

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

Project Title: Gate 25 HWA

DWSP Harvest Permit Number: 3139

DWSP Proposal ID: NS-15-12

DCR Forest Cutting Plan File Number: 204-7780-16

Location Information

Watershed: Quabbin

Town(s): New Salem

Acres: 22.6

Nearest Road: South Main Street

Natural Heritage Atlas overlap?: Yes

Public Drinking Water Supply Watershed?: Yes

Area of Critical Environmental Concern (ACEC)?: No

Site Information

Forest Types: hemlock-hardwood and mixed oak

Soils: Canton-Chatfield-Hollis complex and Chatfield-Hollis complex, rocky

Wetland Resources: None within harvest area. Two small wetlands connected by an intermittent stream are about 100 feet to the east.

Vernal Pools: Both wetlands to the east are DWSP verified vernal pools.

Harvest Information

Harvest Start Date: December 23, 2015

Harvest End Date: May 10, 2016

Number of Wetland Crossings: none

Number of Stream Crossings: none

Best Management Practices Applied

Stream Crossings: not applicable

Filter Strips: Variable width filter strip on stream and 100 foot filter strips for the vernal pools/wetlands to the west of the harvest area.

Wetland Crossings: not applicable

Harvesting in Wetlands: not applicable

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

The area to be harvested is in the town of New Salem at the south end of South Main Street, just inside DCR Gate 25. To the east are two wetlands connected by an intermittent stream that continues south into an extended stream-wetland complex. To the west are steep slopes leading down to the Gate 24 access road, and beyond that, Hop Brook. To the south is a stone wall, which indicates that this area was probably cleared for agriculture in the 18th and 19th centuries.

The area to be cut is dominated by hemlock that is rapidly failing due to a combination of hemlock pests (hemlock woolly adelgid, hemlock elongate scale, hemlock looper). Black birch and oaks are the primary associated hardwoods in the overstory, along with a minor component of white pine. Hemlock decreases and mixed oaks become dominant towards the south end of the lot.

The forest floor is almost completely bare in the areas with dense hemlock, save occasional small patches of mountain laurel and hemlock seedlings growing in old skid roads. Areas with less hemlock in the overstory tend to have more regeneration in the sapling-pole size classes, but still very few tree seedlings.

The soils on this lot are primarily Canton-Chatfield-Hollis complex and Chatfield-Hollis complex. These are well drained glacial till soils derived from schist and gneiss. There is some exposed bedrock at the south end of the lot.

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.

On this particular lot, if the hemlock were left to die on their own, research and experience have shown that they would likely be replaced by a near monoculture of black birch. Hence, one of the primary goals of this harvest is to improve the species diversity of the next generation of trees. A secondary goal is to reduce the number of hazard trees along the road, which gets frequent recreational use.

Silvicultural Objectives

This harvest focuses on removal of the overstory in small groups, up to ½ acre in size, in order to foster regeneration. Groups were placed where there were clusters of trees that were declining or had weak stem form, with a preference for cutting declining hemlocks. These vulnerable trees will be replaced with vigorous new seedlings. Wherever possible wildlife

habitat features were maintained and protected, such as snags (dead trees) and trees with cavities or raptors' nests. The full diversity of existing native tree species is being maintained and promoted. Relatively healthy hemlocks have also been retained in the hope that this species might recover, although this appears unlikely on this site due to the rapid rate of decline.

Cultural Resources

A stone wall borders the south end of the lot, and there are deteriorating walls along the access road. These walls will be avoided and protected during the harvest. 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 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. NHESP 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 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

Amendment: Add West boundary

For DCR Use Only:

File Number	24-2780-16	Case No.	
Date Rec'd	8/28/2015	Nat. Hert.	YES / NO
Earliest Start	9/14/2015	Nat. Hert. Imp.	NO
River Basin	Chicopee	Pub. Dr. Wat.	Quabbin
Gen. Obj.	LT	ACEC	NO

Site Information

Location

Town New Salem **LOT 3139**
 Road South Main Street
 Acres 22.6 Proposed Start Date Sept. 2015
 Vol. MBF 53.8 Vol. Cds. 53 Vol. Tons 54

Plan Preparer

Name Helen Johnson
 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
 Town, State, Zip Belchertown, MA 01007
 Phone 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.

