

Tree Protection Specifications for Construction Projects at the University of Louisville

Preface:

The University of Louisville is a designated *Tree Campus USA* as awarded by the National Arbor Day Foundation. Our urban forest is a prized asset to the University and the surrounding community. This official document is meant to provide detailed specifications to protect this asset during construction activities. A number of construction work procedures can be implemented to protect existing trees from unnecessary damage. Such procedures include planning the clearing, grubbing and demolition with tree protection in mind, root pruning before excavating near trees, tunneling under roots versus trenching through them and protecting the soil from surface compaction from construction equipment. If the contractor believes that any of these specifications below cannot be followed, they shall notify the Consulting Arborist, Landscape Architect or the Universities Grounds Superintendent before the project starts or as soon as the issue arises. Otherwise, the contractor agrees to follow all specifications below.

Specifications

- A. Before beginning work, the contractor is required to meet with the Consulting Arborist, Landscape Architect or University representative on site to review all work procedures, access routes, storage areas and tree protection measures.
- B. Temporary fencing must be installed around all existing trees noted to remain on construction plans in the site footprint. Fencing shall extend a distance of 1.25 feet per each inch of trunk diameter or 6 feet, whichever is greater. For example, a tree with a 12 inch trunk diameter shall be fenced 15 feet from the trunk (30 feet in diameter). This installation of fencing is the contractor's responsibility.
- C. Area within the tree protection fencing shall be mulched with shredded hardwood or wood chips to a depth of 4 inches. This will be provided by the University.
- D. Fencing must be installed prior to any equipment arrival on site. Work may not begin until fencing is installed.
- E. Fencing shall be galvanized chain link as specified below:
 - a. The minimum height for all temporary fencing shall be 4 feet.
 - b. The fencing shall be of galvanized 11-1/2 gage chain-link construction with a minimum of 1-5/8" O.D. tubular steel posts and top rails.
 - c. Surface mounted fence panels may be used with the approval of the owner and are to be adequately braced to resist wind and ice loading and shall be continuously connected to prevent access by the public.
 - d. Barbed wire shall not be used.
 - e. Plastic fencing and wood or metal stakes are acceptable but not preferred. If they are utilized, they must follow the minimum height requirements. If plastic fencing is used, it must be maintained on a weekly basis to retain the minimum height requirement. Erosion fencing is not acceptable.

- f. Signs shall be affixed to fencing that clearly state: "TREE PROTECTION ZONE. FENCING SHALL NOT BE MOVED OR DISTURBED." Signs shall be metal, plastic or plastic laminated paper. They can be affixed to the fencing by plastic wire tie or metal wire.
 - g. A sign must be placed every 12' with a minimum of two signs per fence.
- F. Construction trailers, traffic and storage areas must remain outside tree protection fencing areas at all times.
- G. All underground utilities and drain or irrigation lines shall be routed outside of the tree protection zone. If lines must traverse the protection area, they must be bored or tunneled under the tree.
- H. Any grubbing or clearing in the tree protection zone must be done by certified landscape personnel with the smallest mechanical equipment possible. Every precaution must be utilized to prevent the compaction of the trees drip-line rootzone.
- I. No materials, equipment, spoil, topsoil or waste or washout water may be deposited, stored or parked within the tree protection zone (fenced area).
- J. Any additional tree pruning required for clearance during construction must be performed by an ISA Certified Arborist and not by construction personnel.
- K. Any herbicides used under paving materials must be safe for use around trees and labeled for that use. Any pesticides used on site must be "tree-safe" and not easily transported by water.
- L. If injury does occur to any tree during construction, the contractor shall notify the Consulting Arborist, Landscape Architect or University representative within 6 hours. An ISA Certified Arborist must be employed to evaluate the damage. Results of the evaluation determines whether the tree should be removed, pruned or receive a treatment such as fertilization, irrigating or insect and disease control. The contractor will be responsible for all fees associated with employment of the ISA Certified Arborist as well as the cost of any remediation procedures. Please note: Timeliness is critical to tree health.
- M. Any grading, construction, demolition or any other work that is expected to impact tree roots must be monitored by the Consulting Arborist, Landscape Architect or University representative.
- N. Erosion control devices such as silt fencing, debris basins and water diversion structures shall be installed to prevent siltation and/or erosion within the tree protection zone.
- O. Before grading, pad preparation or excavation for foundations (footings, walls or trenching) trees impacted by these activities must be root pruned 1 foot outside of the tree protection zone by cutting all roots cleanly to a depth of no less than 24 inches. Roots shall be cut by:
 - a. Manually digging a trench and cutting exposed roots with a saw
 - b. Vibrating knife
 - c. Rock saw
 - d. Narrow trencher with sharp blades
 - e. Other approved root pruning equipment
- P. Any roots damaged during grading or construction shall be exposed to sound tissue and cut cleanly with a saw.

- Q. If temporary haul or access roads must pass over the root areas of trees to be retained in the construction plan, a road bed of 6 inches of mulch or gravel must be created to protect the soil. The road bed material should be replenished as necessary to maintain a 6 inch depth.
- R. Fencing can only be removed at the completion of the project after inspection by the Universities Grounds Superintendent, Landscape Architect or Consulting Arborist.
- S. Remedial procedures shall be the financial responsibility of the General Contractor if any of the provisions above are not followed. This may include: soil decompaction by air knife, fertilizer/fungicide/herbicide trunk injection and limb pruning. These processes will be carried out by a Certified Arborist of the Universities choice.

The urban forest at the University of Louisville is a valuable resource that must be protected during all construction activities. All questions about the ***Tree Protection Specifications*** can be forwarded to the Universities Superintendent of Grounds for clarification. It is the responsibility of all contractors to make sure all provisions in the above document are followed by their firm as well as any subcontractor working for them. Please help us keep one of our most prized assets, the campus forest, healthy and thriving!