

### **Best Management Practices for Tree Preservation**

(adapted from comments offered by John Parry, Chair of the Durham Conservation Commission)

- 1) Construction can damage the root system by severing roots. If too much of the tree root system is removed or damaged by construction, the tree may decline or die, resulting in the loss of benefits, and possibly creating a public hazard with larger trees that could later fail.
- 2) The general rule of thumb in the protection of open grown trees is to protect a circle (called the critical root zone) around the tree. The circle radius is equal to 1.5 feet per 1 inch of trunk diameter. If more than 40% of that critical root zone will be disturbed, the tree may be significantly impacted. This is more critical with larger trees, than small trees that more easily recover.
- 3) Soil compaction caused by equipment can also be a serious problem. This is especially true on wet soils. Compacted soils have less open pore space, and hence less space for moisture and oxygen needed to sustain tree health. Even one pass with heavy equipment can cause soil compaction.
- 4) Identify the more desirable trees to save and protect. Larger trees in good condition are more desirable. Less desirable species are elm, willow, poplar, aspen. Lay out the site to leave as much room as possible around the more desirable trees.
- 5) Install temporary fencing to keep equipment away from the critical rooting zone of trees identified to protect.
- 6) Where development will come close to large trees, consider the use of techniques to elevate structures, if feasible, to avoid construction damage to roots.
- 7) If feasible, conduct construction during the winter or dormant season, when stress to trees will be less.
- 8) Where roots will be disturbed, severing roots cleanly by hand or with a rock saw, causes less tree damage than tearing through root system with heavy equipment.
- 9) Provide replacements for landscape trees that will be removed, as appropriate.
- 10) Trees whose roots will likely be significantly damaged or which are already in decline and considered high risk should be removed.
- 11) John Parry can provide additional information (such as the International Society of Arboriculture Best Management Practices for protecting trees during construction).