 01523

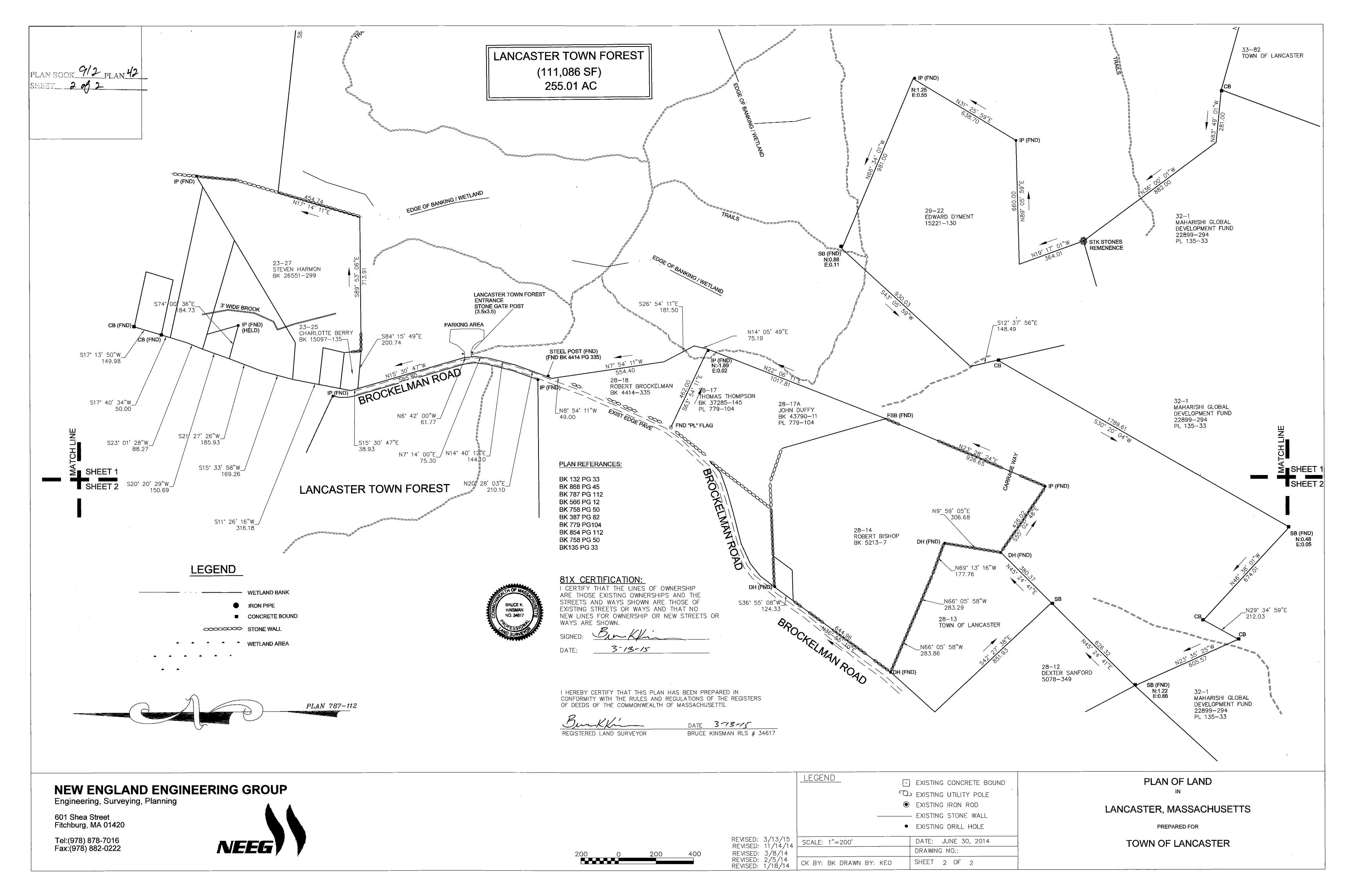
East Lot Forest Stand



Data Sources:Corner Marker and forest stand data taken from GPS coordinates; Equipment: Garmin 76CSX; Datum: WGS84, WAAS Enabled; Accuracy +/- 10'; Averaging enabled 60 positions collected for each point. Madefor forest management purposes only.







