

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

Project Title: Camel Brook South

DWSP Harvest Permit Number: 2058
DWSP Proposal ID: PE-19-15-01
DCR Forest Cutting Plan File Number: 272.32388.21

Site Information

Watershed: Quabbin	Town(s): Shutesbury
Acres: 28	Nearest Road: Cornwell Rd
Natural Heritage Atlas overlap?: No	Public Drinking Water Supply Watershed?: Yes
Forest Types: White Pine/Oak, White Pine/ Hemlock	ACEC?: No
Soils: Well drained Montauk fine sandy loam with small areas in excessively well drained Windsor and Merrimac soils and Hinckley sandy loam.	
Wetland Resources: No	
Vernal Pools: None known	

Harvest Information

Harvest Start Date: 7/20/2021	Harvest End Date: 12/09/2021
Number of Wetland Crossings: None	Number of Stream Crossings: None

Best Management Practices Applied

Stream Crossings	No Crossings
Filter Strips	A variable width filter strip on Camel Brook as the lot nears it.
Wetland Crossings	None
Harvesting in Wetlands	None

DWSP Forester supervising this harvest
Name: Richard MacLean Herm Eck
Forester License #: 63 (Eck)
Phone #: 857-263-0211 (MacLean)
Email: richard.maclean@mass.gov

NARRATIVE

General Description/Forest Composition/History:

Lot 2058 is situated on the eastern facing slopes between Camel Brook and Rte. 202 in Shutesbury. The lot covers 28 acres and is comprised of, in order of area, white pine / oak, white pine / hemlock, white pine, and red pine stands. The white pine / oak stand is 15.7 acres and covers the eastern edge to the middle slope of the lot and is growing on both the well drained Montauk fine sandy loam, as well as the excessively well drained Windsor and Merrimac and Hinckley sandy loam. Eastern white pine is the overwhelming majority of the canopy, with northern red oak a secondary canopy dominant, and hemlock and mixed birch and red maple a minor canopy/understory component. The white pine / hemlock stand exists in the northwest corner on the upper slopes of the lot, entirely in the Montauk fine sandy loam. Here where hemlock is a larger component more dead hemlock snags are present, and there was abundant sign of hemlock woolly adelgid (HWA) in the canopy of the living hemlock. The white pine stand is a regenerating stand from a red pine removal harvest in 2002, only minor harvesting will occur in this stand related to use of existing forwarder trails. Finally, the small red pine stand are present adjacent to Rte 202. This stand is in rapid decline due to red pine scale and much of the canopy dominant red pine is already dead. There is a diversity of advanced regeneration present, including sugar maple, which will be released and protected by the removal of the red pine, as well as a reduction of public hazard by the proximity of the dead red pine to the highway.

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. With climate change we expect to see a range of disturbances such as diseases, insect infestations, ice storms and hurricanes becoming increasingly common. The ideal way to achieve such resiliency is to foster a forest diverse in species of 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.

Lot 2058 was chosen because of its maturing even aged structure, presence of advanced regeneration, and dead and dying canopy dominant hemlock trees due to infestation by hemlock woolly adelgid (HWA). Harvesting in a site with low age diversity will help accomplish DWSP goals of increasing age diversity, and expanding natural gaps made by dying hemlock will increase in the likelihood of higher species diversity in the responding regeneration.

Silvicultural Objectives:

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. With climate change we expect to see a range of disturbances such as diseases, insect infestations, ice storms and hurricanes becoming increasingly common. The ideal way to achieve such resiliency is to foster a forest diverse in species of 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 lot is mostly composed of even aged white pine / oak and white pine hemlock. The primary objective of this lot will be to increase the age diversity of the lot by regenerating new acreage and recruiting a new age class. In 15 years a second entry into the area will create a third age class. Secondly, openings and retention trees were chosen to release existing regeneration and then maximize the likelihood of increasing species diversity. In particular openings were focused around canopy dominant hemlocks recently killed by hemlock wooly adelgid (HWA) with the goal of reducing current patterns of black birch dominance under HWA killed hemlock. Near Rte. 202 sanitation cutting of dead and dying red pine will reduce public safety hazards associated with the highway.

Retention stems were chosen to focus on large, healthy, canopy dominant individuals representing a diversity of species. Larger openings also feature girdled trees retained as future snags for wildlife habitat, carbon storage, and other ecosystem services while not casting canopy shade which could impede or alter regeneration response. Forwarder trails were laid out to take advantage of existing trails, or to maximize their utility in a future second entry.

Cultural Resources:

This lot contains stone walls and foundations, primarily on the southern edge near Rte. 202. Existing barways are being utilized for skid roads where possible and the foundation will be protected. Any unmapped or currently unknown cultural resources found during the harvest will be flagged, protected and DCR archaeology will be notified.

