

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

**Project Title: Gate 29 Red Pine**

DWSP Harvest Permit Number: 3152

DWSP Proposal ID: NS-17-19

DCR Forest Cutting Plan File Number: 204-8988-18

***Location Information***

Watershed: Quabbin

Town(s): New Salem

Acres: 29.7

Nearest Road: Route 202

Natural Heritage Atlas overlap?: Yes

Public Drinking Water Supply Watershed?: Yes

Area of Critical Environmental Concern (ACEC)?: No

***Site Information***

Forest Types: red pine and white pine

Soils: Hinckley loamy sand, 3 to 25% slope. Other soil types include Canton fine sandy loam, 3 to 8% slope; Chatfield-Hollis complex, 8 to 15% slope; Gloucester sandy loam, 3 to 8% slope; Newfields fine sandy loam, 3 to 8% slope; and Ninigret very fine sandy loam, 3 to 8% slope.

Wetland Resources: Bordering the lot to the north is the Middle Branch of the Swift River and associated wetlands. To the west there are three wetlands, two of them tiny (under 1/10 acre each) and one a few acres in size; all of these function as vernal pools. To the southwest there's an intermittent stream that ends at a blocked culvert at the southern tip of the lot.

Vernal Pools: This harvest was intentionally laid out to exclude the four nearby vernal pools.

The distance from the vernal pools to cut areas and skid roads ranges from 100 to 385 feet.

***Harvest Information***

Harvest Start Date: November 20, 2017

Harvest End Date: December 21, 2017

Number of Wetland Crossings: none

Number of Stream Crossings: none

***Best Management Practices Applied***

Stream Crossings: n/a

Filter Strips: Variable width filter strips on all streams and the Swift River; 100' filter strip on all wetlands and vernal pools.

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***

This 30 acre harvest in the town of New Salem is located inside DCR-DWSP Gates 29 and 30. The southern boundary of the lot is at the convergence of the access roads leading south from the two gates. The Middle Branch of the Swift River and associated wetlands are outside the harvest boundaries, as are the other wetlands and vernal pools in the vicinity. This is one of the few areas at Quabbin that is open for biking, and it is very popular among walkers and bicyclists alike.

The primary objective of this harvest is to remove red pine plantations before the trees are killed by red pine scale, an invasive insect that is moving swiftly through the region and causes rapid mortality, as has already occurred in other locations at Quabbin. If left to die, these trees would become safety hazards for walkers and bicyclists, as well as for drivers on Route 202. By harvesting them before that happens we are protecting public safety, preventing the expense of removing dead trees, and facilitating the transition from monoculture to diverse native forest. Since the cut trees will be used primarily for durable wood products, an additional benefit is that most of their carbon will be sequestered for decades to come. If left to die, the red pine would release carbon into the atmosphere as they decayed.

Red pine removal accounts for two thirds of the harvest area. The remaining third is in white pine-dominated areas, where the harvest objective is to increase age and species diversity. This is being accomplished through patch cuts of up to one acre, which will result in increased sunlight to the forest floor, enabling new seedlings to become established and existing young trees to continue to grow. The white pines that were selected for cutting are those that have thin crowns and/or weak form due to damage from white pine weevil and/or needle drop fungi.

Most of the trees within the 50 foot aesthetic road buffer on this lot are red pines, which are being cut for public safety reasons, in some locations resulting in harvesting more than 50% of the basal area. However in filter strips around water resources, some red pines are being retained in order to fulfill regulatory requirements, even though they are expected to die. Once dead, they will provide wildlife habitat. Where there are healthy oaks and other hardwoods within cut areas, they are being retained in order to provide as diverse a seed source as possible for the next generation of trees. In addition, most of the white pine seedlings and saplings in the understory will be protected, leaving them in full sun to develop to maturity.

The dominant soil type in this area is Hinckley loamy sand, which is composed of excessively drained sandy and gravelly glaciofluvial deposits derived from gneiss, granite and/or schist. Other soil types that are present include Canton fine sandy loam and Chatfield-Hollis complex, both of which are well drained glacial till soils derived from gneiss and/or schist; Newfields fine sandy loam and Ninigret very fine sandy loam from moderately well drained glacial deposits; and Gloucester sandy loam, from somewhat excessively drained sandy and gravelly supraglacial till.

