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New High-tech Classroom Building Designed to Transform Seminary Educational Experience and Provide Campus Visibility

Knitting repurposed historic dormitory with new construction creates cost-effective facility targeting LEED gold certification

DECATUR, Ga., June 11, 2012 – A serendipitous alignment of program, a compatible historic structure and creativity, have resulted in an environmentally sensitive, high-tech classroom building that is transforming the teaching and learning experience – along with the entire campus – at Columbia Theological Seminary.

The \$8.2 million building, named the Vernon S. Broyles Jr. Leadership Center, connects a 20,500-square-foot repurposed historic dormitory built in 1932 with 16,000 square feet of new construction to create what is now the seminary's primary classroom building and outdoor learning/gathering space. The structure – contemporary yet sensitive to the historic collegiate gothic architecture of the seminary's other buildings – has become a focal point that anchors a previously nondescript but public corner of the campus.

The Broyles Leadership Center is the seminary's second building designed by architecture firm Lord, Aeck & Sargent (LAS). The first, a student residence hall completed in

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2009, earned LEED gold certification from the U.S. Green Building Council. The same level of LEED certification is anticipated for the Broyles Leadership Center.

LAS team meets challenges and goals, provides serendipitous design elements

"We tasked Lord, Aeck & Sargent with creating an environmentally responsible building that would be transformative with regard to the way the faculty teach and the students learn. We also envisioned a building that was both aesthetically pleasing and complementary of the campus and its existing architecture," said Jim Philips, chair of the project's Shepherding Committee, whose members vetted and approved the building program.

Philips noted that the specific program goals, developed by Committee consensus, were for the building to contain three lecture halls for around 75 students each and two smaller classrooms for approximately 40 students – all with the best available teaching technology – along with a variety of spaces for smaller group gatherings.

"The design team listened carefully, met all of our challenges, and in the process planned several design elements that we hadn't envisioned but that we view as nothing less than serendipity."

Among these "serendipitous," un-programmed design features, Philips noted, are the following: an 80-foot-tall glass, steel and masonry bell tower – complete with a carillon at the top – that joins the former dormitory (known as Simons-Law) with the new classroom wing; a cloistered courtyard used as an outdoor teaching, gathering and event space; the "arcade" – an extension of the "historic arch," which is a character defining feature of the repurposed dormitory and a favorite student gathering spot; and a circulation concourse that becomes a museum-quality display gallery for a collection of Biblical antiquities on loan from the project's lead donor.

Decision to repurpose saves money, creates greener lifecycle solution

As part of the programming process and at the urging of LAS, the Shepherding Committee asked the design team to look carefully at the feasibility of repurposing the old Simons-Law building, which had reached its end of life as a dormitory.

"We reassessed the seminary's master plan and determined that Simons-Law was in fact of significant historical value to the campus and the architectural coherence of the quadrangle space at the center of campus," said Joe Greco, LAS president and principal designer of the project. "It became clear that much of the building program could be effectively inserted into the Simons-Law structure. So we proposed approaching the project as an adaptive rehabilitation for the smaller program spaces combined with a significant addition for the larger classroom areas and campus receiving functions. The existing three-story wing combined with the new "L"-shaped addition and the covered arcade, create the outdoor learning cloistered courtyard.

"We conducted a comparative cost analysis that showed this solution would be less expensive than tearing down Simons-Law and building only new construction. Considering the embodied energy of the existing structure, it also resulted in a greener life cycle solution and provided the impetus for some of the more dynamic moments in the project design," Greco said.

The rehabilitation-plus-addition strategy allowed the project to retain a campus quadrangle presence and at the same time create a bold new, more transparent image to the public. Located on a corner of the campus hidden by shrubbery, the new construction site was cleared of an aging tennis court and parking lot and then sculpted so that it became a more natural, indigenous topography clearly seen from nearby Columbia Drive, which the site faces.

Glass tower is functional and a new campus landmark

In order to knit together the old and new construction, LAS designed the glass tower element to serve as a visual nexus to provide an entry into the complex and to accommodate new vertical circulation, thus addressing the accessibility issues of the existing structure. The tower contains an elevator to serve the existing three-story Simons-Law wing, a new entrance lobby, and "study balconies" with expansive views of the campus. It also can be seen from virtually anywhere on campus, greatly improving the visibility of the seminary.

"The tower is fast becoming a campus landmark, especially at night when it's illuminated. Its presence also gave us an opportunity to install a carillon, which calls students to chapel in the morning, rings on the hour and plays hymns. We didn't have such a landmark before," Philips said.

The brick and cast stone piers of the tower are infilled with clear, low-iron glass and a window design that incorporates abstracted crosses on each face of the tower, using subtle tones of tinted, ceramic-fritted accent glass.

New Construction creates cloistered courtyard

The building's enclosed outdoor courtyard was inspired by cloister typologies. A masonry colonnade – infilled by glass – surrounds the space on the two sides. A new arcade extends the historic archway on a third side and the historic structure itself completes the courtyard.

"This outdoor space is in many ways the centerpiece of the whole ensemble," Greco said. "The arrangement of the program elements and the comfortable proportions of this space encourage people to inhabit the exterior and connect with nature."

