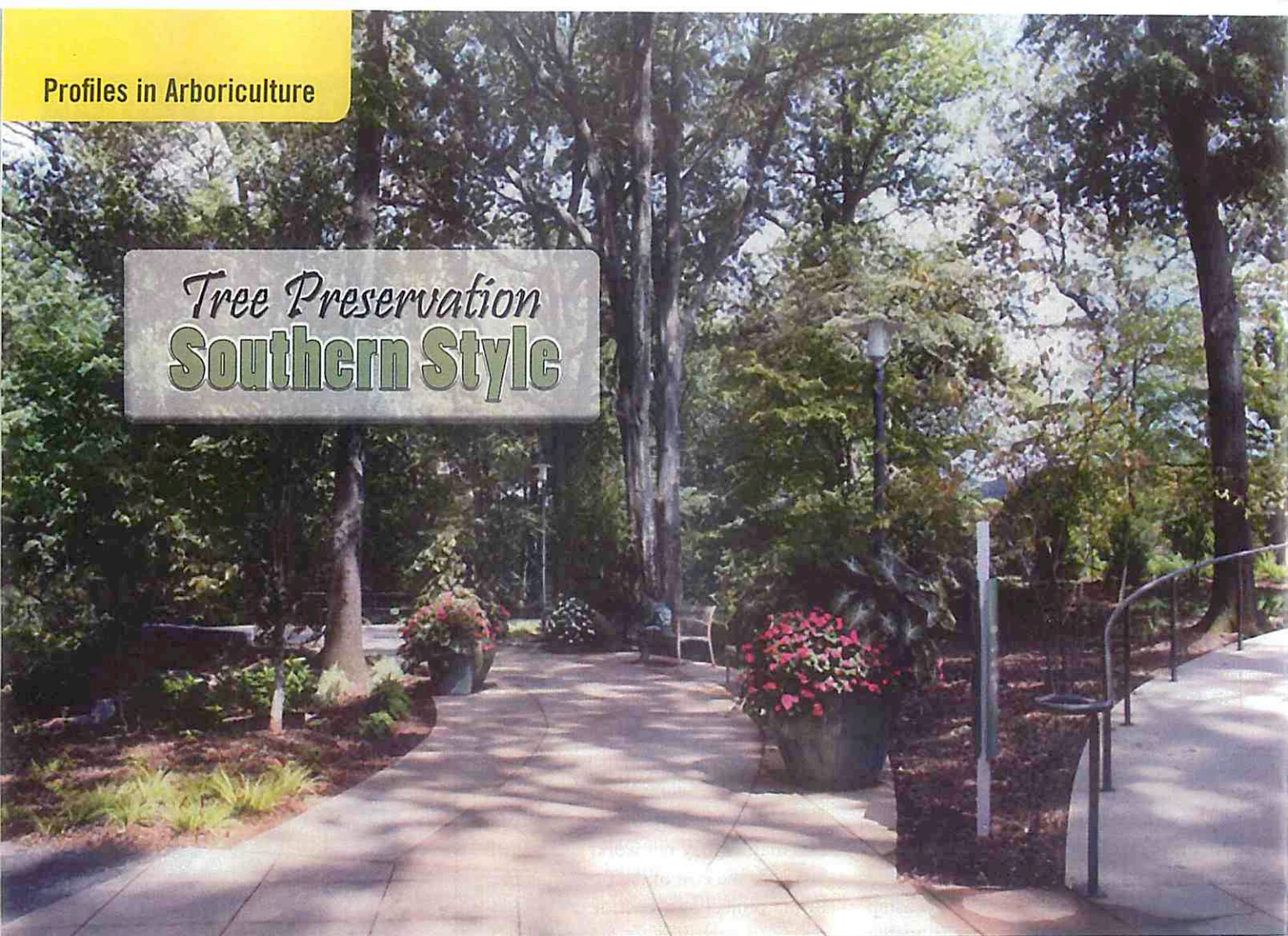


## Tree Preservation Southern Style



Visitors to the Promenade Walkway in the Atlanta Botanical Gardens' Southern Seasons Garden would have no idea about the amount of work involved in preserving its trees.

