The Tree Preservation Subcommittee Report to Planning Board

September 27, 2016

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TREE PRESERVATION SUBCOMMITTEE
REPORT TO PLANNING BOARD

Introduction

Tree Preservation Subcommittee (TreePS) convened in response to a charge from the Planning Board to advise the Planning Board on possible actions relative to Tree Preservation including the potential introduction of a Tree Preservation Bylaw at Town Meeting (see Appendix A). A subcommittee was formed comprised of seven voting and one non-voting members generally familiar with tree species selection, planning, maintenance, and/or preservation techniques. Individual expertise included knowledge of arboriculture, natural resources, land conservation, real estate, and land use/planning law. The Subcommittee was ably assisted by the Town Planner and the (non-voting) Planning Board liaison.

The Subcommittee focused on reviewing current practices in Concord; identifying issues surrounding the development of a bylaw, rules and regulations, and/or guidance; and examining various tree preservation bylaws and policies adopted by other Massachusetts communities. Other efforts included an investigation into the scientific benefits of trees to a community and public outreach aimed at getting a sense of citizen response to a possible tree preservation bylaw.

This report presents a summary of work conducted, general recommendations for a bylaw In Concord as well as two alternative examples, and an analysis of additional work required that has been identified.

Community Benefits of Tree Preservation

Research by the TreePS confirmed that the benefits of trees are myriad and widely documented, from their ability to provide wildlife habitat, to cooling streets and neighborhoods, to reducing stress in humans. Listed below are specific examples of how trees are critical to our environment:

- Improve water quality: Trees can preclude the need for constructing costly wastewater treatment plants by intercepting pollutants before they enter storm drains and waterways. [1]

- Reduce storm water runoff and erosion: Trees intercept rainfall, holding a portion of it on leaves and bark. Part of this will evaporate and part will be gradually released into soil at the base of the tree. Leaf litter on the ground retains some of this moisture and serves as natural mulch, allowing moisture to percolate into the soil slowly, as opposed to having rainwater rush off, carrying pollutants with it.[2] Roots below the ground also hold soil in place and absorb water. As we experience "flashier" and heavier rainstorms with changes in climate, this ability of trees to temper runoff becomes more and more critical.

- Mitigate Climate Change and Save Energy: Because trees sequester carbon during growth, maintaining existing urban tree canopy and adding trees can help offset carbon emissions. In addition, individual trees or groups of trees shade buildings and people from direct sunlight and

[1] Thaler, Jordan., "The Environment, Financial and Health Benefits of Urban Forestry." Web log post. Center for City Parks Excellence. The Trust for Public Land, 25 March 2011.
[2] Arbor Day Foundation, "How Trees can Retain Stormwater Runoff". Tree City USA Bulletin No. 55.

thus reduce energy costs. Trees reduce cooling costs when planted on south and west building facades. Strategic planting of deciduous trees can shade buildings in summer and allow winter sunlight to penetrate.[3]

- Reduce air pollution: Trees are very effective in removing both solid and gaseous particulates from the air.[4]

- Enhance property values: Street trees increase the "curb appeal" of properties. A 2010 study of the sale of houses in Portland, Oregon found that on average, street trees add 3% to the median sale price of a house and reduce its time on the market by 1.7 days[5]. Newer studies suggest that the home values in entire neighborhoods may benefit from robust tree canopies. Business districts also appear to benefit from green landscapes, as well. A study done in multiple US cities of varying size and population shows greater human preference for business districts with street trees. The author suggests that "shoppers may be willing to pay more for products in central business districts that have a quality urban forest.[6]

- Provide wildlife habitat and maintain corridors for wildlife movement: Individual trees and clusters of trees provide habitat for birds, small mammals, and insects, while contiguous tree canopy enables movement of species and maintains genetic diversity among species.[7]

- Provide aesthetic and other health benefits: A 2008 study by researchers at Columbia University found that more trees in urban neighborhoods correlate with a lower incidence of asthma.[8] In a neighborhood with more street trees and other plants, people judge walking distances to be less, and are therefore more likely to travel on foot, which has health benefits.[9] Researchers at the University of Champagne-Urbana found that students who were given a break from their studies in classrooms with views of greenery had better attention and lower stress levels than students with views that did not include a green view.[10]

- Historic value: Historic and mature trees contribute to community character and enhance the historic aspects of Massachusetts' town centers and parks.[11]

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[3] Safford, Larry, McPherson, Nowak, and Westphal, "Urban Forests and Climate Change". Web page report, USDA Climate Change Resource Center, http://www.fs.usda.gov/ccrc/topics/urban-forests- and-climate- change

[4] Nowak, Crane, and Stevens, "Air Pollution Removal by Urban Trees and Shrubs in the United States". Urban Forestry and Urban Greening 4, 2006.

[5] Donovan and Butry, "Trees in the City: Valuing Street Trees in Portland, Oregon". Landscape and Urban Planning 94, 2010.

[6] Wolf, Kathleen. "Business District Streetscapes, Trees, and Consumer Response". Journal of Frestry, Decemer 2005.

[7] Thaler, Jordan., "The Environment, Financial and Health Benefits of Urban Forestry." Web log post. Center for City Parks Excellence. The Trust for Public Land, 25 March 2011.

[8] Lovasi, Quinn, Neckerman, Perzanowski, Rundle: "Children living in areas with more street trees have lower asthmas prevalence." Journal of Epidemiology and Community Health, 2008.

[9] Tilt, Unfried, Roca, "Neighborhood Greenness, Walkable Destinations and Health". University of Washington.

[10] Sullivan, Li, "Students learn better with views of trees". Landscape and Urban Planning, 2016.

[11] Massachusetts Department of Conservation and Recreation, Terra Firma: Putting Historic Landscape Preservation on Solid Ground. Web resource, http://www.mass.gov/eea/docs/dcr/stewardship/histland/terrafirma2.pdf.

- Reduce noise pollution: Used along streets, trees planted in belts 35-100 feed wide to create noticeable noise reductions. Trees planted on berms can cut traffic noise by half.[12]

Public Outreach

Public outreach was conducted to spread the word that the Planning Board had appointed a Subcommittee, the TreePS, to review the scope of the problem associated with loss of significant tree cover and loss of large trees on development sites and to investigate mitigation options. The TreePS conducted three types of outreach, outlined below.

Website: A page was created on the Town of Concord website (http://www.concordma.gov/pages/ConcordMA_TPS1/index) on which meeting agendas, meeting minutes, and links to other relevant documents were posted.

Press Release: A press release was posted on the website and published in the Concord Journal, summarizing the charge of the Subcommittee, and inviting public input.

Other Public Venues: Announcements of the TreePS meetings and agenda items were posted on the Concord Yahoo group discussion list.

Survey: A survey was prepared by the TreePS and posted on Survey Monkey, with the purpose of ascertaining public opinion with respect to tree preservation - both in terms of degrees of interest in the matter and with regards to specific concerns or suggestions, with comments sections. While the survey may have been biased towards those voluntarily completing the survey, i.e., individuals with a pre-existing interest in the matter, the comments demonstrated a wide range of views and perspectives, from "mind your own business" to convictions about communal ownership of trees, and a variety of intermediate positions regarding balancing private property rights with public benefits of trees. The survey was publicized via a flyer designed, printed, and posted at various public locations in town. It was also announced in the Concord Journal, the online Concord Yahoo Group, and with the Concord Family Network.

A copy of the 327 survey results is available at http://www.concordma.gov/DocumentCenter/Home/View/5739. A statistical analysis of the survey results, prepared by Survey Monkey, is included in Appendix B and is summarized below:

- 85% of respondents were concerned (47% very concerned).
- More than half of the respondents were unaware of Concord's existing rules and regulations regarding trees on public and private lands and 67% indicated that the Town should adopt more bylaws to regulate tree removal.
- 60 % of respondents indicated that they believed that restricting private property rights for the sake of regulating trees on private property was acceptable.

[12] World Forestry Center, and Robin Morgan. A Technical Guide to Urban and Community Forestry. Tech. USDA Forest Service, Northeast and Pacific Southwest Regions, 1993.

- The primary concern cited by respondents was with clear cutting of lots associated with new construction.

- Of greatest concern to respondents was the environmental value of trees and the maintenance of Concord's neighborhood character and aesthetics.

Of the comments received, the most common concern was clear cutting of lots associated with new construction. A number of comments were received about public projects as well as private property impacts.

Existing Regulations

In 1905, the Town of Concord adopted a Tree Bylaw prohibiting tying horses to trees in public places and ways and prohibiting signs from being placed on such trees. While there is no other specific bylaw regulating trees in Town, other laws, rules, regulations, and policies exist that address certain trees, as follows:

- Public shade trees, i.e., no trees within a public right-of-way may be cut, trimmed or removed by anyone except the Tree Warden, and then only with public notice. A Public Shade Tree Planting Policy (adopted in 2005) and guidance (Concord Public Works Construction and Tree Protection Standard Operation Procedures) for planting and protecting public shade trees has been developed to support this process.

