June 25, 2019

Dear Planning Board:

I am writing to share some comments related to the discussion on tree trimming on Durham Point Rd. I don't have experience working with the utility industry, but for the last 30 years I have worked in the field of urban and community forestry with communities in the northeast and midwest. My comments below are brief, but I have also attached a document with some pictures and text that add more detail. The pictures were taken in my neighborhood (around Denbow, Pinecrest, Sunnyside).

Eversource has a tough job in maintaining the utility lines, and I appreciate the work they do to keep the power on. However, based on what I see in my neighborhood and around Durham, I feel that the "Enhanced" trimming method removes too much of the tree crown, and may cause problems with tree health in the long term. There needs to be a better balance between maintaining good tree health and providing adequate clearance for the utility lines. I have not looked at the marked trees, but can if desired. My more significant concern is related to the tree trimming.

The vast majority of tree limbs are a low risk for failure. The trimming approach is to cut most limbs within a "box" in an effort to remove the small number of branches that may fail in the future. Cutting more and more limbs has a diminishing return and at some point it is doing more harm than good - I think we are past that point. In the short term the trimming may reduce power outages, but there are negatives to this approach that may actually increase tree problems for the Town in the long term. That is my top concern - that in the next 10 - 20 years the town will see more related whole tree failures along roadways.

To name a few more important concerns (See attached document/pictures for more detail):

- The approach removes too much foliage at one time, having a negative impact on tree growth & health. These trees become more susceptible to problems in the future. Increased height of the poles will likely result in more of the tree crown removed.
- It creates thousands of cuts, and wounds which in some trees can lead to decay spots, defects and failure later in life.

- Many trees re-sprout prolifically after trimming - the sprouts are weakly attached, and are prone to failure as they get larger. Spouts must then be trimmed in a future trimming cycle, but that creates more wounds and perpetuates the cycle.
- The removal of many lower limbs changes the shape and balance of the tree crown, and can make some trees more prone to damage/failure in high winds.
- The tree losses its natural shape, and many would say it looks unattractive.

I support the need for tree pruning on roads and along utility lines, but I feel the Town should consider a more conservative approach, that balances good tree health and utility line maintenance. One option is going back to removing branches in a smaller area around the utility lines. Outside of that box, remove only a limited number of branches that have a high likelihood of failure. Branches that are more likely to fail have certain traits, that can be identified, and certain tree species are more prone to branch failure. Well trained arborists can identity a large percentage of tree branches that may ultimately fail, and they can focus on removing just those limbs.

This more conservative technique would reduce the amount of cutting done, the cost to the utility company and the impact on the long-term tree health.
Many of the communities I interact with, especially in other states, use a more conservative approach. The wording the the NH State Utility Commission policy allows communities to adjust the guidelines, so Durham should do that if desired.

Thanks for your consideration. John Parry

Issues to Consider When Trimming Trees

Removal of Large Percentage of the Tree Crown and Foliage

Through photosynthesis, leaves form sugars which provide energy for all tree functions. Loss of too much foliage at one time, impacts energy reserves, and has a negative effect on the trees ability to support new growth of roots, stems and leaves, and affects it's ability to defend against disease and insects, wounds and other stress factors. Healthy trees may eventually overcome this loss, but some trees will gradually decline, especially if heavy trimming is repeated periodically.

