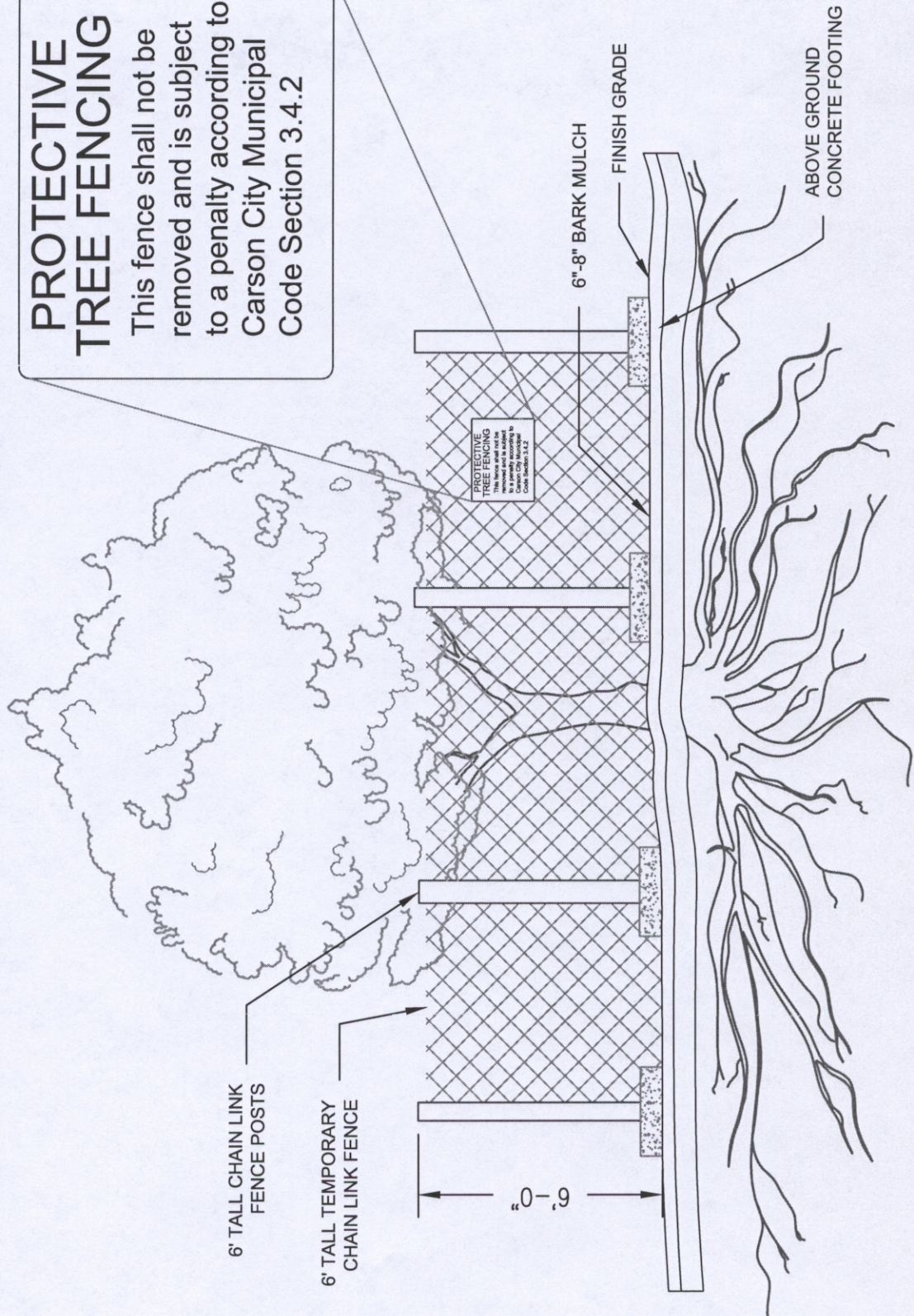


TREE PROTECTION ZONE
THIS FENCE SHALL NOT BE REMOVED
UNTIL PROJECT HAS BEEN COMPLETED

NOTE:
FENCE SHALL BE LOCATED A
MINIMUM OF 5' AWAY FROM
THE TREE'S DRIP LINE

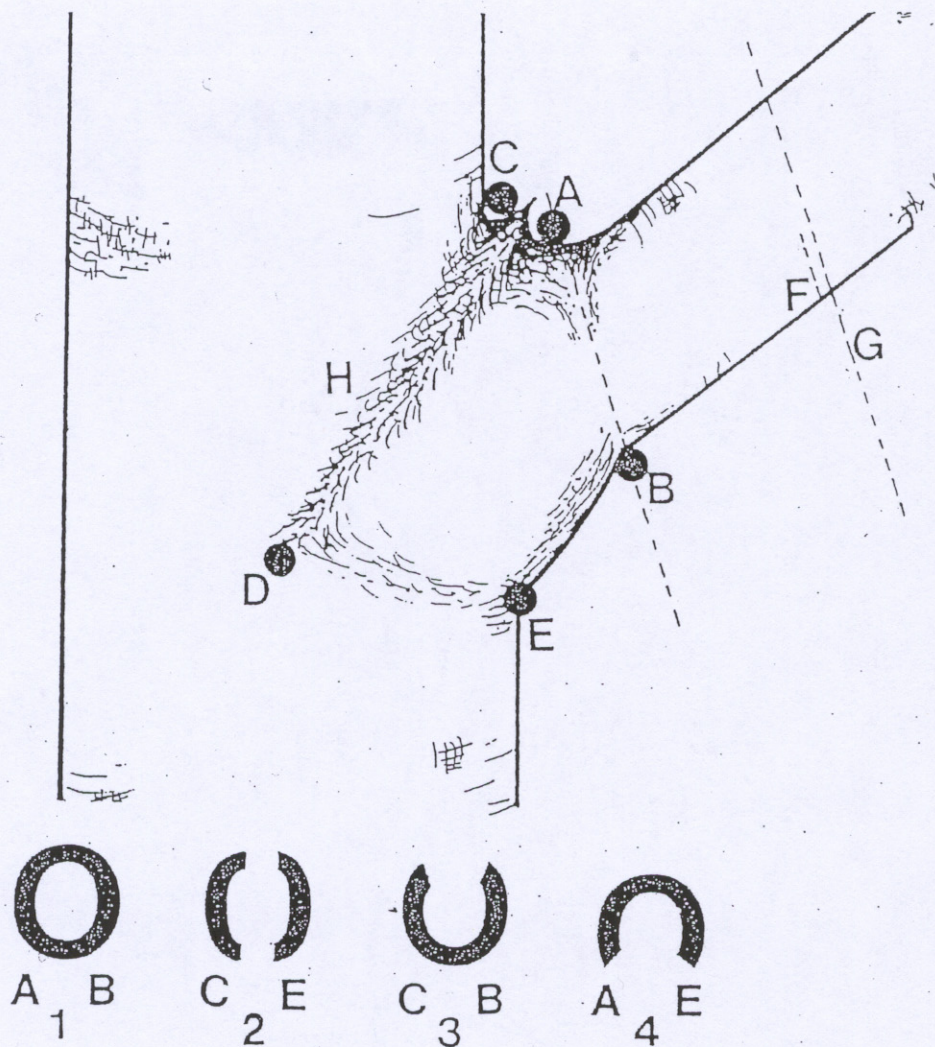
PROTECTIVE TREE FENCING

This fence shall not be
removed and is subject
to a penalty according to
Carson City Municipal
Code Section 3.4.2



SCALE: NTS

NO.	REVISION	DATE	Standard Site Amenity Detail	File Name:
			TYPICAL TREE PROTECTION FENCE DETAIL	[H:\landscape details\TPZ.dwg]
				Landscape Detail Number: L-XX
				Date: 2/2007 Page: 11



NATURAL TARGET PRUNING

Locate the branch bark ridge (H) and the branch collar (E to B).

Stub cut the branch (up F, down G).

Locate points A and B where the branch meets the branch collar.

Cut from A to B, or from B to A with care.

If position of B is uncertain, draw a line in your mind from A to E.

Angle EAD is approximately the same as angle EAB.

Point D is the beginning of the branch bark ridge (H).

A proper cut will result in woundwood pattern 1.

Improper cuts will result in patterns 2, 3, and 4.

Do not leave stubs.

Do not make flush cuts.

Do not paint the wounds.