By Keith Pancake

The Atlanta Botanical Gardens are several acres of native mixed hardwoods located in the heart of this major metropolis. As visitors enter, they are swept into a new phase known as the Southern Seasons Garden. This world-class addition opened last April already known for year-round blossoms from a variety of plant and tree species, including camellia, hydrangea and trillium. These understory gems are protected by what the Gardens refers to as a “cathedral” of towering oaks, beeches and tulip poplars that are 80 to 100 years old. In addition to this spectacular example of Southeast gardening, visitors can enjoy constantly changing art exhibits on display under these trees.

When the Gardens recently decided to expand visitors' ability to enjoy nature, their number one goal was a commitment to the trees. In order to achieve this goal

they looked no further than Atlanta's own Arborguard Tree Specialists. Arborguard, a TCIA member since 1981 and accredited since 2007 (the first company in Georgia to achieve that credential), was selected because of work they previously performed for the Botanical Gardens and their

reputation for quality service in the region. Spence Rosenfeld, Arborguard president and former TCIA Board member, knew the project would be challenging and would require creative solutions to protect the trees in a very crowded construction site. Along with the Southern Seasons Garden



This root bridge protects the trees along a sidewalk entrance. Arborguard also used a compactible fill material over root systems for walkway areas to protect the soil profile, so it retains the ability to exchange gas or water.

project there were a new parking deck and visitor center under construction; this meant a flood of workers and equipment. "Softening the construction impact and compaction were really big concerns," Rosenfeld says.

According to Rosenfeld, the planning and coordination process took the better part of a year, and the conceptual design took even longer. Arboguard was fortunate to be able to add input from the beginning. They met with the construction team and landscape architects many times to help design specifications that incorporated best management practices for protecting trees. "We were able to introduce some great concepts, such as root bridges, into the design that really made a positive effect," Rosenfeld explains.

Some of the biggest changes to the plan were related to the walkways and road grades, not making cuts too deep or applying to much fill. Arboguard used a product called Stalite that is a compactible fill material. It allows fill to be placed over a root system and compacted for a road or walkway bed without damaging the soil profile, so that it retains the ability to exchange gas or water. Numerous pathways had to be created throughout the Gardens to meet ADA (Americans with Disabilities Act) standards using mulch and also asphalt on grade. A combination of Stalite over geotextile fabric, or a commercial landscape mix that included



*The cistern, at right, became part of the drainage installed during the project, shown above. All images courtesy of Arboguard Tree Specialists.*

Stalite, was used to protect and preserve the root zones as these paths were built.

To manage all of the foot and equipment traffic, Arboguard created corridors for travel. As many as 100 Altumnats ground protection pads were used to protect the root zones, and branches were constantly being tied back to allow passage of larger equipment through tight areas. Concrete for paths was delivered into those really tight areas by a remote controlled concrete buggy that could deliver its payload into



the forest with much less impact than a traditional concrete truck. Machines with tracks were preferred to those with tires, as tracks spread the machines weight out over a larger area, making a shallower footprint.

Also very important was communication with the equipment operators. Rosenfeld says this became quite difficult as the project came to a close and people began to rush. "It was a challenge to enforce our protection measures as everyone panicked during the three weeks leading up to the grand opening. We became the tree police," he recounts, adding, "In the end, everything worked out and the job was well done."

Arboguard used an Air-spade soil excavation tool in conjunction with precision root pruning to prepare the root zones for the installation of new irrigation and utility lines. One of the neatest things they did during the year-long project, Rosenfeld says, was "using the Air-spade to tunnel under a 30-inch root flare of a tree in the heart of the project to install a major utility line, in essence saving a large specimen tree." The air excavation tool was also used



*Altumnats ground protection pads were used to protect the root zones as much as possible, as shown above.*