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

* Actual width of vernal pool filter strips = 100 feet

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

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 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

LOT 3139

Products to be Harvested*			
Species	Mbf/Cds		Mbf/Cds
White Pine		Red Maple	
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	7.8
Hemlock	38.7	Black Oak	1.5
Spruce		White Oak	0.8
Other Sftwd.		Other Hdwd.	0.6
White Ash		Total Mbf	53.8
Beech		Cordwood (Cds)	53
White Birch		SW Pulp (Tons)	54
B & Y Birch	4.4	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	HH	OM		
Acres	16.0	6.6		
Landowner Objective	LT	LT		
Designation of Trees	CT	CT		
Type of Cut	SE*	SE*		
Source of Regeneration	AD/SE	AD/SE		

* Small group and single tree selection, with groups up to 1/2 acre.

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]
 Signature of landowner(s)

8-25-15
 Date

Determination and Status				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"/>	8/28/2017	<i>[Signature]</i>		
<i>[Signature]</i>			5/11/16		
Signature of Service Forester/Director's Agent			Signature of Service Forester/Director's Agent		
Date			Date		
Extension	1 <input type="checkbox"/>	2 <input type="checkbox"/>	Expires	Ser. For. Ints.	
Amendment	App 1 <input checked="" type="checkbox"/>	Dis 1 <input type="checkbox"/>	App 2 <input type="checkbox"/>	Dis 2 <input type="checkbox"/>	
<i>[Signature]</i>			FE		

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

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 _____

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 "Do Not Cut" = trees to be protected

Blue = 200 foot vernal pool buffer - ruts to be graded to <6" daily during growing season (no skid roads within 100 feet of VPs)

Orange = edge of group

BLUE PAINT: Dot = cordwood / pulp; horizontal line = sawlog; diagonal line = low value sawlog; vertical line = TSI; "X" = cull

Edge of harvest marked with three blue dots of paint and/or pink "Timber Harvest Boundary" flagging.

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.

