Massachusetts Department of Conservation and Recreation

Division of Water Supply Protection, Office of Watershed Management

Forest Management Project Proposal Summary for Public Comment

Location, goals, and summary of proposed forest management.

Proposal Summary Item	Item Information/Description
Lot Proposal ID	**PR-26-23**
Fiscal Year	2026
Watershed	Quabbin
Town(s)	New Salem
Forester	Derek Beard
Estimated Acres by Treatment Type	68 acres of a diffuse preparatory treatment designed to prepare the area for a cycle of low intensity prescribed fire.
Total Proposal Acres	68
Block	Prescott
Compartment and/or Working Unit	23
Location and Boundary Description	The proposal area is located on the west side of Cooleyville Road (aka Gate 17 Road) less than a quarter mile from the gate. The proposal is bounded by Cooleyville Road and field edge to the east, an un-named road (beginning at intersection 17-1) to the south, a past harvest (lot 819) and forested wetland to the west and wetland and intermittent brook to the north.
Previous Proposal?	No
Project Goals and Summary Description	Project intent is to sustain the existing oak forest by creating conditions where oak vigorously germinates and successfully develops into mid-canopy over the proceeding 15 years. Despite this keystone forest community covering millions of acres across a large portion of the east coast, regenerating it has proven quite difficult. Long-term regeneration monitoring on Quabbin owned watershed land shows black birch, red maple, and white pine accounting for more than 80% of understory composition while the oaks represent only 4%. Reversing this trend will require employing treatments that promote oak development and discourage its competitors (black birch, white pine and red maple). This will be accomplished through multiple steps involving timber harvesting, prescribed fire and pre-commercial thinning. The harvest will create an open understory interrupted by a broadly spaced oak, white pine and hemlock overstory. Intervals of prescribed fire, beginning 1 to 5 years post-harvest, along with targeted competition weeding, should enable understory oak to reach the mid canopy ensuring that this community persists into the future.

Forest Cover Types and Acreages

Overstory Forest Types	Acres
White Pine- Oak	34
White Pine, Hemlock	17
Oak Mixed	11
White Pine	5

Understory Cover Types and Relative Importance

Understory Cover Type	**Relative area covered** (Dominant, Secondary, Minor, None)
Tree seedlings and saplings	Dominant
Mountain laurel	Minor
Mesic site - witch hazel, highbush blueberry	Secondary
Dry site -Huckleberry, blueberry	Secondary
Mesic site - cinnamon fern, mixed hardwood	Secondary
Hayscented fern	Minor
Invasive shrubs/vines	Secondary
Other	

Forest Vegetation Description

Vegetation Topic	Description
General Description, Forest Composition, Stand History, and Harvest History	In addition to mapping the bounds of purchased lands, the first Quabbin water supply land surveyors (1920s-30s) also roughly mapped land use/cover. They classified the proposal area as forest containing a mix of white pine and hardwood sprout land. Fast forward a century and the initial assessment holds true; with the exception being the forest is now much larger/taller. Eighty six (86%) percent of the overstory is composed of white pine/oak (white, red, black and scarlet), the remainder being a hodgepodge of species including red maple, black birch, hickory, hemlock and beech. Hemlock stocking is concentrated in and around a swale along the area's west edge. Average overstory basal area is 120 square feet per acre. Four Intermediate harvests, in various sections of the area, occurred in the early 1960s, early 80s and late 90s.
Advance Regeneration description	Regeneration is sparse with black birch holding the greatest abundance at 40% followed by white pine at 15%. The area's northern quarter is home to patches of mountain laurel.
Terrestrial Invasive Plants description	Trace amounts of glossy buckthorn were found during field assessment. A portion of the area's north boundary is a beaver impacted wetland that is also home to a healthy population of glossy buckthorn.

Description of Wetland Resources Present

Resource Type	Description of resources present
Wetlands	Yes, mostly adjacent forested wetlands.
Streams	Yes, two intermittent.
Vernal pools	Verified vernal pool (VVP 696) is located on the northwest side of the proposal and verified pool (VVP 694) is in the central region of the proposal. Potential pool (PVP 698) located just north of VVP 694 was surveyed and determined not to be a vernal pool. Verified vernal pool (VVP 424) is located on the eastern edge of the proposal and verified vernal pool (VVP 992) is located at the southeastern edge.
Seeps	None Known

Description of Soils by Hydric Class

Soil Hydric Classes	% of area	Soil series and any further comments
Excessively Drained	5	Hinckley sandy loam
Well-drained Thin	0	
Well-drained thick	85	Canton fine sandy loam, Canton-Chatfield-Hollis complex
Moderately well-drained	0	
Poorly to very poorly drained	10	Ridgebury gravelly fine sandy loam

