

Brock School of Business Building, Samford University

Hoar Construction



ABOUT PROJECT

Project Type:

New Construction

Budget:

\$25 Million

Completion:

August 2015

Delivery Method:

GC Construction Agreement

Architect:

Davis Architects

“ We were dealt a very significant challenge - a 16% reduction in project scope and budget with a firm commitment needed within 5 working days for the project to proceed. Thanks to the technology on hand and the use of Assemble, (within 3 hours) our project team was able to have a path forward for the owner and designers to work with. This ability to quickly react with confidence would not have happened in the days of blueprints and pencils. ”

Mike Waller, Project Executive,
Hoar Construction

CONTRACTOR USES ASSEMBLE ON AN AWARD-WINNING PROJECT

INTRODUCTION

Founded in 1841, Samford University is the 87th oldest institution of higher learning in the United States. Located in Homewood, Alabama just outside of Birmingham, the university consists of 10 schools including the Brock School of Business (BSB). To provide state-of-the-art educational environment and meet the needs of future students, the university needed a new building to house the Brock School of Business.

The newly constructed 4 story building includes multiple teaching labs, 11 classrooms, interactive breakout rooms, common areas, and a community resource forum able to host up to 400 guests. Based on a competitive interview process and their reputation of being progressive builders, Hoar Construction was selected as the general contractor even before the design of the building was complete. Davis Architects was the architectural firm already on the project. By having Hoar Construction on board early in the project life-cycle the design team was able to make more informed decisions, which resulted in efficiencies throughout the project and helped further strengthen the relationship between all project stakeholders.

The following case study describes how Hoar was able to use Assemble to:

- work collaboratively with the architect,
- perform value engineering to meet budget requirements,
- quickly evaluate design changes; and
- perform rapid model takeoff.

THE PROJECT CHALLENGES

Like many projects that get close to completing the design phase and have a significant budget risk, the Brock School of Business project reached a milestone in fall of 2013 that meant the difference as to whether the project was going to be canceled or not. Samford University made it clear that the project must be built for no more than \$25 million or it wasn't going to happen at all.

Hoar and Davis were asked to present an alternate proposal to the University board the week following the Thanksgiving holiday to demonstrate how the project could be built on budget, while still maintaining a quality educational environment. Value engineering is a common practice that can hold projects up for months to get to a solution that is acceptable to the owner, general contractor and architect, so responding to the university in a matter of days would be a significant burden to the team.

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Both Hoar and Davis had already invested a lot of time, effort and resources into this project and did not want to see it get shelved due to budget constraints. The whole project was at risk to be canceled. The teams had been working together since summer 2013 and had developed a synchronized way of handling the design process and feedback loop.

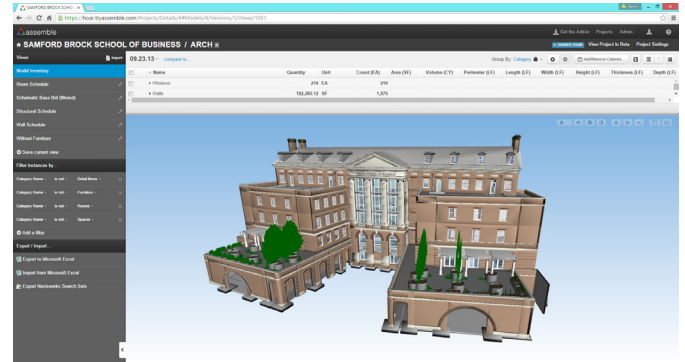
THE SOLUTION

The team had two days to come up with an innovative solution to a very big problem. As part of an integrated effort to deliver the Brock School of Business on time and on budget, Davis and Hoar had invested resources during the design phase to model the project and track the cost of major building assemblies as the design progressed. Implementing these processes helped the team maintain a lean project approach and deliver an agile response to the university's concerns.

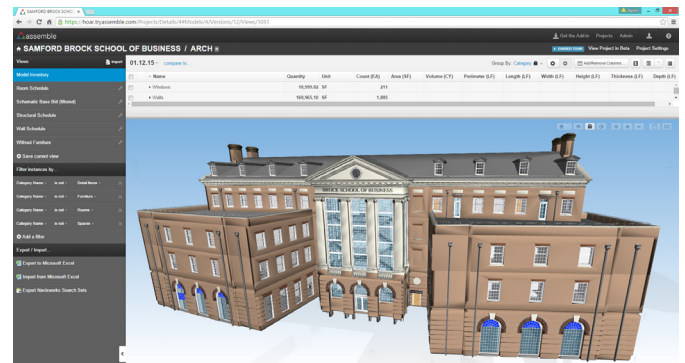
The initial design called for a 5 story building with a parking garage built underneath. After analyzing the expected cost/value ratio of components in the project, the team proposed to eliminate the entire floor of the parking garage, resulting in structural changes that realized cost savings in the concrete and foundations and allowed the building to move forward. Using the model and Assemble to compare strategies and analyze quantities, the team was able to reach a proposal in a matter of days not weeks.

"If the building was not modeled or we didn't have the right software solutions to tackle this work, this project would have likely been a NO Go or we would have had to tack on several months to the project to handle this kind of analysis," says Aaron Wright, Integrated Construction Director at Hoar Construction. Mike Waller, Project Executive at Hoar adds "We were dealt a very significant challenge - a 16% reduction in project scope and budget with a firm commitment needed within 5 working days for the project to proceed. Thanks to the technology on hand and the use of Assemble, (within 3 hours) our project team was able to have a path forward for the owner and designers to work with. This ability to quickly react with confidence would not have happened in the days of blueprints and pencils."

The University board was very pleased with the alternative proposal and gave the team the green light to proceed. Construction started in January 2014 with the design 95% complete. Hoar continued to use Assemble during pre-construction and construction to make sure the project stayed on budget as the construction documents wrapped up. As the model changed on a weekly basis during pre-construction, the project team used Assemble to look at the changes in quantities for concrete to see how it would affect the foundation. "Without Assemble, this project would have been a disaster. We would have spent 2 to 3 more months repricing the job to keep up with the constant changes" says Aaron.



Original design of 5-story building with parking garage.



Final design of 4-story building.

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THE RESULT

Leveraging model data for various activities throughout design, pre-construction and construction resulted in an improved design review cycle and significant budget controls. Hoar Construction was able to cut \$3 million from the budget to deliver this project on time and under budget without compromising the quality that Hoar is known for. Due to their vigilance during the design phase, Hoar was able to quickly respond to budget issues early enough to provide a solid plan to deliver a successful project.



In addition to using Assemble for budget control, Hoar saved significant time by accessing complete model inventories, visualization, and intelligent building information. Assemble facilitated the use of intelligent building data for numerous project workflows and deliverables.

Due to their innovative use of technology on Brock School of Business, Hoar Construction won the 2015 Vision Award from *Constructech Magazine* and Assemble Systems was recognized for their contribution to the overall success of the project. “We are honored to receive the *Constructech* Vision Award for our work on Brock School of Business,” said Aaron. “Assemble Systems was instrumental in the successful completion of this project. With the use of Assemble, we were able to work in a highly collaborative environment with the design team to bring their vision to life and deliver the end result on budget.”

For more than 75 years, Hoar has been on a continual mission to build better – focusing on the details of construction, understanding how materials and systems come together, and relentlessly pursuing improvements in safety, quality, and production. With the use of innovative technology solutions such as Assemble Systems, Hoar is transforming AEC processes and improving project predictability and outcomes.

