dcr

FOREST MANAGEMENT PLAN

Submitted to: Massachusetts Department of Conservation and Recreation
For enrollment in CH61/61A/61B and/or Forest Stewardship Program

CHECK-OFFS										Administrative Box			
CH61		CH61A		CH61B		STWSHP		C-S		Case No.		Orig. Case No.	
cert.	☐	cert.	☐	cert.	☐	new	☒	EEA	☐	Owner ID		Add. Case No.	
recert.	☐	recert.	☐	recert.	☐	renew	☐	Other	☒	Date Rec'd		Ecoregion	
amend	☐	amend	☐	amend	☐	Green Cert			☐	Plan Period		Topo Name	Southbridge
						Conservation Rest.			☒	Rare Spp. Hab.		River Basin	Quinebaug
Plan Change:		to				CR Holder	MA DFW						

OWNER, PROPERTY, and PREPARER INFORMATION

Property Owner(s) Town of Sturbridge Conservation Commission
Mailing Address 308 Main Street, Sturbridge, MA 01566 Phone 508.347.2506

Property Location: Town(s) Sturbridge Road Leadmine Road & Shattuck Road

Plan Preparer **John Clarke – Rocky Mountain Wood Co., Inc.** Mass. Forester License # 357
Mailing Address P.O. Box 1011, Wilbraham, MA 01095 Phone 413.596.2348

RECORDS

Assessor's Map No.	Lot/Parcel No.	Deed Book	Deed Page	Total Acres	Ch61/61A 61B *Excluded* Acres	Ch61/61A 61B **Certified** Acres	Stewshp *Excluded* Acres	Stewshp Acres
28	127A	26806	335	72.06	72.06	0	0	72.06
33	197	37349	207	96	96	0	0	96
33	10	39299	163	813.97	813.97	0	0	813.97
			TOTALS	982.03	982.03	0	0	982.03

Excluded Area Description(s) **(if additional space needed, continue on separate paper)**
No excluded area.

HISTORY

Year acquired 2002-2006 Year management began 2009

Are boundaries blazed/painted? Yes ☐ No ☐ Partially ☒

What treatments have been prescribed, but not carried out (last 10 years if plan is a recert.)?
stand no. _____ treatment _____ reason _____

Previous Management Practices (last 10 years):
Last harvest 1991

Remarks: (if additional space needed, continue on separate page)
See page 2 for index of plan contents.
Abovementioned conservation restriction held by Division of Fisheries and Wildlife encompasses 813.97 acres and is shown as lot "K" on attached survey and registered as Plan Book 844 Plan 98 in the Worcester County Registry of Deeds. The conservation restriction is registered in the same county as deed book 39299 page 123.

INDEX

Landowner Goals

Please **check** the column that best reflects the importance of the following goals:

Goal	Importance to Me			
	High	Medium	Low	Don't Know
Enhance the Quality/Quantity of Timber Products*	X			
Generate Immediate Income	X			
Generate Long Term Income	X			
Produce Firewood				?
Defer or Defray Taxes				N/A
Promote Biological Diversity	X			
Enhance Habitat for Birds	X			
Enhance Habitat for Small Animals	X			
Enhance Habitat for Large Animals	X			
Improve Access for Walking/Skiing/Recreation	X			
Maintain or Enhance Privacy				N/A
Improve Hunting or Fishing	X			
Preserve or Improve Scenic Beauty	X			
Protect Water Quality	X			
Protect Unique/Special/ Cultural Areas	X			
Other:				

*** This goal must be checked "HIGH" if you are interested in classifying your land under Chapter 61/61A.**

1. In your own words please describe your goals for the property:
   The Conservation Commission has identified income generation, recreational values and natural resource protection as the main management goals.

Stewardship Purpose

By enrolling in the Forest Stewardship Program and following a Stewardship Plan, I understand that I will be joining with many other landowners across the state in a program that promotes ecologically responsible resource management through the following actions and values:

1. Managing for long-term forest health, productivity, diversity, and quality.
2. Conserving or enhancing water quality, wetlands, soil productivity, biodiversity, cultural, historical and aesthetic resources.
3. Following a strategy guided by well-founded silvicultural principles to improve timber quality and quantity when wood products are a goal.
4. Setting high standards for foresters, loggers and other operators as practices are implemented; and minimizing negative impacts.
5. Learning how woodlands benefit and affect surrounding communities, and cooperation with neighboring owners to accomplish mutual goals when practical.

Signature(s): _____ **Date:** 11/5/09

Owner(s) (print) __Sturbridge_____

Property Overview, Regional Significance, and Management Summary

Landscape/Regional Context

The area of central Sturbridge, MA is dominated by forested and suburban land. Extensive woods roads and trails are used for recreation through much of this rolling landscape; a gas line and its maintained right-of-way as well as a number of vehicular highways are also found here. A number of streams, rivers, ponds, and wetlands are found throughout this area providing unique habitat and cover types and diversifying forest cover. The general land use history of this area is similar to much of the region in that it was heavily tilled through the 1800s and eventually abandoned to regenerate to forestland. The terrain within this area is generally sloping with ridges and outcrops. There are stone walls found in this area giving evidence to the past use of the land.

Property Overview

This 996-acre property is located east of Leadmine and Stallion Hill Roads and west of Shattuck Road with frontage on Leadmine Road and Shattuck Road. The parcel has gentle to steep slopes with generally easterly and westerly aspects; ridges tend to run north-south. Soils underlying the Sturbridge property vary, but are dominated by gravelly loams with rock outcrops and deep Freetown mucks in close proximity to water. This property is dominated by its upland vegetation and has areas of upland mixed species forest. Most of the water flowing from this property enters Quinebaug River to the north with the southernmost portion of the property draining south into Mashapaug Pond.

The property is dominated by several forest types: white pine - hardwoods, hemlock – hardwoods, oak – hardwoods, abandoned field/sand pit, shrub swamp, red maple swamp, and open water. The productive forest stands are of good quality, while the fallow and wetland areas provide a unique vegetation complex and habitat type to enhance the overall habitat value of this large parcel.

Oriental bittersweet, Japanese barberry, multiflora rose, and Norway maple have been detected within this property and should be controlled to prevent their spread. These nuisance species are found in greatest density in the eastern portion of the property and are generally absent through much of the forested central portion of the property. Careful consideration should be give to treatment options for their efficacy and the sensitivity of surrounding wetlands. Appendix 2 includes guidelines for controlling the spread of invasive plant species; these guidelines should be followed during all management practices.

Two relatively small portions of the Leadmine Road property fall within a Natural Heritage and Endangered Species Program polygon, and will be checked for restrictions prior to any harvesting activities. It should be noted that these areas are aquatic and that proposed dam removal will likely eliminate or reduce the eastern NHESP polygons.

Recreation

Several trails are found within this property and appear to be past timber harvesting access trails or old farm trails. These trails appear to be well-used. Trail maintenance should be ongoing.

Forest Management Summary

The town of Sturbridge Leadmine Road properties are in good condition regarding their present forest condition. The overall forest structure is middle-aged to mature, with many dominant trees in the medium-to-large sawtimber size class (16-24" diameter). The general habitat condition is good as the properties

offer uninterrupted forested cover over a large acreage; habitat structure is diversified by wetland features, rock outcrops, and mixed species cover. However, the forest structure is similar throughout the property with hemlock dominating most of the forested overstory. Hemlock also dominates the understory and is considerably overrepresented within the present tree regeneration. Mountain laurel also dominates the understory. The dominance of hemlock through much of the forest may be attributed to hemlock's shade tolerance and, therefore, developing prevalence in older stands, but it may also be attributed to past harvesting activities which tended to leave this lower-product-value species standing. Forest disturbance is presently dominated by single tree or small group mortality. Such disturbance typically encourages the continued development of shade tolerant and semi-shade tolerant species such as hemlock, red maple, and black birch.

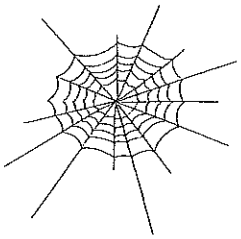
It is recommended that the town of Sturbridge initiate regeneration harvesting throughout this property in order to establish more desirable species and a more diverse forest. The extent and intensity of such harvesting should be developed and scheduled appropriately based on the long-term goals of the Conservation Commission. However, shelterwood regeneration harvesting and creating patches of 1 to 5 acres is recommended silviculturally. These two systems will favor the development of an array of species, but will target white pine, red oak, and sugar maple as species for long-term establishment. The attached inventory summaries provide a basis for planning the scope of future harvesting activities on the town of Sturbridge properties. Snags and trees with particular wildlife habitat value will be retained throughout the forest during harvesting activities.

All timber harvesting activities shall be permitted by the State, adhere to state, federal, and local law, and shall follow current best management practices, which are presently described with the "Massachusetts Forestry Best Management Practices Manual".

The management recommendations, summarized, state that during this management period, the forest on this property should be treated with: 1) shelterwood harvesting, 2) patch cutting, 3) low thinning with additional treatment for old-growth characteristics, and 4) clearing and invasive species control (the two should be combined). Further, trails should be maintained for public benefit, permanent forestry access areas should be constructed, and boundaries should be delineated for property identification. These recommendations are designed to serve the Conservation Commission by enhancing forest regeneration, diversifying habitat cover, and providing recreational opportunities.

Stewardship Issues

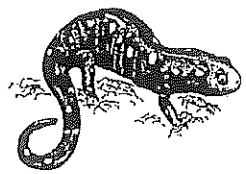
Massachusetts is a small state, but it contains a tremendous variety of ecosystems, plant and animal species, management challenges, and opportunities. This section of your plan will provide background information about the Massachusetts forest landscape as well as issues that might affect your land. **The Stand Descriptions and Management Practices sections of your plan give more detailed property specific information** on these subjects tailored to your management goals.



Biodiversity: Biological diversity is, in part, a measure of the variety of plants and animals, the communities they form, and the ecological processes (such as water and nutrient cycling) that sustain them. With the recognition that each species has value, individually and as part of its natural community, maintaining biodiversity has become an important resource management goal.

While the biggest threat to biodiversity in Massachusetts is the loss of habitat to development, another threat is the introduction and spread of invasive non-native plants. Non-native invasives like European Buckthorn, Asiatic Bittersweet, and Japanese Honeysuckle spread quickly, crowding out or smothering native species and upsetting and dramatically altering ecosystem structure and function. Once established, invasives are difficult to control and even harder to eradicate. Therefore, vigilance and early intervention are paramount.

Another factor influencing biodiversity in Massachusetts concerns the amount and distribution of forest growth stages. Wildlife biologists have recommended that, for optimal wildlife habitat on a landscape scale, 5-15% of the forest should be in the seedling stage (less than 1" in diameter). Yet we currently have no more than 2-3% early successional stage seedling forest across the state. There is also a shortage of forest with large diameter trees (greater than 20"). See more about how you can manage your land with biodiversity in mind in the "Wildlife" section below. (Also refer to *Managing Forests to Enhance Wildlife Diversity in Massachusetts* and *A Guide to Invasive Plants in Massachusetts* in the binder pockets.)



Rare Species: Rare species include those that are **threatened** (abundant in parts of its range but declining in total numbers, those of **special concern** (any species that has suffered a decline that could threaten the species if left unchecked), and **endangered** (at immediate risk of extinction and probably cannot survive without direct human intervention). Some species are threatened or endangered globally, while others are common globally but rare in Massachusetts.

Of the 2,040 plant and animal species (not including insects) in Massachusetts, 424 are considered rare. About 100 of these rare species are known to occur in woodlands. Most of these are found in wooded wetlands, especially vernal pools. These temporary shallow pools dry up by late summer, but provide crucial breeding habitat for rare salamanders and a host of other unusual forest dwelling invertebrates. Although many species in Massachusetts are adapted to and thrive in recently disturbed forests, rare species are often very sensitive to any changes in their habitat

Indispensable to rare species protection is a set of maps maintained by the Division of Fisheries and Wildlife's Natural Heritage & Endangered Species Program (NHESP) that show current and historic locations of rare species and their habitats. The maps of your property will be compared to these rare

species maps and the result indicated on the upper right corner of the front page of the plan. Prior to any regulated timber harvest, if an occurrence does show on the map, the NHESP will recommend protective measures. Possible measures include restricting logging operations to frozen periods of the year, or keeping logging equipment out of sensitive areas. You might also use information from NHESP to consider implementing management activities to improve the habitat for these special species.

Riparian and Wetlands Areas: Riparian and wetland areas are transition areas between open water features (lakes, ponds, streams, and rivers) and the drier terrestrial ecosystems. More specifically, a **wetland** is an area that has hydric (wet) soils and a unique community of plants that are adapted to live in these wet soils. Wetlands may be adjacent to streams or ponds, or a wetland may be found isolated in an otherwise drier landscape. A **riparian area** is the transition zone between an open water feature and the uplands (see Figure 1). A riparian zone may contain wetlands, but also includes areas with somewhat better drained soils. It is easiest to think of riparian areas as the places where land and water meet.

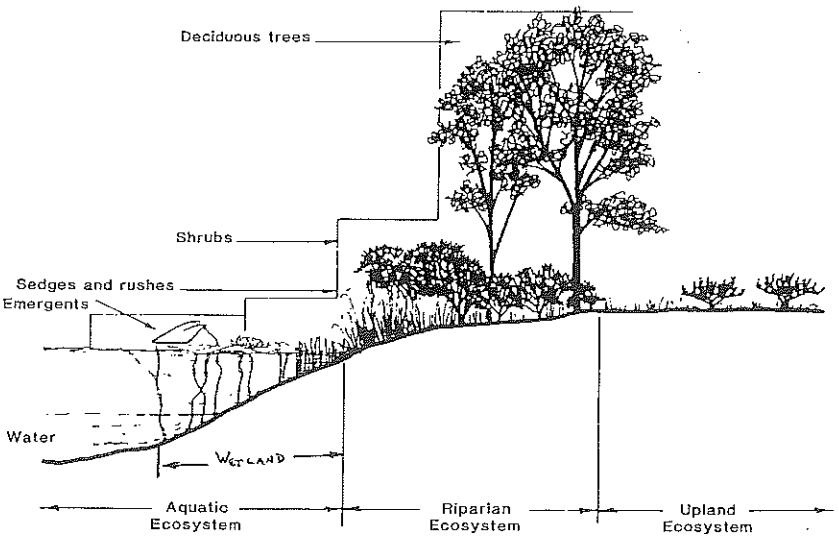


Figure 1: Example of a riparian zone.

The presence of water in riparian and wetland areas make these special places very important. Some of the functions and values that these areas provide are described below:

Filtration: Riparian zones capture and filter out sediment, chemicals and debris before they reach streams, rivers, lakes and drinking water supplies. This helps to keeps our drinking water cleaner, and saves communities money by making the need for costly filtration much less likely.

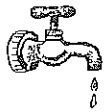
Flood control: By storing water after rainstorms, these areas reduce downstream flooding. Like a sponge, wetland and riparian areas absorb stormwater, and then release it slowly over time instead of in one flush.

Critical wildlife habitat: Many birds and mammals need riparian and wetland areas for all or part of their life cycles. These areas provide food and water, cover, and travel corridors. They are often the most important habitat feature in Massachusetts' forests.

Recreational opportunities: Our lakes, rivers, streams, and ponds are often focal points for recreation. We enjoy them when we boat, fish, swim, or just sit and enjoy the view.