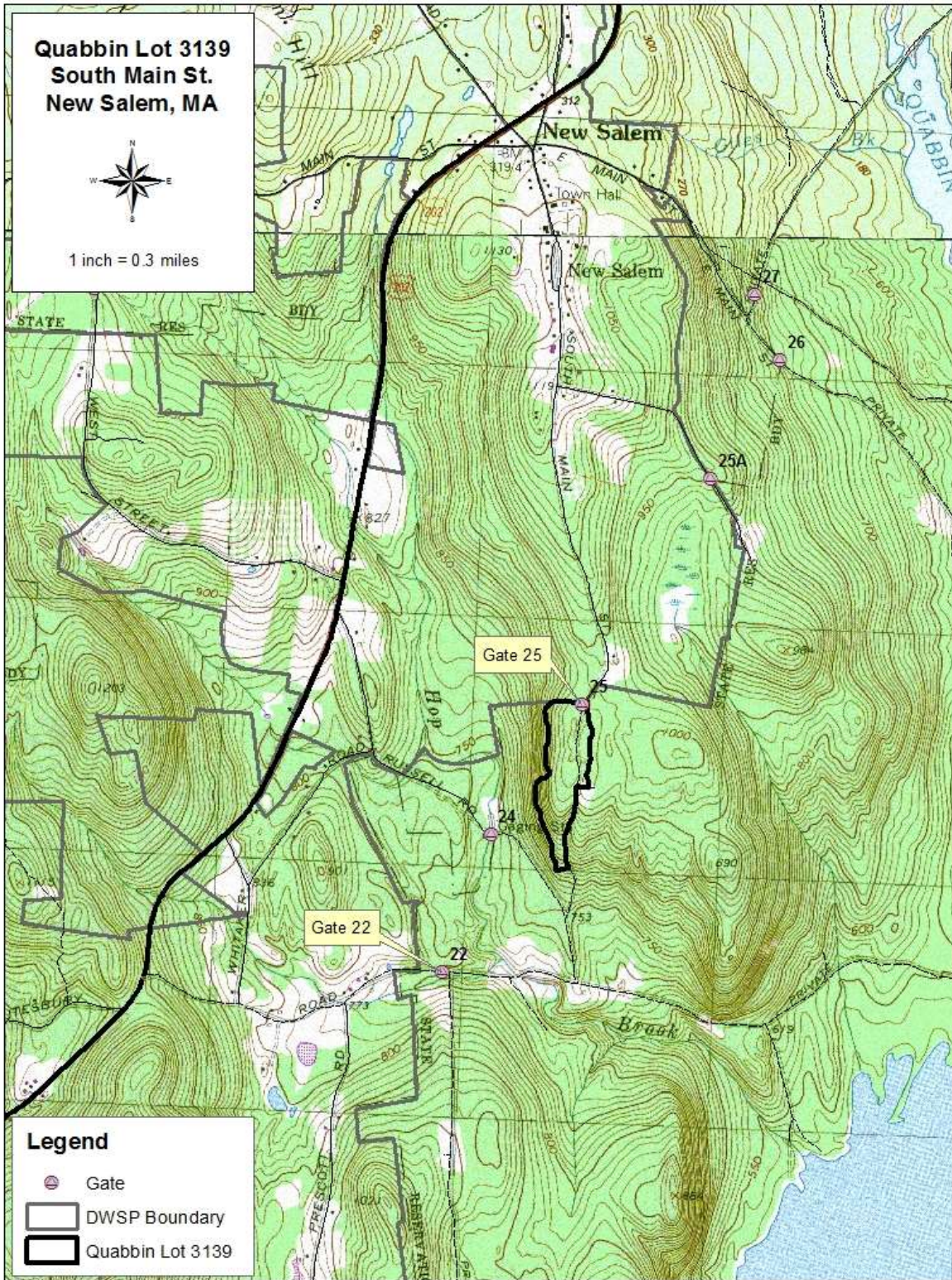
Stand No.	Species to be Cut	Size of Trees to be Cut	Quality of Trees to be Cut	% BA/Acre Removed
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

