

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

Project Title: Gate 11 Red Pine
DWSP Harvest Permit Number: 2053
DWSP Proposal ID: PE-16-red pine sal
DCR Forest Cutting Plan File Number: 230-9409-18

Site Information

Watershed: Quabbin
Town(s): Pelham
Acres: 14.5
Nearest Road: Daniel Shays Highway
Natural Heritage Atlas overlap?: Yes
Public Drinking Water Supply Watershed?: Yes
Forest Types: Red Pine
Area of Critical Environmental Concern (ACEC)?: No
Soils: The dominant soil types are: Canton or Scituate fine sandy loams.
Wetland Resources: none present
Vernal Pools: none present

Harvest Information

Harvest Start Date: 6/3/2019
Harvest End Date: 6/28/2019
Number of Wetland Crossings: none
Number of Stream Crossings: 1

Best Management Practices Applied

Stream Crossings: 1 stream crossing of a road ditch which drains a roadside wetland. To maintain the integrity of the ditch the crossing will be bridged at all times.
Filter Strips: All filter strips are variable width, and determined by slope as directed by Massachusetts Best Management Practices. Where the stream was within 100 ft of the landing hay bales were used to reduce possible silting.
Wetland Crossings: none
Harvesting in Wetlands: none

DWSP Forester supervising this harvest

Name: Richard MacLean & Herm Eck
Forester License number: #63 (Eck)
Phone number: 413-213-7950
Email: richard.maclean@mass.gov

Narrative

General Description/Forest Composition/History

This harvest is a conversion of plantations planted along Route 202 in the town of Pelham. These are essentially fields of red pine trees that were planted after the Quabbin Reservoir was built. Like all monocultures, red pine plantations are more vulnerable than diverse stands because a single species-specific infestation can potentially kill most of the trees in any given location.

That threat has become a reality in the Quabbin region, where entire stands of red pine have already died due to red pine scale. This invasive insect first came to the United States in 1939 on exotic pines planted at the New York World's Fair. The earliest sign of infestation is needle browning, usually on the lower branches, often accompanied by beetle infestation and followed rapidly by mortality. There are no effective treatments of any type (chemical, biological or silvicultural) that would save these plantations.

The goals of this harvest are to remove the red pines before they die, at which point they would become safety hazards that would be expensive and dangerous to remove, and to facilitate the transition from these monocultures to diverse stands of native species. All of the red pines along the highway are being cut in order to prevent the development of a safety hazard as these trees die. In this area there are numerous white pine and hardwood saplings that are expected to grow rapidly after the red pine is removed. The few larger white pines and hardwoods are also being retained, except for a few that have defects that will become more dangerous when they are exposed to wind.

Site Selection

The primary goal of harvesting on the watershed is to create and maintain a forest that is resilient to and can quickly recover from small and large scale disturbances such as diseases, insect infestations, ice storms and hurricanes, all of which are becoming increasingly common. The ideal way to achieve this is to have a diversity of species in various stages of development (seedlings through large legacy trees) that are actively growing and regenerating. This combination of structural and species diversity builds resistance and resilience into the forest.

This harvest will remove red pine plantations that were planted in the first half of the 20th century and are now threatened by red pine scale. The native stands of diverse species that replace these monocultures will be better able to resist and recover from natural disturbances, including invasive insects and diseases.

Silvicultural Objectives

The silvicultural objectives at this site will focus on species diversity and disturbance resiliency. This harvest is almost entirely monoculture red pine plantation. The plantation is adjacent to an oak/hardwood stand and contains pockets of viable white pine regeneration. By removing the monoculture red pine and allowing the present regeneration/seed bank to regenerate the forest the stand will see a large increase in native tree species diversity.

The second goal will be to improve disturbance resiliency of the forest by removing a species that is vulnerable to complete mortality by a known pest, by removing the red pine before it can be killed by the red pine scale (*Matsucoccus resinosae*). Removal of poorly formed white pine will also help improve disturbance resiliency in regards to large storm events. The

poorly formed white pine will be replaced by shorter more vigorous mixed species regeneration. Some of the red pine immediately adjacent to a patch of the invasive Japanese knotweed (*Polygonum cuspidatum*) to reduce spread of the invasive by mechanical harvester.

