

# BUILDING WITH TREES

## Trees and Development Can Be Compatible

James R. Fazio

Some of the nation's most picturesque scenery can be found at the urban fringe. Country lanes, grand houses and once prosperous farms have left us with a heritage of friendly old trees and a wealth of understory vegetation of all ages. Scattered in open fields, along fence rows or gathered in woodlands rich with wildlife, these are the familiar sights of our childhood, the backdrop of our lives. And they are vanishing before the onslaught of bulldozers at the rate of some 800,000 acres each year.

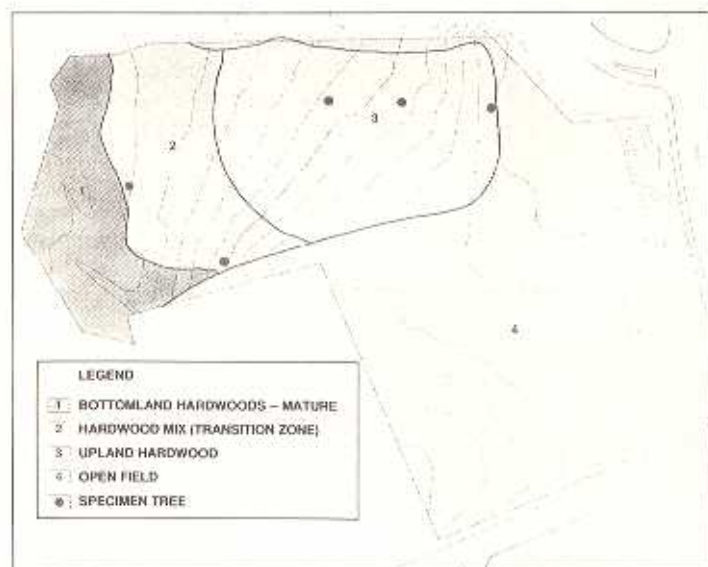
Must the growth of our towns and cities inevitably doom the trees

and forests that link us to our past and enrich the quality of our environment? Progressive developers from Maryland to Seattle are saying, "No!" Some see altruistic value in protecting existing trees. Others see faster sales and more profit in developed property that is softened with the grace of tall trees. Whatever the reason, one such developer summed up the challenge and opportunity with a twist on Thoreau's words. He said that no longer "in wildness is the preservation of the world," but rather that "in civilization is the preservation of wildness."

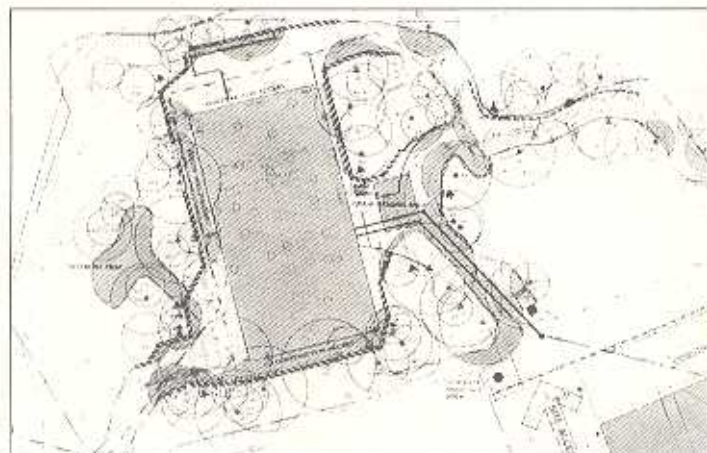
## A System and Techniques That Work

When an enlightened developer or individual property owner wants to save trees during construction, or when it is demanded by the community through the force of ordinances, an array of techniques are available to do the job. On large tracts, the services of an urban forestry consultant will be necessary, being certain that it is someone with experience in construction projects. This person becomes the owner's representative and is often referred to as the project forester. On individual lots, campuses or other single-building projects, methods can be modified and implemented by anyone with an interest and willingness to learn. Here is one method that has proven effective.

**1** A *tree stand delineation* is done as part of the initial planning process. The location of groups of trees, open fields, drainages and other natural features can then help guide the placement of future buildings and roads. This is the start of working *with* nature, not against it.



**2** A *tree survey* locates on a map specific trees and groups of trees worth saving. Planned buildings, roads and utility trenches are then superimposed on the map. Each circle approximates the root zone essential to the continued health of a tree. Potential impacts can now be clearly foreseen.



