

**Massachusetts Department of Conservation and Recreation
Bureau of Forest Fire Control and Forestry
Forest Management Proposal
Name: Brett Road**

Date Posted: March 15, 2019

End of Comment Period: April 29, 2019

Region: West

Recreation District: Lakes

Forest Management District: Southern Berkshires

State Forest: Beartown State Forest

Closest Road: Brett Road

Town: Monterey

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Overview:

The Brett Road Forest Management project is a 112 acre project on Beartown State Forest (see Locus Map) encompassing the administrative headquarters area, the Swann Lodge recreational area and road side hazard treatments along Brett Road, Blue Hill Road, and Swann Road. This proposal will include 22 acres of declining plantations consisting of red pine, white pine and/or spruce, and 60 acres of oak hardwood stands. Within these 112 acres there are 30 acres of Forest Reserve and 82 acres of Parklands.

As outlined in the Forest Futures Visioning Process and associated DCR Management Guidelines, published in March 2012, the Brett Road Project has a both Parkland and Forest Reserve Designations. This project is located in an area of Beartown State Forest that has many structures and infrastructure elements such as electrical lines, public roads, utility lines, etc. In addition, there are abutting private homes and out buildings within the project area. While the commercial production of wood for wood products is not an intended goal for Parkland and Forest Reserve designated properties, silvicultural treatments are permitted for the following purposes (Commonwealth of Massachusetts, 2012):

- 1.) Vegetation management necessary to protect public health and safety, public interests, public assets and/or restore or maintain recreation sites following significant natural disturbances or destructive insects or disease.

2.) Removal of plantations to restore more natural and diverse vegetative communities – if public health and safety are at risk, or to restore ecologically significant communities such as pitch pine barrens.

The conditions that led to selecting this project for forest management are:

- The project area has been affected by biotic agents (red pine scale, root rot, Norway spruce shoot gall midge, and white pine needle rust, emerald ash borer) that are causing mortality in the overstory of all plantations.
- Due to the loss of overstory crown cover there is an acceptable density of sugar maple, black birch, hop hornbeam and other native tree saplings available to be released in the understory of several plantations that will readily fill-in the gaps created by the treatment .
- This project will provide an opportunity to remove hazards to infrastructure and human safety along Brett Rd., Blue Hill Rd, Swann Rd. and around the Swann Lodge, and areas adjacent to administrative and recreational infrastructure.

The Brett Road Forest Restoration Management Project proposes to:

- Forest Reserves - Remove/reduce public safety concerns related to dying red pine, Norway spruce, white pine and white ash trees along town maintained roads.
- Parklands - Demonstrate the use of forest management (silviculture) to address safety concerns adjacent to administrative buildings, infrastructure and public areas.
- Provide substantial cost savings to the DCR and the Town of Monterey by removing hazard trees that currently have economic value.
- Demonstrate harvesting techniques and best management practices that protect forest productivity, soil and water resources.
- Fulfill management approaches for Reserves and Parklands as directed by the Forest Futures Visioning Process (2010) and subsequent Management Guidelines (2012) including the restoration of a native ecosystem.

Forest Reserves: The proposed project area consists of 28 acres of hazard tree removal along town roads and 2 acres of red pine removal within the Reserve designation.

- Roadside Hazard Removal strip – There are 28 acres within the Reserve designation that will be treated specifically for public safety. DCR property along town maintained roads will have a one-hundred foot treatment area, measured from the edge of the public right of way, where all white ash, red pine, Scots pine, declining Norway spruce, snags and other trees deemed to be a hazard to the roadway will be removed during the operation. These roadside strips fall within all the forest types listed above, and vary in tree size, density and health. There is a variable understory of hardwoods, shrubs and herbaceous species.
 - This project will coordinate with the DCR Forest Health Program and the Town of Monterey Highway Department to ensure the goal of public safety is accomplished.

