



PROTECTING TREES DURING CONSTRUCTION

Trees require careful protection during construction. Arlington requires the development of a Tree Plan and adherence to Tree Protection Methods.

Step 1. Develop a Tree Plan (See attached sample *Tree Plan*)

- Develop a Tree Plan utilizing a copy of the site plan drawn and stamped by a certified land surveyor or engineer. Consulting with an arborist, engineer, landscape architect/designer or other professional is recommended
- Show all **Protected Trees** (trees of 8" DBH¹ or greater within the setbacks of the property) and **Public Shade Trees** (trees growing on all public ways or sidewalks) of any size in the vicinity
- Identify and indicate species and size of all trees shown on the Tree Plan
- For each **Protected Tree and Public Shade Tree**:
 - Indicate the **Critical Root Zone** (CRZ = 1 foot for every 1" DBH)
 - Indicate a CRZ Protection Method (See Step 2. Protect Trees During Construction)
- For each **Protected Tree** to be removed, note the applicable fee (\$375 per inch DBH)
- Indicate **Protected Trees** removed in the last 12 months, note applicable fee (\$375 per inch DBH)
- Submit Tree Plan to Arlington's Tree Warden for review and discussion of trees to be preserved, transplanted, protected, or removed

Other tree planning considerations:

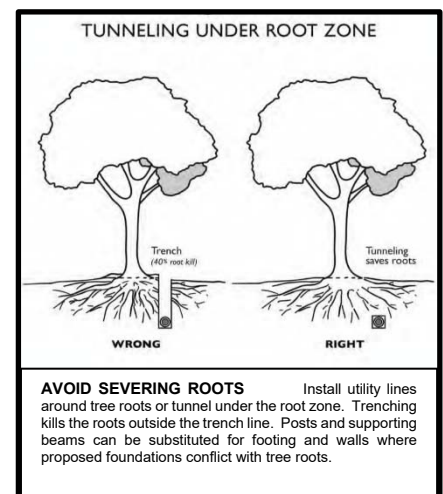
Prune Only as Necessary Carefully prune protected trees only as needed to remove broken branches, to enhance their natural form and to fit with the proposed buildings.

Transplant when Possible Identify desirable trees in the way of construction. If they can be transplanted on site, incorporate them into site design.

Utility Lines Locate all new underground utility lines outside the CRZ of trees to be saved. Tree roots tend to be in the top 3 feet of soil, which might allow boring for utilities to be done under the tree roots (See *Tunneling Under Tree Roots*).

Design for Foundations - Posts and pillars can be substituted for footings and walls where proposed foundations conflict with tree roots.

Water Trees - Particularly any transplanted tree, should be carefully kept watered throughout construction.



¹ DBH: Diameter at Breast Height = tree size is measured as the diameter at 4.5 feet from the ground

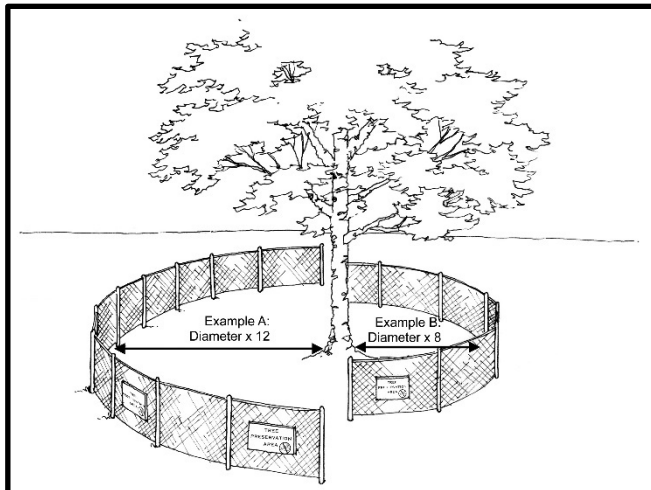
Step 2. Protect Trees During Construction²

Install tree protection around trees according to the recommended tree protection methods for the duration of construction:

Protection Method 1:

Fencing around Critical Root Zone (CRZ)

