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

Project Title: Carter Road north red pine harvest

DWSP Harvest Permit Number: 1060A
DWSP Proposal ID: HA 18-13W
DCR Forest Cutting Plan File Number: 234-33862-22

Site Information

Watershed: Quabbin	**Town(s)**: Petersham
Acres: 66.3	**Nearest Road:** Carter Rd. off Hell Huddle Rd.
Natural Heritage Atlas overlap?: No	**Public Drinking Water Supply Watershed?:** Yes
Forest Types: Red pine, oak hardwood, and white pine hardwood.	**ACEC?:** No
Soils: Mainly excessively drained Merrimac fine sandy loam, band of thin well drained Charlton-Chatfield-Hollis association and Hinckley loamy sand on eastern edge.	
Wetland Resources: A wetland and perennial stream abut lot to the north, several intermittent streams and small, isolated wooded wetlands are within the harvest boundary.	
Vernal Pools: One abuts lot on the western edge.	

Harvest Information

Harvest Start Date: 12/5/2022	**Harvest End Date:** Active lot
Number of Wetland Crossings: None	**Number of Stream Crossings:** 2 on intermittent streams

Best Management Practices Applied

Stream Crossings	Intermittent crossings with poles and bridges though neither flowed during use.
Filter Strips	Variable width filter strips used.
Wetland Crossings	There are no wetland crossings.
Harvesting in Wetlands	There is no harvesting in wetlands.

DWSP Forester supervising this harvest
Name: Steven Wood
Forester License #: 257
Phone #: 413 213-7944
Email: steven.wood@mass.gov

NARRATIVE

General Description/Forest Composition/History:

This lot is in Petersham at the end of Carter Road and is best accessed through gate 43. Pottapaug pond is to the west and a short section abuts it. The lot ends at an unnamed perennial stream which flows west into Pottapaug pond. Most of the area was red pine plantations with some adjoining white pine and oak/hardwood stands included.

The red pine has declined from a non-native insect, the red pine scale, and secondary pathogens such as root rot are most likely also present. Spongy moth (hardwoods), emerald ash borer (ash), hemlock adelgid and scale (hemlock) and various funguses and needle casts (white pine) have impacted this area in recent years and have caused mortality and decline to the noted species. Sapling to pole sized white pine and black birch are common in the understory with some mixed hardwoods. Seedlings of most native tree species are scattered throughout, though there is not much oak present. The areas of red pine had some larger groups of saplings established, the other areas were cut with a lighter hand and had a few small groups of regeneration established but most of those were over topped and not very vigorous.

The primary tree species present in overstory outside of the plantations are white pine and mixed oaks. Other hardwoods include black and paper birch, red maple, aspen, ash, and hickories. Some hemlock is scattered along the northwest edge on bank sloping to a large wetland.

Both moose and deer frequent here but browse was judged to be light to moderate but is probably impacting species composition. The area around the cellar hole and landings are heavily impacted by invasives, particularly Oriental bittersweet and Japanese barberry, with multiflora rose, honey suckle and winged euonymus common. Native grape vines are also present in these areas and along wetlands and are often impacting regeneration and even overstory trees as is the bittersweet. The overstory in these areas was in poor condition and often dead or dying so the invasives are being released anyway. Ideally the invasives will be eradicated in the future with herbicide treatments.

The stone walls on this lot attest to its history of being cleared for agriculture, mostly for pasture. When the farmland was abandoned, probably in the late 19th or early 20th century, it reverted to forest. The red pine was planted in the early ‘40’s possibly from seedlings raised in nurseries run by the MDC. These were on areas of old fields/pastures that hadn’t reverted to forest yet. The red pine plantations were first harvested in 1994 (lot 651, SS 19 south). The white pine stands on the west side were thinned in 1993 (lot 595A) and the southern section was cut again in 2002 (lot 841). The white pine and oak/hardwood stands on the east side were harvested in 1999 (lot 758).

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 area was chosen to be harvested mainly to harvest the remaining red pine, which is not a native species, and is declining throughout the site. The additional areas treated were selected to expand upon the past treatments to further release or establish regeneration and hopefully create the more diverse forest

described above. The areas that had red pine and where openings are created won't need to be treated again for 30+ years. The remaining areas should be looked at again in around 10 years. Those established groups should be expanded upon when abutting stands are treated.

Silvicultural Objectives:

A goal of this harvest is to build on the success of the previous harvests 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 5 acres in size, to foster regeneration. Due to the poor condition of the non-native red pine almost all the remaining live stems will be cut. On the rest of the area groups were placed according to our guidelines. Areas where there were clusters of trees that were declining or had poor stem form, often due to insects, diseases, or storm damage, were specifically targeted. Existing groups of regeneration created from the previous cuts were expanded upon by creating a new abutting group. Areas that contain mainly younger well-formed hardwoods in particular, were thinned.

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 and store carbon. These trees typically are vigorous and barring extreme weather events or insect/disease outbreaks are expected to survive at least another 20 years.