Proposed Silvicultural Activities

Topic	Description
Site Selection and Silvicultural Objectives	Oak woodland is considered a fire adapted keystone community. Fire has been effectively removed from the landscape for the last one hundred years through modern wildfire suppression techniques. This has led to mesophication, a process where fire adapted species are slowly replaced by generalist species. The legacy of high deer density at Quabbin and a lack of necessary disturbance has favored non-oak species. This harvest would be step one in a multi-step process to restore a fire adapted community that includes sustained oak regeneration.
Silviculture Prescription	The intent is to prepare the area to successfully receive low intensity, slow burning (ground level) prescribed fire while maintaining an on-site oak seed source. The conditions ideal for implementing this type of prescribed fire are: • A mostly open regeneration and mid-canopy layer • A flush of sunlight reaching the forest floor • A low amount of post-harvest woody debris The harvest will remove most of the understory (undesirable regeneration, suppressed and intermediate crown class forest, including oak) and 65 to 70% of the overstory (co-dominant and dominant forest). Overstory removal will initially target mesophytic species like birch, red maple, white pine and hemlock; followed by poorly formed oak and hickory. It's crucial that enough overstory is removed to allow fire adapted species like oak and hickory to experience sustained understory development. This post-harvest composition creates strong odds for an understory oak cohort to be successfully recruited into the mid-canopy (above deer/moose browse height). Odds improve when prescribed fire is applied after the harvest to discourage development of mesophytic competitors. The post-harvest overstory will primarily consist of healthy, dominant oak and hickory followed by white pine and hemlock to maintain appropriate residual basal area.

Climate Change Considerations: DWSP has determined that the decision to implement this project is consistent with EEA climate goals and guidelines and agency land management objectives. Carbon and climate change considerations specific to the activities proposed for this project are discussed below.

Proposed Activity	Alignment of Activity with Climate Oriented Strategies and Recommendations
Silvicultural Burning for Regeneration	Although most often used in Massachusetts for open habitat maintenance, prescribed burning is also used within **oak forests** in Massachusetts and elsewhere for silvicultural purposes. Fire rapidly alters a fraction of a forest's above-ground organic carbon including the release of CO_2, but carefully applied use of **low intensity fire** offers great payback value in trade for this minor loss. Prescribed fire can: • prepare a site for **reforestation**, • discourage **invasive species**, • create **charcoal**, a relatively stable form of carbon, which contributes to **long term carbon stability** of forests (i.e. through potential decreased wildfire effects, increased ground cover, increased tree resilience) • and encourage **native tree regeneration** better adapted to fire regimes, particularly oak and hickory. Forest stands treated with periodic light burning exhibit reduced biomass losses in the event of a wildfire, generally have **more resistance to pathogens**, and should be more **resilient under climate scenarios** that anticipate more frequent drought facilitated fires.
General/other Climate Change Considerations	This silvicultural approach is designed to restore and enhance forest resilience by creating favorable conditions for sustained oak regeneration. The proposed treatment enhances adaptability by promoting a structurally and compositionally diverse forest more resistant to drought, pests, and extreme weather. Reducing tree density reduces vulnerability to pests. By reintroducing low-intensity fire, this proposal promotes resilient native vegetation in an oak woodland, reduces vulnerability to wildfire and better positions the site to adapt to changing conditions. Oak and hickory species are especially well-suited for the warmer, drier conditions projected in Massachusetts, offering deep root systems, high drought tolerance, and strong resistance to wind and ice damage.

Equipment and Access Constraints and Considerations

Constraint Topic	Description and Considerations
Proposed Equipment requirements	Whole tree harvesting to minimize post-harvest fuel load.
Proposed wetland or stream crossings	None planned
Further wetland comments	None
Vernal Pools	Area has 3 verified pools (see description above).
Access improvements needed	May need gravel to stabilize landing.
Other EQ issues	None

Constraint Topic	Description and Considerations
In-kind Services	
Other Access Concerns (parking, trails, etc.)	None

Subwatershed Analysis

Sub-Watershed number/name	Total DCR-owned acres in this sub-watershed	Acres regenerated on DCR land in the last 10 years in this sub-watershed	Total DCR-owned acres remaining for regenerating up to the 25% per 10 year limit for this sub-watershed	Acres in this sub-watershed that are part of this proposed lot
57	2779	37	658	45
90	658	5.5	159	23

Additional comments on Subwatershed analysis: None

Wildlife and Habitat Observations and Considerations

Wildlife/Habitat	Observations and Considerations
Natural Heritage Priority Habitats?	Yes
State Listed species present:	NHESP has determined that certain state-listed sensitive species or habitats may exist within the lot proposal area. To protect them from unnecessary disturbance, detailed information regarding affected species and their locations is not included in this report. DWSP will coordinate with NHESP and follow recommendations to protect these species during the proposed activity.
Rare Natural Communities:	None Known
General Wildlife Comments	Live and dead high value snags (trees 16” dbh or larger) will remain for habitat. Moose sign is abundant in the area.