- The Natural Resources Department prohibits the removal of trees more than 6-inches in diameter, public and private, within 100 feet of wetlands and 200 feet of rivers without review.

- The Planning Department regulates trees on private property, but only as they are subject to Subdivision Rules and Regulations and Site Plan Review.

Legal Perspective

Legal Authority:

The TreePS identified two additional sources of legal authority to regulate tree preservation on private property:

- Municipal home rule enables the Town of Concord legislative body (Town Meeting) to exercise by adoption of a bylaw, any power that the state legislature has the authority to delegate. Powers relevant to tree preservation:

    - So called "police power", which protects public health and safety. General bylaws require a majority vote at town meeting.

    - Zoning power, Massachusetts General Laws Chapter 40A the Zoning Act, granted the power to "regulate the use of land, buildings and structures to the full extent of independent constitutional powers of cities and towns to protect the health, safety, and general welfare of their present and future inhabitants." Zoning bylaws require a two-thirds vote at town meeting.

- Massachusetts General Laws chapter 111, section 31, which allows Boards of Health to “make reasonable health regulations.”

Other sources of authority, which were outside the scope of the charge, include subdivision control and site plan review. These two local approval processes could (and to some degree already) incorporate tree preservation concepts.

Regulatory Options Explored:

The TreePS considered four different regulatory paths for regulating tree removal:

- Publication of "Guidelines" that would not be binding but could inform residents and developers of recommended tree removal practices and help those who want to preserve trees. Although likely helpful to some residents, TreePS sentiment was that this would not be an effective control.

- Adoption of a Board of Health health and public safety-related regulation. This could be accomplished without the necessity of going to Town Meeting. This is an innovative approach, investigated and discussed very briefly by the TreePS that would require extensive additional vetting.

- Enactment of a Zoning Bylaw Amendment that could apply different rules in different districts. Although appealing due to its relative simplicity, this path is not preferred because it would face the burden of a two-thirds vote at Town Meeting.

- Enactment of a new General Bylaw, which could be enacted with only a majority vote at Town Meeting. This path has been followed by several other Massachusetts municipalities and is recommended by the TreePS.

Regulatory Issues Analyzed:

The TreePS considered two complex regulatory issues that bear mention:

- Tying tree preservation concepts to property transfers.

- Aesthetics as a basis for preserving trees.

The TreePS also briefly explored tying tree preservation to property transfers, in the way that septic systems must be inspected before a property is conveyed to a new buyer. The analogy is imperfect because sewage disposal system inspections are required by a state law (Massachusetts General Laws Chapter 21A, Section 13) and the State Environmental Code, which was promulgated by the Commonwealth’s Department of Environmental Protection and is enforced by local boards of health. Although potentially a simpler regulatory path since there is already a mechanism in place for approvals to be tied to a building permit, there is presently no state-wide law that requires trees to be (for example) documented, preserved, or mitigated upon removal, at the time of a property transfer.

Many of the bylaws the TreePS reviewed listed the aesthetic values of trees as a basis for preserving them. Possible conflicts of aesthetic considerations with first amendment rights to free expression were discussed by the committee. In the context of zoning, as opposed to simply a general bylaw, it bears mention that the Massachusetts Attorney General has opined, citing Supreme Judicial Court precedence, that the preservation of neighborhood aesthetics is a constitutional exercise of the zoning power. The

TreePS found that there are many possible bases for preserving trees—public health and wildlife protection are just two examples—and thus a bylaw need not cite aesthetic concerns as the sole basis.

Other Municipal/Regional Laws:

Appendix C is a list of Community Tree Ordinances and Bylaws adopted or proposed by Massachusetts municipalities developed by the Massachusetts Urban and Community Forestry Program, a part of the Commonwealth's Department of Conservation and Recreation.[13] The list includes towns and cities with "community tree ordinances." Many of these ordinances apply *only* to public trees (for example, public shade trees) and do not apply to trees on private property.

After summary review of the documents on the Appendix C list, the TreePS discussed in detail the following private tree-regulating bylaws of the towns that were deemed to be similar in one or more ways to the Town of Concord:

- Lexington: The neighboring Town of Lexington has adopted a general bylaw that applies to public shade trees, "Town trees", and to private property within setback areas and during major construction or demolition. It includes additional duties for the tree warden, creation of a tree committee, protection of private trees during major construction or residential re-development, and establishment of a tree fund. The Bylaw defines "protected tree" and also protects shrubs. Selectmen adopted lengthy rules and regulations to implement.

- Shrewsbury: Shrewsbury passed a zoning bylaw 2015, but with very limited scope. It prohibits the removal of all trees in a woodland of 20,000 square feet or more in any 12-month period, unless there is an approved plan.

- Newton: Newton adopted a city ordinance requiring a permit to remove "protected trees" on non-public and non-exempt property, and also established and defined the roles of an Urban Tree Commission for public trees. The permit requirement has several available exemptions. In practice, relatively low fees for violations have encouraged developers to pay fines rather than complying. It allows for appeal to court.

- Wellesley: Wellesley adopted a tree protection and preservation bylaw under its zoning power, citing aesthetics and property values (among other tree benefits) as purposes. The bylaw skips the requirement for a pre-development survey and goes right to "protected trees", which are very large trees that may have an impact on habitat.

Model Bylaw

Based on a review of the municipal bylaws cited above, the TreePS determined that bylaw appropriate for the Town of Concord should include the following elements:

[13] The Urban and Community Forestry Program "assists communities and nonprofit groups in protecting, growing, and managing community trees and forest ecosystems, with the ultimate aim of improving the environment and enhancing livability of all of Massachusetts' communities. It provides grants, technical assistance, training, and recognition awards to communities of all sizes throughout Massachusetts. The program also provides guidance on urban forestry policy issues at the state level." http://www.mass.gov/eea/agencies/dcr/conservation/forestry-and-fire-control/urban-and-community-forestry.html (*visited September 19, 2016)*

- Has a specific and clear “trigger” such as a demolition permit for an existing residence or a building permit for expansion of >50% footprint;
- Requires a tree survey;
- Is based on setbacks (similar to zoning), which is important for wildlife corridors and streetscape aesthetics, and attempts to preclude the major cause for concern, i.e., clearcutting of lots for development;
- Has a provision for a tree fund if on-site replacement is not feasible; and
- Includes penalties sufficiently high as as to deter non-compliance.

While there was some discussion of regulation of public projects, the TreePS focused on a bylaw to regulate trees on private property only. Two alternative draft bylaws were developed that meet these requirements:

Summary of Example 1: After reviewing several Massachusetts municipal bylaws, the TreePS found that the Town of Wellesley, which is similar in to Town of Concord in terms of percent tree canopy and population density,[14] had passed a tree bylaw that addressed most of the issues raised as important in the bylaw. The Wellesley Bylaw was then modified to conform with existing Concord bylaws, rules and regulations. It pertains solely to trees located on private property.

In essence, the Wellesley Modified alternative establishes the concept of a Tree Yard, which conforms dimensionally with Concord zoning setbacks for protection of trees. Within the Tree Yard area, a owner/developer must either protect existing trees of a certain size (i.e., Protected Trees) and their roots, replant trees removed on a 1:0.5 caliper basis or contribute to a town Tree Fund established to buy, plant or maintain trees in town. Criteria are established for demolition and/or construction that would trigger the tree removal permitting process (including trees cut down during pre-development activities) and a permit process is created. The complete text of the Example Bylaw 1 is included in Appendix D.

Summary of Example 2: As an alternative to the Wellesley Modified bylaw, the TreePS developed a second option for private properties where demolition and/or new construction of residential structures is proposed. The alternative is simpler, easier to explain and administer, and minimizes the cost to the Town to achieve compliance. Like the Wellesley Modified Example, this alternative includes a “trigger” mechanism for initiating the permit process, passes the cost of compliance on to the owner/developer and generates income for a tree fund that can be used to increase tree planting in town. This alternative limits the trees protected to those of a certain size located in Tree Yards. There is no additional protection for a tree’s root zone, nor is there any provision for replanting on-site. The complete text of Example Bylaw 2 is included in Appendix E.

Recommendations

As a result of the work conducted, the TreePS recommends that the Planning Board consider the development of a bylaw to protect trees on private property during significant renovation and new construction. As important as the development of a bylaw is a recommendation that continued public outreach be conducted

[14] http://maps.massgis.state.ma.us/dcr/forestry/forestry23.html

Future Work Required

Where we believe that more work is required:

- Determining the magnitude of the problem: The number of instances of clear cutting of lots by developers or removal of large canopy trees by homeowners is unknown. Estimates of the magnitude of the problem could be determined through analysis of aerial photographs and/or by having such information recorded as part of the Building Permit process.