Cultural Resources

There are interior walls in both stands, and stone walls line the boundaries of the stand by Route 202. There are cellar holes and old foundations near but not within the harvest area. All cultural features are being protected and avoided as much as possible. Existing barways (breaks in walls) are being utilized in order to minimize damage.

Rare or Endangered Species

The lot contains no known rare or endangered species. It is in proximity of mapped vernal pools. Forwarder trails have been routed more than 200 feet around the vernal pools to avoid disturbance and all Massachusetts Best Management Practices will be followed regarding vernal pool protection.

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)

05-26-18A10:59 RCVD

AMENDMENT #1 (6/19)

For DCR Use Only:

File Number	230-9409-18	Case No.	
Date Rec'd	5/26/18	Nat. Hert.	YES 15-29-18
Earliest Start	6/13/18	Nat. Hert. Imp	N
River Basin	CHICOPSEE	Pub. Dr. Wat.	QUABBIN
Gen. Obj.	LT	ACEC	N
		NAT. HER. IMPACT?	N

Location

Town Pelham | Lot 2053

Road Rte. 202 DCR Quabbin Gate 10

Acres 14.5 Proposed Start Date Summer 2018

Vol. MBF 77.4 Vol. Cds. 2 Vol. Tons 18

Plan Preparer

Name Richard MacLean & Herm Eck

Address DCR-DWSP Quabbin Section
485 Ware Road

Town, State, Zip Belchertown, MA 01007

Phone 413 323-6921 x 553

Type of Preparer Mass. Licensed Forester

*Mass. Forester License # 63

*Required for land under Ch61, Ch61A or Forest Stewardship

Landowner

Name DCR-DWSP Quabbin Section

Mailing Address 485 Ware Road
Richard.MacLean@state.ma.us | HEck@state.ma.us

Town, State, Zip Belchertown, MA 01007

Phone (413) 323-6921 x553 | (978) 544-6343

Ch61 ☐ 61A ☐ 61B ☐ Stew ☐ *Case #

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.

Stream Crossings None

Indicate location on map	SC-1			
Type of Crossing	BR			
Existing Structure	No			
Type of Bottom	MU			
Bank Height (ft)	0.5			
Stabilization	HB			

Wetland Crossings No Crossings

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

Filter Strips

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

Harvesting in Wetlands None

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

NHESP review for CVPs
 NO NHESP IMPACT - SEE ATTACHED REVIEW
 AT GATE 10 MOVED TO THE EAST TO DRIEN LOCATION. HAY BALES TO BE INSTALLED FOR EROSION CONTROL

Type of Preparer	Type of Crossing	Stabilization	Mitigation	Type of Bottom	Note:
LF Mass. Lic. For.	CU Culvert	SE Seed	FR Frozen	LE Ledge	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.
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	

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

Figure 1a. Massachusetts Forest Cutting Plan, page 1.

Products to be Harvested*			
Species	Mbf/Cds		Mbf/Cds
White Pine	.2	Red Maple	
Red Pine	76.8	Sugar Maple	
Pitch Pine		Red Oak	.2
Hemlock		Black Oak	.2
Spruce		White Oak	
Other Sftwd.		Other Hdwd.	
White Ash		Total Mbf	77.4
Beech		Cordwood (Cds)	
White Birch		SW Pulp (Tons)	
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.

Cutting Standards				
Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	RP			
Acres	14.5			
Landowner Objective	LT			
Designation of Trees	CT			
Type of Cut	SN			
Source of Regeneration	AD/SE			

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 5-23-18

Determination and Status 230-9409-18

Approved ☒ Disapproved ☐ Expires 5/26/20
Signature of Service Forester/Director's Agent [Signature] Date 6/28/18

Extension 1 ☐ 2 ☐ Expires / Ser. For. Ints. /
Amendment App 1 ☒ Dis 1 ☐ App 2 ☐ Dis 2 ☐ 7th 6/10/19