Rare or Endangered Species:

No known rare or endangered species are present. No known vernal pools are present. If any rare or endangered species or habitat of interest is identified during the harvest it will be protected and Natural Resources will be notified of its presence.

FIGURES

Figure 1a. Forest Cutting Plan pg 3 (first page of submitted information)

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 _____ Case No. _____
Date Rec'd _____ Nat. Hert. _____
Earliest Start _____ Pub. Dr. Wat. _____
River Basin _____ ACEC _____
Gen. Obj. _____

Site Information

Location

Town Shutesbury (Quabbin Lot 2058)
Road Cornwell Rd
Acres 28 Proposed Start Date 6/22/2021
Vol. MBF 95 Vol. Cds. 53 Vol. Tons 157

Plan Preparer

Name Richard G MacLean & Herm Eck
Address 485 Ware Rd

Town, State, Zip Belchertown, MA 01007
Phone (413) 213-7950
Type of Preparer Licensed Forester (Eck)
*Mass. Forester License # 63
*Required for land under Ch61, Ch61A or Forest Stewardship

Landowner

Name DCR DWSP Quabbin Ware River Region
Mailing Address 485 Ware Rd

Town, State, Zip Belchertown, MA 01007
Phone 413-213-7918
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)	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

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. 4.

Products to be Harvested*			
Species	Mbf/Cds		Mbf/Cds
White Pine	52.3	Red Maple	0.9
Red Pine	8.2	Sugar Maple	
Pitch Pine		Red Oak	3.8
Hemlock	23.5	Black Oak	
Spruce		White Oak	
Other Sftwd.		Other Hdwd.	1.9
White Ash		Total Mbf	94.8
Beech		Cordwood (Cds)	53
White Birch		SW Pulp (Tons)	157
B & Y Birch	4.2	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	WK	WP	RP
Acres	15.7	8.6	2.7	0.9
Landowner Objective	LT	LT	LT	LT
Designation of Trees	CT	CT	CT	CT
Type of Cut	SE	SE	NT	SN
Source of Regeneration	AD	AD	AD	AD

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.

Dan Clark
 Digitally signed by Dan Clark
 Date: 2021.06.07 08:36:33 -0400

Signature of landowner(s) _____ Date 6/7/2021

Determination and Status

Approved ☐ Disapproved ☐ Expires _____

Cutting Plan ☐ _____

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

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

Figure 1c. Forest Cutting Plan pg. 4 (with service forester signature).

Products to be Harvested*			
Species	Mbf/Cds		Mbf/Cds
White Pine	52.300	Red Maple	0.900
Red Pine	8.200	Sugar Maple	
Pitch Pine		Red Oak	3.800
Hemlock	23.500	Black Oak	
Spruce		White Oak	
Other Sftwd.		Other Hdwd.	1.900
White Ash		Total Mbf	94.800
Beech		Cordwood (Cds)	53.000
White Birch		SW Pulp (Tons)	157.000
B & Y Birch	4.200	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	WO	WK	WP	RP
Acres	15.700	8.600	2.700	0.900
Landowner Objective	LT	LT	LT	LT
Designation of Trees	CT	CT	CT	CT
Type of Cut	SE	SE	NT	SN
Source of Regeneration	AD,SE	AD,SE	AD	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.

6-7-21
(See upload)

Signature of landowner(s)

06/22/2021

Date

Determination and Status				Final Report and Comments	
	Approved	Disapproved	Expires	<p>I hereby certify that the afore described Forest Cutting Plan and all relevant statutes have been substantially complied with.</p> <div style="border: 1px solid black; height: 100px; width: 100%; margin-top: 10px;"></div>	
Cutting Plan	<input type="checkbox"/>	<input type="checkbox"/>	<u>06/08/2023</u>		
<p>Signature of Service Forester/Director's Agent <u>06/22/2021</u></p> <p>_____ Date</p>					
Extension	1 <input type="checkbox"/>	2 <input type="checkbox"/>	Expires		
Amendment	App 1 <input type="checkbox"/>	Dis 1 <input type="checkbox"/>	App 2 <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	ST Seed Tree
WH WP/Hdwd	BC Black Cherry BE 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	<u>Landowner Objective</u>	SA Salvage
SR Red Spruce	OR N Red Oak PP Pitch Pine	LT Long-term Mgt.	SN Sanitation
		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 5

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 DWSP DCR Quabbin

Town Shutesbury

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.

BLUE PAINT - Cut Trees (horizontal slash - sawlogs; dots - cord/pulpwood; X - culls; vertical slash; TSI; Three vertical dots - harvest boundary; 'G' - girdle tree) | ORANGE PAINT - Save Trees (horizontal slash with a dot - opening edge; dot - non edge retention tree) | PINK FLAGGING is to be avoided with equipment (stone features, hazards) | BLUE FLAGGING - Forwarder Trails

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

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

Figure 1e. Forest Cutting Plan Stand Map.