In order to protect wetlands and riparian areas and to prevent soil erosion during timber harvesting activities, Massachusetts promotes the use of "Best Management Practices" or BMPs. Maintaining or reestablishing the protective vegetative layer and protecting critical areas are the two rules that underlie these common sense measures. DCR's Massachusetts Forestry Best Practices Manual (included with this plan) details both the legally required and voluntary specifications for log landings, skid trails, water bars, buffer strips, filter strips, harvest timing, and much more.

The two Massachusetts laws that regulate timber harvesting in and around wetlands and riparian areas are the Massachusetts Wetlands Protection Act (CH 131), and the Forest Cutting Practices Act (CH132). Among other things, CH132 requires the filing of a cutting plan and on-site inspection of a harvest operation by a DEM Service Forester to ensure that required BMPs are being followed when a commercial harvest exceeds 25,000 board feet or 50 cords (or combination thereof).



Soil and Water Quality: Forests provide a very effective natural buffer that holds soil in place and protects the purity of our water. The trees, understory vegetation, and the organic material on the forest floor reduce the impact of falling rain, and help to insure that soil will not be carried into our streams and waterways.

To maintain a supply of clean water, forests must be kept as healthy as possible. Forests with a diverse mixture of vigorous trees of different ages and species can better cope with periodic and unpredictable stress such as insect attacks or windstorms.

Timber harvesting must be conducted with the utmost care to ensure that erosion is minimized and that sediment does not enter streams or wetlands. Sediment causes turbidity which degrades water quality and can harm fish and other aquatic life. As long as Best Management Practices (BMPs) are implemented correctly, it is possible to undertake active forest management without harming water quality.

Forest Health: Like individual organisms, forests vary in their overall health. The health of a forest is affected by many factors including weather, soil, insects, diseases, air quality, and human activity. Forest owners do not usually focus on the health of a single tree, but are concerned about catastrophic events such as insect or disease outbreaks that affect so many individual trees that the whole forest community is impacted.

Like our own health, it is easier to prevent forest health problems than to cure them. This preventative approach usually involves two steps. First, it is desirable to maintain or encourage a wide diversity of tree species and age classes within the forest. This diversity makes a forest less susceptible to a single devastating health threat. Second, by thinning out weaker and less desirable trees, well-spaced healthy individual trees are assured enough water and light to thrive. These two steps will result in a forest of vigorously growing trees that is more resistant to environmental stress.

Fire: Most forests in Massachusetts are relatively resistant to catastrophic fire. Historically, Native Americans commonly burned certain forests to improve hunting grounds. In modern times, fires most often result from careless human actions. The risk of an unintentional and damaging fire in your woods could increase as a result of logging activity if the slash (tree tops, branches, and debris) is not treated correctly. Adherence to the Massachusetts slash law minimizes this risk. Under the law, slash is to be removed from buffer areas near roads, boundaries, and critical areas and lopped close to the ground to speed decay. Well-maintained woods roads are always desirable to provide access should a fire occur.

Depending on the type of fire and the goals of the landowner, fire can also be considered as a management tool to favor certain species of plants and animals. Today the use of prescribed burning is largely restricted to the coast and islands, where it is used to maintain unique natural communities such as sandplain grasslands and pitch pine/scrub oak barrens. However, state land managers are also attempting to bring fire back to many of the fire-adapted communities found elsewhere around the state.

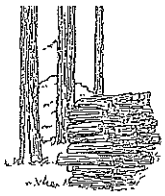
Wildlife Management: Enhancing the wildlife potential of a forested property is a common and important goal for many woodland owners. Sometimes actions can be taken to benefit a particular species of interest (e.g., put up Wood Duck nest boxes). In most cases, recommended management practices can benefit many species, and fall into one of three broad strategies. These are **managing for diversity, protecting existing habitat, and enhancing existing habitat.**

Managing for Diversity – Many species of wildlife need a variety of plant communities to meet their lifecycle requirements. In general, a property that contains a diversity of habitats will support a more varied wildlife population. A thick area of brush and young trees might provide food and cover for grouse and cedar waxwing; a mature stand of oaks provides acorns for foraging deer and turkey; while an open field provides the right food and cover for cottontail rabbits and red fox. It is often possible to create these different habitats on your property through active management. The appropriate mix of habitat types will primarily depend on the composition of the surrounding landscape and your objectives. It may be a good idea to create a brushy area where early successional habitats are rare, but the same practice may be inappropriate in the area's last block of mature forest.

Protecting Existing Habitat – This strategy is commonly associated with managing for rare species or those species that require unique habitat features. These habitat features include vernal pools, springs and seeps, forested wetlands, rock outcrops, snags, den trees, and large blocks of unbroken forest. Some of these features are rare, and they provide the right mix of food, water, and shelter for a particular species or specialized community of wildlife. It is important to recognize their value and protect their function. This usually means not altering the feature and buffering the resource area from potential impacts.

Enhancing Existing Habitat – This strategy falls somewhere between the previous two. One way the wildlife value of a forest can be enhanced is by modifying its structure (number of canopy layers, average tree size, and density). Thinning out undesirable trees from around large crowned mast (nut and fruit) trees will allow these trees to grow faster and produce more food. The faster growth will also accelerate the development of a more mature forest structure, which is important for some species. Creating small gaps or forest openings generates groups of seedlings and saplings that provide an additional layer of cover, food, and perch sites.

Each of these three strategies can be applied on a single property. For example, a landowner might want to increase the habitat diversity by reclaiming an old abandoned field. Elsewhere on the property, a stand of young hardwoods might be thinned to reduce competition, while a "no cut" buffer is set up around a vernal pool or other habitat feature. The overview, stand description and management practice sections of this plan will help you understand your woodland within the context of the surrounding landscape and the potential to diversify, protect or enhance wildlife habitat.



Wood Products: If managed wisely, forests can produce a periodic flow of wood products on a sustained basis. Stewardship encompasses finding ways to meet your current needs while protecting the forest's ecological integrity. In this way, you can harvest timber and generate income without compromising the opportunities of future generations.

Massachusetts forests grow many highly valued species (white pine, red oak, sugar maple, white ash, and black cherry) whose lumber is sold throughout the world. Other lower valued species (hemlock, birch, beech, red maple) are marketed locally or regionally, and become products like pallets, pulpwood, firewood, and lumber. These products and their associated value-added industries contribute between 200 and 300 million dollars annually to the Massachusetts economy.

By growing and selling wood products in a responsible way you are helping to meet our society's demand for these goods. Harvesting from sustainably managed woodlands – rather than from unmanaged or poorly managed forest – benefits the public in a multitude of ways. The sale of timber, pulpwood, and firewood also provides periodic income that you can reinvest in the property; increasing its value and helping you meet your long-term goals. Producing wood products helps defray the costs of owning woodland, and helps private landowners keep their forestland undeveloped.

Cultural Resources: Cultural resources are the places containing evidence of people who once lived in the area. Whether a Native American village from 1,700 years ago, or the remains of a farmstead from the 1800's, these features all tell important and interesting stories about the landscape, and should be protected from damage or loss.

Massachusetts has a long and diverse history of human habitation and use. Native American tribes first took advantage of the natural bounty of this area over 10,000 years ago. Many of these villages were located along the coasts and rivers of the state. The interior woodlands were also used for hunting, traveling, and temporary camps. Signs of these activities are difficult to find in today's forests. They were obscured by the dramatic landscape impacts brought by European settlers as they swept over the area in the 17th and 18th centuries.

By the middle 1800's, more than 70% of the forests of Massachusetts had been cleared for crops and pastureland. Houses, barns, wells, fences, mills, and roads were all constructed as woodlands were converted for agricultural production. But when the Erie Canal connected the Midwest with the eastern cities, New England farms were abandoned for the more productive land in the Ohio River valley, and the landscape began to revert to forest. Many of the abandoned buildings were disassembled and moved, but the supporting stonework and other changes to the landscape can be easily seen today.

One particularly ubiquitous legacy of this period is stone walls. Most were constructed between 1810 and 1840 as stone fences (wooden fence rails had become scarce) to enclose sheep within pastures, or to exclude them from croplands and hayfields. Clues to their purpose are found in their construction. Walls that surrounded pasture areas were comprised mostly of large stones, while walls abutting former cropland accumulated many small stones as farmers cleared rocks turned up by their plows. Other cultural features to look for include cellar holes, wells, old roads and even old trash dumps.

Recreation and Aesthetic Considerations: Recreational opportunities and aesthetic quality are the most important values for many forest landowners, and represent valid goals. Removing interfering vegetation can open a vista or highlight a beautiful tree, for example. When a landowner's goals include timber, thoughtful forest management can be used to accomplish silvicultural objectives while also reaching recreational and/or aesthetic objectives. For example, logging trails might be designed to provide a network of cross-country ski trails that lead through a variety of habitats and reveal points of interest.

If aesthetics is a concern and you are planning a timber harvest, obtain a copy of this excellent booklet: *A Guide to Logging Aesthetics: Practical Tips for Loggers, Foresters & Landowners,* by Geoffrey T. Jones, 1993. (Available from the Northeast Regional Agricultural Engineering Service, (607) 255-7654, for $7). Work closely with your consultant to make sure the aesthetic standards you want are included in the contract and that the logger selected to do the job executes it properly. The time you take to plan ahead of the job will reward you and your family many times over with a fuller enjoyment of your forest, now and well into the future.

ROCKY MOUNTAIN WOOD CO. EST. 1980

This is your Stewardship Plan. It is based on the goals that you have identified. The final success of your Stewardship Plan will be determined first, by how well you are able to identify and define your goals, and second, by the support you find and the resources you commit to implement each step.

It can be helpful and enjoyable to visit other properties to sample the range of management activities and see the accomplishments of others. This may help you visualize the outcome of alternative management decisions and can either stimulate new ideas or confirm your own personal philosophies. Don't hesitate to express your thoughts, concerns, and ideas. Keep asking questions! Please be involved and enjoy the fact that you are the steward of a very special place.

STAND DESCRIPTION

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	01	WH	111.37	14.6	118	7 MBF 2.4 Cds Fuel 9.0 Cds Pulp	65 WP

This two-aged white pine hardwoods stand is located adjacent to Leadmine Road in the northern portion of the property. Recreational access and trails are present within the stand, which is generally sloping with an easterly aspect. This stand is dominated by white pine associated with black oak and red oak and scattered aspen, white oak, white ash, hickory, hemlock, and red maple. White pine is generally mature and of moderate quality. It appears that past harvesting may have removed higher quality stock leaving less desirable white pine standing. Tree regeneration within Stand 1 is dominated by white pine and black birch with hickory, red maple, white oak, and hemlock. Shrubs found within Stand 1 include witch hazel, beaked hazelnut, and mountain laurel with lowbush blueberry, teaberry, partridgeberry, and Christmas fern as ground species.

Soils supporting Stand 1 are Chatfield-Paxton-Woodbridge coarse loams with rock outcrops. These soils are well drained and found on rolling, rugged terrain. White pine and hardwoods should be encouraged.

Mature 60-100 year old, white pine - hardwoods stands typically support habitat needs for 150 species, with the prevalence and suitability for tree bole users increasing with stand maturity. Management of this white pine stand should be directed toward enhancing development of high quality trees for future timber value, while allowing additional sunlight for developing tree regeneration. White pine with cavities or rot and evidence of use by woodpeckers should be retained for their habitat value.

The desired future condition of this white pine - hardwoods stand is an uneven-aged white pine - hardwoods stand dominated by white pine and oak of good quality with scattered wildlife trees and snags. Midstory vegetation should be developing white pine and hardwoods with understory white pine and hardwoods.

OBJ.	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	02	HH	418.31	14.1	107	7 MBF 4.9 Cds Fuel 4.7 Cds Pulp	58 OR

This hemlock - hardwoods stand encompasses the largest area of the property. This uneven-aged stand is dominated by hemlock, white pine, and red oak associated with chestnut oak, black oak, sugar maple, white oak, white ash, black birch, white birch, black gum, hickory, and red maple. Tree regeneration is generally sparse and dominated by hemlock associated with white pine, red maple, black birch, and sugar maple. The dense hemlock overstory allows little sunlight to the forest understory and generally prevents dense understory vegetation. Mountain laurel dominates shrub cover; other shrubs present include striped maple, alder, spicebush, and blueberry. Overstory trees are of generally good quality, oak occasional exhibits excellent individuals, while hemlock's dominance is likely the result of its retention due to its undesirable timber qualities during previous harvests. It should be noted that hemlock is faced by infestation by the hemlock wooly adelgid throughout southern New England and that in regions farther south than Sturbridge, hemlock forests have been decimated by this exotic insect (www.na.fs.fed.us/fhp/hwa/).

Soils underlying Stand 2 are Whitman-Chatfield-Paxton-Brimfield-Hinckley-Hollis well-drained coarse gravelly loams with frequent rock outcrops. Ledges and ridges generally are found in north-south arrangement with easterly and westerly facing slopes that occasionally are very steep. Wetlands are found in several low-lying areas and valleys. Terrain and access to this stand will likely limit management of this large stand.

Mature 60-100 year old, hemlock-white pine - hardwoods stands typically support habitat needs for upwards of 125 species, with the prevalence and suitability for tree bole users increasing with stand maturity. Management of this hemlock stand should be directed toward regenerating a more diverse forest cover for future resilience. Shelterwood harvesting should be applied for the development of high quality red oak and white pine for future timber value while allowing additional sunlight for establishing regeneration of these species. Although hemlock removal should be considered a goal of management, exceptionally large hemlocks or trees otherwise exceptionally for wildlife habitat should be retained.

The desired future condition of Stand 2 is a conversion of treated areas from hemlock - hardwoods to white pine - hardwoods or oak - hardwoods. Hemlock should be severely reduced in dominance within treated areas in order to allow for development of oak and a generally more diverse forest. A two-aged stand will follow characterized by mature white pine, red oak, and sugar maple with regeneration of a number of species including white pine, hemlock, red oak, red maple, sugar maple, beech, and black birch. This future stand will also include large wildlife trees. Untreated areas should develop slowly and naturally into the next management period.

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	03	OH	55.39	13.7	98	5 MBF 6.4 Cds Fuel 1.9 Cds Pulp	58 OR

This oak - hardwoods stand is scattered located within the central area of the Sturbridge property. This even-aged stand is dominated by red oak with codominant chestnut oak, hickory, black oak, and scarlet oak and associated white ash, black birch, red maple, and white pine. Where soils are productive, red oak exhibits excellent quality. Harvesting within this mature hardwoods stand has retained high quality timber stock, evidenced by present growing stock dominated by red oak. Tree regeneration within Stand 3 is occasionally dense and comprised of red maple, black birch, hemlock, white pine, hickory, red oak, and white oak. Shrubs within Stand 3 include mountain laurel, witch hazel, and a number of ground species include blueberry, viburnum, and teaberry.

Terrain underlying Stand 3 is rocky and sloping; typical of much of this property. Soils supporting Stand 3 are Paxton-Whitman-Woodbridge-Hollis series coarse gravelly loams. These soils are well drained with exposed ledge and rock outcrops. Extremely droughty soils offer limited soil moisture, but generally hardwoods appear to thrive within this stand and should be encouraged through management.

"Variety and production of hard mast reaches its peak...especially where various oak species, hickories, and beech are found together", according to DeGraaf, Leak, Yamasaki, and Lanier. This site lends itself well to the continued management of mature hard mast producing trees, which will provide for numerous species, including ruffed grouse, turkey, woodpeckers, blue jay, squirrels, mice, gray fox, bear, and deer. Where this stand is found adjacent to wetlands and water bodies, wood duck, American black duck, and mallard can also benefit from hard mast provided.

