CHESTERFIELD PUBLIC TREE INVENTORY REPORT

Prepared for the Town of Chesterfield
By the New Hampshire Urban and Community Forestry Program
August 2016

About The New Hampshire Urban and Community Forestry Program

Although New Hampshire is considered one of the most forested states in the nation the urban interface is often deficient in managing its urban forest. Most communities struggle with consistent financial support to maintain a sustainable tree program. The average city tree has a typical life span of seven years and cities have been found to remove four trees for every one planted. Our urban trees provide critical ecosystem services that are vitally important to our daily lives and surrounding connected ecosystems. It is projected that urban areas in the northeast will more than double by 2050 from 25 million acres to 58 million acres. Studies continue to show that urban trees help mitigate human impacts in the built environment, are linked to the health and well-being of humans and ecologically tied to our rural forestland. One of the major goals of the New Hampshire Urban and Community Forestry program is providing technical assistance to communities. The objective of this assistance is to help decision and policy makers cultivate new initiatives for sustainable urban forest stewardship throughout New Hampshire.

Urban Forestry Center Portsmouth NH

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Project Overview

This report provides the results of a public tree inventory conducted in Chesterfield on August 2, 2016 along with recommendations from the Division of Forests and Lands Community Forester. The goal of the inventory was to document the location, species, size, and condition of the community trees in the town center. This will provide town officials and residents with a better understanding of the structure, health and function of Chesterfield's public trees. It will also help the town to plan and incorporate this green infrastructure into budgeting for maintenance, planting and long term care. This inventory provides one of the first steps to creating a sustainable community tree program- knowing what you have.

Trees were inventoried in Chesterfield by Scott Rolfe, Community Forester with the Department of Resources and Economic Development, Urban and Community Forestry Program and Norman VanCor town Selectman and Conservation Commission representative. The scope of inventory work focused around the town center on town property.

Executive Summary

Forest Diversity

- The Chesterfield public community tree population consists of 100 trees of 21 species.

- 18 tree genera are found in the town center area. The *Acer* genus comprises a significant portion of the tree composition at 62%. This genera is particularly threatened by the invasive insect species, Asian longhorned beetle if and when it reaches New Hampshire.

- Broadleaf deciduous trees account for 84% of all trees and conifer species comprise of the remaining 16%.

Forest Structure

- Chesterfield's community trees are well distributed in all age classes, with 25% of trees above 18" in diameter, 34% in the 3-6" diameter, 28% in the 6-12" diameter size class.

Forest Health

- 95% of the trees were considered in good or fair condition

- 2% are in the dead or dying category and 3% are classified in poor condition

- 38% of trees were recommended for some type of maintenance task

Summary of Recommendations

Be proactive in removals and maintenance tasks for trees on the priority maintenance list provided. Schedule work in the order of priority ranking in as timely a manner as possible to reduce the potential of severe and high-risk situations. Tree #20, 51, 58, and 60 (see Appendix) are considered high risk or need a higher level of structural integrity assessment by a TRAQ certified Arborist (see www.ISA-arbor.com).

Choose the right tree for the right place (See Appendix) by using the trees normal expected crown growth potential at maturity to calculate sufficient soil rooting volume and crown space. A good rule of thumb is two cubic feet of soil for every square foot of expected canopy at maturity (see Appendix). Don't plant trees too close to buildings, sidewalks, signs or parking lots in order to avoid future conflicts.

Expand species diversity and increase lesser represented species. Use the current guidelines in maintaining species diversity of no more than 10% of any one species, 20% of any genus, and 30% of any family present in the urban landscape. Use better planting practices (avoid large group planting of same species). Prioritize planting in large growing spaces first then smaller spaces after (larger trees provide more ecosystem benefits).

Monitor trees for signs and symptoms of Dutch elm disease, Asian longhorned beetle and other forest pests and diseases. Inspect annually for health and structural issues that may impact public safety.

Maintain tree health by avoiding mechanical damage to trees, removing stakes and guys, fertilizing if needed, pruning for long-term structural integrity, watering for two years after planting and correcting any root or root collar issues.

Incorporate green infrastructure planning into the Master Plan with all other town infrastructure. Outline who will be responsible for maintenance and the long term budgetary needs for sustainability, tree replacement and future goals of green infrastructure in the town center.

Establish a systematic pruning cycle for all public trees to reduce future tree failures due to poor structural form, minimize conflicts with people and infrastructure, improve lines of sight, reduce storm damage, and protect public safety.

Develop a public tree policy or ordinance to establish authority for conducting community tree management. The town can choose to adopt NH RSA 231:139-149 pertaining to shade/ornamental publicly owned trees. Although the "Tree Warden" structure is somewhat antiquated by today's standards, a tree or conservation committee, board or town department is often used in its place (see *Roadside Tree and Brush Maintenance* in appendix).

Methodology

Each public tree identified was recorded using a Garmin e-trex HC gps unit. Data recorded included the unique tree identification number, tree species, and diameter at breast height (DBH), condition, recommendations and any notes. DBH was recorded using a diameter tape. Condition of the tree was determined to be good, fair or poor. The parameters for each category are good = no more than 25% crown or stem damage, fair = 25% to 60% foliage or stem damage and poor = < 60 % foliage or stem damage.

The data was compiled and uploaded to i-Tree software developed by the USDA Forest Service (USDA Forest Service 2013), in order to determine the monetary and ecological benefits of Chesterfield's trees. Maps were produced using gps data layer in ArcGIS 10.3.

Urban Tree Composition

In the town center the genus Acer is over represented in composition by its 62% make-up of tree diversity ratio. Deciduous trees are predominant in the landscape comprising 84% of all trees. Communities across the U.S have undesirable maple compositions greater than 30%. One of the accepted guidelines for tree diversity is ensuring no more than 10% of any species, 20% of any genus, and 30% of any one family is present in order to provide a measure of urban forest disease and pest resilience.

