

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

Project Title: Gays Hill Barrens - Red Pine Plantations

DWSP Harvest Permit Number: 3159

DWSP Proposal ID: NS-22-24_BFA

DCR Forest Cutting Plan File Number: 204-9801-19

Location Information

Watershed: Quabbin

Town(s): New Salem

Acres: 32.2

Nearest Road: Route 122

Natural Heritage Atlas overlap?: Yes

Public Drinking Water Supply Watershed?: Yes

Area of Critical Environmental Concern (ACEC)?: No

Site Information

Forest Types: red pine, white pine-red pine-pitch pine, white pine-hemlock, white pine-hardwoods, oak-hardwoods

Soils: Deerfield loamy sand, 0-8% slopes; Sudbury sandy loam, 3-8% slopes; Hinkley sandy loam and Windsor loamy sand, both 8-15% slopes

Wetland Resources: Blackington Swamp borders the harvest to the north. To the west a pair of small wetlands on either side of the DCR access road are connected by an intermittent stream that goes under the road through an existing culvert. There's a small, isolated wetland adjacent to Route 122 on the south edge of the harvest. All of the above are outside the harvest boundary; the interior of the lot is very dry, with no wetland resources.

Vernal Pools: The isolated wetland along Route 122 is a possible vernal pool.

Harvest Information

Harvest Start Date: : May 7, 2019

Harvest End Date: July 11, 2019

Number of Wetland Crossings: none

Number of Stream Crossings: none (the one on cutting plan was not used)

Best Management Practices Applied

Stream Crossings: Existing culvert crossing on the DCR access road.

Filter Strips: Variable width filter strip on the stream between the wetlands; 50' filter strips on Blackington Swamp and all other wetlands.

Wetland Crossings: n/a

Harvesting in Wetlands: n/a

DWSP Forester supervising this harvest

Name: Helen Johnson

Forester License number: 383

Phone number: (617) 733-2937

Email: Helen.Johnson@mass.gov

Narrative

General Description/Forest Composition/History

Lot 3159 is located between Blackington Swamp and Route 122 in the town of New Salem. The dominant forest types in this area are red pine plantations, mixed pines (red, white and pitch pine), white pine-hardwood, and oak-hardwood. Almost all of the area has excessively drained deep outwash soils, except for the strip adjacent to Blackington Swamp, where soils are moderately to poorly drained. There will be no harvesting and no equipment on the poorly drained soils.

Site Selection

This project is in one of the Barrens Focus Areas (BFAs) designated in the [DCR-DWSP 2017 Land Management Plan](#) (pp. 121-122 and 128-129) for the purpose of restoring pitch pine-oak/heathland habitat. These fire-adapted, disturbance-dependent natural communities are home to a large portion of state-listed declining species, and have been degraded by mesification (increasing dominance of white pine and red maple) due to a century or more of fire suppression and exclusion. This harvest is the first step in the process of barrens restoration.

This portion of the Gays Hill Barrens Focus Area was prioritized for harvesting because it contains three substantial red pine plantations (11.6, 2.5, and 1.4 acres). These near-pure monocultures are at imminent risk of infestation with red pine saw, an invasive insect that is moving rapidly through immediate area and causes 100% mortality within a few years of infestation. If left to die the red pine would create an excessive fuel load, increasing the risk of wildfires, which have occurred on this site in the recent past. By harvesting them before they die we hope to facilitate the transition from monoculture to native forest, while protecting public safety without the expense of removing large numbers of dead trees.

Simultaneous with this harvest, 1.5 acres to the west of the barrens focus area will be cleared for a new gravel pit to replace the adjacent one to the east, which is no longer operable.