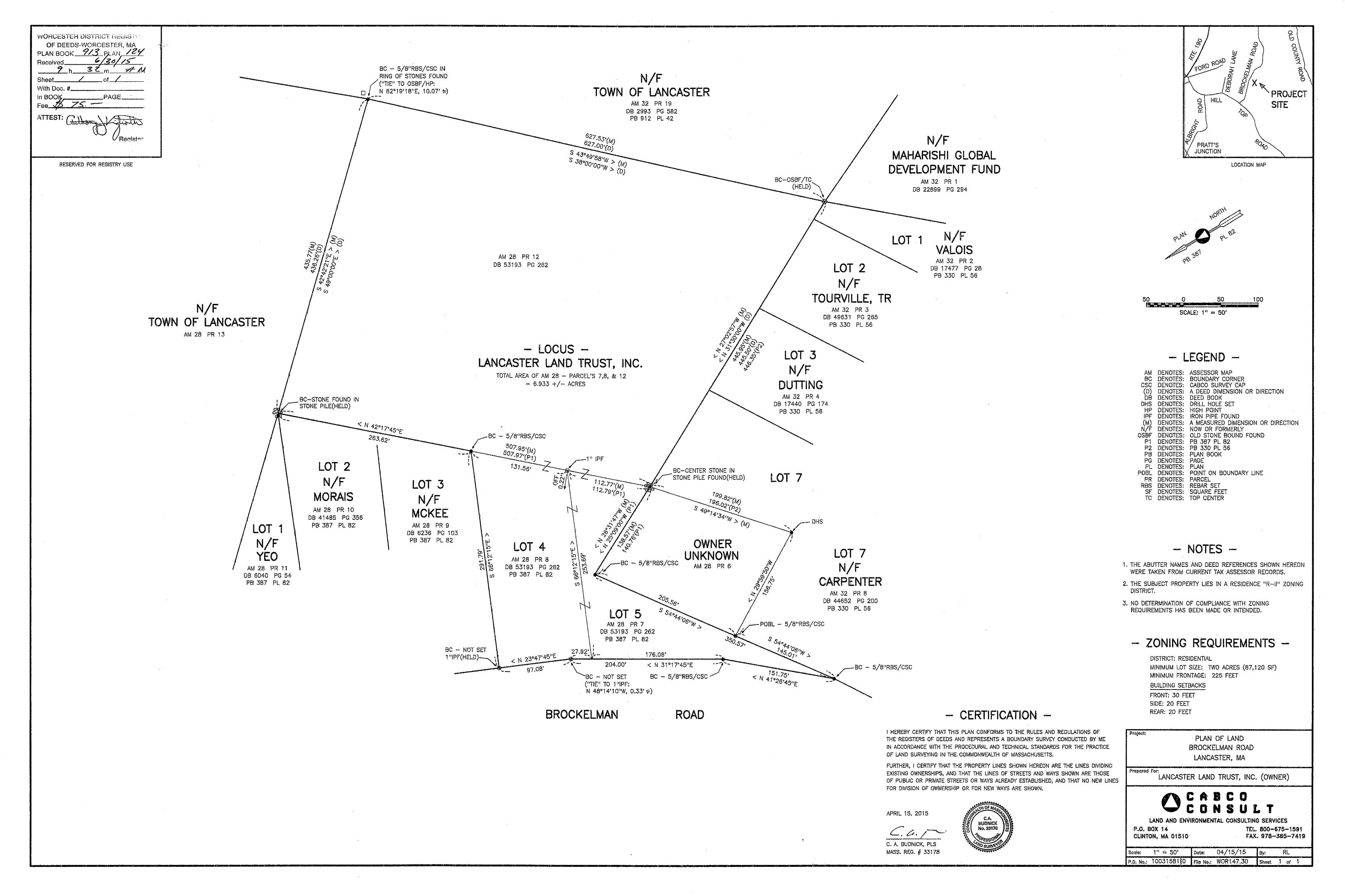
WORCESTER DISTRICT REGISTRY OF DEEDS-WORCESTER, MA PLAN BOOK 9/3 PLAN /23 9 h 32 m DEVONSHIRE WAY With Doc. #. in BOOK, Fee \$ 75. -N/F TOWN OF LANCASTER RESERVED FOR REGISTRY USE LOCATION MAP -BC - OSBF (HELD) TOWN FOREST AM 28 PR 19 DB 2993 PG 582 PB 912 PL 42 -BC - OSBF (HELD) - LOCUS -DEED PARCEL 1 SCALE: 1'' = 80'AM 29 PR 17 DB 58312 PG 287 - POBL - STONE FOUND (HELD FOR LINE) AREA: 6.079 +/- ACRES (M) 5.500 +/- ACRES (D) N/F ATLANTIC UNION COLLEGE - LEGEND -AM 29 PR 20 DB 17571 PG 56 -BC - 5/8"RB\$/CSC AM DENOTES: ASSESSOR MAP
BC DENOTES: BOUNDARY CORNER
CSC DENOTES: CABCO SURVEY CAP
(D) DENOTES: A DEED DIMENSION, DIRECTION OR AREA
DB DENOTES: DEED BOOK
(M) DENOTES: A MEASURED DIMENSION, DIRECTION OR AREA
N/F DENOTES: NOW OR FORMERLY
OSBF DENOTES: OLD STONE BOUND FOUND
PB DENOTES: PLAN BOOK
PG DENOTES: PAGE
PL DENOTES: PLAN
POBL DENOTES: POINT ON BOUNDARY LINE
PR DENOTES: PARCEL << 1,080.78' TOTAL (M) >> << 1,059.96' TOTAL (D) >> 72.78' < \$ 01°21'48"W < \$ 03°02'14"E -BC - 5/8"RBS/CSC << 984.96' TOTAL (M) >> << 973.00' TOTAL (D) >> 347.25 N 01°35'16"E > 218.52' ROAD 170.92 COUNTY -OLD (DISCONTINUED) BC - 5/8"RBS/CSC BC - 5/8"RBS/CSC PR DENOTES: PARCEL RBS DENOTES: REBAR SET (N) < (E) N/F POBL - OSBF (HELD FOR LINE) TOWN OF LANCASTER - LOCUS -AM 29 PR 16 DEED PARCEL 2 DB 50796 PG 198 AM 29 PR 18 DB 58312 PG 287 AREA: 7.291 +/- ACRES (M) 6.000 +/- ACRES (D) - NOTES -BC - OSBF (HELD)-1. THE ABUTTER NAMES AND DEED REFERENCES SHOWN HEREON WERE TAKEN FROM CURRENT TAX ASSESSOR RECORDS. 2. THE SUBJECT PROPERTY LIES IN A RESIDENCE "R-II" ZONING 3. NO DETERMINATION OF COMPLIANCE WITH ZONING REQUIREMENTS HAS BEEN MADE OR INTENDED. - ZONING REQUIREMENTS -DISTRICT: RESIDENTIAL MINIMUM LOT SIZE: TWO ACRES (87,120 SF) BC - OSBF (HELD) MINIMUM FRONTAGE: 225 FEET BUILDING SETBACKS: FRONT: 30 FEET SIDE: 20 FEET REAR: 20 FEET - CERTIFICATION -N/F I HEREBY CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF FULLER & STADTHERR PLAN OF LAND THE REGISTERS OF DEEDS AND REPRESENTS A BOUNDARY SURVEY CONDUCTED BY ME OLD COUNTY ROAD IN ACCORDANCE WITH THE PROCEDURAL AND TECHNICAL STANDARDS FOR THE PRACTICE AM 29 PR 14 DB 4472 PG 23 OF LAND SURVEYING IN THE COMMONWEALTH OF MASSACHUSETTS. LANCASTER, MA FURTHER, I CERTIFY THAT THE PROPERTY LINES SHOWN HEREON ARE THE LINES DIVIDING EXISTING OWNERSHIPS, AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE LANCASTER LAND TRUST, INC. (OWNER) OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED, AND THAT NO NEW LINES FOR DIVISION OF OWNERSHIP OR FOR NEW WAYS ARE SHOWN. O C A B C O CONSULT JUNE 30, 2015 LAND AND ENVIRONMENTAL CONSULTING SERVICES

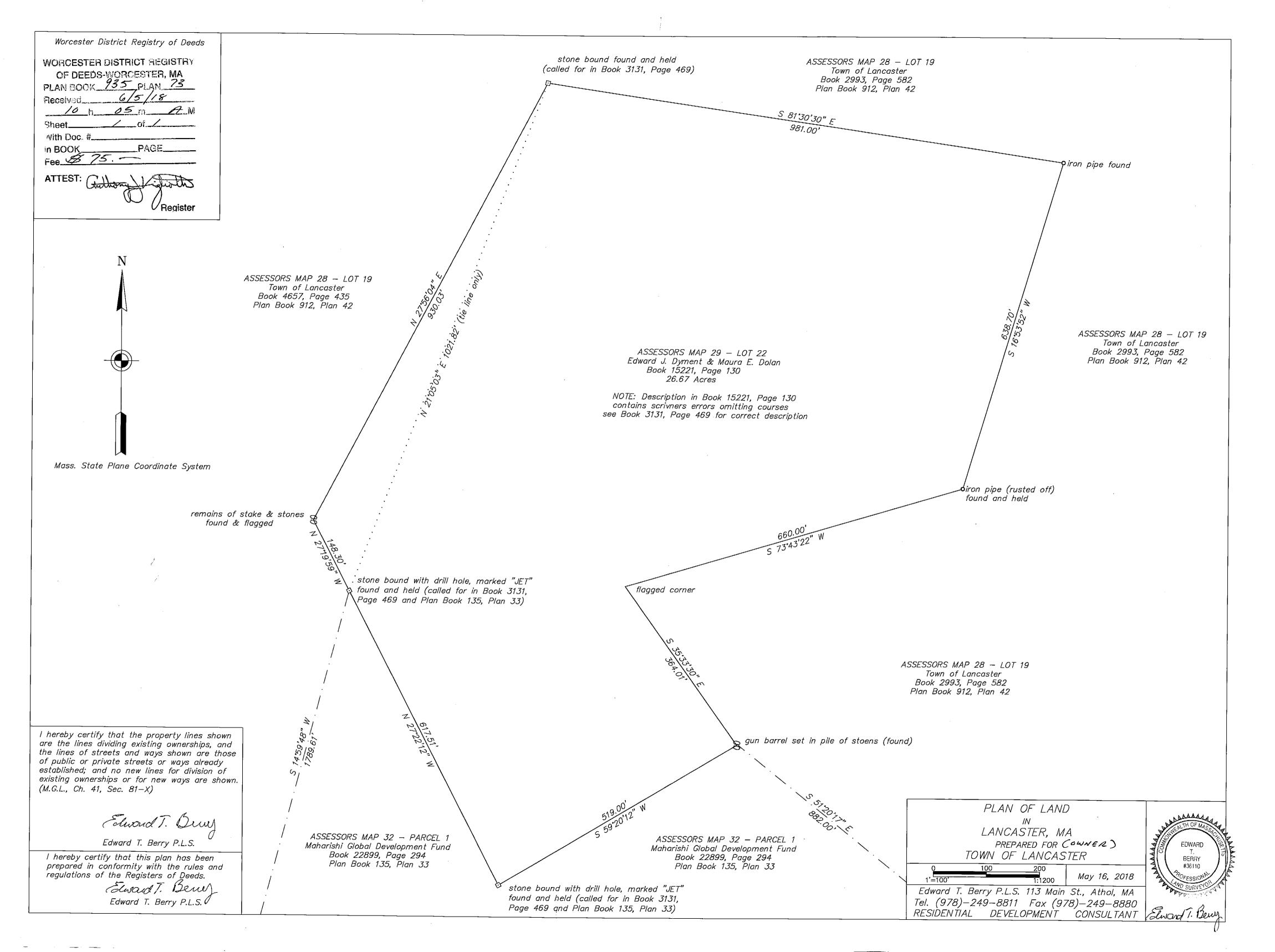
P.O. BOX 14 CLINTON, MA 01510

C. A. BUDNICK, PLS MASS. REG. # 33178

TEL. 800-675-1591 FAX. 978-365-7419

Date: 06/30/15 By: RL Scale: 1" = 80' P.D. No.: 10041581}0 File No.: WOR147.30 Sheet 1 of 1





#### STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	1	WO	10.3	13.5"	90 1.2 c	7 MBF ds. (p)/2.7 cd	WP: 65/RO: 72 s. (f)

**Forest Type**: White Pine-Mixed Oak

**Location:** Northwest portions of the West Lot

#### **Species Composition**

Co-Dominant Size Class: (in order of dominance): white pine, red oak, black oak, white oak

Intermediate Size Class: red maple, white pine

Regeneration: adequate – white pine, mixed oak, red maple, birch

Invasive Species: none noted

Shrub growth: American chestnut, high-bush blueberry

<u>Aspect:</u> north and northwest Size Class: Sawtimber

Soil Type: Woodbridge (WsB), Walpole (Wa), Saco (Sa) (refer to Overview Section for a detailed

description.)

Past Harvesting: Yes, 2016

**Description**: This stand was harvested in 2016 to a Shelterwood-Seedtree condition. It was a whole tree chipping operation that removed all of the low-quality and unhealthy growing stock leaving a residual stand of healthy sawtimber trees. A dense understory of mixed hardwood and pine regeneration has become established. This site is well suited to growing and harvesting trees including late successional species such as oak and pine. The sawlog sized trees consist of red oak, white pine, white oak, and black oak. Sawtimber quality is good. Excellent upland interior forest habitat. The abundance of mature oak trees, throughout the stand provide an excellent mast resource for deer, moose, bear, turkey, and small rodents. A colonial period cellar hole and well are within this stand (see map). Protecting this historical resource will be a priority. For the next 10-20 years the desired future condition is a stand left in its current condition to allow regeneration and the overstory to grow.

OBJECTIVE CODE: CH61 = stands classified under CH61/61A/61B STEW= stands not classified under CH61/61A/61B STD= stand AC= acre MSD= mean stand diameter MBF= thousand board feet BA= basal area VOL= volume

Owner(s) TOWN OF LANCASTER---BLOOD TOWN FOREST Town(s) LANCASTER

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	2	ОН	43.4	12.4"	110	6 MBF 8.86 cds. (f)	RO: 70

Forest Type: Oak-Hardwood

**Location:** Main hardwood stand in the West Lot

## **Species Composition**

Co-Dominant Size Class: (in order of dominance): red oak, black oak, white ash, white oak, hickory

Intermediate Size Class: red maple

Regeneration: adequate – mixed oak, black birch, hickory, white pine, white oak, elm, red maple

Invasive Species: none noted

Shrub growth: mountain laurel, witch hazel

Aspect: south

Size Class: Small Sawtimber

Soil Type: Chatfield Series (ChC, ChD), (refer to Overview Section for a detailed description.)

Past Harvesting: Yes, 2016

**Description**: This stand was harvested in 2016 to a Shelterwood-Seedtree condition. It was a whole tree chipping operation that removed all of the low-quality and unhealthy growing stock leaving a residual stand of healthy sawtimber trees. The harvest has resulted in an abundance of tree regeneration. Really interesting site with a lot of diversity. The topography consists of hills and ridges with many impressive bedrock exposures throughout. Depth to bedrock is shallow with a maximum depth of 30-inches. Sawtimber quality is fair to good. Mountain laurel is dense in some areas. Mountain laurel appears to follow the path of drainage preferring the wetter sites. There is more species diversity then average because of the variability in soil moisture content. The hilly terrain and shallow depth to bedrock creates very dry soil on the hill tops and very moist soil in the "valleys". Species such as ash, hickory, and elm are present. Aesthetically nice for a possible trail extension. Excellent resources for wildlife. The rock outcroppings provide possible den sites and protection from weather. The abundance of mature mixed oak trees, throughout the stand provides an excellent mast resource for deer, moose, turkey, black bear, and small rodents. The areas with dense mountain laurel provide cover for deer, birds, and small rodents. For the next 10-20 years the desired future condition is a stand left in its current condition to allow regeneration and the overstory to grow.

OBJECTIVE CODE: CH61 = stands classified under CH61/61A/61B STEW= stands not classified under CH61/61A/61B MBF= thousand board feet BA= basal area VOL= volume STD= stand AC= acre MSD= mean stand diameter Owner(s) TOWN OF LANCASTER---BLOOD TOWN FOREST LANCASTER

	OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW 3 RM 7.0 11.9" 110 1.4 MBF WP: 56	STEW	3	RM	7.0	11.9"	110	1.4 MBF	WP: 56

**Forest Type**: Red Maple

Location: Forested wetland, West Lot

## **Species Composition**

Co-Dominant Size Class: (in order of dominance): red maple, black birch, white oak, red oak, pine

<u>Intermediate Size Class:</u> red maple <u>Regeneration</u>: inadequate – white pine

Invasive Species: none noted

Shrub growth: mountain laurel, witch hazel, fern, winterberry, alder

Aspect: south

Size Class: Small Sawtimber

Soil Type: Whitlam Loam (Wh), (refer to Overview Section for a detailed description.)

<u>Past Harvesting</u>: No evidence of past management including timber harvesting.

**Description**: More diverse species composition due to it being predominantly a wetland site. The topography is nearly level and poorly drained with a soil depth of 60-inches. Mountain laurel seems to prefer this wet site and is dense in many areas. A dense layer of fern and moss cover the ground. Hummocky in nature. Excellent resources for wildlife food for primarily deer, small rodents and song birds. On the edges of the drainage area and in some cases within there are large diameter good quality white pine trees. They are some of the highest quality trees in regards to vigor, health, growth-rate and timber quality. It appears they are growing in ideal growing conditions. The areas with dense mountain laurel provide cover for deer, birds, and small rodents. Operability is poor. The desired future condition is a stand left primarily in its natural state to protect water quality.

		OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
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STEW 4 WO 9.7 13" 105 9 MBF RO:70

7 cds. (f)/2.3 cords (p)

**Forest Type**: White Pine-Mixed Oak **Location**: East of wetland, West Lot

## **Species Composition**

Co-Dominant Size Class: (in order of dominance): w. pine, r. oak, b. oak, w. oak

<u>Intermediate Size Class:</u> white pine, red maple, chestnut oak <u>Regeneration</u>: adequate – mixed oak, red maple, white pine, birch

<u>Invasive Species</u>: none noted <u>Shrub growth:</u> low-bush blueberry

Owner(s) TOWN OF LANCASTER---BLOOD TOWN FOREST

<u>Aspect:</u> south and east <u>Size Class:</u> Sawtimber

Soil Type: Chatfield-Hollis (ChC, ChD), (refer to Overview Section for a detailed description.)

Past Harvesting: Yes, 2016

**Description**: This stand was harvested in 2016 to a Shelterwood-Seedtree condition. It was a whole tree chipping operation that removed all of the low-quality and unhealthy growing stock leaving a residual stand of healthy sawtimber trees. The harvest has resulted in a dense understory layer of mixed hardwood and pine regeneration. An abundance of oak seedlings are present. The overstory is comprised of mostly white pine and mixed oak sawtimber of good quality. The soils and topography are the same as Stand 2. Operability is fair. There are many bedrock exposures to navigate around and one probable vernal pool to buffer. The vernal pool is adjacent to a large bedrock exposure and it is quite beautiful. A trail extension could be considered through this area for nature study and recreation. There are also quite a few white pine "specimen" trees to view. The site appears to be suited to grow both oak and pine. Soil data indicates that the site is better suited for growing mixed hardwood. This will be considered when making harvesting decisions. Both species will continue to be dominant. A log landing will be considered in this stand along the cart road. For the next 10-20 years the desired condition is a stand left in its current condition to allow the overstory and understory to grow.

