

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

**Project Title:** Gate 12  
DWSP Harvest Permit Number: 2045  
DWSP Proposal ID: PE-13-11  
DCR Forest Cutting Plan File Number: 230-7006-14

***Site Information***

Watershed: Quabbin  
Town(s): Pelham  
Acres: 55  
Nearest Road: route 202, gate 12  
Natural Heritage Atlas overlap?: No  
Public Drinking Water Supply Watershed?: Yes  
Forest Types: white pine / oak, red oak, mixed oak  
Area of Critical Environmental Concern (ACEC)?: no  
Soils: Canton fine sandy loams, shallow to bedrock upper slopes, deepening down slope  
Wetland Resources: Lot borders Purgee Brook and tributary to Briggs brook. Two vernal pools in wetland on the lot  
Vernal Pools: two vernal pools in wooded wetland

***Harvest Information***

Harvest Start Date: 10/20/2015  
Harvest End Date: 8/11/2016  
Number of Wetland Crossings: one  
Number of Stream Crossings: two

***Best Management Practices Applied***

Stream Crossings: One intermittent bridged.  
Filter Strips: Two, both Variable width  
Wetland Crossings: One, approximately 100 feet at stream crossing  
Harvesting in Wetlands: Harvesting at stream crossing only

***DWSP Forester supervising this harvest***

Name: Herm Eck and Steven Ward  
Forester License number: Eck - #63  
Phone number: 413-323-6912 ext.553  
Email:

## **Narrative**

### ***General Description/Forest Composition/History***

This lot has three sections. The southern end of the lot is predominately Northern Red Oak and Mixed hardwood forest on enriched soils with little or no regeneration.

The middle section of this lot is predominately White pine and Oaks forest with some Hemlocks intermixed. This section received a harvest treatment in the 1960's that resulted in a mid-canopy of regenerated Black birch and white pine.

The northern section is predominately Northern red oak forest. A thinning of this section in the 1980's resulted in the establishment of Black birch and the shrub witch hazel. This lot has a lack of diversity in understory and shrub layers

Soils are Canton Fine Sandy Loams. Depths range from thin on ledge areas to deep above till and receding slopes. Extremely stony described with good hydraulic conductivity, surface run off would be negligible

### ***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. In order to achieve this, DWSP has determined that the forest should contain a diversity of species in various stages of development (seedlings through large legacy trees). In addition, the forest should be vigorous; actively growing and regenerating. Forest in this condition are suited to be resilient to small and large scale disturbances such as disease, insect infestation, ice storms and hurricanes.

The forest within the proposed operation consists of various species, size and age classes but can be made more diverse and hopefully more resilient with the planned forest harvest. The goals of this harvest are to releasing from competition some large and mid size trees and promote seeding and establishment of eventual replacement trees of species adapted to the site. The Division uses careful forest management techniques to create areas of young trees that serve to enhance the forest age structure.

### ***Silvicultural Objectives***

Establish and release diverse regeneration in small gaps. Enhance seed production and seedling establishment by removing less vigorous, poorly formed and competing stems. Make openings large enough for seedling establishment and development. Intermediate treatments to release sub canopy and start a more diverse mix of regeneration. Retain some healthy trees of all species to provide seed sources. Enhance structural diversity of this area. Retain large overstory stems to dominating the landscape. Regenerate to northern hardwoods.

### ***Cultural Resources***

Lot contains a cellar hole, a barn foundation and a well. Stone walls in the middle of the lot are well made with large stones at base field picked stones placed above. Walls along the road are large rubble pile type. Scattered stone piles and exposed ledge across hill top. The road forming eastern boundary is of 1960 harvest origin. No machinery will operate through house or barn site. Landing site at Quabbin Road intersection 12-3 has been used numerous times in last 25 years

***Rare or Endangered Species***

Vernal Pools in the middle of the lot are certified and have been given 100 foot no cut buffers. Wet meadow on west edge of the lot is also used by breeding amphibians. This lot has sections of softwoods that provide thermal cover for some species. Moose, deer, porcupine, and fisher sign has been noted on this lot. Many large dead trees “snags” standing and fallen, offer other habitats, as do the exposed ledges and walls.