The desired future condition of Stand 3 is an even-aged, mature oak - hardwoods stand dominated by red oak with associated white oak, scarlet oak, chestnut oak, and hickory with a developing understory.

OBJ.	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	04	HH	122.27	10.6	85	1 MBF 6.9 Cds Fuel 6.5 Cds Pulp	70 WP

This hemlock - hardwoods stand is located south of the gas pipeline and is dominated by hemlock, red oak, and white pine associated with red maple, white birch, and chestnut oak. This stand is characterized by lower quality growing stock, particularly the hemlock component. Regeneration within Stand 4 is dominated by hemlock, white pine, and red maple. Several areas are dominated by smaller diameter growth of younger age classes, suggesting harvesting of several decades past. Shrub growth within this stand is dominated by mountain laurel.

Soils supporting Stand 4 are excessively drained, Chatfield-Brimfield series coarse gravelly loams. These soils are frequently found with rock outcrops, ledges, and ridges, as is the case within Stand 4. White pine and red oak should be encouraged through management.

Given the conditions of Stand 4, this area likely supports habitat needs for upwards of 125 species, with the prevalence and suitability for tree bole users increasing with stand maturity. However, white pine and red oak should be encouraged due to droughty soils and rugged terrain. The future stand will offer greater diversity of cover and age classes following treatment and will develop to provide white pine - hardwood forest cover, which although fairly common in this region, will provide for a large number of wildlife species. It should be noted that rock outcrops and proximity to aquatic features enhance the habitat value of this stand.

The desired future condition of Stand 4 is an uneven-aged white pine - hardwoods stand dominated by white pine and red oak with scattered hemlock and chestnut oak characterized by large seed trees, patches of existing regeneration and saplings.

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	05	OH	95.28	14.5	80	4 MBF 5.9 Cds Fuel 0.7 Cds Pulp	58 OR

This oak - hardwoods stand is dominated by red oak associated with white ash, black birch, hemlock, chestnut oak, hickory, sugar maple, red maple, and black oak. Red oak within Stand 5 is mature and of generally excellent quality. Regeneration within Stand 5 is dominated by red maple with sugar maple, black birch, white pine, and red oak. Mountain laurel and witch hazel are dominant shrubs within Stand 5 and restrict development of tree regeneration in areas. Other shrubs include high- and lowbush blueberry and maple-leaved viburnum.

Soils supporting Stand 5 are Paxton-Woodbridge-Chatfield series well drained, gravelly loams. Hardwoods should be encouraged through management. Operation within areas of Stand 5 will be impacted by rock outcrops and ledge.

Wildlife using Stand 5 certainly rely on the hard mast provided by the dominant oak overstory. Management should continue to enhance the development of large-crowned red oaks. Harvesting will also diversify cover and establish regeneration which will provide browse for large mammals, including white-tailed deer.

The desired future condition of Stand 5 is a two-aged oak-hardwoods stand dominated by mature red oak with adequate sunlight allowed to the forest floor for the regeneration of tree species, including red oak.

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	06	RM	40.78	11.0	65	1 MBF 6.4 Cds Fuel 3.5 Cds Pulp	35 RM

This red maple swamp is located in the area north of the gas line and in nine wetlands generally independent, but interconnected by waterways. These areas are dominated by red maple, hemlock, and white pine with alder, highbush blueberry, mountain laurel, arrow wood, and a number of other shrub species. Sphagnum moss is common as ground cover within these wetlands, which vary in depth and saturation days per year. Tree regeneration is comprised of the previously listed tree species.

Soils supporting Stand 6 are Freetown-Whitman-Swansea-Ridgebury-Chatfield series deep, poorly drained mucky loams. These soils offer excessive available soil moisture and are saturated for a portion of the year. Areas of this stand vary from densely forested wetland to open water depending on time of year and beaver activity.

The desired future condition of Stand 6 is an unmanaged forested wetland allowed to develop naturally for the benefit of wildlife species and the conservation of the local watershed.

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	07	RM	26.5	10.0	55	1 MBF 11.6 Cds Fuel 6.2 Cds Pulp	35 RM

This red maple swamp is located in the far southern portion of the property and is codominated by red maple, white pine, and hemlock with mountain laurel, viburnum, and alder. This large wetland

This red maple swamp is located in the far southern area of the property and is codominated by red maple, white pine, and hemlock with mountain laurel, viburnum, and alder. Sphagnum moss is common as ground cover within this wetland. Tree regeneration is comprised of the previously listed tree species.

Soils supporting Stand 7 are Freetown series deep mucks. These soils offer excessive available soil moisture and are saturated for a portion of the year and are generally considered inoperable.

The desired future condition of Stand 7 is an unmanaged forested wetland allowed to develop naturally for the benefit of wildlife species and the conservation of the local watershed.

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	08	WA	13.89	0.0	0	0 MBF 0.0 Cds Fuel 0.0 Cds Pulp	NA

This series of ponds is found in the eastern portion of the property. These ponds are stream- and spring fed, partially by Hamant Brook, with a current flowing to the northeast, which eventually enters the Quinebaug River. These ponds were created by dams, which maintain the levels of the pond.

This aquatic habitat offers a resource to area wildlife and diversifies this forested property. An array of wildlife species utilize these ponds.

Soils data for this area is unavailable.

Management of these ponds should maintain wildlife habitat values, but will generally not be addressed as forest management practices.

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	09	AF	2.36	0.0	0	0 MBF 0.0 Cds Fuel 0.0 Cds Pulp	65 WP

This small field is located in the northeastern portion of the property and previously was managed with a contiguous block of field north of the present boundary line. This area is regenerating to white pine with saplings present, but is otherwise characterized by meadow species (grasses, forbs, etc.).

This area offers a unique aesthetic diversion from the forest cover dominating recreational trails. Its habitat value for meadow species is also likely to be valuable, particularly in conjunction with the field to the north.

Soils supporting this abandoned field are excessively drained Merrimac series gravelly loams. Forest management should encourage white pine.

The desired future condition of this small abandoned field is an open area for the continued provision of wildlife habitat.

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	10	RZ	32.93	17.0	118	5 MBF 2.3 Cds Fuel 6.8 Cds Pulp	58 OR

This riparian area is dominated by white pine, red oak, hemlock, black birch, and chestnut oak. Overstory trees are generally mature and reaching large diameters (24"+) with patches of dense white pine in the understory. Witch hazel and lowbush blueberry are found in the understory associated with oak, white pine, and birch regeneration.

Rock outcrops are pronounced within the western portion of this area; most of the stand is inaccessible and/or inoperable due to rocky terrain or water flow and should serve as a buffer and filter strip to the ponds.

Soils supporting Stand 10 are Windsor-Hollis-Hinckley-Merrimac series gravelly loams with areas of rock outcrop. These soils are generally productive with desirable characteristics for the development of pine and most hardwoods.

The desired future condition of Stand 10 is an unmanaged riparian area allowed to develop naturally for the benefit of wildlife species and recreational users of this area.

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	11	WH	15.68	2.0	25	0 MBF 0.0 Cds Fuel 0.0 Cds Pulp	70 WP

This white pine - hardwoods stand is dominated by white pine, gray birch, red maple, poplar, and red oak. Shrub species include staghorn sumac, autumn olive, sweet fern, alder, and an array of ground species including Queen Anne's lace, oriental bittersweet, goldenrod, and wild strawberry. Overstory trees are generally of the sapling size classes and regeneration is comprised of the same species listed. This area was used as a gravel or sand pit in past decades and is presently regenerating to white pine - hardwoods forest. Development is in varying stages, but the overall age is less than twenty-five years. It should be noted that this stand includes the area of Camp Robinson Crusoe and its formerly maintained grounds. This area is densely populated with a number of invasive exotic species including oriental bittersweet, Norway maple, multiflora rose, and Japanese barberry.

Soils supporting Stand 11 are Hinckley-Canton series gravelly loams. These soils are well drained; white pine and oak should be encouraged through management.

The desired future condition of Stand 11 should be a meadow mowed periodically to maintain early successional conditions for wildlife habitat.

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	12	SS	0.44	0.0	0	0 MBF 0.0 Cds Fuel 0.0 Cds Pulp	NA

This shrub swamp is dominated by black alder with blueberry and phragmites. This small wetland offers a small aquatic resource for wildlife species.

Soils supporting Stand 12 are Freetown series mucks. These soils are saturated for a portion of the year and prevent tree development.

The desired future condition of Stand 12 is an unmanaged wetland.

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	13	HH	13.11	14.2	93	4 MBF 4.4 Cds Fuel 6.8 Cds Pulp	55 OR

This hemlock - hardwoods stand is codominated by black oak, red oak, and hemlock associated with white oak, red maple, and white pine. Regeneration is dominated by white pine and hemlock with oak associated with lowbush blueberry, beaked hazelnut, and mountain laurel. This area has been harvested in the past decades and present overstory trees are mature and of moderate-to-good condition. Efforts should be made within Stand 13 to enhance the development of red oak and white pine regeneration.

Soils supporting Stand 13 are Canton series coarse loamy sands. White pine and oak should be encouraged on these excessively drained soils.

The desired future condition of Stand 13 is a two-aged white pine - oak stand with a mature overstory and dense understory dominated by white pine and hardwoods.

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	14	WH	9.7	9.5	65	1 MBF 2.6 Cds Fuel 3.3 Cds Pulp	70 WP

This white pine - hardwoods stand is located west of the ponds and brook and of uneven-aged composition. This stand includes small openings regeneration to white pine and hardwoods that were previously used for a horse corral and sandpit. The pavilion and stable of Camp Robinson Crusoe are found within this area. In general, age classes vary, but overstory trees are immature and developing vigorously. Tree regeneration includes white pine, red oak, and white oak along with a number of shrub species.

Soils supporting Stand 14 are Hinckley-Scarboro excessively drained sandy loams. White pine is well suited for development on this site.

The desired future condition of Stand 14 is an uneven-aged, maturing white pine - hardwoods stand.

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	15	WK	23.7	19.0	115	16 MBF 1.2 Cds Fuel 0.0 Cds Pulp	70 WP

This white pine - hemlock stand is dominated by white pine associated with hemlock, white oak, red oak, black birch, red maple, and black cherry. Overstory trees are mature with tree regeneration developing in the understory and codominated by white pine, hemlock, and oak. A number of invasive exotic species are found within this forested area including oriental bittersweet and Japanese barberry. This area is located to the south of the old Camp.

Soils supporting Stand 15 are Hinckley series excessively drained sandy loams. White pine should be encouraged through management, along with oak species and occasional hemlock.

The desired future condition of Stand 15 is an uneven-aged white pine - hemlock - hardwoods stand free of invasive exotic species.

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	16	AF	0.32	0.0	0	0 MBF 0.0 Cds Fuel 0.0 Cds Pulp	65 WP

This small fallow area is found within the old gravel pit/proposed well site area. Forbs are found here with some shrubs and white pine seedlings. It is expected that this area will regenerate white pine densely.

Soils supporting Stand 16 are Hinckley series sandy loams.

The desired future condition of this fallow area is a young, developing white pine stand.

MANAGEMENT PRACTICES

to be done within next 10 years

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
STEW	1	WH	Selection	23	60	80 MBF 220.0 CDS	2013-2016

This selection system regeneration harvest will remove individuals and groups of trees in order to allow for additional growing space to mature overstory trees, midstory trees, and to the forest floor to initiate regeneration. In general, better quality white pine, red oak, and white oak will be retained along with scattered low quality, potentially large cavity trees and snags for nesting habitat. Two acres of the treatment area will be clearcut to demonstrate this silvicultural treatment in contrast to the adjacent selection.

The design of this harvest should cover about 25 acres and include the establishment of a permanent log landing. Recreational trails should be utilized for harvest access to minimize new trail establishment, as recreational trails generally follow previous harvest trails.

This harvest will be combined with harvesting in adjacent Stands 2 & 3.

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
STEW	2	HH	Shelterwood	35	60	140 MBF 290.0 CDS	2013-2016

This shelterwood harvest will be combined with harvesting within Stand 1 and will be directed toward removing hemlock and lower quality white pine and hardwoods. The residual stand should be stocked with excellent quality oak and pine and will be of a reduced stocking. The effect of this shelterwood harvest will be to establish regeneration of white pine and hardwoods, along with hemlock and shrubs. The intent of this harvest is to diversify age classes, forest cover, and forest regeneration, which is sparse and dominated by hemlock over a large area of this property. Large hemlocks, snags, and trees with particular wildlife habitat value will be retained.

Three acres of the treatment area will be clearcut to demonstrate this silvicultural treatment in contrast to the adjacent shelterwood.

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
STEW	3	OH	Shelterwood	35	40	100 MBF 250.0 CDS	2013-2016

This shelterwood treatment will be applied to Stand 3 in order to establish mixed hardwood regeneration and to enhance development of large, mature seed bearing hardwoods for the benefit of wildlife species. Snags and trees with particular wildlife habitat value will be retained.

Three acres of the treatment area will be clearcut to demonstrate this silvicultural treatment in contrast to the adjacent shelterwood.

Harvesting within Stand 3 will be combined with that of Stands 1 & 2 and accessed from Leadmine Road.

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
STEW	All	ALL	Boundary Maintenance	900	0	0 MBF 0.0 CDS	2009-2011

Boundaries should be identified, blazed, and painted for long-term field identification. If signs are available, posting will add additional information. Boundaries should identified prior to other management activities.

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
STEW	2	HH	Shelterwood	45	67	250 MBF 450.0 CDS	2016-2019

This shelterwood harvest will remove lower quality trees in order to establish shade intolerant/semi-intolerant species, such as white pine and red oak. These two species are underrepresented within understory regeneration. Desirable trees of all species present will be retained, but at stocking levels considerably lower than present. Small patches may be incorporated into this harvest to demonstrate regeneration harvesting at differing levels. Snags and trees with particular wildlife habitat value will be retained.

Five acres of the treatment area will be clearcut to demonstrate this silvicultural treatment in contrast to the adjacent shelterwood.

Access should be gained through the old gravel site for a landing area.

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
STEW	5	OH	Shelterwood	66	40	165 MBF 400.0 CDS	2010-2013

This shelterwood regeneration system harvest will be applied to Stand 5 to establish red oak regeneration along with regeneration of other species. This harvest will remove most trees of lower quality and retain most trees of better quality. Snags and trees with particular wildlife habitat value will be retained. Access will be established from Leadmine Road south of the gas pipeline.

Five acres of the treatment area will be clearcut to demonstrate this silvicultural treatment in contrast to the adjacent shelterwood.

This harvest will be combined with harvesting within Stand 4.

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
STEW	4	HH	Selection	78	45	70 MBF 780.0 CDS	2010-2013

This selection system harvest will remove individuals and groups with the intention of encouraging patches of desirable tree regeneration. Hemlock will be targeted for removal more than other species, but a trees of good form will be retained of all species. Snags and trees with particular wildlife habitat value will be retained.

Five acres of the treatment area will be clearcut to demonstrate this silvicultural treatment in contrast to the adjacent selection.

This harvest is to be combined with harvesting within Stand 5; access to Leadmine Road will be gained through Stand 5.

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
STEW	11	WH	Clearcut	12	25	0 MBF 5.0 CDS	2013-2016

The clearcutting of Stand 11 is intended to remove trees and brush from a twelve-acre portion of this stand in the interests of encouraging early successional habitat. Follow-up mowings should be completed periodically to maintain early successional conditions.