OBJECTIVE CODE: CH61 = stands classified under CH61/61A/61B STEW= stands not classified under CH61/61A/61B STD= stand AC= acre MSD= mean stand diameter MBF= thousand board feet BA= basal area VOL= volume

Town(s)

LANCASTER

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	5	MS	44	n/a	n/a	n/a	RM: 50

Forest Type: Shallow Marsh

**Location:** beaver pond and wetland, West Lot

## **Species Composition**

Co-Dominant Size Class: n/a
Intermediate Size Class: n/a
Regeneration: inadequate – n/a
Invasive Species: none noted

Shrub growth: low-bush blueberry, winterberry, alder

Aspect: northly

Size Class: Regeneration

Soil Type: Freetown Muck (fm), (refer to Overview Section for a detailed description.)

<u>Past Management</u>: Work has been done on the culvert at the stream crossing.

**Description**: This stand is a shallow marsh and associated wooded wetland. The wooded wetland, the newest area to become flooded, is in the southeast corner. The marsh was created primarily by beaver activity. The upstream side of the access road where it crosses the wetland hass been partially dammed by the beavers. Signs of past and present beaver activity can be seen along the marshes edge (fallen saplings/trees, lodges, dams, etc.). Beaver ponds are an integral part of the ecosystem. Not only do they provide habitat for beavers but waterfowl, marsh and song birds, reptiles, moose, deer, and birds of prey. The edges are dominated by grasses, sedges, and shrubs. These areas provide dense cover for reptiles. The marsh still has standing dead trees, which have significant wildlife benefits to insects, woodpeckers, and birds-of-prey. The wooded wetlands around the edge of the marsh are almost primarily red maple with some large pine and oak. The desired future condition is a stand that matures and declines naturally to provide biodiversity and other ecosystem benefits such as flood water storage and filtration.

STEW 6 WO 125.27

145 10 MBF

RO:70

5.7 cds. (f)/6.7 cords (p)

**Forest Type**: White Pine-Mixed Oak

**Location:** East and West Lot, Main stand type on upland areas.

## **Species Composition**

<u>Co-Dominant Size Class:</u> (in order of dominance): w. pine, r. oak, b. oak, w. oak, <u>Intermediate Size Class:</u> white pine, red maple, r. oak, b.oak, hemlock, birch <u>Regeneration</u>: inadequate – red maple, white pine, birch, oak, beech, hemlock

11"

Invasive Species: none noted

Shrub growth: mountain laurel, witch hazel

Aspect: north, south, east, west

Size Class: Sawtimber

<u>Soil Type:</u> Chatfield-Hollis (ChC, ChD), (refer to Overview Section for a detailed description.) <u>Past Harvesting</u>: Some harvesting along main access road in the early 1980s. Partially harvested in 2016.

**Description**: Largest stand within the Town Forest. Twenty five hundred seedlings were planted in this stand in the late 1940s. Mostly white pine but also some red pine. I believe most of the white pine was planted along Brockelman Road. The red pine was planted in two patches one along Brockelman Road and the other along the main access road. White pine and mixed oak sawtimber of good quality. The soils and topography are the same as Stands 1, 2 & 4. Less bedrock exposure within this stand type. Operability is fair to good. There are several stream and wetland crossings to cross during harvesting operations. Time of year and weather conditions will play a large factor when deciding to operate. White pine and red oak is the primary sawtimber size tree. Overall quality is fair to good. However, throughout the stand there are many good quality large diameter pine and oak. The site appears to be suited to grow both oak and pine. Soil data indicates that the site is better suited for growing mixed hardwood. This will be considered when making harvesting decisions. Both species will continue to be dominant. The "thick" mountain laurel and witch hazel growth will impede regeneration growth and will need to be addressed. The desired future condition is a stand thinned to promote the healthiest most vigorous trees and to create conditions favorable for establishing desirable regeneration. To accomplish these goals uneven-aged harvesting methods such as Group Selection and Improvement Thinning will be utilized with the long-term goal of creating three distinct age classes.

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
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STEW 7 RM 55.97

10"

125 4.5 MBF

RO:57

7.9 cds. (f)/1.9 cords (p)

Forest Type: Red maple wetland and shallow marsh

**Location:** Main wetland area of the East Lot.

## **Species Composition**

Co-Dominant Size Class: (in order of dominance): r. maple, hemlock, w. pine, r. oak, b. oak. b. gum

<u>Intermediate Size Class:</u> r. maple, hemlock

<u>Regeneration</u>: inadequate – red maple <u>Invasive Species</u>: Glossy Buckthorn

Shrub growth: high-bush blueberry, alder, winterberry

Aspect: north

Size Class: Cordwood to Small Sawtimber

Soil Type: Freetown Muck (FM), Ridgebury Fine Sandy Loam (RsB), (refer to Overview Section for a

detailed description.)

Past Harvesting: None, Access road maintenance at two locations.

**Description**: This stand is a shallow marsh and associated surrounding wooded wetland. The area with the lowest elevation, northwest portions (see orthophotograph), is primarily shallow marsh. Created from beavers who are currently active in the area. Signs of past and present beaver activity can be seen along the marshes edge (fallen saplings/trees, lodges, dams, etc.). The first access road crossing, from Brockelman Road, is a dam for a small pond area. Beaver ponds are an integral part of the ecosystem. Not only do they provide habitat for beavers but waterfowl, marsh and song birds, reptiles, moose, deer, and birds of prey. The edges are dominated by grasses, sedges, and shrubs. These areas provide dense cover for reptiles. The marsh still has standing dead trees, which have significant wildlife benefits to insects, woodpeckers, and birds-of-prey. The wooded wetlands around the edge of the marsh and at slightly higher elevations are primarily red maple with some large pine, hemlock and oak. High-bush blueberry is abundant in some areas and provides soft mast for birds and mammals Scattered patches of Glossy Buckthorn, an invasive species, have been found. At this time monitoring for spread is appropriate but control may be necessary at some point. The desired future condition is a stand that matures and declines naturally to provide biodiversity and other ecosystem benefits such as flood water storage and filtration. The exemption to this will be in areas identified as prime locations for latesuccessional forest management. A goal of the forest committee.

**Late-Successional Forest Structure:** As described in the overview section of this plan a goal of the town's forest committee is to identify and manage areas suitable for late-successional forest structure. Parts of this stand, as shown on the Forest Stand Map, have been identified as prime locations because of the presence of large diameter (26"-32" DBH), +/- 150 year old hemlock trees. There are likely others areas suitable for this type of management in this stand and one of the goals is to continue to search out and identify prime locations. Treatments for these areas are described in the practices section of this plan.

<b>OBJECTIVE</b>	E CODE: CH	I61 = stands classified under CH	I61/61A/61B	STEW= stand	ds not classified u	nder CH61/61A/61	В
STD= stand	AC= acre	MSD= mean stand diameter	MBF= thousan	nd board feet	BA= basal area	VOL= volume	
Owner(s) T	OWN OF LA	NCASTERBLOOD TOWN FOR	REST	Town(s)	LANCAST	'ER	

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	8	ОН	6.7	9"	105	2.5 MBF 12.7 cds. (f)	RO:65

**Forest Type**: Oak – Mixed Hardwood

Location: Northeast corner along Old County Road of the East Lot.

## **Species Composition**

Co-Dominant Size Class: (in order of dominance): b. oak, r. oak

<u>Intermediate Size Class:</u> b. oak, r. maple <u>Regeneration</u>: inadequate – red maple

Invasive Species: none noted

Shrub growth: mountain laurel, witch hazel

Aspect: west

Size Class: Cordwood

<u>Soil Type:</u> Paxton fine sandy loam (PbC), (refer to Overview Section for a detailed description.)