- Red Pine Plantation – There is a 2 acre declining red pine plantation located on the southern boundary of the Administration parcel which will be removed for public safety and hazard mitigation of the neighboring property. This plantation has not been treated in the past and until recently was very dense. Due to the dying overstory, an understory of native hardwoods has been established, resulting in two age classes.

Parklands: Plantations within the Parklands designation consist of 3 acres of red pine (*Pinus resinosa*), 6 acres of Norway spruce (*Picea abies*), and 13 acres of mixed white pine (*Pinus strobus*) and Scots pine (*Pinus sylvestris*). These plantations were established in 1921-1929 by the Commonwealth and have been shaped by mortality in recent years caused by red pine scale (*Matsucoccus resinosae*), root rot (*Armillaria borealis*), overcrowding, and weather events. The remaining Parklands contain 60 acres of oak/hardwood stands.

- Red Pine Plantation – There are approximately 3 acres of red pine in Parklands. Very much like the stands in the Forest Reserve, these stands have not been treated in the past and until recently were very dense. Due to the declining overstory, an understory of native hardwoods has been established, resulting in two-age classes. The overstory is dominated by red pine with small amounts of red oak, poplar, black birch, white birch as well as other hardwood species with an average of 12-14 inch diameters at breast height (dbh) and heights over 100 feet. Currently the red pine is rapidly dying due to red pine scale. The understory is currently stocked with sugar maple, red maple and red oak. This young emerging stand is approximately 20 feet tall with an average diameter of 2-5 inches.
- Norway Spruce Plantation - Approximately 6 acres of Parklands consist of Norway spruce plantations of varying amounts of mortality due to root rot (*Armillaria* spp) and Norway spruce shoot gall midge. These untreated stands average 16-18 inches in diameter and have existing open patches from mortality that are greater than 1/3 acre. Tree heights of dominant trees in these stands are above 100 feet. There is currently no defined understory however there are pockets of advance regeneration throughout portions of the stand with high mortality. Intact portions of the stand are overstocked and have a thick duff layer inhibiting tree regeneration and herbaceous vegetation.
- White Pine Plantation – Approximately 13 acres of Parkland are white pine plantations which are overstocked, with diameters averaging 16-20 inches in diameter and heights over 100 feet. White pine needle cast, has begun causing mortality within these stressed stands. Along with white pine there are native hardwoods and patches of European larch which were planted at the same time as the white pine . There is no defined tree understory in these stands, however ferns, grasses, low bush blue berry, and arrowwood are present.
- Oak Hardwood stand - The remaining 60 acres of Parklands within the project area consist of mixed oak stands comprised mainly of white ash, red maple, black birch, sugar maple and red oak trees. The understory in this stand is variable with beech, black birch, and yellow birch trees common. Striped maple and witch hazel dominating the shrub layer, with lesser amounts of high-bush blueberry, arrowwood and winterberry. These stands vary in size class, species composition and density due past harvesting practices.

Topography: This proposed project area includes the satellite parcel of the Beartown State Forest where the administrative headquarters, and the Parklands portion of forest of the Swann SF (Swann Lodge lease area) are located. The project also includes roadside treatments along Brett, Blue Hill, and Swann Roads; all of which are bounded by stone walls. All stone walls within the project area are a result of past agricultural practices.

The project area is generally flat with some rolling terrain within the plantations that are to be treated. Steeper terrain in the northern Swann section is very rocky and will not be managed. There is also a large wetland outside the treatment area in the northern portion of the project area. This property is surrounded by several active agricultural fields, residential properties, wood lots, and additional contiguous state forest lands of the larger Beartown complex (Swann locale only).