- Quantifying the cost to the Town and property owners if a bylaw was passed: Recent changes in Zoning are known to have had a significant increase in Building Department workload. A tree bylaw, however simple, will necessarily require similar plan review and inspection by town staff.

- Obtaining appropriate funding and approval for adequate staffing: Tree removal fees could theoretically be set sufficiently high as to cover the cost of additional staffing required. However since estimates of the number properties that would require review and the staff time required for each review is unknown, it would be difficult to set fees appropriately.

- Developing more detailed language for tree protection in site plan review and subdivision rules: current landscaping language in site plan review and subdivision rules is vague as to requirements for tree removal and re-planting. More specific language in these documents could provide greater control over trees during development.

- Considering exceptions/stricter requirements for invasive species: Prohibiting planting of invasive species is straightforward. However, a decision on whether removal of mature invasive trees is a net benefit to the community requires additional study.

- Considering exceptions for rooftop solar energy: As with invasive species, a decision on whether the removal of trees to allow for the generation of solar energy will require additional study.

- Considering application of tree protection measures for public projects: Several survey comments were directed at public projects. The Planning Board may want to consider a review process for tree removal on public land as well as private property.

- Developing accompanying rules and regulations, and guidance manual: Regardless of the language of the bylaw proposed, accompanying rules and regulation will be required for the permit process. In addition, a number of public comments received by the TreePS mentioned the desire for guidance on tree planting and removal. Studying more ecological factors may help us in developing a bylaw.

Appendix A

Charge for the Planning Board Tree Preservation Subcommittee
Adopted by the Planning Board 10/13/15

General Purpose

Concord's historic and rural character is largely influenced by the presence of many large trees and mature forest stands along scenic, well-traveled roads and within more secluded, established neighborhoods. Healthy, established trees provide numerous community benefits beyond simple scenic beauty: stormwater run-off mitigation and erosion control; environmental pollutant reduction; reduction of ambient temperatures or "heat-island effect"; and wildlife habitat. In response to citizen concern over loss of significant tree cover and large trees on development sites, the Planning Board is appointing a Tree Preservation Subcommittee to review the scope of the problem and mitigation options. The Subcommittee shall review current policies in Concord related to trees on both public and private lands, and shall compare practices in Concord with various Massachusetts communities that have adopted Tree Preservation measures. The Subcommittee will advise the Planning Board on possible actions including the potential introduction of a Tree Preservation Bylaw at Town Meeting.

Project Scope

Tree planting and preservation are important both on Town-owned and privately held lands. Regulating treatment of existing trees on private lands becomes especially complex. Any additional development regulations, submittals, or reviews will require added time on the part of town staff to interpret, process, and monitor such regulations.

The work of the Subcommittee shall include:

1) Review of existing policies in Concord related to tree preservation/planting and development, including existing town-supported programs for new tree plantings.
2) Research and summarize community forestry initiatives and bylaws utilized in other Massachusetts communities, differentiating between recommended practices and regulatory mandates.
3) Assess the burden/benefit of various methods on property owners/applicants, neighbors, town staff and departments.
4) Coordinate with various town departments and committees that may also be stakeholders in issues of tree preservation (e.g. Natural Resources, Public Works, Parks & Recreation, Concord Conservation Land Trust, etc.)
5) Identify the most beneficial and effective methods of tree preservation for Concord.
6) Seek the input of Concord residents, property owners and others by conducting citizen information meeting(s) and/or workshop(s) to elicit public comments and input on the proposed tree preservation measures.
7) Make recommendations to the Planning Board regarding potential Tree Preservation Bylaw language to be introduced at Town Meeting, or otherwise incorporated into town development regulations.

The Tree Preservation Subcommittee will work in concert with the existing regulatory framework of: the Zoning Bylaw, the Subdivisions Rules and Regulations, the Wetlands and Rivers Protection Acts, the Town's Wetlands Bylaw, and Public Works Regulations and policies. The Subcommittee is intended to help raise awareness to issues related to development and tree preservation and management, and to provide a forum for community discussion about and public input to potential bylaw language and provisions.

Resources

The Subcommittee will be supported, as appropriate, by Town staff and departments, including Planning and Land Management (Planning, Natural Resources, Historic Districts and Health), and Public Works (Engineering). Requests for Town staff assistance should be made through the Town Manager. In addition, the Subcommittee should cooperate with and seek the opinion (as appropriate) of other Town boards and committees, including the Select Board, Planning Board, Public Works Commission, and Natural Resources Commission.

Membership

In making appointments to the Tree Preservation Subcommittee, it is the goal of the Planning Board to identify qualified candidates who represent a variety of backgrounds and interests.

Members shall be appointed for a term of 18 months subject to reappointment at the discretion of the Board. The Subcommittee shall consist of 7 voting members and one non-voting member. It is preferable that at least 3 of the Subcommittee members are generally familiar with issues of tree species selection, planting, maintenance, and/or preservation techniques. Preferred backgrounds as follows:

- Person(s) with arboricultural, landscape architectural, horticultural or related experience/expertise
- Person with natural resources, ecology or land conservation experience/expertise
- Person with experience/expertise in real estate, development, or land use/planning law
- Other Interested citizens
- Planning Board representative as liaison (non-voting member)

It is anticipated that other interested citizens will be asked to participate in the discussion and possibly assist with various assignments related to the mission of the Subcommittee.

Target Time Frame

Press Release and Subcommittee recruitment/appointment – October/December 2015

Kick-off Meeting – January 2016

Development of work plan – January/February 2016

Research and Public Outreach – March/May, 2016

Progress Presentation to Planning Board – June 2016

Development of Final Recommendations and Public Outreach – July/September 2016

Presentation of Final Recommendations to Planning Board – September/October 2016

Target for project completion, and adoption of recommendations by appropriate Town Boards by 2017 Town Meeting.

The Subcommittee on Tree Preservation will be dissolved at the end of the 2017 Annual Town Meeting. Should the Subcommittee be seen to have a continuing role beyond this point, such committee shall be addressed by a separate charge at a later date.

Other Considerations

The Subcommittee shall elect a chair, who will preside at meetings, and a clerk, who will be responsible for maintaining the record of the Subcommittee meetings, votes, and actions.

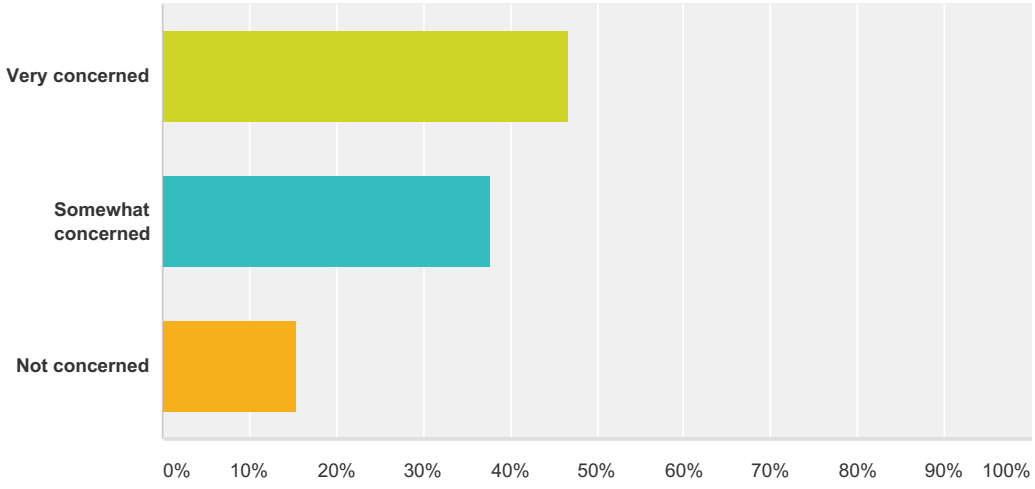
All meetings will be conducted in conformance with the Open Meeting Law, including the proper notice and posting of meetings, and all records will be maintained in conformance with the Public Records Law.

A Town web page will be set up for the Subcommittee to post meeting agendas, minutes, outreach announcements, reports, memos, etc. which will be maintained by the Planning Division staff.

Requests for staff assistance or operating expenses will be made through the Town Manager.

Q1 Are you concerned with tree clearing or tree removals in Concord?

