# Massachusetts Department of Conservation and Recreation Division of Water Supply Protection, Office of Watershed Management Forest Management Project Summary

**Project Title: Petersham Red Pine**DWSP Harvest Permit Number: 1054

DWSP Proposal ID: HA-18-13

DCR Forest Cutting Plan File Number: 234-9313-18

#### Site Information

Watershed: Quabbin Town(s): Petersham

Acres: 30

Nearest Road: Hardwick Road, Route 32A

Natural Heritage Atlas overlap: No

Public Drinking Water Supply Watershed: Quabbin

Forest Types: Red pine, white pine hardwood, white pine hemlock

Area of Critical Environmental Concern (ACEC): No

Soils: Charlton-Chatfield-Hollis association (925E, C), Charlton-Paxton association (902E),

Woodbridge-Paxton (910C)

Wetland Resources: Wetlands, streams and intermittent streams are present on or near lot.

Vernal Pools: Yes, one within 200'.

#### **Harvest Information**

Harvest Start Date: 4/29/2019 Harvest End Date: 6/10/2019 Number of Wetland Crossings: 1 Number of Stream Crossings: 2

#### **Best Management Practices Applied**

Stream Crossings: Portable bridges utilized. Seed and corduroy used for soil stabilization

Filter Strips: 6 of variable width

Wetland Crossings: Operate in dry or frozen conditions, corduroy and stone used for soil

stabilization

Harvesting in Wetlands: N/A

#### **DWSP Forester supervising this harvest**

Name: Steven J. Wood

Forester License number: 257 Phone number: (413) 323-6921 Email: steven.wood@state.ma.us

#### **Narrative**

#### General Description/Forest Composition/History

The area to be harvested is in the southern part of Petersham, on the west side of 32A. Access to the northern landing is through gate 41 which leads to a bay of Pottapaug Pond which abuts lot to the northwest.

The stone walls on this lot attest to its history of being cleared for agriculture, most likely for pasture. When the farmland was abandoned, probably in the late 19<sup>th</sup> or early 20<sup>th</sup> century, it reverted to forest. There are 2 areas that were planted to red pine in the 40's. These stands were thinned in the 80's (as was most of the lot) and the red pine has declined from a non-native insect the red pine scale and root rot is most likely also present. Sapling to pole sized white and black birch are common in the understory with some white pine and red maple mixed in. Seedlings of most native trees are scattered throughout, though there is not much oak present.

The rest of the harvest is in white/hardwood or white pine/hemlock stands which had also been previously thinned with a few openings up to about 1/10<sup>th</sup> acre created. These stands regenerated similarly to the red pine, but most areas were cut again around 2000 and came back to mainly white pine, black birch and red maple with a fair amount of hemlock in some areas. Some of the white pine in the overstory is quite large, and, especially on the western side of lot, is declining, possibly from one of the needle funguses that have been common recently. Dead snags of white and red pine (numerous), along with some hardwoods are scattered throughout, and will be left standing, as much as possible, during the harvest.

The primary tree species present in the overstory are white pine and hemlock with black birch, red maple and mixed oaks (predominately red oak). Other hardwoods include paper birch, aspen, ash, sugar maple and black cherry. In the areas with red pine, it is the predominant species, with most of the other species above scattered throughout the stand.

The soils on this lot are primarily Charlton-Chatfield-Hollis association (925E, C), Charlton-Paxton association (902E) and Woodbridge-Paxton (910C).

#### Site Selection

The primary goal of the watershed forest management program is to create and maintain a forest that provides high quality drinking water to current users and future generations. To achieve this, DWSP has determined that the forest should contain a diversity of species in various stages of development (seedlings through large legacy trees). In addition, the forest should be vigorous; actively growing and regenerating. A forest in this condition is resilient to and can quickly recover from small- and large-scale disturbances such as diseases, insect infestations, ice storms and hurricanes.

