Massachusetts Department of Conservation and Recreation

Division of Water Supply Protection, Office of Watershed Management

Forest Management Project Summary

Project Title:

DWSP Harvest Permit Number: Lot 5274
DCR Forest Cutting Plan File Number: 134-9072-18

Site Information

Watershed: Wachusett	**Town(s)**: Princeton
Acres: 65	**Nearest Road:**
Natural Heritage Atlas overlap?: No	**Public Drinking Water Supply Watershed?:** Yes
Forest Types: White pine//hardwood, white pine/oak	**ACEC?: No**
Soils: Moderately well drained Woodbridge-Paxton soils make up 89% of this working unit. Poorly drained Ridgebury-Whitman makes up 10%, with Well drained thick Montauk-Scituate-Canton at 2%.	
Wetland Resources: There is a stream that originates from a wetland under the power lines in the northern corner of the working unit and bisects the middle of the working unit until it meets another wetland towards the southern corner of the working unit.	
Vernal Pools: There is a beautiful little isolated vernal pool with high bush blueberry and surrounded by mountain laurel in the eastern corner of the working unit.	

Harvest Information

DWSP Permit Start Date: 06/12/18	**DWSP Permit End Date:** 05/25/20
Number of Wetland Crossings: None	**Number of Stream Crossings:** One

Best Management Practices Applied

Stream Crossings	There is one stream crossing.
Filter Strips	No trees are marked in any of the filter strips.
Wetland Crossings	There are no wetland crossings.
Harvesting in Wetlands	There is no harvesting in wetlands.

DWSP Forester supervising this harvest
Name: Russ Wilmot
Forester License #: 426
Phone #: 774-261-1840

NARRATIVES

General Description/Forest Composition/History:

This working unit is dominated by white pine and red oak. In smaller quantities red maple, black birch, black oak, sassafras, American chestnut and white oak exist. The "Israel" parcel was acquired in 2010 and was previously cut around 2000. The past cutting practices created very small openings and thinned areas which now have interfering levels of mountain. laurel on the western half and a good amount of white pine and black birch regeneration in the eastern half. Regeneration sampling shows that adequate regeneration is present on 41% of 131 plots taken and are mainly distributed in the eastern half of the unit. Marginal advance regeneration was found on 5% of the plots, while oak regeneration is present on 19% of the plots. Mountain Laurel and some witch-hazel are interfering with regeneration on 53% of the plots. Regeneration is made up of white pine, red oak, white oak, sassafras, red maple, black birch, American chestnut and black oak.

Site Selection:

The ideal watershed protection forest is one which best serves the function of the land as a producer of high quality drinking water in both short- and long-term. This forest must be vigorous and diverse in tree species and ages, be actively accumulating biomass and actively regenerating. Such a forest will be ideally suited to be resilient to and quickly recover from small- and large-scale disturbances such as diseases, insect infestations, ice storms and hurricanes.

This area was chosen due to the lack of age diversity both in these 65 acres as well as the 2,400 acres of DCR-owned land that flows into both Trout Brook and Wachusett Brook.

Silvicultural Objectives:

The working unit can be divided in half when it comes to advance regeneration. The eastern half has good advance regeneration spread throughout, including oak in a decent (19%) amount of the plots. The western half of the working unit is mostly covered in interfering levels of mt. laurel. Both areas are the result of past cutting practices, which for the most part have left a lower stocking throughout. Even though the western half has interfering mt. laurel, the stocking is low enough at this point where a site preparation and prep cut are not practical. As a result, in the western half defined openings should be made with the goal of damaging mt. laurel as much as possible to encourage regeneration. The eastern half will have openings made that target the good advance regeneration that is present.

Cultural Resources:

There are no known historic and archaeological resources associated with the Israel site. If any features are uncovered before or during the harvest they will be protected according to guidelines set forth in the Comprehensive Land Management Plan.

Wildlife/Rare or Endangered Species:

None Known.