Soil: There are several soil types mapped within the salvage portion this project area; PmC, PoB, and BmE. These types can be considered the same for forestry use. The soils are loamy, moderately deep, well drained, considered moderate to excellent for forest growth, low risk for erosion, and have few equipment limitations. (Excerpts from "Soil Survey of Berkshire County Massachusetts", NRCS 1995)

Previous Forest Management Treatments: According to DCR records the project area, and much of the surrounding area, was agricultural land that was abandoned approximately 100 years ago and was planted in the 1920's to red pine, Norway spruce, white pine and Scots pine, in some cases after natural regeneration began. Many of these plantations received stand improvement treatments in the 1930s and 1940s and were "released and thinned" in the 1950's. Portions of the Norway spruce and white pine plantations outside of the proposed treatment area were harvested in the 1980's and 2000's. Most of the oak hardwood stands were thinned in the 1980's and early 1990's.

Aesthetic, Recreation, Wetlands, Cultural, Rare Species and Wildlife Considerations:

Recreation and Aesthetics: The Beartown SF headquarters building and barn are located within this project area, as well as the historic Brett house which functioned as the Forest Supervisors House but is currently mothballed. Swann Lodge is the former residence of Arthur Wharton Swann whose family, in 1918, donated the building and forestland to the state after his untimely death in 1914. There is one authorized trail in this project area located on the Swann parcel where timber marking will account for the aesthetic quality of the forest as well as where it is seen from Brett, Blue Hill, and Swann Roads. All slash from the harvest will be dealt with accordingly as per the regulations of Ch. 48 of MGL, the Massachusetts Slash Law.

Streams and Wetlands: There is the perennial Swann Brook and two small wetland areas as well as three small drainages within the plantations that harvesting will occur in. These, as well as any additional wetland features found, will be mapped and flagged on the ground for protection during the harvest. Harvesting in and near these areas will follow the guidelines of the "Massachusetts Forestry Best Management Practices Manual".

Due to existing access and topography there is no anticipated intermittent stream crossing within this project area. Every effort will be made to avoid creating stream and wetland crossings if additional water features are found. All operations within regulated water features found in the

area will at minimum follow the guidelines of the “Massachusetts Forestry Best Management Practices Manual 2nd Edition”.

There are no mapped certified or potential vernal pools by NHESP however several potential vernal pools are mapped just outside of the project area. There are other seasonal seeps, intermittent and perennial streams and small forested wetlands areas located throughout the excluded portion of the project area.

Cultural Resources: There are no known pre-contact sites or identified cultural resources within the proposed project. Buildings in this project area have served as the Beartown SF Headquarters since 1921. The one mapped foundation was filled during construction of the current headquarters building. All building and outdoor features of the Supervisors House are outside of the proposed harvest area, any features found within the project area will be protected from disturbance during the operation and will be treated according to guidelines set forth in the “Bureau of Forestry – Cultural Resource Management Protection Standards & Guidelines”. Due to the agricultural history of this area many stone walls occur in and around the harvest area. These walls will be protected from damage during harvesting.

Rare and Endangered Species: According to the NHESP “Massachusetts Natural Heritage Atlas 13th Edition” and the currently distributed shape file there is no priority or estimated habitats located in the proposed harvest area. No rare plants have been identified in the field to date. Care will be taken to properly report and address the needs of any state-listed rare plant or wildlife species if found on the site.

Wildlife: No rare animals or critical habitats were noted upon the initial site visit. Wildlife common to the area is abundant. It has been observed in previous forestry operations nearby that large herbivore pressure is a minor concern. Due to the deteriorating nature of the forest types in this project area there is an abundance of large diameter coarse woody debris (CWD) and both live and dead wildlife trees (snags).

Sale Layout and Harvesting Limitations:

Project Access: Access to the proposed project area will be from Route 23 to Blue Hill Road in the town of Monterey. This project will attempt to utilize existing landing areas for both forwarder and truck landings, however due to seasonal conditions new roadside landing areas may be needed. It is anticipated that this project will be primarily a cut-to-length harvester and forwarder operation, allowing for smaller more organized landings.

Skid Road and Trails: All forwarder trails will be designated during the timber marking of the project area by the forester. Any existing trails found will be utilized when possible and new trails will be laid out as directed in the “Massachusetts Forestry Best Management Practices Manual 2nd Edition” and “Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines 2012”.

