CASE STUDY

COLLEGE OF CHARLESTON, RITA LIDDY HOLLINGS SCIENCE CENTER

HISTORIC BUILDING TURNED "HOME FOR SCIENCE"

CHALLENGE

The College of Charleston was renovating the Rita Liddy Hollings Science Center, a laboratory and classroom building, one of the largest on its campus. Originally built in 1972, the facility had previously undergone two significant additions to get to its current size and configuration. Over time, the building suffered from deferred maintenance and climate control issues that created the need for a complete renovation to house the new sensitive laboratory equipment and modern learning environment. The final construction documents included demolition of the single-story auditorium and reconstruction of a three-story building containing multi-purpose rooms on the first floor with offices above. It also included total interior demolition, abatement, and reconstruction of the remainder of the building with substantial structural upgrades to meet the seismic code.

SOLUTION

MBP was brought on to the project in early 2013 to provide agency construction management services (CM-Agent) during the pre-construction and construction phases. This included cost management, constructibility reviews, and design-phase support in addition to full-time, on-site construction management throughout the construction phase. MBP's contract also included providing commissioning services for the complex mechanical and electrical systems.

From the outset, the College planned to use the design-bid-build (D-B-B) delivery method. By the summer of 2014, due to the increasing level of complexity in the project, the College switched to a construction manager at-risk (CMaR) delivery method, while retaining MBP in the CM-Agent role to provide advisory oversight services.

MBP advised the College through the advertisement and solicitation phase of the CMaR selection process and served as a non-voting participant during the shortlist interviews. Once the CMaR was selected, MBP performed cost confidence reviews, in which we estimated that the project would cost $51.5 million. After multiple rounds of cost estimating, reconciliation, and cost cutting exercises, the College and the

CMaR were unable to reach agreement on a guaranteed maximum price to move forward. In March 2015, the College terminated the CMaR's contract to go back to a design-bid-build delivery method.

The project was contracted to complete in time to open for the Fall 2017 semester. Unfortunately, there were numerous delays and the newly renovated Rita Liddy Hollings Science Center eventually opened for classes for the Fall 2018 semester. The project faced continual challenges caused by existing conditions, contractual requirements, and differing management approaches. Throughout the project, the MBP team provided timely and accurate advice to the College and designer in administering changes and impacts, beginning within the first month on the project and continuing through completion. As could be expected with a facility that had been constructed in multiple phased additions decades prior, numerous unforeseen conditions were encountered during construction. Within the first few weeks on site, the contractor encountered unanticipated hazardous materials requiring engagement of an additional contractor to remediate the asbestos containing materials, some of which were in a confined space, resulting in the only time extension granted contemporaneously during construction.

As the issues on site continued to evolve, MBP was consulted to quantify time impacts. MBP provided recommendations to the contractor during the baseline schedule and through monthly updates to assist with coordinating activities, and applied the recommendations to provide the College and designer quantifiable impacts for changes that could then be addressed through change orders. This enabled the contractor to receive extensions for the actual impacts it experienced.

The on-site MBP team thoroughly documented progress on a daily basis through photos, daily reports, emails, and issue books. This provided the College and design team with access to current and detailed information on which they could base decisions. MBP utilized knowledge and understanding of the AIA A201 and State of South Carolina OSE Form 00811 contracts to provide accurate and accountable change negotiations.

"The service from MBP was nothing short of exceptional!!! You and your entire team provide real and meaningful value."

Paul Patrick
Executive Vice President of
Student Affairs and CFO
College of Charleston

Through MBP's reporting, tracking, cost estimating, and analysis, the College of Charleston realized an overall cost savings of $8,371,697.

RESULT

Upon completion, the Rita Liddy Hollings Science Center grew from approximately 120,000 to 149,000 square feet and featured eight classrooms, 51 research labs, lecture halls, staff offices, and student collaboration space, as well as a certified vivarium and a rooftop astronomy observation deck. Also included was the reconstruction of a 30,000-square-foot multi-purpose auditorium space. The project was awarded two Green Globes under the Green Globes certification process.

The project experienced unforeseen conditions, coordination issues between project participants, weather delays, and design changes; it was inevitable there would be additional costs and time in the project. With a total amount of approved change orders on the project of $2,857,524 (6%), the overall construction cost ended up at $50,615,744, approximately $900,000 below the original estimated cost. Throughout construction and final negotiations, the GC had requested an additional $11,229,221. With the final change order amount, the College of Charleston realized an overall cost savings of $8,371,697. This savings was made possible due to MBP's reporting, tracking, cost estimating, and analysis, along with negotiating skills of the entire owner team. This cost savings is 525% of the MBP on-site construction management fees for the project, and 384% of MBP's overall fee (which included commissioning).

The project has been a success for the College of Charleston and the Charleston community, and received an award from the Historic Charleston Foundation for the long-term protection and preservation of important buildings and places.