Q. I am planning some new construction that will cause fill to be placed over some tree roots. What precautions should I take to protect these trees?

A. First, consider the tree's size, age, vigor, species and location, and whether it is economically worth saving at all. Once the decision has been made to save the tree, then limit the fill over the rootzone within the dripline of the tree (where 75% of the roots occur) to 6 in. or less of good topsoil. This small amount of fill will not usually inhibit water or air movement to the roots.

Paramount in protecting a tree is to provide near normal air exchange to tree roots. If the fill is to exceed 6 in. but not more than 12 in., add 6 in. of coarse gravel over the original grade capped with 6 in. of good topsoil. If the fill is more than 12 in. but not to exceed 24 in., then cover original grade with 6-12 in. of coarse gravel capped with topsoil and build a well around the trunk that is about three feet from the trunk on all sides and extends down to the original grade. If fill will exceed 24 in., then the well should be made, drain tile installed, coarse gravel blanket used, and capped with topsoil.

During construction, even where no grade change is scheduled, damage can occur to trees by soil compaction, harmful chemicals or solutions, wounds or fires. To prevent such damage restrict or confine traffic in wooded areas, prevent storage of harmful materials or supplies in the vicinity of desirable trees.

Many designers require that fences or barricades be erected around trees or groups of trees that cover at least a 20-25 ft. area. When removed trees and debris are to be burned, thought must be given to locate and confine burning to areas so heat, smoke and ashes do not injure remaining plants. Also, burning areas should be constantly tended and there should be access to fire fighting vehicles if an accident occurs.

Another consideration during construction in wooded areas is how will the construction effect the micro-environment of that site and what will subsequently effect the remaining plants. Removal of large numbers of trees exposes other trees to increased amounts of sunlight, wind, drier soils perhaps, etc. These anticipated effects could influence the choice of species, size, age, and vigor of vegetation to remain. Such decisions may require the expertise of an arborist, forester, horticulturist, or nurseryman.