



## LOUISIANA DEPARTMENT OF AGRICULTURE & FORESTRY

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# PROTECTING TREES DURING CONSTRUCTION

Note No. 5

Most homeowners know and enjoy the shade and beauty trees provide, but many of us do not realize that trees also provide significant economic benefits. Shade trees can substantially reduce energy requirements for heating and cooling, and trees may add an average 5% to 10% to the real estate value of a home.

Trees and building developments can be compatible, but trees must be respected as living, breathing organisms if they are to survive and thrive during and after construction.

The number one, and most deadly, problem of shade trees is construction damage. Construction activities that can mean injury and death to shade trees include:

Root and trunk damage occurring during lot-clearing operations.

Smothered roots caused by soil compaction from heavy equipment and/or fill dirt.

Severed roots resulting from slab and driveway construction.

Roots severed in underground utility installations or grade changes.

It is surprising to many homeowners and builders that the majority of the vital feeder roots of trees are located in the top foot of soil and that they extend even beyond the drip line of trees' branches.

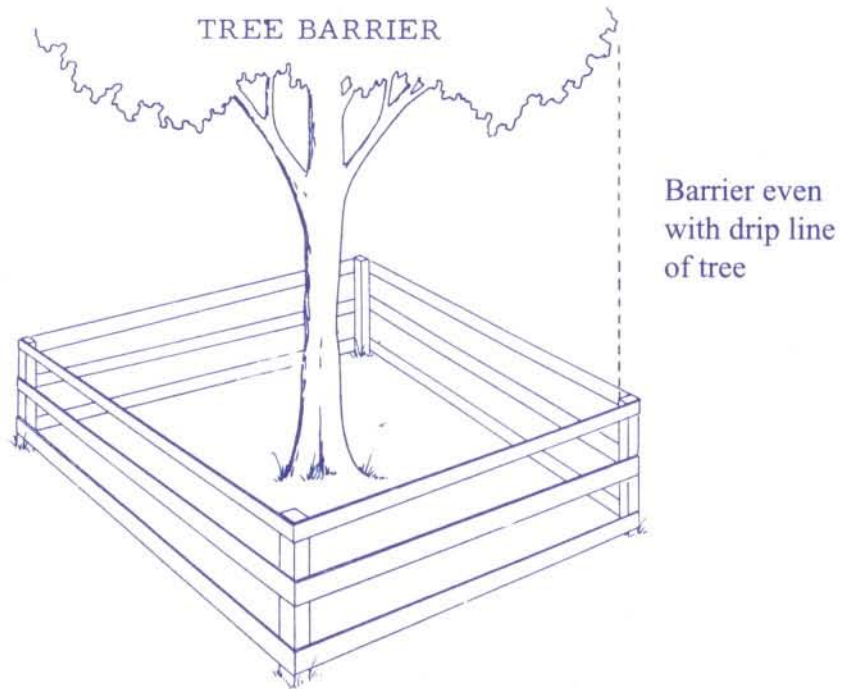
If you are building, there are several specific steps you must take if you want to ensure the health, or very life, of your trees.

1. First, foremost and most difficult, you must be firm with your builder. Even then, supervise progress closely.

2. Insist on proper care during lot clearing. Construct fences or barricades around valuable trees to prevent damage. It may be necessary to clear some of the lot by hand and use heavier equipment to clear only that portion that will be directly involved in the house site. Maintain the protection fence around the tree save area throughout the construction. (See Figure 1).

FIGURE 1

Simple barrier to protect tree and root system from mechanical injury



3. Have the lot cleared during dry weather because heavy equipment does more damage to roots when soils are wet.

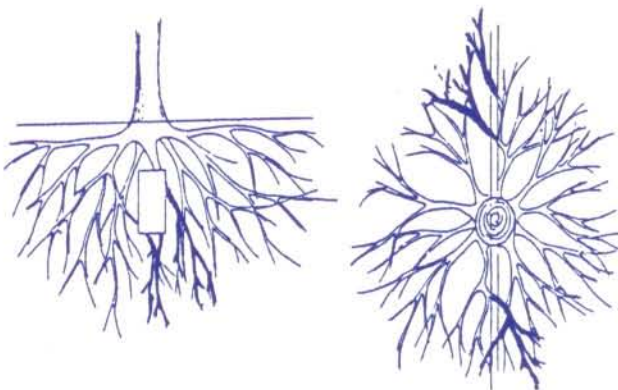
4. Confine access to and from construction site through one well marked corridor, preferable the driveway location.

5. Confine the location of underground utilities to areas away from the tree's roots. If it is necessary to pass close to a tree, insist that corridors be tunneled under major roots, rather than using trenches. Also put all utilities in one corridor if possible.

(Figures 2 and 3)