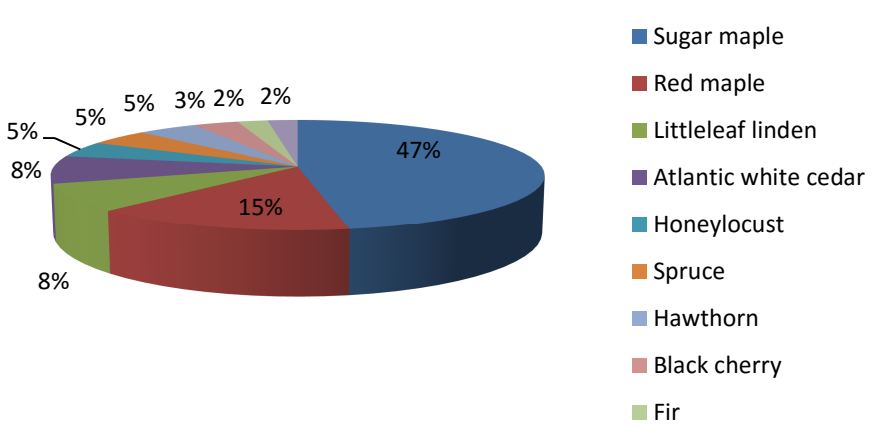


Figure1. Tree species distribution

Urban Tree Size Class Distribution

The size class and age distribution is fairly well spread out within the inventoried area. The data indicates that 25% of trees are above 18" in diameter, 34% are in the 3-6" diameter, and 28% in the 6-12" diameter size class. Using size as a substitution for age, Richards (1983) identified the best distribution for a municipal forest would have around 40% of the urban tree population in the smaller size class (less than 6 inches in diameter). It is worth noting that having a majority of trees in the smallest class is not ideal either. Small tree canopies do not provide the same ecosystem benefits that large mature trees do. On the opposite end of the spectrum, too many trees in the larger, older age class represent increased concerns about mortality, public safety high Maintenance and replacement costs.

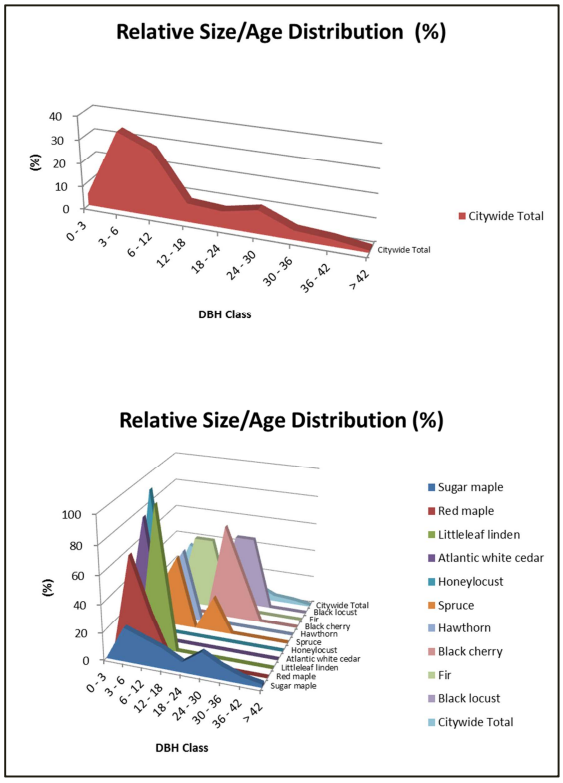


Figure2. Size class distribution.

Urban Tree Health

Tree condition data was collected for every tree. The category rankings were good, fair or poor. The parameters set for each category are as follows: good = no more than 25% crown or stem damage, fair = 25% to 60% foliage or stem damage and poor = > 60 % foliage or stem damage. The overall condition of the

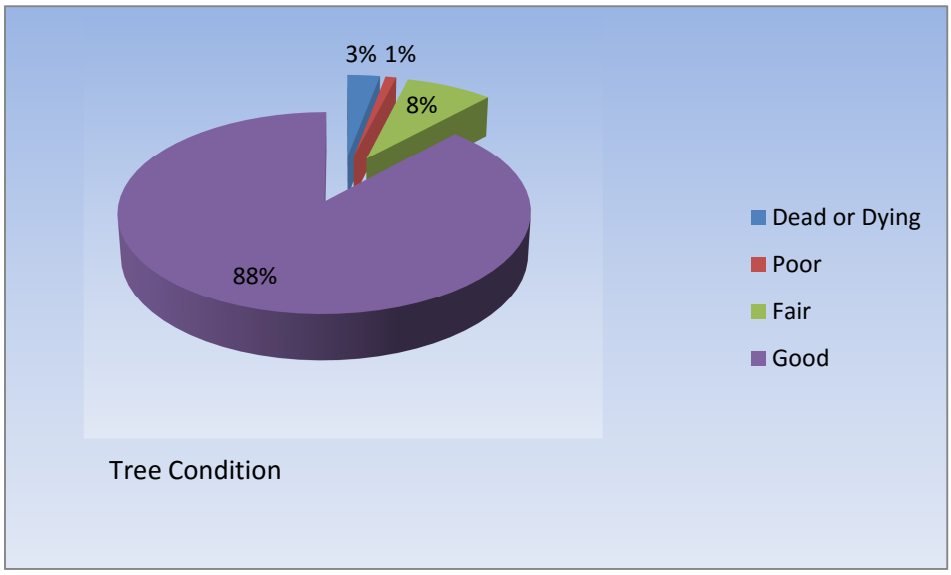


Figure 3. Current tree condition

community trees is good, but there are a few trees that should receive immediate attention due to high risk potential.
Needle cast disease was noted on some of the inventoried spruce trees. The biotic factor is a fungus called *Rhizosphaera kalkhoffii*, a fungal disease that can eventually kill blue spruce, usually from the bottom up. Fungicide treatments are available by most tree care companies that have a licensed pesticide applicator on staff.

Liberty Elms have been identified as still being susceptible to Dutch elm disease. As the elms mature they will need to be routinely inspected throughout the growing season for signs and symptoms of the disease. Often times a sudden wilting and branch death is a good first indicator of the disease. It is highly likely Dutch elm disease macroinjections will be needed in the future if these trees are to be retained in the landscape.