This treatment will be completed at a cost to the town of Sturbridge and should be carried out in conjunction with a revenue generating treatment in adjacent Stand 13.

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
STEW	13	HH	Shelterwood - Seed tree	11	60	22 MBF 110.0 CDS	2013-2016

This shelterwood-seed tree harvest will release existing regeneration within Stand 13, while retaining better quality white pine and oak seed trees for continued growth and additional seed. Snags and trees with particular wildlife habitat value will be retained.

Access will be gained through frontage along Shattuck Road. This harvest is to be combined with the treatment of Stand 11.

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
STEW	11,15	WH	Invasive Species Control	13	0	0 MBF 0.0 CDS	2009-2018

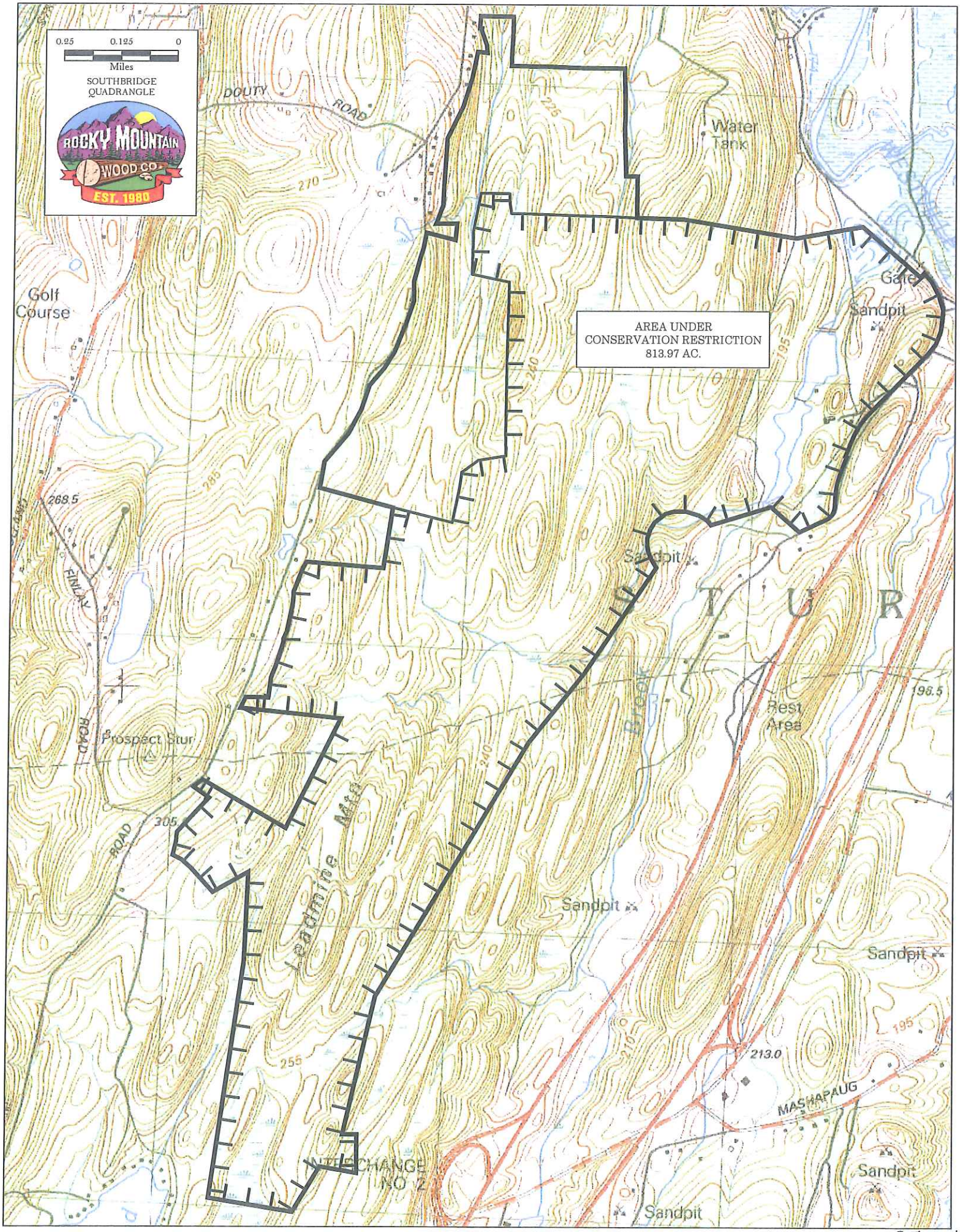
The control of oriental bittersweet, Japanese barberry, Norway maple, multiflora rose, and other invasive exotic species should be carried out within the southern portion of Stand 11 and part of Stand 15. The treatment of these species will help to prevent their spread further into surrounding forestland.

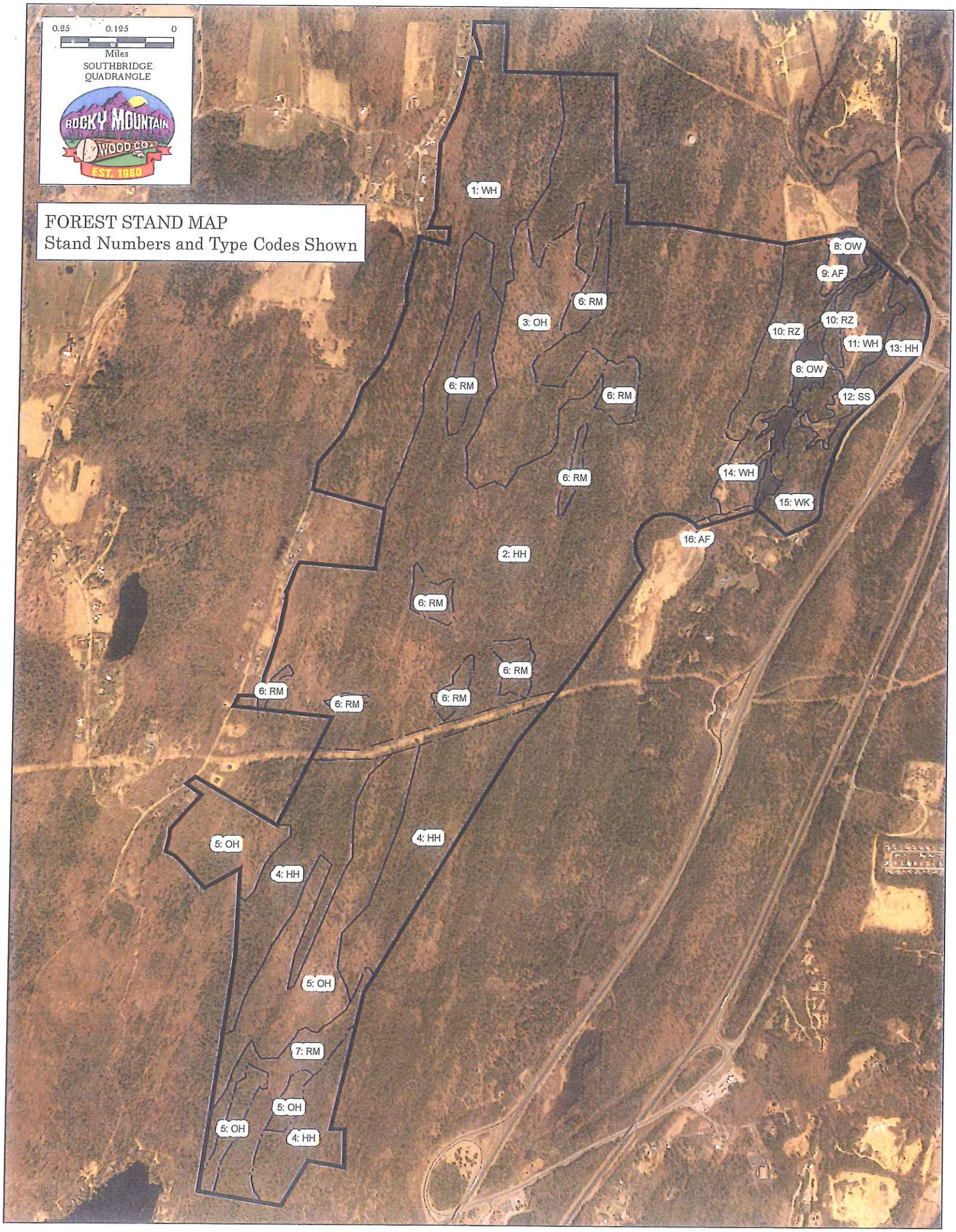
Exotic species treatment is to be carried out at a cost to the town; cost-sharing should be considered for completing this treatment.

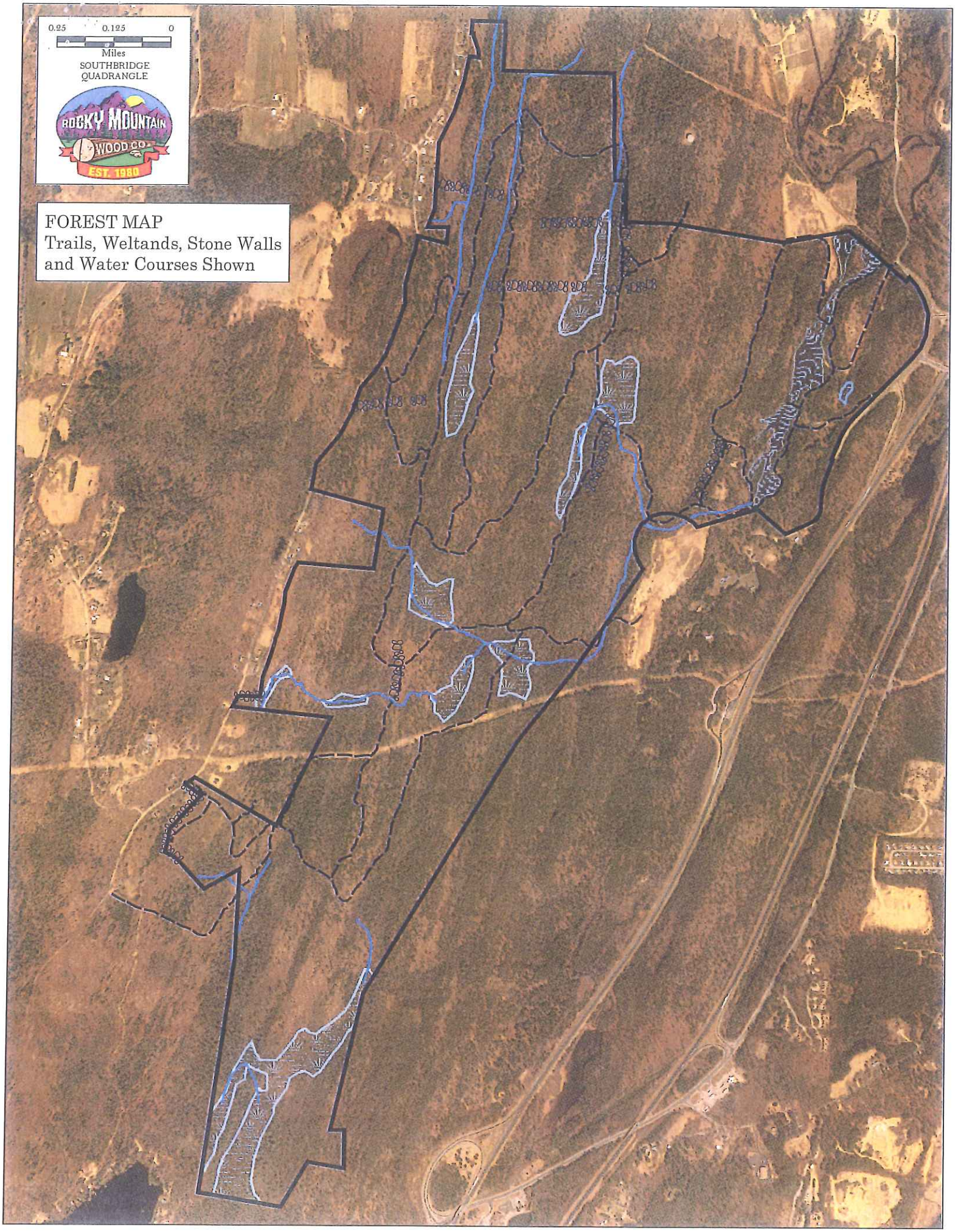
OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
STEW	All	AT	Stewardship trails	0	0	0 MBF 0.0 CDS	2009-2018

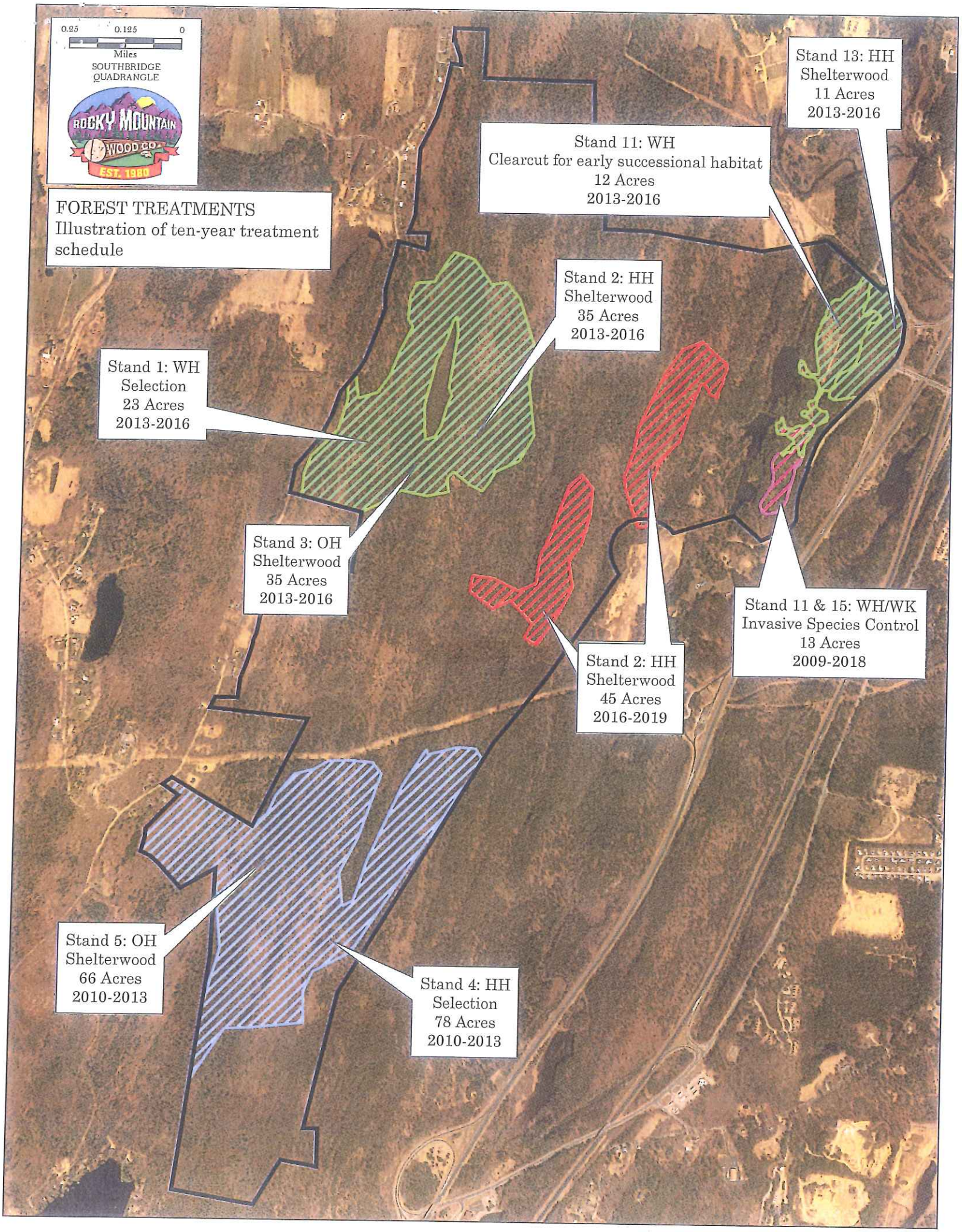
Stewardship Trail development should include the establishment of outposts adjacent to forest treatment areas. These outposts should be established along existing trails and should include descriptions of silvicultural treatments and expected results.

