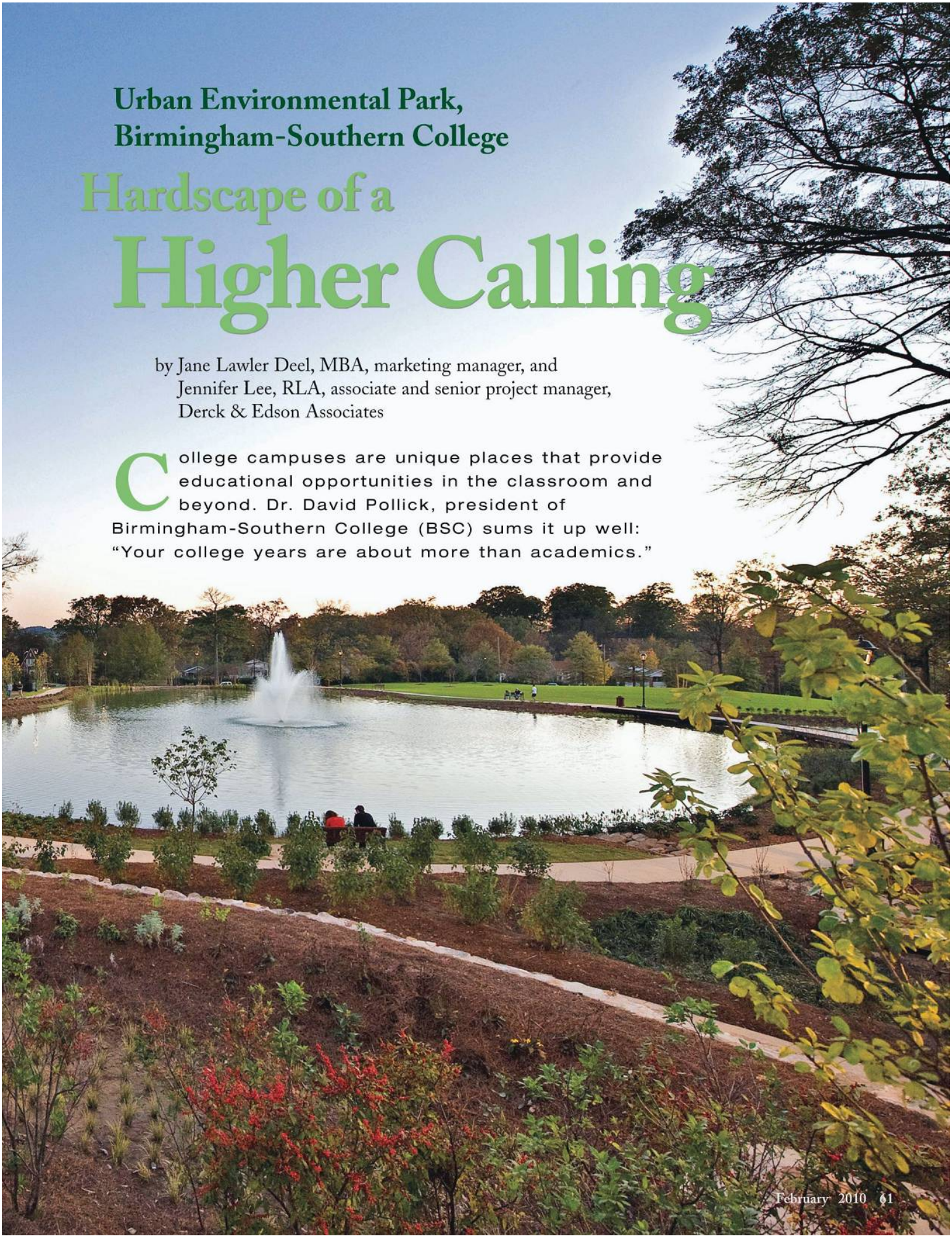
Urban Environmental Park, Birmingham-Southern College

Hardscape of a Higher Calling

by Jane Lawler Deel, MBA, marketing manager, and
Jennifer Lee, RLA, associate and senior project manager,
Derck & Edson Associates

College campuses are unique places that provide educational opportunities in the classroom and beyond. Dr. David Pollick, president of Birmingham-Southern College (BSC) sums it up well: "Your college years are about more than academics."