UNIVERSITY
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•Reno

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Wendy Hanson

Horticulture Assistant

Master Gardener Program Coordinator

5305 Mill St. • P.O. Box 11130 • Reno, NV 89520

Reno (775) 784-4848 FAX (775) 784-4881

Carson City (775) 887-2252 FAX (775) 887-2065

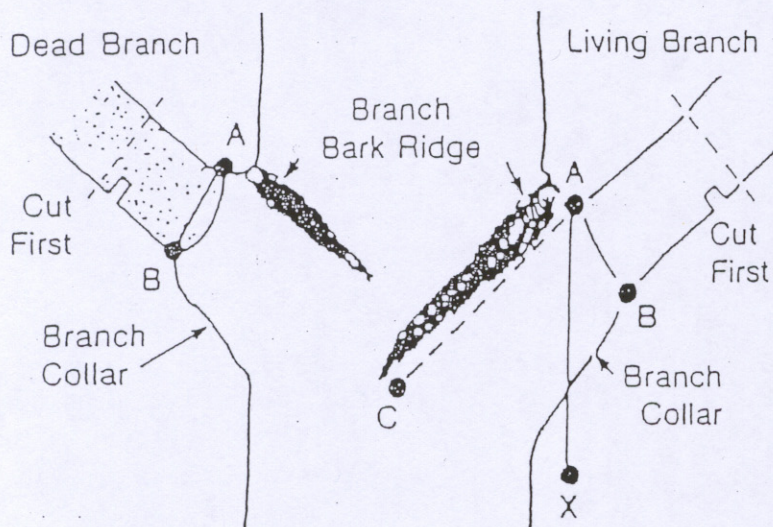
Gardnerville (775) 782-9960 FAX (775) 782-9968

E-mail: hansonw@unce.unr.edu

Web site: www.unce.unr.edu

Natural Target Pruning

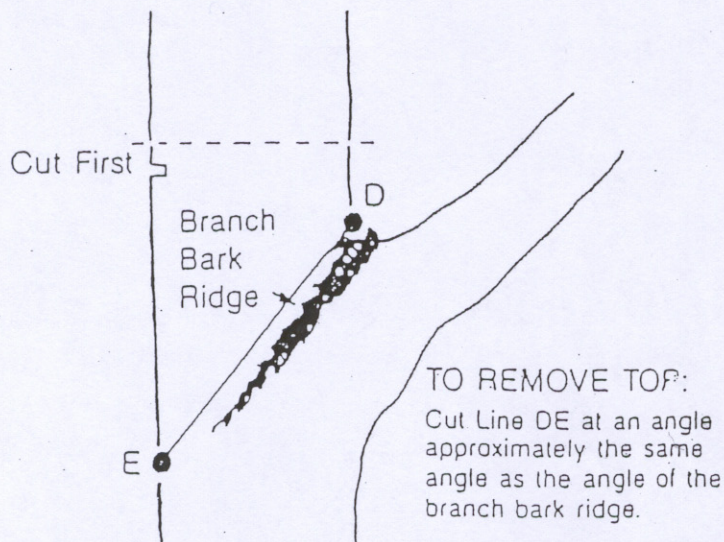
Hardwoods



Do Not

- Cut behind the branch bark ridge
- Leave stubs
- Cut branch collar
- Paint cuts—except for cosmetics
- Leave flat top when topping

Topping

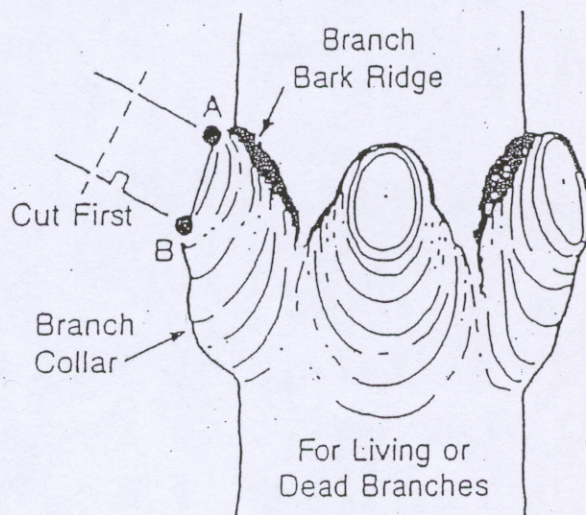


TO REMOVE TOP:
Cut Line DE at an angle
approximately the same
angle as the angle of the
branch bark ridge.