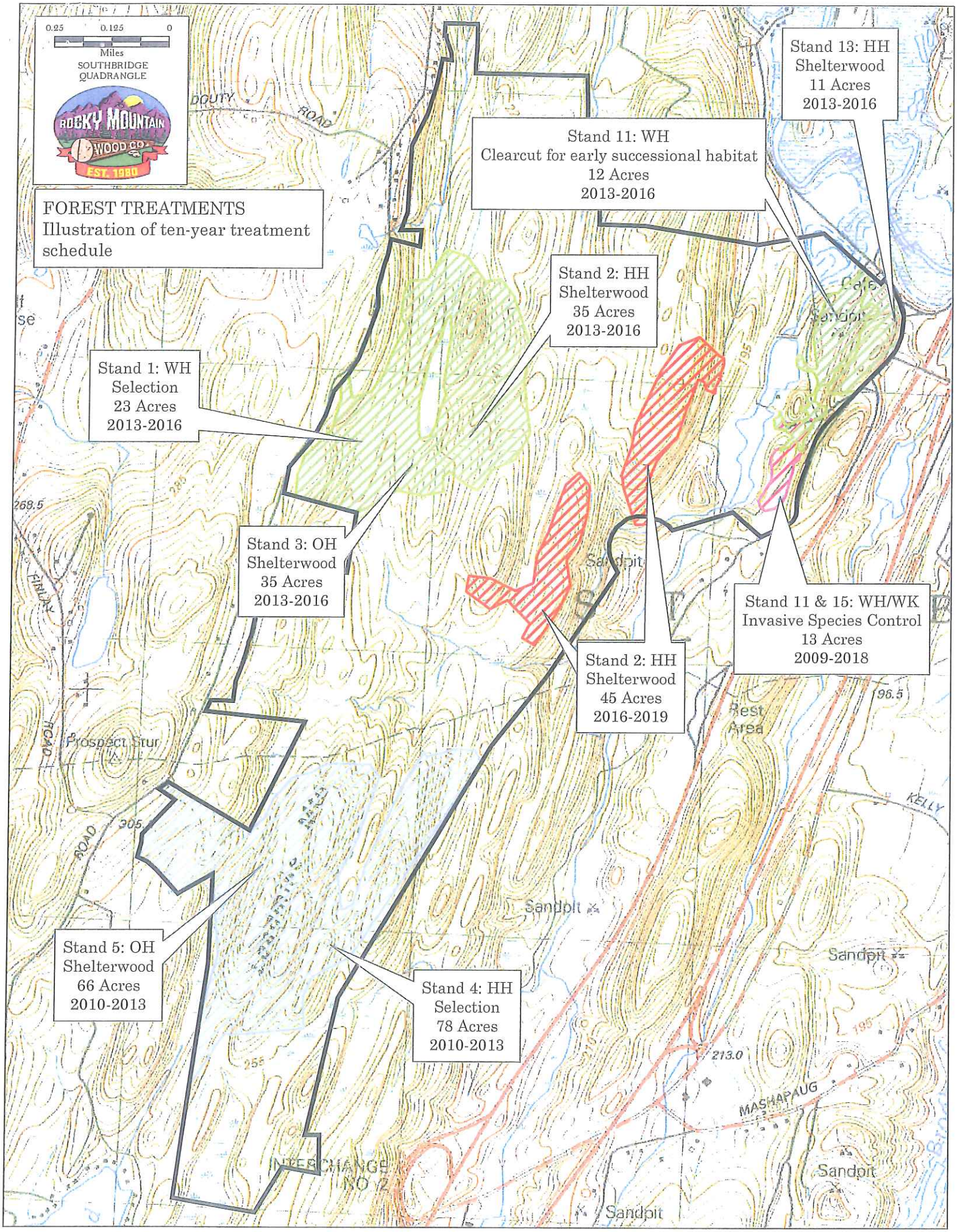
Outposts will include kiosks or some other informative station. Funding may be applied for through the Forest Stewardship Program.


0.25
0.125
0
Miles
SOUTHBRIDGE
QUADRANGLE
ROCKY MOUNTAIN WOOD CO
EST. 1980
DOUTY ROAD
Water Tank
Golf Course
AREA UNDER
CONSERVATION RESTRICTION
813.97 AC.
Gate
Sandpit
268.5
FINLAY ROAD
Prospect Stur
ROAD 305
Sandpit
T U R
Rest Area
198.5
Sandpit
Sandpit
213.0
MASHAPAUG
Sandpit
Sandpit
INTERCHANGE NO 2


0.25
0.125
0
Miles
SOUTHBRIDGE
QUADRANGLE
ROCKY MOUNTAIN WOOD CO.
EST. 1980
FOREST STAND MAP
Stand Numbers and Type Codes Shown
1: WH
8: OW
9: AF
6: RM
3: OH
10: RZ
10: RZ
11: WH
13: HH
8: OW
6: RM
6: RM
12: SS
6: RM
14: WH
15: WK
16: AF
2: HH
6: RM
6: RM
6: RM
6: RM
6: RM
4: HH
5: OH
4: HH
5: OH
7: RM
5: OH
5: OH
4: HH


0.25
0.125
0
Miles
SOUTHBRIDGE
QUADRANGLE
ROCKY MOUNTAIN
WOOD CO.
EST. 1980
FOREST MAP
Trails, Weltands, Stone Walls
and Water Courses Shown


0.25 0.125 0
Miles
SOUTHBRIDGE QUADRANGLE
ROCKY MOUNTAIN WOOD CO. EST. 1980
FOREST TREATMENTS
Illustration of ten-year treatment schedule
Stand 13: HH
Shelterwood
11 Acres
2013-2016
Stand 11: WH
Clearcut for early successional habitat
12 Acres
2013-2016
Stand 2: HH
Shelterwood
35 Acres
2013-2016
Stand 1: WH
Selection
23 Acres
2013-2016
Stand 3: OH
Shelterwood
35 Acres
2013-2016
Stand 11 & 15: WH/WK
Invasive Species Control
13 Acres
2009-2018
Stand 2: HH
Shelterwood
45 Acres
2016-2019
Stand 5: OH
Shelterwood
66 Acres
2010-2013
Stand 4: HH
Selection
78 Acres
2010-2013


0.25 0.125 0
Miles
SOUTHBRIDGE QUADRANGLE
ROCKY MOUNTAIN WOOD CO.
EST. 1980
FOREST TREATMENTS
Illustration of ten-year treatment schedule
Stand 13: HH
Shelterwood
11 Acres
2013-2016
Stand 11: WH
Clearcut for early successional habitat
12 Acres
2013-2016
Stand 2: HH
Shelterwood
35 Acres
2013-2016
Stand 1: WH
Selection
23 Acres
2013-2016
Stand 3: OH
Shelterwood
35 Acres
2013-2016
Stand 11 & 15: WH/WK
Invasive Species Control
13 Acres
2009-2018
Stand 2: HH
Shelterwood
45 Acres
2016-2019
Stand 5: OH
Shelterwood
66 Acres
2010-2013
Stand 4: HH
Selection
78 Acres
2010-2013
DOUTY ROAD
FINLAY ROAD
Prospect Stur
ROAD
Sandpit
Rest Area
KELLY
MASHAPAUG
INTERCHANGE NO 2
268.5
305
213.0
96.5

Signature Page Please check each box that applies.

☐ **CH. 61/61A Management Plan** I attest that I am familiar with and will be bound by all applicable Federal, State, and Local environmental laws and /or rules and regulations of the Department of Conservation and Recreation. I further understand that in the event that I convey all or any portion of this land during the period of classification, I am under obligation to notify the grantee(s) of all obligations of this plan which become his/hers to perform and will notify the Department of Conservation and Recreation of said change of ownership.

☒ **Forest Stewardship Plan**. When undertaking management activities, I pledge to abide by the management provisions of this Stewardship Management Plan during the ten year period following approval. I understand that in the event that I convey all or a portion of the land described in this plan during the period of the plan, I will notify the Department of Conservation and Recreation of this change in ownership.

Signed under the pains of perjury.

Owner(s) _____ Date 11/5/09

_____ Date _____

I attest that I have prepared this plan in good faith to reflect the landowner's interest.

Plan Preparer _____ Date 11/5/2009

I attest that the plan satisfactorily meets the requirements of CH61/61A and/or the Forest Stewardship Program.

Approved, Service Forester _____ Date _____

Approved, Regional Supervisor _____ Date _____

In the event of a change of ownership of all or part of the property, the new owner must file an amended Ch. 61/61A plan within 90 days from the transfer of title to insure continuation of Ch. 61/61A classification.

Owner(s) Town of Sturbridge Town(s) Sturbridge

RESEARCH BY: MAC DRAFTED BY: WEE
FIELD CHIEF: JDM CHECKED BY: DWH
COMPUTED BY: DWH APPROVED BY: DWH

Legend

SYMBOLS AND ABBREVIATIONS SHOWN ON THIS PLAN.

N/F		NOW OR FORMERLY
(F)		FOUND
(S)		SET
SSM	●	STEEL SURVEY MARKER
IP	○	IRON PIPE
DH	○	DRILL HOLE
DB		DEED BOOK
PB		PLAN BOOK
OSV		OLD STURBRIDGE VILLAGE

Notes

1.) ASSESSOR'S REFERENCES – 028-27-xxx, 028-24-071, 028-12-003 028-22-121, 036 48-431.

2.) STATE PLANE COORDINATES AND BEARING SYSTEM ESTABLISHED BY G.P.S. (GLOBAL POSITIONING SATELLITES) METHODS USING MASS. GEODETIC SURVEY CONTROL POINTS 408X AND 108C.

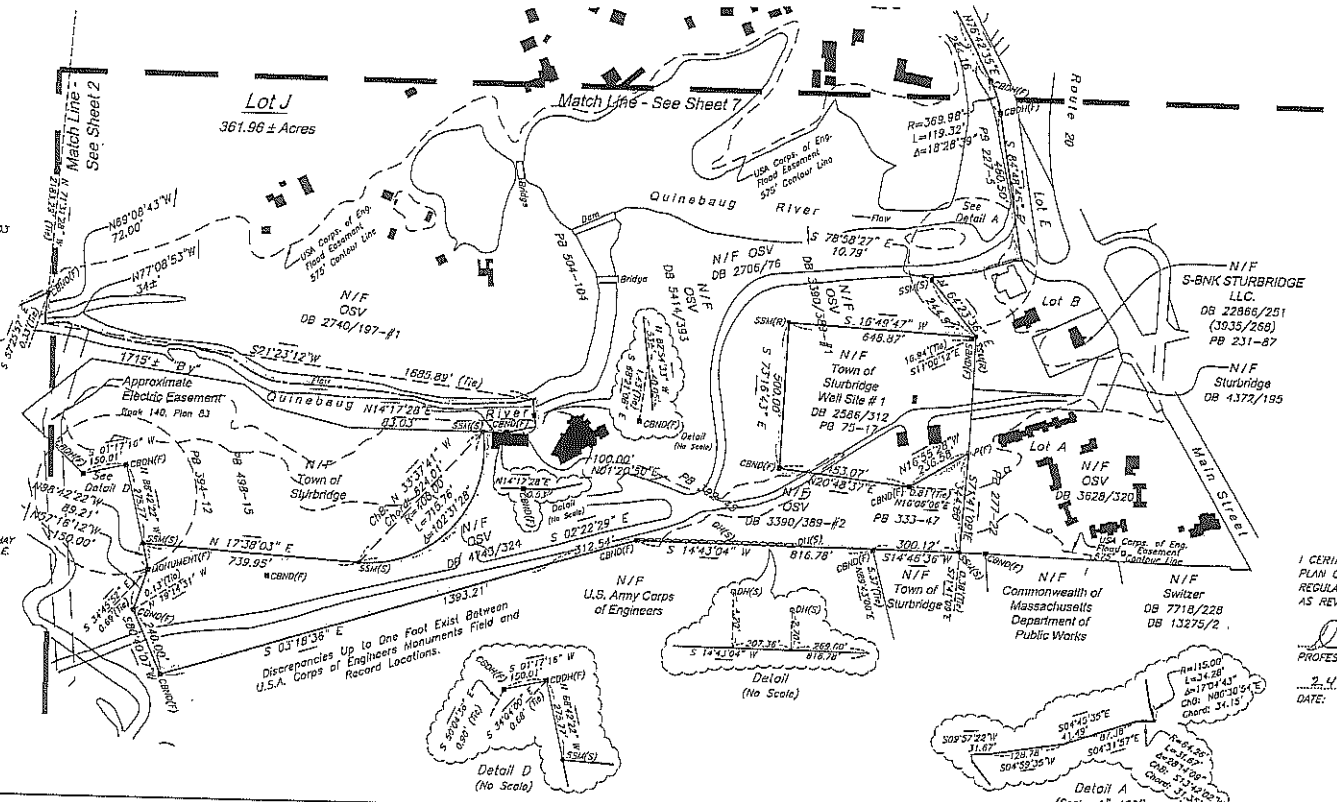
3.) THIS PLAN WAS PREPARED IN CONFORMANCE WITH 250 CMR SECTION 6.

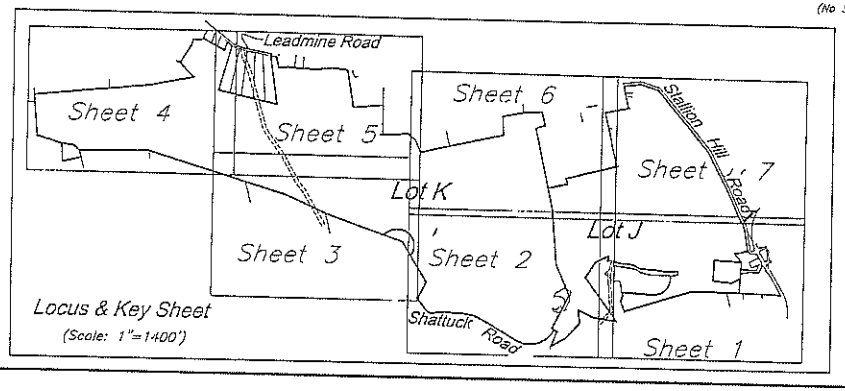
4.) LOCATION OF UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON FIELD LOCATION OF VISIBLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATER GATES, ETC., AND COMPILING INFORMATION FROM PLANS SUPPLIED BY VARIOUS UTILITY COMPANIES AND GOVERNMENT AGENCIES. THE LOCATION SHOWN SHALL BE CONSIDERED APPROXIMATE. BEFORE CONSTRUCTION, THE LOCATION OF UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR. IN ACCORDANCE WITH CH. 82, SEC. 40 AS AMENDED, ALL UTILITY COMPANIES AND APPLICABLE GOVERNMENT AGENCIES MUST BE CONTACTED, CONTACT "DIG-SAFE" AT 1-888-344-7233.