Cultural Resources Description and proposed protection measures

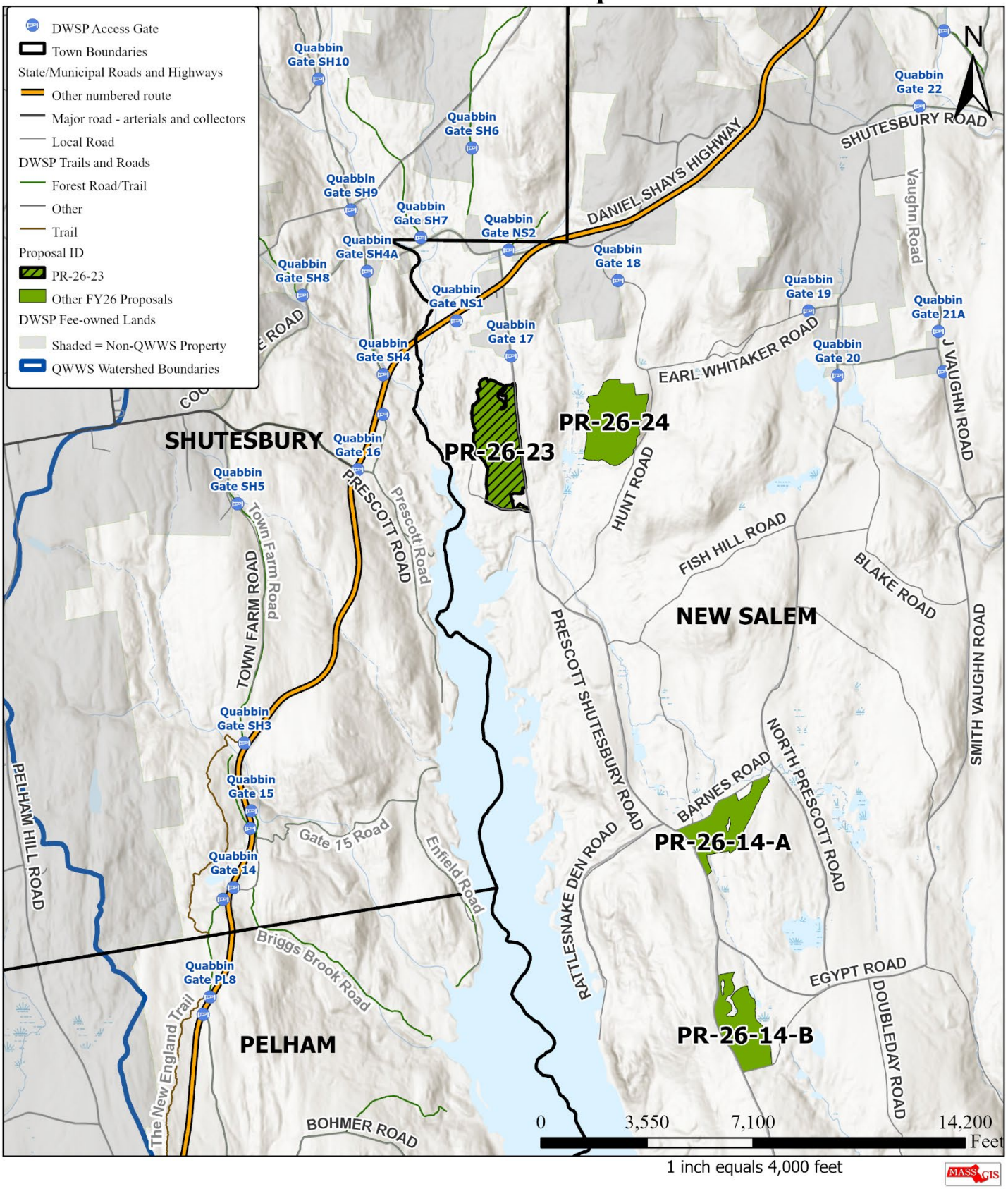
Cultural Resource	Description and proposed protection measures
Historical features present; comments regarding protection	A well, evidence of quarrying and a possible livestock cistern were identified during the field assessment. These resources will be flagged prior to timber harvesting and avoided.
Description of site characteristics in relation to Ancient sites modeling or other verified evidence	No evidence pointing to indigenous community land use was discovered and no sites are known or recorded. However, models would suggest a reasonable probability given the area’s proximity to lowlands of the Swift River’s west branch, and the general flatness of the topography within the area.