Figures

Figure 1. Forest 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)

**For DCR Use Only:**

File Number 330-7006-14 Case No. \_\_\_\_\_  
Date Rec'd 5.19.14 Nat. Hert. \_\_\_\_\_  
Earliest Start 6.3.14 Nat. Hert. Imp. Y  
River Basin HILLOPEE Pub. Dr. Wat. QUABBIN  
Gen. Obj. LT ACEC N

DH

Ext #1 (4/16) FINAL 8/16

Site Information	<b>Location</b>	<b>Landowner</b>
	Town <u>Pelham</u>	Name <u>DCR/Division Water Supply, Quabbin</u>
	Road <u>DCR/DWSP Gate 12 Private Lot 2045</u>	Mailing Address <u>485 Ware Road</u>
	Acres <u>55</u> Proposed Start Date <u>2014</u>	Town, State, Zip <u>Belchertown, MA. 01007</u>
Vol. MBF <u>115.7</u> Vol. Cds. <u>242</u> Vol. Tons <u>26</u>	Phone <u>413-323-6921</u>	
	Ch61 <input type="checkbox"/> Ch61A <input type="checkbox"/> Stew <input type="checkbox"/> *Case # _____	
	Est. Stumpage Value _____	
	<b>Licensed Timber Harvester**</b>	
<b>Plan Preparer</b>	Name _____	
Name <u>Steven Ward</u>	Address _____	
Address <u>DCR/DWSP Quabbin</u>	Town, State, Zip _____	
<u>485 Ware road</u>	Phone _____	
Town, State, Zip <u>Belchertown, MA.01007</u>	Mass. Lic. Harvester # _____	
Phone <u>413-323-7764-553</u>	**This information may be supplied after the plan is approved, but before work begins.	
Type of Preparer <u>Other</u>		
*Mass. Forester License # _____		
*Required for land under Ch61, Ch61A or Forest Stewardship		

Best Management Practices	<b>Stream Crossings</b>	<b>Harvesting in Wetlands</b>
	Indicate location on map	Indicate location on map
	Type of Crossing	Forest Type (see pg 2)
	Existing Structure	Acres to be Harvested
Type of Bottom	Resid. Basal Area (>50%?)	
Bank Height (ft)		
Stabilization		
<b>Wetland Crossings</b>	<b>Service Forester Comments</b>	
Indicate location on map	_____	
Length of Crossing	_____	
Mitigation	_____	
Stabilization	_____	
<b>Filter Strips</b>	_____	
Indicate location on map	_____	
Width (50', 100', or VA)	_____	

<b>Type of Preparer</b>	<b>Type of Crossing</b>	<b>Stabilization</b>	<b>Mitigation</b>	<b>Type of Bottom</b>	<b>Note:</b>
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.
TH Lic. Tim. Har	BR Bridge	MU Mulch	DR Dry	ST Stony	Some forestry activities, such as prescribed burning and pesticide or fertilizer application may require additional permits.
TB Timber Buyer	FO Ford	CO Corduroy	OT Other	MU Mud	Consult MA Forestry BMP Manual for further information.
LO Landowner	PO Poled	ST Stone		GR Gravel	
OT Other	OT Other	HB Hay Bales		OT Other	

If Other (OT) is used in any category an explanation must be given on an attached narrative page pg 3 of 5

Figure 1a. Forest cutting plan page one.