The BSC campus is developing and changing with this vision in mind. Nowhere is this change more purposeful and evident than at the recently completed Urban Environmental Park, a project with a two-fold purpose:

- provide an outdoor leisure area for students
- create a living laboratory and teaching venue for the students of the new and innovative Urban Environmental Studies major and the community at large

Having worked with Derck & Edson Associates on other projects that supported his campus vision, Dr. Pollick turned to the firm once again to turn his vision for the park into reality. Derck & Edson Associates prepared the schematic design including detailed study of site alternatives and landscape design. The firm was responsible for the entire design team, which did all the site planning and civil engineering from layout and site grading for the 10-acre site, storm water management and erosion and sedimentation and control, landscape design, fountain design and site electric.

The Design

Birmingham-Southern College is a four-year, private liberal arts institution founded in 1856. While the more than 1,500 BSC students enjoyed their campus environment, the new Urban Environmental Park creates a true destination on campus, providing the last link in a chain of campus open spaces, drawing together the circulation paths from the intramural fields, the nearby eco-garden and several lake-side amenities. With its proximity to the neighboring student residences and the natural beauty of the space, it is an easy and desirable destination for students to study, relax and socialize. The space is fully outfitted for Wi-Fi, and the stage area with small fountain is also powered to accommodate performances or to serve as an outdoor teaching/classroom venue.

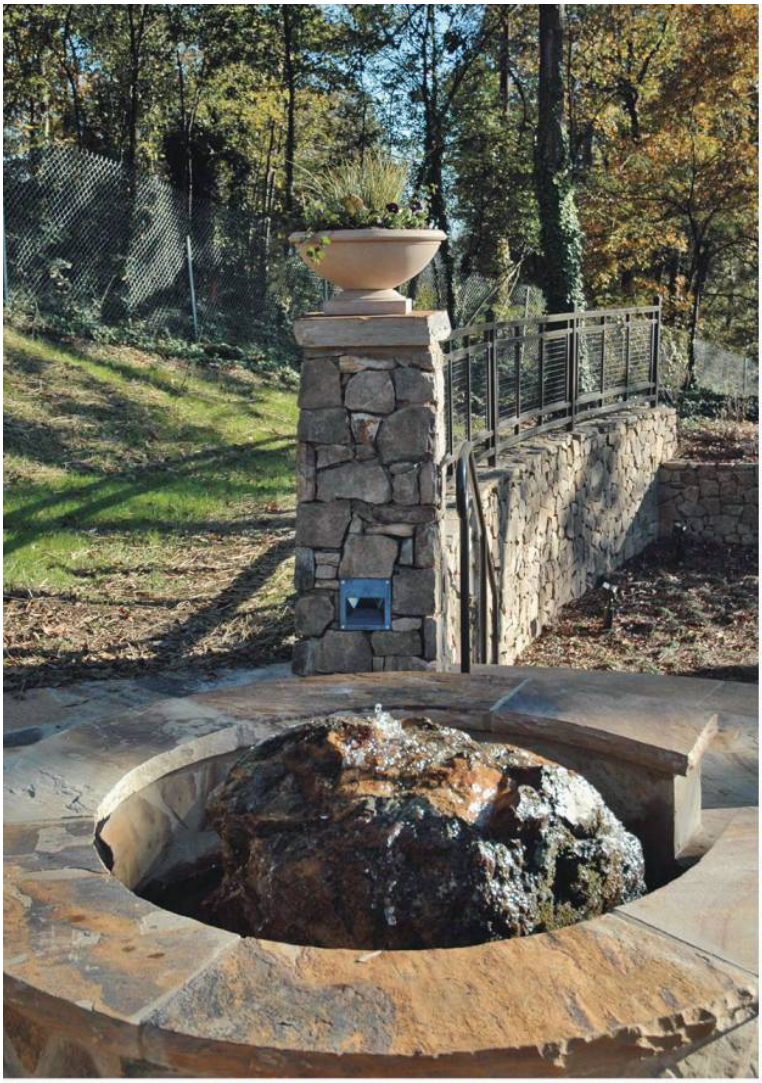
Hardscape

Although the park is a shady, green and refreshing retreat from the more densely developed portions of the BSC campus, the main building materials are hardscapes. This includes the amphitheatre area, which is the main drawing card in the design. The amphitheatre