5.) ALL BUILDINGS, WATERBODIES, AND INTERIOR PLANIMETRIC FEATURES WERE TAKEN FROM MASSGIS ORTHOPHOTOS.

6.) THIS PROPERTY CONTAINS NATURAL WATER BOUNDARIES WHICH WERE LOCATED BY PHOTOGRAMMETRIC METHODS. THE BOUNDARIES ARE SUBJECT TO CHANGE DUE TO NATURAL AND ARTIFICIAL CAUSES AND MAY OR MAY NOT REPRESENT THE ACTUAL LOCATION OF THE LIMIT OF TITLE.

Massachusetts Coordinate System
Grid North





APPROVAL UNDER THE SUBDIVISION CONTROL LAW, NOT REQUIRED
STURBRIDGE PLANNING BOARD:

DATE: 11/1/06

PLANNING BOARD ENDORSEMENT IS NOT A DETERMINATION AS TO CONFORMANCE WITH THE ZONING BYLAW.

Zone District:

Commercial – Tourist
Suburban Residential – East of Quinebaug River
Rural Residential

Regularity Factor:

Per Section 4.02.b.
Lot J = 0.09
Lot K = 0.09

Frontage:

Lot J = 5000±'
Lot K = 3300±'

Area:

Lot J = 361.96± Acres
Lot K = 813.97± Acres

20934-23

WORCESTER DISTRICT REGISTRY OF DEEDS-WORCESTER, MA
PLAN BOOK 848 PLAN 98
Received 6/26/06
12 h 54 m P M
Sheet 1 of 7
With Doc. #
In BOOK PAGE
Fee $ 525.00
ATTEST: Register

FOR REGISTRY USE ONLY

20934-23

Deed References

Book 11249, Page 259
Book 2706, Page 284
Book 3225, Page 87
Book 4791, Page 321

Plan References

Plan Book 15, Plan 41
Plan Book 75, Plan 17
Plan Book 96, Plan 21
Plan Book 227, Plan 5
Plan Book 231, Plan 87
Plan Book 277, Plan 22
Plan Book 326, Plan 5
Plan Book 342, Plan 79
Plan Book 485, Plan 39
Plan Book 485, Plan 47
Plan Book 498, Plan 15
Plan Book 630, Plan 60
Plan Book 501, Plan 50
Plan Book 561, Plan 59
Plan Book 649, Plan 91
Plan Book 765, Plan 79
Plan Book 804, Plan 58
Plan Book 834, Plan 56

I CERTIFY THAT THE PREPARATION OF THIS PLAN CONFORMS WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS AS REVISED THROUGH JANUARY 12, 1988.

PROFESSIONAL LAND SURVEYOR

DATE: 2-4 March 2006

Record Owners:

Old Sturbridge, Inc.
&
Sturbridge Corp.

0 100 200 400 600 FEET
0 50 100 200 METERS

Plan of Land
IN
Sturbridge, Massachusetts
(Worcester County)
Prepared For: Old Sturbridge Village, Inc.
Scale: 1" = 200' Date: March 14, 2006

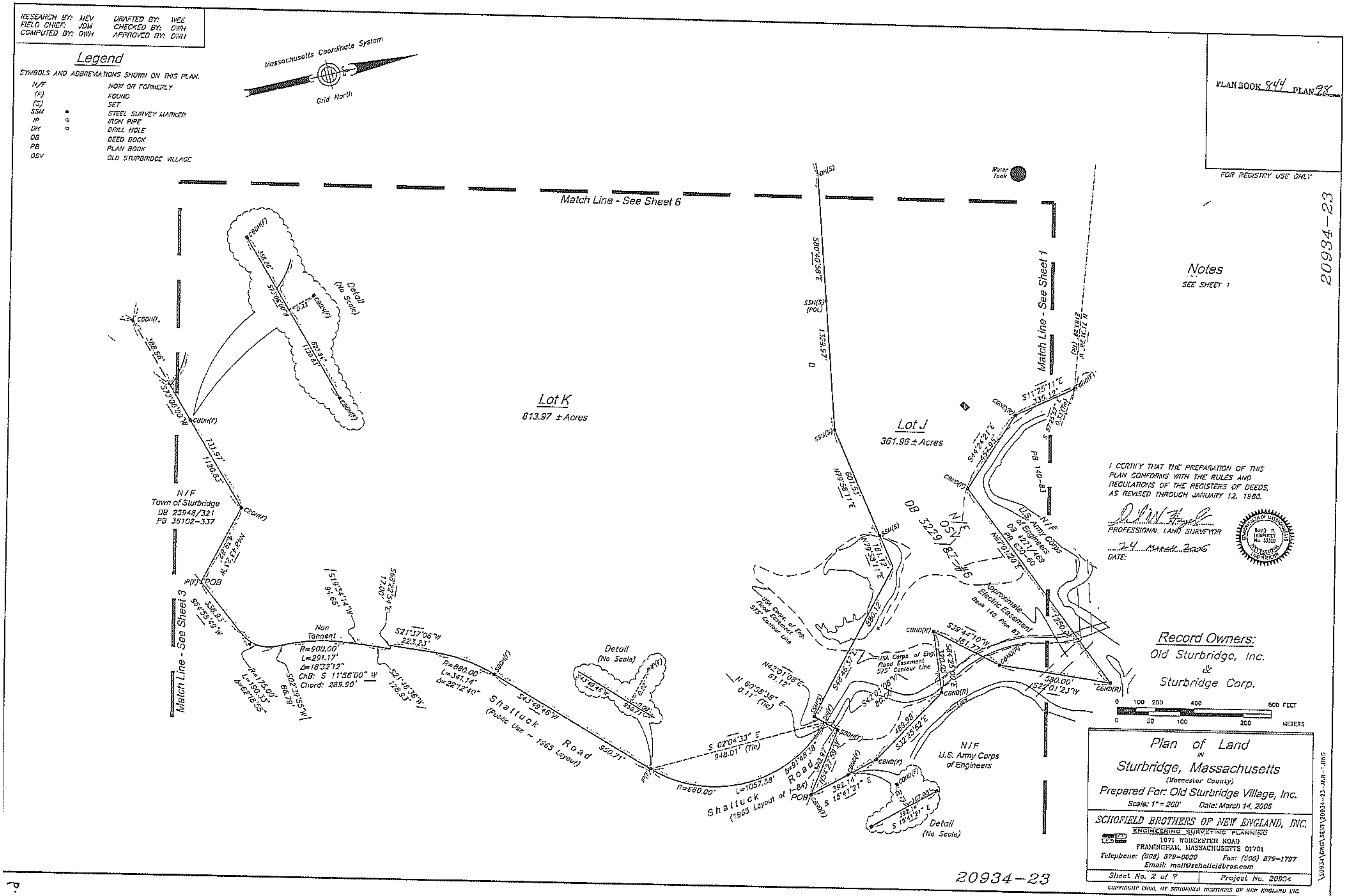
SCHOFIELD BROTHERS OF NEW ENGLAND, INC.
ENGINEERING SURVEYING PLANNING
1071 WORCESTER ROAD
FRAMINGHAM, MASSACHUSETTS 01701
Telephone: (508) 879-0030 Fax: (508) 879-1797
Email: mail@schofieldbros.com

Sheet No. 1 of 7 | Project No. 20934

COPYRIGHT 2006, BY SCHOFIELD BROTHERS OF NEW ENGLAND, INC.

\20934\DWG\SCD\20934-23-ANR-LONG

Page 1 of 1


RESEARCH BY: MEV
FIELD CHIEF: JDM
COMPUTED BY: DWH
DRAFTED BY: WEE
CHECKED BY: DWH
APPROVED BY: DWH
Legend
SYMBOLS AND ABBREVIATIONS SHOWN ON THIS PLAN.
N/F NOW OR FORMERLY
(F) FOUND
(S) SET
SSM STEEL SURVEY MARKER
IP IRON PIPE
DH DRILL HOLE
DB DEED BOOK
PB PLAN BOOK
OSV OLD STURBRIDGE VILLAGE
Massachusetts Coordinate System
Grid North
PLAN BOOK 844 PLAN 98
FOR REGISTRY USE ONLY
20934-23
Notes
SEE SHEET 1
Match Line - See Sheet 6
Match Line - See Sheet 1
Match Line - See Sheet 3
Lot K
813.97 ± Acres
Lot J
361.96 ± Acres
N/F
Town of Sturbridge
DB 25948/321
PB 36102-337
N/F
U.S. Army Corps
of Engineers
DB 4271/469
PB 630-60
PB 140-83
N/F
OSV
DB 3229/87-#6
Approximate
Electric Easement
Book 140, Plan 83
USA Corps. of Eng.
Flood Easement
575' Contour Line
N/F
U.S. Army Corps
of Engineers
Shattuck Road
(Public Use - 1965 Layout)
Shattuck Road
(1965 Layout of L-84)
Detail
(No Scale)
Water
Tank
I CERTIFY THAT THE PREPARATION OF THIS
PLAN CONFORMS WITH THE RULES AND
REGULATIONS OF THE REGISTERS OF DEEDS,
AS REVISED THROUGH JANUARY 12, 1988.
PROFESSIONAL LAND SURVEYOR
24 March 2006
DATE:
Record Owners:
Old Sturbridge, Inc.
&
Sturbridge Corp.
Plan of Land
in
Sturbridge, Massachusetts
(Worcester County)
Prepared For: Old Sturbridge Village, Inc.
Scale: 1" = 200'
Date: March 14, 2006
SCHOFIELD BROTHERS OF NEW ENGLAND, INC.
ENGINEERING SURVEYING PLANNING
1071 WORCESTER ROAD
FRAMINGHAM, MASSACHUSETTS 01701
Telephone: (508) 879-0030
Fax: (508) 879-1797
Email: mail@schofieldbros.com
Sheet No. 2 of 7
Project No. 20934
COPYRIGHT 2006, BY SCHOFIELD BROTHERS OF NEW ENGLAND INC.
20934-23

p. 34 of 41

SEARCH BY: MEV DRAFTED BY: WEC
FIELD CHIEF: JDM CHECKED BY: DWH
COMPUTED BY: DWH APPROVED BY: DWH

Legend

SYMBOLS AND ABBREVIATIONS SHOWN ON THIS PLAN.

N/F		NOW OR FORMERLY
(F)		FOUND
(S)		SET
SSM	●	STEEL SURVEY MARKER
IP	○	IRON PIPE
DH	○	DRILL HOLE
DB		DEED BOOK
PB		PLAN BOOK
OSV		OLD STURBRIDGE VILLAGE

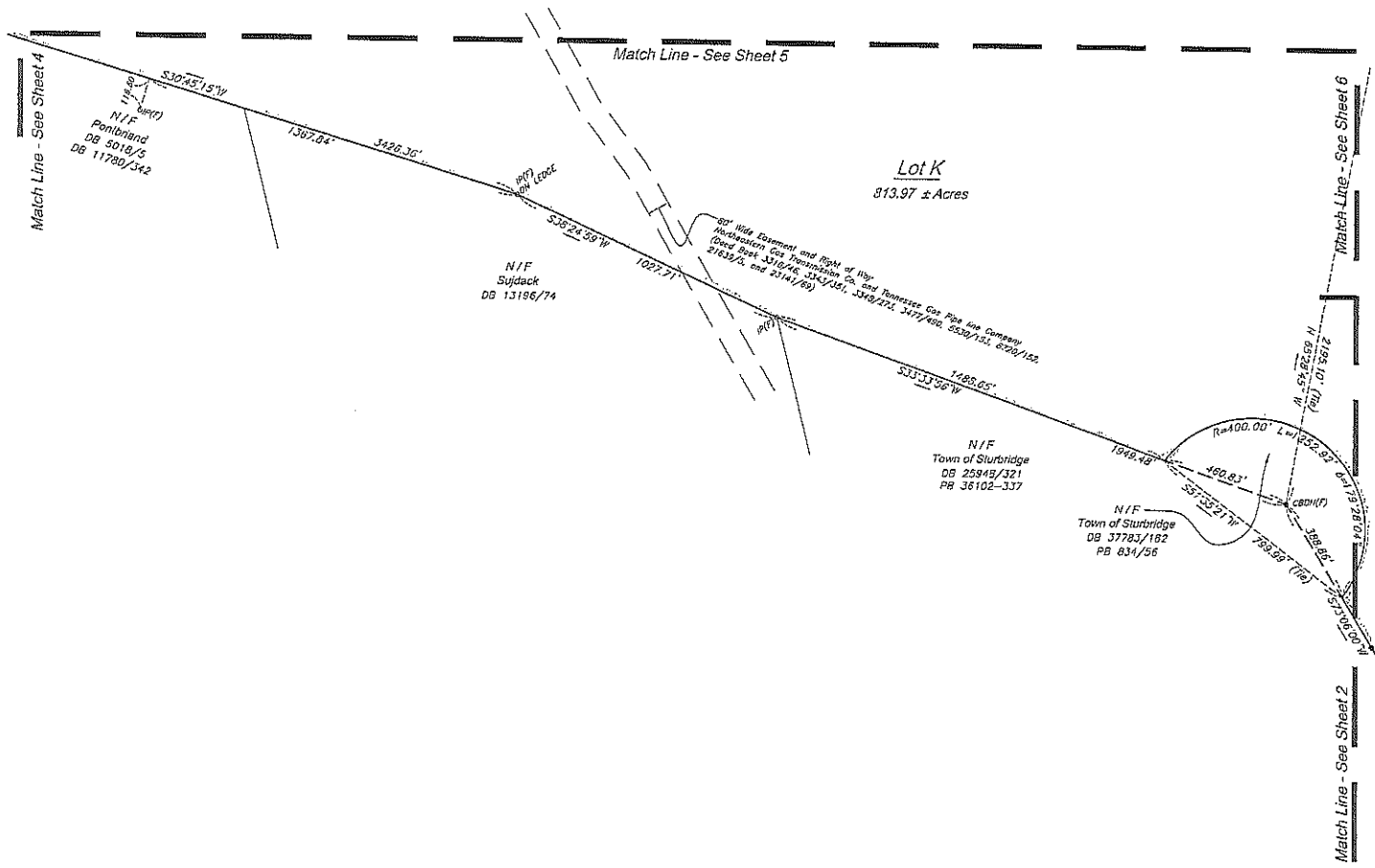
Massachusetts Coordinate System

Grid North

PLAN BOOK 844 PLAN 98

FOR REGISTRY USE ONLY

20934-23



Plan of Land
IN
Sturbridge, Massachusetts
(Worcester County)

Prepared For: Old Sturbridge Village, Inc.

Scale: 1" = 200' Date: March 14, 2006

SCHOFIELD BROTHERS OF NEW ENGLAND, INC.
ENGINEERING SURVEYING PLANNING
1071 WORCESTER ROAD
FRAMINGHAM, MASSACHUSETTS 01701
Telephone: (508) 879-0030 Fax: (508) 879-1797
Email: mail@schofieldbros.com

Sheet No. 3 of 7 | Project No. 20934

COPYRIGHT 2006, BY SCHOFIELD BROTHERS OF NEW ENGLAND INC.