Silvicultural Objectives

The primary objective of this harvest is to remove the red pine plantations before they die of red pine scale. All other species associated with barrens mesification will also be removed, including white pine seedlings and saplings in the plantation understories, and the more sparse red maples and other non-oak hardwoods. All pitch pine and oak be retained and protected as much as key species for the future barrens. Slash will be minimized in all areas in order to prepare for future barrens maintenance with prescribed fire, which is expected to stimulate pitch pine regeneration, a resurgence of blueberries, a flush of fire-adapted herbaceous plant species, and the return of barrens-dependent insects and wildlife.

Concurrently with this harvest, the footprint of the new gravel pit will be clearcut. This area is shown on the forest cutting plan, but is being permitted separately as change of use rather than as forest management.

Cultural Resources

None known.

Rare or Endangered Species

The Natural Heritage and Endangered Species Program (NHESP) of the Division of Fisheries and Wildlife has determined that state-listed sensitive species or habitats may exist within the harvest area. To protect them from unnecessary disturbance, detailed information regarding affected species and their locations is not included here. This harvest has been designed in consultation with NHESP in order to enhance habitat for state listed species, as well as to ensure their protection. In order to prevent a Take, NHESP issued restrictions on this project that are incorporated into the Forest Cutting Plan and have been implemented on this harvest from its earliest planning stages.

Forest Cutting Plan

Forest Cutting Plan page 1 of 7

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)

Final 6/19

For DCR Use Only:

File Number	<u>204-9801-19</u>	Case No.	<u>—</u>
Date Rec'd	<u>3/8/19</u>	Nat. Hert.	<u>Yes /</u>
Earliest Start	<u>3/25/19</u>	Nat. Hert. Imp.	<u>Yes</u>
River Basin	<u>Chicopee</u>	Pub. Dr. Wat.	<u>No</u>
Gen. Obj.	<u>LT</u>	ACEC	<u>No</u>

Site Information

Location

Town New Salem **Quabbin Lot 3159**
 Road Route 122
 Acres 32.2 Proposed Start Date March 2019
 Vol. MBF 146 Vol. Cds. 15 Vol. Tons 49

Plan Preparer

Name Helen Johnson
 Address DCR-DWSP Quabbin Section
485 Ware Road
 Town, State, Zip Belchertown, MA 01007
 Phone 617-733-2937 / 413-213-7953
 Type of Preparer Mass. Licensed Forester
 *Mass. Forester License # 383
 *Required for land under Ch61, Ch61A or Forest Stewardship

Landowner

Name DCR-DWSP Quabbin Forestry
 Mailing Address 485 Ware Road
Helen.Johnson@mass.gov
 Town, State, Zip Belchertown, MA 01007
 Phone 617-733-2937 / 413-213-7953
 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.

Best Management Practices

Stream Crossings

Indicate location on map	SC-1	SC-2	SC-3	SC-4
Type of Crossing	CU			
Existing Structure	YES			
Type of Bottom	MU/ST			
Bank Height (ft)	1'			
Stabilization	HB/ST			

Wetland Crossings No 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)	50'	VA	50'	

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

** Heritage Impact - See Attached 3/19 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 Pole	ST Stone		GR Gravel
OT Other	OT Other	HB Hay Bales		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

Products to be Harvested*			
Species	Mbf/Cds		Mbf/Cds
White Pine	6	Red Maple	
Red Pine	140	Sugar Maple	
Pitch Pine		Red Oak	
Hemlock		Black Oak	
Spruce		White Oak	
Other Sftwd.		Other Hdwd.	0.4
White Ash		Total Mbf	146.4
Beech		Cordwood (Cds)	15
White Birch		SW Pulp (Tons)	23
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	WPRP/PP	WH	OH
Acres	15.2	6.8	3.8	3.2
Landowner Objective	LT	LT	LT	ST
Designation of Trees	CT	CT	CT	CT
Type of Cut	CC	SE	SE	SE
Source of Regeneration	AD/SE	AD/SE	AD/SE	SE

ST-5: WK, 3.2 ac., LT, CT, SE, AD/SE.
See attachment for additional info.