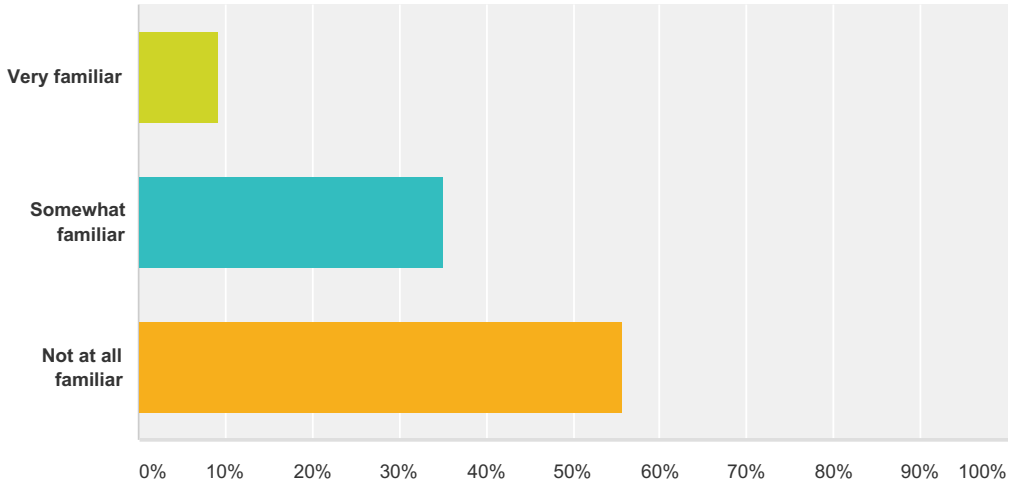
Answered: 325 Skipped: 2



Answer Choices	Responses	
Very concerned	**46.77%**	152
Somewhat concerned	**37.85%**	123
Not concerned	**15.38%**	50
Total		**325**

Q2 How familiar are you with Concord's rules and regulations regarding trees on private and public lands?

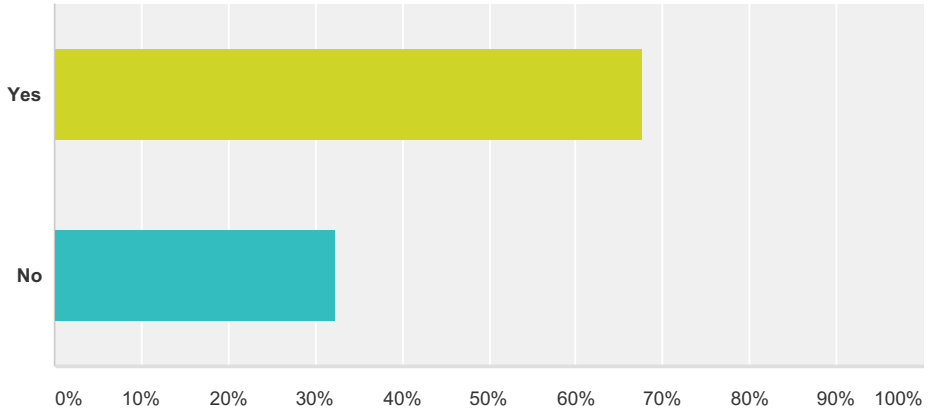
Answered: 325 Skipped: 2



Answer Choices	Responses	
Very familiar	**9.23%**	30
Somewhat familiar	**35.08%**	114
Not at all familiar	**55.69%**	181
Total		**325**

Q3 Should the town adopt more bylaws to regulate tree removal?

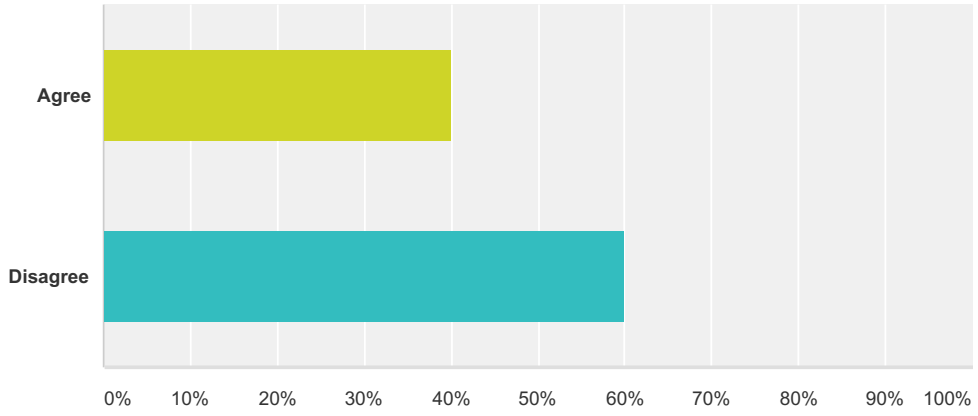
Answered: 278 Skipped: 49



Answer Choices	Responses	
Yes	**67.63%**	188
No	**32.37%**	90
Total		**278**

Q4 Does the regulation of trees on private property unduly compromise individual property rights?

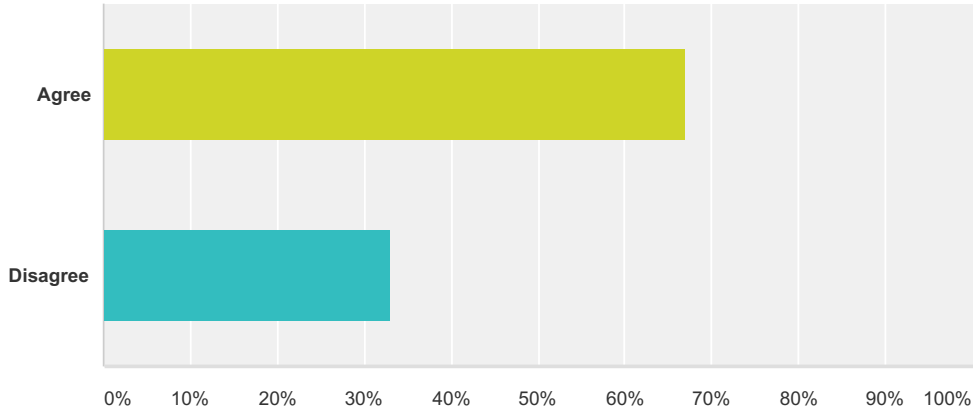
Answered: 295 Skipped: 32



Answer Choices	Responses	
Agree	**40.00%**	118
Disagree	**60.00%**	177
Total		**295**

Q5 Does the town need more bylaws that protect trees?

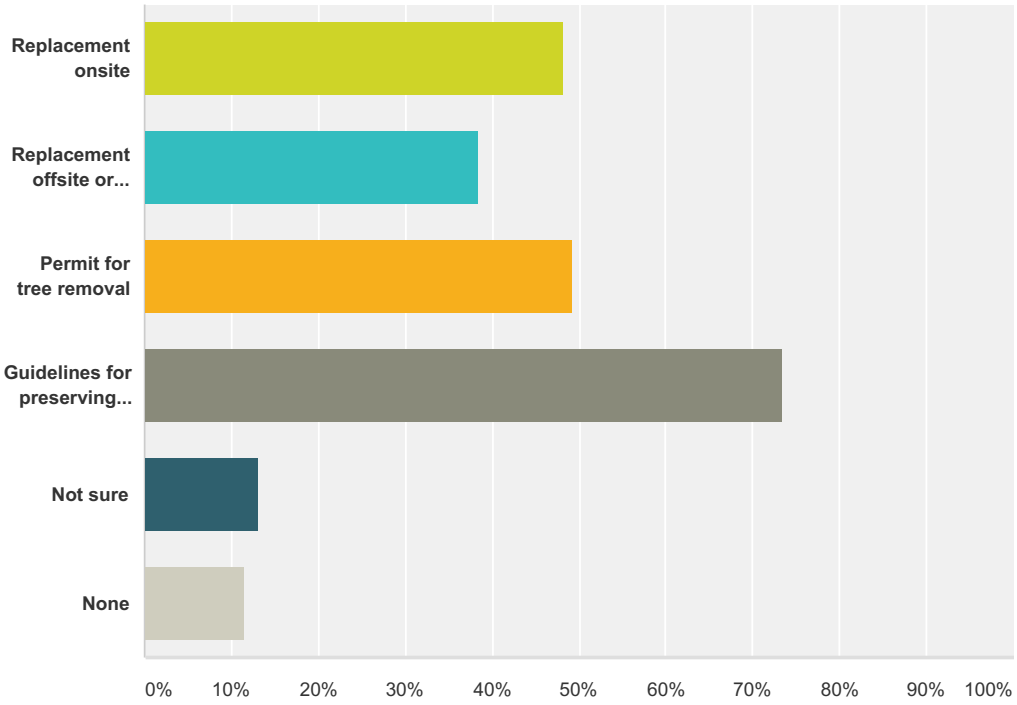
Answered: 288 Skipped: 39



Answer Choices	Responses	
Agree	**67.01%**	193
Disagree	**32.99%**	95
Total		**288**

Q6 Which methods would you like to see used to preserve or manage trees (Check all that apply):