Wetland & Stream Crossing: As noted above, there are no anticipated wetland or stream crossings within this project area and every effort will be made to avoid stream and wetland crossings. All

resource areas found in the area will at minimum follow the guidelines of the “Massachusetts Forestry Best Management Practices Manual 2nd Edition”.

Road and Trail Buffers: Residual Basal area along portions of Brett and Blue Hill and Swann will be low due to the density of red pine, Scots pine, white ash and Norway spruce that must be removed. To alleviate this within 50 feet of the road edge all other species will be retained provided they do not present hazards to public safety. The DCR will seek an exemption to the Chapter 132 regulatory requirement that no more than 50% of the basal area may be cut at any one time. Coordination with the town of Monterey will also be sought. As directed in the Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines 2012” a 50 foot buffer where slash will be light and natural in appearance will be in place along these roads.

Equipment Limitations: This project will require a cut-to-length harvester and forwarder for the protection of understory regeneration in the red pine and Norway spruce stands.

Excluded Areas: Wetlands identified within the project area will be clearly marked and follow the guidelines of the “Massachusetts Forestry Best Management Practices Manual 2nd Edition”. The extent of the 100 foot hazard tree removal zone will be clearly marked.

Erosion and Sedimentation: Unwanted movement of soil will be controlled by following recommendations in the “Massachusetts Forestry Best Management Practices Manual 2nd Edition”. All work will be limited to dry or frozen soil conditions.

Site Restoration: Upon completion of activity in the project area all roads, forwarder roads and forwarder trails will be left in a stable state by grading and installing water bars as needed. All landing will be clear of debris, graded and seeded with a conservation mix and straw.

Proximity to Designated Forest Reserves: Portions of the project as described above are located within the Beartown State Forest Reserve. This proposal has been reviewed and approved by the Forest Reserve Scientific Advisory Committee (FRSAC).

In-kind Services: Proposed in-kind services to be attached to this project to date.

- Offset costs of hazard tree removal.
- Road and trail work as well as lumber for trail projects within the forest.
- Maintenance of existing fields.

Forest Reserves Work Plan: Reducing hazards to human safety is the primary goal for working in these areas. This project aims to decrease the threat posed by hazard trees, mitigating potential property damage and to reduce the future cost of addressing these safety issues. Secondary goals include ensuring that this project be done aesthetically and safely.

Roadside Hazard Strip: The roadside strip of forest along town maintained roads will be treated to eliminate current and future hazard trees that could fall into the road, onto cars or people, or

onto the adjacent powerlines without the cost burdens of tree removal services that the town and or power companies would incur in the future.

- **Desired Future Conditions:** By removing the hazard trees a safe zone of operation for the public in the roadways through the treatment area will be created. The forest will be more aesthetically attractive with the hazardous trees removed.
- **Anticipated Future Work:** There will be no future treatments needed for this strip of forest.

Red Pine Plantations: The primary goal of public safety will be met by removing the diseased red pine while retaining, protecting and releasing the associated native trees and advanced regeneration currently in place. This project will seek the approval from the DCR Commissioner as required in the "Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines 2012" for harvest openings larger than 1/3 acre. Due to the varied density of existing native trees in the overstory openings larger than 1/3 acre will occur. The understory is anticipated to remain fully stocked with small 1-5 inch diameter native hardwood trees.

- **Desired Future Conditions:** Removing the diseased red pine will provide a buffer to the neighboring property from damage by an identified hazard. By releasing the sapling sized stand of hardwoods by harvesting the diseased red pine, the resulting stand will provide habitat diversity in size and structure in the larger forest ecosystem for years to come.
- **Anticipated Future Work:** Due to the current reserve status, no further treatment is expected.

Parkland Work Plan: Public safety is the primary reason for management of these stands. This can be accomplished in coordination with providing for long term forest health through silviculture. The treatments within the Parklands will create the conditions (stem density, species composition, and tree size) to achieve the desired results in each forest type. The primary goal of treatment in these stands is to increase public safety, remove the diseased, infected or otherwise hazardous trees, and protecting and releasing the advanced regeneration currently in place.