Several mature trees were noted to have various stages of advanced decay. Without more intensive tree decay analysis such as using a resistograph or increment borer to determine structural integrity some generalizations of visible decay were made. Several mature trees had visible signs of decay in the trunk and main scaffold branches. In areas where targets are, or could be present (depending on time of year and day) trees with significant decay were recommended to be removed.

No ash trees (*Fraxinus spp*) were inventoried in the town center. This is a good aspect since the emerald ash borer is currently (August 2016) in four counties (see Appendix) in New Hampshire and will continue to spread. Due to this factor, ash is not a recommended tree species to plant in New Hampshire, for forest insect and pest information visit www.nhbugs.org .

Urban Tree Maintenance

During the inventory process a tree maintenance recommendation was made after an assessment. Many trees fell into the pruning category whether it was a cleaning or thinning. A cleaning is defined as removing dead/dying, diseased or damaged. A thinning is defined as removing not only the four D's but also rubbing branches, codominant stems, acute branch angles and pruning for proper branch scaffold spacing. Mulching 3-4 inches was recommended on many trees that have high pedestrian use over the root system. This was most evident of the trees within the playground areas of the school. High foot traffic over a trees root system creates soil compaction

reducing the amount of oxygen within the soil. Tree roots not only require water and nutrients for survival but oxygen as well as. A number of small trees were recommended for removal due to insufficient rooting volume, competition with adjacent trees, wrong tree in wrong place and or poor health.

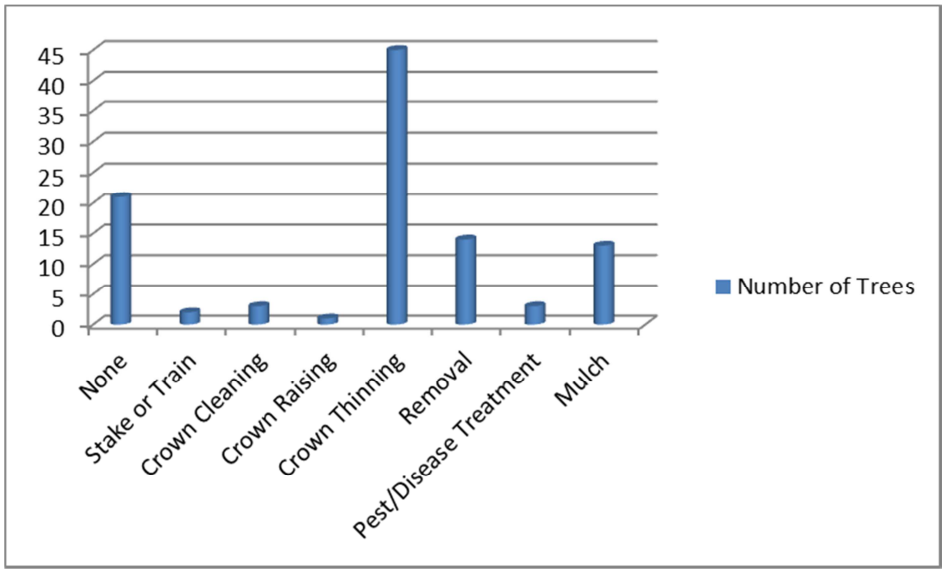


Figure 4. Graph representing current maintenance needs

Recommendations

Based on street tree inventory data collected and presented in this report, the following recommendations for Chesterfield's inventoried public trees have been made.

Planting

- Reduce dependence on maples by planting a diverse array of species, genera, and families.
- Plant no more than 10% of any species, no more than 20% of any genus, and no more than 30% of any one family.
- Prioritize planting opportunities to plant large, high performing trees that will provide high levels of benefits over their lifetime. These trees are best planted in large planting sites with adequate soil volume and without overhead wires.
- Increase composition of conifer trees where applicable – North sides of buildings for wind break.
- Plant in the smallest planting sites last. Trees in small planting sites provide fewer benefits and are more likely to cause sidewalk and clearance problems in a shorter time frame than if they were planted in larger spaces.

Establishment and Replacement

- Properly plant and water when establishing young trees. These two actions can determine the successful establishment of trees. Utilize gator bags which allow the slow percolation of water to the trees root system over a long period of time. Newly planted trees represent the future generation of street trees, and early care and training will pay off in future benefits.

- Structurally prune young trees to promote proper form as street trees. This includes removing low growing limbs for pedestrian and traffic clearance and removing codominant leaders. Structural pruning is critical in the first ten years after planting and can prevent many future problems and minimize costs. Do not stake trees as it is unnecessary in most situations and causes more harm than good.
- Educate personnel on how to properly care for young street trees (pruning, watering, and mulching) in order to reduce future problems or conflicts with infrastructure.

Mature Tree Maintenance

- Create mulch rings wherever possible in order to increase soil bioactivity, moisture retention, tree protection and reduce soil compaction (see Tree Owner's Manual) http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5368392.pdf
- Maintain and care for large, mature trees. Trees provide the most benefits as they reach maturity, and tree care becomes more expensive with age. Increasing the level of maintenance of large, mature trees will help the town of Chesterfield prolong their lifespan, reduce risk trees, and keep these high-value members of the urban forest contributing to the ecosystem.
- Hire an expert tree care professional that is either a certified NH Arborist http://www.nharborists.org/nhaa-certified-arborists.php or certified through the International Society of Arboriculture http://www.isa-arbor.com/ for mature tree pruning, structural assessment, replacement, insect or disease identification and treatment or tree removal.

Replacing Trees

- Encourage removal and replacement of trees in poor condition.
- Replace trees with properly chosen species for the site conditions (right tree right place).
- Choose disease resistant varieties less susceptible to insect and disease pests.
- Contact Eversource Vegetation Maintenance Division to communicate and request trees to be trimmed according to ANSI A300 Part 1-Standard Practices, for pruning any trees in the town center.
- Utilize tree replacement list developed for the Northeast area impacted by invasive insects like Emerald Ash Borer and Asian Long Horned Beetle. http://na.fs.fed.us/pubs/2014/WhyAReplacementTreeTable140806.pdf

The Value of Urban Trees - Ecosystem Services

Over the past decades efforts have focused on placing a valuation of the ecological services trees provide in the urban environment. These range from heat island mitigation, stormwater attenuation, CO2 reduction, energy reduction, pollution reduction and carbon storage. See figure 5, produced by i-Tree streets that shows the estimated annual values calculated for Chesterfield's public trees.