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 [Signature] Date 8/5/19

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	SE	Natural Seed				
WK	WP/Hem	HH	Hem/Hdwd	RM	Red Maple	LT	Leave Tree	ST	Seed Tree	CC	Clear Cut	NT	Non Com Thin	PL	Plant				
WH	WP/Hdwd	BC	Black Cherry	BE	Beech	SB	Stand Boundary	CC	Clear Cut	SE	Selection	NS	Non-Standard Systems*	CO	Coppice				
WO	WP/Oak	BB	Bee/Bir/Map	SF	Spruce/Fir	OT	Other	SA	Salvage	HG	Highgrade*	DL	Diameter Limit*	DS	Direct Seed				
RP	Red Pine	OH	Oak/Hdwd	SM	Sugar Maple	LT	Long-term Mgt.	SN	Sanitation	DL	Diameter Limit*	OT	Other*	OT	Other				
SR	Red Spruce	OR	N Red Oak	PP	Pitch Pine	ST	Short-term Har.												

*If Other (OT) or a non-standard system is used an explanation must be given on attached narrative page pg 2 of 5

Figure 1b. Massachusetts Forest Cutting Plan, page 2.

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 Quabbin

Town Pelham | Lot 2053

File Number 230-9409-18

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.

FLAGGING: Pink = warning/caution/ stay out | Blue = skid road | Orange & black = filter strip | Pink w/ Orange & black = no equipment FS

Pink 'DO NOT CUT' = tree to be protected. BLUE PAINT: Dot = cordwood or pulp | Three vertical dots = end of sale

Horizontal line = sawlog | Vertical slash = TSI | "X" = cull | Vertical line = skid road

No ruts over 6" allowed, harvester and forwarder required, pole skidding allowed to 55' at forester's discretion. Areas that appear to be soft will
require stabilization as necessary. We request exemption from road buffer basal area requirements to remove potentially hazardous red pine.

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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ST-1		
ST-2		
ST-3		
ST-4		

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

ST-1	
ST-2	
ST-3	
ST-4	

pg 3 of 5

Figure 1c. Massachusetts Forest Cutting Plan, page 3.

