



## PROTECTING TREES DURING CONSTRUCTION

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

**Read Title V, Article 16 Tree Protection and Preservation Bylaw.**

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

- Develop a site plan drawn and stamped by a certified land surveyor or engineer, and stamped by a certified arborist or landscape architect, showing all Protected Trees as defined herein and 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.
- Show all **Protected Trees** (trees of 6" DBH<sup>1</sup> 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.

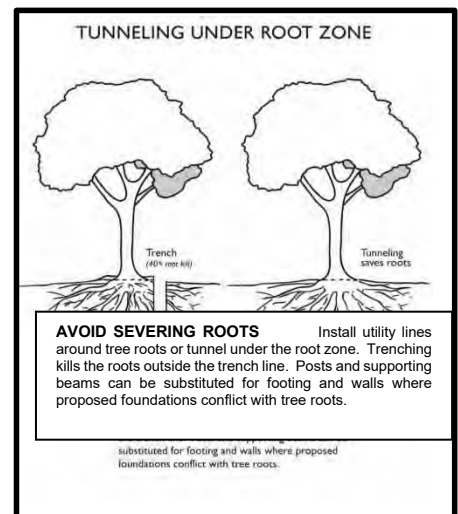
**Transplant when Possible** Identify desirable trees in the way of construction. If they can be transplanted on site, incorporate them into site design.

**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*).

where proposed foundations conflict with tree roots.

**Design for Foundations** - Posts and pillars can be substituted for footings and walls throughout construction.

**Water Trees** - Particularly any transplanted tree, should be carefully kept watered



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

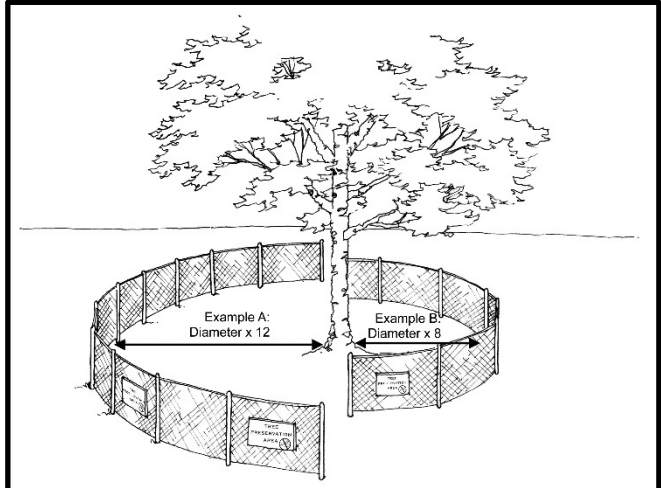
## Step 2. Protect Trees During Construction<sup>2</sup>

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)

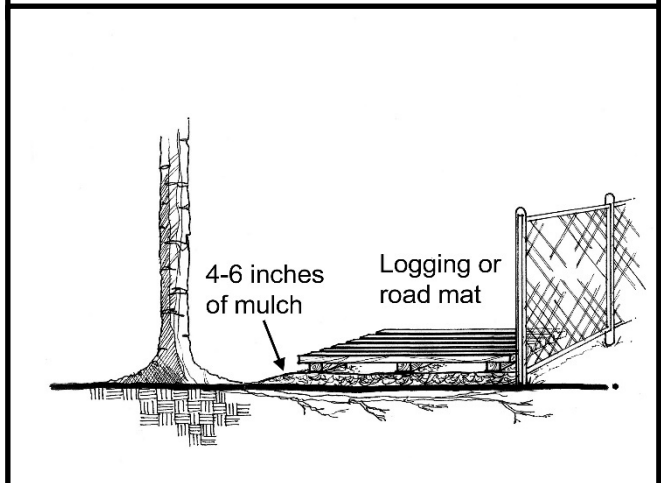
This method should be used to protect the CRZ from vehicles, other machinery, and storage of construction material. The fencing should be semi-permanent and will prevent vehicles from entering the CRZ. Follow example A: Use heavy gauge chain-link fencing to demarcate a protection zone that is 1 foot 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.