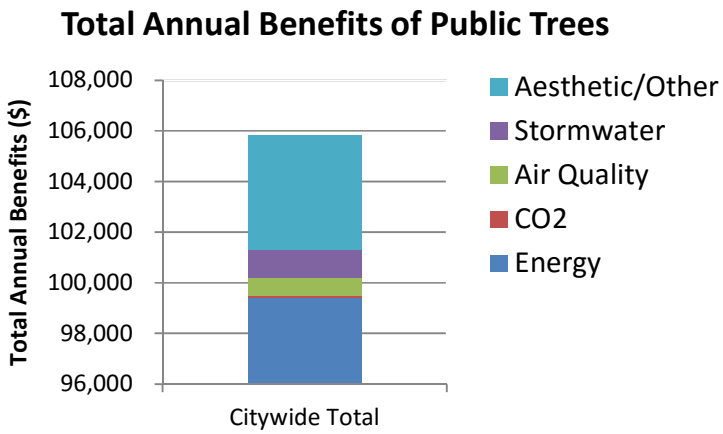


Figure 5. Value chart of Annual Benefits provided by Chesterfield's community trees

The Value of Trees

Urban Forests provide many monetary benefits:

Aesthetics: Large, mature street trees are found to be the most important indicator of attractiveness in a community (Georgia Urban Forestry Publication 2004) Property values increase 5-15% when compared to properties without trees (depends on species, maturity, quantity and location). Many health benefits have been linked to trees. Urban trees and forests have been linked to significant emotional, psychological, and health benefits (Nowak et al. 2000).

Air quality: Trees improve air quality by removing air pollutants, collecting particles, altering emissions from building energy use, and by lowering air temperature.

Energy use: Trees influence temperature by providing shade, transpiration, and creating thermal barriers. Over 100 million trees have been established around residences in the U.S. and it saves $2 billion annually in reduced energy costs (Akbari et al. 1988).

Stored CO2: Each year an average acre of mature trees absorb up to 26 pounds of carbon dioxide from the air, which is equal to the amount of Co_2 produced by driving a car 26,000 miles (National Arbor Day Foundation pamphlet #90980005).

Storm water run-off: Trees intercept, retain and slow the flow of precipitation reaching the ground, thus reducing the rate of stormwater runoff.

Investing in Trees

The long term health and maintenance of urban trees not only has financial costs with maintaining and planting, but costs in human resources as well. Without proper planning and maintenance trees can have an undesirable impact in various ways: damage to buildings and structures, leaf and branch litter, disrupted utility service, heaving sidewalk or parking lots. The counter to this is the intrinsic and tangible values trees provide for this investment. It has been proven urban trees add aesthetic property value and provide many ecosystem service benefits we can now put a dollar value on. Trees become more valuable as they grow in size due to the increased

benefits they provide. The chart in figure 6 shows the estimated replacement cost for Chesterfields community trees by species and size class.

The definition of replacement value according to the i-Tree manual is as follows "*Replacement values are estimates of the full cost of replacing trees in their current condition, should they be removed for some reason. Replacement values are based on the Council of Tree and Landscape Appraisers (CTLA) Guide for Plant Appraisal, which uses a trunk formula methodology. The CTLA is a widely accepted methodology used by arborists for determining landscape tree replacement value based on regional species ratings, condition, location in the landscape, cross-sectional area of the trunk and regional replacement costs. Species ratings, replacement costs, and basic prices were obtained for each species in each reference city from regional appraisal guides. Because of the approximations used in these calculations, replacement values are first-order estimates for the population and are not intended to be definitive on a tree-by-tree basis*".

Replacement Value of Chesterfield's Trees

Replacement Value of All Trees by Species										
					DBH Class (in)					
Species	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	> 42	Total
Sugar maple	0.00	4,541.98	9,629.38	16,566.44	16,935.02	64,386.50	35,655.64	17,062.95	13,857.60	178,635.51
Black cherry	0.00	0.00	0.00	0.00	11,290.01	9,198.07	0.00	0.00	0.00	20,488.08
Black locust	0.00	0.00	0.00	0.00	7,087.80	11,633.63	0.00	0.00	0.00	18,721.43
Horsechestnut	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14,994.72	0.00	14,994.72
Littleleaf linden	0.00	0.00	14,643.97	0.00	0.00	0.00	0.00	0.00	0.00	14,643.97
Red maple	0.00	4,911.28	9,256.30	0.00	0.00	0.00	0.00	0.00	0.00	14,167.59
Spruce	0.00	593.05	3,568.70	0.00	9,360.74	0.00	0.00	0.00	0.00	13,522.48
Pine	0.00	0.00	0.00	0.00	0.00	9,198.07	0.00	0.00	0.00	9,198.07
Fir	0.00	0.00	1,169.06	4,648.87	0.00	0.00	0.00	0.00	0.00	5,817.93
River birch	0.00	0.00	0.00	4,312.63	0.00	0.00	0.00	0.00	0.00	4,312.63
Hawthorn	190.52	369.62	3,295.67	0.00	0.00	0.00	0.00	0.00	0.00	3,855.81
Atlantic white cedar	148.91	3,558.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,707.19
Serviceberry	0.00	593.05	2,092.00	0.00	0.00	0.00	0.00	0.00	0.00	2,685.04
Honeylocust	0.00	2,151.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,151.23
Apple	0.00	0.00	1,869.91	0.00	0.00	0.00	0.00	0.00	0.00	1,869.91
Paper birch	0.00	0.00	1,203.67	0.00	0.00	0.00	0.00	0.00	0.00	1,203.67
American elm	0.00	0.00	1,203.67	0.00	0.00	0.00	0.00	0.00	0.00	1,203.67
PEL OTHER	1,139.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,139.72
Eastern hemlock	0.00	523.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	523.62
Elm	0.00	523.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	523.62
Oak	148.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	148.91
Beech	119.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	119.80
Citywide Total	1,747.86	17,765.71	47,932.33	25,527.95	44,673.56	94,416.27	35,655.64	32,057.67	13,857.60	313,634.60

Figure 6. Chart of replacement value of all trees

Community Tree Planning

This report is only a primer in helping a community understand what they have, and what it will take to maintain a healthy urban tree canopy. With the information gathered here, the community should answer several key questions and add it as an addendum to this report for their records. Outlining the answers to the following questions will become the future guide for the town; what needs to be done, who needs to do it, how will it be done, when will it be done, who will pay for it, when is it complete? Town officials should discuss these findings and create an action plan to generate a long term sustainable urban tree plan.