## ***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 particular location was prioritized for harvest due to the rapidly developing threat from red pine scale. Secondly, there is an opportunity to improve forest health and age class diversity in white pine-dominated areas.

## ***Silvicultural Objectives***

In two thirds of the harvest area, the primary objective is to remove as much red pine as possible before it dies from red pine scale. All red pine will be cut in each of three plantations, ranging from 1.0 to 3.2 acres. In a fourth plantation 1.4 acres in size, all red pine will be removed from a mixed stand of red and white pine. The only red pines that are being retained in any areas are in filter strips, where regulatory requirements limit the number of trees that can be cut.

The remaining third of the harvest area is dominated by white pine. In these areas, the harvest objective is to increase age and species diversity by creating small openings in the forest canopy in order to improve the overall health of the forest and foster diverse regeneration. Opening sizes in these areas range from 0.3 to 0.9 acres. The trees that were selected for cutting had thin crowns and/or weak form due to damage from white pine weevil and/or needle drop fungi. These vulnerable trees will be replaced with vigorous new seedlings. Healthy hardwoods and hemlocks were retained in order to provide diverse sources of seed for future generations of trees.

## ***Cultural Resources***

There's an old cellar hole on the west side of the road to Gate 30, near the intersection with the road to Gate 29. The Quabbin takings sheet shows that there were once two houses in this area, as well as farms near the two gates. There were also two sawmills along the Swift River south of Gate 30, but these are outside the harvest area. Only two short stone walls were found, both in the northwest corner of the lot. All of these cultural features were flagged to alert harvesters to their presence so that they could be avoided.

## ***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 in the Middle Branch of the Swift River and its associated wetlands.

To protect them from unnecessary disturbance, detailed information regarding affected species and their locations is not included here. DWSP has coordinated with NHESP to gather recommendations to protect these species during the harvest. NHESP has reviewed the Forest Cutting Plan for this lot and determined that,

“Based on details of the Plan and information in the NHESP database, the Division [of Fisheries and Wildlife] 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).”

**Forest Cutting Plan**

**Forest Cutting Plan page 1 of 8**

**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 204-8988-18 Case No. \_\_\_\_\_  
Date Rec'd 8/23/17 Nat. Hert. yes  
Earliest Start 9/8/17 Nat. Hert. Imp. NO  
River Basin Chicopee Pub. Dr. Wat. Quabbin  
Gen. Obj. LT ACEC NO

02-13-17 P02115 R04

**FINAL**

Site Information

**Location**

Town New Salem LOT 3152 (Gates 29 & 30)  
Road Route 202 (Quabbin Gate 29)  
Acres 30 Proposed Start Date Fall 2017  
Vol. MBF 180.5 Vol. Cds. 12 Vol. Tons 71

**Plan Preparer**

Name Helen Johnson & Richard MacLean  
Address DCR-DWSP Quabbin Section  
485 Ware Road  
Town, State, Zip Belchertown, MA 01007  
Phone 978-544-6343  
Type of Preparer Mass. Licensed Forester  
\*Mass. Forester License # 383  
\*Required for land under Ch61, Ch61A or Forest Stewardship

**Landowner**

Name DCR-DWSP Quabbin Section  
Mailing Address 485 Ware Road  
Helen.Johnson@state.ma.us/Richard.MacLean@state.ma.us  
Town, State, Zip Belchertown, MA 01007  
Phone HJ: 978-544-6343 RM: 413-323-6921, ext. 553  
Ch61  61A  61B  Stew  \*Case # \_\_\_\_\_  
CR  CR Holder \_\_\_\_\_

**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**

No 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**

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	Wetland	Wetland	Stream	Stream
	FS-1	FS-2	FS-3	FS-4
Width (50', 100', or VA)	100	100	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**

# Heavy presence of Buckthorn along all roadways and filter strips. RE 9/7/17

Codes

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 Muleh	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

Products to be Harvested*			
Species	Mbf/Cds		Mbf/Cds
White Pine	41.2	Red Maple	
Red Pine	139.3	Sugar Maple	
Pitch Pine		Red Oak	
Hemlock		Black Oak	
Spruce		White Oak	
Other Sflwd.		Other Hdwd.	
White Ash		<b>Total Mbf</b>	<b>180.5</b>
Beech		<b>Cordwood (Cds)</b>	<b>12</b>
White Birch		<b>SW Pulp (Tons)</b>	<b>71</b>
B & Y Birch		<b>HW Pulp (Tons)</b>	
Black Cherry		<b>Chips (Tons)</b>	

\*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	WP	WP/RP	
Acres	10.7	16.6	2.7	
Landowner Objective	LT	LT	LT	
Designation of Trees	CT	CT	CT	
Type of Cut	SE	SE	SA	
Source of Regeneration	AD/SE	AD/SE	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.