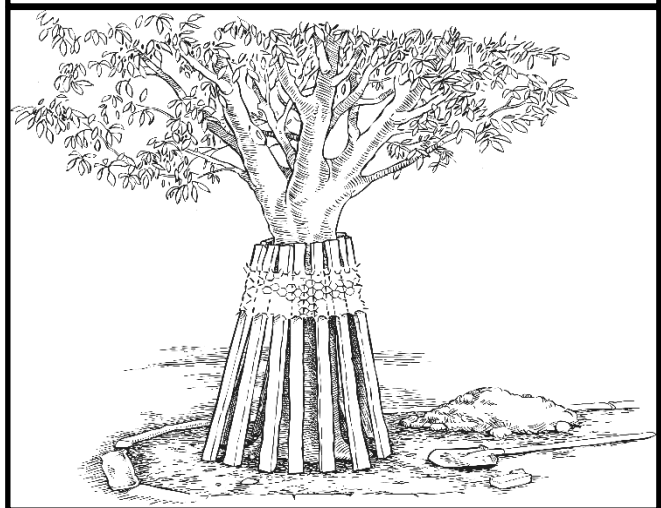


### Protection Method 3:

#### Trunk and buttress root protection

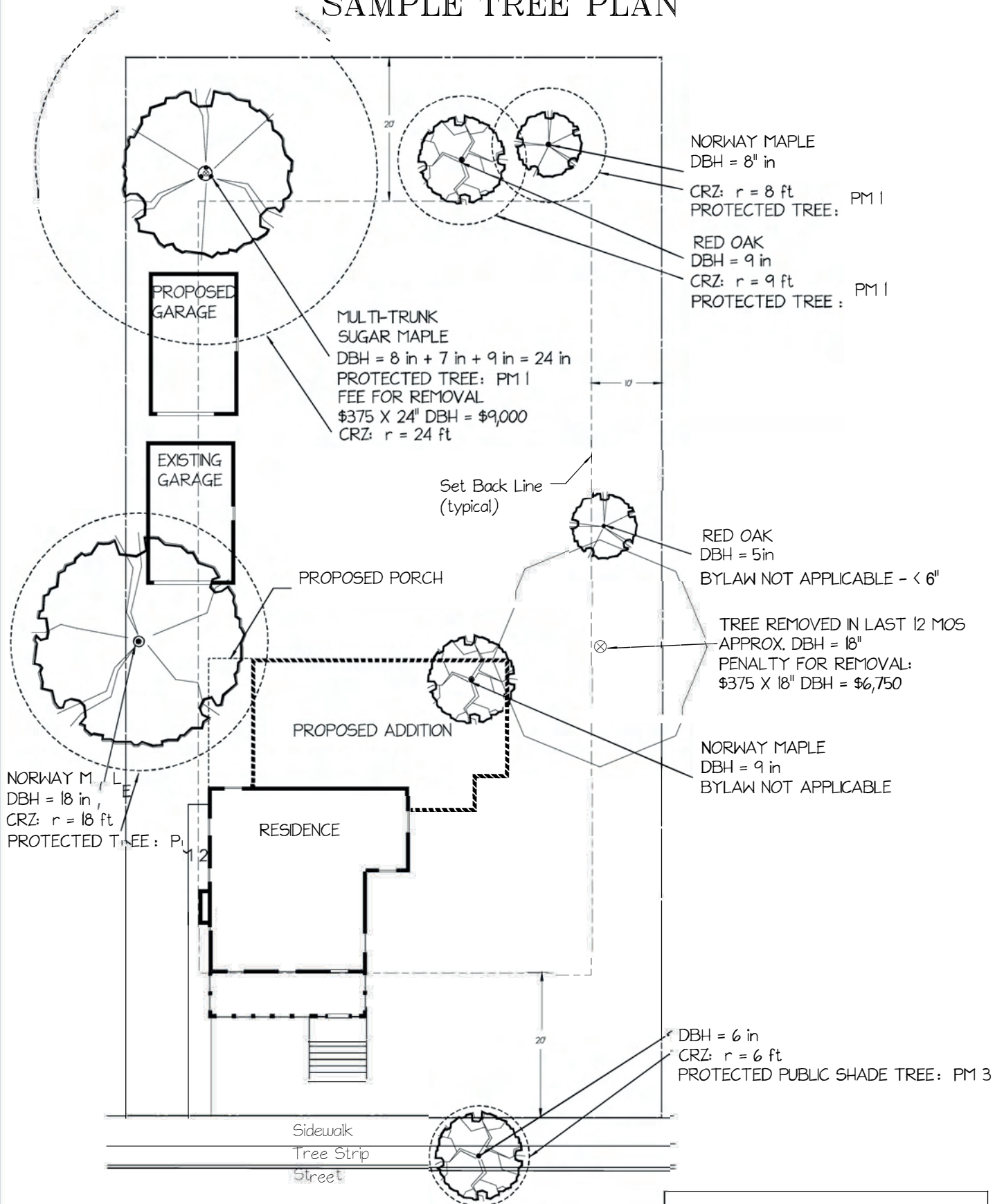
This method should be used when the tree is close to a structure, sidewalk, or hardscape, and in conjunction with Protection Method 2.

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



<sup>2</sup> Images courtesy of International Society of Arboriculture

# SAMPLE TREE PLAN



NORWAY MAPLE  
DBH = 8" in  
CRZ: r = 8 ft      PM 1  
PROTECTED TREE:

RED OAK  
DBH = 9 in  
CRZ: r = 9 ft      PM 1  
PROTECTED TREE:

MULTI-TRUNK  
SUGAR MAPLE  
DBH = 8 in + 7 in + 9 in = 24 in  
PROTECTED TREE: PM 1  
FEE FOR REMOVAL  
\$375 X 24" DBH = \$9,000  
CRZ: r = 24 ft

NORWAY MAPLE  
DBH = 18 in  
CRZ: r = 18 ft  
PROTECTED TREE: PM 1

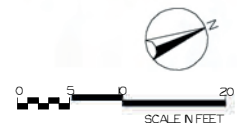
RED OAK  
DBH = 5 in  
BYLAW NOT APPLICABLE - < 6"

TREE REMOVED IN LAST 12 MOS  
APPROX. DBH = 18"  
PENALTY FOR REMOVAL:  
\$375 X 18" DBH = \$6,750

NORWAY MAPLE  
DBH = 9 in  
BYLAW NOT APPLICABLE

DBH = 6 in  
CRZ: r = 6 ft  
PROTECTED PUBLIC SHADE TREE: PM 3

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



SITE ADDRESS:  
CONTRACTOR:  
ENGINEER/SURVEYOR: