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	**WA-26-77**
Fiscal Year	2026
Watershed	**Wachusett**
Town(s)	**West Boylston**
Forester	Greg Buzzell
Estimated Acres by Treatment Type	12 acres in regeneration patch cuts.
Total Proposal Acres	36.6
Block	n/a
Compartment and/or Working Unit	77
Location and Boundary Description	Inside Gate WB38 along the north end of Pleasant St. This area is bound on the west side by the Boston & Maine railroad; on the north side by Waushacum Brook; on the east side by Pleasant Street and on the south side by an arbitrary east-west line near the bottom of a narrow valley.
Previous Proposal?	No.
Project Goals and Summary Description	This 36-acre forest is part of original land that was taken at the time of reservoir construction. Forests provide exceptional water quality protection and yield high-quality water. Active forest management can increase the resistance and resilience of these watershed protection forests to disturbance by deliberately diversifying forest age structure and species composition. The forest in this area is not sufficiently diverse, particularly in age structure with 61% greater than 100 years old and 0% less than 20 years old. With plenty of young trees of a diversity of species in the understory, this operation will result in up to 12 acres of young forest through the removal of the older overstory in patches. These patches will range in size up to 2 acres and will be located throughout the area taking advantage of where young seedlings and saplings of diverse species are already present.

Forest Cover Types and Acreages

Overstory Forest Types	Acres
White Pine - Oak	12.4
Mixed hardwood	7.4
Oak – hardwood	3.2
Mixed oak	3.7
White pine	1.7

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	None
Dry site -Huckleberry, blueberry	Minor
Mesic site - cinnamon fern, mixed hardwood	Minor
Hayscented fern	None
Invasive shrubs/vines	None
Other	

Forest Vegetation Description

Vegetation Topic	Description
General Description, Forest Composition, Stand History, and Harvest History	The entire area, save for the northwest slope near the Stillwater Basin that was described as "Chestnut & Oak", was planted to white pine in 1921. No forest management activity occurred until 1984 when most of this area was thinned. This area was then heavily impacted by a severe thunderstorm in 1989. It blew down significant portions of the then 68-year-old stands. These areas were salvaged resulting in 10.7 acres of what are now 36-year-old stands of a wide variety of hardwood species including sugar maple, red oak, red maple, black birch, hickory, yellow birch, paper birch, white ash and black cherry. Much of the white pine regeneration that was prevalent 20 years ago has since been overtopped by the faster growing hardwoods and has died. The remaining older forest has a significant component of the planted white pine along with red oak, black oak, white oak and red maple. On the north slopes there's a component of hemlock in the overstory and a lot of hemlock in the midstory. There's a good understory of advance regeneration in much of these older stands. There is a single pitch pine among the white pine in the far south end of the area along with several pitch pine in the middle part on the top of the slope near the railroad right-of-way. The 152-year-old stand of mixed oak on the steep slope in the south end of the area is comprised primarily of red oak and black oak along with some white pine and a few white oak. The trees are not particularly big or tall. They have rough, twisted crowns showing the effect of the many ice storms and other disturbances that they've endured. There are numerous roadside sugar maple trees along Pleasant St. and there are several large sugar maples along Waushacum Brook. These are the reason for the significant component of sugar maple throughout the understory in this area.
Advance Regeneration description	Sampling found adequate regeneration in 60% of the plots with marginally adequate regeneration in another 26%. It's primarily comprised of red maple, black birch and sugar maple along with red oak, white pine, hickory, paper birch, white oak and yellow birch.
Terrestrial Invasive Plants description	Invasive species were found in 4% of plots (3 of 76 plots). Two of these are adjacent to Waushacum Brook and the third in a wet area near the outlet of a culvert near Pleasant Street, Oriental bittersweet and mutliflora rose were found. There are scattered bittersweet and rose throughout the area in the far north end of the area between Waushacum Brook and Pleasant Street.

Description of Wetland Resources Present

Resource Type	Description of resources present
Wetlands	None.
Streams	Waushacum Brook is the northern boundary of this area.
Vernal pools	None known.
Seeps	None known.

Description of Soils by Hydric Class

Soil Hydric Classes	% of area	Soil series and any further comments
Excessively Drained	58	Hinckley and Windsor sandy loams
Well-drained Thin	0	
Well-drained thick	42	Agawam and Paxton fine sandy loams
Moderately well-drained	0	
Poorly to very poorly drained	0	

Proposed Silvicultural Activities

Topic	Description
Site Selection and Silvicultural Objectives	This working unit was selected due both to the lack of age diversity in the forests of this subwatershed and in this working unit itself. About 2/3rd of this area is within subwatershed #4 (Thomas-Quinapoxet-Stillwater Rover). Only 10% of the forest stands within this subwatershed are 20 years old or less. The other third of the area is within subwatershed #16 (Wauschacum Brook). Only 12% of the forest stands within this subwatershed are 20 years old or less. Within the 36.6 acres of this working unit, there are no stands 20 years old or less while 61% of the stands are more than 100 years old. The age structure of this working unit is as follows: 0%, 0-20 years old; 29%, 21- 40 years; 0%, 41-60 years; 10%, 61-80 years; 0%, 81-100 years; 61%, 100+ years old. The oldest stands date to about 1873 making them 152 years old. This is a mixed oak stand of about 2 acres on the northwest slope directly above the Stillwater Basin. Given the lack of young stands in this area and given the presence of adequate advance regeneration, the primary goal will be to increase the proportion of young forest stands in this area. With there already being two well established age classes…the 22 acres that is over 100 years old and the 10.7 acres that is 36 years old…this is an opportunity to create a third age cohort in this area.

Topic	Description
Silviculture Prescription	With the overall goal of having a forest with a diverse age structure with at least 3 age-classes distributed throughout both the subwatershed and the 36.6 acres within this specific area, the older overstory will be removed in patches. These patches may total as many as 12 acres which would be 1/3rd of the manageable acreage in this area. They will range in size from as small as 1/5th acre up to a maximum of about 2 acres. They will be as well distributed throughout the working unit as possible, taking advantage of where the advance regeneration is present. Within these patches, it is common practice to leave a variable number of overstory trees. These provide important vertical structure and wildlife habitat. No work is planned in the areas between these new openings in the older stands. The harvesting and storm salvage that've happened in the past have resulted in an adequate decrease in stocking that does not need to be decreased any further. The only work that may be considered is to remove some of the white pines that are directly competing with the small number of pitch pine. No work will occur in the 152 year-old mixed oak stand. After the operation, the age structure of the forest is estimated to be: 32%, 0-20 years old; 29%, 21-40 years; 0%, 41-60 years; 10%, 61-80 years, 0%, 81-100 years and 29%, 100+ years old.

General Climate Change Considerations:

This silvicultural approach is designed to enhance long-term forest resilience by creating a more diverse age structure and supporting climate-adapted regeneration. With two distinct age classes already present the prescription aims to establish a third forest growth stage by removing the overstory using patch cuts. This patch-based approach aligns with climate-smart forestry practices by mimicking natural disturbances patterns, while retaining structural elements such as legacy trees and snags, and avoiding large-scale canopy loss. The method helps preserve soil moisture, moderate microclimates, and protect nutrient cycles. By establishing a new age class without disturbing previously managed or naturally regenerating areas, the harvest supports carbon retention within the management unit.

DWSP has determined that the decision to implement this project is consistent with EEA climate goals and guidelines and agency land management objectives. 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
Full overstory removal, partial stand, patch regeneration cut. **(*see page 3, Silvicultural Prescription, patch openings*)**	Patch cutting is a regeneration technique that straddles the boundary between classic even-aged and uneven-aged forest management systems. Foresters select appropriate areas ('patches' or 'groups') covering a portion of the stand to harvest rather than removing the entire stand and then return periodically to repeat the process in other portions of the stand. In using patch cutting there is no final regeneration cut. Patch size and shape are determined by many different factors including overstory condition, desired species composition in the regeneration layer, other desirable herbaceous and woody vegetation, location, stand re-entry period, etc. Harvesting in patches aligns with many **climate-smart forestry practices**: • Increasing **structural diversity** improves resiliency by reducing the impact of age/size related disturbances. • Extending regeneration periods minimizes short term impacts to groundwater and nutrient cycling. • Partial stand overstory removals more closely align with **natural disturbance patterns**. • More **carbon is left on the landscape** for longer periods, and within-patch live tree, snag, and coarse debris retention allow for development of old forest characteristics. • Can also be used as opportunities to increase the stocking of **future climate adapted species, current climate imperiled species**, or other types of desirable vegetation.
Additional Comments	

Equipment and Access Constraints and Considerations

Constraint Topic	Description and Considerations
Proposed Equipment requirements	Forwarding and mechanized felling will be required. This gives the best chance to protect as much of the advance regeneration in the areas of overstory removal as possible.
Proposed wetland or stream crossings	None planned.

Constraint Topic	Description and Considerations
Further wetland comments	No comments.
Vernal Pools	None known.
Access improvements needed	None needed.
Other EQ issues	None.
In-kind Services	None.
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
4/Thomas-Quinapoxet-Stillwater River	740	19	130	22.4
16/Waushacum Brook	1335	11	240	14.2

Additional comments on Subwatershed analysis:

Wildlife and Habitat Observations and Considerations

Wildlife/Habitat	Observations and Considerations
Natural Heritage Priority Habitats?	The northern 1/3rd of the area is within Priority Habitat polygon #1543. Any and all requirements and restrictions placed on this operation by the Massachusetts Natural Heritage and Endangered Species Program will be followed.
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	The old roadside sugar maples along Pleasant St. and the 152-year-old oaks on the steep slope have many cavities. One stick nest was noted in a white pine in the far south end of the area. While no others have been noticed, there are many large-crowned white pines on the north-sloped area, just south of Waushacum Brook that seem ideal for stick nests. Most or all of these will be maintained.

Cultural Resources Description and proposed protection measures

Cultural Resource	Description and proposed protection measures
Historical features present; comments regarding protection	There are the remains of what appears to be a mill on Waushacum Brook about 400' west of Prescott St. Nothing is shown at this location on any map or plan going back to 1795. The 1795 map of Sterling does show a mill on Waushacum Brook immediately on the east side of Prescott St. Perhaps these structures are associated with that site. No work will occur in the immediate vicinity. All of these structures will be flagged and protected from disturbance as needed.
Description of site characteristics in relation to Ancient sites modeling or other verified evidence	Surface stone is not prevalent. Microtopography is pronounced. This site has a lot of topography so little of it is less than 7% sloped. There is little surface stone present. There is significant microtopography from the pits and mounds in the areas of widespread blowdown from the storm in 1989. If applicable, DWSP will follow the recommendations of DCR's Archeologist regarding protection of sensitive sites.

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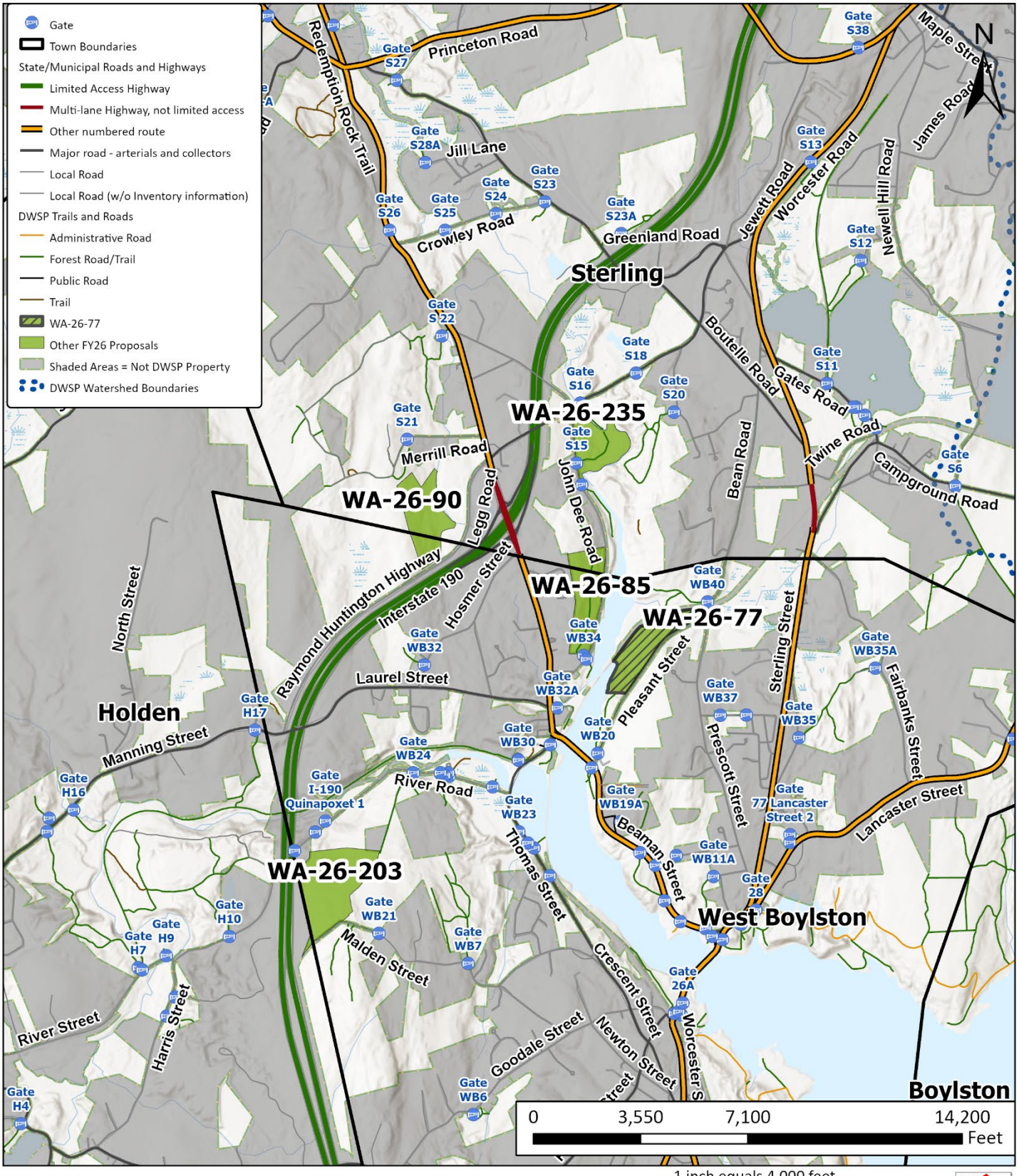
WA-26-77 -- Locus Map