References

Akbari, H.; Davis, S.; Dorsano, S.; Huang, J.; Winnett, S. 1992. Cooling our communities: a guidebook on tree planting and light-colored surfacing. Washington, DC: U.S. Environmental Protection Agency. 217 p.

Dwyer, J.; Nowak, D. Handbook of Urban and Community Forestry in the Northeast, John E Kuser editor, Kluwer Academic/Plenum Publishers, 2000 11-21p.

Georgia Urban Forestry Publication, Shade-*Healthy Trees, Healthy Cities, Healthy People*, 2004)

National Arbor Day Foundation pamphlet #90980005

Richards, N.A., 1983. Diversity and stability in a street tree population. *Urban Ecology*. 7: 159-171.

Shifley, Stephen R.; Moser, W.Keith, eds. 2016. Future Forests of the Northern United States. Gen. Tech. Rep. NRS-151. Newtown Square, PA; U.S. Department of Agriculture, Forest Service, Northeast Research Station 277p.

Appendix: Maps, Diagrams, Resources

Tree Data Table

Routine = Low priority, immediate = Medium priority, Public safety = High priority

TreeId	Common Name	DBH	MtncReccomendation	MtncTask	Comments
1	Red Maple	3	routine	crown thinning	fertilize
2	Red Maple	6	routine	crown thinning	
3	Arborvitae	2	none	none	
4	Arborvitae	3	none	none	
5	Amelanchier	3	routine	crown thinning	mulch – signs of drought stress
6	Red Maple	3	routine	crown thinning	fertilize
7	Red Maple	4	routine	crown thinning	minor trunk wound
8	Sugar Maple	5	routine	crown thinning	
9	Sugar Maple	3	routine	Fertilize	too much mulch- remove 2”
10	Arborvitae	4	none	none	
11	Arborvitae	3	none	none	
12	Arborvitae	3	none	none	
13	Liberty Elm	7	none	none	monitor for DED
14	Sugar Maple	25	immediate	crown thinning	cable installation assessment
15	Sugar Maple	4	routine	crown thinning	
16	Blue Spruce	10	immediate	treat pest,disease	
17	Arborvitae	4	none	none	multi stem
18	Arborvitae	3	routine	remove competing veg	undergrowth management
19	Blue Spruce	10	immediate	treat or remove	needle cast
20	Sugar Maple	30	immediate	remove	
21	Sugar Maple	3	routine	remove soil	root collar / root zone excavation and mulch
22	Honey Locust	4	routine	crown thinning	
23	Honey Locust	4	immediate	remove	remove due to root volume needs and condition
24	Honey Locust	3	immediate	remove	remove to allow growth for tree 22
25	Red Maple	8	routine	crown thinning	mulch
26	Honey Locust	5	routine	crown thinning	
27	Red Maple	3	routine	crown thinning	
28	Red Maple	4	immediate	remove	
29	Red Maple	4	routine	fertilize	remove fabric and mulch
30	Red Maple	5	immediate	crown thinning	fertilize
31	Red Maple	5	routine	mulch	compacted soil
32	Linden	9	routine	mulch	
33	Sugar Maple	9	routine	mulch	
34	Linden	9	routine	mulch	
35	Sugar Maple	10	none	none	
36	Sugar Maple	10	routine	crown thinning	mulch
37	Linden	10	routine	crown thinning	

38	Sugar Maple	10	routine	crown thinning	
39	Red Maple	8	routine	crown thinning	
40	Red Maple	3	routine	crown thinning	
41	River Birch	14	routine	remove competing veg	multi stem - assess for cabling needs poison Ivy
42	Sugar Maple	13	routine	crown thinning	monitor
43	Hawthorn	6	routine	crown thinning	
44	Hawthorn	3	immediate	remove	insufficient sunlight and space
45	Sugar Maple	35	routine	crown thinning	
46	Sugar Maple	22	none	none	
47	Sugar Maple	25	immediate	remove	multi stem poor structure- near building- competing grow space
48	Sugar Maple	14	routine	crown thinning, mulch	mulch- compaction
49	Sugar Maple	12	routine	crown thinning, mulch	mulch- compaction
50	Sugar Maple	12	routine	crown thinning, mulch	root collar decay- monitor
51	Sugar Maple	38	public safety	remove	trunk decay
52	Sugar Maple	39	immediate	crown cleaning	needs second level assessment for retention otherwise remove- decay
53	Sugar Maple	17	none	none	
54	Sugar Maple	27	none	none	
55	Sugar Maple	24	none	none	mulch if possible or cover exposed roots with thin layer of loam
56	Black Locust	22	none	none	multi stem with bole decay - monitor
57	Sugar Maple	25	none	none	
58	Sugar Maple	55	public safety	remove	structural intergrity (decay) high risk public safety
59	Horse Chestnut	38	immediate	crown thinning	has acable that needs inspection
60	Sugar Maple	34	public safety	Remove	dead
61	Red Oak	1	routine	stake, train	remove codominant leader
62	Sugar Maple	3	immediate	stake, train	root zone spongy - evaluate and fill using water and soil
63	Sugar Maple	23	routine	crown thinning	cover surfacing roots raise mower
64	Sugar Maple	5	routine	crown thinning	a
65	Sugar Maple	9	routine	crown thinning	
66	Sugar Maple	29	immediate	stake, train	cover surfacing roots raise mower
67	Sugar Maple	3	routine	Fertilize	fertilize
68	Sugar Maple	3	routine	crown thinning	
69	Sugar Maple	3	routine	crown thinning	
70	Norway spruce	18	routine	pest, disease	monitor needle cast
71	Sugar Maple	8	routine	crown thinning	monitor - some dieback
72	Sugar Maple	12	routine	crown thinning	
73	Sugar Maple	5	routine	crown thinning	
74	Red Maple	7	routine	crown thinning	
75	Liberty Elm	5	routine	pest, disease	monitor for DED
76	White Fir	12	none	none	
77	White Fir	6	immediate	remove	remove - insufficient soil volume - poor health
78	Shrub	1	none	none	unidentified shrub