Massachusetts Department of Conservation & Recreation

Division of Water Supply Protection

Office of Watershed Management

PR-26-23 -- Locus Map



Massachusetts Department of Conservation & Recreation

Division of Water Supply Protection
Office of Watershed Management

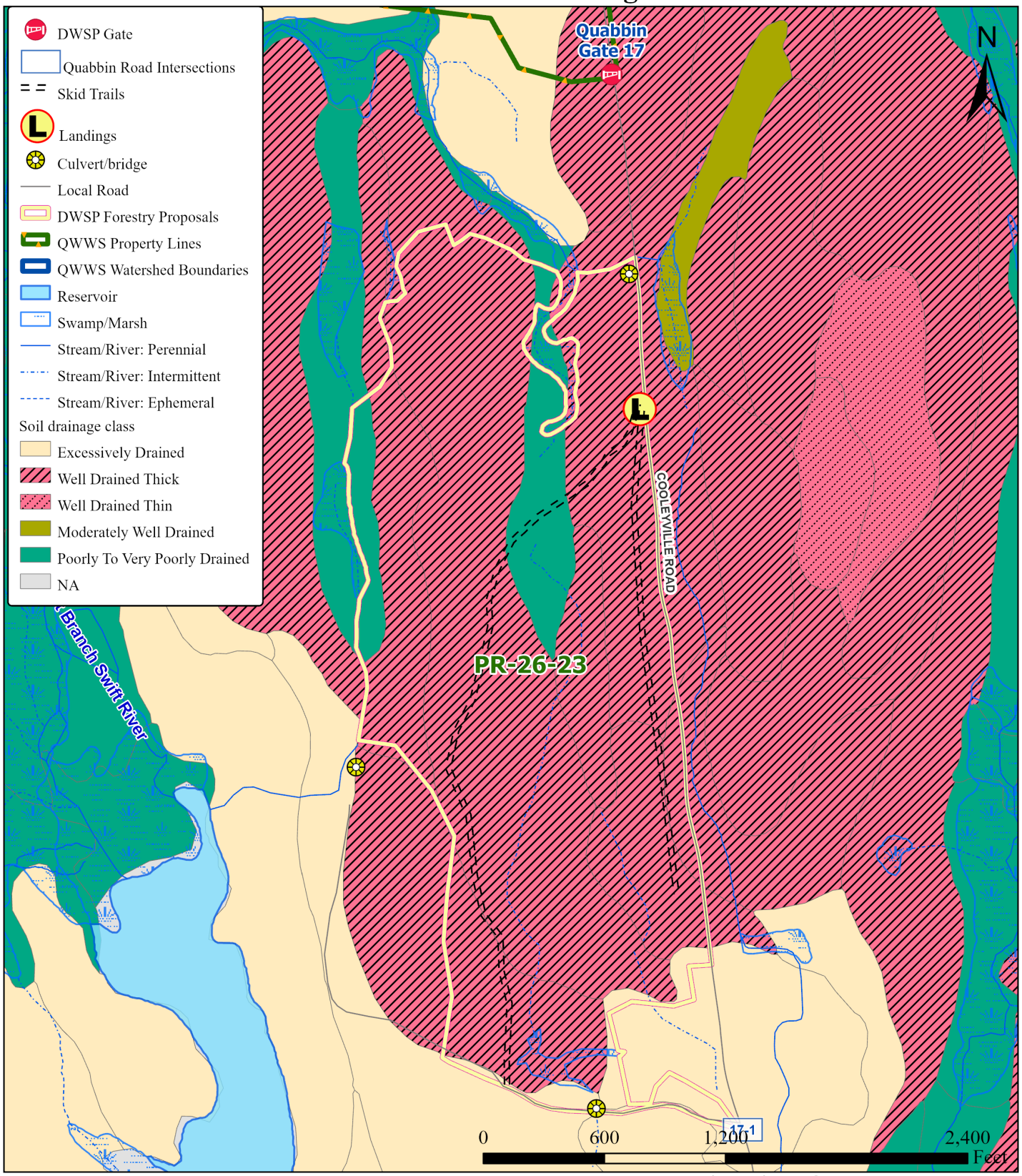
PR-26-23 -- Stand Map

Massachusetts Department of Conservation & Recreation

Division of Water Supply Protection

Office of Watershed Management