<u>Past Harvesting</u>: None, no evidence

**Description**: Small stand in the northeast corner of the lot. Primarily black oak with some red oak mixed throughout. Tree growth and vigor is poorer in this stand. This is indicated by the smaller tree diameter, shorter heights, and overall poorer form. Possible reasons for poorer growth are depth to bedrock, fire, or other past landuse. Very dense mountain laurel to the point where it is difficult to walk. Although not as ideal as red and white oak the abundance of black oak trees, throughout the stand, provides a mast resource for deer, moose, turkey, black bear, and small rodents. The dense mountain laurel provides cover for deer, birds, and small rodents. The desired future condition is a stand left in its current state to mature and decline naturally. Unless access is improved and the mountain laurel condition can be addressed.

STEW 9 HH 11.2 11.6" 170 8.6 MBF RO:65-70 13.6 cds. (f) / 6.3 cds. (p)

Forest Type: Hemlock-Hardwood

**Location:** Along Old County Road on the East Lot.

## **Species Composition**

Co-Dominant Size Class: (in order of dominance): hemlock, white pine, r. oak, b. oak

Intermediate Size Class: hemlock r. maple, b. birch, r. oak

<u>Regeneration</u>: inadequate – none <u>Invasive Species</u>: none noted Shrub growth: mountain laurel

Aspect: west

Size Class: small sawtimber

Soil Type: Paxton fine sandy loam (PbC), Chatfield-Hollis (ChC) (refer to Overview Section for a

detailed description.)

Past Harvesting: no evidence found

**Description**: The only upland site with an abundance of hemlock. Quality improves as you move westerly towards the wetland area. Many nice "specimen" hemlock and white pine trees. Excellent place for a trail extension to accent the biodiversity of the property. Dense hemlock stands, such as this one, are used by deer in the winter for food and shelter from the deep snow and cold. No signs of the Hemlock Wooly Adelgid. This is an issue that will be monitored. Access is poor due to the condition of Old County Road. The desired future condition is a stand left in its current state to mature and decline naturally. A future harvest may be necessary if Adelgid becomes introduced.

Owner(s) TOWN OF LANCASTER---BLOOD TOWN FOREST

OBJ ST	STD NO TYPE	AC MSD OR SIZE-CLASS	AC	BA/AC	VOL/AC	SITE INDEX
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STEW 10 OH 39.8 11" 108 6.1 MBF RO:65-70 8.3 cds. (f) / 2 cds. (p)

Forest Type: Oak-Hardwoods

**Location:** Southwest section of the East Lot

## **Species Composition**

<u>Co-Dominant Size Class:</u> (in order of dominance): r. oak, b. oak, w. pine <u>Intermediate Size Class:</u> b. oak, r. maple, b. birch, hickory, w. birch

Regeneration: inadequate – r. maple, b. birch, w. pine

<u>Invasive Species</u>: none noted <u>Shrub growth:</u> witch hazel

<u>Aspect:</u> northerly <u>Size Class:</u> Sawtimber

Soil Type: Paxton fine sandy loam (PbC), Chatfield- Hollis (ChC), Woodbridge (WsB) (refer to

Overview Section for a detailed description.)

Past Harvesting: no evidence found

**Description**: This stand has some of the healthiest, largest diameter, and tallest oak on the property. They are growing in the transition point between the upland and the wetland areas. Good soil moisture throughout the growing season has facilitated this growth. Although not captured in the inventory white ash trees were noted. Also noted was the heavy deer traffic and browse. The mature oaks are probably good acorn producers. Access for logging will be through the Lancaster Land Trust Property that abuts Brockelman Road. Harvesting stand 6 and the most northern portions of stand 10 will require a long haul road. Operability is good but slightly limited by surface rocks. The desired future condition is a stand thinned to promote the healthiest most vigorous red oak and to create conditions favorable for establishing desirable regeneration. To accomplish these goals uneven-aged harvesting methods such as Group Selection and Improvement Thinning will be utilized with the long-term goal of creating three distinct age classes. The large diameter oak trees along the eastern boundary line will be retained as reserve trees for their aesthetic value and late-successional forest structure attributes.

OBJECTIVE CODE: CH61 = stands classified under CH61/61A/61B STEW= stands not classified under CH61/61A/61B STD= stand AC= acre MSD= mean stand diameter MBF= thousand board feet BA= basal area VOL= volume

Owner(s) TOWN OF LANCASTER---BLOOD TOWN FOREST

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
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STEW 11 WO 43.0

118 6.7 MBF 6.1 cds. (f) / 1.3 cds. (p) RO:60

Forest Type: White Pine - Oak

**Location:** Southeast section of the East Lot

## **Species Composition**

Co-Dominant Size Class: (in order of dominance): b. oak, r. oak, w. pine, w. oak, hickory

10.5"

Intermediate Size Class: oak, r. maple, hickory, hemlock, white pine

Regeneration: inadequate – hemlock, maple

Invasive Species: none noted

Shrub growth: mountain laurel, witch hazel

Aspect: northerly

Size Class: Small Sawtimber

<u>Soil Type:</u> Paxton fine sandy loam (PbC) Past Harvesting: no evidence found

**Description**: Fair to good quality mixed oak and white pine. More black oak sawtimber then red oak. Mountain laurel and witch hazel shrub growth are a future management issue. If not controlled in some manner thinning the forest could potentially result in more shrub growth. This would impede tree regeneration one of the core silviculture objectives. An area of dense laurel indicated on the map will not be harvested to provide cover for wildlife. Access from the main haul road is good and there are many places to create a log landing. Operability is good but slightly limited by surface rocks. The desired future condition is a stand thinned to promote the healthiest most vigorous oak and pine, and to encourage the establishment of regeneration. To accomplish these goals uneven-aged harvesting methods such as Group Selection and Improvement Thinning will be utilized with the long-term goal of creating three distinct age classes.

 $OBJECTIVE\ CODE:\ CH61 = stands\ classified\ under\ CH61/61A/61B \qquad STEW=\ stands\ not\ classified\ under\ CH61/61A/61B \\ STD=\ stand \qquad AC=\ acre \qquad MSD=\ mean\ stand\ diameter \qquad MBF=\ thousand\ board\ feet \qquad BA=\ basal\ area \qquad VOL=\ volume$ 

Owner(s) TOWN OF LANCASTER---BLOOD TOWN FOREST

STEW 12 WO 19.6 12" 153 9.8 MBF

8.2 cds. (f) / 1.3 cds. (p)

RO:70

**Forest Type**: White Pine - Oak

**Location:** Southeast section of the East Lot

## **Species Composition**

Co-Dominant Size Class: (in order of dominance): w. pine, r. oak, w. oak, b. oak, hemlock

Intermediate Size Class: r. maple, b. oak, w. oak, w. pine, hemlock

Regeneration: inadequate – hemlock, ma

Invasive Species: none noted

Shrub growth: mountain laurel, witch hazel

Aspect: northerly

Size Class: Small Sawtimber

Soil Type: Paxton fine sandy loam (PbC), Ridgebury fine sandy loam (RsA), Whitman loam (Wh)

Past Harvesting: yes

**Description**: Productive site but soils are also poorly drained. Access and operability will be limited to dry or frozen conditions. There is an access road from Old County Road that could be developed into a suitable road for timber harvesting. However, there are many wetland issues with the access road that will need to be addressed before a timber sale could take place. Good quality mixed oak and white pine. Many 24-inch+ white pines with sawtimber upwards of 60 feet. More red oak sawtimber then black oak. Less mountain laurel here than in stand 11. However, mountain laurel and witch hazel shrub growth are a future management issue in some areas. If not controlled in some manner thinning the forest could potentially result in more shrub growth. This would impede tree regeneration one of the core silviculture objectives. An area of dense hemlock indicated on the map will not be harvested to provide cover for wildlife and biodiversity. The desired future condition is a stand thinned to promote the healthiest most vigorous trees and to create conditions favorable for establishing desirable regeneration. To accomplish these goals uneven-aged harvesting methods such as Group Selection and Improvement Thinning will be implemented with the long-term goal of creating three distinct age classes.