Left: Initial design sketches for the amphitheatre created the vision for an informal, woodsy setting tucked into the existing hillside.

Right: A main design goal for the project was to create different dramatic views across the lake, as this early sketch explores.

Below: Derck & Edson Associates prepared the schematic design including detailed study of site alternatives and landscape design. The firm was responsible for the design team, which did all the site planning and civil engineering from layout and site grading for the 10-acre site to storm water management, erosion and sedimentation control, landscape design, fountain design and site electric.



Above: Storm water from the developed upstream watershed is directed through a series of purification measures which filter impurities from the nearby parking lots and rooftops. This upper rain garden (note the stone-faced outlet structure), and the two rain gardens below it, filter impurities into an aerated upper pond. The final transition is to a riparian corridor and wetlands before the storm water leaves the site. Plantings here are winter red winterberry, gold plate yarrow, Goldsturm black eyed Susan, blue false indigo, white fringetree, Nigra inkberry, soft rush, Ogon Japanese sweet flag, sweetbay magnolia, Dusty Miller and Cambridge scarlet beebalm.

Left: An informal amphitheatre was integrated into the hillside between the lake and the residential quad. The upper amphitheatre fountain bubbles up from a native boulder, seated within a flagstone basin. The amphitheatre walls are native Alabama stone. The custom fence curves to follow the arc of the wall.

Left, below: The lower rain garden has a decorative riprap channel (between the stone-faced outlet structure and the retaining wall) with moss rock boulders that runs down the slope and under the sidewalk to the lake. A decorative cast nickel-bronze trench grate over the sidewalk allows a view of the storm water. The sidewalk is colored concrete paving with integral pigment. The lower rain garden flora is Nigra inkberry, blue muffin viburnum, red rays switch grass, swamp aster, Ogon Japanese sweet flag, cinnamon fern and Alabama azaleas.

is a series of retaining and seat walls with water features. The informal amphitheatre has been integrated into the hillside between the lake and the residential quad to create a multifunctional space. The amphitheatre provides casual seating areas overlooking the lake and fountain below. The walls, built out of native stone, are laid out in a manner that creates varying sized spaces where students can gather in large or small groups to study or socialize. A water feature through the center of the amphitheatre offers movement and soothing creek side sounds throughout the space.

A more formal campus space is the plaza constructed at the water's edge. The stage area has a fountain, plus electrical hook-ups for sound systems to host small musical concerts, lectures or other presentations. The decorative stone piers frame views of the lake and tree canopy beyond. Planted urns provide seasonal color into the overall aesthetic.

The two bridges were carefully designed and constructed to blend with the surroundings. When crossing the lagoon bridge, pedestrians feel as if they are still on the sidewalk while the spillway bridge incorporates a cable rail system using COR-TEN steel, which allows the bridge structure to fade into the background and blend into its surroundings.

Above: A view of the amphitheatre from the lawn area across the lake shows the accent lighting. Line voltage fixtures uplight the center fountain in the amphitheatre stage, the scupper fountains that pour into the lake and the accent lighting on the amphitheatre walls that make contact with the lake. Drive-over in-ground floodlights light the amphitheatre steps.

Right: The bubbler fountain feeds the channel that cascades down the center of the amphitheatre steps. Accent lighting with wall washes are also noticeable within the amphitheatre. Urn planters provide seasonal color. Native flagstone and stone veneer complete the desired, natural aesthetic. Recessed wall luminaries (Bega) and micro-flood lights (KIM) highlight the stone walls.