**Forest Products**

**Products to be Harvested\***

Species	Mbf/Cds		Mbf/Cds
White Pine	42.4	Red Maple	1.3
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	59.6
Hemlock		Black Oak	
Spruce		White Oak	.9
Other Sftwd.		Other Hdwd.	
White Ash		<b>Total Mbf</b>	115.7
Beech		<b>Cordwood (Cds)</b>	242
White Birch		<b>SW Pulp (Tons)</b>	26
B & Y Birch	11.9	<b>HW Pulp (Tons)</b>	
Black Cherry		<b>Chips (Tons)</b>	

**Stand Treatment**

\*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	OR	WH	WK	
Acres	26	26	3	
Landowner Objective	LT	LT	LT	
Designation of Trees	CT	CT	CT	
Type of Cut	SH	SH	SH	
Source of Regeneration	SE	SE/AD	SE/AD	

**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 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.

William E. Paul  
 Signature of landowner(s)

5-19-14  
 Date

**Service Forester**

**Determination and Status** 230.7006.14

Approved  Disapproved  Expires 5.19.2016

Cutting Plan  6/6/14  
Douglas A. Antchko  
 Signature of Service Forester/Director's Agent Date

SITE VISIT 5/23/14 W/ STEVE WARD  
 Expires, Ser. For. Ints. 5/19/17 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.

Douglas A. Antchko 8/8/16  
 Signature of Service Forester/Director's Agent Date

**Codes**

<b>Forest Types</b>	WP White Pine	HK Hemlock	OM Mixed Oak	CT Cut Tree	SH Shelterwood	<b>Intermediate Harvests:</b>	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 Black 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	<b>Non-Standard Systems:*</b>	CO Coppice
	RP Red Pine	OH Oak/Hdwd	SM Sugar Maple	<b>Landowner Objective</b>	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 1b. Forest cutting plan page two.

# 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 Pelham

File Number 230.7006.14

**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.

SC-1, WC-1 and HW-1 are on small intermittent stream flowing north to Briggs brook, this is being treated as a regulated stream FS-2 due to estimated volume 1/4 acre foot rule in wetland feeding it from the vernal pool area.

Shallow to bedrock soils can be saturated none growing season

FS-1 along tributary to Furguee brook, old beaver damming made this a wet meadow, functions as a vernal pool

Gate 12 road ditches and culverts maintained as necessary by DWSP crews

**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
ST-1	A lot will depend on Moose population and seeding establishment the area may have to be planted to establish a mix of hardwoods desired a more diverse mix other than just Black Birch, Oaks retained for seeding, as are all seed sources
ST-2	Still stand dominated by large white pine should have a more irregular three age structure with retained 40 to 60 year old hardwoods, moose will also effect regeneration, white pine should reestablish
ST-3	Hemlock will continue to decline and not likely to regenerate, White pine and mix of hardwoods should become established

Figure 1c. Forest cutting plan page three.

## Notes to Service Forester DCR/DWSP lot 2045

Object of harvesting is watershed protection forest, uneven aged mixed species forest, to function as biofilter. Harvest is irregular groups and patches to enhance structure, as well as establish and release some younger age classes. Past deer impacts have effected species composition in these younger stems to (white pine, black birch mainly). Hemlock is declining due to insect problems and is not being removed for diversity reasons. The vernal pools in the wooded wetland in the middle of the lot are certified, though one is out of place on mass heritage data base( location data for Certified Vernal pool (OBJECTID 4862, CVP\_NUM 3322, and certified 6-30-2003) is incorrect. I believe this was certified from paper maps without GPS coordinates; it is located in the same wooded wetland with pool (OBJECTID 4861, CVP\_NUM 3321, and certified 6-30-2003) and is part of the same wetland complex. These coordinates will be forwarded thru our GIS Coordinator to Heritage. The tributary to Purgee brook with old beaver impoundment on the west side of the lot also functions as a vernal pool, obligate species observed spring 2013. The stream leaving the wooded wetland with the vernal pools is intermittent but the wetland itself is estimated to meet the 1\4 acre foot volume so it has been given a filter strip and will be treated as a protected stream. SC-1, WC-1 and HW-1 are located on this stream. WC-1 is a shallow soils over bedrock saturated in non growing conditions, less than ¼ acre area of harvest along forwarder road. There will be work in and along this filter stripe beyond the 50 foot zone, but no main forwarder road will be here except at SC-1, bridged. The pool complex has been given a 100 foot buffer all the way around (no marked trees here) Red Marked trees are to be retained and protected, Legacy, snags, wildlife and retained stocking in and around openings. Some work in the other Filter strip beyond 50 zone, all filter strips Variable width due to watershed restrictions. Lot is specified for forwarder transport.