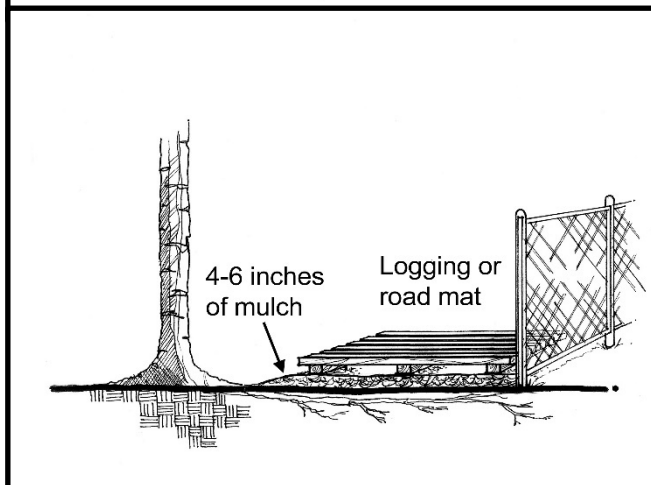
This method should be used to protect the CRZ from vehicles, other machinery, and storage of construction material. The fencing should be semi-permanent and will prevent vehicles from entering the CRZ. Follow example A: Use heavy gauge chain-link fencing to demarcate a protection zone that is 1 foot wide per 1" DBH of the protected tree. If chain-link fencing is not available, use snow fencing with stakes. Signage identifying it as a "Tree Preservation Zone" helps.



Protection Method 2:

Soil and root protection within CRZ

This method should be used when vehicles or machinery must cross the CRZ to complete construction. Use 4-6" of mulch over the entire CRZ, then lay Dura-mats on top to create a raised roadbed to drive over. Plywood can be used if Dura-mats are not available. Remove mulch from CRZ when project is complete.

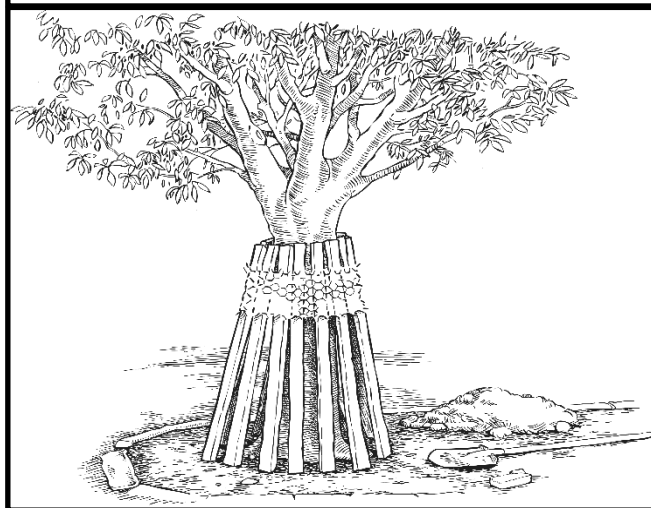


Protection Method 3:

Trunk and buttress root protection

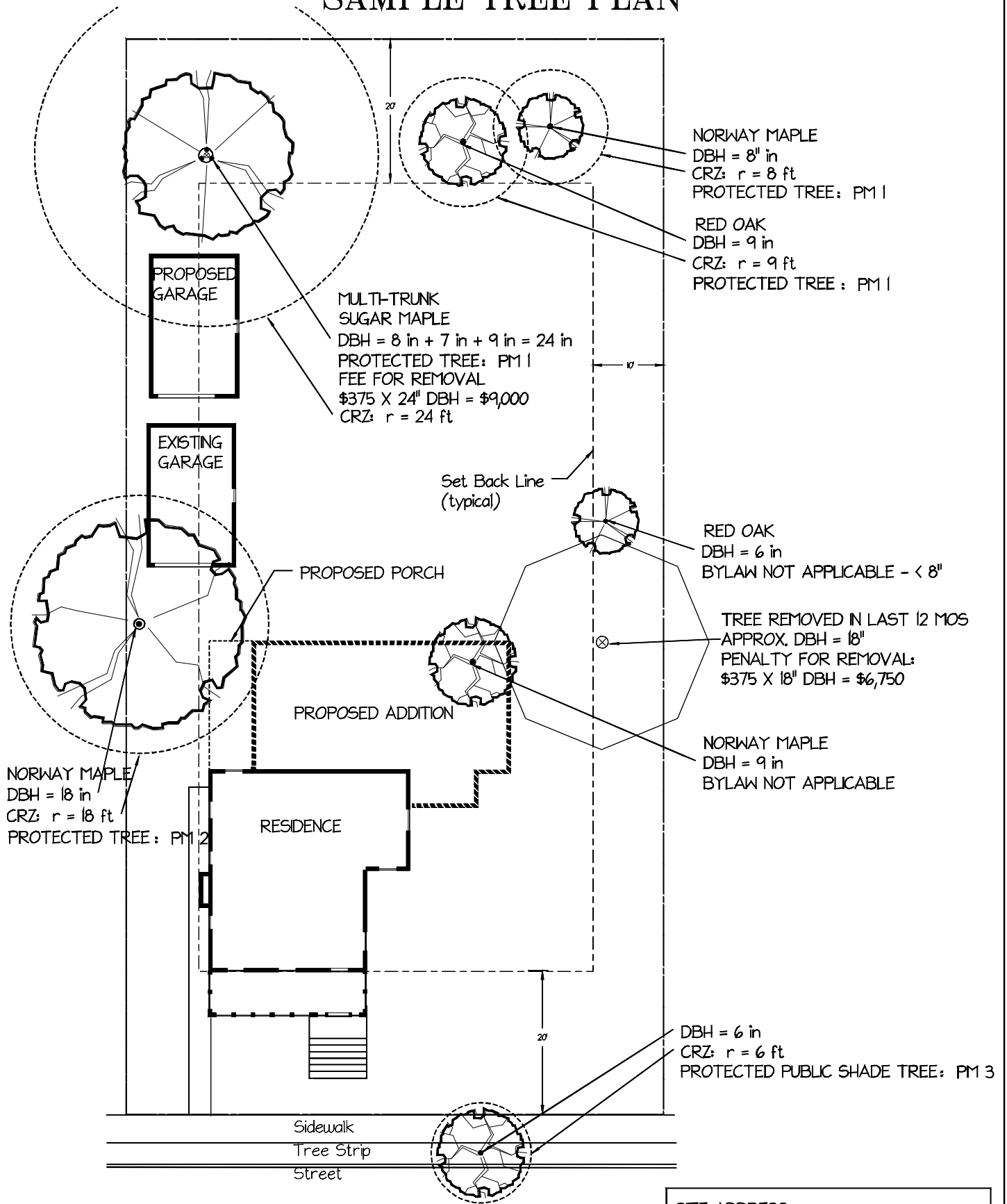
This method should be used when the tree is close to a structure, sidewalk, or hardscape, and in conjunction with Protection Method 2.