79	Linden	11	routine	crown thinning	remove silt fence fabric at root collar
80	Linden	10	routine	crown thinning	remove silt fence fabric at base of tree
81	Purple beech	2	immediate	remove	fastigiate purple beech that have been hedged - poor form and growing space
82	Linden	8	routine	crown thinning	move bike rack
83	Linden	9	routine	crown thinning	mulch
84	Serviceberry	7	routine	crown thinning	mulch
85	Sugar Maple	10	none	none	
86	Sugar Maple	24	none	none	
87	Sugar Maple	6	none	none	
88	Sugar Maple	30	immediate	crown thinning	two stems monitor for cable
89	Black Cherry	18	none	none	
90	Black Cherry	23	none	none	
91	Whit Pine	27	none	none	
92	Black Cherry	25	routine	crown thinning	
93	Black Locust	29	none	none	monitor decay
94	Sugar Maple	23	routine	mulch	
95	Hawthorne	7	routine	crown thinning	
96	Crab Apple	8	routine	crown thinning	
97	Lilac	2	routine	crown thinning	lilacs need reclamation pruning
98	Ornamental spruce	3	none	none	
99	Eastern Hemlock	3	immediate	remove	improper location and space
100	Paper Birch	7	routine	remove competing veg	remove understory

Plant the Right Tree in the Right Place

For safety, plant taller trees away from overhead utility lines

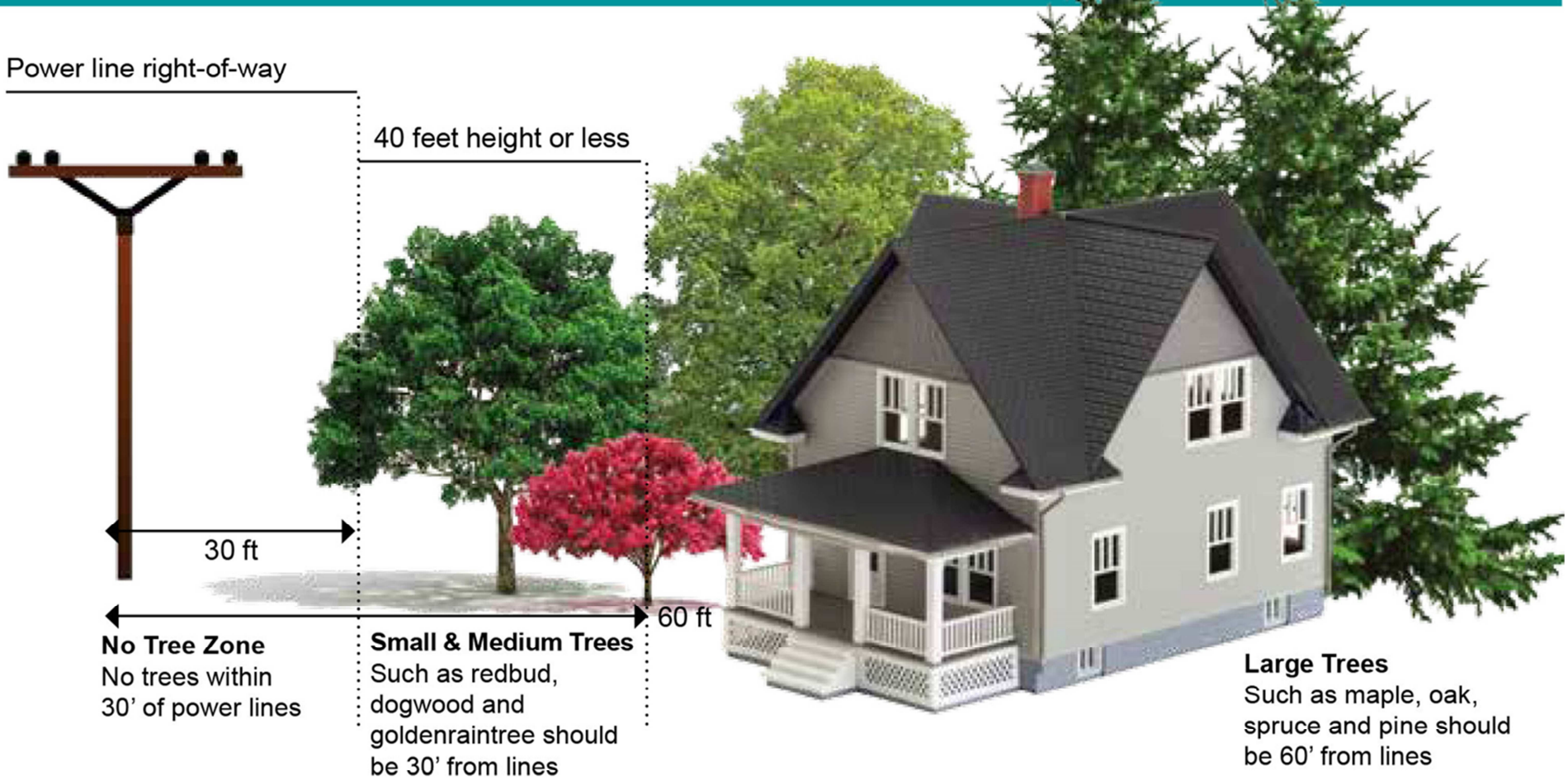


Image credit- Cherry Land Electric Coop, MI

Chesterfield Public Tree Inventory

290 145 0 290 Feet

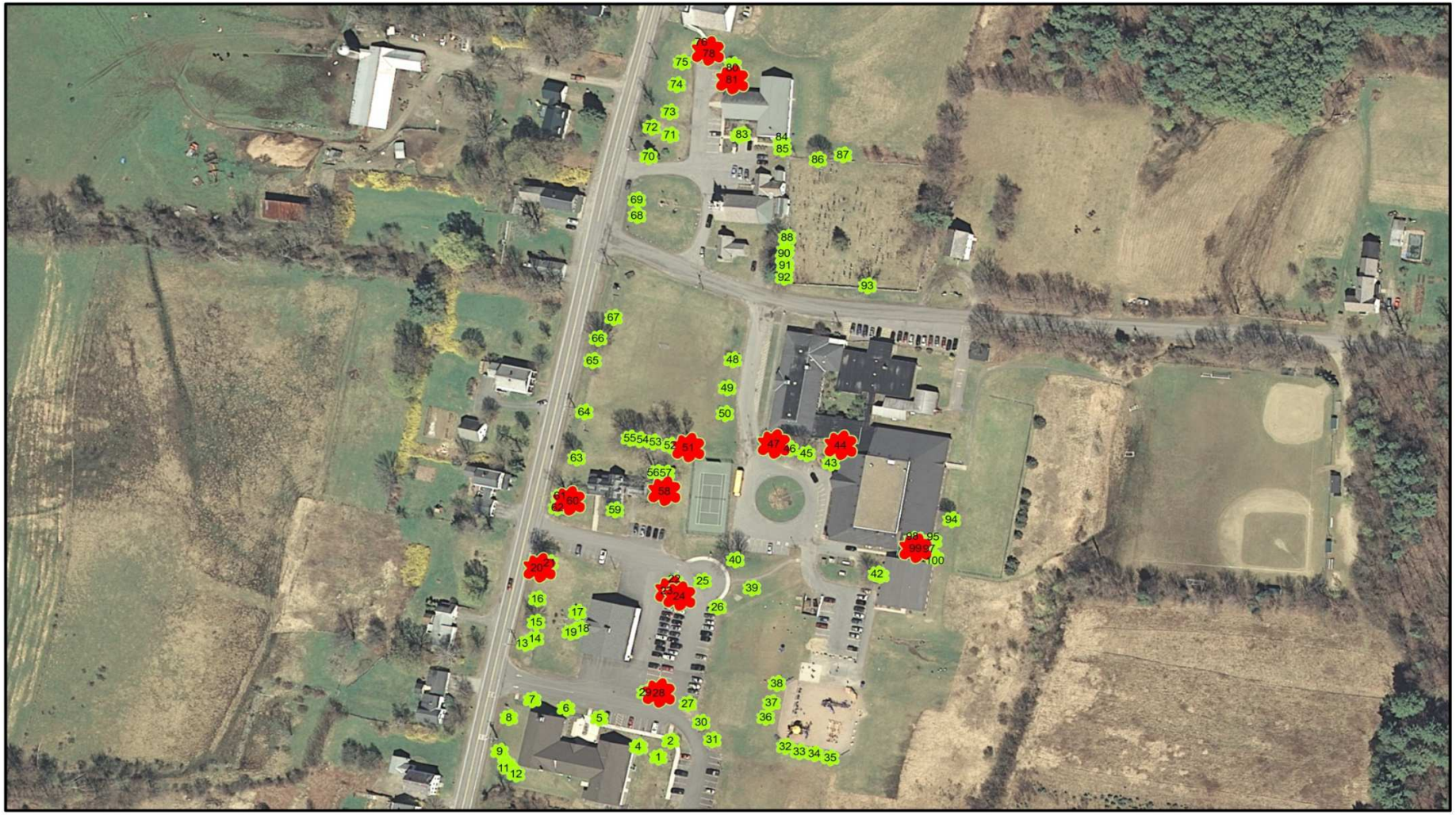
N W E S

Legend

Tree Location

State of New Hampshire
Division of Forests and Lands
Urban and Community Forestry Program
Scott Rolfe
Community Forester
August 2016

Chesterfield Public Tree Inventory



290 145 0 290 Feet

N
W E
S

Legend

Tree Location

Tree Removals

State of New Hampshire
Division of Forests and Lands
Urban and Community Forestry Program
Scott Rolfe
Community Forester
August 2016