Red Pine Plantations: The primary goal of public safety will be met by removing the diseased red pine while retaining, protecting and releasing the associated native trees and advanced regeneration currently in place. This project will seek the approval from the DCR Commissioner as required in the "Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines 2012" for harvest openings larger than 1/3 acre. Due to the varied density of existing native trees in the overstory openings larger than 1/3 acre will occur. The understory is anticipated to remain fully stocked with small 1-5 inch diameter native hardwood trees.

- **Desired Future Conditions:** Removing the diseased red pine will provide a buffer to the DCR property from damage by an identified hazard. By releasing the sapling sized stand of hardwoods by harvesting the diseased red pine, the resulting stand will provide habitat diversity in size and structure in the larger forest ecosystem for years to come.
- **Anticipated Future Work:** Due to the current Parklands status no further treatment is expected.

Norway Spruce Plantations: These stands will be treated using an irregular shelterwood method with patch opening up to 1/3 acre in size. The remaining trees in the stand will have an uneven density allowing for varied amounts of light to penetrate the ground. This combination of silvicultural techniques will allow for some control and/or slowing down of the spread of root rot and attempt to extend the existing healthy Norway spruce component. The understory is anticipated to be fully stocked with native hardwood trees seedling and saplings within 5 years.

- **Desired Future Conditions:** Ten years after this treatment it is anticipated that these stands will have greater diversity in size and structure. Regeneration within the small openings and areas of heavier cutting should have a diversity of native tree species.
- **Anticipated Future Treatments:** This stand should be examined in approximately 5 years to ensure the advanced regeneration has survived and additional regeneration is of desired species. If continued mortality of the residual Norway spruce occurs further harvests may be necessary, otherwise due to the current Parklands status no further treatment is expected.

White Pine Planation: The silvicultural practice in these stands will demonstrate a uniform shelterwood system to promote regeneration as well as provide additional growing space to increase vigor of the remaining trees. This treatment will have a uniform look to the tree spacing. These stands will be managed for a high level of tree and understory plant species diversity, while trying to retain a component of white pine. Forest management efforts will also be aimed at creating and maintaining vertical (tree heights) and horizontal (down woody material) stand complexity.

- **Desired Future Conditions:** Within five years the new cohort of trees will be dominated by oak, birch and maple with white pine in a lesser amount. There will be some loss from needle cast of the residual white pine, although the rate of mortality should decrease. The new is anticipated to create more opportunities for additional regeneration, snags and CWD.
- **Anticipated Future Treatments:** This stand should be examined in approximately 5 years to ensure adequate regeneration has been achieved. If continued mortality of the residual white pine occurs further salvage may be necessary, otherwise due to the current Parklands status no further treatment is expected.

Oak Hardwood Stands: These stands will also be treated with a commercial thinning system to remove stressed trees and to retain and promote high vigor trees. The primary goal of the treatment will be to promote a more diverse and complex forest structure of variable tree sizes. The secondary goal of the treatment will be to salvage white ash before its imminent mortality from the Emerald Ash Borer.

- **Desired Future Condition:** A stand of high vigor oak, maple and birch trees and a new cohort of native hardwood regeneration. A more complex structure with a wide distribution tree size classes, snags, CWD and a generally more resilient forest.
- **Anticipated Future Treatments** Due to the current Parklands status no further treatment is expected.