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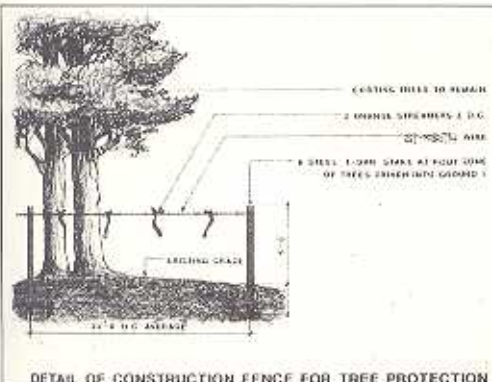
### Tree Protection Action Key

Tree No.	DBH (in.)	Species	Selective Pruning	Fertilize	Root Prune	Mulch	Aeration	Comments
11	27	Hickory	X		X			Shorten grading to tree
12	17	Black Gum	(X)	(X)	(X)			To remain pending site review
22	16	Maple	X	X	X			
29	24	Red Oak	(X)	(X)	(X)	(X)		To remain pending site review
30	20	White Oak	X		X			Retaining wall

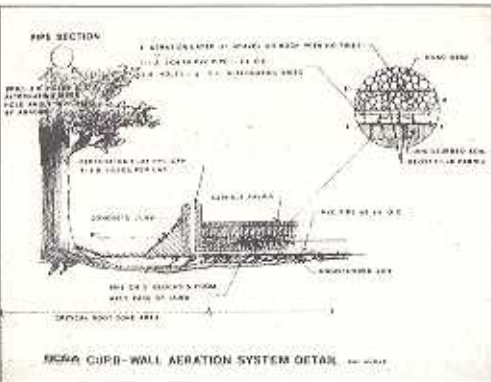
**3** Using the combined map, a *tree conservation plan* is developed. Trees facing severe impacts can be scheduled for transplanting or removal. For the others, treatments are prescribed or changes in construction design are recommended. These are noted in the *action key*. When the owner agrees, map and key become part of the project's official construction documents. Bids and actual work must then be in accordance with these tree-saving conditions.

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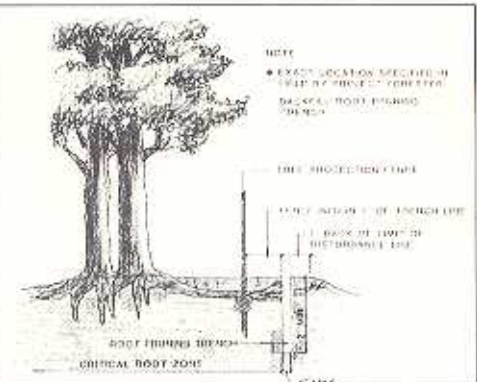




DETAIL OF CONSTRUCTION FENCE FOR TREE PROTECTION



ROOT CURB-WALL AERATION SYSTEM DETAIL



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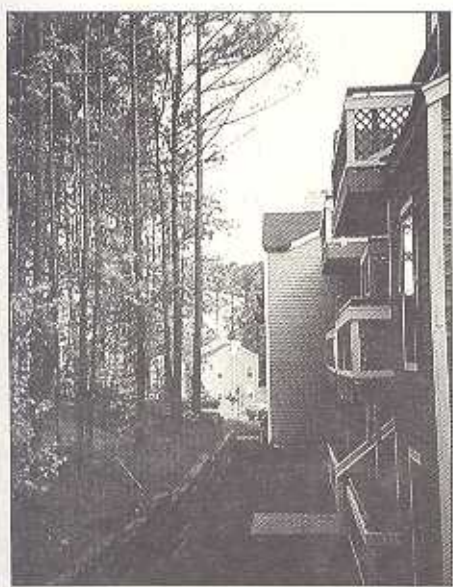
**4** The project forester provides detailed drawings that help subcontractors install protective fences around trees to be saved, place aeration systems under future roads or fill areas, and conduct root pruning where the destruction of part of a tree's root system is unavoidable.

**5** At all steps in the process, the project forester works as a team with planners, architects, engineers and construction managers. The forester must often work out design compromises and educate others about the physiological needs of trees. On site, the project forester places signs at protected zones and designated parking or storage areas, and makes sure the tree conservation plan is carried out. In this photo, an aeration system is being prepared to take oxygen to roots under a future road.



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**When You Do It Right...**

The result of building with existing trees adds value to developed property and enriches the community. This can mean faster sales or rentals, higher income for the developer, greater resale value and more tax revenue for the municipality. It also means energy saving from shade in summer and wind protection in winter, historic preservation and a more beautiful environment in which to live or work.

**When You Don't**

Beware of building around trees without using techniques that protect roots. The penalty for carelessness or not using expert advice is that a new homeowner may pay twice — once for the added value of an existing tree, then for removal costs when the tree dies from construction damage two or more years later.

**What You Can Do**

- Say "no" to the practice of stripping the trees from land, building, then landscaping. During the planning, rezoning or permit process, let it be known that there is a better way.
- Write to The National Arbor Day Foundation for a free copy of *Tree City USA Bulletin No. 7* and 20, "How to Save Trees During Construction" and "A Systematic Approach to Building With Trees."

- Check the coupon on page 2 for information about a Building With Trees Workshop near you. If you cannot participate, urge others to attend and supply them with this information. Suggest it to local developers, builders, real estate personnel, architects and community planners or other civic leaders.