This site was chosen since the stands overstory is predominately even aged and the red pine was declining. Also, there is healthy, vigorous and somewhat diverse regeneration present that wouldn't stay in that condition much longer. The hemlock component is one we are trying to retain as in recent years it has declined across the watershed due to insect infestations.

#### Silvicultural Objectives

The goal of this harvest is to build on the success of the work started in 1980 by continuing the process of establishing new tree seedlings and providing space for existing regeneration to expand and grow. The diversity of native species present is being maintained. This combination of structural and species diversity builds resistance and resilience into the forest.

Guided by the principles stated above, the primary purpose of this harvest is the establishment of a new age class by harvesting part of the overstory in small groups, up to 3/4 acre in size, to foster regeneration. Groups were placed according to our guidelines. Areas where there were clusters of trees that were declining or had weak stem form, often due to insects, diseases, or storm damage, were specifically targeted. Where there were groups of regeneration created from the previous cut these were expanded upon by cutting a new abutting group. The red pine stands were already regenerated and well stocked with hardwood poles up to about 9" diameter so these areas are having the remainder of the red pine overstory cut. The larger area is about 5 acres and has scattered white pine and hardwood stems from the original overstory retained.

Wherever possible wildlife habitat features were maintained and protected, such as snags (dead trees) and trees with cavities or nests. Exceptional individuals of all species present were retained in the stand for seed and to enhance diversity.

#### **Cultural Resources**

Stone walls are numerous throughout this area. There are many breaks and barways in these walls and they can be used to avoid and protect the stone walls during the upcoming harvest. This is in keeping with DWSP's standard practice, which dictates that every effort is made to keep existing stone walls intact. Otherwise, this area has been determined not to be culturally or archeologically sensitive based on a review by the DCR Archaeologist.

#### Rare or Endangered Species

The lot contains no critical habitats or known rare or endangered species, and no vernal pools. There is a large, deep vernal pool, which has been buffered, abutting the northwestern corner of the lot. The uplands are home to a variety of wildlife including deer, turkey, coyote and moose. Deer seems to like this area in winter.

**Figures** 

Figure 1. Final Forest Cutting Plan

'a C P	Forest Cui and Notice of Intent Chapter 132 – The Foractices Act, 304 CM Effective Date: 1/1/04)	under i orest C	M.G.L. utting 0	lan		File N Date Earlie River Gen.	DCR Use Only:   Jumber   334-93-3-1     Start   3/2-9/18     Start   3/2-9/18     Basin   Chicage     Obj.   LT	Nat. I	Hert. Hert. Imp Dr. Wat.	NO NO	/
Site Information	Town Petersham ( Road Hardwick R Acres 30 Vol. MBF 216.7 Vol.  Plan Preparer  Name Steven J. V  Address DCR, Div  485 Ware  Town, State, Zip Belce Phone (413)  Type of Preparer Mass  *Mass. Forester Licensee *Required for land under	Wood ision of W Rd. hertown, N 323-692 s. Licensee	ater Sup MA 0100 1 ext. 150	ply Prote	ction	nip	Landowner  Name DCR, Divis  Mailing Address 485 M  Town, State, Zip Belct  Phone (413)  Ch61 Ch61A Est. Stumpage Value S  Licensed Timber  Name Address PO Bo  Town, State, Zip Belct  Mass. Lic. Harvester #  **This information may be s  work begins.	Ware Rd.	MA 0100  □ *Ca  ester*:  PO  MA  1071  -719		5
it Practices	Stream Crossing Indicate location on map Type of Crossing Existing Structure Type of Bottom Bank Height (ft) Stabilization	SC-1 BR* No GR 0.5' SE/CO	SC-2 BR* No ST 0.5' SE/CO	SC-3	SC-4		Harvesting in V Indicate location on map Forest Type (see pg 2) Acres to be Harvested Resid. Basal Area (>50%?)	HW-1	HW-2	HW-3	HW-4
Best Management	Metland Crossing Indicate location on map Length of Crossing Mitigation Stabilization Filter Strips Indicate location on map Width (50', 100', or VA)	WC-1 50' DR/FR CO/ST	WC-2 FS-2 VA	WC-3	WC-4		Service Forest  50 % Base will be filter and filter and  F3-6 VA (vernal Pool)	sal a	Mea aired	refer	all
Codes	Type of Preparet LF Mass, Lic. For. TH Lic. Tim. Har TB Timber Buyer LO Landowner OT Other  If Other (OT) is us	ent SE ge MU CO I ST HB OT	Corduroy Stone Hay Bale Other	DR D OT O	rozen rry ther	Type of Bot LE Ledge ST Stony MU Mud GR Grave OT Other	Applicant must prov before plan may be a Some forestry activit	approved and ties, such as p application i y BMP Manu	cutting may prescribed be may require	begin. uming and additional p	permits.

