

SOUTH CENTRAL'S BEST OF

2006

Justice Adolphus A. Birch Building, Nashville, Tenn.

BEST OF 2006 Judges' Award in Construction

The Justice Adolphus A. Birch Building, formerly called the Beverly Briley Building, is a unique \$40 million courthouse in downtown Nashville. It has 16 courtrooms, parking garage, judges' chambers, a mixed-use jail facility and a sky bridge to the neighboring Criminal Justice Center.

The building is visually stunning, but had some unique and special challenges to overcome during the construction.

One unique challenge was the extremely tight site and limited access of the job. Being in downtown Nashville, the building footprint takes up 41,600 sq. ft. of a 54,000-sq.-ft. site. Crane placement was limited to only a few areas of the site, complicating all aspects of the job.

This was especially critical during precast erection. The exterior skin of the building is all precast and with a unique and intricate look. The precast was built in sections as large as possible to minimize the seams. Gate Precast fabricated 752 concrete panels for the job. Panels weighed as much as 16 tons.

Complicating the operation was a large Nashville Electric Service Base Station just 20 ft. from the north side of the building. The wind is quite strong near the Cumberland River. If the wind were to blow a panel while it was being erected into the station it could electrocute the crane operator and cause catastrophic damage to the crane and the NES power plant.

To overcome these problems the project team had to do a variety of things. A larger crane was used to reach more of the jobsite from the same location without the ability to move to different areas. The job was designed to be built in three



sections to allow more trades to get in and start working as early as possible.

This was broken into 14 sections to allow better sequencing for "just in time delivery," to minimize traffic and allow smoother operations. Extra manpower was deployed to better supervise the sequencing, handling and erection of the precast. The additional manpower also helped safety in making sure the precast never strayed too close to the power lines and substation.

The project schedule was critical and the job had to be built as quickly as possible. By splitting the job into 14 sections Bell was able to build the job with a degree of overlap that allowed more trades to get involved earlier and faster.

Through creative value engineering, Ray Bell Construction was able to knock the price down to within Metro's budget

of \$40 million. For example, the original plans called for a micropile foundation. By utilizing a hybrid mix of micropiles and spread footings where possible, Ray Bell Construction was able to save the owner more than \$100,000.

The contractor had more than 38 value engineering ideas accepted by the owner.

Key Players

Owner: Metropolitan Government of Nashville, Tenn.

Contractor: Ray Bell Construction Co., Brentwood, Tenn.

Cost: \$40.5 million

Architect: Gresham, Smith & Partners, Nashville, Tenn.

Buttrick Hall, Vanderbilt University, Nashville, Tenn.

BEST OF 2006 Judges' Award in Design

In 1927, prominent architect Henry Hibbs was commissioned to design a biology building for a private university. Though in the same Collegiate Gothic style as other buildings he had conceived for the school, this three-story brick structure was restrained in comparison.

Within 50 years the building had become obscured by trees and its research activities moved to newer structures. It was slowly demoted, its exterior attacked by ivy and window air conditioning units. However, its central position suggested continued use, and a renovation and expansion for liberal arts classrooms was commissioned.

Adjacency of nearby buildings limited expansion. The back wing of the structure was replaced with a narrow five-floor classroom addition and the original was completely renovated for faculty areas. A slender atrium was established between the new and old to increase interaction and introduce natural illumination.



PHOTO BY RION RIZZO

To facilitate circulation, wide stairs bookend the addition, and a third was carved into the original near the historic entrance; the axis of this entry extends through the atrium to an apse-like lounge. A new south entrance courtyard encourages use of the facility as a campus passage.

Stone and brick Gothic arches enhanced Hibb's composition, and this feature was embraced as a project motif. Materials and fenestration follow those of the original with narrow windows, rust-tone brick, ashlar stonework and subtle detailing. Articulation incorporates steel, glass and white oak (university symbol is an oak leaf).

Key Players

Owner: Vanderbilt University, Nashville, Tenn.

Architect: Tuck Hinton Architects, Nashville, Tenn.

Cost: \$16.8 million

Contractor: D. F. Chase Construction Co., Nashville, Tenn.

SOUTH CENTRAL'S BEST OF
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Blazer Hall, University of Alabama at Birmingham, Ala.

BEST Education Project

PHOTO BY VISCOM PHOTOGRAPHICS



Blazer Hall is a privately financed and managed dormitory on the UAB campus. The project required that Hoar work with a private owner to build a facility on land leased from UAB.

It required that Hoar commit to a fixed budget very early based on rough

schematic drawings in order for the owner to respond to UAB's Request for Proposal and to maintain that budget through plan preparations by two different architectural firms.

This project involved not only traditional parties such as the owner, architects, engineers and the contractor, but also the UAB Project Management Services and UAB Housing Departments.

The site for Blazer Hall created unique challenges. It is situated 50 ft. from an active UAB dormitory to the south and 50 ft. to the north from the new dining hall facility being constructed by another general contractor. Site access restrictions caused by the closing of

Key Players

Owner: Allen & O'Hara, Memphis, Tenn.

Contractor: Hoar Construction LLC, Birmingham, Ala.