OBJECTIVE CODE: CH61 = stands classified under CH61/61A/61B STEW= stands not classified under CH61/61A/61B STD= stand AC= acre MSD= mean stand diameter MBF= thousand board feet BA= basal area VOL= volume

Owner(s) TOWN OF LANCASTER---BLOOD TOWN FOREST Town(s) LANCASTER

STEW 13 WP 9.0 11.5" 185 20.6 MBF WP:65-70 5.8 cds. (f) / 2.6 cds. (p)

**Forest Type**: White Pine

Location: Northwest section of West Lot

## **Species Composition**

<u>Co-Dominant Size Class:</u> (in order of dominance): w. pine, hemlock <u>Intermediate Size Class:</u> hemlock, r. maple, white oak, black cherry

<u>Regeneration</u>: inadequate <u>Invasive Species</u>: none noted

Shrub growth: witch hazel, ironwood, alder

<u>Aspect:</u> northwest <u>Size Class:</u> Sawtimber

Soil Type: Hinckley Sandy Loam (HgE), Woodbridge fine sandy loam (WsB)

Past Harvesting: Yes

**Description**: This stand is primarily a Riparian Corridor along Wekepeke Brook. North of the power line the Hinckley Sandy Loam soils are poorly drained, deep and within the floodplain. Primarily sawtimber size white pines of good quality are within this area. South of the power line there is a steep embankment along the brook and the soils change to Woodbridge Fine Sandy Loam. Hemlock dominates the embankment. There was no evidence of the adelgid (2014). The dense shade from the hemlock helps regulate the temperature of Wekepeke Brook for native brook trout and other aquatic species. South of the embankment there is a small area of relatively flat ground. This area was logged several years ago. It appears the trees were removed to the north. Only a portion of the sawtimber volume was removed. The understory is mostly dense hemlock. At the stand level, access and operability are poor due to steep topography, soil conditions and proximity to Wekepeke Brook. The desired future condition is a stand left to mature and decline naturally to provide riparian corridor benefits and passive recreational use.

 $OBJECTIVE\ CODE:\ CH61 = stands\ classified\ under\ CH61/61A/61B \qquad STEW=\ stands\ not\ classified\ under\ CH61/61A/61B \\ STD=\ stand \qquad AC=\ acre \qquad MSD=\ mean\ stand\ diameter \qquad MBF=\ thousand\ board\ feet \qquad BA=\ basal\ area \qquad VOL=\ volume$ 

Owner(s) TOWN OF LANCASTER---BLOOD TOWN FOREST

OBJ	STD NO TYPE AC		AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX

n/a

n/a

n/a

n/a

**Forest Type**: Open/Power transmission line **Location**: Northwest section of West Lot

PL

3.4

## **Species Composition**

STEW

Co-Dominant Size Class: (in order of dominance): n/a

Intermediate Size Class: n/a Regeneration: white pine, oak Invasive Species: autumn olive

14

Shrub growth: witch hazel, ironwood, alder

Aspect: southeast Size Class: n/a

Soil Type: Hinckley Sandy Loam (HgE), Woodbridge fine sandy loam (WsB)

Past Harvesting: n/a

**Description**: This stand/area is a transmission power line easement. Shrub and small tree growth dominate with some areas of herbaceous growth such as blackberry. Wekepeke Brook flows through this stand. Excellent early successional habitat in an otherwise forest dominated environment. A mink was present along the brook when doing the field work for this report. Probable brook trout habitat with many deep pools and lots of hemlock cover to regulate stream temperature. Deer browse was also noted on the hardwood regeneration. The maintenance road is heavily used by all-terrain-vehicles. There is extensive erosion where the road crosses Wekepeke Brook. Road repairs are needed to stop sedimentation into the brook.

STEW 15 HK 4.4 8.5" 180 10.1 MBF

WP:67

6.1 cds. (f)/9.7 cords (p)

Forest Type: Hemlock

Location: Old County Road Lot, along Old County Road

## **Species Composition**

Co-Dominant Size Class: (in order of dominance): hemlock, black oak

Intermediate Size Class: hemlock Regeneration: inadequate, hemlock Invasive Species: none noted

Shrub growth:
Aspect: northerly
Size Class: Sawtimber

Soil Type: Paxton Fine Sandy Loam (PbC), (refer to Overview Section for a detailed description.)

Past Harvesting: Yes, heaviest thinning in the southern portions of the stand

**Description**: This is a small stand along Old County Road. Not extensively logged like stand 16. Possibly a location for a future log landing. No evidence of adelgid. Good size hemlock sawtimber of good quality. Access and operability are good. For logging purposes the haul road will utilize Old County Road as little as possible. Most likely the haul road will cross Old County Road and run through the woods to the log landing alongside the main truck road. The site is suited to grow both hardwood and softwood. Soil data indicates that the site is better suited for growing softwood like white pine. The desired future condition is a stand managed primarily for aesthetics and preserving a stand dominated by hemlock. A light improvement thinning will remove unhealthy or poor quality trees.

Owner(s) TOWN OF LANCASTER---BLOOD TOWN FOREST

OBJ ST	STD NO TYPE	AC MSD OR SIZE-CLASS	AC	BA/AC	VOL/AC	SITE INDEX
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STEW 16 WO 7.7

85 2 MBF WP:67 7.4 cds. (f)/1.2 cords (p)

**Forest Type**: White pine-Mixed oak **Location**: Old County Road Lot

## **Species Composition**

Co-Dominant Size Class: (in order of dominance): r. oak, r. maple, b. birch, w. pine, w. birch, hickory

8.5"

Intermediate Size Class:

Regeneration: inadequate - black birch, red oak, red maple

Invasive Species: none noted
Shrub growth: witch hazel
Aspect: northeasterly
Size Class: cordwood

Soil Type: Paxton Fine Sandy Loam (PbB), (refer to Overview Section for a detailed description.)

Past Harvesting: Yes, 20+ years ago

**Description**: This area was extensively logged. A large portion of the overstory was removed and has grown back to cordwood-sized mixed hardwood dominated by birch. There is some good quality white pine and oak sawtimber. This stand is different from most of the town forest because it is dominated by young early successional trees growth. Access and operability are good. The main haul road is in good shape. The site is suited to grow both hardwood and softwood. White pine is the preferred species to dominate but it appears hardwood will dominate. The desired future condition is a stand left for the next ten years to mature.

OBJECTIVE CODE: CH61 = stands classified under CH61/61A/61B  $STEW = stands \ not \ classified \ under \ CH61/61A/61B$   $STD = stand \ AC = acre \ MSD = mean \ stand \ diameter \ MBF = thousand \ board \ feet \ BA = basal \ area \ VOL = volume$ 

Owner(s) TOWN OF LANCASTER---BLOOD TOWN FOREST

OBJ STD NO TYPE AC MSD OR SIZE-CLASS BA/AC VOL/AC SITE INDE
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STEW 17 HH 3.4

155 2.5 MBF 4.4 cds. (f)/5.2 cords (p) WP:55

Forest Type: Hemlock-Hardwood

**Location:** East County Road Lot, riparian area between stands 16 & 18

## **Species Composition**

Co-Dominant Size Class: (in order of dominance): r. maple, hemlock, yellow birch

8.4"

<u>Intermediate Size Class:</u> hemlock <u>Regeneration</u>: inadequate – hemlock

Invasive Species: none noted

Shrub growth:
Aspect: north

Size Class: Cordwood

Soil Type: Ridgebury Fine Sandy Loam (RsB), (refer to Overview Section for a detailed description.)

Past Harvesting: None, Riparian area

**Description**: This stand is a riparian area for a small stream. The desired future condition is a stand that matures and declines naturally to provide biodiversity and other ecosystem benefits such as flood water storage and filtration.

