

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

**Project Title:** Goodnough Dike Oak Woodlands Restoration

**DWSP Harvest Permit Number:** 1064

**DWSP Proposal ID:** HA-22-04

**DCR Forest Cutting Plan File Number:** 309-42940-25

**Site Information**

**Watershed:** Quabbin

**Town(s):** Ware

**Acres:** 25.4

**Nearest Road:** Goodnough Dike Road

**Natural Heritage Atlas overlap?:** Yes

**Public Drinking Water Supply Watershed?:** Yes

**Forest Types:** White pine / oak

**ACEC?:** No

**Soils:** Well drained to excessively well drained Charlton-Hollis-Rock outcrop complex to Hinckley loamy sand.

**Wetland Resources:** none

**Vernal Pools:** none

**Harvest Information**

Harvest Start Date: TBD

Harvest End Date: TBD

Number of Wetland Crossings: none

Number of Stream Crossings: none

**Best Management Practices Applied**

Stream Crossings: none

Filter Strips: none. Road and drainage infrastructure drains away from the reservoir and off watershed preventing any possible sedimentation from reaching the reservoir.

Wetland Crossings: none

Harvesting in Wetlands: none

**DWSP Forester supervising this harvest**

Name: Richard Graham MacLean | Doug Hutcheson

Forester License #: 467 | 375

Phone #: 857-263-0211

Email: richard.maclean@mass.gov

## **NARRATIVE**

### **General Description/Forest Composition/History**

The forest here is primarily northern red oak / eastern white pine with minor components of black, scarlet, and white oak, and red maple in the canopy. The midstory is dominated by generalist tree species such as white pine, black birch, and red maple, along with remnant American chestnut. The site is on dry, well-draining soils, and the understory presence of abundant blueberry and huckleberry indicates that it was likely a more open woodland/heathland in the recent past. The only DWSP management history since the reservoir was established is a 1985 thinning, likely in response to spongy moth related mortality after a large outbreak in 1984.

### **Site Selection**

This site has the soil and vegetation to support known state- listed species that require an open oak woodland forest habitat. Certain known uncommon and rare plant and animal species thrive in a forest of oak trees which are more widely spaced than that of a dense, closed canopy forest. This type of forest is known as an oak woodland. By managing this site for an open oak woodland DWSP can further diversify the entire watershed forest by supporting this locally uncommon habitat type.

### **Silvicultural Objectives**

To accomplish the goal of an open oak woodland with a heath understory capable of supporting the known state listed species, DWSP will manage this site with harvest and prescribed fire. Starting with the harvest, DWSP will be removing generalist species such as eastern white pine, red maple, black and paper birch, and reducing the total number of canopy oaks to achieve the open, intermittent canopy characteristic of this habitat type. Once the harvest is accomplished, DWSP Natural Resources professionals will monitor the response of the understory vegetation and within four growing seasons prescribed fire will be applied to the site. The prescribed fire will help reduce the regeneration of generalist species and favor oak regeneration capable of replacing future canopy oak mortality. The uncommon and rare species that thrive in a woodland evolved with, and are commonly part of, fire adapted communities. Returning fire here will help encourage new plant growth and release nutrients, supporting these rare species that depend on the openness of an oak woodland. By reducing the leaf litter and allowing sunlight to reach the ground, seeds that have been waiting in the soil, sometimes for more than 50 years, will grow.

### **Cultural Resources**

There is a short length of stone wall within the harvest boundaries but no other known cultural features. The wall will be protected during harvest and only existing barways will be utilized.

### **Rare or Endangered Species**

The Natural Heritage and Endangered Species Program, in coordination with DWSP Natural Resources is aware of and actively monitoring multiple state listed species at the site. This monitoring will continue post harvest and will inform current and future management.

## FIGURES

Figure 1. Forest Cutting Plan

Figure 1a. Forest Cutting Plan, pg 1.