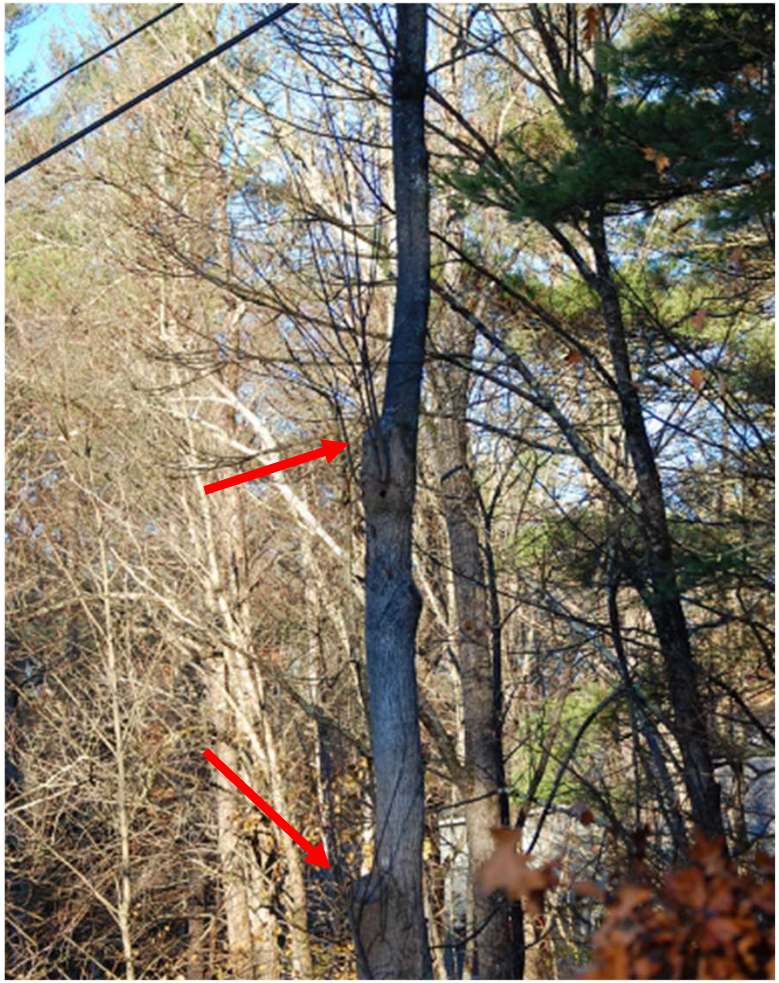
Sprouting

Removal of limbs encourages sprouting of new stems. Most conifer trees (evergreens) don't sprout much, if any. Hardwood do put out sprouts, some species sprout prolifically. These sprouts start from buds just under the bark, so they are not well attached. As they get larger they are more prone to failure.

Trimming of a large number of branches is likely removing many branches that are well attached and not a threat. These branches are then replaced by many sprouts, that are weakly attached and are more likely to fail in the future.

Sprouting

Resprouting at cuts. These wounds may eventually have some decay. Sprouts will grow quickly and have weak attachment to the tree.

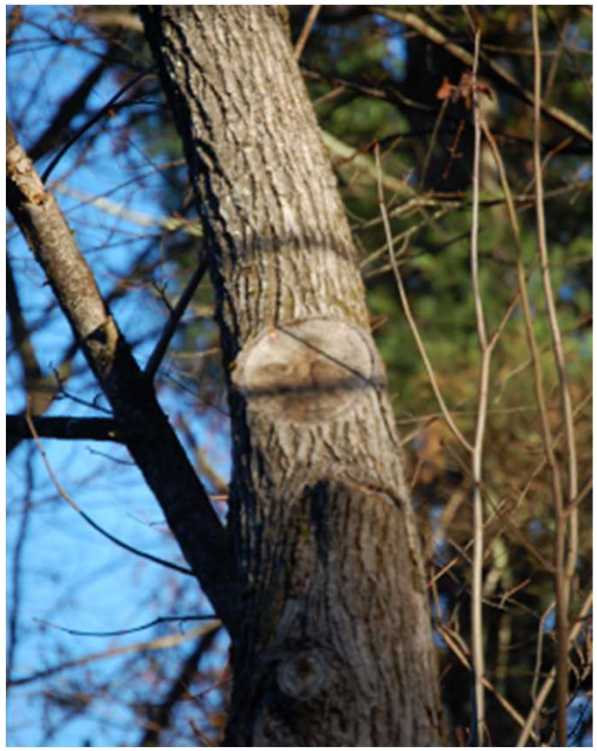


Tree has since been removed.

Wounds

The trimming creates thousands of wounds, some small and some large. The tree will try to grow over these wounds over a period of years, but some decay will start. Depending on tree health and species, the tree may compartmentalize these wounds, but in many trees, especially when the wounds are large, the decay becomes extensive over time. This can result in failure of branches and entire trees years later.

With a large amount of trimming, un-intentional cuts are hard to avoid. Accidental cuts into the trunk create additional wounds, and potentially decay and tree failure in the future



The tree top above this cut has since died and been removed.

Trimming Changes Wind Forces Affecting the Tree

More research has been done in recent years on how pruning and removing a large portion of the crown, changes how high winds affect trees.

Trimming usually removes more of the lower portion of the crown, and raises the center of pressure on the tree.

This is comparable to using a pry bar. If you pull on the end of a pry bar you exert more pleasure, with less effort, than if you pull in the middle.

Also, though there is less crown to catch the wind, the center of pressure has moved up the trunk, where wood strength may be less (especially if there are defects near that point).