FIGURE 2

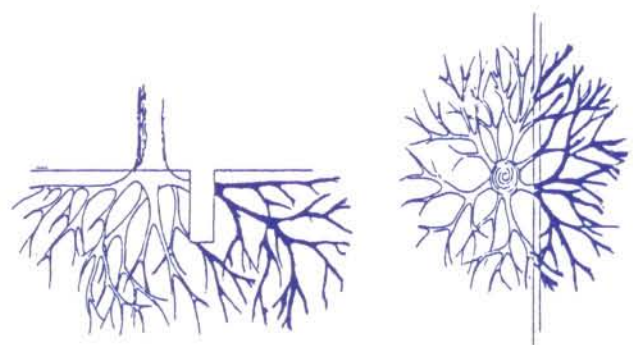
Right Utility Placement



Only a few roots are destroyed by tunneling under base of tree

FIGURE 3

Wrong Utility Placement

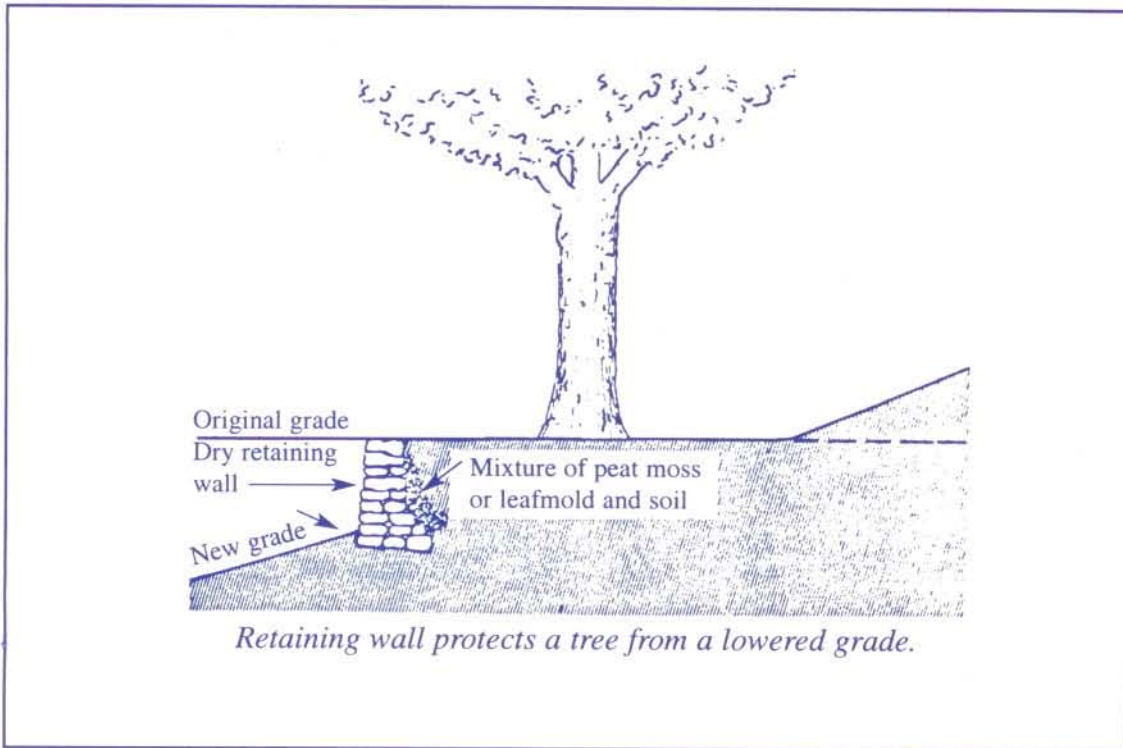


Roots are severed, as indicated in solid color, by digging trenches close to tree trunk.

Protecting Trees From Construction -- continued

6. Plan to use natural grades and drainage patterns where possible. If grade changes are necessary, use retaining walls to protect valuable trees. (Figure 4)

FIGURE 4



Some construction disturbance is inevitable in the root zone of trees close to the construction site. To protect the soil from compaction and the roots from damage a thick layer (8" - 10") of woodchip mulch can be placed over the soil in areas where construction activities occur. Put the wood chips in place before construction begins and maintain a thick layer until the activities are finished. The woodchips will gradually decompose, amending the soil as a natural fertilizer. This material can be left in place and incorporated into the overall landscape plan.

It is often necessary to cut some significant roots (1" diameter or greater) during excavations near tree protection areas. Roots should not be dug up or pulled up by mechanical digging equipment. This can cause unnecessary damage to the root system. Roots that must be removed should be cut clean with a lopper or pruning saw. Exposed roots should not be allowed to dry out and should be protected until they can be covered with soil. Do not use heavy clay fill material. Professional arborists have been successful in promoting proper regrowth of roots by using organic soil amendments. Contact a licensed arborist for help.

7. Consider the use of pervious manufactured materials such as Turfstone in the root zone of important trees when constructing driveways, walks, patios, etc. Natural materials, gravel, shell, etc., can also be used.

## Protecting Trees From Construction -- continued

The MOST IMPORTANT consideration is to incorporate tree-saving methods into the planning stages of construction even before the lot is cleared. Some new home seekers buy "spec" houses which are completed or near completion and thus have no input into house planning. Many times, a year or two later, trees begin to die a gradual death and require major expenditure for removal and, meantime, present a hazard. Additionally, you will have paid a higher initial price for the lot because it had the trees around it, and that portion of your investment is lost.

Look for symptoms of construction damages. Wounds to trunks, exposed or severed roots, and slabs too close or completely surrounding trees are obvious clues to future problems. Thinning and yellowing of foliage and die-back beginning at the branch tips of trees are more subtle symptoms of construction damage to roots. Many trees can be saved after construction with proper and timely care. Fertilization, watering and aeration of compacted soils are all good medicine for trees suffering construction stress. Other activities such as wound repair, dead limb removal and pruning to compensate for root loss are also desirable.

For further information on protecting your trees during construction, contact your nearest Office of Forestry representative.

## **OTHER URBAN FORESTRY NOTES AVAILABLE**

- Note No. 1 "Guidelines for Fertilizing Yard Trees"
- Note No. 2 "Pruning Shade Trees"
- Note No. 3 "Planting Instructions for Shade Trees"
- Note No. 4 "Landscaping the Home for Energy Conservation"
- Note No. 5 "Planting Trees During Construction"
- Note No. 6 "Additional Tips for Successful Shade Trees"

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