#### Products to be Harvested\*

Species	Mbf/Cds		Mbf/Cds
White Pine	94.1 M	Red Maple	2.8 M
Red Pine	82.6 M	Sugar Maple	0.6 M
Pitch Pine		Red Oak	6.4 M
Hemlock	23.8 M	Black Oak	1.0 M
Spruce		White Oak	0.5 M
Other Sftwd.		Other Hdwd.	
White Ash	1.3 M	Total Mbf	216.7 M
Beech		Cordwood (Cds)	88
White Birch		SW Pulp (Tons)	390
B & Y Birch	3.5 M	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.

#### **Cutting Standards**

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	RP	WH	WK	
Acres	6	15	9	
Landowner Objective	LT	LT	LT	
Designation of Trees	CT	CT	CT	
Type of Cut	SH	SE	SE	
Source of Regeneration	AD/SE	AD/SE	AD/SE	

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	Black Cherry		Chips (To	ns)		200					
	Landowne	r Signa	ture	-							
	which will rem	ain; this de	cision will	also detern	nine the	e future con	dition	of the fores	t for decades	to come.	es will be harvested and After having read the copriate box below.
andowner	LT – Long-term Forest Management  Planned management of the forest to achieve one or more of following objectives: produce immediate and maximize long income, enhance wildlife habitat, improve recreational oppo protect soil and water quality, or produce forest specialty pro				e long-term l opportuniti	es,	short-term improving	trees with the income with the future fo	minimal c	larvest ention of producing consideration given to ion, which often results lity and low value specie	
L	abutters of reco	ertify that I nat I (we) ha ord within to nd that the	(we) have eve notified vo hundred volumes an	the legal au the Conser feet of the d values (C	thority vation area to h61 onl	to carry out Commission be harvested by) in this pl	the op in the I. an hav	eration descretown in white not been in	ibed above. ch the operati	on is to tal	ions.  ke place and the  the service forester from those reported.
	7	5		_					_ 3	7-73.	-18
	Signature of lar	( )							Date		
	Determina	ation an	d Statu	s 234.4	1313.	18	Fi	nal Repo	rt and Co	mmen	ts
Forester	Cutting Plan	Approved	Disapprov	ed Exp	5/20	_					est Cutting Plan ally complied with.
ervice Fo	Signature of Service	vice Forester	/Director's /	-	Hate	118	Sig	gnature of Serv	ice Forester/D	rector's Ag	ent Date
Serv	Extension	I□ App I D	2□ is 1 App 2	Expires / Dis 2	Se —	r. For. Ints.					
	Amendment				_			-			
Codes	Forest Types WP White Pine WK WP/Hem WH WP/Hdwd WO WP/Oak RP Red Pine SR Red Spruce		Hdwd RM Cherry BE Bir/Map SF Hdwd SM	Mixed Oak Red Maple Beech Spruce/Fir Sugar Maple Pitch Pine	CT C LT L SB St OT O Landov LT L	eave Tree tand Boundary	Tyl SH ST CC SE SA SN	Seed Tree Clear Cut Selection Salvage	Intermediate CT Commei NT Non Coi Non-Standari HG Highgra DL Diamete OT Other*	cial Thin n Thin I Systems:* de*	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

pg 4 of 5

### **Forest Cutting Plan**

Narrative Page (Effective Date: 1/1/04)
Use this page to provide further explanation or if
Other (OT) was used in any category on pages 3 or 4.