1 inch equals 4,000 feet

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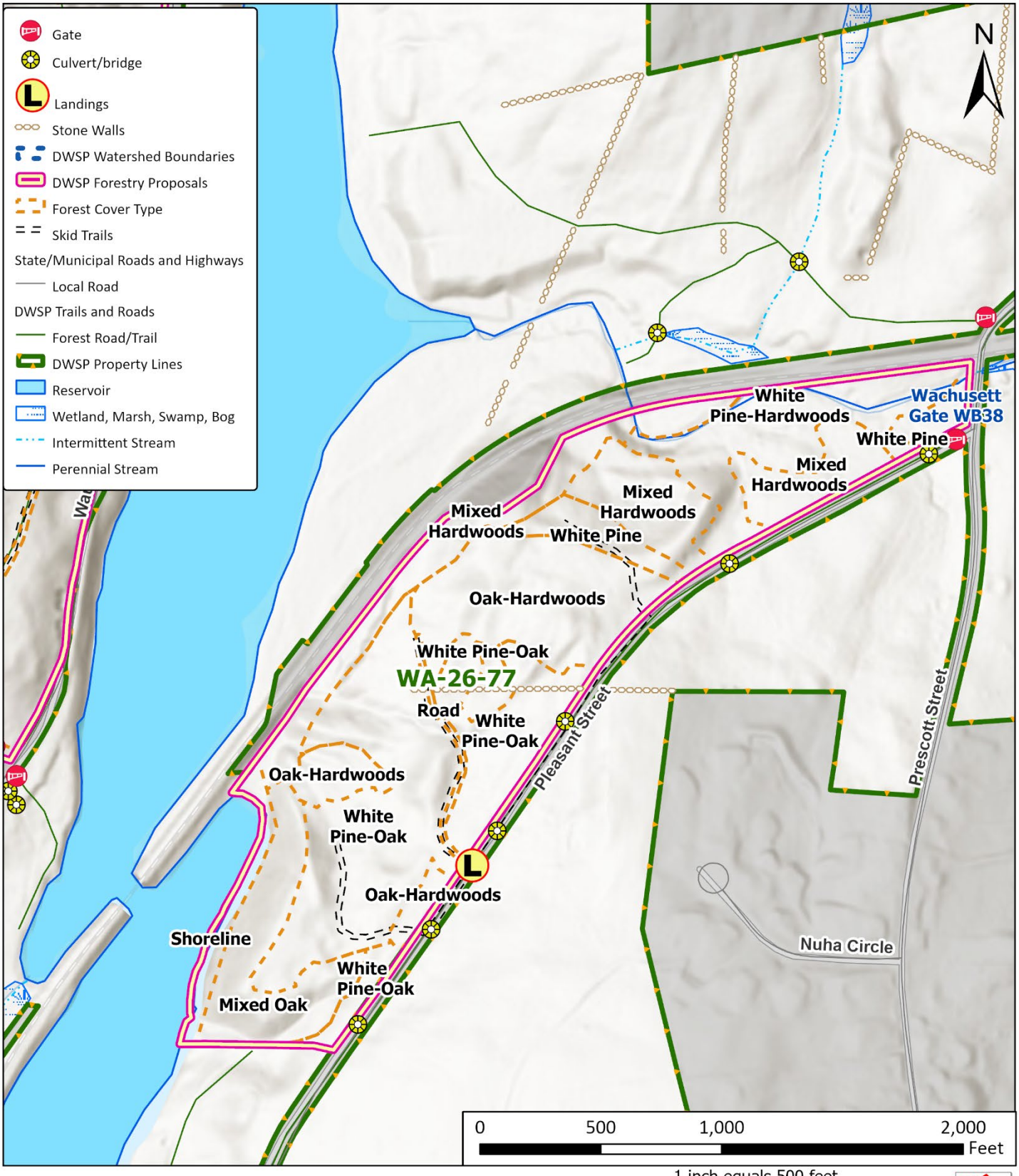
WA-26-77 -- Stand Map



