

## Jamie King, Urban Forest Manager and University Arborist

VT Facilities Department  
Sterrett Center, room 38C  
(540) 231-3718

# Virginia Tech Tree Protection Standards

## Tree, Plant, and Soil Protection During Construction

Tree protection fencing is required for all trees within construction limit fencing or as noted on plans for projects where no construction limit fencing is specified.

Tree Protection fencing shall be installed around existing trees noted to remain on plans within the fenced area. Fencing shall be installed and maintained at a distance from the trunk equal to 1.5-feet per each inch of trunk diameter as measured at 4.5-feet above grade (DBH) or 10-feet, whichever is greater. For example, a tree with a 12-inch trunk diameter shall be fenced 18-feet from the trunk (36-feet diameter). Please see TPZ details here. Alternative shapes and sizes of TPZs may be considered on sites with size/location constraints and must be permitted by the Urban Forestry Team.

Sites used for material laydown, equipment transport, and construction shall be planned to avoid conflicts with tree crowns. The Urban Forestry Team may permit pruning of small branches and minimal reduction cuts to increase clearance when conflict is unavoidable.

All work occurring within critical root zones of campus tree assets that involves excavation or soil disturbances, root cutting, and grade changes shall be planned during the preliminary design phase and supervised by the Urban Forestry Team who will develop a root pruning or tree preservation plan that must be completed before root damaging activities begin. Non-invasive techniques (e.g., horizontal boring, air spade excavation, and hydro-vac excavation) shall be considered before trenching, grading, and excavating or other soil disturbances are planned within the critical root zone of campus tree assets.

Fencing shall be installed prior to any equipment arrival on the site. Work may not begin until fencing is installed.

Fencing shall be galvanized chain link, 4-feet minimum height. Plastic fencing and wood stakes/T-posts, or snow fencing are not acceptable.

Fencing shall be maintained for the duration of the project and shall not be removed without the Urban Forestry Team's permission.

A layer of wood chip mulch, approximately 5 inches thick, shall be spread over the critical root zone. Special care shall be taken to avoid mulch placement on trunk flare. Any areas outside of the critical root zone that may experience vehicle traffic and compaction shall be mulched in the same manner, to a depth of 8 to 12 inches thick.

No material storage, vehicles, or any other activity shall occur at any time within tree protection fencing.

Contractors shall pay for tree asset appraisal, replacement, and soil compaction remediation expenses, as directed by the Urban Forestry Team if there is any incursion into tree protection zones.

Sites at the project that are designed for landscape use and tree planting should not be used for material laydown and equipment transport. In the event that these planting sites are impacted by construction/equipment transport/material laydown, compaction shall be remediated with the Soil Profile Rebuilding Technique or another process approved by the Office of University Planning. Please see Soil Profile Rebuilding specifications here.

## **Preservation During Design Phase**

Consult with the Urban Forestry Team to determine what trees may require tree preservation zones; construction, renovation, and development shall not occur within specified tree preservation zones.

Sites at the project that are designed for tree planting and other landscape use should not be used for material laydown and equipment transport.

On the site survey map, identify all trees that may be impacted (above and below ground) by construction equipment, cut and fill activities, utility corridors, proposed walks and roads, and potential construction staging areas.

NOTE: if trees are grouped in a forest or woodlot, then only the location of the woodlot and any trees of 15 inches or greater diameter as measured at 4.5-feet above grade (DBH) should be identified.

### **Low Priority for Preservation**

- Small trees (less than 5 inches DBH) that will likely be impacted by construction activities.
- Larger trees with relatively low landscape value. Examples include but are not limited to, trees with poor form, trees of undesirable species, or trees with inadequate space to accommodate current or future growth even if the site is ameliorated, as determined by the Urban Forestry Team.