District Forester: [Signature]

Date: 3-13-19

Field Operations Team Leader

Or Park Supervisor: Adam Morris

Date: 3-13-19

Regional Director: Don F. Sacco

Date: 3-14-19

Management Forestry

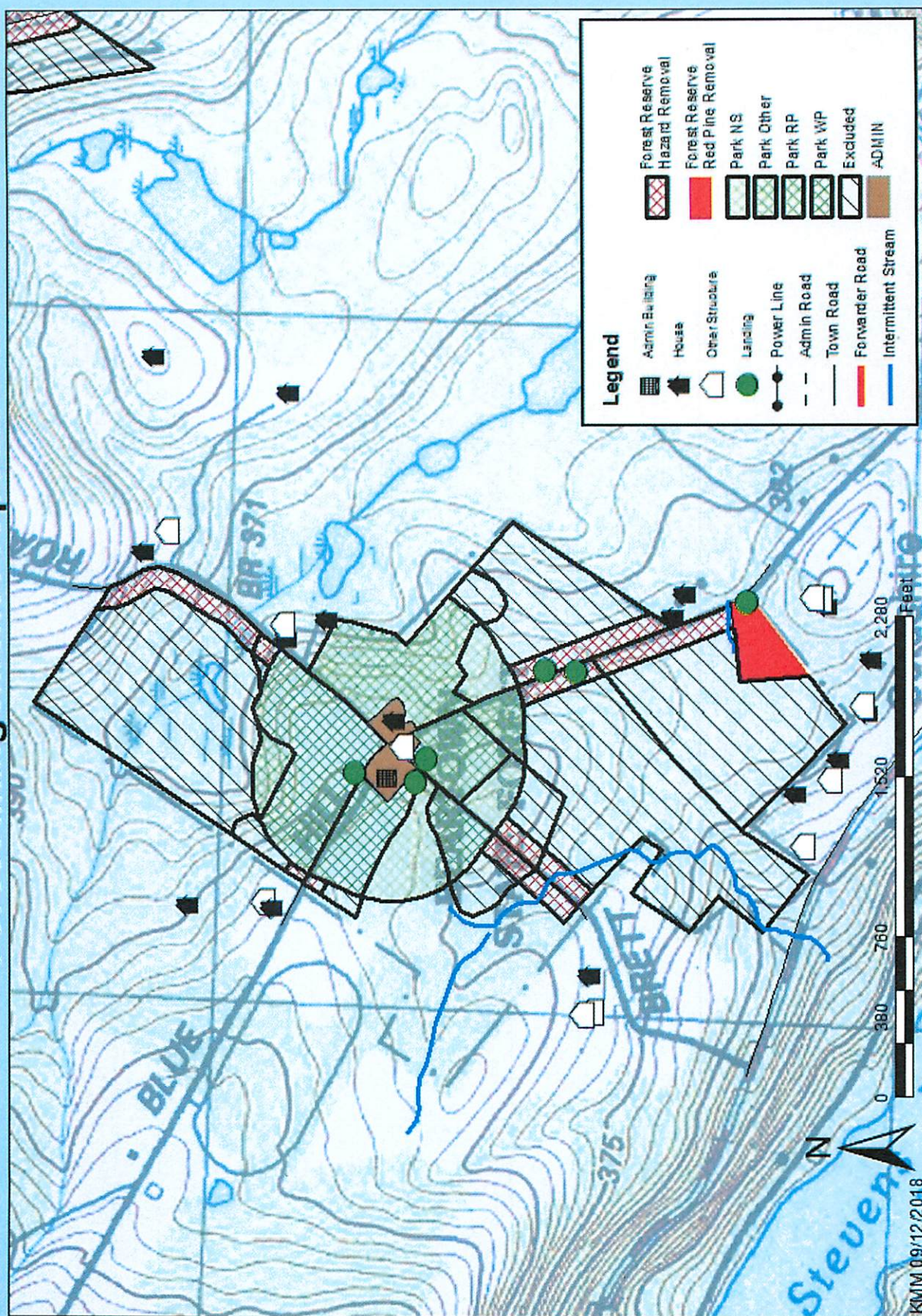
Program Supervisor: [Signature]

Date: 3-14-19

Attached: Topographic map showing project details. Locus map showing project location within regional context.

