

Utility Line Arboreta

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Significance to Industry: One of the major projects of Virginia's Municipal Tree Restoration Project (MTRP) is the establishment of utility line arboreta in multiple state locations as a way to evaluate and showcase utility compatible trees. As more appropriately-sized trees are identified it is hoped that Virginia nurseries will begin to produce sufficient quantities so that municipalities, utility companies, landscape professionals, and citizens wishing to replace trees that are potentially hazardous, due to their utility-incompatible size or their general condition, will find adequate planting stock available. Participation in similar tree restoration efforts can provide niche markets and contract growing opportunities for nurseries across the United States.

Nature of Work: In the United States a major conflict exists between overhead utility lines and inappropriately tall trees planted in or near line easements. Trees can cause power outages by direct contact with lines, or as they or their branches fall on the lines (1). Each year in excess of \$2 billion dollars is spent for line-clearance pruning and whole tree and tree debris removal. Unfortunately, line clearance is a maintenance task that must be frequently repeated, usually on three to five-year cycles depending on line location and tree height and growth rate.

In 1994 a utility line arboretum was started at Virginia Tech's Hampton Roads Agricultural Research and Extension Center (HRAREC) in Virginia Beach, to evaluate and showcase more overhead utility compatible small trees and large shrubs (4). To date over 150 species and cultivars have been planted. Trees from this ongoing evaluation that have satisfied the desired height (generally maturing no more than 35') and other predetermined street tree criteria (low maintenance, pest tolerant, etc.) have been listed in several publications (2,3,5).

Results and Discussion: When Virginia's MTRP was started in 2000 it was decided that one of the best ways to draw attention to the tree-overhead utility line conflict would be to establish utility line arboreta in multiple state locations. While the HRAREC utility line arboretum is a good model to follow in areas where no overhead utility lines already exist, or where uncharged lines are desired so that pruning and other demonstrations or activities can be safely held, it was determined that other types of utility line arboreta should be designed.

Two other models for utility line arboreta have since been developed. One involves using existing overhead (charged) utility lines along frequently traveled streets. Existing trees that have overgrown the lines and require frequent line clearance pruning, or that have been determined to be hazard trees, are removed and replaced with utility-compatible trees. The first utility line arboretum of this type was started in 2002 in the city of Abingdon, Virginia. Thirty hazard trees along Abingdon's two main streets were

removed and 80 new trees planted. Designated utility line arboreta of this type are currently being developed in at least eight other Virginia cities.

The third utility line arboretum model involves using existing lines (including high tension lines) where no trees are currently growing. The first of this type of arboretum was started this year at the Chesapeake Arboretum in Chesapeake, Virginia, using overhead lines that parallel a major road bordering the Arboretum.

All Virginia utility line arboreta are designated as such with common signage bearing the MTRP logo and slogan (Look Up Virginia). The MTRP goal (seeking to reduce the tree/utility conflict by educating...influencing...encouraging people to recognize the conflict, remove problematic tree/utility situations, and plant appropriately) is listed on the sign along with the utility line arboretum's development partners. HRAREC Utility Line Arboreta partners are Virginia Tech (arboretum site and maintenance); Dominion Virginia Power (the local utility company that erected the poles and utility lines); the Virginia Department of Forestry, the Virginia Agricultural Council, and the Virginia Nursery and Landscape Association (grant sources for tree purchases); and J. Frank Schmidt & Son Company (nursery donor of numerous trademarked Utilitrees).

The HRAREC Utility Line Arboretum is used not only to evaluate and showcase utility-compatible trees, but for numerous other activities. Tidewater Community College's Horticulture Program uses it for woody plant identification courses. Virginia Cooperative Extension uses it for Master Gardener and Tree Steward woody plant identification and

pruning instruction. The Norfolk Botanical Garden's Arborist Training Program uses it for tree planting and pruning practicum.

Because one inappropriately tall tree, to serve as height reference, was planted under each of the two spans of lines at the HRAREC utility line arboretum, when these two trees overgrow the lines a local line clearance company uses them for demonstrations of correct utility line clearance pruning during HRAREC industry field days.

More details of how utility line arboreta can be developed, as well as location pictures and expanded lists of compatible trees, will soon be available on the MTRP website – www.utilityfriendlytrees.com.

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