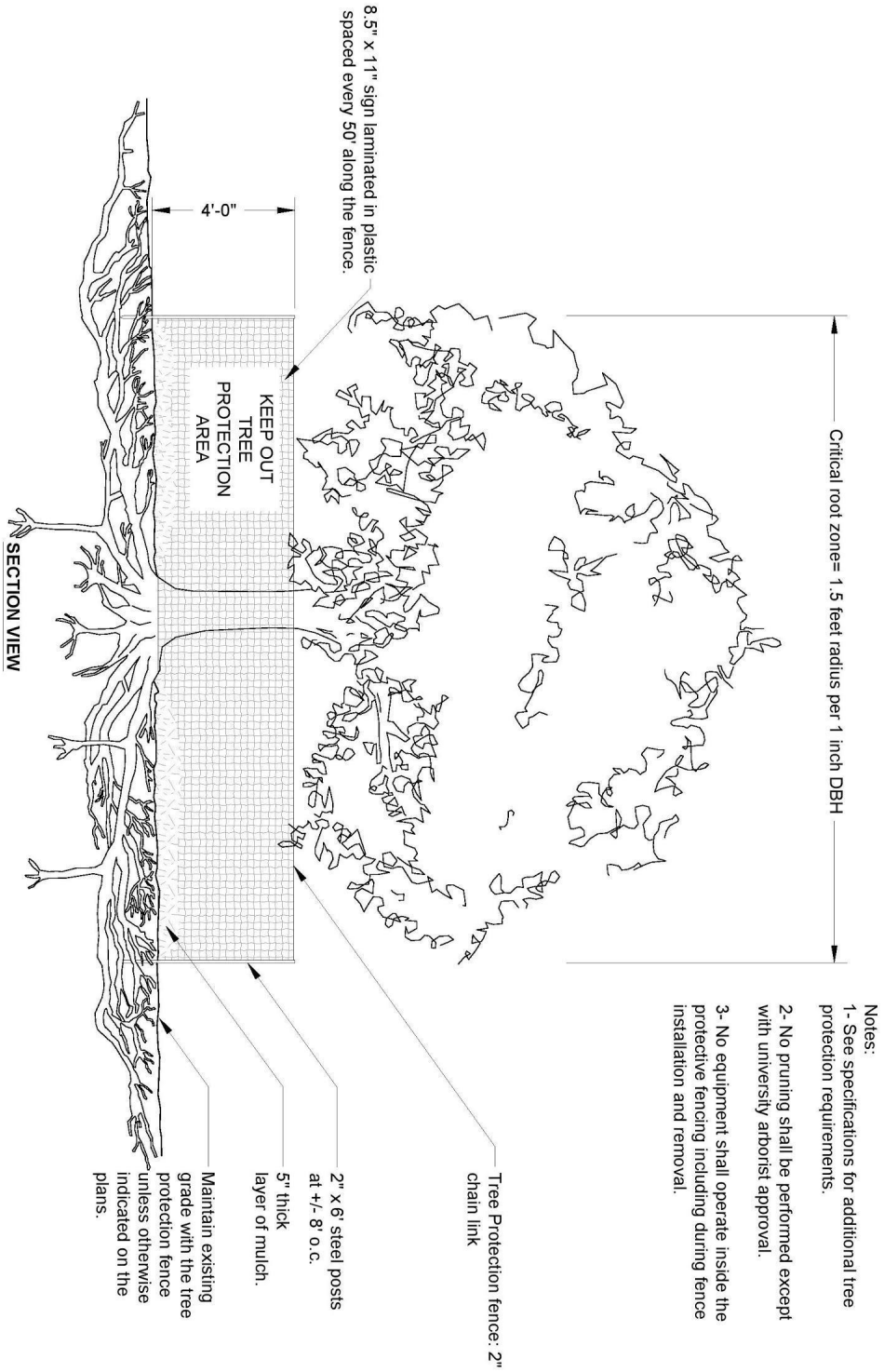
## High Priority for Preservation

- Historic, rare, notably old, and ecologically or culturally important trees are mapped on the Virginia Tech Legacy Tree Inventory. These trees are the highest priority for preservation and shall be protected throughout all projects unless written authorization from the VP of CPIF is coordinated by the Urban Forestry Team.
- Larger trees (greater than 5 inches DBH) of desirable species with fair/good form, good health, and room to continue to grow, as determined by the Urban Forestry Team.
- Trees that were planted as memorials, commencement trees, and commemorative trees.

## Avoid locating the general construction site around tree assets where possible by:

- Planning all construction activities including new utility corridors, staging areas, new sidewalks, and new roads for a minimum clearance of 25 feet away from the base of trees, and not within the critical root zone, as determined by the Urban Forestry Team. Greater distances are desirable.
- High priority trees should receive more consideration than low priority trees in planning corridors, staging areas, walks, and roads.