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 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 3-7-19

Determination and Status 204-9801-19

Approved Disapproved Expires 3/8/21


Cutting Plan  3/14/19
Signature of Service Forester/Director's Agent Date

Extension Expires 1 Ser. For. Ints. 1

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.

 6-12-19
Signature of Service Forester/Director's Agent Date

Suggest follow up w/ prescribed burn to promote pitch pine cone serotiny & wildlife & pitch pine habitat - ARC

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 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 Quabbin
 Town New Salem
 File Number 204-9801-19

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.

Blue paint: dot on RP = sawlog or pulp based on dbh; dot on other spp. = cordwood / pulp. Horizontal line = scaled sawlog. "X" = cull.

Edge of harvest marked with three dots of orange or blue paint. Skid roads are marked as needed with orange paint and/or blue flagging.

Protect trees marked with pink "Do Not Cut" flagging. Orange flagging = TSI area - all trees <6" dbh to be cut unless flagged Do Not Cut.

"Streamside Management Zone" flagging = 200' vernal pool buffer. Ruts in buffer must be graded to <6", to be done daily during growing season.

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 & understorey



**Stands & Silviculture
Quabbin Lot 3159
March 6, 2019**

The primary objective for this harvest is the removal of red pine in anticipation of probable infection by red pine scale, particularly in areas with pure or near-pure red pine stands. The removal of these monocultures will provide much-needed early successional habitat, which may be maintained as a barrens using prescribed fire. In anticipation of that possible outcome, all white pine of all ages (saplings to sawlogs) will be cut within the largest RP stand (11.6 acres), as designated by orange flagging. Pitch pine and oaks have been favored for retention, where they occur.

The second objective is to clear vegetation from the footprint of a proposed gravel pit, to the west of the existing gravel pit. Since this is change of use, permitting for the pit will be obtained separately from this cutting plan. The proposed gravel pit is shown on the stand map, but is not included in the acreages for this cutting plan.