FIGURES

Figure 1. Forest Cutting Plan

Forest Cutting Plan

and Notice of Intent under M.G.L. Chapter 132 – The Forest Cutting Practices Act, 304 CMR 11.00
(Effective Date: 1/1/04)

MAY 25 2018

For DCR Use Only:

File Number	24-FP-9404-18	Case No.	
Date Rec'd	5/25/18	Nat. Hert.	NO /
Earliest Start	6/12/18	Nat. Hert. Imp.	NO
River Basin	NASHUA	Pub. Dr. Wat.	YES – WACHUSETT
Gen. Obj.	LT	ACEC	NO

Site Information

Location

Town Princeton Lot 5274
Road Coal Kiln Rd
Acres 65 Proposed Start Date 6/07/18
Vol. MBF 129 Vol. Cds. 245 Vol. Tons 105

Plan Preparer

Name Russell Wilmot
Address 180 Beaman St.
Town, State, Zip West Boysltòn, MA, 01583
Phone 508-792-7806 Ext 318
Type of Preparer Mass. Licensed Forester
*Mass. Forester License # 426
*Required for land under Ch61, Ch61A or Forest Stewardship

Landowner

Name DCR/DWSP/OWM Wachusett/Sudbury
Mailing Address 180 Beaman St.
Town, State, Zip West Boylston, MA 01583
Phone 608-792-7806
Ch61 ☐ Ch61A ☐ Stew ☐ *Case #
Est. Stumpage Value

Licensed Timber Harvester**

Name To be supplied when known.
Address
Town, State, Zip
Phone
Mass. Lic. Harvester #
**This information may be supplied after the plan is approved, but before work begins.

Best Management Practices

Stream Crossings

Indicate location on map	SC-1	SC-2	SC-3	SC-4
Type of Crossing	BR			
Existing Structure	NO			
Type of Bottom	ST			
Bank Height (ft)	2'			
Stabilization	CO			

Wetland Crossings

Indicate location on map	WC-1	WC-2	WC-3	WC-4
Length of Crossing				
Mitigation				
Stabilization				

Filter Strips

Indicate location on map	FS-1	FS-2	FS-3	FS-4
Width (50', 100', or VA)	VA			

Harvesting in Wetlands

Indicate location on map	HW-1	HW-2	HW-3	HW-4
Forest Type (see pg 2)				
Acres to be Harvested				
Resid. Basal Area (>50%?)				

Service Forester Comments

ALL SKID ROADS/TRAILS ARE EXISTING
* SEE ATTACHED VERNAL POOL BMPs.

Codes

Type of Preparer	Type of Crossing	Stabilization	Mitigation	Type of Bottom
LF Mass. Lic. For.	CU Culvert	SE Seed	FR Frozen	LE Ledge
TH Lic. Tim. Har	BR Bridge	MU Mulch	DR Dry	ST Stony
TB Timber Buyer	FO Ford	CO Corduroy	OT Other	MU Mud
LO Landowner	PO Poled	ST Stone		GR Gravel
OT Other	OT Other	HB Hay Bales		OT Other
		OT Other		

Note:
Applicant must provide DCR with all relevant information before plan may be approved and cutting may begin.
Some forestry activities, such as prescribed burning and pesticide or fertilizer application may require additional permits.
Consult MA Forestry BMP Manual for further information.

If Other (OT) is used in any category an explanation must be given on an attached narrative page

Forest Products

Products to be Harvested*

Species	Mbf/Cds		Mbf/Cds
White Pine	106.5	Red Maple	
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	9.2
Hemlock		Black Oak	6.1
Spruce		White Oak	7.8
Other Sftwd.		Other Hdwd.	
White Ash		**Total Mbf**	129.5
Beech		**Cordwood (Cds)**	208
White Birch		**SW Pulp (Tons)**	105
B & Y Birch		**HW Pulp (Tons)**	
Black Cherry		**Chips (Tons)**	

*Note: Volumes and values indicated in the Plan are as reported by the plan preparer and have not been independently verified by the service forester upon approval. Mbf = thousand board feet.