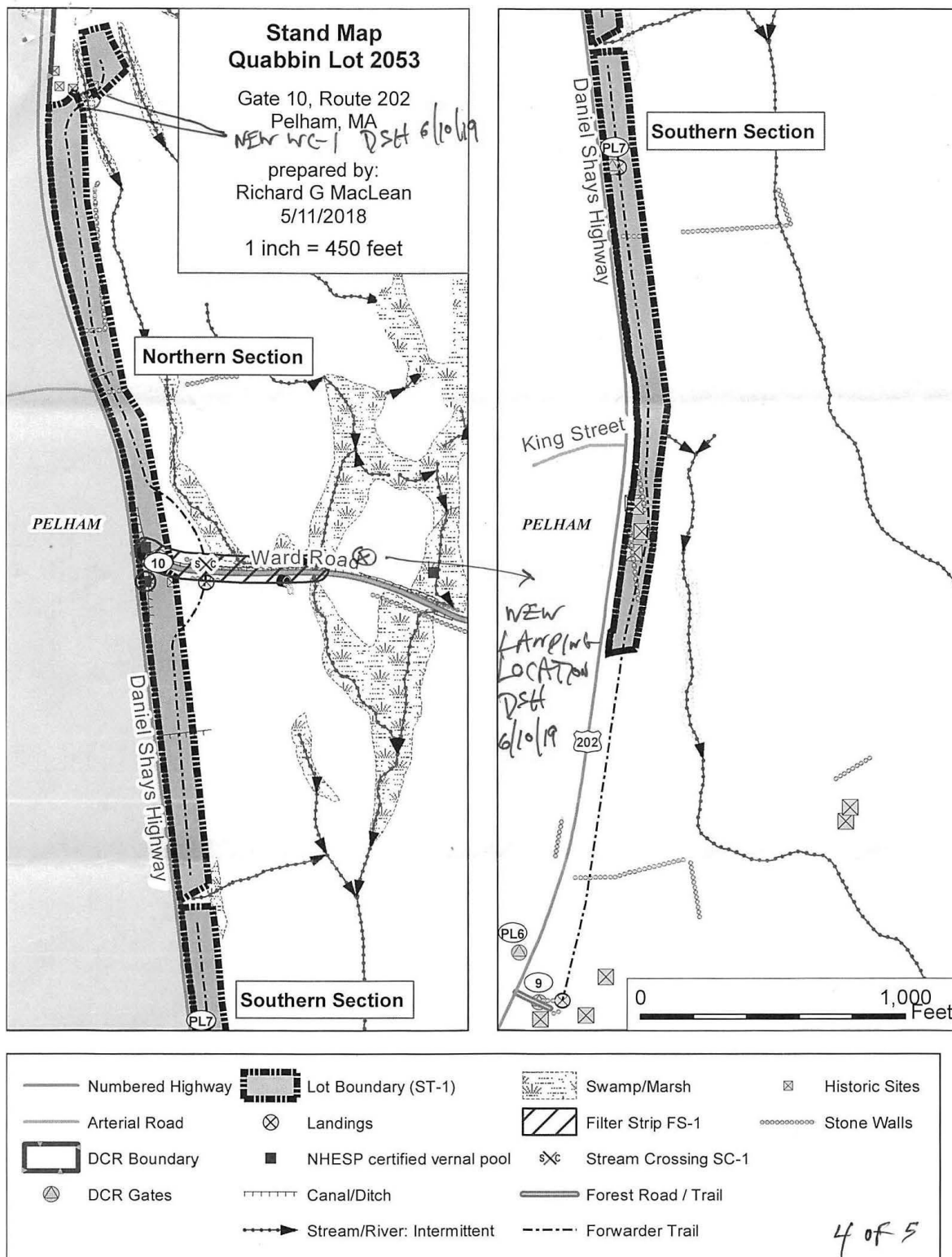


Figure 1d. Massachusetts Forest Cutting Plan, stand map.