Eric Chulavara 8-21-17  
 Signature of landowner(s) Date

Determination and Status <u>204-8988-18</u>				Final Report and Comments	
Approved	Disapproved	Expires	I hereby certify that the afore described Forest Cutting Plan and all relevant statutes have been substantially complied with.		
Cutting Plan <input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>8/23/19</u>	<u>Eric Chulavara</u> <u>1-22-18</u> Signature of Service Forester/Director's Agent Date		
Signature of Service Forester/Director's Agent <u>[Signature]</u>		Date <u>9/7/17</u>			
Extension	Expires	Ser. For. Ints.	_____		
<input type="checkbox"/>	<input type="checkbox"/>	_____	_____		
Amendment	App 1	Dis 1	App 2	Dis 2	_____
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Codes		Forest Types		Designation of Trees		Type of Cut		Source of Regeneration	
WP	White Pine	HK	Hemlock	OM	Mixed Oak	CT	Cut Tree	SH	Shelterwood
WK	WP/Hem	HH	Hem/Hdwd	RM	Red Maple	LT	Leave Tree	SI	Seed Tree
WH	WP/Hdwd	BC	Blk Cherry	BF	Beech	SB	Stand Boundary	CC	Clear Cut
WO	WP/Oak	BB	Bee/Bir/Map	SF	Spruce/Fir	OT	Other	SE	Selection
RP	Red Pine	OH	Oak/Hdwd	SM	Sugar Maple	Landowner Objective		SA	Salvage
SR	Red Spruce	OR	N Red Oak	PP	Pitch Pine	LT	Long-term Mgt	SN	Sanitation
						ST	Short-term Har		

**Intermediate Harvests:** AD Advanced, CT Commercial Thin, SE Natural Seed  
**Non-Standard Systems:** NT Non Com Thin, PL Plant, CO Coppice, HG Highgrade\*, DS Direct Seed, DI Diameter Limit\*, OT Other\*

\*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 204-8988-18

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.

Blue Paint: dot = cordwood or pulp; horizontal line = sawlog; vertical/diagonal line = TSI; "X" = cull; three dots = harvest boundary.

Solid orange flags = edge of group (save trees). Orange "Streamside Management Zone" or "SMZ" flags = filter strip.

Pink "Do Not Cut" flagging = trees to be protected. Solid pink flagging = cultural features to be protected.

Pink "Wetland Delineation" flagging = stream channel or edge of wetland (no equipment and no cutting in these areas).

Blue flagging OR Yellow "Skid Trail" flagging = skidder/forwarder trails. Combined pink, blue and orange flagging = landing.