Wrap the trunk with burlap, then surround the tree trunk with 2x4s, angled slightly to protect the root flare when possible. Secure the 2x4s with wire or rope, but do not puncture the trunk itself with nails or other attachments

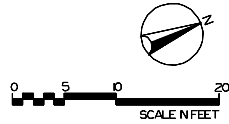


² Images courtesy of International Society of Arboriculture

SAMPLE TREE PLAN



LEGEND
 CRZ = CRITICAL ROOT ZONE
 DBH = DIAMETER AT BREAST HEIGHT
 PM = PROTECTION METHOD



SITE ADDRESS:
 CONTRACTOR:
 ENGINEER/SURVEYOR:

ARTICLE 16 TREE PROTECTION AND PRESERVATION¹

(ART. 22, ATM – 05/02/16)(ART. 14, ATM – 04/23/18)(ART. 32, ATM 05/01/19)

Section 1. Findings and Purpose

The Town of Arlington finds that preservation of the tree canopy and planting of replacement trees is essential to preserving the character and aesthetic appearance of the Town and maintaining quality of life and the environment in the Town. Trees improve air quality, protect from heat and glare, reduce noise pollution, limit topsoil erosion and storm water runoff, provide natural flood control, enhance property values, contribute to the distinct character of neighborhoods, and offer natural privacy to neighbors.

Section 2. Definitions

A. The following definitions shall apply to this By-law:

“Building Footprint” – Outline the total area covered by a building’s perimeter at ground level.

“Caliper” – Diameter of a tree trunk (in inches) measured six inches above the ground for trees up to and including four-inch diameter, and 12 inches above the ground for larger trees.

“DBH (Diameter at Breast Height)” – Diameter of a tree trunk measured in inches at a height of four and a half (4 1/2) feet above the ground; or, for multiple-trunk trees, the measured in inches at a height of four and a half (4 1/2) feet above the ground; or, for multiple-trunk trees, the aggregate diameters of the multiple trunks at a height of four and a half (4 1/2) feet above ground.

“Demolition” – Any act of destroying, pulling down, removing or razing a building or commencing the work of total or substantial destruction of a building.

“Protected Tree” – Any existing healthy tree on private land with a DBH of eight (8) inches or greater, located in the setback area, which does not pose an immediate hazard to person or property or is not under imminent threat of disease or insect infestation.

“Setback Area” – The Portion of the property which constitutes the minimum depth of side, rear and front yards as per the Zoning Bylaw of the Town of Arlington.

“Tree Fund” – An existing Town account established for the purpose of buying, planting, and maintaining trees in the Town which may receive deposit of contributions in lieu of planting new trees by property owners and fines collected under this By-law.

“Tree Plan” – A site plan drawn and stamped by a certified land surveyor or engineer showing all Protected Trees in the setback areas, public shade trees near the property, and indicating, on the site plan or in a separate document, which Protected Trees will be retained, which will be removed, and, how critical root zones of each Protected Tree and public shade tree will be protected from damage during site work.

“Tree Removal” – The cutting down of a tree, or the effective destruction, intentional or unintentional, of a tree during demolition or construction activities.

“Tree Warden” – The Tree Warden or his/her designee.