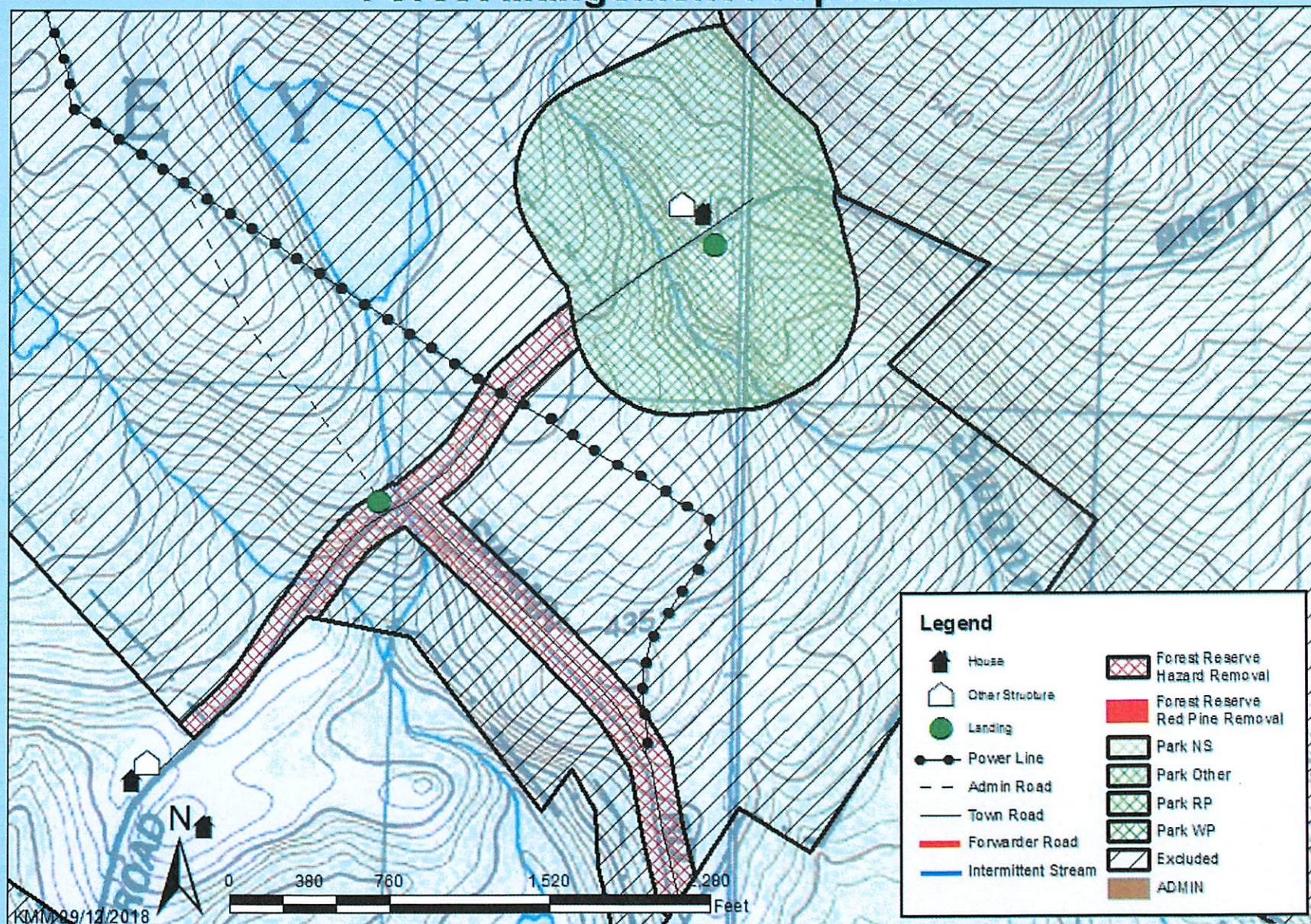
Admin Location

Brett Road - Beartown State Forest Forest Mangement Proposal

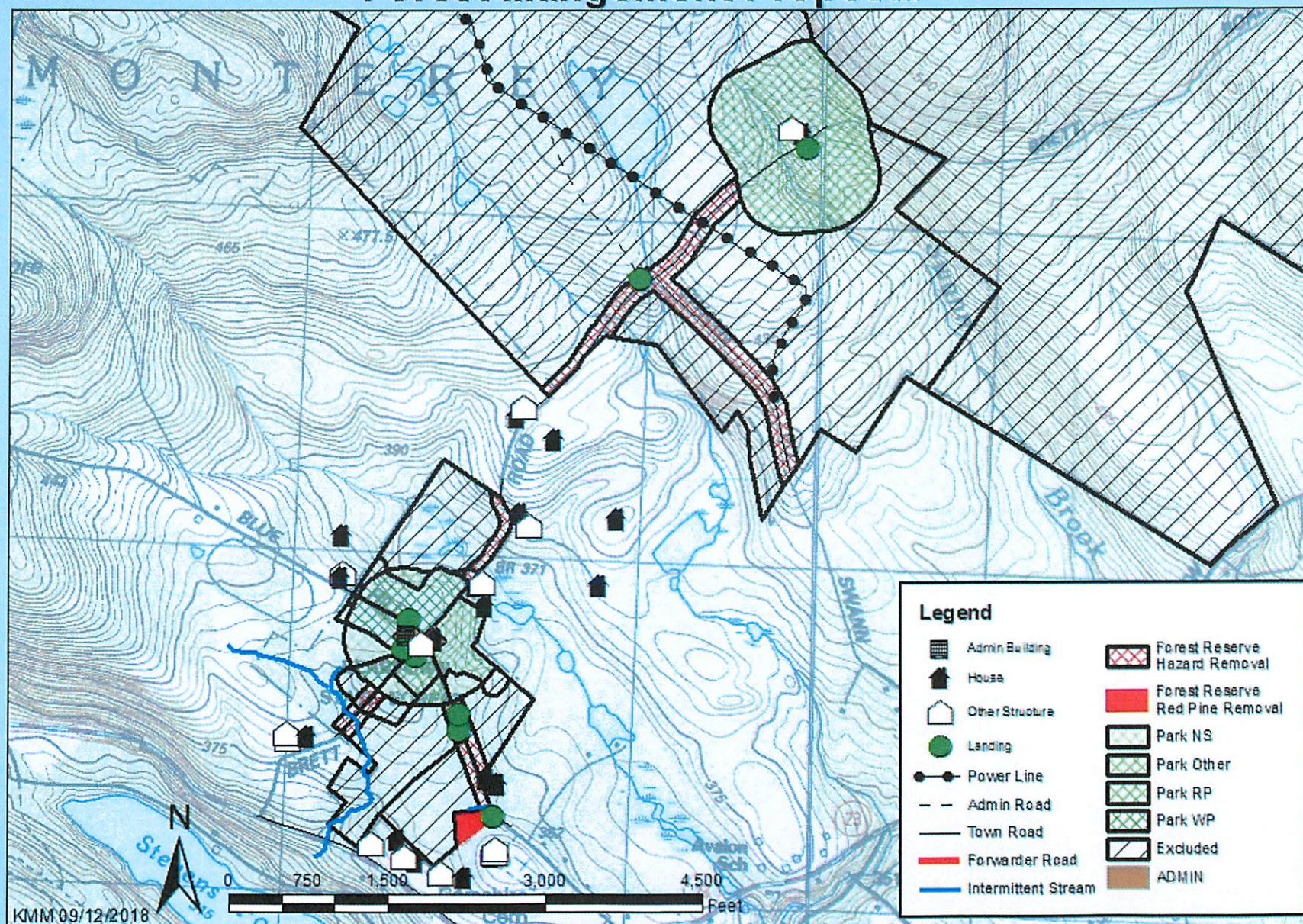


Brett Road - Beartown State Forest Forest Mangement Proposal

Swann Location



Brett Road - Beartown State Forest Forest Mangement Proposal



Brett Road - Beartown State Forest Forest Mangement Proposal