Stand Treatment

Cutting Standards

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	WH	WP	WO	
Acres	41	9	19	
Landowner Objective	LT	LT	LT	
Designation of Trees	CT	CT	CT	
Type of Cut	SH	SH	SH	
Source of Regeneration	AD/SE	AD/SE	AD/SE	

Landowner

Landowner Signature

The most important information on a cutting plan is the Landowner's objective, as this will determine which trees will be harvested and which will remain; **this decision will also determine the future condition of the forest for decades to come.** After having read the Massachusetts Forest Cutting Plan Information Sheet on page one, indicate your objective by checking the appropriate box below.

☒ **LT – Long-term Forest Management**
Planned management of the forest to achieve one or more of the following objectives: produce immediate and maximize long-term income, enhance wildlife habitat, improve recreational opportunities, protect soil and water quality, or produce forest specialty products.

☐ **ST - Short-term Harvest**
Harvest of trees with the main intention of producing short-term income with minimal consideration given to improving the future forest condition, which often results in a forest dominated by poor quality and low value species.

I (we) have read the Massachusetts Cutting Plan Information Sheet, and am aware of my (our) management options.
I (we) hereby certify that I (we) have the legal authority to carry out the operation described above.
I (we) certify that I (we) have notified the Conservation Commission in the town in which the operation is to take place and the abutters of record within two hundred feet of the area to be harvested.
I (we) understand that the volumes and values (Ch61 only) in this plan have not been independently verified by the service forester upon approval and will report final values and volumes to the Director or his/her agent if the final figures differ from those reported.

Patricia E. Austin — Signature of landowner(s)

5-22-18 — Date

Service Forester

Determination and Status 241-9484-18

	Approved	Disapproved	Expires
Cutting Plan	☒	☐	5-25-2020

Signature of Service Forester/Director's Agent — Date: 6-1-2018

Extension 1☐ 2☐ — Expires / — Ser. For. Ints. /

Amendment — App 1 ☐ Dis 1 ☐ App 2 ☐ Dis 2 ☐ — /

Final Report and Comments

I hereby certify that the afore described Forest Cutting Plan and all relevant statutes have been substantially complied with.

Signature of Service Forester/Director's Agent — Date

Codes

Forest Types
WP White Pine; WK WP/Hem; WH WP/Hdwd; WO WP/Oak; RP Red Pine; SR Red Spruce; HK Hemlock; HH Hem/Hdwd; BC Blck Cherry; BB Bee/Bir/Map; OH Oak/Hdwd; OR N Red Oak; OM Mixed Oak; RM Red Maple; BE Beech; SF Spruce/Fir; SM Sugar Maple; PP Pitch Pine

Designation of Trees
CT Cut Tree; LT Leave Tree; SB Stand Boundary; OT Other

Landowner Objective
LT Long-term Mgt.; ST Short-term Har.

Type of Cut
SH Shelterwood; ST Seed Tree; CC Clear Cut; SE Selection; SA Salvage; SN Sanitation

Intermediate Harvests:
CT Commercial Thin; NT Non Com Thin

Non-Standard Systems:*
HG Highgrade*; DL Diameter Limit*; OT Other*

Source of Regeneration
AD Advanced; SE Natural Seed; PL Plant; CO Coppice; DS Direct Seed; OT Other

***If Other (OT) or a non-standard system is used an explanation must be given on attached narrative page**

Forest Cutting Plan

Narrative Page

Use only if further explanation is required of information on pages one or two or if "other" was used in any category.

Landowner: [illegible]

Town: [illegible]

File Number: 341-9404-18

BMPs

FS-1 stream flows southerly and connects to a large wetland system.

One stream crossing will be needed on this site. The stream in this area is perfect for a crossing with high banks and big stone present.

The landing will be accessed from the power line road off of Coal kiln road.

Silviculture

The primary operation will be to establish openings in a sale area that was cut by previous owners. The previous cut responded with great white pine and hardwood regeneration on the eastern half of the lot and perhaps the thickest mountain laurel you can imagine on the western half of the lot. Because of the lower stocking in the mountain laurel area openings will be made to define new age classes with the goal of destroying the thick mountain laurel areas while retaining the veins of regeneration where they occur. On the eastern half openings will be made to release the great regeneration that exists. Openings will total about 18 acres.