\20934\DWG\SEW\20934-23-SUR-1.DWG

20934-23

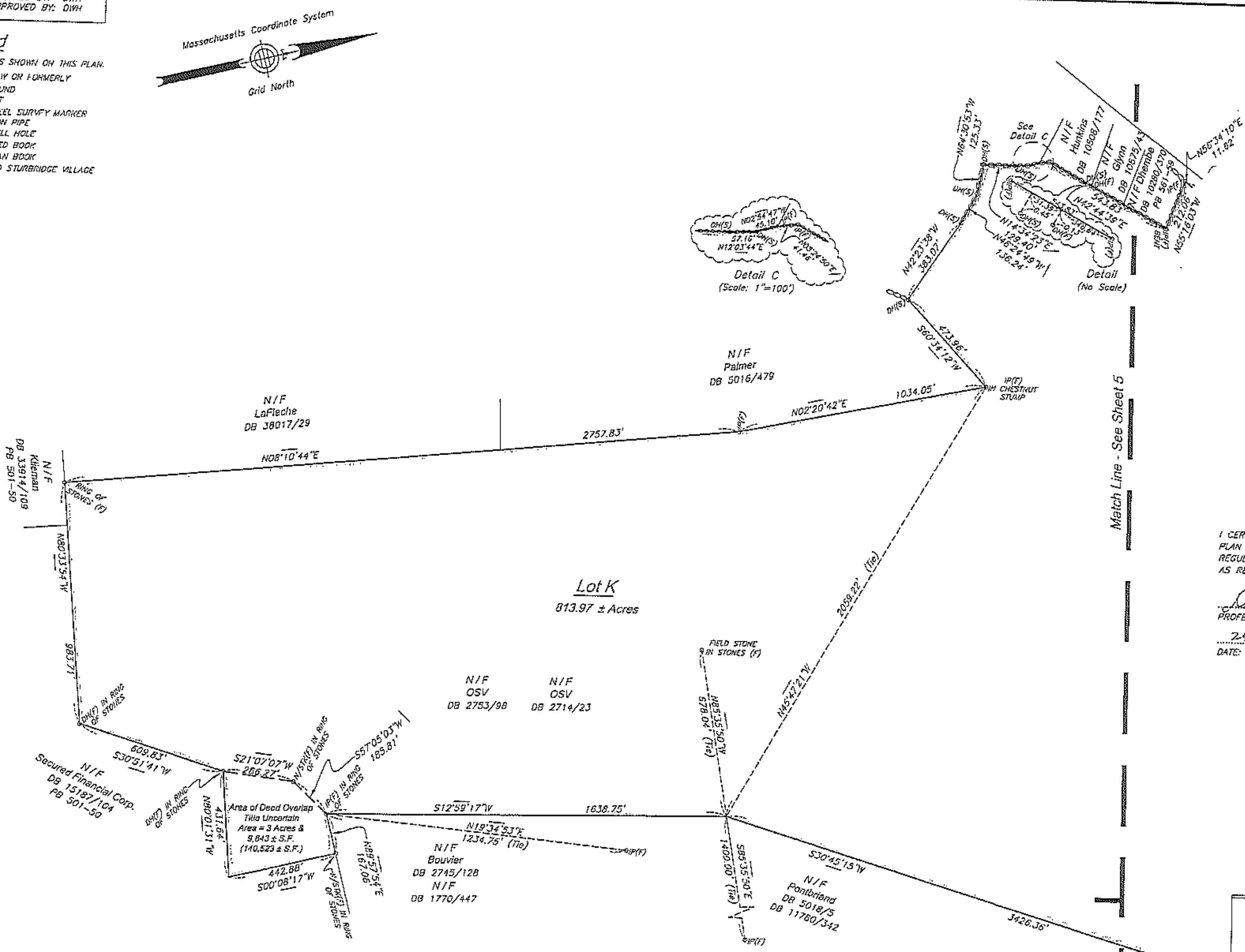
p 35 of 4

RESEARCH BY: MEV   DRAFTED BY: WEE
FIELD CHIEF: JDM   CHECKED BY: DWH
COMPUTED BY: DWH   APPROVED BY: DWH

Legend

SYMBOLS AND ABBREVIATIONS SHOWN ON THIS PLAN.

N/F		NOW OR FORMERLY
(F)		FOUND
(S)		SET
SSM	•	STEEL SURVEY MARKER
IP	○	IRON PIPE
DH	○	DRILL HOLE
DB		DEED BOOK
PB		PLAN BOOK
OSV		OLD STURBRIDGE VILLAGE



Massachusetts Coordinate System
Grid North
N/F
LaFleche
DB 38017/29
N/F
Palmer
DB 5016/479
N/F
Klieman
DB 33914/109
PB 501-50
N/F
Secured Financial Corp.
DB 15187/104
PB 501-50
N/F
Hunkins
DB 10508/177
N/F
Glynn
DB 10575/43
N/F Dhembe
DB 10280/370
PB 561-59
See Detail C
Detail C
(Scale: 1"=100')
Detail
(No Scale)
Lot K
813.97 ± Acres
N/F
OSV
DB 2753/98
N/F
OSV
DB 2714/23
N/F
Bouvier
DB 2745/128
N/F
DB 1770/447
N/F
Pontbriand
DB 5018/5
DB 11760/342
Area of Deed Overlap
Title Uncertain
Area = 3 Acres &
9,843 ± S.F.
(140,523 ± S.F.)
IP(F) CHESTNUT STUMP
FIELD STONE IN STONES (F)
RING of STONES (F)
N08°10'44"E
2757.83'
N02°20'42"E
1034.05'
S60°34'12"W
473.96'
N42°23'38"W
383.07'
N64°30'53"W
125.33'
N14°34'23"E
129.40'
N46°24'49"W
136.24'
N42°44'39"E
N55°34'10"E
11.82'
N55°16'03"W
212.06'
N02°54'47"W
45.10'
N12°03'44"E
57.16'
N03°24'50"E
41.46'
N80°33'54"W
983.71'
S30°51'41"W
609.83'
N80°01'31"W
431.64'
S21°07'07"W
286.27'
S57°05'03"W
185.81'
S00°08'17"W
442.88'
N89°57'54"E
167.06'
S12°59'17"W
1638.75'
N19°34'53"E
1234.75' (Tie)
N85°35'50"W
578.04' (Tie)
S85°35'50"E
1400.00' (Tie)
N45°47'21"W
2059.22' (Tie)
S30°45'15"W
3426.36'
Match Line - See Sheet 5
Match Line - See Sheet 3

PLAN BOOK 844 PLAN 98

FOR REGISTRY USE ONLY

20934-23

Notes

SEE SHEET 1

I CERTIFY THAT THE PREPARATION OF THIS PLAN CONFORMS WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS, AS REVISED THROUGH JANUARY 12, 1988.

[signature]
PROFESSIONAL LAND SURVEYOR

24 March 2006
DATE:

Record Owners:

Old Sturbridge, Inc.
&
Sturbridge Corp.

0 100 200 400 800 FEET
0 50 100 200 METERS

Plan of Land
in
Sturbridge, Massachusetts
(Worcester County)
Prepared For: Old Sturbridge Village, Inc.
Scale: 1" = 200'   Date: March 14, 2006

SCHOFIELD BROTHERS OF NEW ENGLAND, INC.
ENGINEERING SURVEYING PLANNING
1071 WORCESTER ROAD
FRAMINGHAM, MASSACHUSETTS 01701
Telephone: (508) 879-0030   Fax: (508) 879-1797
Email: mail@schofieldbros.com

Sheet No. 4 of 7   Project No. 20934

COPYRIGHT 2006, BY SCHOFIELD BROTHERS OF NEW ENGLAND INC.

\20934\DWG\SENT\20934-23-ANR-1.DWG

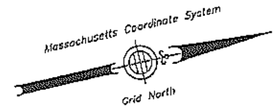
20934-23

RESEARCH BY: MEV   DRAFTED BY: WEE
FIELD CHIEF: JDM   CHECKED BY: DWH
COMPUTED BY: DWH   APPROVED BY: DWH

Legend

SYMBOLS AND ABBREVIATIONS SHOWN ON THIS PLAN.

N/F		NOW OR FORMERLY
(F)		FOUND
(S)		SET
SSM	•	STEEL SURVEY MARKER
IP	o	IRON PIPE
DH	o	DRILL HOLE
DB		DEED BOOK
PB		PLAN BOOK
OSV		OLD STURBRIDGE VILLAGE



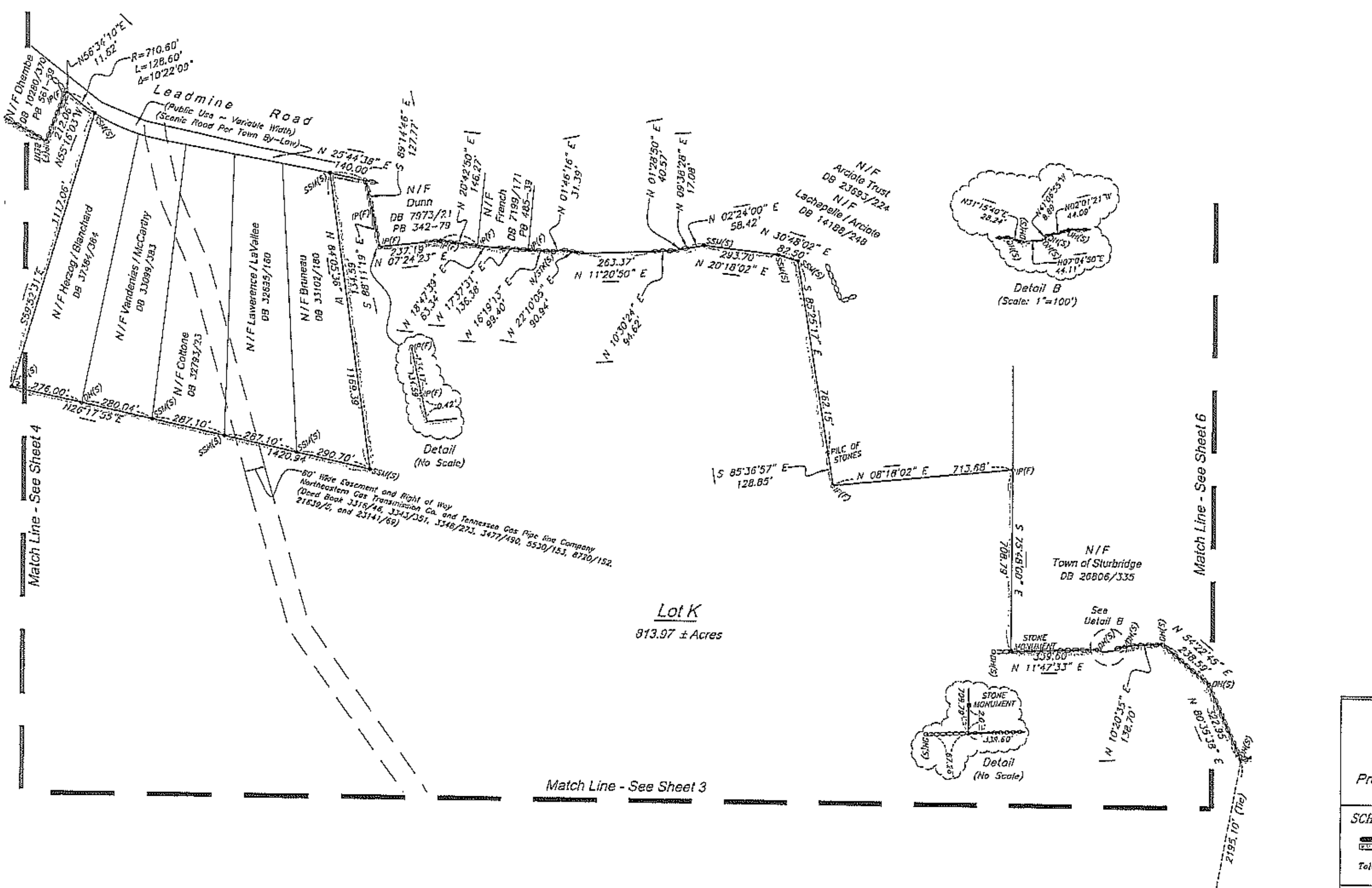
PLAN BOOK 844 PLAN 98

FOR REGISTRY USE ONLY

20934-23

Notes

SEE SHEET 1



N/F Dhembe DB 10280/370 PB 561-39
N56°36'10"E 11.62'
R=710.60' L=128.60' Δ=10°22'09"
Leadmine Road
(Public Use ~ Variable Width)
(Scenic Road Per Town By-Law)
N55°16'03"W 212.06'
N 25°44'18" E 140.00'
S 89°14'46" E 127.77'
N/F Dunn DB 7873/21 PB 342-79
N 20°42'50" E 146.27'
N/F French DB 7199/171 PB 485-39
N 01°46'16" E 31.39'
N 01°28'50" E 40.57'
N 09°38'28" E 17.08'
N 02°24'00" E 58.42'
N/F Arciola Trust DB 23593/224
N/F Lachapelle/Arciola DB 14188/248
N 30°48'02" E 82.50'
293.70' N 20°18'02" E
263.37' N 11°20'50" E
N 10°30'24" E 94.62'
237.19' N 07°24'23" E
N 18°47'39" E 63.34'
N 17°37'31" E 136.36'
N 16°19'13" E 99.40'
N 22°10'05" E 90.94'
3112.06'
S59°52'31"E
N/F Herzog/Blanchard DB 37384/384
N/F Vandenias/McCarthy DB 33099/383
N/F Cottone DB 32793/23
N/F Lawerence/LaVallee DB 32635/160
N/F Bruneau DB 33102/180
N 84°05'36" W 131.39'
S 88°11'19" E
1169.39'
276.00' 280.04' 287.10' 287.10' 290.70'
N26°17'55"E
1420.34'
Detail (No Scale)
60' Wide Easement and Right of Way Northeastern Gas Transmission Co. and Tennessee Gas Pipe line Company (Deed Book 3318/46, 3343/351, 3348/273, 3477/490, 5530/153, 8720/152, 21839/2, and 23141/69)
S 85°25'17" E 762.15'
PILE OF STONES
S 85°36'57" E 128.85'
N 08°18'02" E 713.68'
S 75°48'00" E 708.79'
N/F Town of Sturbridge DB 26806/335
N31°15'40"E 28.24'
N61°05'53"W 8.89'
N02°01'21"W 44.09'
N07°04'50"E 44.11'
Detail B (Scale: 1"=100')
Lot K
813.97 ± Acres
See Detail B
STONE MONUMENT
339.60' N 11°47'33" E
N 10°20'35" E 136.70'
N 54°22'45" E 238.59'
N 80°35'38" E 322.35'
2195.10' (Tie)
STONE MONUMENT
709.79'
138.60'
67.26'
Detail (No Scale)
Match Line - See Sheet 4
Match Line - See Sheet 3
Match Line - See Sheet 6

I CERTIFY THAT THE PREPARATION OF THIS PLAN CONFORMS WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS, AS REVISED THROUGH JANUARY 12, 1988.

PROFESSIONAL LAND SURVEYOR

24 March 2006
DATE:

Record Owners:

Old Sturbridge, Inc.
&
Sturbridge Corp.

0 100 200 400 800 FEET
0 50 100 200 METERS

Plan of Land
in
Sturbridge, Massachusetts
(Worcester County)

Prepared For: Old Sturbridge Village, Inc.