Figure 1d. Forest cutting plan included narrative.

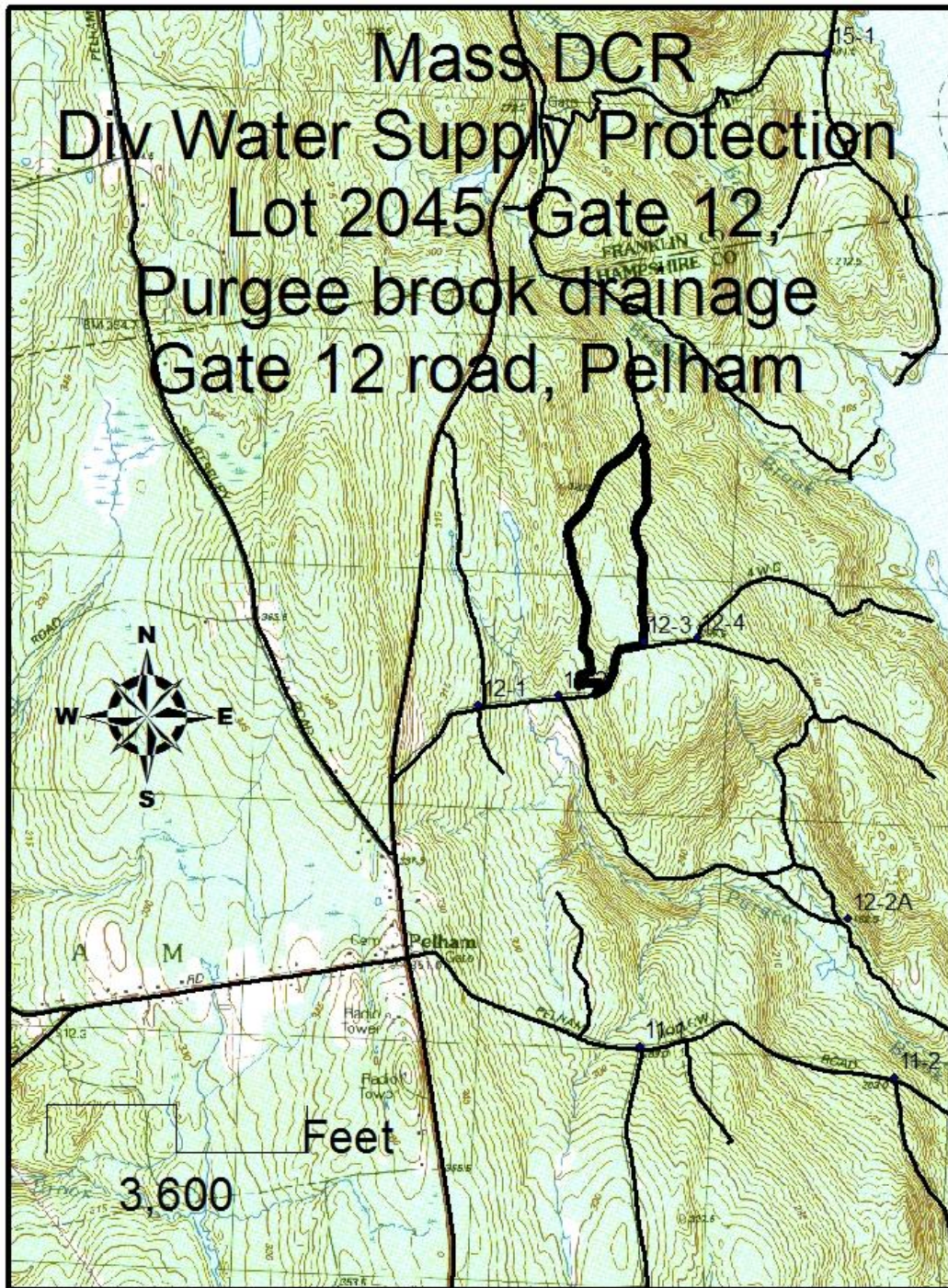


Figure 1e. Forest cutting plan locus map.