1 inch equals 500 feet

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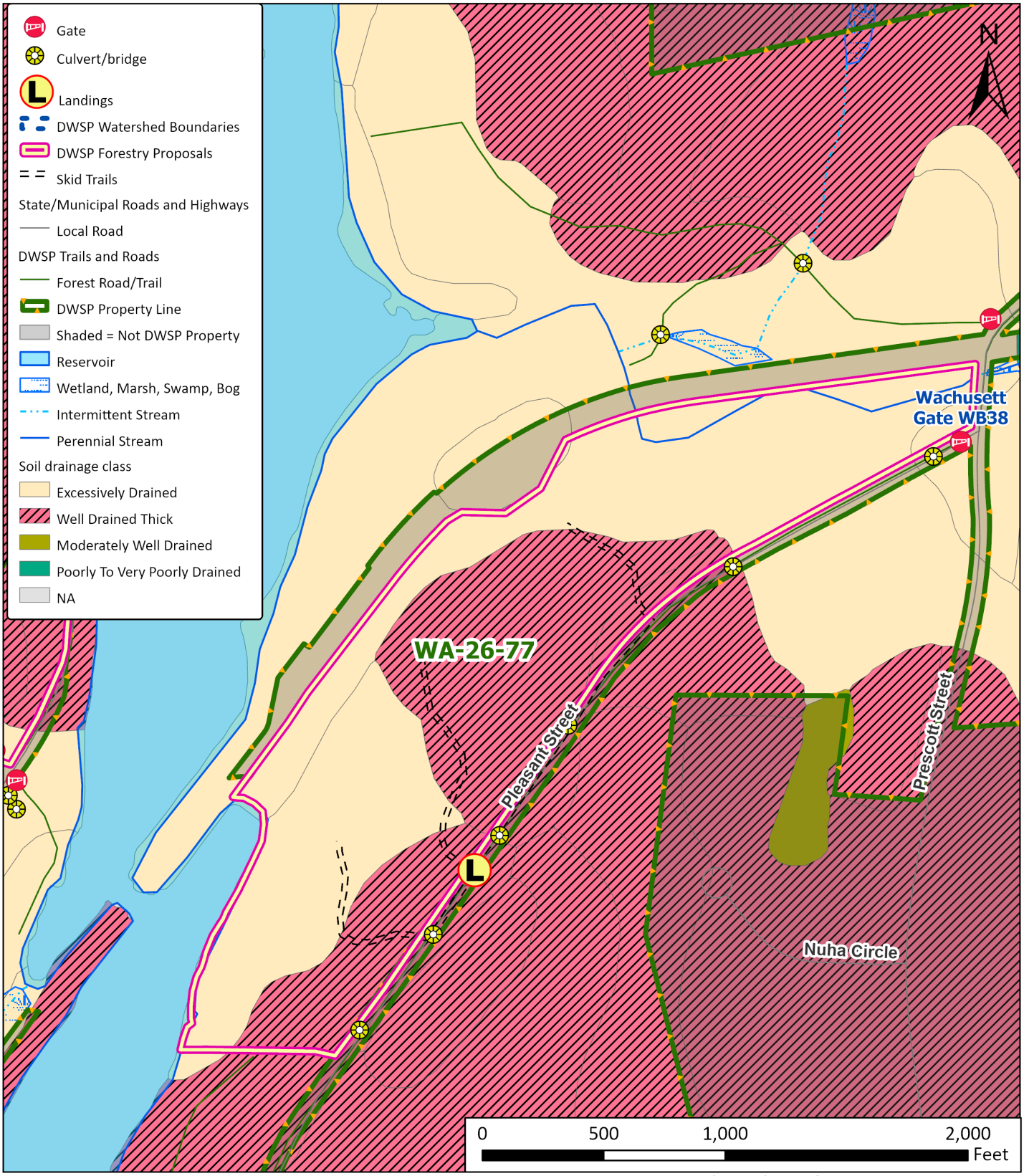
WA-26-77 -- Soil Drainage Classes