Objectives

To create defined openings and take another step in the process of creating three age classes overall. The current age structure is limited with an insufficient component of young forest.

Other

Vernal Pools (from *MA Forestry Best Management Practices Manual, 2nd Edition, 2013*)

A vernal pool is a confined basin depression that in most years holds water for at least two continuous months during the spring and/or summer and that is free of adult fish populations. These areas provide essential breeding habitat for a variety of amphibian species such as wood frogs and spotted salamanders, and support other important wildlife species. BMPs for vernal pools are meant to maintain proper moisture and temperature conditions, serve as an important source of leaves and other organic matter, and ensure access for those species migrating from the forest to breed in them.

Because of their temporary nature, vernal pools can be difficult to identify. A certified vernal pool is an area that has been certified as a vernal pool by the Division of Fisheries and Wildlife. Learn more about vernal pools and their certification. If the harvest includes a certified vernal pool, then the following Required BMPs are mandatory. Some certified vernal pools are also rare and endangered species habitat.

If the certified vernal pool is known to be habitat for rare or endangered species, then see the "Rare and Endangered Species" section on page 19. If the vernal pool has not been certified, then the BMPs are guidelines. To find out if a certified or potential vernal pool is on the property, visit OLIVER, the MassGIS online data viewer.

Required BMPs For all Certified Vernal Pools

R Accurately show vernal pools on forest cutting plan map.

R Adhere to filter strip standards (see page 11). Exceptions to this standard may be made by the service forester, if it is shown in the forest cutting plan that a heavier cut is necessary to protect environmental quality.

R Do not operate equipment or conduct harvesting activity in the depression of a vernal pool, including stacking logs or otherwise creating soil compaction.

R Keep tree tops and slash out of the vernal pool depression. If a top lands in the pool during the amphibian breeding season (March 1 through July 1), it should be left in place to avoid further disruptions of breeding activity.

Guidelines

G Apply required certified vernal pool BMPs to potential vernal pools functioning as vernal pool habitat.

G Avoid making ruts deeper than 6 inches within 200 feet of a vernal pool. If filled with water, these can trick amphibians into laying eggs in them.

G Prevent sedimentation from nearby areas of disturbed soil so as not to disrupt breeding activities within the pool.

G Understory vegetation such as mountain laurel, hemlock, advance regeneration, or vigorous hardwood sprouts after a harvest will help maintain proper moisture and temperature conditions in the forest. Avoid leaving only trees with small or damaged tops, or only dead and dying trees.

G In areas surrounding vernal pools, operate when the ground is frozen and covered with snow whenever possible. When operations must be scheduled in dry seasons, keep equipment 50 feet away from the pool depression and winch out logs felled within this filter.

G Minimize disturbance of the leaf litter and organic soils that together maintain proper moisture and temperature conditions for amphibian migrations.

Figure 2. Map of harvest area showing approximate boundary, proposed openings and other features