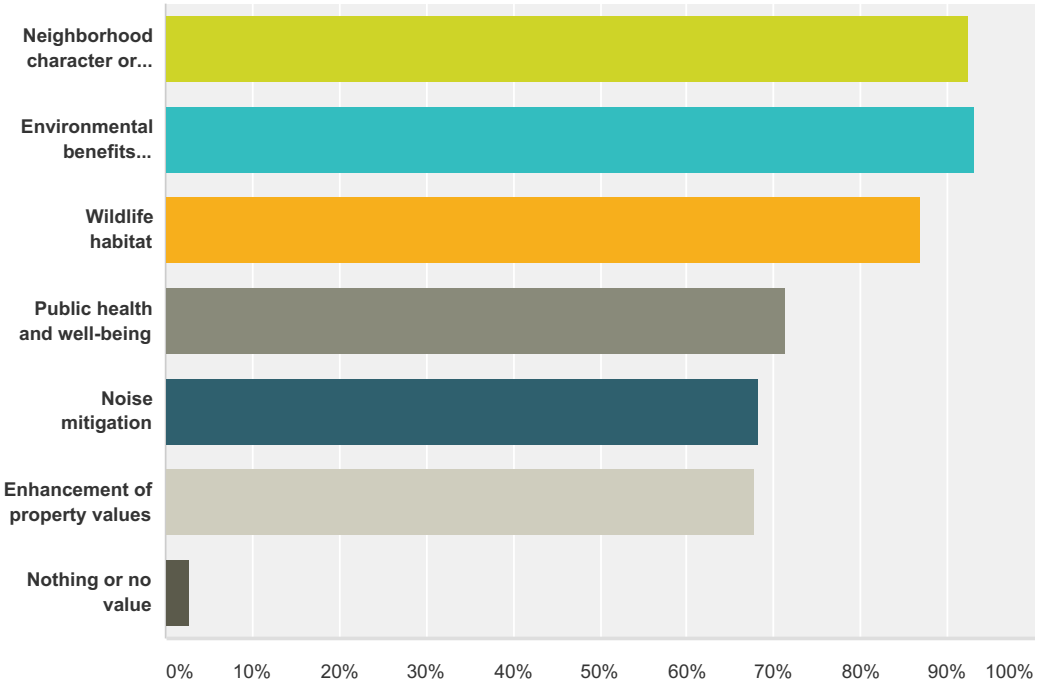
Answered: 321 Skipped: 6



Answer Choices	Responses	
Replacement onsite	**48.29%**	155
Replacement offsite or contribution to town-wide tree fund	**38.32%**	123
Permit for tree removal	**49.22%**	158
Guidelines for preserving trees	**73.52%**	236
Not sure	**13.08%**	42
None	**11.53%**	37
Total Respondents: 321		

Q7 What do you value about trees? Check all that apply.

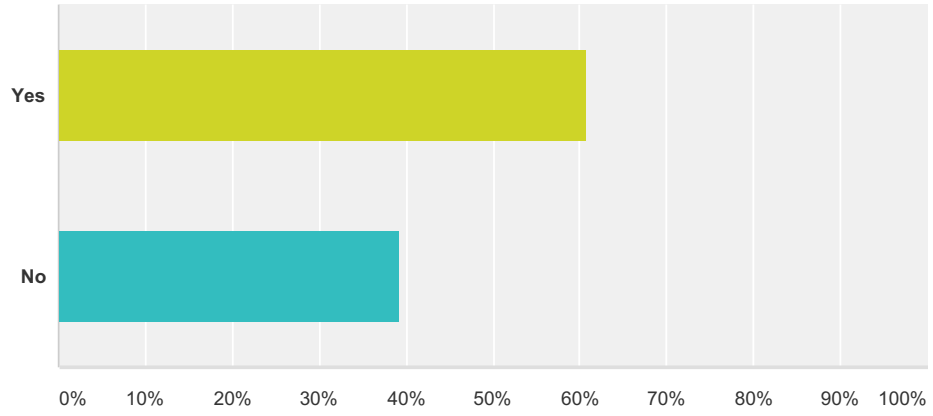
Answered: 321 Skipped: 6



Answer Choices	Responses	
Neighborhood character or aesthetics	**92.52%**	297
Environmental benefits (water, heat, air)	**93.15%**	299
Wildlife habitat	**86.92%**	279
Public health and well-being	**71.34%**	229
Noise mitigation	**68.22%**	219
Enhancement of property values	**67.91%**	218
Nothing or no value	**2.80%**	9
Total Respondents: 321		

Q8 Should neighbors or neighborhoods be involved before trees are cut down or removed?

Answered: 301 Skipped: 26



Answer Choices	Responses	
Yes	**60.80%**	183
No	**39.20%**	118
Total		**301**

Q9 Do you have specific concerns or thoughts about tree preservation?

Answered: 164 Skipped: 163

Community Tree Ordinances and Bylaws for Massachusetts

(If you do not see your community's tree ordinance here, or we have an outdated copy, please send us an updated digital copy to Julie.Coop@state.ma.us

Source: http://www.mass.gov/eea/agencies/dcr/conservation/forestry-and-fire-control/picks-and-shovels-urban-and-community-forestry-faqs-resources-fact-sheets.html#CommunityTreeOrdinancesandBylawsforMassachusetts (*visited September 19, 2016)*

Community Tree Ordinances:

- Amesbury
  Includes sections on the creation of a tree committee, tree planting guidelines, tree topping and pruning, and a draft street tree list.
- Belmont
  Provides protection of trees during construction
- Cambridge
  Includes procedures for tree protection during large development projects, tree replacement and a tree replacement fund.
- Chelmsford
  Includes duties of the tree warden, creation of a tree committee, establishment of a tree replacement policy, and tree planting requirements for developments.
- Chicopee
  Includes provisions planting trees in the public way, for replacement trees when non-risk trees are removed, and enforcement and penalties for violation
- Grafton
  Establishes and defines the Public Shade Tree Management Advisory Board, duties of the Tree Warden, provisions for maintenance and removal of trees and shrubs, planting permits (including prohibited plants), licensing requirements for work on public shade trees, removal of hazardous trees, prohibited acts and penalties.
- Lexington
  Includes duties of the tree warden, creation of a tree committee, protection of private trees during major construction or residential re-development, and establishment of a tree fund.
- **Ludlow**
  Includes provisions for replanting or making a cash contribution to town for replacement trees when a non-hazardous tree is removed, subdivision planting, and tree protection during construction
- Marblehead
  Regulations define responsibilities and authority of the tree warden, procedure for maintaining, removing, and planting trees in the public way, prohibited acts, excavation, and penalties
- Newton
  Establishes and defines the roles of the Newton Tree Commission.
- Newton
  Chapter 20 - Private tree preservation and Public tree protection
- **Quincy**
  Procedure for protecting Significant Trees

- Northampton
  Establishes a tree committee as Tree Warden and defines duties.
- Orleans
  Process for permitting for planting, pruning, removal, and construction within the dripline of a public tree
- Springfield
  Significant Tree Ordinance
  Protects public and private trees over 36" DBH or 75 years old.
- Sturbridge
  Provisions for removal of non-hazardous shade trees and replacement
- Wellesley
  Includes provisions for tree removals, priority planting of street trees, including a preference for planting 8-20 ft from the traveled way, tree canopy goal, ongoing planning for plantings
- Westfield
  Establishes a tree committee as Tree Warden and defines duties.
- Worcester
  Provisions for protecting public trees, removal of non-hazardous trees, planting trees, topping, protection during construction, and cooperation with planning board

Additions to Zoning and Sub-Division Regulations

- Granby
  Includes tree protection, tree replacement, and street tree planting during sub-division development.
- Greenfield Parking Lot Ordinance
  Parking lot guidelines to be added to zoning ordinance that includes some landscaping provisions.
- Lawrence
  Includes landscape standards during land development projects, tree preservation and site plan review.
- Ludlow
  Includes brief language for planting and preservation during subdivision projects.

Draft or Sample Tree Ordinances
(these may or may not have been approved and implemented)

- Similar to Lexington, defines duties of Tree Warden and protects trees during major re-development and residential re-development projects.
- Foxboro Draft
  Includes creation of a tree committee, planting guidelines, provisions for maintaining private trees, and Landmark Tree protection.
- Pittsfield Draft
  Includes duties of the tree warden, adoption of chapter 87, and a process for planting, pruning and removing public hazard and non-hazard trees.
- Model Tree Clearing Ordinance from Cape Cod Commission
  Model bylaw to govern tree and land clearing.

APPENDIX D

BYLAW EXAMPLE 1

A. TITLE. This Bylaw may be cited as the "Town of Concord Tree Bylaw" and/or "Tree Bylaw".

B. INTENT AND PURPOSE.

The intent of this Tree Bylaw is to encourage the preservation and protection of sizeable trees on portions of private property during significant demolition and/or development activity.