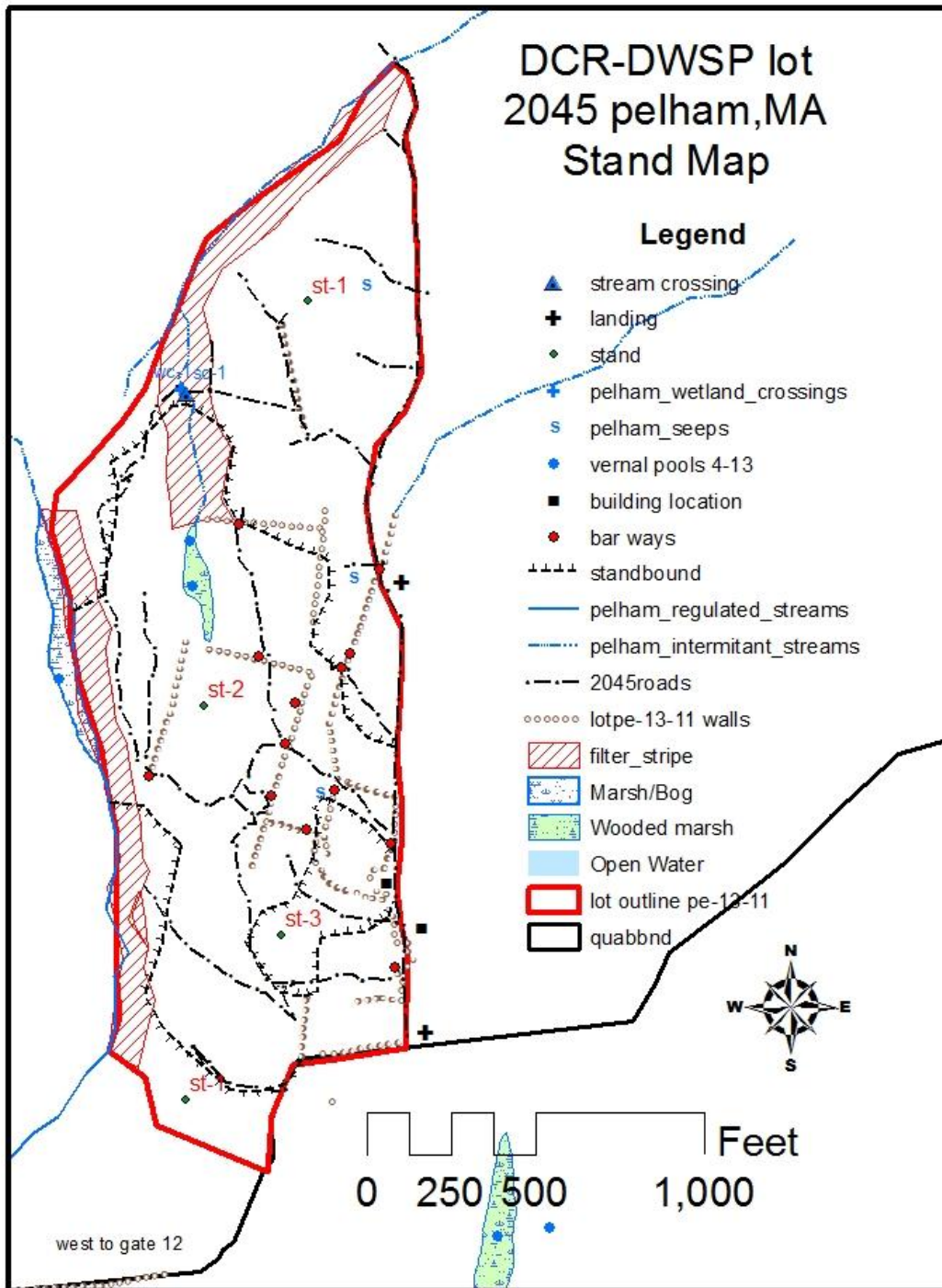


Figure 1f. Forest cutting plan stand map.