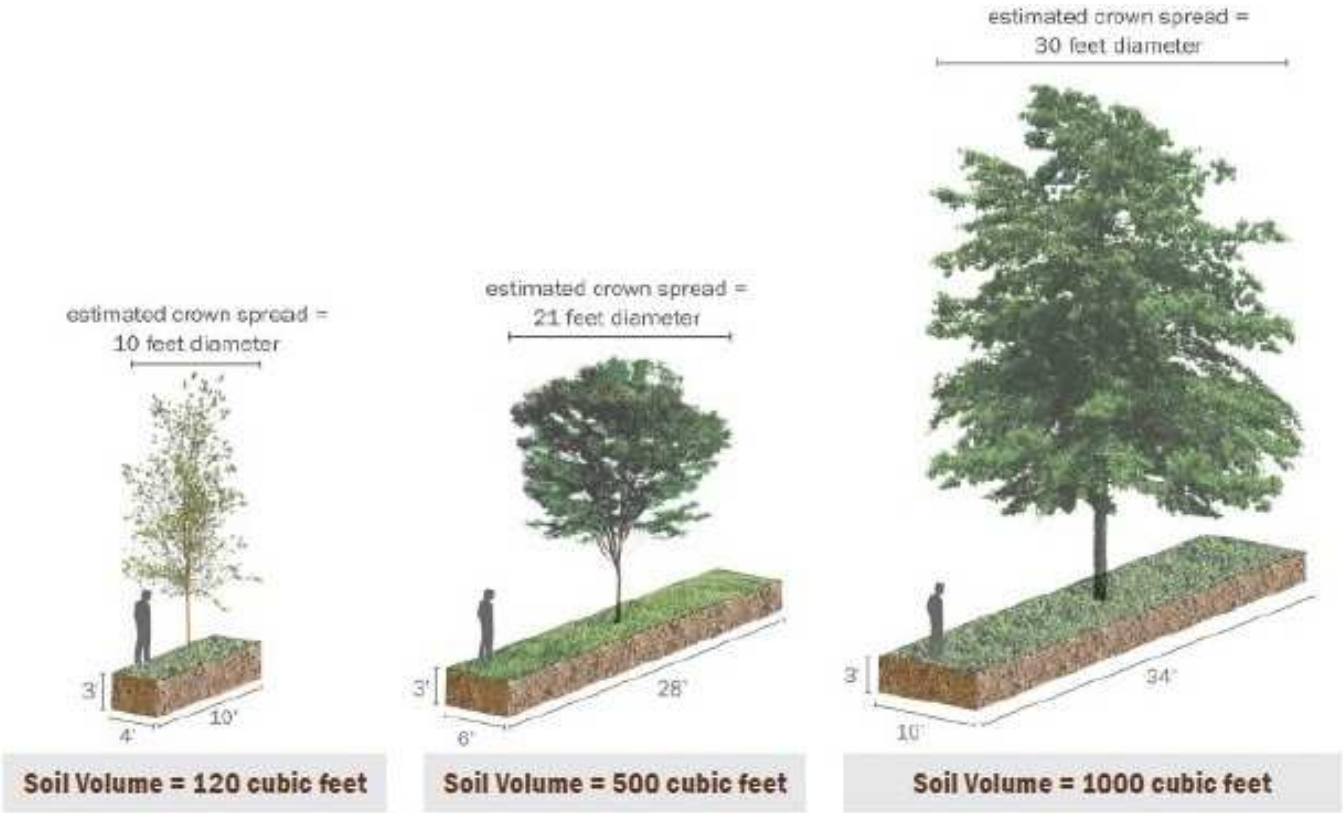
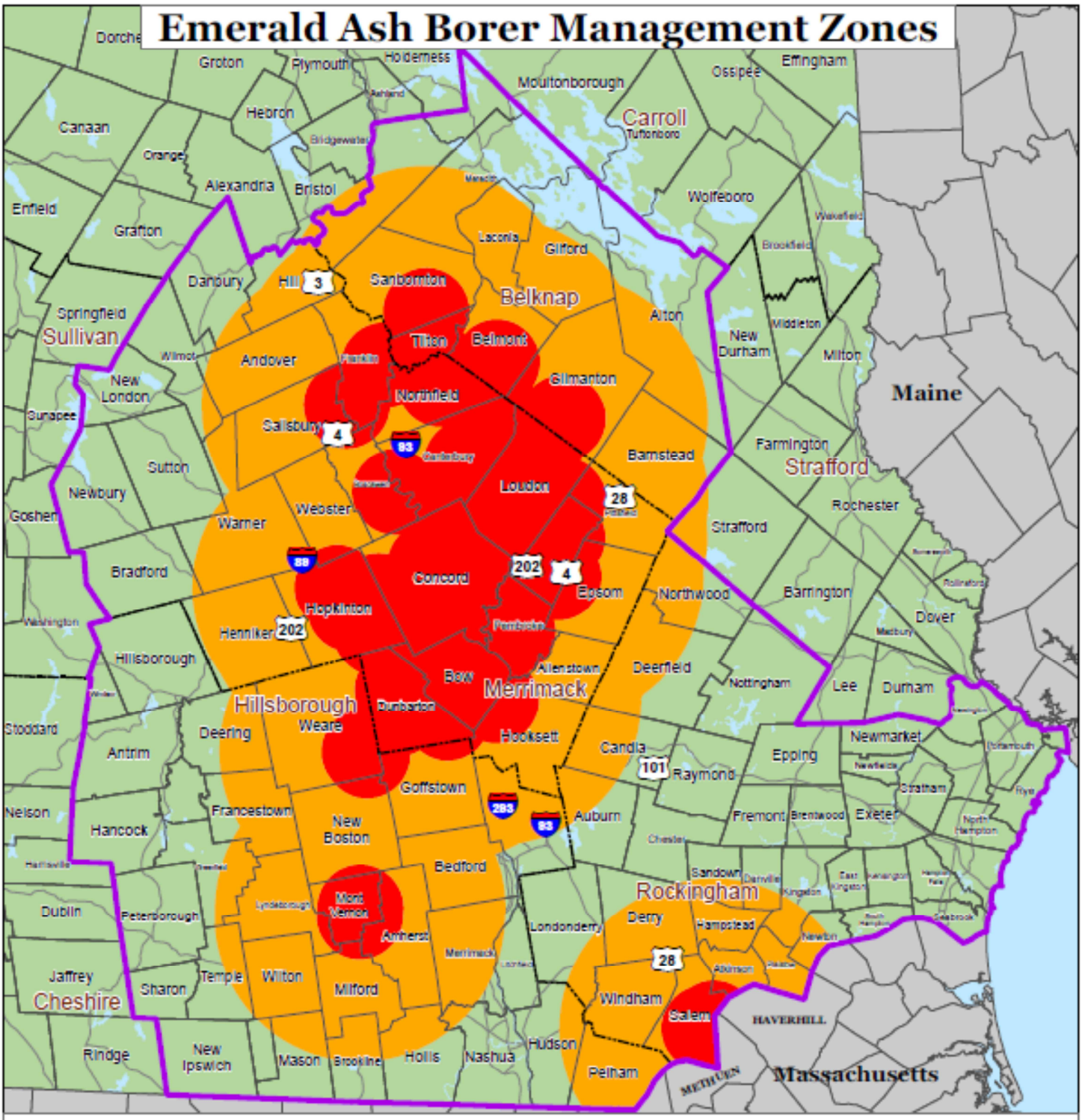


Image from Casey Trees – Tree Space Design

Emerald Ash Borer Management Zones



State of New Hampshire
Department of Resources & Economic Development