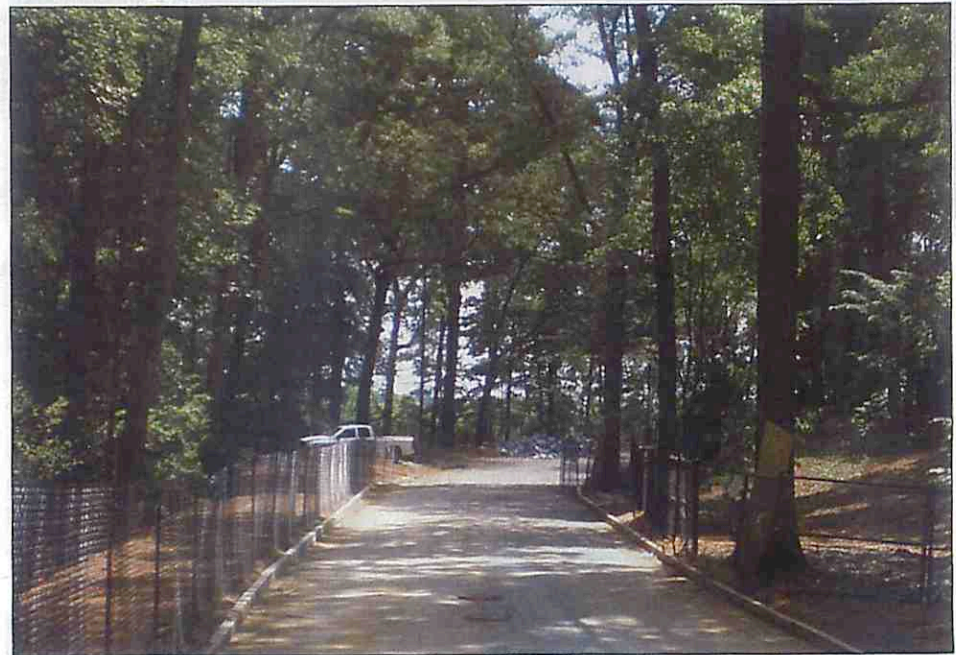


Arboguard used an Air-spade soil excavation tool in conjunction with precision root pruning to prepare the root zones for the installation of new irrigation and utility lines.

to expose and prune root systems of mature trees in preparation for the installation of camellias.




Protective fencing was going up around the trees along a roadway during early construction, above, and was still in place nearing the end of the job, below.




In explaining how crews remained motivated to stay safe and productive on a long project, Rosenfeld says, "we were honored and privileged to be a part of a great vision and surrounded by such a positive atmosphere." The crews were divided up by specialty, they worked hard with zero accidents, and they had fun, he says. Jonathan McNeil, CTSP and director of operations for Arboguard, and arborist Brendan Gill, CTSP, did a great job leading weekly and special needs safety meetings. Rosenfeld says he is "still thrilled when I think about

the job everyone did and the outcome; safety was such a challenge with all of the people and construction equipment in such a tight space."


For the climbers on the crew, it was a dream job: mature hardwood pruning, especially the 52-inch dbh tulip poplar that was pruned to make room for an upcoming project. More than 95 percent of the pruning was climbing work; a bucket truck could not get into the woods. There was some crane work, mainly removals on the periphery. When a crane was needed in the



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*Afterward, the trees and walkways blend into a seamless garden.*

forest for tree work or installation of some large pieces of art, it was a compact, 40-ton all terrain crane with articulating wheels.

The Southern Seasons Garden project was a success because of the Atlanta Botanical Gardens' commitment to trees and Arboguard's knowledge of and experience with the preservation of trees. In recognition of this, Arboguard in November was awarded the Georgia Urban Forestry Council's 2009 Outstanding Urban Arboriculture Award for their work on this project. In addition, they will also be working on the second phase of expansion at the Garden.

This second phase, known as the Canopy Walk, will be a 12-foot walkway suspended up to 40 feet in the air on steel cables connected to four large steel masts. It wanders through the canopy of the mature hardwoods to give visitors a unique perspective of the beauty of the trees. We are guessing air excavation will not play a big role with part two of this project. ⤴



*At right, before and after views of a curb wall, with the change in grade for the roadway evident.*