

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

Project Title: Hardwick and Petersham 32A Pine

DWSP Harvest Permit Number: 1055

DWSP Proposal ID: HA 18-13

DCR Forest Cutting Plan File Number: 234-9453-19

Site Information

Watershed: Quabbin

Town(s): Hardwick & Petersham

Acres: 40

Nearest Road: Petersham Road

Natural Heritage Atlas overlap: No

Public Drinking Water Supply Watershed: Quabbin

Forest Types: White Pine/Hardwoods, White Pine/oak and Red Pine

Area of Critical Environmental Concern (ACEC): No

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

Woodbridge-Paxton (910C)

Wetland Resources: Seeps, streams and wetlands present.

Vernal Pools: None

Harvest Information

Harvest Start Date: 1/17/2019

Harvest End Date: 2/20/2019

Number of Wetland Crossings: One

Number of Stream Crossings: Four

Best Management Practices Applied

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

Filter Strips: Three of variable width

Wetland Crossings: One

Harvesting in Wetlands: None

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 half in Hardwick and half in Petersham and is just south of lot 1054 and has a landing in common with it (north one which might not be used). Lot is all on the west side of route 32A and abuts private property to the south.

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. One of these areas along 32A was planted with red pine in the 40's. This stand was thinned in the 80's (as was most of the lot) and since then the red pine has declined from a non-native insect, the red pine scale. A root rot is most likely also present. Sapling to pole sized white and black birch is common in the understory with some white pine and red maple mixed in. Seedlings of most native trees are scattered throughout.

The rest of the harvest is in white pine/hardwood or white pine/oak stands which had also been previously thinned with a few openings up to 1/4 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 scattered oak in some areas. Some of the white pine in overstory are quite large and, especially on western side of lot, is declining, possibly from one of the needle funguses that have been common recently. The southwestern stand has some large oak which has been impacted by spongy moth defoliation in the last 2 years with some mortality occurring this year. 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 overstory are white pine with black birch, red maple and mixed oaks (predominately red oak). Other hardwoods include paper birch, aspen, ash, sugar maple and black cherry. On the area with red pine, it is the predominate 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). Most are well drained and stony though some areas around the wetlands/streams/seeps could be easily rutted.

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 predominantly even-aged and the red pine and oak were declining. Also, there is healthy, vigorous and diverse regeneration present that wouldn't stay in that condition much longer.

Silvicultural Objectives

The goal of this harvest is to build on the success of the work started previously 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 2.7 acres in size, in order 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 southwestern stand had more of the overstory removed in the past and has a more variable age structure currently. This cut removes about 2/3rds of the remaining overstory and should be the last harvest here till the newer growth becomes merchantable. The red pine stand was already regenerated and well stocked with hardwood poles up to about 9" diameter so this area is having the remainder of the red pine overstory cut. It is just over 2 acres and has scattered white pine and hardwood stems from the original overstory retained along with as much of the hardwood poles as possible.

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. The uplands are home to a variety of wildlife including deer, turkey, grouse, coyote and moose.

Figures

Figure 1. Final 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)

For DCR Use Only:

File Number	<u>234-9453-19</u>	Case No.	_____
Date Rec'd	<u>7/14/18</u>	Nat. Hert.	<u>1</u>
Earliest Start	<u>7/26/18</u>	Nat. Hert. Imp.	<u>No</u>
River Basin	<u>Chicopee</u>	Pub. Dr. Wat.	<u>No</u>
Gen. Obj.	<u>LT</u>	ACEC	<u>No</u>

07-11-13P01:21-3210

FINAL (3/19)

Site Information

Location

Town Hardwick & Petersham Quabbin lot 1055

Road Petersham Rd (32A)

Acres 40 Proposed Start Date 8/1/2018

Vol. MBF 220 Vol. Cds. 115 Vol. Tons 263

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 \$35,125.00

Licensed Timber Harvester**

Name Steve Glaszcz

Address 171 Old Enfield Rd.

Town, State, Zip Belchertown, MA 01007

Phone 413 362-9418

Mass. Lic. Harvester # 1156

**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	BR	BR	BR
Existing Structure	N	N	N	N
Type of Bottom	ST	ST	ST	ST
Bank Height (ft)	0.5	0.5	0.5	1
Stabilization	CO/SE	CO/SE	CO/SE	SE

Wetland Crossings

Indicate location on map	WC-1	WC-2	WC-3	WC-4
Length of Crossing	50			
Mitigation	DR/FR			
Stabilization	CO/ST			

Filter Strips

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

Codes

Type of Preparer	Type of Crossing	Stabilization	Mitigation	Type of Bottom	<p>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 pesticides or fertilizer application may require additional permits. Consult MA Forestry BMP Manual for further information.</p>
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			

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

pg 3 of 5

Forest Products

Products to be Harvested*

Species	Mbf/Cds		Mbf/Cds
White Pine	165.8 M	Red Maple	4.5 M
Red Pine	15 M	Sugar Maple	
Pitch Pine		Red Oak	23.2 M
Hemlock		Black Oak	2.9 M
Spruce		White Oak	4.3 M
Other Sflwd.		Other Hdwd.	
White Ash	1.0 M	Total Mbf	220.0
Beech		Cordwood (Cds)	115
White Birch		SW Pulp (Tons)	263
B & Y Birch	3.4 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	WO4			
Acres	40			
Landowner Objective	LT			
Designation of Trees	CT			
Type of Cut	SE			
Source of Regeneration	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.

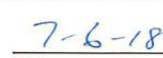
I (we) hereby certify that I (we) have the legal authority to carry out the operation described above.

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

Service Forester

Determination and Status 234.9453.19

Approved ☒ Disapproved ☐ Expires 7/11/20
 Cutting Plan ☒

 Signature of Service Forester/Director's Agent Date 7-18-18

Extension 1 ☐ 2 ☐ Expires 1 Ser. For. Ints. 1
 Amendment App 1 ☐ Dis 1 ☐ App 2 ☐ Dis 2 ☐ 1

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 3/7/19

Codes

Forest Types				Designation of Trees	Type of Cut	Intermediate Harvests:	Source of Regeneration
WP White Pine	HK Hemlock	OM Mixed Oak	CT Cut Tree	SH Shelterwood	CT Commercial Thin	AD Advanced	AD Advanced
WK WP/Hem	HH Hem/Hdwd	RM Red Maple	LT Leave Tree	ST Seed Tree	NT Non Com Thin	SE Natural Seed	SE Natural Seed
WH WP/Hdwd	BC Black Cherry	BE Beech	SB Stand Boundary	CC Clear Cut	SE Selection	PL Plant	PL Plant
WO WP/Oak	BB Bee/Bir/Map	SF Spruce/Fir	OT Other	SA Salvage	DL Diameter Limit*	CO Coppice	CO Coppice
RP Red Pine	OH Oak/Hdwd	SM Sugar Maple	Landowner Objective	SN Sanitation	OT Other*	DS Direct Seed	DS Direct Seed
SR Red Spruce	OR N Red Oak	PP Pitch Pine	LT Long-term Mgt.			OT Other	OT Other
			ST Short-term Har.				

*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.

Landowner DCR, DWSP

Town Hardwick

File Number 234.9453.19

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.

Note WC-1 is same crossing as on approved cutting plan 234-9313-18 for abutting lot. This is an optional landing and may not be needed. Other than opening 5, all areas had been cut multiple times over last 30 yrs. Opening 2 and 5 have 10-30 BA retained. Other small groups (1,3,4,6,7,9) have 5-10 BA retention but plenty of advanced regeneration and range from 0.4 ac to 2.7 ac. The largest is 9 and has an area of red pine which is all being cut and an area with oak which will be well stocked with saw log size RO. The largest section is 8 at 11.3 acres. This area had the heaviest past cut and is already in a multi-aged condition. This will be the final cut on this section for awhile. Lots of saplings, poles and legacy trees for retention.

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.