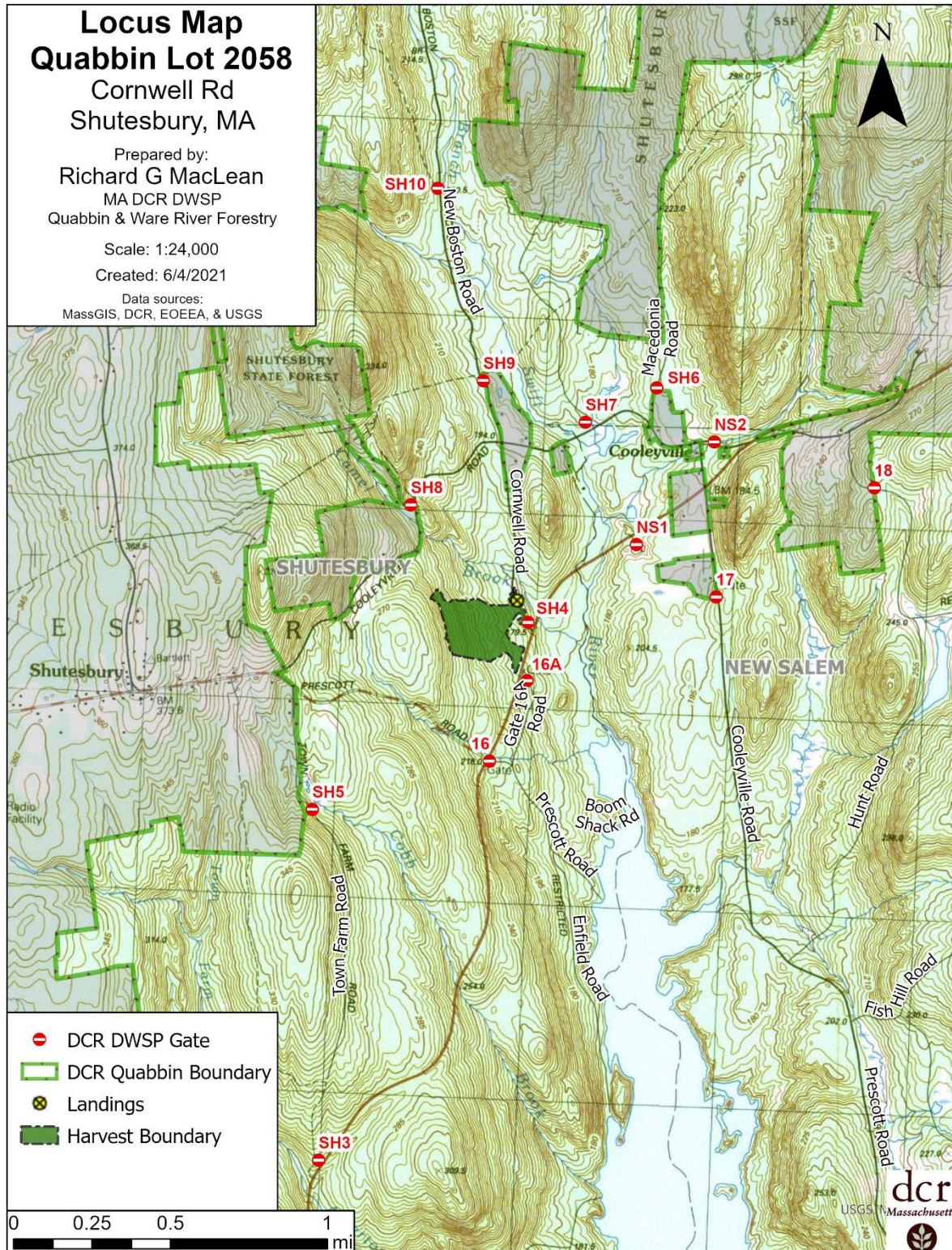


Figure 1f: Forest Cutting Plan Stand Map.