Natural Pruning Steps

1. Locate the branch bark ridge
2. Find TARGET A—outside of branch bark ridge
3. Find TARGET B—swelling where branch meets branch collar
4. If B is hard to find—drop a line at AX.
Angle XAC=to angle XAB
5. Stub branch to be pruned
6. Make cut at line AB

Conifers



BEST TIME TO PRUNE

Late dormant season or EARLY spring
before leaves form

FOR MORE INFORMATION WRITE:

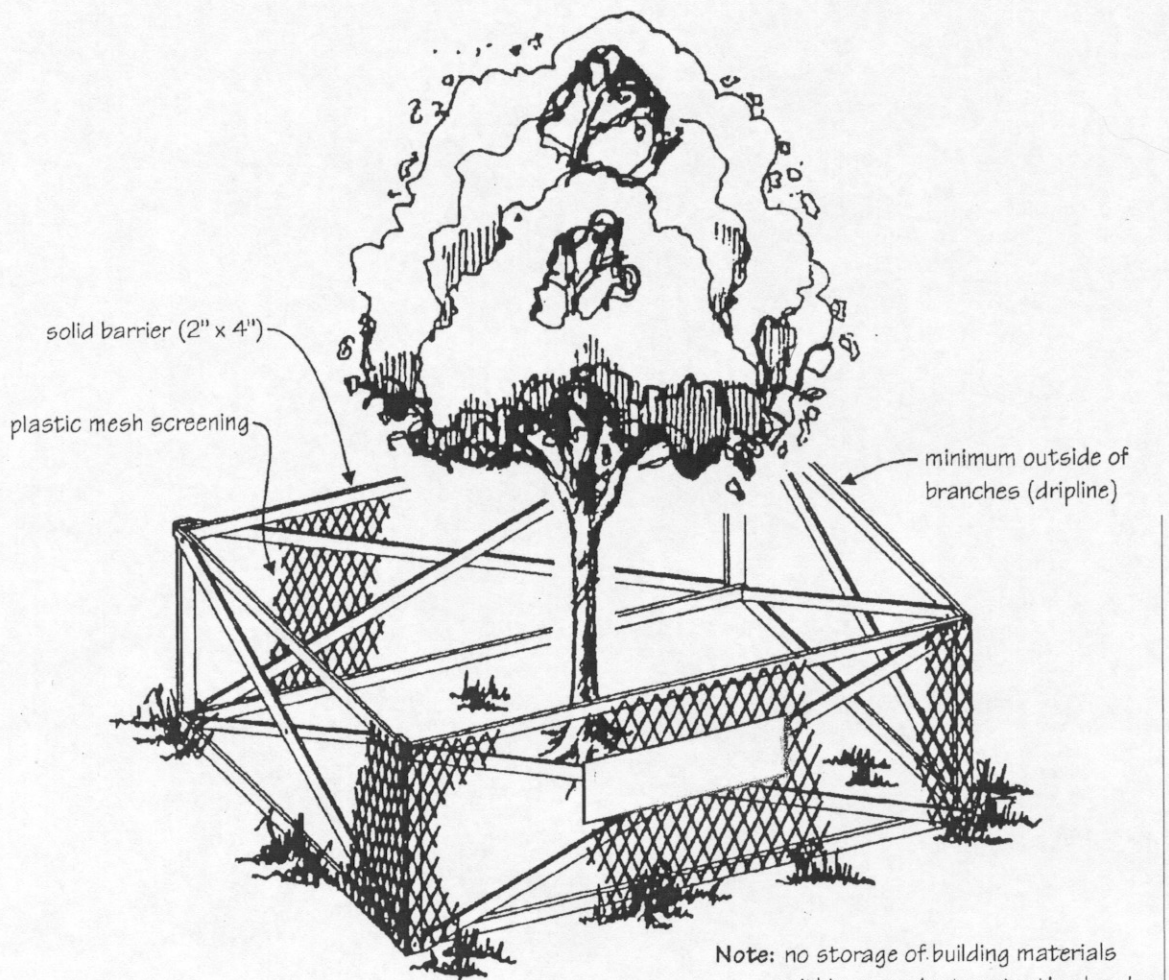
Northeastern Forest
Experiment Station
P.O. Box 640
Durham NH 03824

or

your local State Forestry or
USDA Forest Service Office

TREE RETENTION/PROTECTION

- 1) Where trees are to be retained on a site, protection barriers must be installed as specified in 3.4.2.
- 2) Any required excavation in or around the protection barrier to accommodate underground services, footing, etc. should be indicated on the plan and completed by hand.
- 3) Trees inside the protection zone should be cared for throughout the construction process, i.e., they must be wrapped sufficiently if a portion of the tree's root system has been disturbed by excavation.
- 4) Root and branch pruning, where necessary, must be done in accordance with 3.4.2.