Trees are recognized for their abilities to improve air quality, protect from glare and heat, reduce noise, aid in the stabilization of soil, provide natural flood and drainage control, create habitats for wildlife, enhance aesthetics and property values, contribute to the distinct character of certain neighborhoods, and provide natural privacy to neighbors. Therefore, the Town deems that the preservation and protection of certain trees on private property, the requirement to replant trees to replace those removed, and the collection of financial contributions to support the Town's tree planting and maintenance efforts are public purposes that protect the public health, welfare, environment and aesthetics.

C. DEFINITIONS. For the purposes of this Tree Bylaw, the following definitions shall apply.

Caliper - Diameter of a tree trunk (in inches). For trees up to and including four (4) inches in diameter, the caliper is measured six (6) inches above the existing grade at the base of the tree. For trees larger than four (4) inches in diameter, the caliper is measured twelve (12) inches above the existing grade at the base of the tree.

Certified Arborist – A professional arborist possessing current certification issued by the International Society of Arboriculture (I.S.A.) and/or the Massachusetts Arborist Association (M.A.A.).

Critical Root Zone (CRZ) - The minimum area beneath the canopy of a tree which must be left undisturbed in order to preserve a sufficient root mass to give a tree a reasonable chance of survival. The CRZ is represented by a concentric circle centering on the tree's trunk and extending outward towards the tree's dripline. The minimum area of the CRZ shall be dependent on the required minimum radius of the CRZ; the required minimum radius of the CRZ shall be determined by multiplying a tree's DBH (in inches) by twelve (12) inches, with the resulting product constituting the minimum radius of the CRZ. EXAMPLE: A tree with a DBH of twenty (20) inches shall have a CRZ with a minimum radius of 240 inches or 20 feet (20" x 12" = 240" or 20').[1]

Diameter at Breast Height (DBH) - The standard measure of tree size for those trees existing on a site that are at least four (4) inches in diameter at a height of four and one-half (4.5) feet above the existing grade at the base of the tree. If a tree splits into multiple trunks below four and one-half (4.5) feet above the existing grade, the DBH shall be considered to be the measurement taken at the narrowest point beneath the split.

[1] Note to Planning Board: Different municipalities use ratios of tree diameter for Critical Root Zone ranging from 1:1 (as above) to 1:1.5. Other municipalities use the dripline, or the dripline plus a set distance such as 10 feet.The Planning Board may want to consider a higher ratio to ensure better tree protection.

Drip-Line - The area surrounding the tree from the trunk to the outermost branches. This area is distinguished from, and not to be confused with Critical Root Zone.

Overstory Tree - A tree that will generally reach a mature height of greater than forty (40) feet.

Protected Tree - Any existing tree or tree that was removed within twelve (12) months prior to application for an applicable demolition or building permit, with a DBH of ten (10) inches or greater, located in a Tree Yard of a property zoned Residence AA, A, B or C. Any tree with a DBH of ten (10) inches or greater with portions of the stem of the tree actively growing into a Tree Yard between a height of six (6) inches and four and one-half (4.5) feet above grade shall be considered a Protected Tree. [2]

Reviewing Agent – Any Town employee, board or agent delegated in writing by the Planning Board to administer, implement and enforce the Tree Bylaw.

Tree - Any self-supporting, woody perennial plant usually having a single trunk with a diameter of three (3) inches or more which normally attains a mature height of six (6) feet or greater.

Tree Fund - An account established for the deposit of contributions in lieu of tree replanting as required by this Tree Bylaw. Funds deposited in this account shall be used solely for the purpose of buying, planting and maintaining trees in the Town.

Tree Protection & Mitigation Plan - A plan submitted to the Building Department for review prior to the commencement of demolition and/or construction on a property on which a Protected Tree is located. This plan may be either part of a landscape plan and/or a separate plan.

Tree Removal - Any act that has caused a tree to die within the previous 12 months or will cause a tree to die as determined by the Reviewing Agent based on arboricultural practices recommended by the International Society of Arboriculture (I.S.A.).

Tree Save Area - The area surrounding a tree which includes at a minimum the Critical Root Zone ("CRZ") and Drip-Line of all Protected Trees, unless otherwise authorized herein. The Tree Save Area must be enclosed within a fence and remain undisturbed so as to prevent damage to the tree.

Tree Yard - The area of a parcel zoned Residence AA, A, B, or C located adjacent to all front, side, and rear lines of a lot; Tree Yards shall have a minimum depth as specified in the table entitled "Location of Protected Trees on Property Zoned Residence AA, A, B, or C", contained in subsection F.1. of this Tree Bylaw. Trees having a DBH of ten (10) inches or greater and located within or partially within a Tree Yard shall be considered to be Protected Trees.

D. APPLICABILITY.

1. Applicability: The requirements of this Tree Bylaw shall apply under any of the following circumstances:

a. Proposed demolition of an existing structure with a footprint of 250 square feet or greater;

[2] Note to Planning Board: Municipalities use a range of minimum diameters for Protected Trees, generally ranging from 8 to 12 inches.

b. Construction of retaining walls subject to the requirements of Section 6 of the Town of Concord Zoning Bylaw;

c. Construction of any building or structure on a vacant lot; or

d. Construction of one or more structures or additions to structures on a lot, where the total area of the footprint of the new structures will result in an increase of 50% or more of the total footprint of the pre-existing structure(s).

2. Non-applicability: The requirements of this Tree Bylaw shall not apply to:

a. The subdivision of land under Town of Concord Subdivision Rules and Regulations, wherein the Planning Board regulates the planting, retention and/or replacement of trees, by means of the Board's authority over the subdivision of land;

b. Those areas of property under the jurisdiction of the Wetlands Protection Act (Chapter 131 and 310 CMR), wherein the Wetlands Protection Committee regulates the retention and/or replacement of trees located on private land. Protected trees located outside areas under the jurisdiction of the Natural Resources Commission shall be subject to this Tree Bylaw;

c. Town-owned public trees, including trees that are considered to be Public Shade Trees pursuant to M.G.L. Chapter 87, which are protected by the Town's Tree Warden.

d. Emergency projects necessary for public safety, health and welfare as determined by the Reviewing Agent;

e. Trees that are hazardous as determined and confirmed in writing by a Certified Arborist; and

f. Trees subject to an immediate and/or probable risk of disease or insect infestation, as determined and confirmed in writing by a Certified Arborist.

3. Existing Encroachments: For the purposes of interpreting, administering, and enforcing this Tree Bylaw and Section 7 of the Town of Concord Zoning Bylaw, Non-Conforming Uses, an existing structure shall not be considered to be a nonconforming structure solely because the structure, or a portion of the structure, is located within the CRZ and/or Drip-Line of an existing Protected Tree. The reconstruction of demolished structures or portions of structures within the previously encroached area of the CRZ and/or Drip-Line shall be prohibited, except when consistent with the requirements of This Tree Bylaw.

E. TOWN OF CONCORD TREE FUND.

There is hereby established a Town of Concord Tree Fund ("Tree Fund") which shall be held by the Town Treasurer in an account administered by the Building Department in accordance with applicable provisions of the General Laws. Any contributions collected per subsection F.2.b.ii. of This Tree Bylaw shall be deposited in said Tree Fund, and shall be used solely for the purpose of buying, planting and maintaining trees in the Town.

F. PROTECTED TREES.

1. Scope: Existing trees or trees that were removed within twelve (12) months prior to application for an applicable demolition or building permit with a DBH of 10" or greater and located within

the minimum Tree Yard of a property zoned Residence AA, A, B or C as identified in the following table, shall be considered to be Protected Trees. Demolition and/or construction activity (as identified under subsection D.1. of This Tree Bylaw on a property on which a Protected Tree is located is prohibited unless authorized by the Reviewing Agent as set forth in this subsection in Table III, Dimensional Regulations of the Zoning Bylaw, as it may be amended.

2. Tree Protection & Mitigation:

a. Protection: Each Protected Tree to be retained on property planned for demolition and/or construction activity shall be protected by the establishment of a Tree Save Area. The Tree Save Area shall be delineated within the submitted Tree Protection & Mitigation Plan, shall be installed prior to the issuance of applicable permits, and shall remain in place until work is completed on the property. The applicant shall submit written documentation, prepared, stamped, dated and signed by a Certified Arborist, to the Reviewing Agent confirming that the required Tree Save Area identified in the Tree Protection & Mitigation Plan has been installed.