Owner(s) TOWN OF LANCASTER---BLOOD TOWN FOREST

Town(s)

LANCASTER

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	18	WO	13	9.55"	125 7.9 cd	7.1 MBF ls. (f)/5.1 core	WP:67 ds (p)

Forest Type: White Pine-Mixed Oak

Location: Old County Road Lot, eastern portions

## **Species Composition**

Co-Dominant Size Class: (in order of dominance): w. pine, b. oak, w. oak, r. oak, r. maple, hickory

Intermediate Size Class: white pine, red maple, r. oak, b.oak, hemlock, birch

Regeneration: adequate – red maple, white pine, birch

Invasive Species: none noted

Shrub growth:

Aspect: easterly
Size Class: Sawti

Size Class: Sawtimber

Soil Type: Woodbridge Fine Sandy Loam (WsB), (refer to Overview Section for a detailed description.)

Past Harvesting: Yes, in conjunction with stand 16

**Description**: This stand was harvested but not as extensively as stand 16. Good quality trees were retained. Access and operability are good. The only limitation being one stream crossing into stand 16. This is a manageable crossing in dry or frozen conditions. The main haul road is in good condition and will not require extensive repair. Desired future condition is a stand left in its current condition for the next ten years to mature.

OBJ ST	STD NO TYPE	AC MSD OR SIZE-CLASS	AC	BA/AC	VOL/AC	SITE INDEX
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STEW 19 HH 3.7 7" 140 2.1 MBF WP:55 3.5 cds. (f)/4.5 cords (p)

Forest Type: Hemlock-Hardwood

Location: Old County Road Lot, wetland and riparian area

## **Species Composition**

Co-Dominant Size Class: (in order of dominance): hemlock, r. maple, birch, pine

<u>Intermediate Size Class:</u> hemlock <u>Regeneration</u>: inadequate – hemlock

Invasive Species: none noted

Shrub growth: mountain laurel, blueberry

Aspect: northeast
Size Class: Cordwood

Soil Type: Ridgebury Fine Sandy Loam (RsB), (refer to Overview Section for a detailed description.)

Past Harvesting: None, wetland/riparian area

**Description**: This stand is a wetland and riparian area that forms a small stream. Standing water is present during parts of the year. Water flow from this area runs to the northeast towards Devonshire Way. Several large diameter legacy hemlock and white pine trees. The desired future condition is a stand left to mature and decline naturally to provide biodiversity and other ecosystem benefits such as flood water storage and filtration. However, this stand has been identified as a prime location for late-successional forest management. A goal of the forest committee. Some management to reach this goal may be appropriate.

**Late-Successional Forest Structure:** As described in the overview section of this plan a goal of the town's forest committee is to identify and manage areas suitable for late-successional forest structure. This stand, as shown on the Forest Stand Map, has been identified as a prime location because of the presence of large diameter (26"-32" DBH), +/- 150 year old hemlock and white pine trees. The recommended treatment for this area is described in the practices section of this plan.

Owner(s) TOWN OF LANCASTER---BLOOD TOWN FOREST

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	20	WP	9.6	12"	175 2.1 cd	18.8 MBF ls. (f)/12.7 co	WP:67

**Forest Type**: White Pine

**Location:** Old County Road Lot, most easterly portion

## **Species Composition**

Co-Dominant Size Class: (in order of dominance): w. pine

Intermediate Size Class: b. oak, r. maple

<u>Regeneration</u>: adequate –white pine (suppressed)

<u>Invasive Species</u>: none noted <u>Shrub growth:</u> none noted

Aspect: easterly

Size Class: Sawtimber

Soil Type: Woodbridge Fine Sandy Loam (WsB), (refer to Overview Section for a detailed description.)

Past Harvesting: No

**Description**: Dense stand of sawtimber white pine. Recently acquired by the Town of Lancaster. It has a different management history then the rest of the Old County Road Lot. It appears to have never been logged. The pine either resulted from natural seeding within an abandoned field or was planted. The quality is fair to good. White pine weevil appears to have not had a devastating effect. The average trees is probably a sawmill grade 2. Adequate amount of white pine regeneration but it has been suppressed for many years. Operability is good. Nice level ground with very few obstacles. Access is hindered by one stream crossing into stand 16 and the long haul distance to Old County Road (likely log landing location). This is a manageable crossing in dry or frozen conditions. The main haul road is in good condition and will not require extensive repair. This stand will be left in its current condition for the next ten years for aesthetic values.

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	21	WO	18.2	14.8"	45 1 co	6.7 MBF ds. (f)/1 cords	RO:65

**Forest Type**: White Pine-Mixed Oak

Location: South of AT&T Easement, Dyment/Dolan Tract

Overstory Composition: r. oak (47%), w. pine (38%), w. oak (9%), b. oak (6%)

Trees/Acre: 37.5

Overstory Description: The overstory is approximately 105-115 years old and the current growth rate is 5-years to an inch of diameter. Sawtimber quality is good with most of the low-grade sawtimber removed during the recent harvest. Species diversity is fair with only pine and oak species present.

<u>Midstory</u>: Very little midstory growth because it was harvested in 2016. This was done because the midstory was comprised of unhealthy red maple, pine and mixed oak.

Regeneration: (s. birch, aspen, w. pine, r. oak, w. oak, b. oak, r. maple, g. birch, a. chestnut) The timber harvest in 2016 has resulted in a dense understory of species rich tree regeneration. Both early successional species and late successional species have become established. Several areas will likely be dominated by sweet birch because it is beginning to overtop the oak and pine. This is a common issue. Cutting some of the overtopping birch away from the suppressed oak and pine would insure that it becomes established.

<u>Shrub/Herbacious</u>: (mountain laurel, witch hazel, rubus, vaccinium) Shrub growth is not impeding tree regeneration growth.

Invasive Species: none noted

Aspect: northerly

Soil Type/Site Quality: Chatfield-Hollis (ChC), (refer to Overview Section for a detailed description.)

<u>Past Harvesting</u>: Rotted stumps indicate a timber harvest was done throughout the upland areas more than 20 years ago. In 2016, a shelterwood-seedtree harvest was done before the Town of Lancaster purchased the land from the Dyment/Dolan Family. The harvest was a whole-tree chipping operation removing 31,000 board feet of white pine timber, 26,000 boardfeet of red oak timber, 8,000 board feet of black timber, 78 cords of cordwood and 121 tons of pulpwood.

Notable Characteristics: A trail runs along a portion of the western and southern boundary line that connects with Old County Road to the east and Brockelman Road to the west. The abandoned AT&T phone line easement runs through the northern end of this stand. A scenic and rocky perennial stream runs along a portion of the western boundary.

<u>Access/Operability</u>: Access is from the north across the AT&T easement. A wetland does need to be crossed but stabilization was not an issue during the 2016 harvest. Operability is good.

<u>Wildlife</u>: The abundance of regeneration has attracted deer and moose to the area. Lots of sign from both species was evident. Monitoring the site for regeneration damage is important. Hopefully, hunters will keep the population low enough that desirable regeneration makes it into the overstory. The heavily reduced canopy cover in combination with a dense understory of tree and shrub growth including soft mast has created excellent song bird habitat. This stand is providing food and cover resources that the surrounding dense forest does not.

<u>Desired Future Condition</u>: A "cleaning" treatment should be considered to insure oak and pine can compete with overtopping sweet birch. Otherwise for the next twenty or more years this stand should be left to allow the understory and overstory to grow.