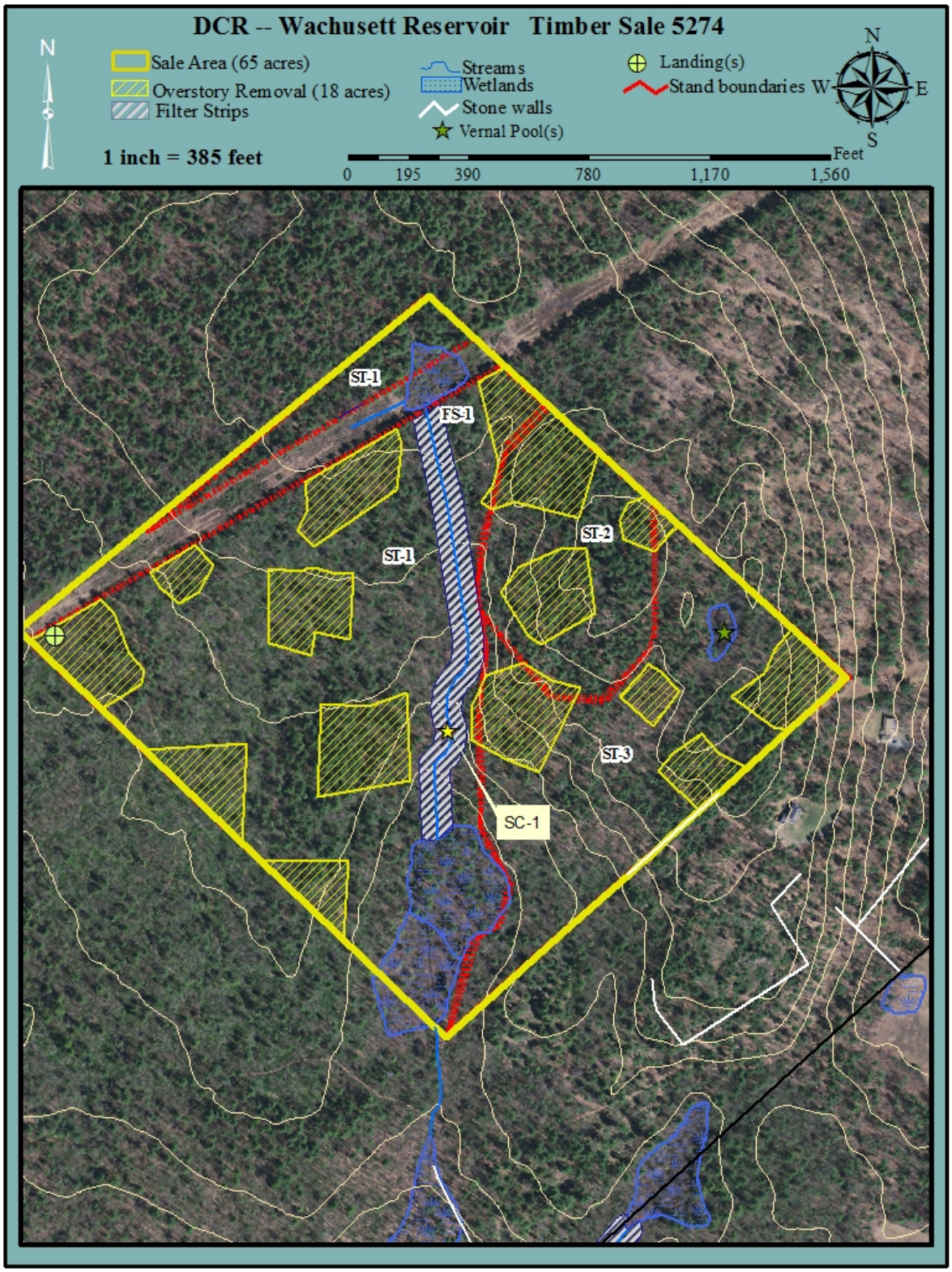
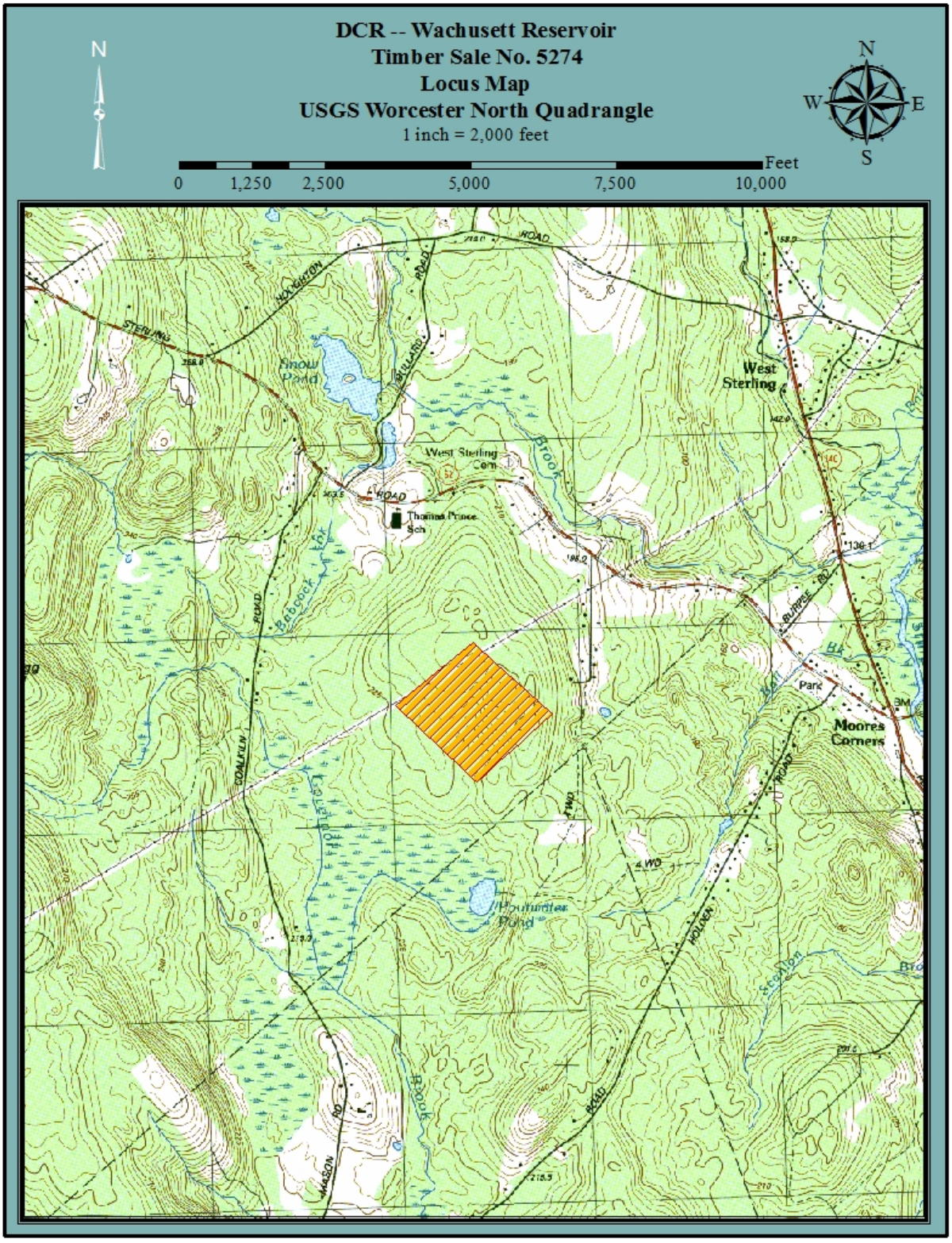