An applicant may choose to encroach within the CRZ and/or Drip-Line of a Protected Tree; however, such proposed action shall require the applicant to submit a maintenance plan for the tree, to be prepared, stamped, dated and signed by a Certified Arborist as part of the Tree Protection & Mitigation Plan. Under these instances, the Tree Save Area may be reduced to protect only those areas of the CRZ and/or Drip-Line not proposed for encroachment.

b. Mitigation: The removal of a Protected Tree from a property in connection with one or more of the circumstances set forth in subsection D.1. shall require mitigation by satisfying one of the following provisions (i. Replanting of Trees or ii. Contribution to the Town of Concord Tree Fund). Mitigation measures shall be identified in the submitted Tree Protection and Mitigation Plan. The removal or proposed removal of a Protected Tree(s) that has been mitigated for, in conjunction with a previous applicable permit, shall not require additional mitigation under subsequent permits, unless such mitigation has not been completed or otherwise assured.

i. Replanting of Trees: For each inch of DBH of the tree(s) removed no less than one-half inch of caliper of new tree(s) shall be replanted in accordance with the following:

1. Each new tree must have a minimum caliper of two (2) inches;

2. Such replanting, either on the applicant's land or on land abutting the applicant's land with the express written approval of the owner of such abutting land, shall occur prior to Final Inspection, or be otherwise assured at such time to the satisfaction of the Town in a manner consistent with the Rules and Regulations;

3. If the Protected Tree to be removed is an Overstory Tree species, the replacement tree(s) to mitigate the removal shall be an Overstory Tree species; and

4. Invasive tree species, as determined by the Reviewing Agent, shall not be replanted to mitigate the removal of a Protected Tree.

ii. Contribution to the Town of Concord Tree Fund: The Planning Board shall establish a Tree Fund contribution schedule with approval by the Select Board, such schedule to be based on the DBH of Protected Tree(s) to be removed. The schedule may take into account the

aggregate DBH of Protected Trees to be removed. The applicant shall make such contribution to the Tree Fund for the removal of a Protected Tree not already mitigated for per subsection F.2.b.i.; contributions shall be received by the Building Department prior to the issuance of all applicable permits.

3. Plan Review and Permit Issuance:

a. Tree Protection & Mitigation Plan Submittal: Prior to the issuance of a permit in connection with one or more of the circumstances set forth in subsection D.1. on property on which a Protected Tree is located or was located within twelve (12) months prior to application, the owner of the property shall submit a Tree Protection & Mitigation Plan to the Building Department along with the applicable application.

If a permit requiring the submittal of a Tree Protection & Mitigation Plan was issued for a property within twelve (12) months prior to application for one or more of the circumstances set forth in subsection D.1., the submittal of a Tree Protection & Mitigation Plan shall not be required for subsequent permits unless any information required under subsection F.3.b. is changed or altered.

b. Tree Protection & Mitigation Plan Requirements: The submitted Tree Protection & Mitigation Plan shall be a to-scale survey or site plan, along with any accompanying documentation, containing information prepared, stamped, dated and signed by an individual(s) appropriately licensed and authorized by the State of Massachusetts to attest to and certify such information, unless a specific certification is referenced herein. The plan shall include, but not be limited to, the following information:

i. Boundaries of the subject property, including all property lines, easements, and right-of-ways of public and private ways;

ii. The location of all existing buildings, driveways, retaining walls and other improvements, with an indication of those features to be retained or removed/demolished;

iii. The location of all planned buildings, driveways, retaining walls and other improvements;

iv. The location, height, DBH, and species of all existing Protected Trees and all Protected Trees that were removed within twelve (12) months prior to application for an applicable demolition or building permit, with an indication of those Protected Trees to be removed and those to be retained, if applicable;

v. The CRZ, drip-line and location of the Tree Save Area shall be shown for all Protected Trees to be retained;

vi. The location, caliper, species, and planting schedule of trees to be replanted to mitigate the removal of a Protected Tree(s), if applicable;

vii. A maintenance plan prepared, stamped, dated and signed by a Certified Arborist for all Protected Trees which are proposed to have encroachment within the CRZ and/or drip-line, if applicable;

viii. The amount to be contributed to the Tree Fund to mitigate the removal of a Protected Tree(s), if applicable; and

ix. Such other information as is required by the Reviewing Agent pursuant to applicable regulations.

c. Tree Fund Contribution: In lieu of replanting, if applicable, the owner of the property shall submit any required contribution to the Tree Fund as mitigation for the removal of a protected tree.

d. Reviewing Agent Action: If the Tree Protection & Mitigation Plan is consistent with the protection and mitigation requirements contained herein and any established rules, regulations or manuals, and any applicable Tree Fund contribution has been submitted, the Reviewing Agent may issue any applicable permit. If the proposal does not meet or satisfy these requirements, the Reviewing Agent shall deny all applicable permit applications and so notify the applicant.

4. Maintenance of Protected and Replanted Trees:

a. Protected Trees: Each Protected Tree retained shall be maintained in good health for a period of no less than twenty-four (24) months from the date of Final Inspection, or issuance of a Certificate of Occupancy if applicable. Should such tree die within this twenty-four (24) month period, the owner of the property shall be required to provide mitigation consistent with the requirements for the removal of a Protected Tree as contained herein within nine (9) months from the death or serious decline of the original tree.

b. Replanted Trees: All new trees replanted to mitigate the removal of Protected Tree(s) shall be maintained in good health for a period of no less than twenty-four (24) months from the date of planting. Should such tree die within this twenty-four (24) month period, the owner of the property shall be responsible for replacing the tree with a tree equal to or greater than the size of the original replacement tree at the time of planting; such tree shall be planted within nine (9) months of the death or serious decline of the original replacement tree.

G. RULES AND REGULATIONS.

The Planning Board may promulgate or amend Rules and Regulations which pertain to the administration of This Tree Bylaw, and shall file a copy of said rules in the office of the Town Clerk. Such rules may prescribe the size, form, contents, style, and number of copies of plans and specifications, the procedure for the submission and approval of such plans, the procedure for determining final compliance with these regulations, and the criteria and procedure regarding the Planning Board's acceptance of sureties (i.e., bonds, letters of credit, etc.) intended to satisfy the requirements of subsection F., 2., b., i. of This Tree Bylaw, so long as the Rules and Regulations conform to This Tree Bylaw of the Zoning Bylaw. The adoption or amendment of Rules and Regulations shall be after a public hearing to receive comments on the proposed or amended Rules and Regulations. The public hearing shall be advertised once in a newspaper of general local circulation, at least 14 days prior to the date of the public hearing.

APPENDIX E
BYLAW EXAMPLE 2

A. TITLE. This Bylaw may be cited as the "Town of Concord Tree Bylaw" and/or "Tree Bylaw".

B. INTENT AND PURPOSE.

The intent of this Tree Bylaw is to encourage the preservation and protection of sizeable trees on portions of private property during demolition and/or development activity.

Trees are recognized for their abilities to improve air quality, protect from glare and heat, reduce noise, aid in the stabilization of soil, provide natural flood and drainage control, create habitats for wildlife, enhance aesthetics and property values, contribute to the distinct character of certain neighborhoods, and provide natural privacy to neighbors. Therefore, the Town deems that the preservation and protection of certain trees on private property and the collection of financial contributions to support the Town's tree planting and maintenance efforts are public purposes that protect the public health, welfare, environment and aesthetics.

C. DEFINITIONS. For the purposes of this Tree Bylaw, the following definitions shall apply.

Certified Arborist – A professional arborist possessing current certification issued by the International Society of Arboriculture (I.S.A.) and/or the Massachusetts Arborist Association (M.A.A.).

Developer - A person, including the property owner or operator, who undertakes or proposes to undertake demolition and/or construction activities.

Diameter at Breast Height (DBH) - The standard measure of tree size for those trees existing on a site that are at least four (4) inches in diameter at a height of four and one-half (4.5) feet above the existing grade at the base of the tree. If a tree splits into multiple trunks below four and one-half (4.5) feet above the existing grade, the DBH shall be considered to be the measurement taken at the narrowest point beneath the split.

Protected Tree - Any existing tree or tree that was removed within twelve (12) months prior to application for an applicable demolition or building permit, with a DBH of ten (10) inches or greater, located in a Tree Yard of a property zoned Residence AA, A, B or C.[1] Any tree with a DBH of ten (10) inches or greater with portions of the stem of the tree actively growing into a Tree Yard between a height of six (6) inches and four and one-half (4.5) feet above grade shall be considered a Protected Tree.

Reviewing Agent – Any Town employee, board or agent delegated in writing by the Planning Board to administer, implement and enforce the Tree Bylaw.

Tree - Any self-supporting, woody perennial plant usually having a single trunk with a diameter of three (3) inches or more which normally attains a mature height of six (6) feet or greater.

[1] Note to Planning Board: Municipalities use a range of minimum diameters for Protected Trees, generally ranging from 8 to 12 inches.

Tree Fund - An account established for the deposit of contributions in lieu of tree replanting as required by this Tree Bylaw. Funds deposited in this account shall be used solely for the purpose of buying, planting and maintaining trees in the Town.