Tree Retention Guideline

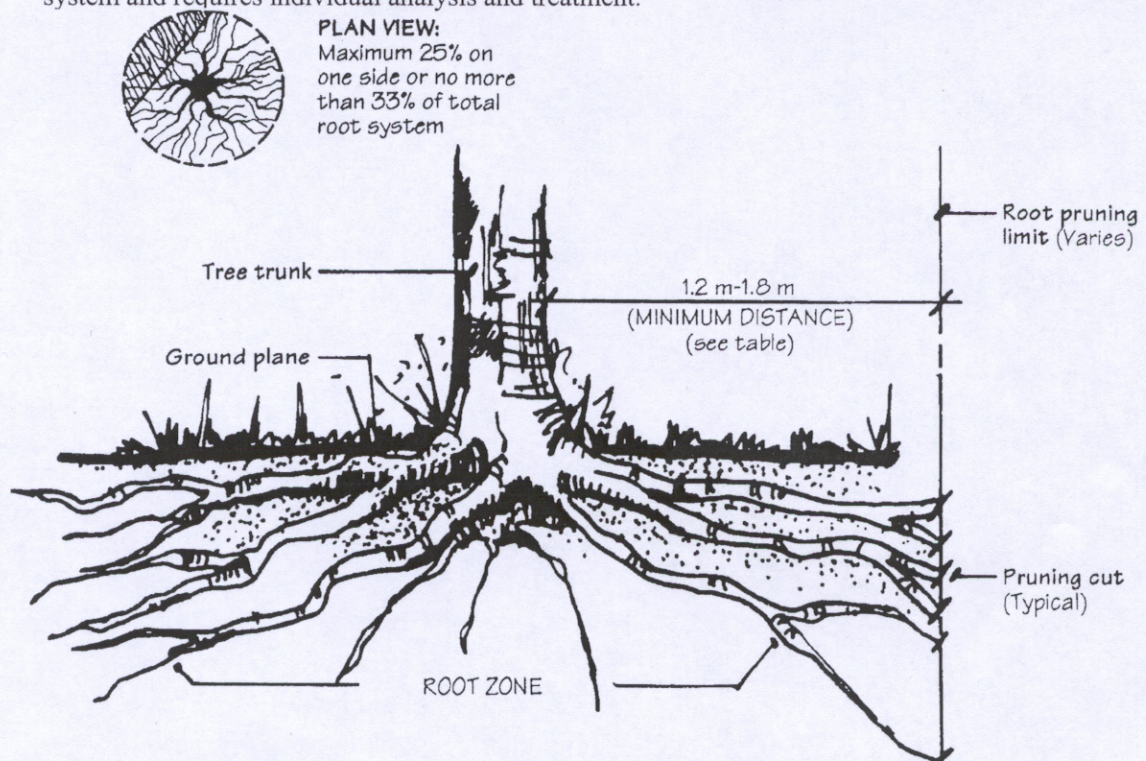
Root Pruning

Root pruning is the practice of removing a portion of a tree's root system. As a first alternative, adding soil and reseeded is recommended to prevent the removal of key structural roots. However, root pruning sometimes becomes necessary in order to accommodate landscape features such as walks, retaining walls, drains or utilities. Root pruning may also be necessary when existing roots begin to interfere with the routine maintenance of surrounding lawns and shrub beds. For example, it would be better to remove a surface root which is continually wounded by a lawn mower blade rather than to increase potential for disease through open wounds in the root. Other reasons for root pruning may include transplanting and undesirable growth patterns.

The circumstances necessitating root pruning vary, but the objective of tree root pruning is always to ensure the health, stability and longevity of the tree. Therefore, major root pruning should only be done by, or in consultation with, an Arborist or other qualified landscape professional.

The following general guidelines for root pruning are provided for your convenience:

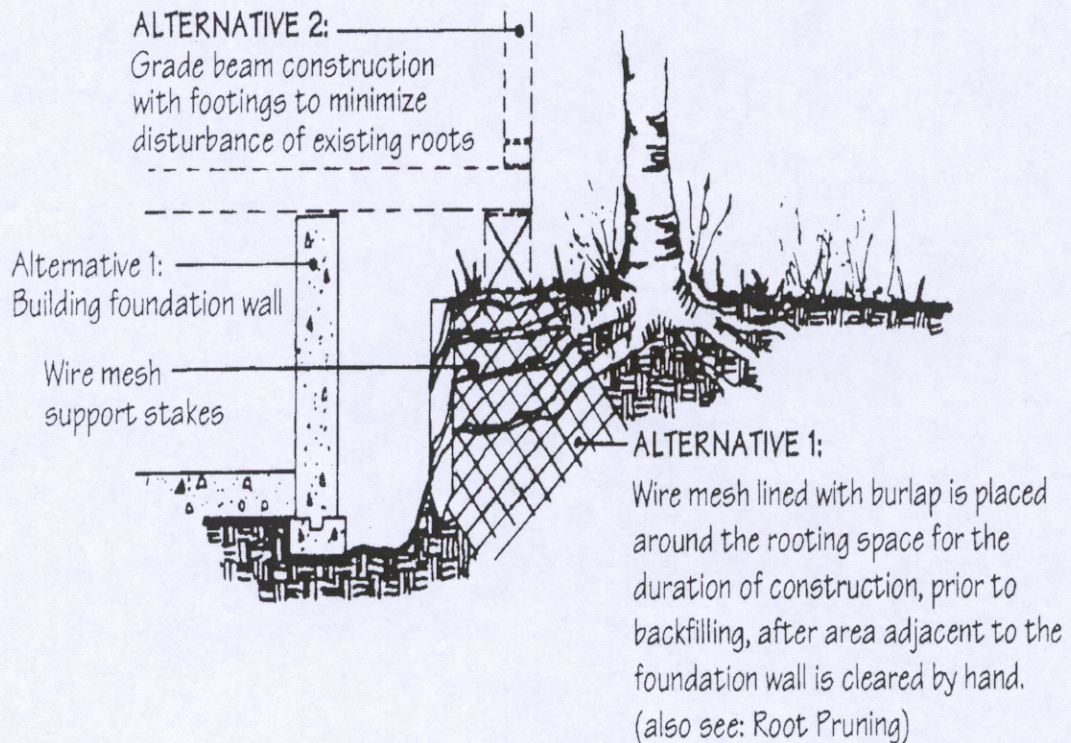
- A tree should be root pruned only if the problem can be solved by removing less than 33 percent of the tree's roots, with no more than 25 percent from one side.
- For trees 30 cm in diameter and less, roots should not be removed within 1.2 m of the outer edge of the tree base. Trees with diameters over 30 cm should be allowed an additional 30 cm for every extra 7.5 cm of trunk diameter measured at a point 1.4 m above ground. For example, a tree with a 37.5 cm diameter trunk measured 1.4 m above the ground would require a minimum 1.55 m allowance around it.
- Cut roots cleanly after excavation with clean, sharp tools, to promote callous formation and wound closure. Wounds may be dressed with a tree rooting hormone compound that is available at garden centres.
- Backfill the excavation as soon as possible and water the soil around roots to avoid leaving air pockets.
- Mix soil improvements (e.g. peat moss) with fill soil to promote new root growth, especially if the existing soil is of poor quality. The soil quality can be easily determined by using a basic soil testing kit which is readily available at most nursery supply stores. Do not add fertilizers until improved tree growth is noticed, generally after 6 to 8 weeks during a growing season. Soil testing will better determine soil deficiencies and additional amendment requirements.
- Surface roots which interfere with other elements in the landscape can be removed under the supervision of an Arborist or other qualified landscape professional. Each tree has a different root system and requires individual analysis and treatment.



Excavation Adjacent to Retained Trees

In cases where proposed building excavation will affect existing trees to be retained, special attention should be given to proper root pruning and care for the remaining root system. Alternatively, a post and beam structure for the building may be considered to retain the rooting space (see diagram, Alternative 2). It is important to note that most roots are located in the top 60 cm of soil, with the major roots for water and nutrients absorption in the top 20 to 30 cm.

- In order to minimize root damage, soil erosion and tree disturbance, a temporary root curtain² should be wrapped around the root zone to retain and protect the exposed area. The root curtain should consist of heavy wire mesh or similar material lined with burlap (to retain moisture) and supported by posts. Backfill should be used as required to ensure that none of the roots are left exposed. Only hand excavation should be used in the root zone area.
- It is critical that the root zone system (or roots of the tree) be kept moist by watering as required throughout the construction process.
- Once the foundation is ready to be backfilled, the root curtain can be carefully removed. It is of utmost importance that the area surrounding the tree be kept free of building materials, as well as pedestrian and vehicular traffic, to avoid soil compaction.
- Tunnelling rather than trenching should be considered when installing underground utilities and drainage lines to minimize damage to existing trees. This technique entails boring a hole under or through the root system with minimum disturbance. To ensure that the work is undertaken in the appropriate manner, a certified Arborist or similarly qualified landscape professional should be consulted if the applicant decides to use this technique.



² A root curtain is a material such as wire mesh that helps retain the roots and soil in place.