Massachusetts Department of Conservation and Recreation

Division of Water Supply Protection, Office of Watershed Management

Forest Management Project Summary

Project Title: Barre Heath

DWSP Harvest Permit Number: WR 4389
DCR Forest Cutting Plan File Number: 021-8135-16

Site Information

Watershed: Ware River	**Town(s)**: Barre
Acres: 16	**Nearest Road:** Rt 62
Natural Heritage Atlas overlap?: Yes	**Public Drinking Water Supply Watershed?:** Yes
Forest Types: White pine -oak, Mixed oak	**ACEC?:** No
Soils: Most of the lot is on 253 Hinckley loamy sand, excessively drained.	
Wetland Resources: The lot is located between the Burnshirt River and Canesto Brook and associated wetlands.	
Vernal Pools: Yes	

Harvest Information

Harvest Start Date: 11/16	**Harvest End Date:**
Number of Wetland Crossings: None	**Number of Stream Crossings:** None

Best Management Practices Applied

Stream Crossings	There are no stream crossings.
Filter Strips	There are no filter strips.
Wetland Crossings	There are no wetland crossings.
Harvesting in Wetlands	There is no harvesting in wetlands.

DWSP Forester supervising this harvest
Name: Kenneth W. Canfield
Forester License #: 431
Phone #: 508-882-3636 ext.1603

NARRATIVE

General Description/Forest Composition/History:

The harvest area lies south of Rt 62 in Barre, between the Burnshirt River and Canesto Brook.

This area was mined for gravel decades ago. Much of the topsoil may have been removed in spots to prepare for gravel extraction. The area may have also burned repeatedly. This resulted in a heath type habitat that is characterized by low bush blueberry with scattered pitch pine and large crowned oaks. Over the years, low quality white pine with scattered red maple and white, red, and black oaks have regenerated much of the site, resulting in the loss of much of the open heath habitat. Open heath still exists in the center of the harvest area, and has been enhanced by hand girdling by NHESP staff. Species present are white pine, white, red, black, and scarlet oak, pitch pine, red maple, hemlock, black cherry, quaking aspen, and grey birch.

Invasive buckthorn is abundant on the site, and invasive barberry, honeysuckle, and burning bush are present, particularly adjacent to Rt 62.

The soil is excessively drained.

Site Selection:

The primary goal of the watershed forest management program is to create and maintain a forest that provides high quality drinking water to current users and future generations. DWSP recognizes that wildlife habitat management and restoration of rare habitats are important secondary goals, where they are compatible with maintaining high quality drinking water.

This area was chosen for upland heath habitat restoration in cooperation with NHESP. The upland heath habitat is rare this far inland and is considered globally significant.

Silvicultural Objectives:

The main purpose of this harvest is to expand the existing upland heath habitat by harvesting overstory trees in groups adjacent to the existing heath. Three large groups of 4.6, 4.9, and 4.9 acres and two smaller groups of 1.0 and 0.5 acres will be established. All overstory white pine, red maple, hemlock, and black cherry will be harvested within the groups. All pitch pine will be retained. Scattered large crowned oak, preferably white oak, will also be retained. The resulting stand will be relatively open with approximately 10 – 20 square feet of basal area per acre of overstory trees. Regeneration that is present will not be protected since regenerating a dense stand is not the goal for this site.

Cultural Resources:

This land has been determined to not be culturally or archeologically sensitive based on a review by the DCR Archaeologist. Standard practice dictates that every effort is made to avoid disturbing stone walls and other cultural resources.

Wildlife/Rare or Endangered Species:

There are several known vernal pools adjacent to the harvest area. The vernal pools have been mapped and buffered from timber harvesting to provide adequate protection to the species that utilize it, and in accordance with the Massachusetts Forestry Best Management Practices Manual and the Division of Water Supply Protection Comprehensive Land Management Plan.

NHESP has identified habitat for endangered/rare species on this lot and has placed seasonal restrictions on harvesting activities in order to minimize the chances of any impact on those species. NHESP requested that "Operation of motorized vehicles site wide shall occur only during the time period beginning November 1 and ending March 31, of any year." The harvest will comply with those restrictions.

FIGURES

Figure 1: Approved 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)

MAR 2-1 2016

For DCR Use Only:

File Number 021-8135-16 3/21/16 — Case No. ____
Date Rec'd 4/05/16 — Nat. Hert. Yes
Earliest Start ____ — Nat. Hert. Imp. Yes
River Basin Chicopee — Pub. Dr. Wat. Yes – water
Gen. Obj. ____ — ACEC No

Site Information

Location

Town Barre
Road Rt. 62
Acres 15.9 Proposed Start Date 4/16
Vol. MBF 2.7 Vol. Cds. 41 Vol. Tons 510

Plan Preparer

Name Kenneth W. Canfield
Address DCR Division of Water Supply Protection
578 Old Turnpike Rd
Town, State, Zip Oakham, MA 01068
Phone (508) 882 – 3636 ext. 1603
Type of Preparer Mass Licensed Forester
*Mass. Forester License # 431
*Required for land under Ch61, Ch61A or Forest Stewardship

Landowner

Name DCR Division of Water Supply Protection
Mailing Address 485 Ware Rd
Town, State, Zip Belchertown, MA 01007
Phone (413) 323 - 6921
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

Indicate location on map	SC-1	SC-2	SC-3	SC-4
Type of Crossing				
Existing Structure				
Type of Bottom				
Bank Height (ft)				
Stabilization				

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%?)				

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)				

Service Forester Comments

*See attached NHESP Review
*Notify the DCR service forester when the harvest begins
*Operation of motorized vehicles site wide shall occur only during the time period beginning Nov 1 and ending Mar 31 of any year
*If the landowner decides to use option 3 the service forester must be notified so the option can be added to the plan

Type of Preparer: LF Mass. Lic. For. TH Lic. Tim. Har TB Timber Buyer LO Landowner
Type of Crossing: CU Culvert BR Bridge FO Ford RO Ruled
Stabilization: SE Seed MU Mulch CO Corduroy ST Stone
Mitigation: FR Frozen DR Dry OT Other
Type of Bottom: LE Ledge ST Stony MU Mud GR Gravel

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

OT Other OT Other HB Hay Bales OT Other OT Other 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

Forest Products

Products to be Harvested*

Species	Mbf/Cds		Mbf/Cds
White Pine	2.6 Mbf	Red Maple	
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	0.1 Mbf
Hemlock		Black Oak	
Spruce		White Oak	
Other Sftwd.		Other Hdwd.	
White Ash		**Total Mbf**	2.7
Beech		**Cordwood (Cds)**	41
White Birch		**SW Pulp (Tons)**	
B & Y Birch		**HW Pulp (Tons)**	
Black Cherry		**Chips (Tons)**	510

*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.

Stand Treatment

Cutting Standards

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	OM	WO		
Acres	9.5	6.4		
Landowner Objective	LT	LT		
Designation of Trees	LT/SB	CT		
Type of Cut	OT	OT		
Source of Regeneration	OT	OT		

Landowner

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 specie

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: 3-17-16

Service Forester

Determination and Status

	Approved	Disapproved	Expires
Cutting Plan	☑	☐	3/31/2018

Signature of Service Forester/Director's Agent — Date: 4/11/2016

			Expires	Ser. For. Ints.
Extension	1☐	2☐	/	/

	App 1	Dis 1	App 2	Dis 2	
Amendment	☐	☐	☐	☐	/

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
WP White Pine; WK WP/Hem; WH WP/Hdwd; WO WP/Oak; RP Red Pine; HK Hemlock; HH Hem/Hdwd; BC Blck Cherry; BB Bee/Bir/Map; OH Oak/Hdwd; OM Mixed Oak; RM Red Maple; BE Beech; SF Spruce/Fir; SM Sugar Maple

Designation of Trees
CT Cut Tree; LT Leave Tree; SB Stand Boundary; OT Other

Landowner Objective

Type of Cut
SH Shelterwood; ST Seed Tree; CC Clear Cut; SE Selection; SA Salvage

Intermediate Harvests: CT Commercial Thin; NT Non Com Thin

Non-Standard Systems:* HG Highgrade*

Source of Regeneration
AD Advanced; SE Natural Seed; PL Plant; CO Coppice; DS Direct Seed

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

Town Barre

File Number 021-8135-16

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.

The purpose of this harvest is to expand rare upland heath habitat that exists on site as recommended by MA FWE NHESP. All overstory trees of all species other than aspen, pitch pine and large crowned healthy oaks, mostly white, will be harvested within the stands. Within Stand 1, made up of 2 units of 4.6 and 4.9 acres, this will result in 5 – 10 ft^2 of residual basal area/acre of overstory trees of pp and large wo left. Within stand 2, made up of 3 units of 1.0, 0.5, and 4.9 acres, this will result in approx 10-20 ft^2 of residual basal area/acre of overstory oak, mostly white, left. Skid trails will be located wherever possible on the outside edge of units so that they can be used as fire breaks for follow up NHESP prescribed burns

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
ST 1	All except AS,PP and large WO	Sawlog size down to 3" dbh	Mostly poor	90 – 95%
ST2	All except large WO, PP	Sawlog size down to 3"dbh	Mostly poor	50 – 80%

Regeneration & Future Condition

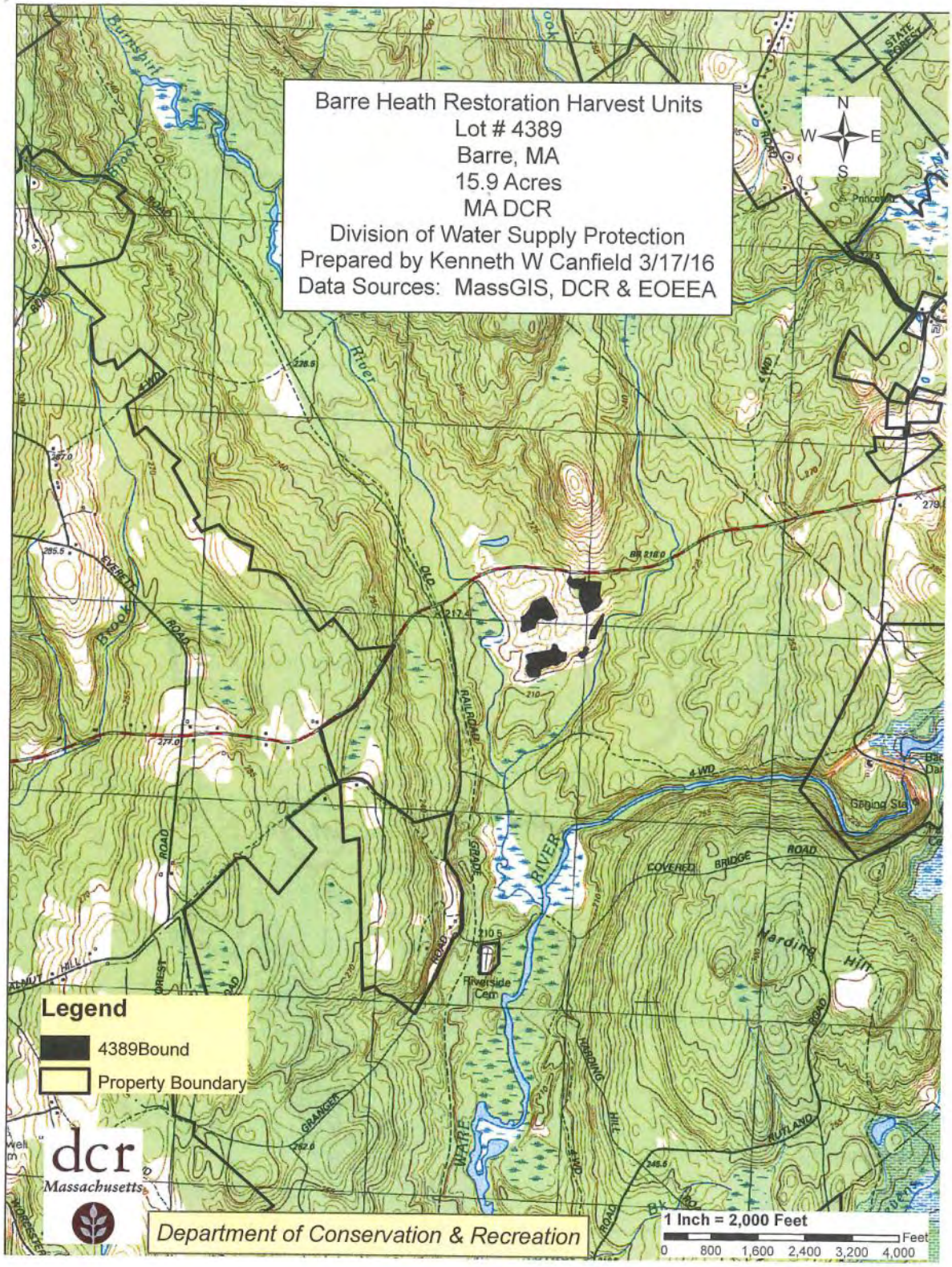
Use this Section to describe how Chapter 132 requirements will be met if a non standard system (HG, DL, or OT) was used for the "Type of Cut" in the Cutting Standards Section on page 4.

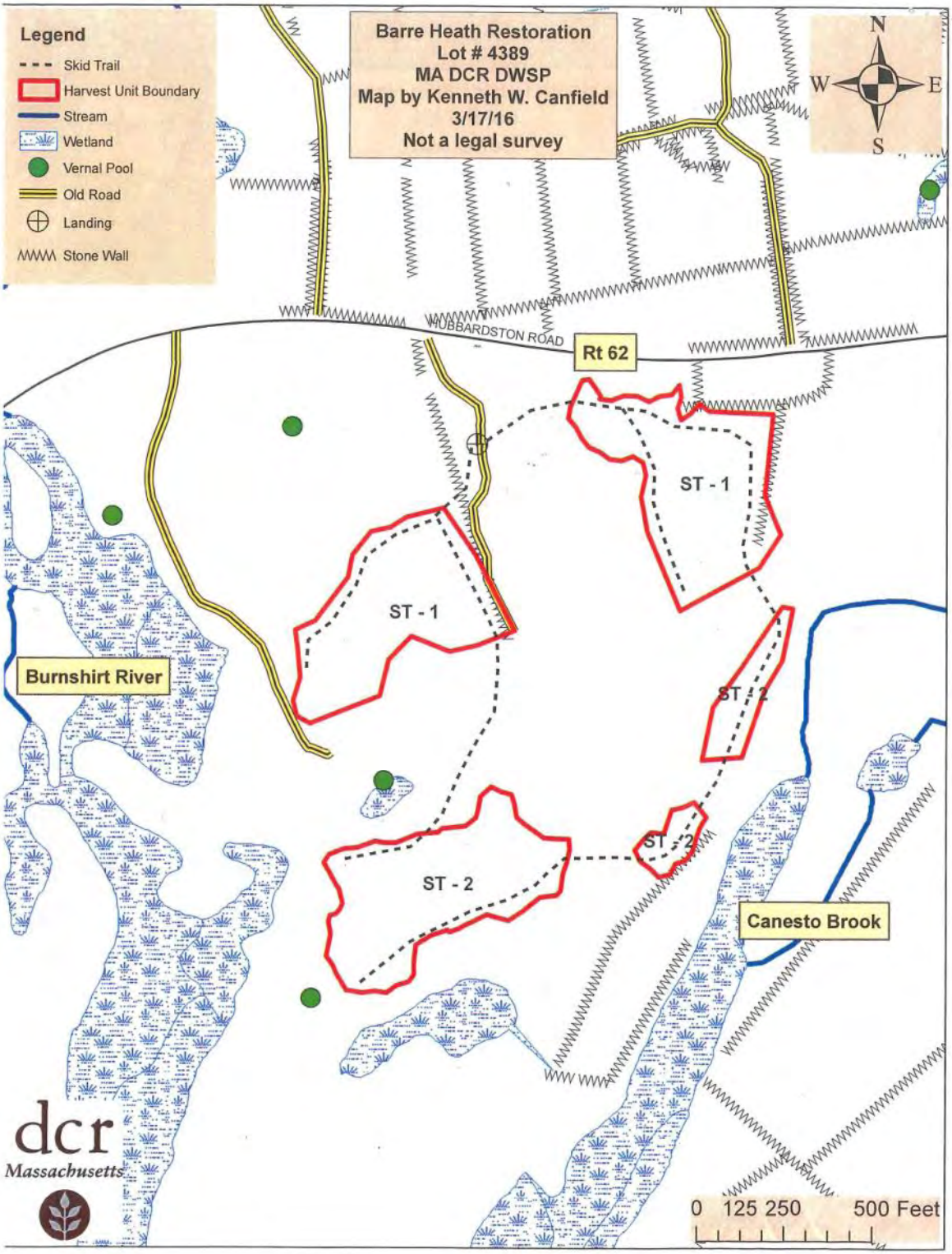
Stand No.	Source of Regeneration (ex. AD, SE)	How will Regeneration be obtained/protected? If using AD - Describe the species present and how the regeneration will be protected. If using SE - Describe the source of the seed and the number of seed trees/acre
1,2	SE	Regeneration is only desired from fire resistant species. Regeneration of other species will be controlled using mowing, brushsawing, girdling, and/or prescribed burning post harvest.