DCR, DWSP Landowner

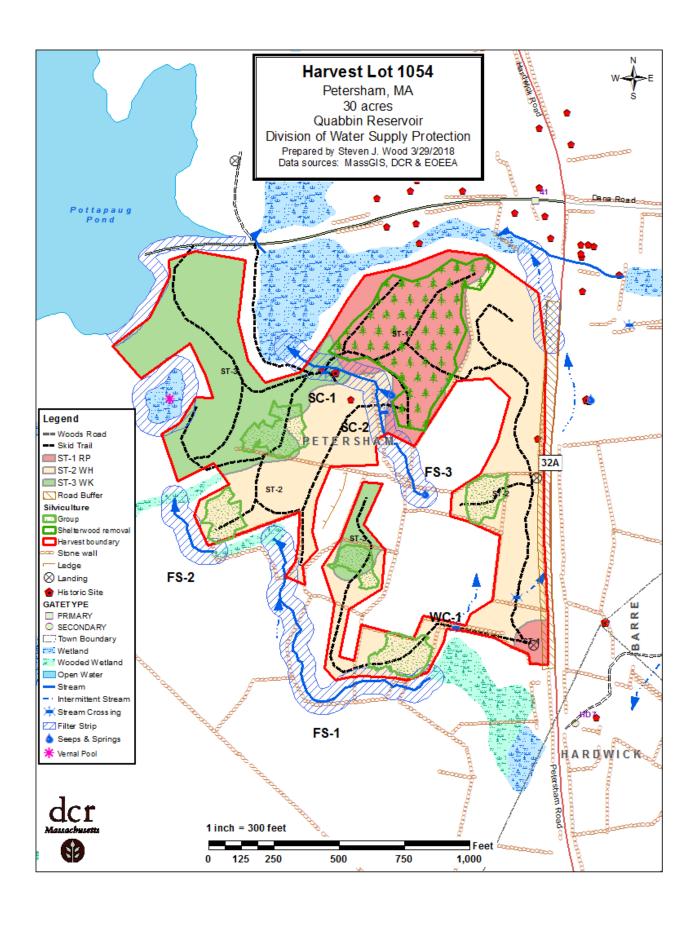
Town

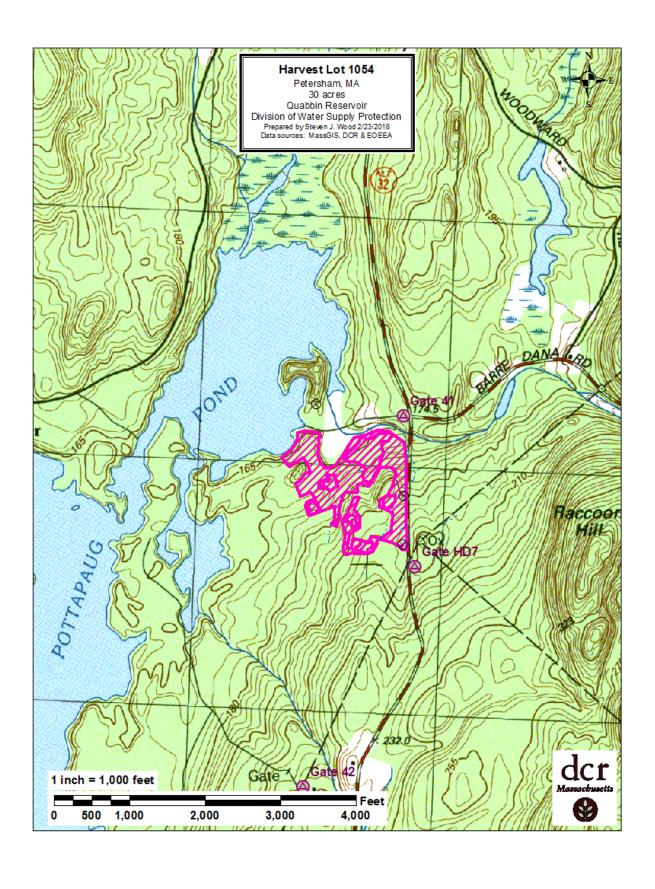
Petersham

File Number 234 9313.18

of wetland o	on north end of lot will no	t trees are marked with blue paint, edge of ot be used. Lot has been cut multiple times	over last 30 years. ST-1 is having a	final overstory harvest of a s
wood, ST-2	WH is mostly thinned w	rith advance regen released and 1/10 <sup>th</sup> - 3/4	acre openings. ST-3 WK is thinned v	with 1/10-1/4 acre openings.
Use	this Section to describe	the types of trees to be harvested and/or ret in the Stand Treatment Secti	ained if Other (OT) was used for "Do on on page 4.	esignation of Trees"
Stand No.	Species to be Cut	Size of Trees to be Cut	Quality of Trees to be Cut	% BA/Acre Removed
				***************************************
			· · · · · · · · · · · · · · · · · · ·	
	. '			
Stand No.	· Wa	escribe how Chapter 132 requirements will as used for the "Type of Cut" in the Cutting	Standards Section on page 4.	, DL, or OT)
Stand No.			Standards Section on page 4.  Ed/protected?  Description and how the regeneration will	l be protected
Stand No.	Source of Regeneration	as used for the "Type of Cut" in the Cutting  How will Regeneration be obtained  If using AD - Describe the species p	Standards Section on page 4.  ad/protected?  bresent and how the regeneration will the seed and the number of seed tree.	l be protected
Stand No.	Source of Regeneration	as used for the "Type of Cut" in the Cutting  How will Regeneration be obtaine  If using AD - Describe the species I  If using SE - Describe the source of	Standards Section on page 4.  ad/protected?  oresent and how the regeneration wil the seed and the number of seed tree	l be protected