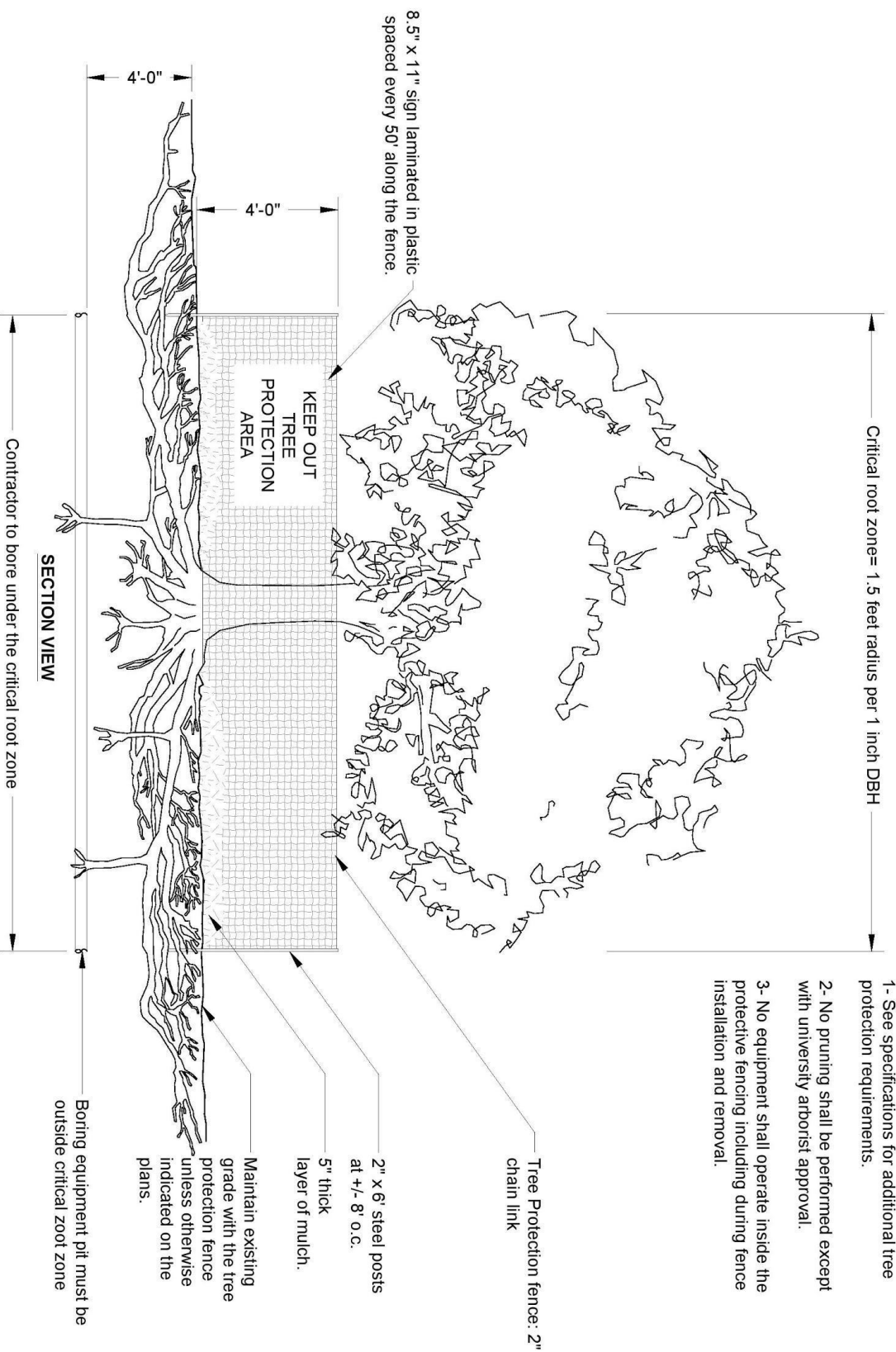
# Tree Protection Details



S-X

TREE PROTECTION





- Notes:
- 1- See specifications for additional tree protection requirements.
  - 2- No pruning shall be performed except with university arborist approval.
  - 3- No equipment shall operate inside the protective fencing including during fence installation and removal.

**TREE PROTECTION - BORING UNDER CROWN DRIFLINE**

**S-X**



Contractor to bore under the critical root zone

Boring equipment pit must be outside critical root zone

SECTION VIEW

Tree Protection fence: 2" chain link

2" x 6" steel posts at +/- 8' o.c.

5" thick layer of mulch.

Maintain existing grade with the tree protection fence unless otherwise indicated on the plans.