All the hardscape elements work in concert with the great lawn area that can be used for everything from informal recreation to a venue for graduation receptions.

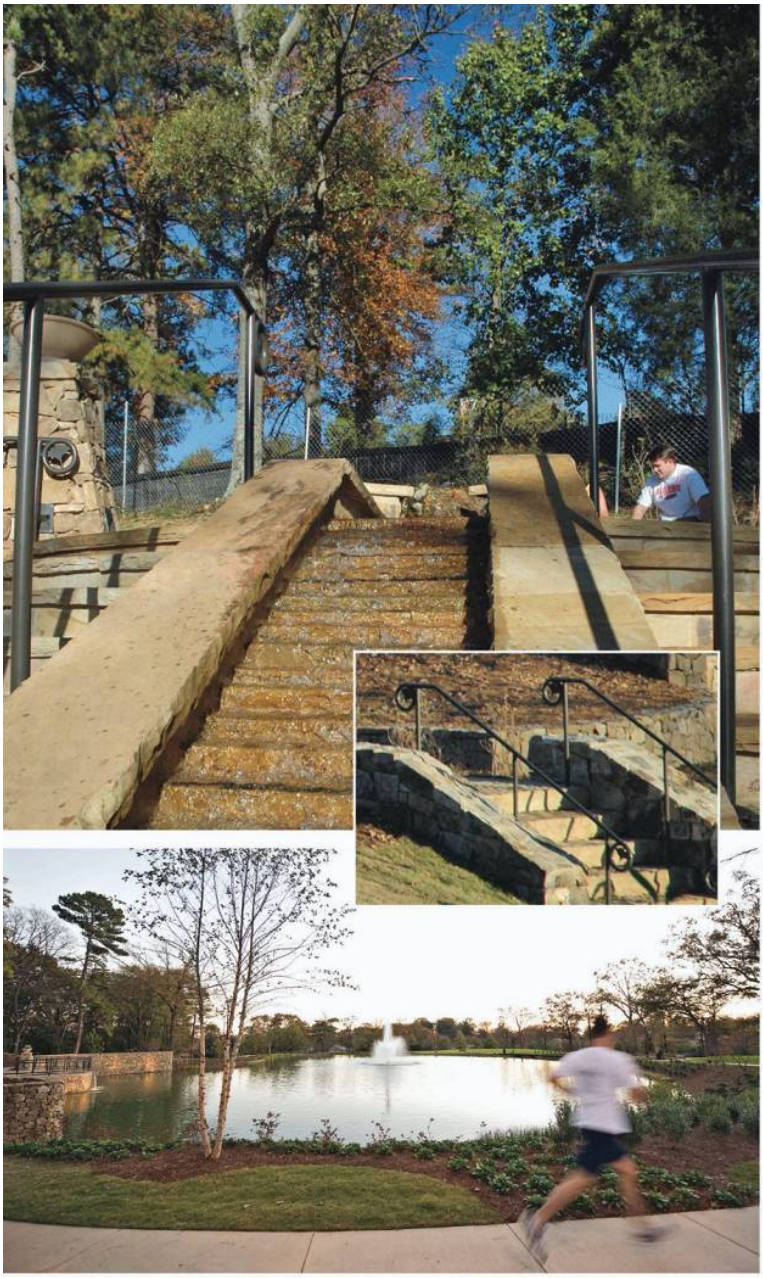
Sustainable Elements

BSC has a long and impressive history with environmental design. The Southern Environmental Center (SEC) on the BSC campus is the largest educational facility of its kind in Alabama. It houses an award-winning Interactive Museum and EcoScape Gardens. Established in 1996, this wonderful outdoor classroom avails itself of local artwork to illustrate organic gardening practices and provides a nuts and bolts overview for schools and communities interested in creating low-cost nature centers or outdoor learning sites. Visitors can stroll through a Northern Wildflower Garden, touch and sample edible plants and flowers, and pass by huge praying mantis and whooping crane sculptures on the way to the EcoScape's wetland and tree trails.