Tree Protection & Removal As-Built Plan - A plan submitted to the Building Department for review prior to issuance of a Certificate of Occupancy on a property on which each Protected Tree identified on the Tree Protection & Removal is located. This plan shall indicate which Protected Trees have been removed as indicated on the Tree Protection & Removal Plan and any other Protected Trees that have been removed since submittal of the Tree Protection & Removal Plan.

Tree Protection & Removal Plan - A plan submitted to the Building Department for review prior to the commencement of demolition and/or construction on a property on which each Protected Tree is located. This plan shall indicate which Protected Trees will be removed. This plan may be either part of a landscape plan and/or a separate plan.

Tree Removal - Any act that causes a tree to die as determined by the Reviewing Agent based on arboricultural practices recommended by the International Society of Arboriculture (I.S.A.).

Tree Yard - The area of a parcel zoned Residence AA, A, B, or C located adjacent to all front, side, and rear lines of a lot; Tree Yards shall have a minimum depth as specified in the Table III, Section 6, Dimensional Regulations of the Zoning Bylaw. Trees having a DBH of ten (10) inches or greater and located within a Tree Yard shall be considered to be Protected Trees.

D. APPLICABILITY.

1. Applicability: The requirements of this Tree Bylaw shall apply under any of the following circumstances:

a. Proposed demolition of an existing structure with a footprint of *250*[2] square feet or greater;

b. Construction of any building or structure on a vacant lot; or

d. Construction of one or more structures or additions to structures on a lot, where the total area of the footprint of the new structures will result in an increase of 50% or more of the total footprint of the pre-existing structure(s).

2. Non-applicability: The requirements of this Tree Bylaw shall not apply to:

a. The subdivision of land under Town of Concord Subdivision Rules and Regulations, wherein the Planning Board regulates the planting, retention and/or replacement of trees, by means of the Board's authority over the subdivision of land;

b. Those areas of property under the jurisdiction of the Wetlands Protection Act (Chapter 131 and 310 CMR), wherein the Wetlands Protection Committee regulates the retention and/or replacement of trees located on private land. Protected trees located outside areas under the jurisdiction of the Natural Resources Commission shall be subject to this Tree Bylaw;

[2] Note to Planning Board: Increasing the square footage "trigger" from 250 square feet to 500 or 1,000 square feet would significantly decrease the number of permits.

c. Town-owned public trees, including trees that are considered to be Public Shade Trees pursuant to M.G.L. Chapter 87, which are protected by the Town's Tree Warden.

d. Emergency projects necessary for public safety, health and welfare as determined by the Reviewing Agent;

e. Trees that are hazardous as determined and confirmed in writing by a Certified Arborist; and

f. Trees subject to an immediate and/or probable risk of disease or insect infestation, as determined and confirmed in writing by a Certified Arborist.

3. Existing Encroachments: For the purposes of interpreting, administering, and enforcing this Tree Bylaw and Section 7 of the Town of Concord Zoning Bylaw, Non-Conforming Uses, an existing structure shall not be considered to be a nonconforming structure solely because the structure, or a portion of the structure, is located within the Tree Yard. The reconstruction of demolished structures or portions of structures within the previously encroached area of the Tree Yard shall be prohibited, except when consistent with the requirements of This Tree Bylaw.

Tree Removal - Any act that causes a tree to die as determined by the Reviewing Agent based on arboricultural practices recommended by the International Society of Arboriculture (I.S.A.).

E. TOWN OF CONCORD TREE FUND.

There is hereby established a Town of Concord Tree Fund ("Tree Fund") which shall be held by the Town Treasurer in an account administered by the Building Department in accordance with applicable provisions of the General Laws. Any contributions collected per subsection F.2.b. of this Tree Bylaw shall be deposited in said Tree Fund, and shall be used solely for the purpose of buying, planting and maintaining trees in the Town.

F. PROTECTED TREES.

1. Scope: Existing trees or trees that were removed within twelve (12) months prior to application for an applicable demolition or building permit with a DBH of10" or greater and located within the minimum Tree Yard of a property zoned Residence AA, A, B or C shall be considered to be Protected Trees. Demolition and/or construction activity on a property on which a Protected Tree is located is prohibited unless authorized by the Reviewing Agent as set forth in this subsection.

2. Tree Protection & Mitigation:

a. Protection: Each Protected Tree to be retained on property planned for demolition and/or construction activity shall protected. Each Protected Tree shall be identified on a Tree Protection & Removal Plan, with trees identified for removal indicated, prepared, stamped, dated and signed by a Certified Arborist. This plan shall be submitted prior to the issuance of applicable permits, and shall remain in place until work is completed on the property.

b. Mitigation: The removal of a Protected Tree from a property in connection with one or more of the circumstances set forth in subsection D.1. shall require mitigation by a contribution to the Town of Concord Tree Fund of $1,000 per Protected Tree, or such amount established by the

Select Board. Contributions shall be received by the Building Department prior to the issuance of all applicable permits.

3. Plan Review and Permit Issuance:

a. Tree Protection & Removal Plan Submittal: Prior to the issuance of a permit in connection with one or more of the circumstances set forth in subsection D.1. on property on which a Protected Tree is located or was located within twelve (12) months prior to application, the developer of the property shall submit a Tree Protection & Removal Plan to the Building Department.

If a permit requiring the submittal of a Tree Protection & Removal Plan was issued for a property within twelve (12) months prior to application for one or more of the circumstances set forth in subsection D.1., the submittal of a Tree Protection & Removal Plan shall not be required for subsequent permits unless any information required under subsection F.3.b. is changed or altered.

b. Tree Protection & Removal Plan Requirements: The submitted Tree Protection & Removal Plan shall be a to-scale survey or site plan, along with any accompanying documentation, containing information prepared, stamped, dated and signed by an individual(s) appropriately licensed and authorized by the State of Massachusetts to attest to and certify such information, unless a specific certification is referenced herein. The plan shall include, but not be limited to, the following information:

i. Boundaries of the subject property, including all property lines, easements, and right-of-ways of public and private ways;

ii. The location of all existing buildings, driveways, retaining walls and other improvements, with an indication of those features to be retained or removed/demolished;

iii. The location of all planned buildings, driveways, retaining walls and other improvements;

iv. The location, height, DBH, and species of all existing Protected Trees and all Protected Trees that were removed within twelve (12) months prior to application for an applicable demolition or building permit, with an indication of those Protected Trees to be removed and those to be retained, if applicable;

v. A detail showing tree protection measures to be utilized for Protected Trees to be retained, if applicable;

vi. The amount to be contributed to the Tree Fund to mitigate the removal of a Protected Tree(s), if applicable; and

vii. Such other information as is required by the Reviewing Agent pursuant to applicable regulations.

c. Tree Fund Contribution: The developer of the property shall submit any required contribution to the Tree Fund as mitigation for the removal of a Protected Tree.

d. Reviewing Agent Action:

i. Prior to issuance of a demolition and building permit: If the Tree Protection & Removal Plan is consistent with the protection and removal requirements contained herein and any established

rules, regulations or manuals, and any applicable Tree Fund contribution has been submitted, the Reviewing Agent may issue any applicable permit. If the proposal does not meet or satisfy these requirements, the Reviewing Agent shall deny all applicable permit applications and so notify the applicant.

ii: Prior to Issuance of a Certificate of Occupancy: Prior to issuance of a request for a Certificate of Occupancy, the developer shall submit a Tree Removal As-Built Plan prepared, stamped, dated and signed by a Certified Arborist indicating each tree identified on the Tree Protection & Removal Plan that has been removed. For each tree removed that had not been identified for removal on the Tree Protection & Removal Plan, the developer shall contribute $2,000 to the Tree Fund.[3] If the Tree Removal As-Built Plan is consistent with the protection and removal requirements contained herein and any established rules, regulations or manuals, and any applicable Tree Fund contribution has been submitted, the Reviewing Agent shall issue a Certificate of Occupancy.

G. RULES AND REGULATIONS.

The Planning Board may promulgate or amend Rules and Regulations which pertain to the administration of this Tree Bylaw, and shall file a copy of said rules in the office of the Town Clerk. Such rules may prescribe the size, form, contents, style, and number of copies of plans, the procedure for the submission and approval of such plans, the procedure for determining final compliance with these regulations, and the criteria and procedure regarding the Planning Board's acceptance of sureties (i.e., bonds, letters of credit, etc.) intended to satisfy the requirements of subsections F.2.b., F.3.d., and F.4. of this Tree Bylaw, so long as the Rules and Regulations conform to this Tree Bylaw. The adoption or amendment of Rules and Regulations shall be after a public hearing to receive comments on the proposed or amended Rules and Regulations. The public hearing shall be advertised once in a newspaper of general local circulation, at least 14 days prior to the date of the public hearing.

[3] Note to Planning Board: Some members of the TreePS question whether the fines levied are sufficient to ensure that trees will be adequately protected and recommend an additional requirement to limit the number or percentage of trees to be removed.