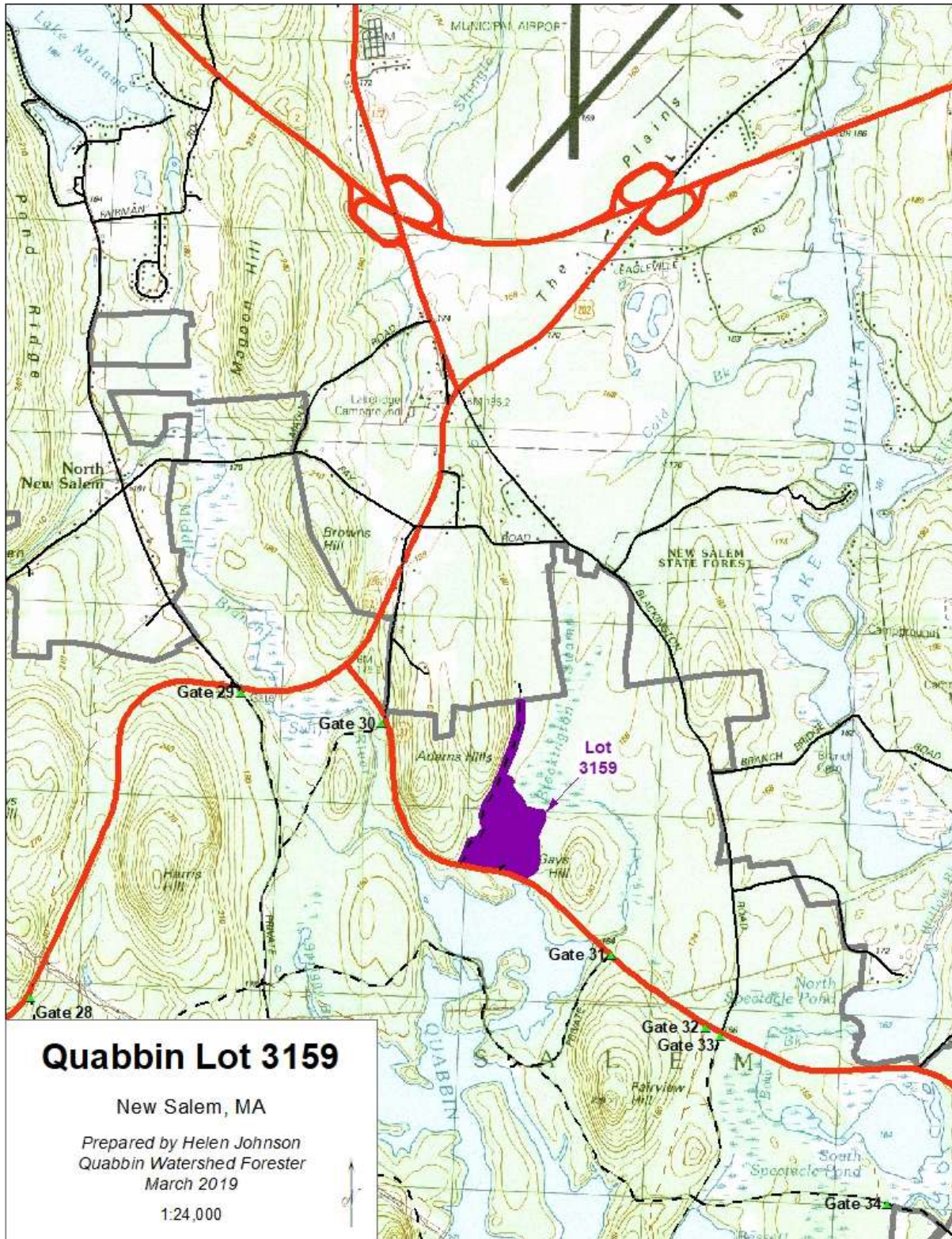
A third objective is to remove trees along the DCR access road that are likely to be at risk of falling in the road due to injuries, weak form or bad health.