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

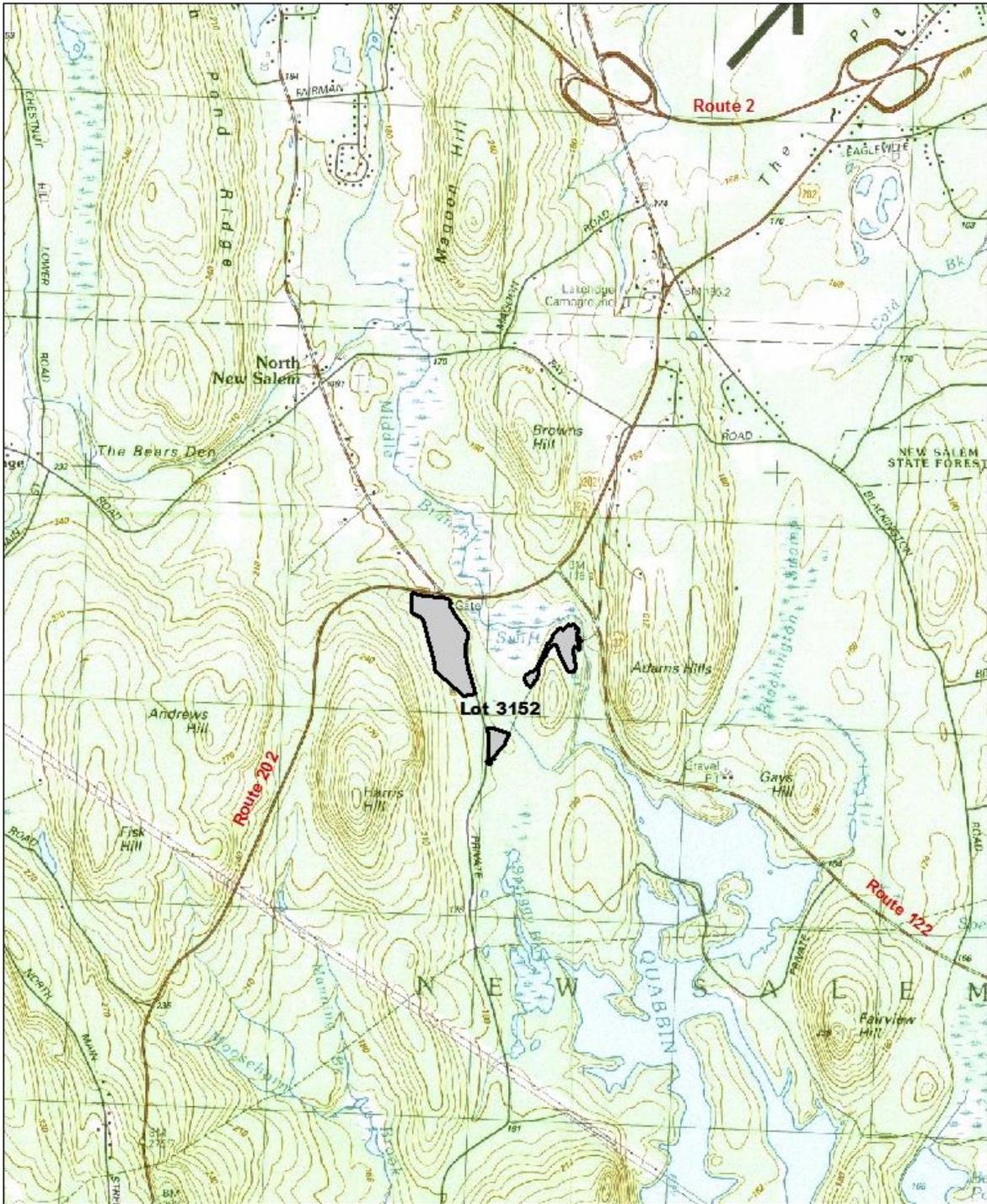
Regeneration & Future Condition

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

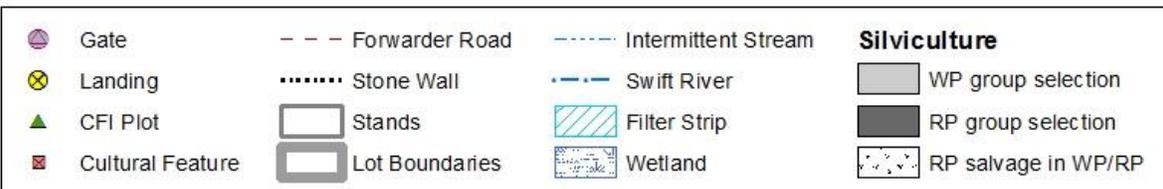