Stand No.	Source of Regeneration	as used for the "Type of Cut" in the Cutting  How will Regeneration be obtaine  If using AD - Describe the species I  If using SE - Describe the source of	Standards Section on page 4.  ad/protected?  bresent and how the regeneration will the seed and the number of seed tree.	l be protected
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	Source of Regeneration	as used for the "Type of Cut" in the Cutting  How will Regeneration be obtain  If using AD - Describe the species If using SE - Describe the source of	Standards Section on page 4.  sd/protected?  resent and how the regeneration wil the seed and the number of seed tree	l be protected
Stand No.	Source of Regeneration (ex. AD, SE)	as used for the "Type of Cut" in the Cutting  How will Regeneration be obtaine  If using AD - Describe the species I  If using SE - Describe the source of	Standards Section on page 4.  sd/protected?  resent and how the regeneration wil  the seed and the number of seed tree	i be protected es/acre
	Source of Regeneration (ex. AD, SE)	as used for the "Type of Cut" in the Cutting  How will Regeneration be obtaine  If using AD - Describe the species If using SE - Describe the source of  Describe the source of	Standards Section on page 4.  sd/protected?  resent and how the regeneration wil  the seed and the number of seed tree	i be protected es/acre

pg 5 of 5

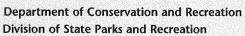






### **COMMONWEALTH OF MASSACHUSETTS**

FILE # 234-9313-18



## FOREST CUTTING PLAN CERTIFICATE



Post this in a conspicuous place within the area in	which the harvesting operation is to take pl	ace.
This certifies that DCR - DW5P	BELCHERTOWN	in accordance with the
(Name of Owner)	(Address)	
provision of M.G.L. Chapter 132, Section 40-46, file and Recreation, Division of State Parks and Recrea		
LOT 1054 lot.		
Approval Date 4-3-2018	ISSUED BY:	Pul Yein
Director's Agent DEAN LIBBE	<b>y</b>	<u> </u>
DCR Phone No. 413. 545. 453	Priscilla E. Geigis, I Division of State P	Director arks and Recreation