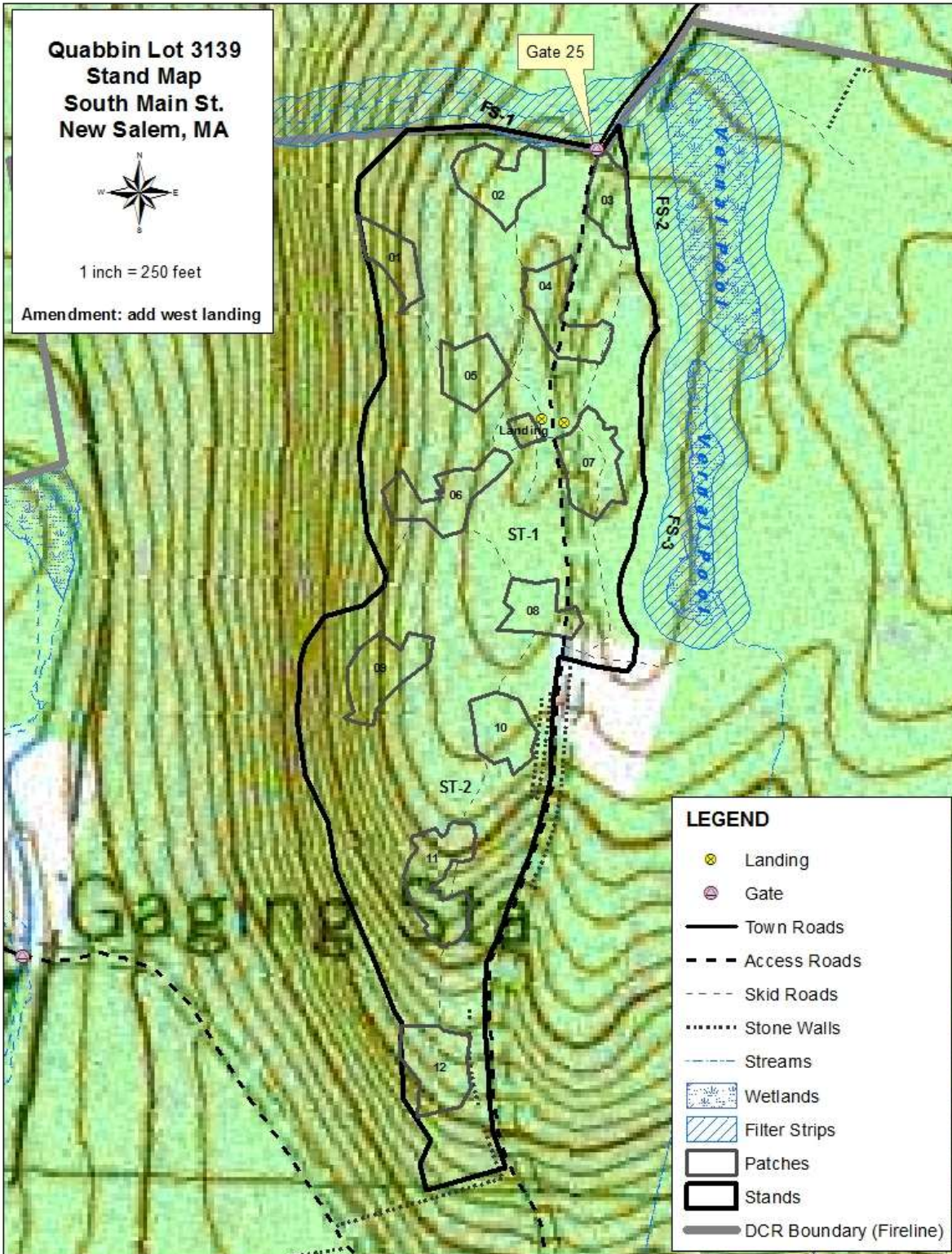
Regeneration & Future Condition

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





Commonwealth of Massachusetts



Division of Fisheries & Wildlife

Jack Buckley, *Director*

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

Cutting Plan No. 204-7780-16
NHESP Tracking No. 15-34795
Town New Salem
Road South Main Street
Landowner DCR-DWSP
Preparer Helen Johnson
Date September 18, 2015

Dear Fletcher,

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 (hereinafter "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 Brent Powers at (508) 389-6354.

Sincerely,

Thomas W. French, Ph.D.
Assistant Director

Cc: New Salem Conservation Commission (via e-mail)



dcr



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

FILE # 204-7780-16

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 Belchertown MA 01007 in accordance with the
(Name of Owner) (Address)

provision of M.G.L. Chapter 132, Section 40-46, filed in Amherst Field Office with the Dept. of Conservation
and Recreation, Division of State Parks and Recreation, a Notice of Intent to cut forest products upon the

South Main St. lot. #3139

Approval Date 9/18/2015

Director's Agent Fletcher Clark

DCR Phone No. 413-262-7367

ISSUED BY:

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

Photo Series

Photo Point A

East side of access road, before harvest (December 2015)



East side of access road, immediately after harvest (June 2016)



East side of access road, after one growing season (August 2017)



After three growing seasons (August 2019)



Photo Point B

West side of access road, before harvest (December 2015)



West side of access road, immediately after harvest (June 2016)



West side of access road, after one growing season (August 2017)



After three growing seasons (August 2019)



Photo Point C

South of the fire line, before harvest (December 2015)



South of the fire line, immediately after harvest (June 2016)



South of the fire line, after one growing season (August 2017)



After three growing seasons (August 2019)