Figure 3. General locus map showing the location of the proposed timber harvest



dcr

COMMONWEALTH OF MASSACHUSETTS
Department of Conservation and Recreation
Division of State Parks and Recreation

FILE # 241-9404-18

FOREST CUTTING PLAN CERTIFICATE

W

Post this in a conspicuous place within the area in which the harvesting operation is to take place.

This certifies that DCR/DWSP/OWM (Name of Owner) W. Boylston (Address) in accordance with the provision of M.G.L. Chapter 132, Section 40-46, filed in CLINTON with the Dept. of Conservation and Recreation, Division of State Parks and Recreation, a Notice of Intent to cut forest products upon the COAL KILN lot.
LOT 5274

Approval Date 6-1-2018

Director's Agent MICHAEL DOWNEY

DCR Phone No. 978-368-0126

ISSUED BY:

Priscilla E. Geigis, Director
Division of State Parks and Recreation

Figure 4. Pre-Harvest Photographs, A-C

A. There will be a landing at the same location as a previous sale.

B. One of the areas where the overstory trees are being removed in order to release this excellent understory of diverse hardwood and softwood species.

C. The oak tree in the foreground is being cut in this overstory removal area to provide sunlight and the removal process will provide disturbance to the mountain laurel.

Figure 5. Post Harvest Photographs, A-C

A. The overstory was removed in this area giving the predominantly white pine understory the light and space it needs to continue to grow.

B. Another area where the overstory was removed. Note the large white pines that were retained within this area in order to provide valuable structure and diversity.

C. The understory in this area was dominated by very thick mountain laurel and lacked young trees. Now, with the level of damage that was intentionally done during the harvest process, a young forest can become established.