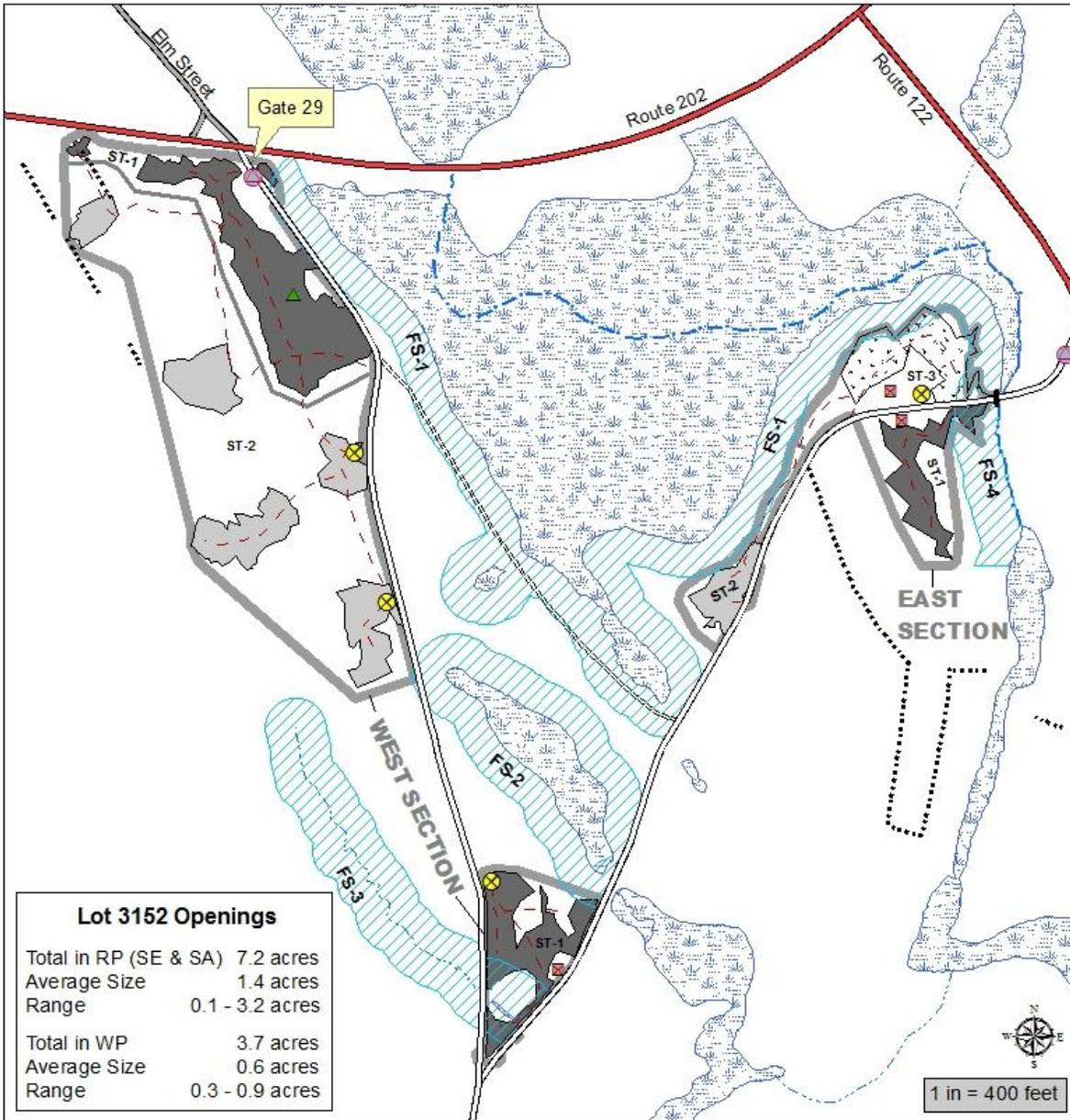
Stand No. **Desired Future Condition**  
 Describe what the stand is expected to look like five years from the harvest, including the condition of the overstory & understory