Cost: \$20 million

Architect: The Garrison Barrett Group Inc., Birmingham, Ala.; Cooper Carry & Associates Inc., Atlanta

two adjacent streets and the reconstruction of a third street involved a third general contractor.

In addition to the typical project relationships with the owner, architects and engineers, and the unusual relationship with two UAB departments, the Hoar team worked with the two other general contractors to communicate and coordinate activities to accommodate each project.

SOUTH CENTRAL'S BEST OF
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Tennessee Air National Guard Hangar, Nashville, Tenn.

BEST Public Building Project



The Tennessee Air National Guard Hangar Facility project created 51,000 sq. ft. of Aircraft Maintenance Hangar able to hold two C130 aircraft and one C17 aircraft. The second phase of the project created 53,500 sq. ft. of aircraft maintenance shops and administrative

additions wrapping around the hangar.

A separate Ground Equipment Maintenance Facility, administrative building of 5,700 sq. ft. and a covered storage facility of 5,000 sq. ft. were built.

Six steel and masonry buildings representing 87,420 sq. ft. were either completely or partially torn down. The hangar bay is a steel-trussed 320-ft. clear span structure supported on concrete caissons and a concrete floor to support aircraft loading with high expansion foam and wet pipe sprinkler systems, which include fire pumps.

The hangar door is a five-element vertical rise fabric door. The balance of the hangar enclosure is a combination of concrete masonry and brick cavity wall,

Key Players

Owner: Tennessee Air National Guard, Nashville.

Contractor: Ray Bell Construction, Brentwood, Tenn.

Cost: \$23.6 million

Architect/Engineer: URS, Washington, D.C.

insulated pre-finished standing seam metal system of concealed fasteners and non-penetrating accessories including concealed fasteners and non-penetrating accessories including concealed built-in gutters.

The hangar bay is infrared heated with extensive trench drain system to minimize floor slope changes in elevation.

In addition to buildings, the scope includes relocation and removal of site utilities, including gas, water, sanitary and storm sewer, overhead and underground electrical communications.

SOUTH CENTRAL'S BEST OF
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Dynetics Inc. Corporate Headquarters, Huntsville, Ala.

BEST Private Building Project



Construction of Dynetics Inc.'s corporate headquarters in Huntsville, Ala., posted numerous challenges.

For security purposes, the first floor of Dynetics Inc. is located 14 ft. below finished grade. Excavating this floor and placing 124 caissons during wet winter months was B. L. Harbert International's first challenge of the project.

Excavators and drill rigs worked behind each other from one end of the building to the other, minimizing the time spent between the two trades start date. BLHI routed both trades so they were able to utilize the same path for access and egress, therefore cutting down on the damage to finished grade.

Stone mud sills and sump pumps were constantly maintained to ensure progress was not halted due to inclement conditions. The construction team also had to install a drywall system, storefront, interior roofing, architectural millwork, wallcovering, paint, glass handrails and ceramic tile in the three-story atrium.

Key Players

Owner: Dynetics Inc., Huntsville, Ala.

Contractor: B. L. Harbert International LLC, Birmingham, Ala.

Cost: \$28 million

Architect: L. Hughes Associates Architects, Huntsville, Ala.

Weight and height constraints prevented the installations from taking place off mechanical lifts. A 5,000-sq.-ft. scaffold structure was erected to a height off 58 ft. above finished floor so that trades could simultaneously work from the roof level down.

After the first level was completed, the scaffold was dismantled down to the floor below. This continued until all vertical work was completed. Then ceramic and granite tiles were installed and remaining contractors worked their way out of the building.

SOUTH CENTRAL'S BEST OF
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Jordan-Hare Stadium, Auburn University, Auburn, Ala.

BEST Sports & Recreation Project (TIE)



PHOTO BY CHARLES BECK STUDIOS

Due to the success of the Auburn University football program over the years, the university and its supporters placed high priority on improving Jordan-Hare Stadium. Trahan Architects of Baton Rouge, La., proceeded with a clear understanding of preserving the rich heritage of Auburn University football while pro-

viding enhanced seating opportunities and a more pleasant game experience for everyone.

Robins & Morton was asked to begin the first phase of work after the 2004 football season and have the stadium fully functional for the first game of the 2005 season while maintaining the budget. This consisted of expanding the east side of the stadium, which included the addition of one bay on both the north and south ends. The upper deck and club level seating were expanded and two levels of high-end-finish suites were added. This expansion provided additional seating for approximately 2,000 people.

Robins & Morton was also selected to

Key Players

Owner: Auburn University, Auburn, Ala.

Contractor: Robins & Morton, Birmingham, Ala.

Cost: \$23 million

Architect: Trahan Architects, Baton Rouge, La.

perform construction management services on the \$12 million renovation of the existing concourse, included under the same contract. The schedule was tight and the project had to be completed before Sept. 1, 2006, because the first football game of the season was Sept. 2, 2006.

The renovation of the concourse included demolishing the concessions and restrooms, doubling the number of women's restrooms, replacing asphalt paving with concrete, improving the stadium lighting and installing a new audio/video system.