EcoScape provides a focus on water issues, ranging from Xeriscaping to nonpoint source pollution. Technically complex issues are presented in layman terms and in a way that challenges visitors to contribute to change at the workplace or at home.

The Urban Environmental Park is a welcome complement to the SEC and its mission. Key sustainable elements include:

- Systems to clean storm water before it leaves the campus by passing the water from the parking area into a series of rain gardens, to the lake spillway and then to an existing low area that acts as a vernal pond.
- The vernal pond was preserved and enhanced by the addition of water loving plants, all in an effort to naturally recharge storm water runoff.



Left and inset: The center fountain is constructed of native flagstone. The custom steel handrails (painted) have a ginkgo motif.

Left, below: A jogger taking the pathway that circles the lake encounters Dura heat river birch, Shasta daisy, Nigra inkberry and Henry's garnet sweetspire.

Already, the Urban Environmental Park is being noticed for its positive contributions to the environment. In January 2010, the park was awarded a Conservation Development Award from the Cahaba River Society for its low-impact design (LID) features.

Challenges

There were multiple design challenges for the landscape architects: re-routing the roadway and the utilities beneath it, incorporating the desirable design elements into the topography, retaining as many trees as possible, balancing the earthwork and capturing as much storm water as possible and directing it to the lake.

The steep grades that separate this site from the rest of the campus made connecting the site work to the other campus spaces in a meaningful way an additional design issue.

Construction challenges included locating a well that would produce the amount of water needed to fill the lake. Overcoming evaporation rates and working with the mechanics of the various sophisticated fountain systems required collaboration of various trades and engineers from design to installation.

About Derck & Edson Associates

Derck & Edson Associates is a premiere Pennsylvania landscape architecture, civil engineering and land planning firm servicing clients in the eastern half of the U.S. Founded in 1940, the firm is about to celebrate 70 years of planning and design services, including feasibility studies, master planning, athletic facilities design, GIS services, architectural collaboration, site design, design implementation, circulation solutions, construction observation, inventory and analysis and identity enhancement.

Current clients include college and universities like Upper Iowa University, downtown centers and urban areas such as West Reading, Pa., senior living communities like Cornwall Manor, Pa. and the Urban Environmental Park at Birmingham-Southern College, Ala. featured here.

- The lake fringe is designed to encourage desirable wildlife by using native and naturalized plant materials.
- The storm water from the developed upstream watershed is directed through a series of purification measures that filter impurities from the nearby parking lots and rooftops. These measures include rain gardens to filter impurities, an aerated upper pond and then a final transition to a riparian corridor and wetlands before the storm water leaves the site.
- Native plants or adaptive native plants in the landscape.
- Stone materials native to the region from northern Alabama and Tennessee.
- Lighting selected to meet dark skies criteria thereby not adding to light pollution. All lighting is pedestrian in scale and directed downward to reduce any light pollution. Lights are placed in trees wherever possible (directed downward) to enhance the effect and reduce the number of poles seen throughout the park.

"We can show the rest of the country an example of how to deal with storm water runoff in a way that is aesthetically pleasing," says Dr. Scot Duncan, BSC assistant professor of biology.

The Team:

Derck & Edson Associates, Lititz, Pa. - land planning, landscape architecture
LBYD Engineering, Birmingham - civil engineering
CRS Engineering, Birmingham - electrical and lighting
Elements of Land Design, Birmingham - landscape consultant
Johnson Kreis Construction Co., Birmingham - contractor

Major Subcontractors:

- Borden & Brewster Contractors, Inc. - sitework, excavation and storm drainage
- Tim Small Construction - concrete
- Aquatic Gardens - pond liner
- Latta Plumbing - plumbing and fountains
- Marathon Electric - electrical and site lighting
- Garnerstone - masonry and stone construction
- Webster's Welding and Fab - structural steel, weathered steel, cable handrails, guardrails, ornamental handrails with ginkgo leaf
- Blackjack Gardens - landscaping
- The Nelson Team - irrigation

Length of project construction: March 2009 to Oct. 2009
Dedicated on November 7, 2009