### Forest Cutting Plan

and Notice of Intent under M.G.L.  
Chapter 132 – The Forest Cutting  
Practices Act, 304 CMR 11.00  
(Effective Date: 3/15/16)

#### For DCR Use Only:

File Number 309-42940-25 Case No. N/A  
Date Rec'd 8/29/24 Nat. Hert. Y / Imp Y  
Earliest Start 9/16/24 Pub. Dr. Wat. Quabbin  
River Basin Chicopee ACEC No  
Gen. Obj. LT

Site Information

#### Location

Town Ware (Quabbin Lot 1064)  
Road Goodnough Dike Road  
Acres 24.5 Proposed Start Date TBD  
Vol. MBF 88.2 Vol. Cds. 61 Vol. Tons 78

#### Plan Preparer

Name Richard G MacLean | Doug Hutcheson  
Address 485 Ware Road  
Town, State, Zip Belchertown, MA 01007  
Phone (857) 263-0211  
Type of Preparer LF  
\*Mass. Forester License # 467 | 375  
\*Required for land under Ch61, Ch61A or Forest Stewardship

#### Landowner

Name MA DCR Div of Water Supply Protection  
Mailing Address 485 Ware Road  
Town, State, Zip Belchertown, MA 01007  
Phone 4133237221  
Ch61 ☐ 61A ☐ 61B ☐ Stew ☐ \*Case #  
FSC ☐ CR ☐ CR Holder

#### Licensed Timber Harvester\*\*

Name TBD  
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				
Existing Structure				
Type of Bottom				
Bank Height (ft)				
Stabilization				

#### 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)				

#### 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

Required actions before work can begin - see NHESP determination letter. Oak mortality present throughout harvest area.

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 1b. Forest Cutting Plan, pg 2.

## Forest Cutting Plan

**Narrative Page (Effective Date: 3/15/16)**  
 Use this page to provide further explanation or if  
 Other (OT) was used in any category on pages 3 or 4.

Landowner MA DCR DWSP

Town Ware

File Number 309.42940.25

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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.

This treatment is intended to restore a previous oak-woodland condition to further diversify the structure of the watershed forest, and to support at least four known state-listed species dependent on that habitat. Harvest will target removal of generalist species such as white pine, red maple, and black birch, as well as reduce the average basal area to an average 40 square feet per acre (ranging 20-90 due to spongy moth related mortality and terrain). To further promote fire-adapted species, prescribed fire will be applied to the site several growing seasons after harvest, and then conditions will be maintained with prescribed fire over a longer interval. Cut trees are designated in blue, retained trees are butt marked in orange. The road and drainage infrastructure separates the harvest area from the reservoir to the north and prevents any possible sedimentation that could occur during harvesting.

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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. Additional narrative description may be added on a separate page.

Stand No.	Describe Trees to be Cut			Describe Trees to be Left			% BA/AC	
	Species	Size	Quality	Species	Size	Quality	Cut	Left
1	WP	saw/pulp	poor-good	RO	saw/cord	good	22	78
1	RO	saw/cord	poor-good	BO	saw/cord	good	15	85
1	BO	saw/cord	poor-good	WO	saw/cord	good	14	86
1	WO	saw/cord	poor-good					
1	RP	saw/pulp	poor-good					

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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
1	AD	Loggers will be instructed to protect advanced regen of 'desireable' species (oaks, hickories). Advanced red, black and white oak is present; seedlings of each oak species are also present.

**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

1	This treatment is intended to restore a previous oak-woodland condition. Prescribed fire will follow the harvest to further select for fire-adapted species in the under and mid story.

Figure 1c. Forest Cutting Plan, pg 3.

Products to be Harvested*			
Species	Mbf/Cds		Mbf/Cds
White Pine	75.5	Red Maple	.5
Red Pine	3.3	Sugar Maple	
Pitch Pine		Red Oak	7.1
Hemlock		Black Oak	1.1
Spruce		White Oak	.7
Other Sftwd.		Other Hdwd.	
White Ash		Total Mbf	88.2
Beech		Cordwood (Cds)	61
White Birch		SW Pulp (Tons)	78
B & Y Birch		HW Pulp (Tons)	
Black Cherry		Chips (Tons)	

\*Note: Volumes 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	WO <input checked="" type="checkbox"/>			
Acres	24.5			
Landowner Objective	LT			
Designation of Trees	CT <input checked="" type="checkbox"/>			
Type of Cut	OT			
Source of Regeneration	AD <input checked="" type="checkbox"/>			

**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 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 8/29/2024

**Determination and Status**

Approved ☒ Disapproved ☐ Expires 8/29/26

Cutting Plan ☒ 9/27/24

Signature of Service Forester/Director's Agent \_\_\_\_\_ Date \_\_\_\_\_

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	Designation of Trees	Type of Cut	Source of Regeneration
WP White Pine	CT Cut Tree	SH Shelterwood	AD Advanced
WK WP Hem	LT Leave Tree	ST Seed Tree	SE Natural Seed
WH WP/Hdwd	SB Stand Boundary	CC Clear Cut	PL Plant
WO WP/Oak	OT Other	SE Selection	CO Coppice
RP Red Pine	Landowner Objective	SA Salvage	DS Direct Seed
SR Red Spruce	LT Long-term Mgt.	SN Sanitation	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



Figure 1d. Forest Cutting Plan, pg 4.