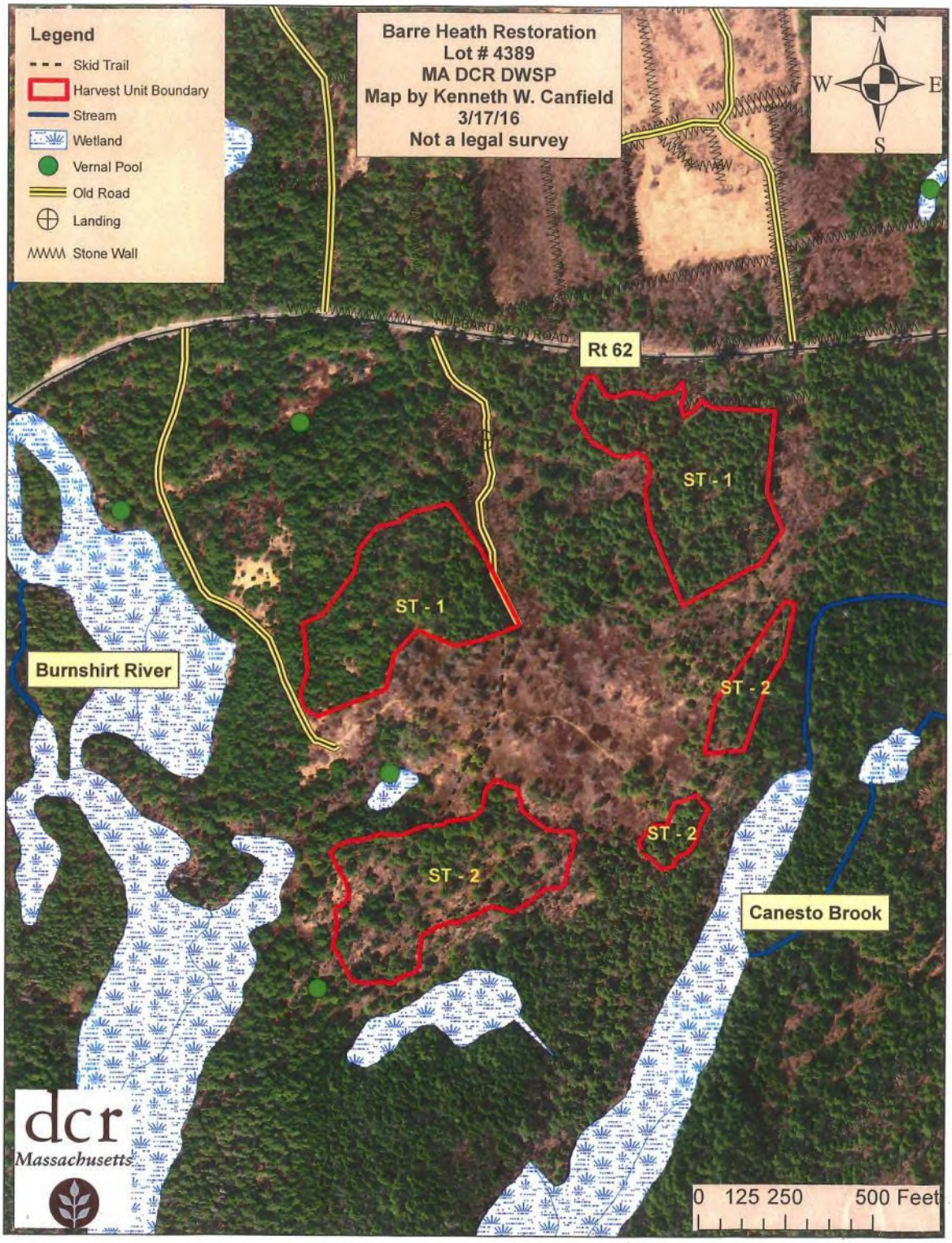
Stand No. **Desired Future Condition**

Describe what the stand is expected to look like five years from the harvest, including the condition of the overstory & understory

1	The desired future condition of this stand is open upland heath with pitch pine and scattered large crowned white oak (2-3/acre).
	Post harvest brush management to control regeneration of undesirable species will be required.
2	The desired future condition of this stand is upland heath with approx. 30% canopy of large crowned white oak.
	Post harvest brush management to control regeneration of undesirable species will be required.
	NHESP staff have girdled mature white pine within the existing heath in order to promote heath, with good results. The heath
	habitat that is desired consists of a dense ground cover of lowbush blueberry with some forbs and grasses, and occasional
	emergent oak and pitch pine. It is expected that the harvest units will shift towards that condition post harvest with brush
	management to be performed by NHESP that could include prescribed fires, brush sawing, mowing, and girdling.


Barre Heath Restoration Harvest Units
Lot # 4389
Barre, MA
15.9 Acres
MA DCR
Division of Water Supply Protection
Prepared by Kenneth W Canfield 3/17/16
Data Sources: MassGIS, DCR & EOEEA
N
W
E
S
Legend
4389Bound
Property Boundary
dcr
Massachusetts
Department of Conservation & Recreation
1 Inch = 2,000 Feet
0 800 1,600 2,400 3,200 4,000 Feet


Legend
Skid Trail
Harvest Unit Boundary
Stream
Wetland
Vernal Pool
Old Road
Landing
Stone Wall
Barre Heath Restoration