Scale: 1" = 200'   Date: March 14, 2006

SCHOFIELD BROTHERS OF NEW ENGLAND, INC.
ENGINEERING SURVEYING PLANNING
1071 WORCESTER ROAD
FRAMINGHAM, MASSACHUSETTS 01701
Telephone: (508) 879-0030   Fax: (508) 879-1797
Email: mail@schofieldbros.com

Sheet No. 5 of 7   Project No. 20934

COPYRIGHT 2006, BY SCHOFIELD BROTHERS OF NEW ENGLAND INC.

20934-23

p 37 of 4

RESEARCH BY: MEV DRAFTED BY: WEE
FIELD CHIEF: JDM CHECKED BY: DWH
COMPUTED BY: DWH APPROVED BY: DWH

Legend

SYMBOLS AND ABBREVIATIONS SHOWN ON THIS PLAN.

N/F		NOW OR FORMERLY
(F)		FOUND
(S)		SET
SSM	■	STEEL SURVEY MARKER
IP	○	IRON PIPE
DH	○	DRILL HOLE
DB		DEED BOOK
PB		PLAN BOOK
OSV		OLD STURBRIDGE VILLAGE

Massachusetts Coordinate System
Grid North

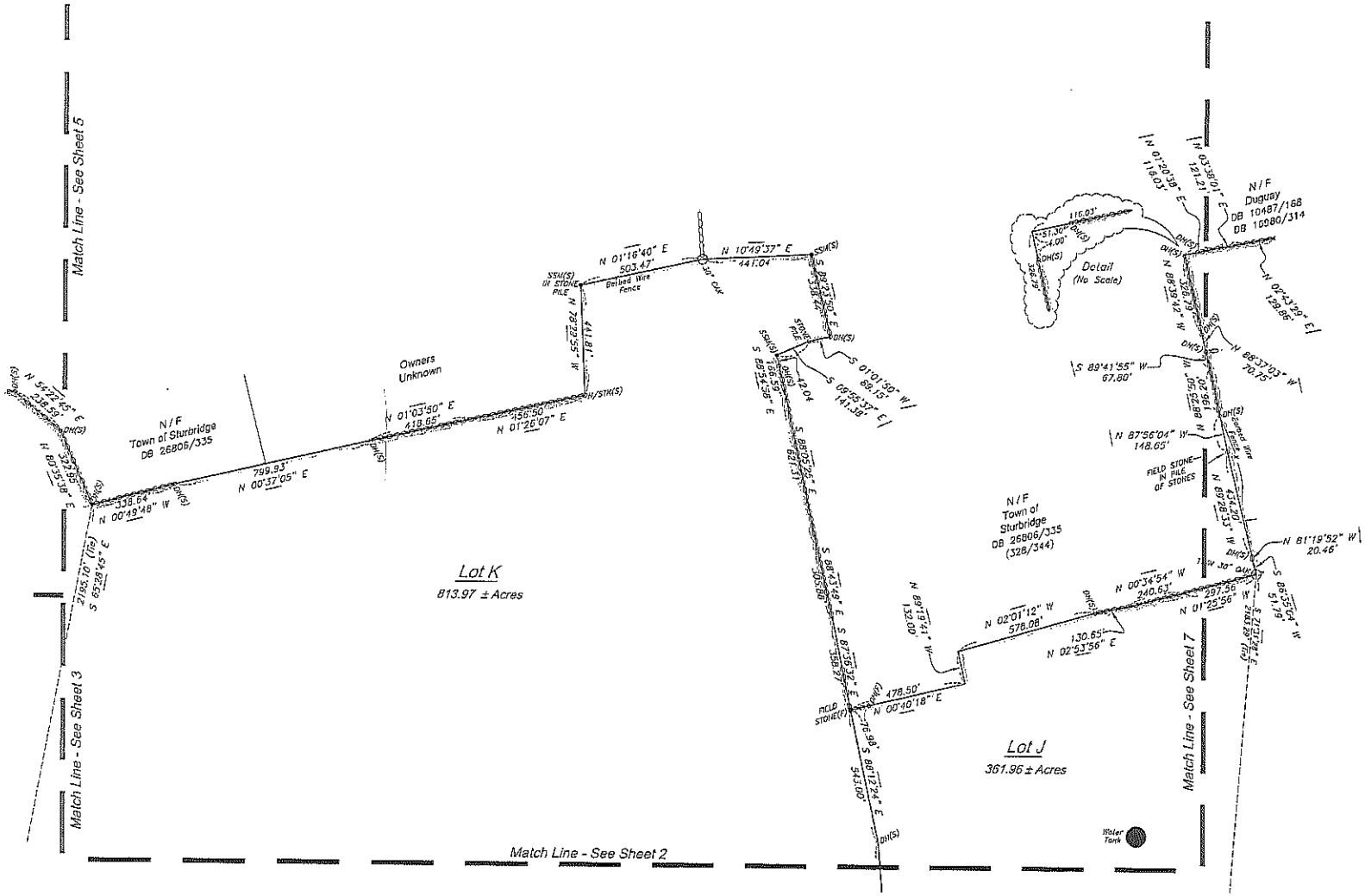
PLAN BOOK 844 PLAN 98

FOR REGISTRY USE ONLY

20934-23

Notes

SEE SHEET 1



I CERTIFY THAT THE PREPARATION OF THIS PLAN CONFORMS WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS, AS REVISED THROUGH JANUARY 12, 1988.

PROFESSIONAL LAND SURVEYOR

24 March 2006
DATE:

COMMONWEALTH OF MASSACHUSETTS — DAVID W. HOWARTH — No. 43330 — REGISTERED PROFESSIONAL LAND SURVEYOR

Record Owners:

Old Sturbridge, Inc.
&
Sturbridge Corp.

0 100 200 400 800 FEET
0 50 100 200 METERS

Plan of Land
IN
Sturbridge, Massachusetts
(Worcester County)

Prepared For: Old Sturbridge Village, Inc.
Scale: 1" = 200' Date: March 14, 2006

SCHOFIELD BROTHERS OF NEW ENGLAND, INC.
ENGINEERING SURVEYING PLANNING
1071 WORCESTER ROAD
FRAMINGHAM, MASSACHUSETTS 01701
Telephone: (508) 879-6030 Fax: (508) 870-1707
Email: mail@schofieldbros.com

Sheet No. 6 of 7 | Project No. 20934

COPYRIGHT 2006, BY SCHOFIELD BROTHERS OF NEW ENGLAND INC.

V:\20934\DWG\SURV\20934-23-MPL-1.DWG

20934-23

P 38 OF 4

RESEARCH BY: MSV | DRAFTED BY: WEE
FIELD CHIEF: JDM | CHECKED BY: DWH
COMPUTED BY: DWH | APPROVED BY: DWH

Legend

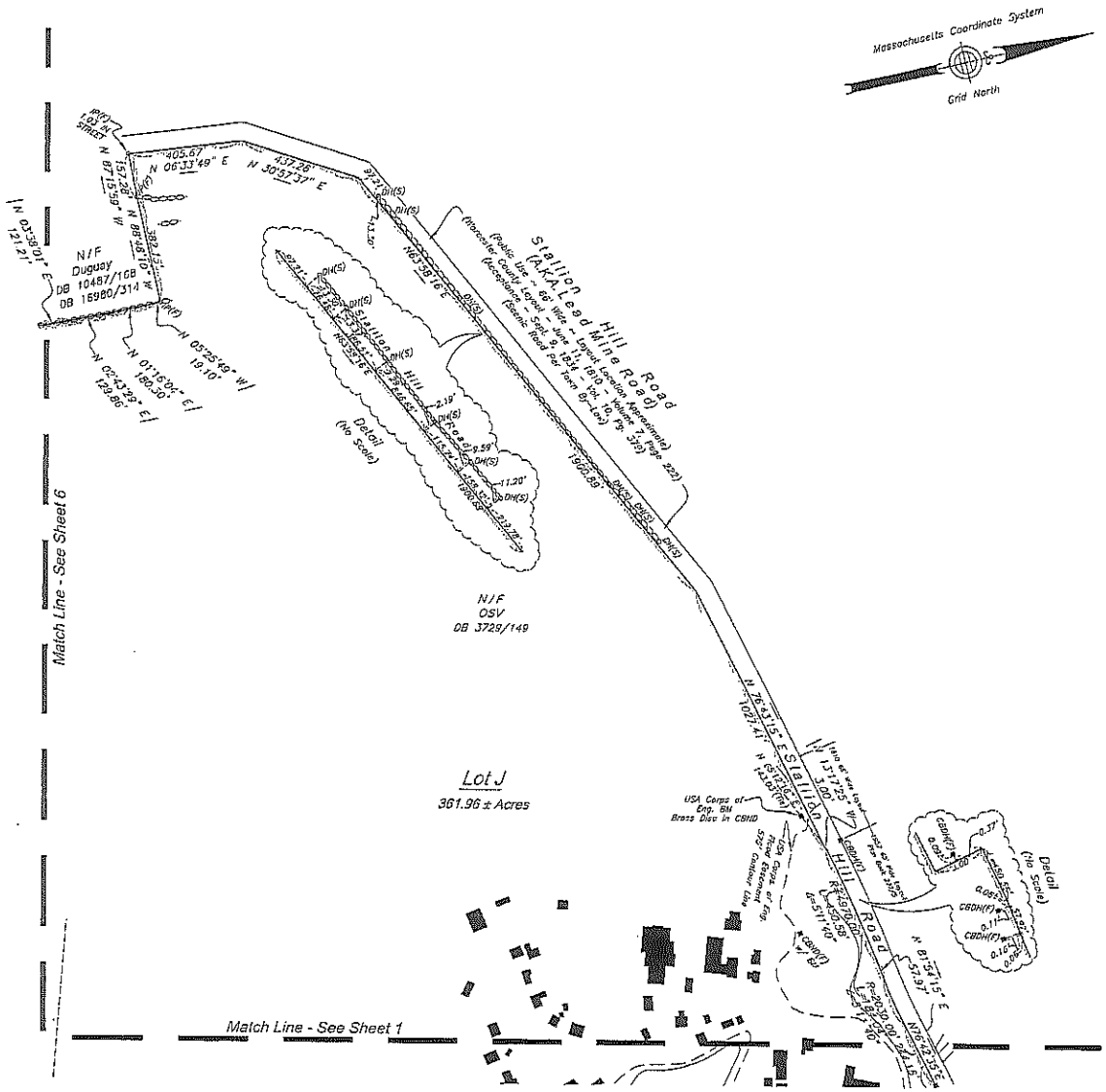
SYMBOLS AND ABBREVIATIONS SHOWN ON THIS PLAN.

N/F		NOW OR FORMERLY
(F)		FOUND
(S)		SET
SSM	•	STEEL SURVEY MARKER
IP	○	IRON PIPE
DH	○	DRILL HOLE
DB		DEED BOOK
PB		PLAN BOOK
OSV		OLD STURBRIDGE VILLAGE

PLAN BOOK 849 PLAN 98

FOR REGISTRY USE ONLY

20934-23



Notes

SEE SHEET 1

I CERTIFY THAT THE PREPARATION OF THIS PLAN CONFORMS WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS, AS REVISED THROUGH JANUARY 12, 1986.

PROFESSIONAL LAND SURVEYOR

24 MARCH 2006
DATE:

DAVID W. HOWLETT No. 33328 REGISTERED PROFESSIONAL ENGINEER

Record Owners:

Old Sturbridge, Inc.
&
Sturbridge Corp.

0 100 200 400 800 FEET
0 50 100 200 METERS

Plan of Land
IN
Sturbridge, Massachusetts
(Worcester County)

Prepared For: Old Sturbridge Village, Inc.

Scale: 1" = 200' Date: March 14, 2006

SCHOFIELD BROTHERS OF NEW ENGLAND, INC.
ENGINEERING SURVEYING PLANNING
1071 WORCESTER ROAD
FRAMINGHAM, MASSACHUSETTS 01701
Telephone: (508) 879-0030 Fax: (508) 879-1707
Email: mail@schofieldbros.com

Sheet No. 7 of 7 | Project No. 20934

COPYRIGHT 2006, BY SCHOFIELD BROTHERS OF NEW ENGLAND INC.

\20934\DWG\SEET\20934-23-JOB-1.DWG

20934-23

P 39 of 4

Massachusetts Division of Fisheries and Wildlife Best Management Practices for Controlling the Spread of Invasive Plants

Propagules (seeds, cuttings, plant parts) of many invasive plants can potentially be spread by directly attaching to clothing and equipment or inadvertently carried in soil accumulated on equipment and footwear. Many silvicultural and land management activities occurring on Division land or on private lands where work is funded by the Division represent a risk for transmitting these species to uninfested areas or could become infested when workers and equipment containing unwanted propagules enter onto these uninfested properties. Once dispersed, the invasive plant species may become established in new areas, and the native ecosystem may be negatively affected. To reduce the opportunity for spreading invasive plants and their propagules within and between work sites, we propose that the following protocols be adopted when Division personnel are working on Division property, or working elsewhere in the field, when projects are funded by the Division on other public or private lands and as conditions to Scientific Collecting Permits issued by the Director.

Likewise aquatic invasives (not limited to plants, animals, viruses, bacteria, algae, fungi) may be carried from one body of water to another on the damp surface of equipment or in water inadvertently carried from watershed to watershed during the normal course of both fish and wildlife field sampling activities. The harmful effects of these aquatic invasives are well documented and require large amounts of money to manage once they have become established. We propose that the following protocols be adopted by the various field staff of the Division and their contractors whose jobs require them to work in aquatic environments, including the Natural Heritage and Endangered Species Section and their contractors, Fisheries Section, Wildlife Section, all District staff and as conditions to Scientific Collecting Permits.

Terrestrial:

Contractors working on Wildlife Management Areas, other MDFW properties, or on a project funded through the MDFW shall:

Certify that they have made efforts to assure that their off-road equipment and their field personnel who have been working within invasive plant infestations are reasonably free from invasive plant propagules prior to entering work sites within Wildlife Management Areas, other MDFW properties and private lands where the work is being funded by the Division, by signing the Division's Standard Contract and agree to the following conditions in the Scope of Services.

Equipment:

Thoroughly clean and remove all mud, dirt, debris and plant parts from the exterior, undercarriage, and tires/tracks of the equipment with a high pressure washer or similar method prior to bringing the equipment onto the work site

Tools and Clothing:

- Field personnel should wear gaiters, rubber boots or other clothing and footwear which reduce the likelihood for seed attachment when working in areas infested with invasive species.
- Field Personnel must inspect, remove, and properly dispose of weed seed and plant parts found on their clothing, footwear and equipment prior to entering the work site
- Field Personnel must remove all soil from their footwear and equipment prior to entering the work site

Division Staff shall:

Make the same efforts to assure that they and their equipment are reasonably free from invasive plant propagules prior to entering a work site as do contractors to MDFW.

Aquatic:

Division Staff and Contractors Shall:

Prior to and when leaving the water, visually inspect all surfaces that have come into contact with the water on all boats, canoes, kayaks, boat trailers and motors and all associated field equipment such as waders, boots, dip nets, gloves, buckets, collection gear and holding tanks and remove all plant and animal debris for disposal in the trash. Additionally, before using any equipment in another watershed, the equipment shall be cleaned of all plant and animal debris for disposal and the equipment shall be disinfected and/or dried before use.

Conditions to be added to Scientific Collecting Permits:

The same procedures which apply to the reducing the spread of invasives should be added to the terms and conditions of all applicable Scientific Collecting Permits.