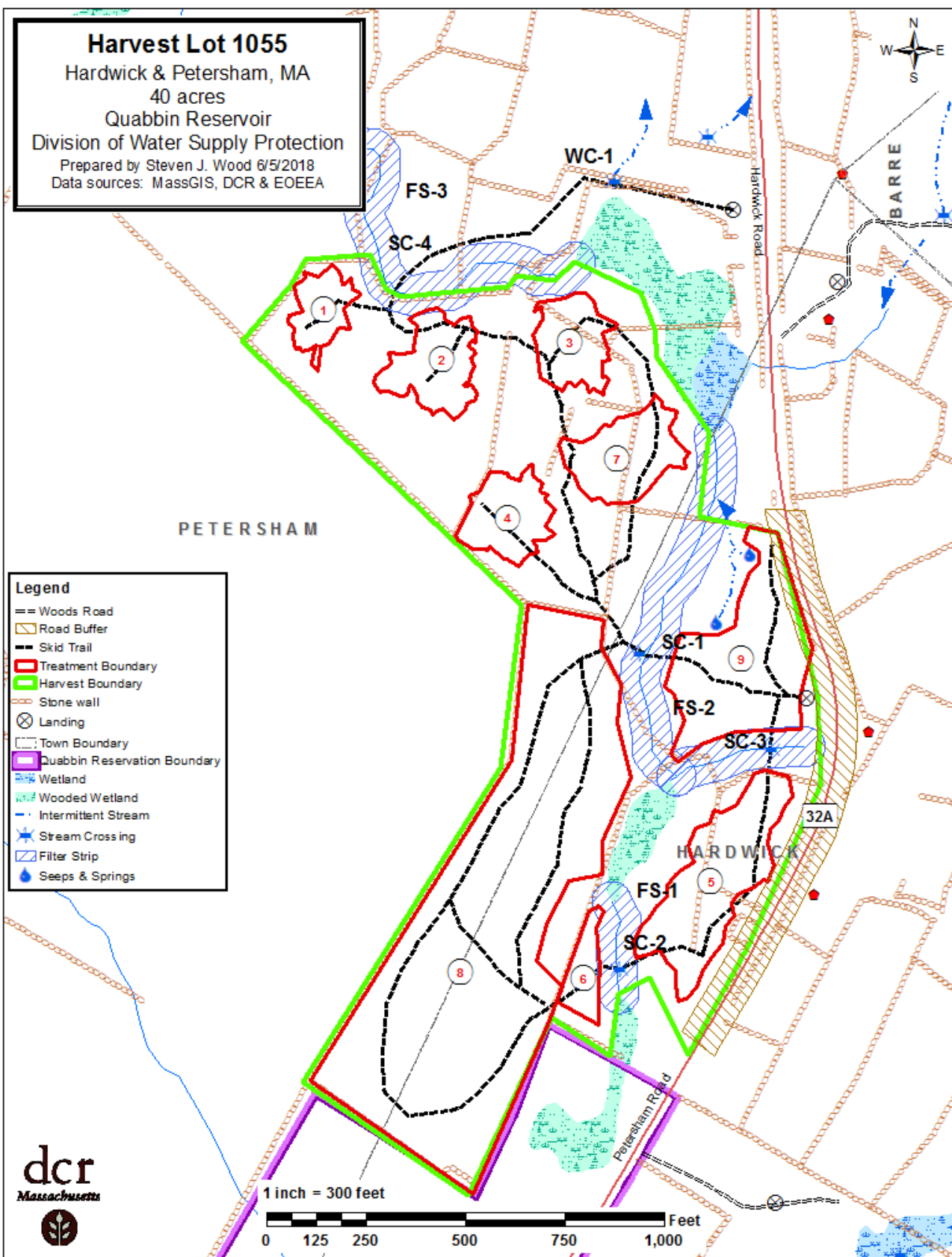
Stand No.	Species to be Cut	Size of Trees to be Cut	Quality of Trees to be Cut	% BA/Acre Removed

Regeneration & Future Condition

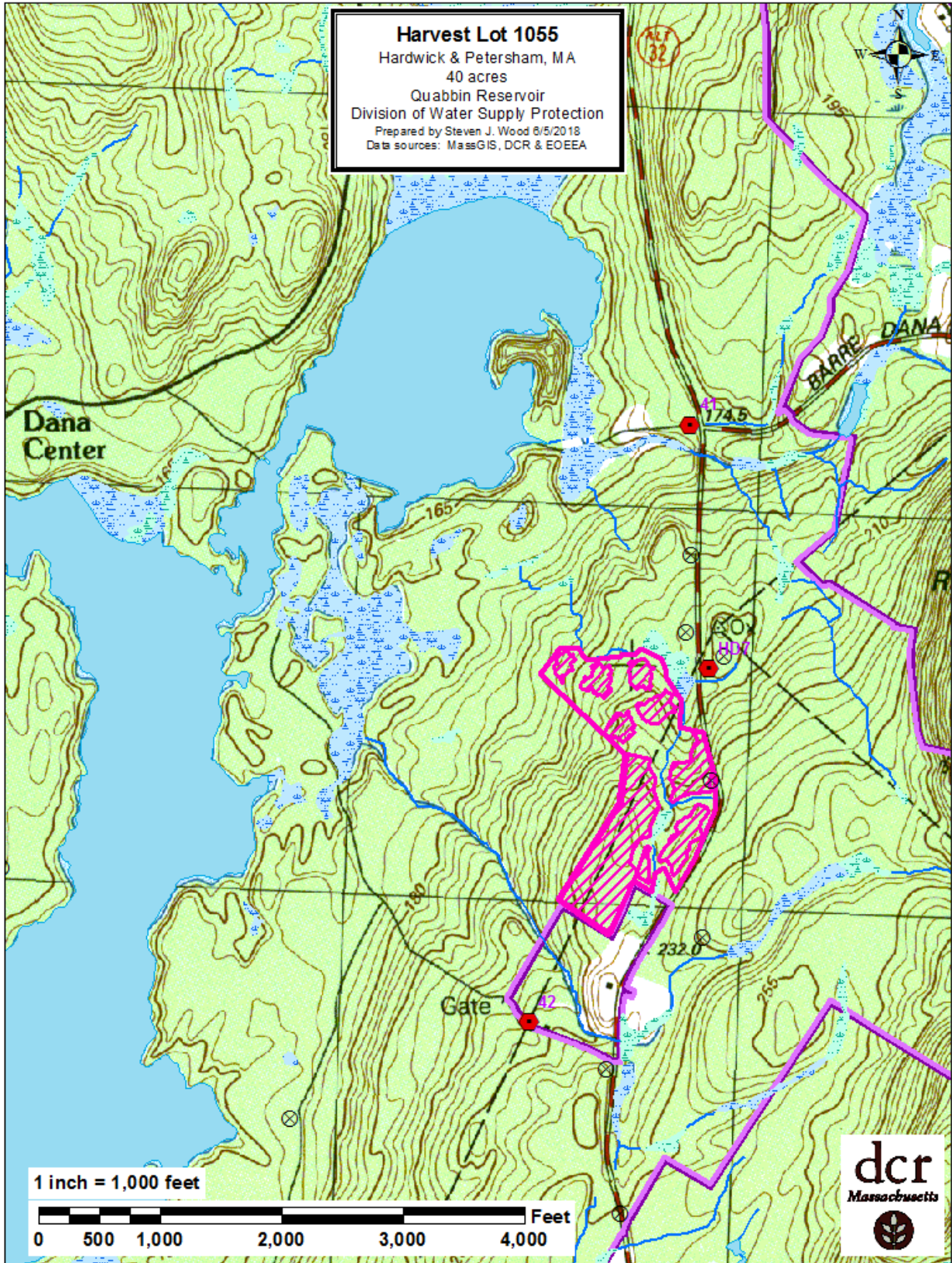
Use this Section to describe how Chapter 132 requirements will be met if a non standard system (HG, DL, or OT) was used for the "Type of Cut" in the Cutting Standards Section on page 4.

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
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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
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Harvest Lot 1055
Hardwick & Petersham, MA
40 acres
Quabbin Reservoir
Division of Water Supply Protection
Prepared by Steven J. Wood 8/5/2018
Data sources: MassGIS, DCR & EOEEA



dc



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

FILE # 234.9453.19

W

FOREST CUTTING PLAN CERTIFICATE

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

This certifies that DCR-DWSP 485 Ware Rd, Belchertown, MA in accordance with the
(Name of Owner) (Address) 01007

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 1055 lot. (Petersham Rd), Hamrick/Petersham

Approval Date 7/18/18
Director's Agent Andrew Ranciffe / Sean Libbey
DCR Phone No. (617) 548-1677 / (413) 545-4539

ISSUED BY:

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