B. Additional definitions may be provided in rules and regulations approved by the Select Board where consistent with intent and efficient execution of this By-law.

Section 3. Applicability

A. The requirements of this By-law and all applicable rules and regulations apply to the following Circumstances:

- (1) Proposed demolition of an existing residential or non-residential structure;
- (2) Proposed construction on a developed lot which would result in an increase of 50 percent or more of the total building footprint of the new structure(s) when compared to the total footprint of pre-existing structures; or
- (3) Proposed construction of any scope on a lot with no residential or non-residential structure on it.

B. Sites under the jurisdiction of the Arlington Redevelopment Board (“ARB”) or the ARB as the Planning Board, the Zoning Board of Appeals, or the Conservation Commission pursuant to Arlington’s Wetlands Protection By-law (Title V, Article 8) may waive the requirements of this By-law in full or in part where such waiver serves the interest of the community and the reasons therefore are memorialized by such bodies.

C. The requirements of this By-law shall not apply to trees defined as Public Shade Trees under G.L. c.87 § 1.

¹ <https://www.arlingtonma.gov/town-governance/laws-and-regulations/town-bylaws/title-v-regulations-upon-the-use-of-private-property#A16>

Section 4. Procedures and Requirements for the Preservation of Trees

A. Removal of Protected Trees on applicable sites shall be prohibited unless such removal is authorized by a written approval of the Tree Plan and commencement of work, in accordance with this Bylaw.

B. In all instances of construction or demolition as defined and applicable herein, the owner of the property shall submit a Tree Plan accompanied by a fee of \$50, to the Tree Warden prior to or concurrent with an application for a building or demolition permit. Additionally, if any Protected Trees were removed during the 12 months preceding the application for a building or demolition permit, such trees shall be accounted for on the Tree Plan to the best of the owner's ability, and shall be mitigated pursuant to paragraph 4.C

C. For each Protected Tree removed, there shall be payment made to the Tree Fund, prior to the commencement of work on the property, in the amount set by a mitigation schedule approved by the Select Board assigning a value per inch of DBH of Protected Tree(s) to reflect the cost of planting and caring for new public trees, which the Town shall use to plant replacement trees in the vicinity of the tree removal or in other locations in the discretion of the Tree Warden.

D. If the Tree Plan is consistent with the requirements of this Bylaw, the Tree Warden shall so certify in writing approving the Tree Plan and commencement of work. Said certification shall occur within 10 business days. If the Tree Plan as submitted does not satisfy the requirements of this By-law and associated rules and regulations, the Tree Warden shall so notify the applicant with recommendations to achieve compliance. The Tree Warden shall be permitted access to the site during normal business hours to verify and ensure compliance with the approved Tree Plan.

E. An Owner aggrieved of the Tree Warden's determination on a Tree Plan, or with respect to the need for such a plan, may appeal such determinations to the Select Board at a public hearing. A written decision on such appeals shall be rendered with 14 business days of the close of such hearing(s).

Section 5. Enforcement and Fines

A. Following a determination of violation by the Tree Warden, an owner shall be subject to fines for the activities listed below, to be paid into the Tree Fund, said fines to be set forth in rules and regulations issued by the Select Board.

Said activities are:

(1) Removal of a Protected Tree on an applicable site without prior written approval of commencement of work per Section 4.D, \$300 per day of work. There shall also be a fine for each Protected Tree removed.

(2) Removal of a Protected Tree which is not identified for removal in the Tree Plan. There shall be a fine for each Protected Tree removed, \$300.

(3) Failure to mitigate tree removal within the time set forth in Section 4.C of this By-Law. There shall be a fine of \$300 for each day until mitigation is achieved.

B. Wherever there is reasonable cause to believe that an owner or their agent willfully violates this By-Law or an approved Tree Plan, the Town may institute a civil action for injunctive relief in a court of competent jurisdiction ordering appropriate parties to correct a condition in violation, or to cease an unlawful use of the property.

C. An owner aggrieved of the Tree Warden's determination of violation(s) may appeal such determination(s) to the Select Board at a public hearing.

Section 6. Administration

The Select Board shall establish further administrative rules and regulations for the review and approval of Tree Plans, as well as enforcement determinations necessary to effectuate the purposes of this bylaw, including, but not limited to further definitions, tree plan requirements, and procedures determinations. Failure to issue rules and regulations will not have the effect of suspending or invalidating this By-law.

Section 7. Severability Clause

If any provision of this By-law is declared unconstitutional or illegal by final judgment, order or decree of the Supreme Judicial Court of the Commonwealth, the validity of the remaining provisions of this By-law shall not be affected thereby.

Section 8. Relationship to Other Laws

Nothing in this By-law shall be construed to restrict, amend, repeal, or otherwise limit the application or enforcement of existing Town of Arlington By-laws or laws of the Commonwealth of Massachusetts.