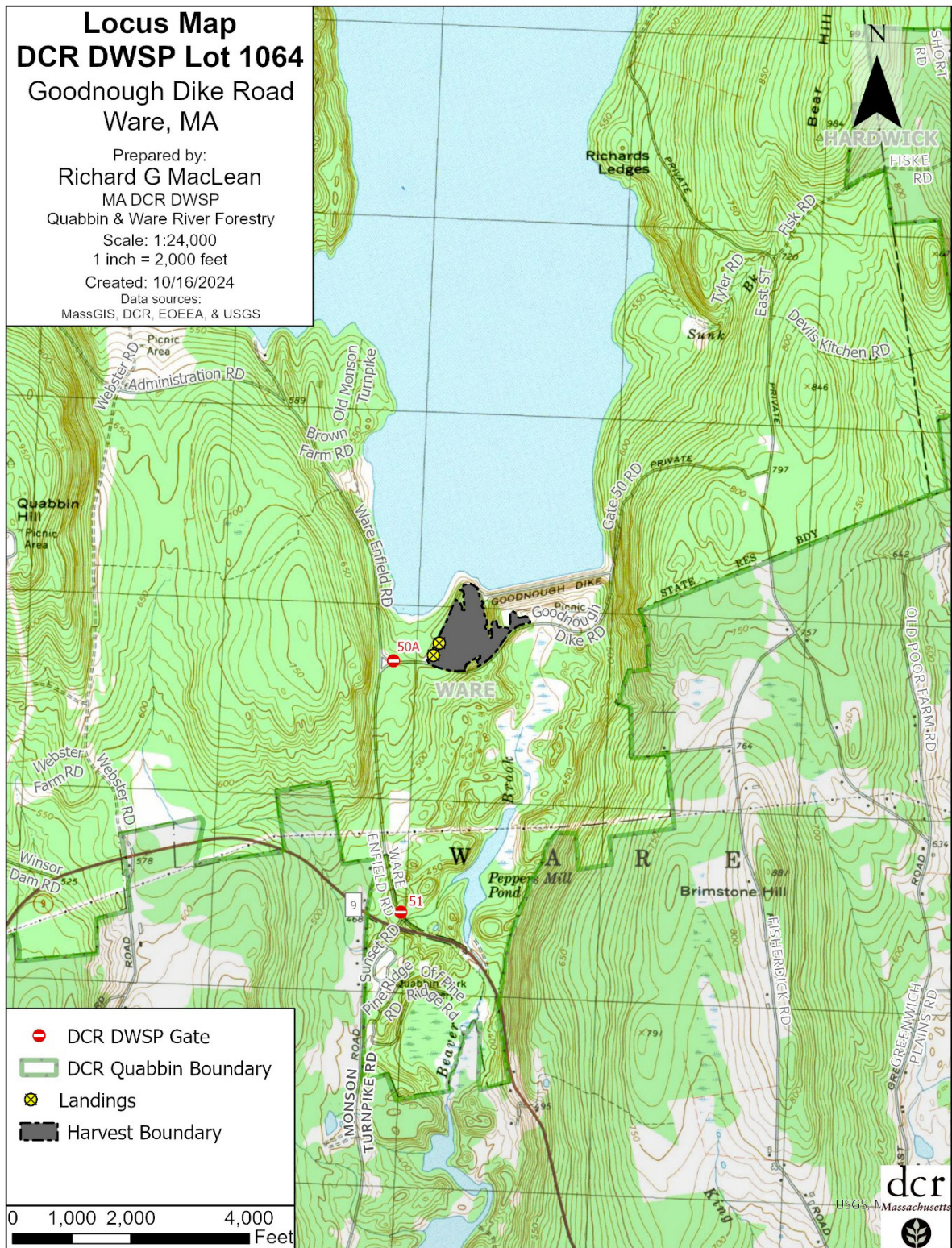




Figure 1e. Forest Cutting Plan, pg 5

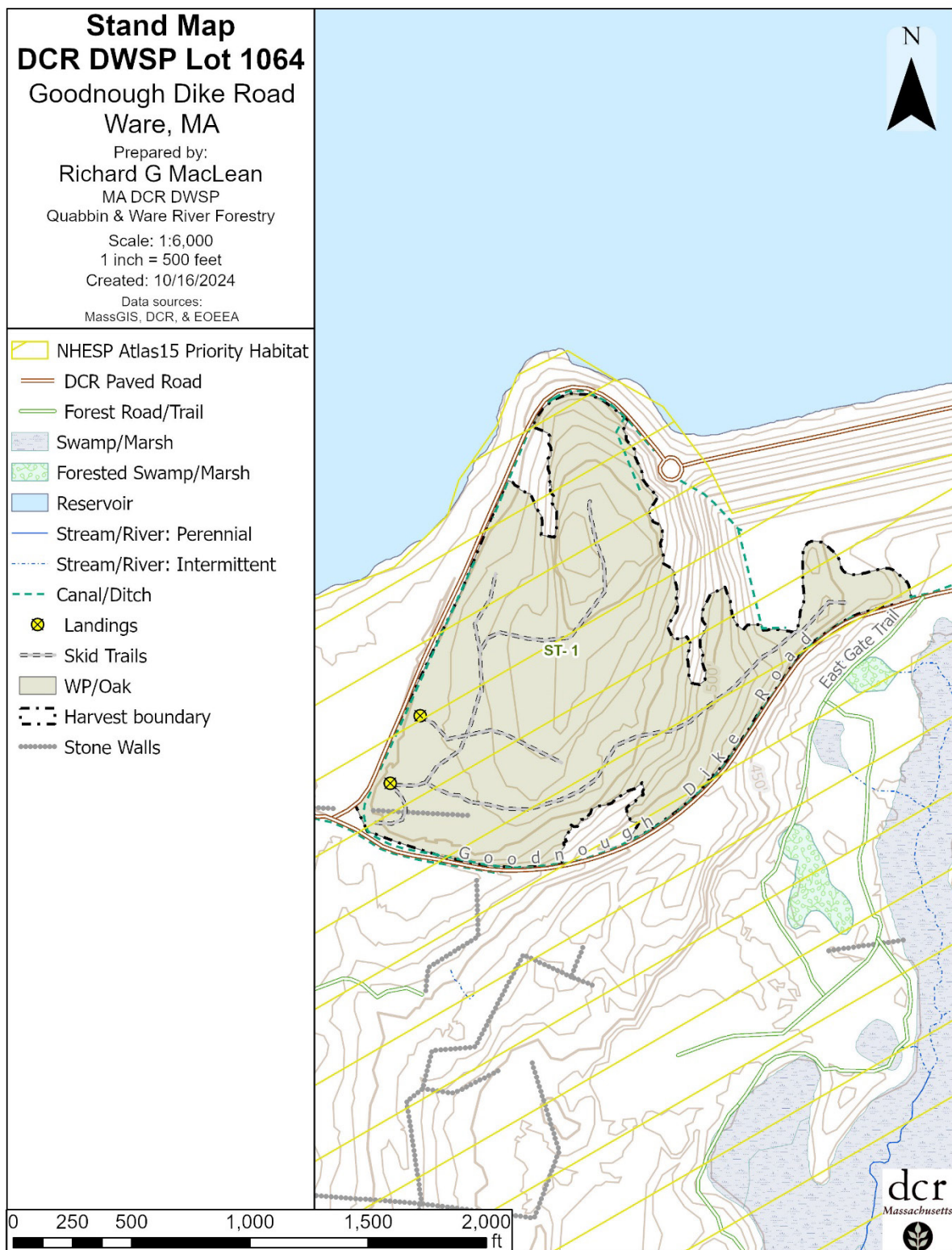


Figure 1f. Forest Cutting Plan, pg 6.

	COMMONWEALTH OF MASSACHUSETTS Department of Conservation and Recreation Division of State Parks and Recreation	FILE # <u>309-42940-24</u>
<b>FOREST CUTTING PLAN CERTIFICATE</b>		
Post this in a conspicuous place within the area in which the harvesting operation is to take place.		
This certifies that <u>4A DCR-DWSP 485 Ware Rd, Belchertown, MA</u> in accordance with the (Name of Owner) (Address) <u>01007</u>		
provision of M.G.L. Chapter 132, Section 40-46, filed in <u>Amherst F.O.</u> with the Dept. of Conservation and Recreation, Division of State Parks and Recreation, a Notice of Intent to cut forest products upon the <u>Quabbin 1064 lot, Ware</u>		
Approval Date <u>9/27/24</u>	ISSUED BY: 	
Director's Agent <u>Jacob Macko</u>	Priscilla E. Geigis, Director	
DCR Phone No. <u>(857) 202-2824</u>	Division of State Parks and Recreation	