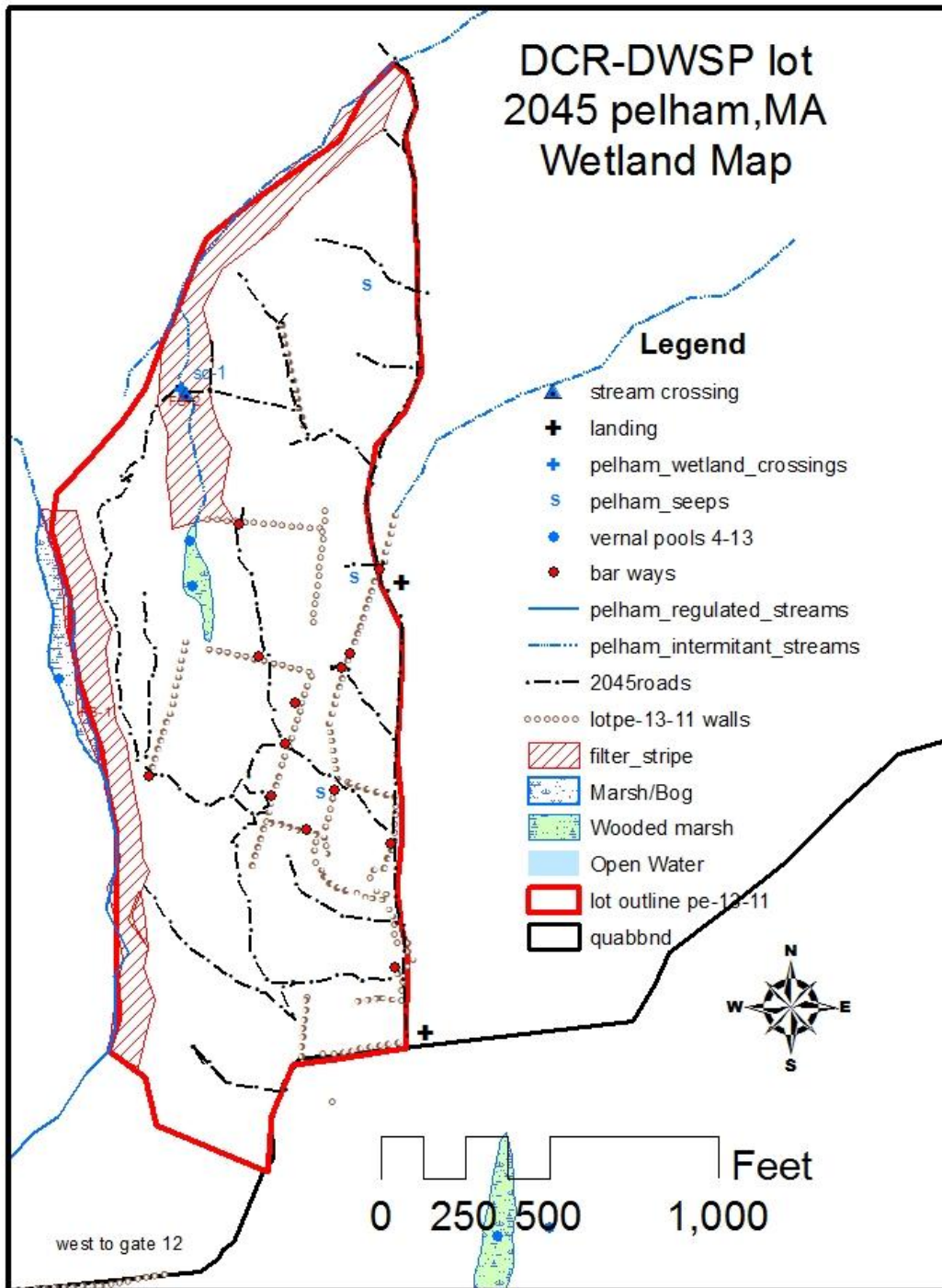


Figure 1g. Forest cutting plan wetland map.