PR-26-23 -- Soil Drainage Classes

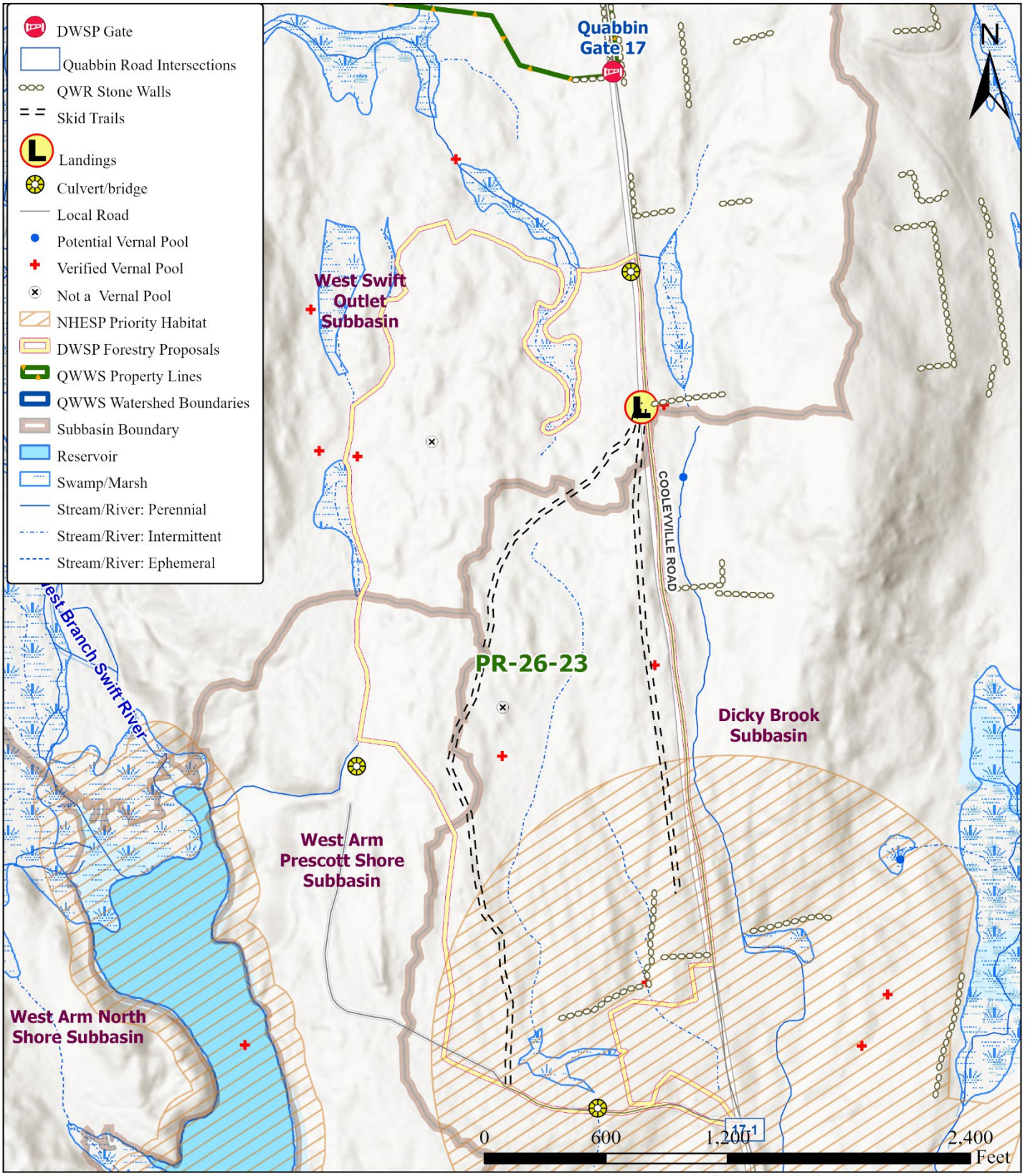


Massachusetts Department of Conservation & Recreation

Division of Water Supply Protection

Office of Watershed Management

PR-26-23 -- Wetlands and Wildlife Resources



Massachusetts Department of Conservation & Recreation

Division of Water Supply Protection

Office of Watershed Management

PR-26-23 -- Cultural Resources and Landscape Characteristics