Cultural Resources:

Stone walls are numerous throughout this area. There are many breaks and barways in these walls and they can be used to protect the stone walls during the upcoming harvest. There are several cellar holes which will also be protected. This is in keeping with DWSP's standard practice, which dictates that every effort is made to keep existing historic features intact. Otherwise, this area has been determined not to be culturally or archeologically sensitive based on a review by the DCR Archaeologist. To help protect the cultural resources logging equipment will be restricted to cut to length operations with forwarder transport required, pole length skidding of red pine will be allowed.

Rare or Endangered Species:

Pottapaug Pond contains a species of special concern and care will be taken to buffer shoreline and avoid any silt entering pond or the streams flowing into it. The lot contains no other critical habitats or known rare or endangered species. There is one vernal pool on the edge of the harvest. The uplands are home to a variety of wildlife including deer, turkey, coyote, and moose.

FIGURES

Figure 1. Forest Cutting Plan

04-19-22A07:57 RCVD

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)

For DCR Use Only:

File Number	234-33802-22	Case No.	NA
Date Rec'd	4.19.22	Nat. Hert.	NO
Earliest Start	5.4.22	Nat. Hert. Imp.	NO
River Basin	Chicopee	Pub. Dr. Wat.	yes
Gen. Obj.	LT	ACEC	NO

Site Information

Location

Town: Petersham Quabbin lot 1060A
Road: Carter Rd inside gate 43
Acres: 66.3 Proposed Start Date: 5/1/2022
Vol. MBF: 430 Vol. Cds.: 232 Vol. Tons: 991

Plan Preparer

Name: Steven J. Wood
Address: DCR, Division of Water Supply Protection
485 Ware Rd.
Town, State, Zip: Belchertown, MA 01007
Phone: (413) 213-7944
Type of Preparer: Mass. Licensed Forester
*Mass. Forester License #: 257
*Required for land under Ch61, Ch61A or Forest Stewardship

Landowner

Name: DCR, Division of Water Supply Protection
Mailing Address: 485 Ware Rd.
Town, State, Zip: Belchertown, MA 01007
Phone: (413) 323-6921
Ch61 ☐ Ch61A ☐ Stew ☐ *Case #
Est. Stumpage Value: $30,000

Licensed Timber Harvester**

Name
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	PO	PO		
Existing Structure	yes	no		
Type of Bottom	GR	GR		
Bank Height (ft)	0.3	0.1		
Stabilization	SE/CO	SE/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	VA	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

Xovercut >50% in FS-3 for removal of diseased & dying Red Pine to conserve soil integrity - AR

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

Figure 1a: Forest Cutting Plan (continued).

Forest Products

Products to be Harvested*

Species	Mbf/Cds		Mbf/Cds
White Pine	184.6 M	Red Maple	11.6 M
Red Pine	203.6 M	Sugar Maple	
Pitch Pine		Red Oak	19.2 M
Hemlock		Black Oak	5.8 M
Spruce		White Oak	
Other Sftwd.		Other Hdwd.	
White Ash	3.1 M	**Total Mbf**	430
Beech		**Cordwood (Cds)**	133
White Birch		**SW Pulp (Tons)**	498
B & Y Birch	2.0 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.

Stand Treatment

Cutting Standards

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	RP4	OH4	WH4	
Acres	27.8	4.4	34.1	
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	

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.

Signature of landowner(s) — Date: 4-4-2022

Service Forester

Determination and Status

	Approved	Disapproved	Expires
Cutting Plan	☒	☐	4·19·24

Signature of Service Forester/Director's Agent — Date: 5·16·22

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

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

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**

Figure 1b: Forest Cutting Plan (continued).

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.

Landowner DCR, DWSP

Town Petersham

File Number

BMPs

Use this Section to provide further explanation or if Other (OT) was used in any category in the Best Management Practices Section on Page 3.

Would like to allow use of tracked harvester in filter strips to minimize disturbance to stream banks and protect established regeneration and poles. Trees to be cut are marked with blue paint, orange paint on some high value save trees, opening boundaries and wildlife (W) trees. Sale boundary is double orange strip. The old red pine plantation has been cut several times and is having most of the remaining overstory removed, it is dying from scale and root rot. The surrounding white pine and oak stands have also been cut at least twice but though have many poorly formed stems there is enough well formed stems to grow for another 10 years on sections. These areas are treated with group selection with openings in the poorer formed.

Designation of Trees

Use this Section to describe the types of trees to be harvested and/or retained if Other (OT) was used for "Designation of Trees" in the Stand Treatment Section on page 4.

Stand No.	Species to be Cut	Size of Trees to be Cut	Quality of Trees to be Cut	% BA/Acre Removed

Regeneration & Future Condition

Use this Section to describe how Chapter 132 requirements will be met if a non standard system (HG, DL, or OT) was used for the "Type of Cut" in the Cutting Standards Section on page 4.

Stand No.	Source of Regeneration (ex. AD, SE)	How will Regeneration be obtained/protected? If using AD - Describe the species present and how the regeneration will be protected If using SE - Describe the source of the seed and the number of seed trees/acre

Stand No.	Desired Future Condition Describe what the stand is expected to look like five years from the harvest, including the condition of the overstory & understory

Figure 1c: Forest Cutting Plan (continued).

Stand Map
Quabbin Lot 1060A

Carter Road
Petersham, MA

Prepared by:
Steven J. Wood
MA DCR DWSP
Quabbin & Ware River Forestry

Scale: 1:7,200

Created: 4/4/2022

Data sources:
MassGIS, DCR, & EOEEA

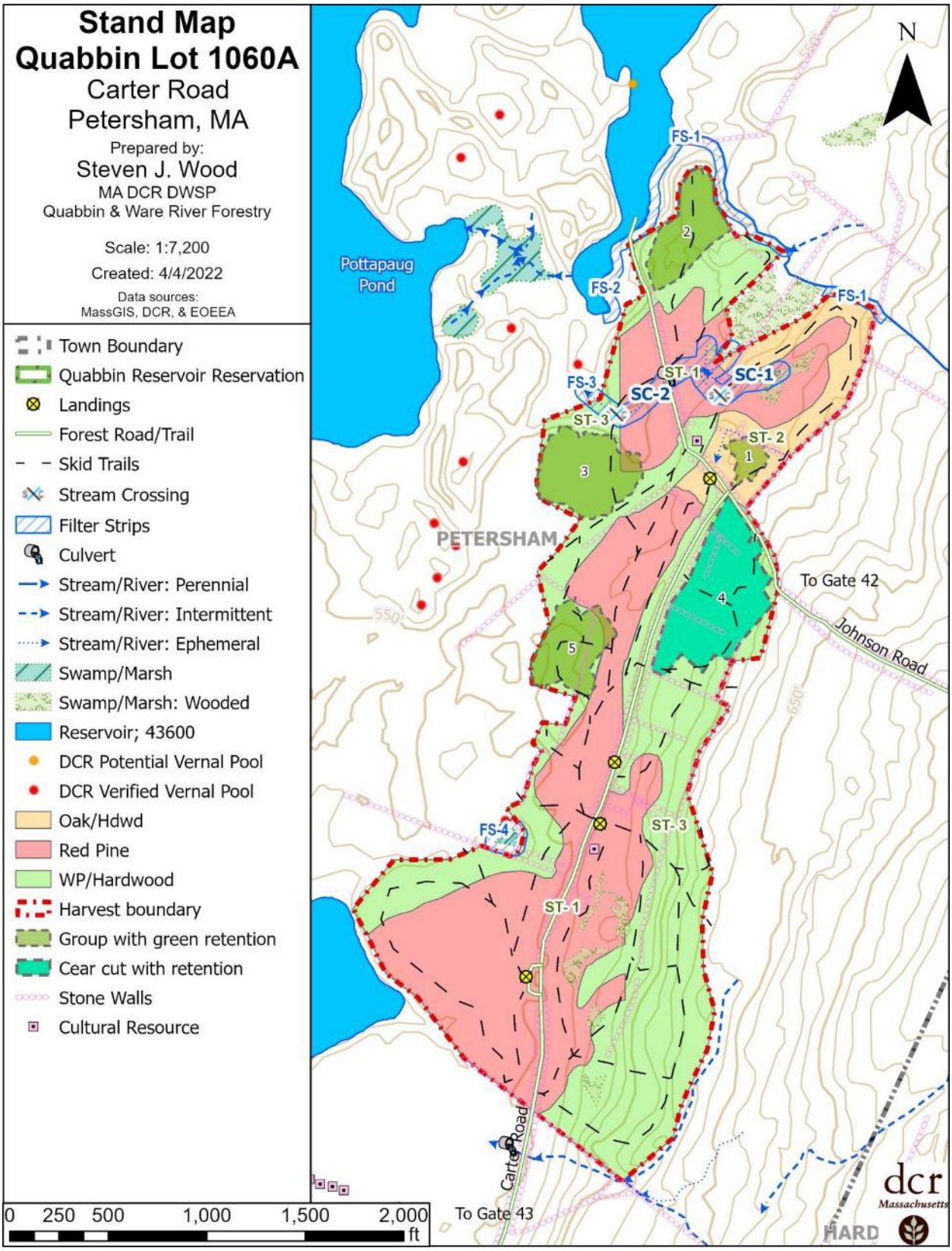

Figure 1d: Forest Cutting Plan (continued).

Figure 1e: Forest Cutting Plan (continued).

dcr

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

FILE # 234-33862-22

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 (Name of Owner) 485 Ware Rd, Belchertown, MA (Address) in accordance with the D1007 provision of M.G.L. Chapter 132, Section 40-46, filed in Amherst F.O. with the Dept. of Conservation and Recreation, Division of State Parks and Recreation, a Notice of Intent to cut forest products upon the Quabbin 1060A lot., Petersham (Carter Rd)

Approval Date 5/16/22

Director's Agent Andrew Rawcliffe

DCR Phone No. 617-549-1677

ISSUED BY:

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