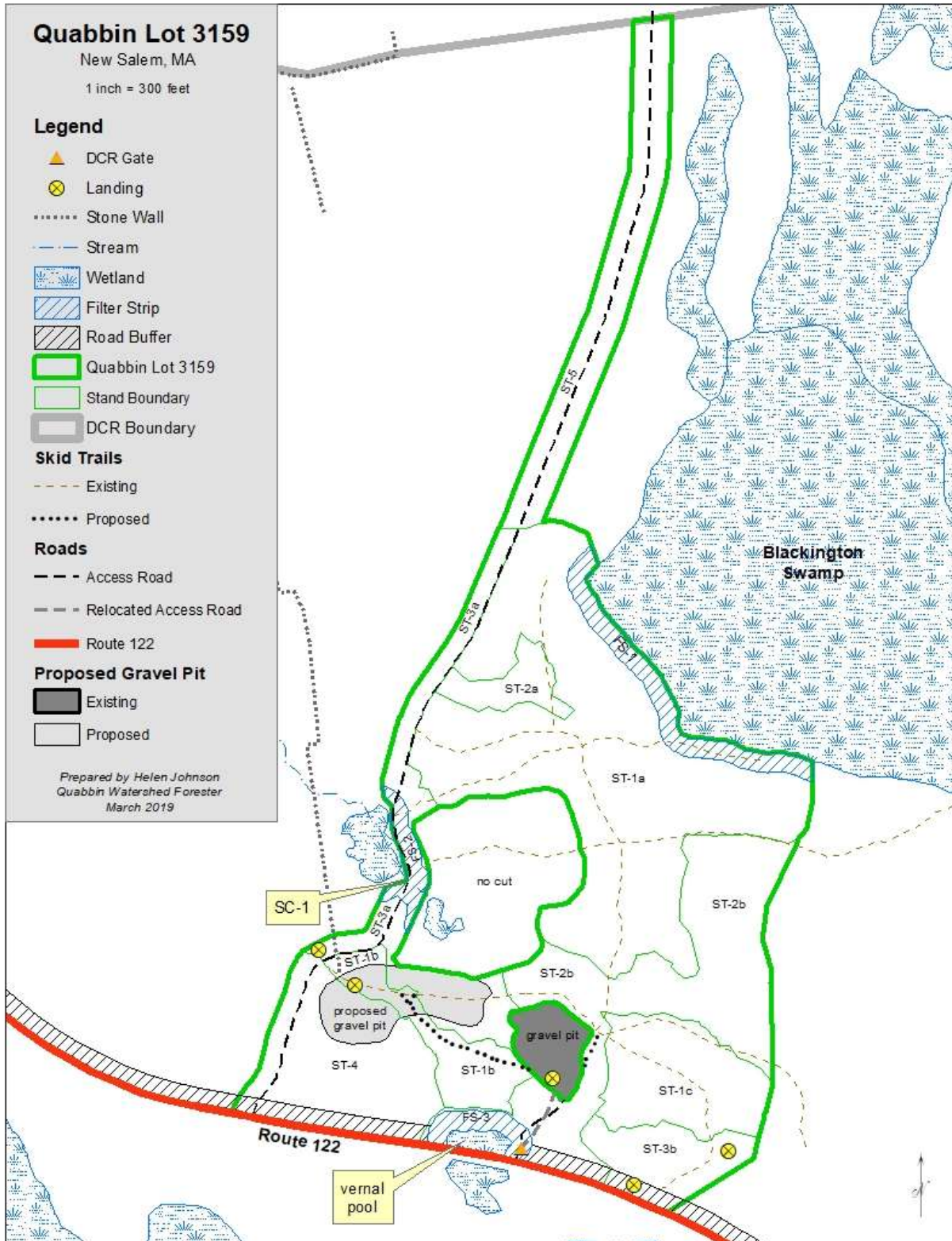
Other areas will be limited to removal of red pine and selective cutting as needed for operational purposes.

A detailed stand list follows:

Stand	Forest Type	Type of Cut	FCP Acres	Proposed Pit Acres	Total Acres	Comments
1a	RP	CC	11.6		11.6	WP saplings to be cut.
1b	RP	CC	1.1	0.3	1.4	Understory removal in pit area.
1c	RP	CC	2.5		2.5	
2a	WP/PP/RP	SE	0.7		0.7	
2b	WP/PP/RP	SE	6.1		6.1	Minimal harvesting in this entry.
3a	WH	SE	2.3	0.6	2.9	Understory removal in pit area.
3b	WH	SE	1.5		1.5	Minimal harvesting in this area.
4	OH	SE	3.2	0.5	3.7	Understory removal in pit area.
5	HK	SE	3.2		3.2	Roadside management.
TOTAL			32.2	1.4	33.6	







dcr



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

FILE # 204.9801.19

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 Quabbin 485 Ware Rd Belcher town, 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 3159 lot.

Approval Date 3/14/19
Director's Agent Andrew Rowcliffe
DCR Phone No. 617-549-1677

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

Photo Series

Photo Point A

Before harvest (May 2019)



After one growing season (August 2020)



After three growing seasons (September 2022)

The green strip through the center is a skid road from the harvest that was reused for implementation of prescribed fire in February 2022.



After five growing seasons (August 2024)



Photo Point B

Before harvest (May 2019)



After one growing season (August 2020)



After three growing seasons (September 2022)



After five growing seasons (August 2024)



Photo Point C

Before harvest (May 2019)

Surprisingly, this dry location on top of a glacial esker has lots of high bush blueberry.



After one growing season (August 2020)

The high bush blueberry is still present and thriving thanks to the extra sunlight.



After three growing seasons (September 2022)



After five growing seasons (August 2024)