OBJECTIV	/E CODE: CH	I61 = stands classified under CH	I61/61A/61B	STEW= sta	nds not classified u	nder CH61/61A/61	E
STD= stan	d AC= acre	MSD= mean stand diameter	MBF= thous	and board feet	BA= basal area	VOL= volume	
Owner(s)	TOWN OF LA	NCASTERBLOOD TOWN FOR	REST	Town(s)	LANCAST	TER	

## MANAGEMENT PRACTICES to be done within the next 10 years

	STD				TO BE REMOVED		
OBJ	NO	TYPE	TREATMENT	AC	BA/AC	TOT VOL	TIMING
	•						

STEW GROUP SELECTION METHOD/INTERMEDIATE TREATMENT

2021-2024

Stand/Type	Area to be treated (acres)	BA (to be removed)	Total Sawlog Volume (to be removed)	Total Firewood Volume (to be removed)	Total Pulpwood Volume (to be removed)
6/WO	55 ac	72 square feet	175 MBF	150 Cords	200 Cords
10/OH	30 ac	55 square feet	60 MBF	240 Cords	60 Cords
11/WO	38 ac	59 square feet	84 MBF	190 Cords	50 Cords
12/WO	18 ac	76.5 square feet	70 MBF	125 Cords	20 Cords
Totals	141 ac		389 MBF	700 Cords	330 Cords

In stands 6-12 the group selection method will be used to work towards an uneven-aged forest structure. Groups of trees will be removed ranging in size from 1/4 to 2 acres. All trees except the occasional specimen tree (reserve) will be harvested within the group. This includes any tree growth in the midstrata. The goal is to create growing conditions suitable for regenerating a diverse mix of tree species and to improve forest stratification. Group size will be varied to create different light conditions on the forest floor to encourage shade, as well as, mid-shade tolerant species. Approximately 1/3 of the stand will be treated on a 25-35 year cutting cycle to create three distinct age classes. Three distinct age classes will create ideal interior forest songbird habitat and improve resistant and resilient to natural disturbances. Most of the white oak trees will be retained to provide mast for deer, turkey, moose, and rodents. Any tree species that are less common such as hickory, elm, chestnut, hemlock, sugar maple and ash will be retained for biodiversity. The dense mountain laurel shrub layer that exists in some areas poses a challenge to establishing regeneration. This is another reason the group selection method is the best management option. By removing all tree growth in groups you maximize the disturbance to the forest floor. This will crush the laurel and expose the organic layer allowing trees to germinate. Also, it is recommended that a feller-buncher be utilized. These machines are the most effective at removing laurel growth. No-cut riparian corridors will be maintained along all the perennial streams. No logging will be conducted in wetland areas. Wetland and stream crossing will be stabilized.

In addition to a third of the stand acreage being treated with the group selection method another third will be treated with an intermediate treatment. An intermediate treatment is designed to lightly thin the forest to improve stand health, composition, quality and to capture value from trees that would otherwise die. The healthiest and highest quality trees will be retained until a regeneration harvest. The edges of group selection

OBJECTIVE CODE: CH61 = Forest Products (for Ch. 61/61A/61B) STEW= Stewardship Program practices STD= stand Type= Forest type AC= acre MBF= thousand board feet BA= basal area VOL= volume

## MANAGEMENT PRACTICES to be done within the next 10 years

	STD					REMOVED	
OBJ	NO	TYPE	TREATMENT	AC	BA/AC	TOT VOL	TIMING

areas will be "softened" by the intermediate treatment. Establishing regeneration is not the intent of an intermediate treatment.

#### RESTORING LATE-SUCCESSIONAL FOREST STRUCTURE

Late-successional forests provide many important ecological and socioeconomic values and active approaches to restoring these systems represent an important tool for ensuring their future presence on the landscapes of the northeast. A primary objective of the forest committee is to identify areas that can be managed in this way. During the fieldwork for this plan potential areas were identified in collaboration with a forest committee member. These areas were mapped on the Forest Stand Map. Any new areas identified after this plan is finalized will be mapped and described in the 2024 plan recertification. The areas currently identified for late-successional forest structure were chosen because there are large diameter (26"-32" DBH) hemlock and white pine that can be preserved as legacy trees. Cores indicate the approximate age of the legacy trees to be 145-155 years old. The following steps will be implemented in these areas:

- 1. Determine the number and location of legacy trees and patch reserves.
- 2. Designate legacy trees and patch reserves and document the location for future forest managers. Legacy trees should be marked with paint or scribe marks.
- 3. Create gap sizes and determine placement. Creating harvest gaps provides for the development of diverse tree sizes and ages found in late-successional forest stands. Gap sizes should range from single tree up to ½ to 1/3 acre to match patterns of historic disturbances.
- 4. Stands should be tended through intermediate treatments to improve structure. Important late-successional structures currently missing from most forest in the Northeast include very large trees (25"-30" DBH), large standing dead trees, and large downed logs.

Over time, late-successional structure will develop through the growth and mortality of legacy trees as well as through active forest management. The following target thresholds are needed to approach those historically found in old growth forests in the region.

- 20 snags >15" DBH per acre
- 40-45 trees >15" DBH per acre
- 20 trees >20" DBH per acre or 15 trees >25" DBH per acre

## GENERAL MANAGEMENT ACTIVITIES

<u>Main Access Road:</u> Continue to repair the main access road and install a third log landing near Old County Road during the next timber harvest operations. Necessary improvements will be made to protect wetlands and to allow for emergency access and timber harvesting operations. These roads and landings will be left in such a condition that they can be used for parking areas, trailheads, and to allow access for future forest management

OBJECTIVE CODE: CH61 = Forest Products (for Ch. 61/61A/61B)

STEW= Stewardship Program practices

STD= stand Type= Forest type AC= acre MBF= thousand board feet BA= basal area VOL= volume

Town(s) LANCASTER – BLOOD FOREST Owner(s) LANCASTER

# MANAGEMENT PRACTICES to be done within the next 10 years

	STD				TO BE REMOVED		
OBJ	NO	TYPE	TREATMENT	AC	BA/AC	TOT VOL	TIMING

activities. Gates will be installed where appropriate to limit ORV use. Previous road repairs have utilized a large trap rock. Moving forward to improve recreational use of the woods road a processed gravel will be used.

<u>Forest Health</u>: The property should be monitored for damaging insects and disease-causing organisms, natural disturbances, illegal dumping, and any other issues. Annual inspections are recommended.

<u>Post Signs & Boundary marking</u>: It is highly recommended that the boundary lines and corners be permanently marked. It is important for management and addressing any misuse of the property. Having a recent survey on file is very beneficial. The sooner the boundaries are found and marked the better to make use of any work the surveyors did in the field. It is also recommended that signs be placed on the boundary lines and major access points that say at a minimum "passive recreation only".

<u>Trail System</u>: To facilitate the use by residents it is suggested that trails be looped and maps made. This is already being worked on by the Forest Committee. Trails should be extended into areas with interesting ecological and aesthetic values. On the West Lot the trail should be relocated in at least one location due to wetland/erosion issues and because it straddles the boundary line near a house. ORV use is common place on the existing trails.

<u>Lancaster Green Belt Initiative</u>: Assist in the implementation of The Lancaster Green Belt Initiative as envisioned by the Town Forest Committee. This will consist of developing methods to acquire abutting land or protection through conservation restrictions. The emphasis will be on connecting large blocks of forestland to form wildlife corridors, long distance hiking and improve recreational access for the handicapped.

<u>Scouts BSA:</u> Another long-term goal is to find a suitable and permanent location for a campground area for Scouts BSA. Creating a campground, trails, installing signage, and the cleaning treatment in stand 20 would all make great Eagle Projects.

Signature Page	Please check each box	that applies.	
CH. 61/61A Mall applicable Federal, State Department of Conservate I convey all or any portion obligation to notify the graperform and will notify the ownership.	ion and Recreation. I furn of this land during the antee(s) of all obligations	ental laws and /or rules a ther understand that in period of classification, I s of this plan which becom	nd regulations of the the event that am under me his/hers to
Forest Steward by the management provifollowing approval. I under the land described in the Conservation and Recrea	sions of this Stewardship erstand that in the event his plan during the perion	Management Plan duri that I convey all or a por d of the plan, I will notify	rtion
and MA private lands gro Certification you must als  Tax con		riod of five years. To be nat I am the registered ov	eligible for Green wner of this property
Signed under the pains of	perjury: Town of Lancast	er	
Owner(s)		Date	
Owner(s)		Date	
I attest that I have prepar	red this plan in good faith	n to reflect the landowner	r's interest.
Plan Preparer		Date	
I attest that the plan satist Stewardship Program.	Kevin Scherer, LF#362 factorily meets the requi	rements of CH61/61A an	d/or the Forest
Approved, Service Forest	er	Date	
Approved, Regional Supe	rvisor	Date	
	of ownership of all or pa an <u>within 90 days</u> from tl		
Owner(s)To	OWN OF LANCASTER	Town(s)	LANCASTER