March 15, 2020

Town Of Wayland

To whom it may concern,

I, Kray A. Small, Massachusetts Certified Arborist, License # 1797, have been retained by Silver Leaf Homes, LLC, of 30 West Main Street, Hopkinton, MA 01748, to assess trees on a property located at 81 West Plain Street, in Wayland, MA.

All trees 6 inches and larger have located on an engineer's print **Job #3004; dated February 19, 2020,** provided by Jillson Company Inc., P.O. Box 2135, Framingham, MA, 01703.

The purpose of this letter is to introduce you to a plot of land located at 81 West Central Street in Wayland, MA. This property was most likely clear cut about 125 years ago. In such time several species where allowed to grow large, several red oaks and Norway maples, but mostly it has been used for a wood lot, meaning many trees have been cut for firewood. The Jillson Company located approximately 300 stems with a DBH of 6" and more, (DBH Diameter at Breast Height). Approximately 70% are ***Acer platanoides*** (Norway Maple), 10% ***Quercus rubra*** (Red Oak), 10% ***Fraxinus americana*** (American White Ash), 4% ***Ulmus spp.*** (Unknown Species of Elm), 2% ***Fagus grandiflora*** (American Beech), 2% ***Acer saccharum*** (Sugar Maple), and 1% mixed coniferous species.

A majority of the trees that make up this forest plot are primarily Norway maples 70%. These trees have been on the Massachusetts invasive species list for about 15 years or more. They self-seed readily and take over our native forest. In doing so they crowd native species and over grow them reducing available sunlight. Because they grow faster and as tall as our native climax forest species, they create a shaded environment which makes the trees are more prone to decay than usual. Fungal diseases are most active in darker, moist, and cooler temperatures. Because the sun does not penetrate the forest floor, the stand never dries out and remains cooler from the shade. This invites fungi to re-infect unchecked.

The 10% of red oak are species that are mostly genetically flawed. It is assumed that all the good straight timber was harvested and what was left were challenging take downs for inexperienced sawyers. The larger oaks left are 2-3 leaders, mostly co-dominant with bark inclusions and internal decay. The younger oaks have succumb to various fungal infections and have decay within the central leaders.

Probably 9% of the white ash are dead or have decay. This is caused by wetter than normal conditions and fungi has moved it. Ash yellows was detected on one of the dead ash. This is a micro plasma like organism that has no effective known cure. It is assumed that this maybe the reason for decline as well as other factors.

The remainder of the trees are beech, sugar maples, and elms are suffering from assorted fungal ailments and the few coniferous plants all have insect and fungal issues.

The general observation of this forested plot is that the stand is in poor health and severe decline. The larger oaks and maples all have structural issues with co-dominant leaders. A co-dominant leader occurs when two stems grow parallel to one another. The point of attachment is usually less than 20 degrees. As the plant grows, annual rings are formed and new wood is added every year. The new wood starts to push each leader away from one another and a crack starts to form. Water gets in between and ice forms creating more force. The tree recovers yearly by adding callus wood around the crack (wound) and healing happens yearly. This formation is callus is called a bark inclusion. As the tree continues to grow, the tree can't bridge the gap of the wound and a fissure is formed. At this point decay fungi has entered and is colonizing the main stem. The attachment of the co-dominant leader is now extremely weak and it will be a matter of time when the tree fails and may cause injury to either persons or real estate. Some of these have already failed.

Other invasive species are also found including ***Celastrus orbiculatus*** (Oriental Bittersweet), which is responsible for the death of numerous plants on the lot, ***Euonymus alatus*** (Winged Euonymus), ***Acer platanoides*** (Norway Maple), ***Forsythia spp.*** (Common Forsythia), and ***Rosa multiflora*** (Japanese multiflora rose.

There are no wonderful plant specimens be found on the plot and the plot is considered to be good for firewood only.

It normally would be suggested that a forest stand be thinned out by removing diseased and structurally damaged trees, but if that occurred it would be clear cut once again. Which in this forest stand assessment, should be done.

If any questions arise, I may be reached by telephone at 508-328-4214 and by email ksmall4214@charter.net any other correspondence can be mailed to Kray Small P.O. Box 163, Woodville, MA 01784.

Respectively Submitted,

Kray A. Small, Massachusetts Certified Arborist #1797