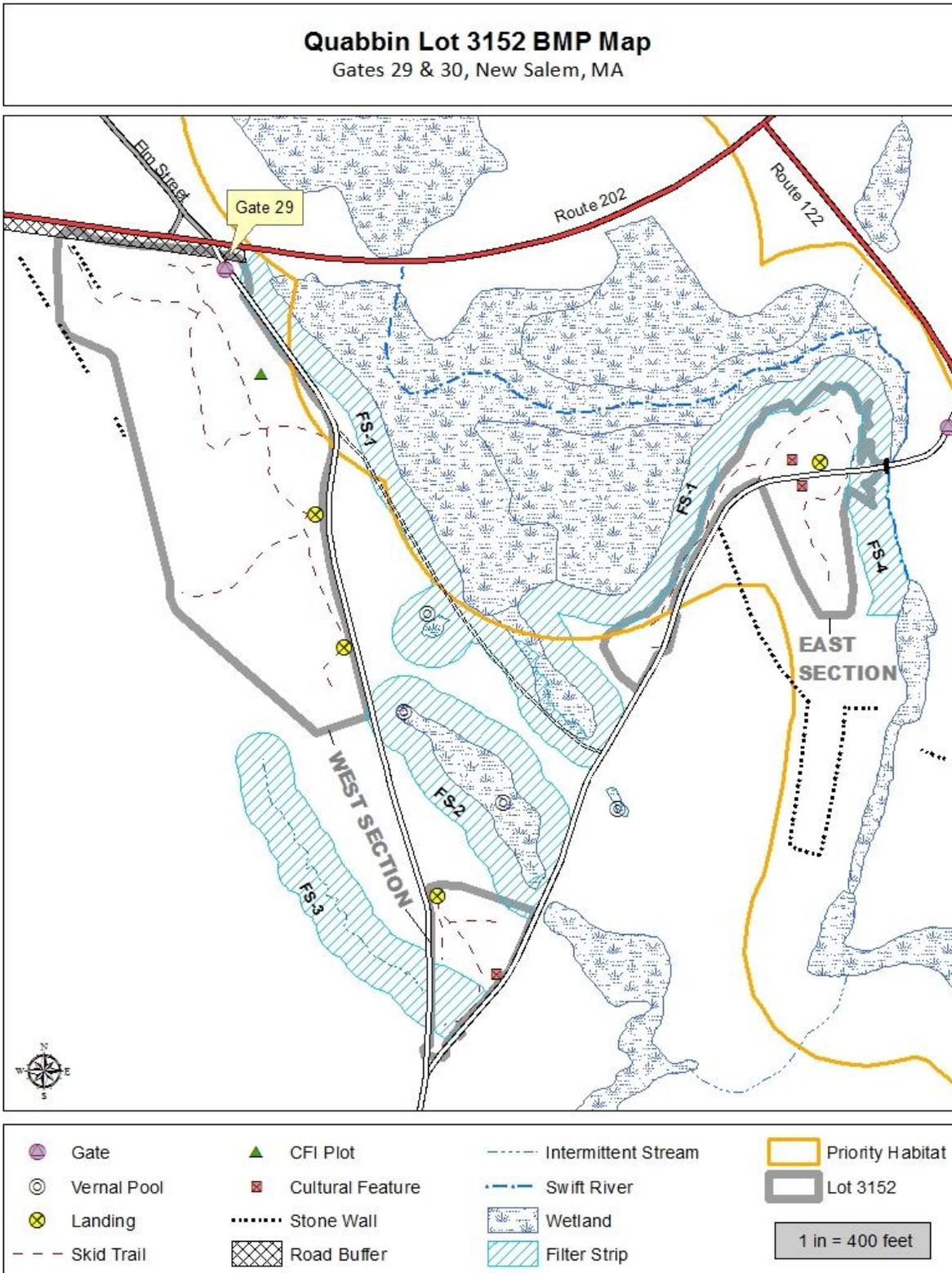

**Quabbin Lot 3152 Locus Map**  
Gates 29 & 30, New Salem, MA  
1:24,000



### Quabbin Lot 3152 Silviculture & Stands

Gates 29 & 30, New Salem, MA







**DIVISION OF  
FISHERIES & WILDLIFE**

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

Jack Buckley, *Director*

Fletcher Clark - Department of Conservation and Recreation  
40 Cold Storage Drive  
P.O. Box 484  
Amherst, MA 01004

Cutting Plan No. 081-8965-18  
NHESP Tracking No. 17-37077  
Town New Salem  
Road Route 202 (Gate 29)  
Landowner DCR-DWSP Quabbin  
Preparer Helen Johnson & Richard Maclean  
Date September 6, 2017

Dear Fletcher,

The Natural Heritage and Endangered Species Program ("the 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 David Paulson at (508) 389-6366 or david.paulson@state.ma.us.

Sincerely,

A handwritten signature in cursive script that reads "Thomas W. French".

Thomas W. French, Ph.D.  
Assistant Director

Cc: New Salem Conservation Commission (Via Email)

**MASSWILDLIFE**

dcr



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

FILE # 204-8988-18

# 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 DCE-DWSP 485 Ware Rd, Belchertown, MA in accordance with the  
(Name of Owner) (Address)

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

Gate 29130 / "3152" lot.

Approval Date 9/7/17

Director's Agent Fletcher Clark

DCR Phone No. (413) 262-2367

ISSUED BY:

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