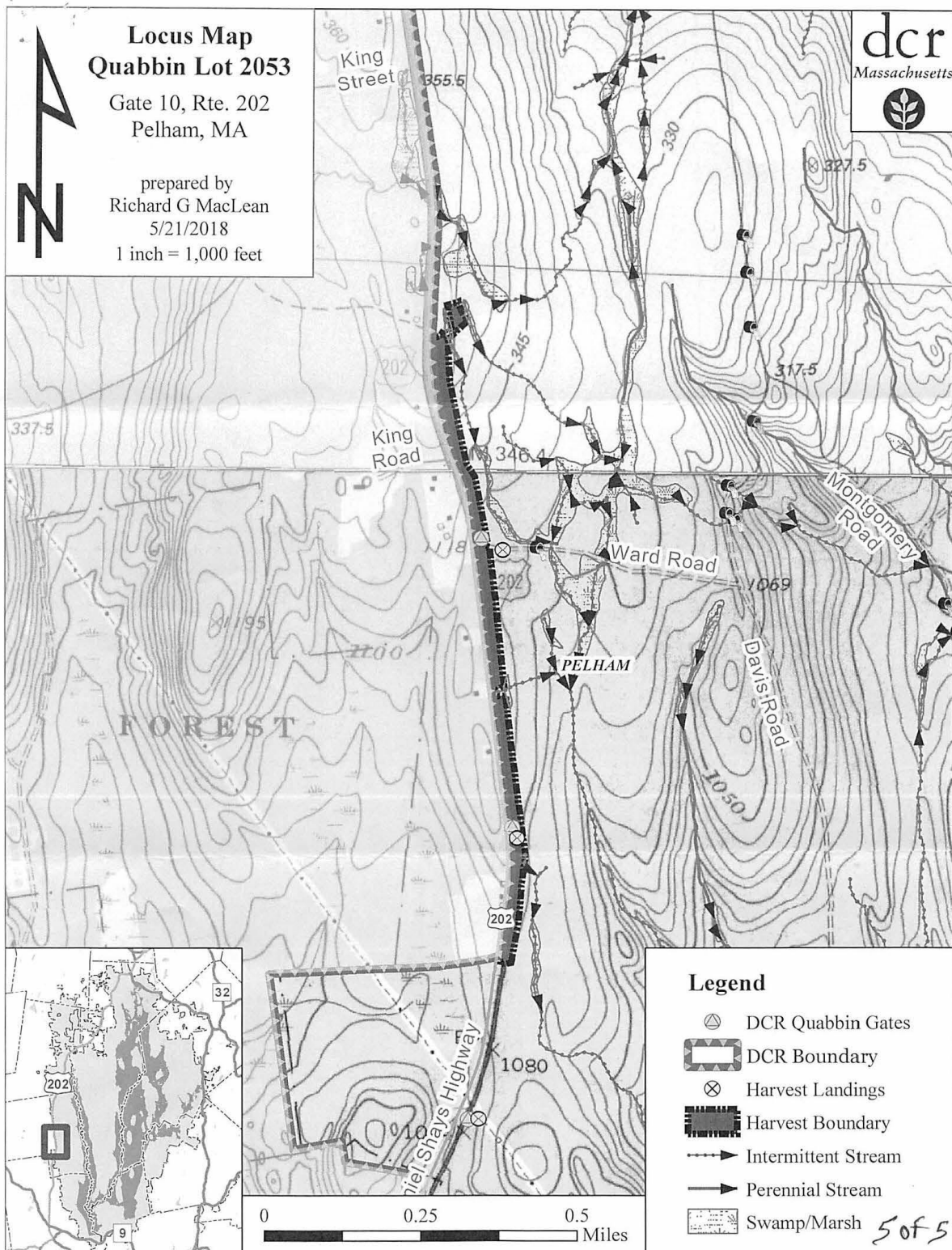


Figure 1e. Massachusetts Forest Cutting Plan, locus map.



**DIVISION OF
FISHERIES & WILDLIFE**

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

Doug Hutcheson
Department of Conservation and Recreation
40 Cold Storage Drive
Amherst, MA 01004

Cutting Plan No. 230-9409-18
NHESP Tracking No. 18-37813
Town Pelham
Road Rt 202, DCR Quabbin Gate 10
Landowner DCR-DWSP Quabbin Section
Preparer Richard MacLean & Herm Eck
Date June 28, 2018

Dear Doug,

The Natural Heritage and Endangered Species Program (NHESP) of the Massachusetts Division of Fisheries and Wildlife ("the Division") has reviewed the above-referenced Forest Cutting Plan ("the Plan") pursuant to the special approval procedures of the Forest Cutting Practices Regulations (304 CMR 11.04(6)). Based on details of the Plan and information in the NHESP database, the Division does not expect activities proposed in the Plan to negatively impact Estimated Habitat or result in **Take** (as defined in 321 CMR 10.02) of plant or animal species protected under the Massachusetts Endangered Species Act (MESA) (M.G.L. c. 131A) and its implementing regulations (321 CMR 10.00). Therefore, the Division does not require that the Plan be modified at this time.

Please copy the Division on any proposed amendment, extension and on the approved Plan for the site. If you have any questions about this letter, please contact Rebekah Zimmerer at (508) 389-6354 or Rebekah.zimmerer@state.ma.us.

Sincerely,

A handwritten signature in black ink that reads "Thomas W. French".

Thomas W. French, Ph.D.
Assistant Director

Cc: Pelham Conservation Commission

MASSWILDLIFE

SA OF 5

Figure 1f. Massachusetts Forest Cutting Plan, review letter from Natural Heritage.

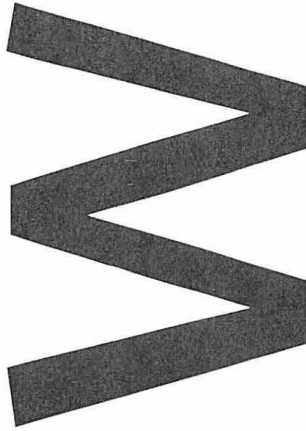
dc



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

FILE #

230.9409.18



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 Quabbin 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 Gate 10 lot. "2053"

Approval Date 6/28/18

Director's Agent Douglas Hutchinson

DCR Phone No. (413) 545-7020

ISSUED BY:

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

Figure 1g. Massachusetts Forest Cutting Plan Certificate.