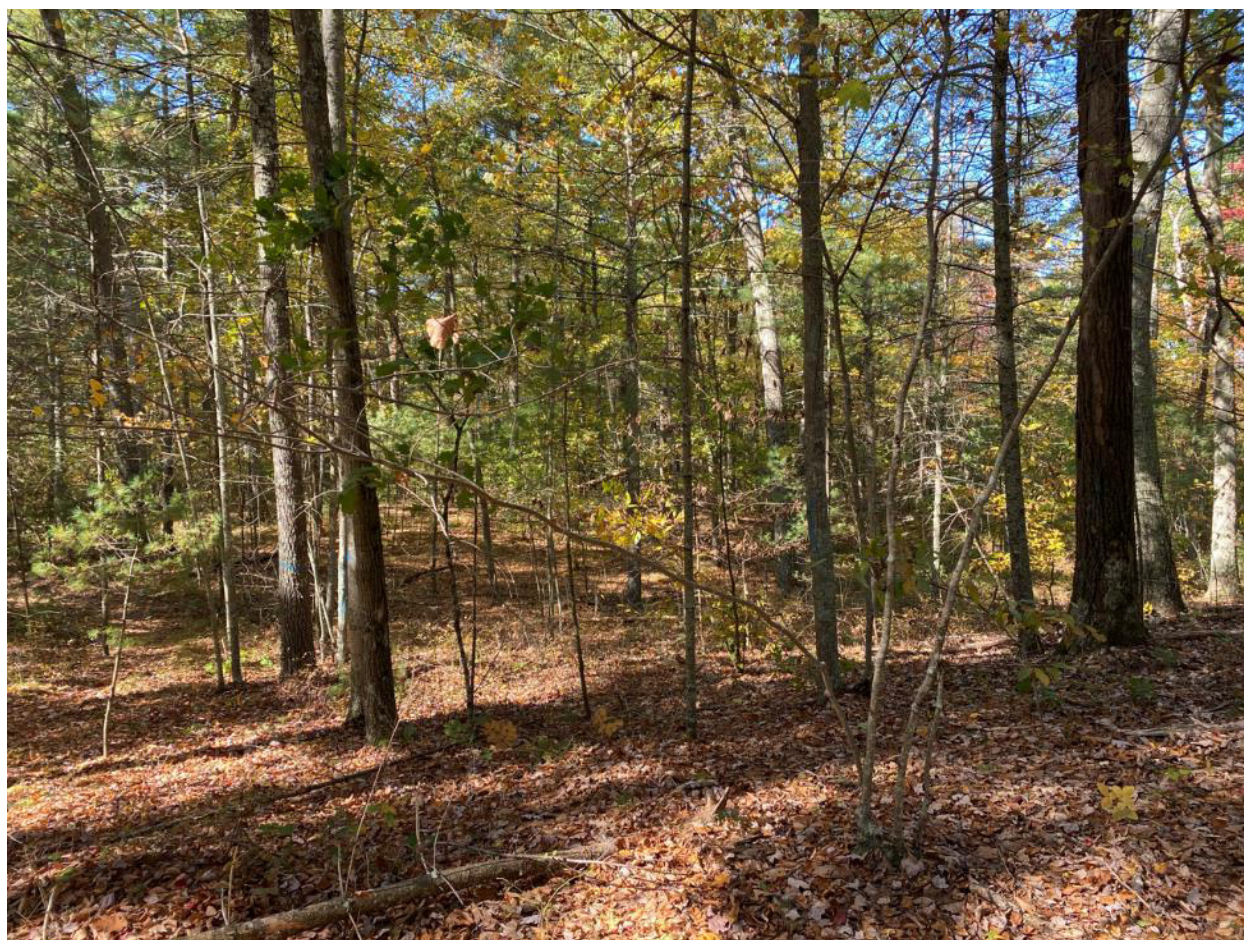


**Figure 2. Photo Points**



**Figure 2a. Photo Point 1, Pre harvest, 10/11/2024**





**Figure 2b. Photo Point 2, Pre harvest, 10/11/2024**





**Figure 2c. Photo Point 3, Pre harvest, 10/11/2024**