Lot # 4389
MA DCR DWSP
Map by Kenneth W. Canfield
3/17/16
Not a legal survey
N
W
E
S
HUBBARDSTON ROAD
Rt 62
ST - 1
ST - 1
ST - 2
ST - 2
ST - 2
Burnshirt River
Canesto Brook
dcr
Massachusetts
0 125 250 500 Feet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3/17/16
Not a legal survey
N
W
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S
HUBBARDSTON ROAD
Rt 62
ST - 1
ST - 1
ST - 2
ST - 2
ST - 2
Burnshirt River
Canesto Brook
dcr
Massachusetts
0 125 250 500 Feet

dcr

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

FILE # 021-8135-16

FOREST CUTTING PLAN CERTIFICATE

W

Post this in a conspicuous place within the area in which the harvesting operation is to take place.

This certifies that DCR-DWSP (Name of Owner) 485 Ware Road Belchertown, MA 01007 (Address) in accordance with the provision of M.G.L. Chapter 132, Section 40-46, filed in Clinton with the Dept. of Conservation and Recreation, Division of State Parks and Recreation, a Notice of Intent to cut forest products upon the Barre Rd lot.

Approval Date 4/11/2016

Director's Agent Kate Marques

DCR Phone No. 413-992-8734

ISSUED BY:

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

Figure 2: Pre-Harvest photographs from marked photo points taken 7/22/16

A. Photo Point 1 towards SW

Figure 2: Pre-Harvest photographs from marked photo points taken 7/22/16

B. Photo Point 1 towards SE

Figure 2: Pre-Harvest photographs from marked photo points taken 7/22/16

C. Photo Point 2 towards SW

Figure 2: Pre-Harvest photographs from marked photo points taken 7/22/16

D. Photo Point 2 towards SE