1 inch equals 500 feet

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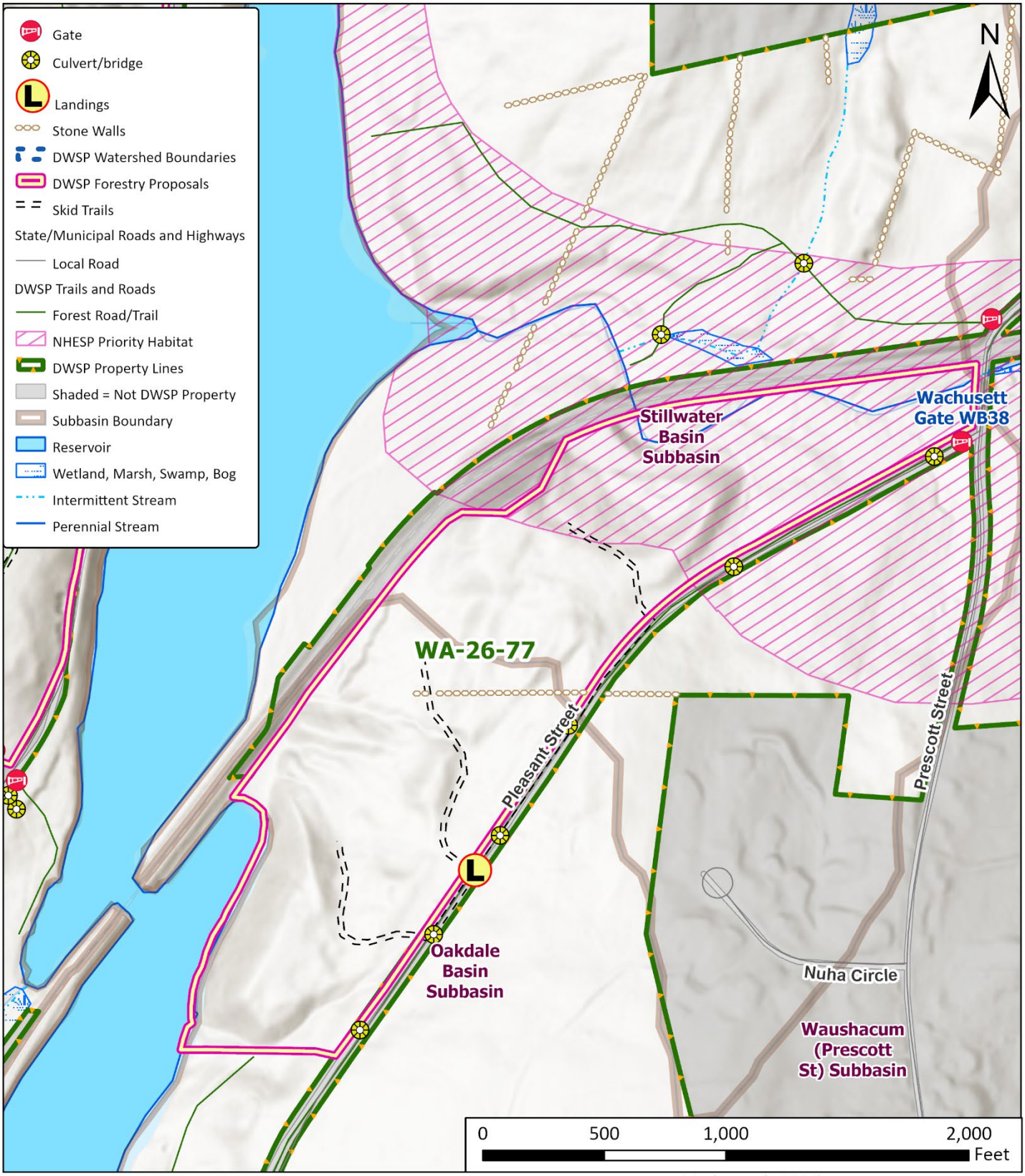
WA-26-77 -- Wetlands and Wildlife Resources



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WA-26-77 -- Cultural Resources and Landscape Characteristics