Daylighting and other energy-saving strategies a priority

Mindful of their charge to create an environmentally sensitive building, the LAS design team created an energy-efficient, water-conserving building on a site that purposefully has preserved more than twice the developed footprint for open space reserved for future generations.

Cristy Fletcher, who served as Lord, Aeck & Sargent's project architect, described some of the building's sustainable design features, among the most important being the extensive use of controlled natural light to reduce the need for electricity.

"While daylight harvesting was an energy-saving priority strategy for us, it was also a challenge because we needed to create highly effective AV-enabled classrooms free of glare, but we didn't want to be forced to use blackout shades and have to rely on wasteful artificial lighting for large portions of the day," Fletcher said.

"The site orientation wasn't truly optimal, so we utilized a combination of innovative daylighting strategies. On the public exterior, street-facing sides, we used exterior aluminum sunshades in the clerestory gables. At the interior we used suspended vertical translucent baffles to diffuse light and eliminate glare. We also utilized tinted glass on the lower clerestories and provided simple manually operable shades at the lower windows to reduce light on the limited occasions when greater darkness is needed. On the courtyard facing side and gabled clerestories, we used a combination light shelf and projection-screen soffit."

In addition to the use of daylighting, the team specified a variable refrigerant HVAC system to maximize energy efficiency. "The system can heat and cool simultaneously, using waste heat from one space to heat the others and self-balancing heating and cooling loads," Fletcher said. "It also uses far less ductwork, which was important because we had challenging floor-to-floor heights in the existing building. This proved to be a good solution: it minimized the

amount of ceiling areas that needed to be lowered appreciably below the height of the structure above."

Additional sustainable design strategies and green products include the use of:

- Two underground 5,000-gallon cisterns to collect rainwater for irrigation; water is directed to the cisterns from the roof through downspouts and aluminum rain chains located throughout the courtyard
- Recycled materials including steel, aluminum, glass, accent brick and carpeting.
 Additionally, the building's roof shingles were made from post-production diaper manufacturing waste.
- Construction waste. The contractor sorted all construction waste with the majority of the material being recycled instead of going to a landfill.
- Local and regional materials, mostly from within Georgia. In fact, timber from a large, on-site
 oak tree that had to be removed because of its proximity to the existing building, was milled
 locally and used for the floor finish of the tower.
- Renewable materials such as linoleum flooring made with cork, linseed oil and jute; and bamboo flooring for public circulation spaces
- Native and adapted plants for landscaping
- Motion detection sensors and energy-efficient lamps
- Low flow water fixtures
- Low VOC finishes

Classrooms and more inside

Inside, the repurposed Simons-Law wing includes eight smaller seminar rooms, faculty offices, informal group study areas, the campus bookstore and an education technology center for the seminary's IT support staff.

One of the new classroom wings contains the two large, tiered lecture rooms, one with flexible seating and tables to accommodate team-based group learning, and the other with fixed tables optimized for global distance learning. The other wing houses the two smaller classrooms – each with its own distinctive character teaching spaces. The signature corner classroom becomes the large, contemplative multipurpose space with two gabled windows and flexible seating to complete the program of large teaching spaces. The L-shaped public concourse circulation that connects these two wings contains informal seating areas along with eight museum display cases for chronological and topical exhibition of ancient artifacts from the Holy Land, among them lamps, vessels, silver and a widow's mite. The artifacts are integrated into the students' educational curriculum.

The new classrooms represent the latest in education technology and are truly transforming the way that students are learning. According to Marty Sadler, the seminary's vice president for business and finance and a member of the Shepherding Committee, trustees at a recent meeting agreed that the classrooms and the building itself, are "a true affirmation of the importance of theological education."

Project Team

The project team for the Vernon S. Broyles Jr. Leadership Center included:

- Lord, Aeck & Sargent (Atlanta office) architect
- Carol R. Johnson Associates (Boston) landscape architect
- AHA Consulting Engineers (Atlanta office) MEP/FP engineer
- Uzun & Case (Atlanta) structural engineer
- Eberly & Associates (Atlanta) civil engineer
- Waveguide Consulting (Atlanta office) AV consultant
- Morgan Constructors (Atlanta) program manager
- New South Construction (Atlanta office) construction manager and general contractor

About Lord, Aeck & Sargent

LAS is an award-winning architectural firm serving clients in academic, historic preservation, scientific, arts and cultural, and multi-family housing and mixed-use markets. The firm's core values are responsive design, technological expertise and exceptional service. Recently, the firm has appeared twice on *Architect* magazine's "Architect 50" ranking of U.S. architecture firms based on profitability, sustainability and design quality. In 2007, Lord, Aeck & Sargent was

one of the first architecture firms to adopt <u>The 2030 Challenge</u>, an initiative whose ultimate goal is the design of carbon-neutral buildings, or buildings that use no fossil-fuel greenhouse gasemitting energy to operate, by the year 2030. Lord, Aeck & Sargent has offices in Ann Arbor, Michigan; Atlanta, Georgia; Austin, Texas; and Chapel Hill, North Carolina. For more information, visit the firm at <u>www.lordaecksargent.com</u>.

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