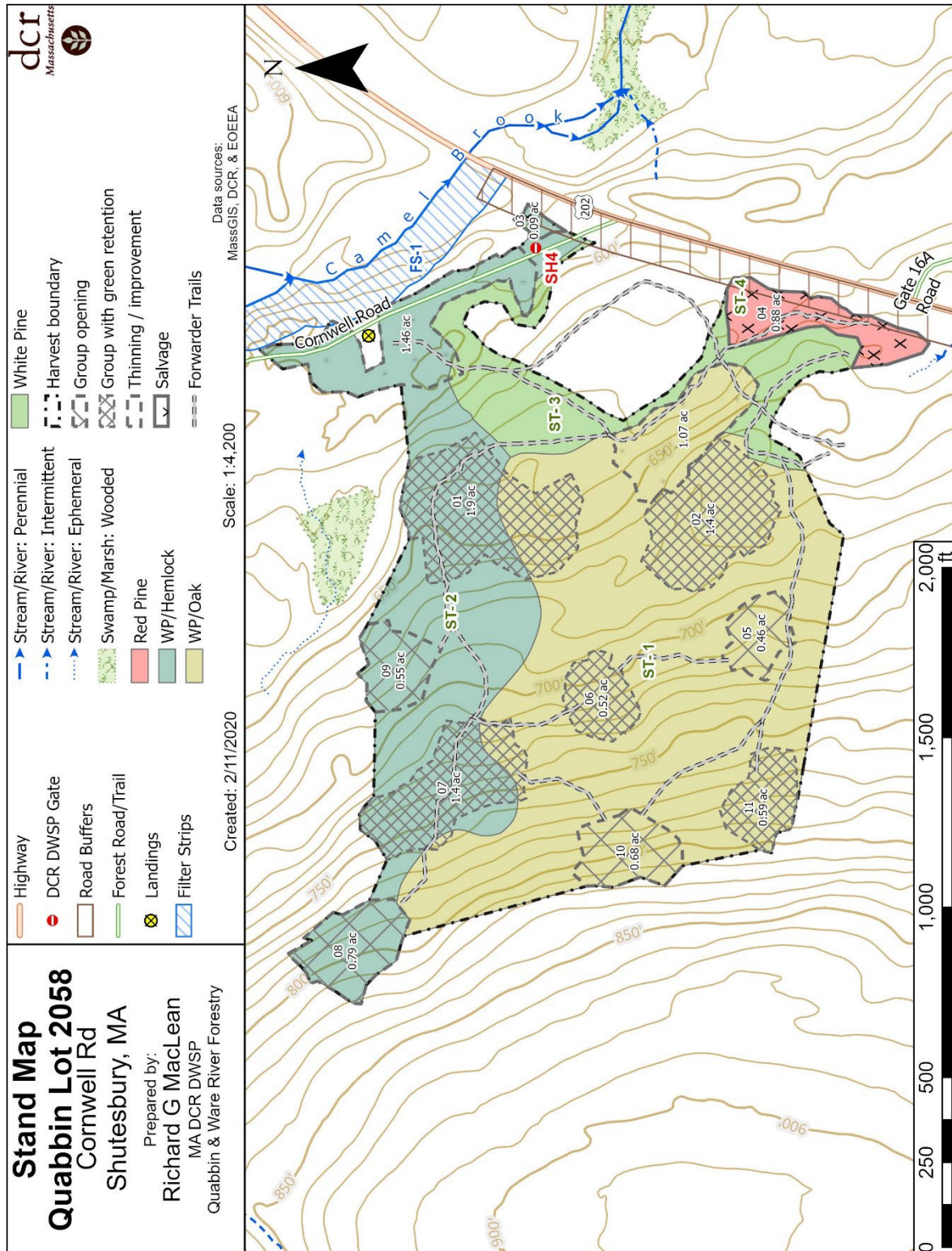


Figure 1g. Forest Cutting Plan Certificate


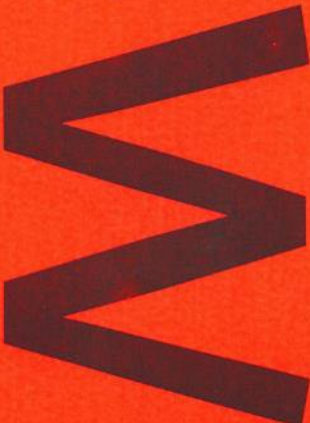

	dcR COMMONWEALTH OF MASSACHUSETTS Department of Conservation and Recreation Division of State Parks and Recreation	FILE # <u>272.32388-21</u>
FOREST CUTTING PLAN CERTIFICATE		
		
Post this in a conspicuous place within the area in which the harvesting operation is to take place.		
This certifies that <u>MA DCR DWS</u> <u>485 Ware Rd, Belcher town, 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>Cornwell Rd lot, Shutesbury</u> <u>lot 2058"</u>		
Approval Date <u>6/17/21</u>	ISSUED BY: 	
Director's Agent <u>Andrew Rauschle</u>	Priscilla E. Geigis, Director	
DCR Phone No. <u>617-549-1677</u>	Division of State Parks and Recreation	

Figure 2a. Photo Point 1 pre harvest 7/2021.



Figure 2b. Photo Point 1 after harvest 9/2021.



Figure 3a. Photo Point 2 before harvest 7/2021.



Figure 3b. Photo Point 2 after harvest 9/2021.

