

2020 AGC ACE Awards Entry

Category 3 – Meeting the Challenge of a Difficult Job – GC

Contractor | The Beck Group

Project Name | Regis University DeSmet Hall Addition

In November of 2018, Regis University asked The Beck Group to commit to deliver an addition to the DeSmet Residence Hall that would accommodate 104 new student beds, plus support and multi-purpose areas, with the caveat this addition to be completely designed, permitted, built and ready for students to move in by the end of August 2020. During this project, the existing building would remain occupied and fully functional for existing students, the new addition would need to be constructed over the top of the campus central plant, and the additional would need to integrate with the existing building. As the project entered the home stretch of construction, the team had to confront the impacts of COVID-19, which required new processes and procedures to comply with local and state regulations to keep workers safe, yet still productive. Through all of these challenges, a team of integrated design-builders persevered and successfully delivered the project on time for students to move in for the early start of the 2020 fall semester.

To take on and deliver on a project of this nature and within the necessary timeframe required a unique, fast track approach. As an integrated design build firm, The Beck Group team was ultimately responsible both for the design and construction of the project and having these two traditionally separate disciplines under one roof allowed for enhanced speed, flexibility, innovation, and a true team approach. The team partnered early with design build mechanical and electrical subcontractors to research, understand, and design around existing systems that the new addition would connect to, confirm what upgrades and connections would be required, and plan and coordinate the routing of all the related utilities. This integrated approach insured that the design was buildable and within budget well before construction even began, which is critical on any renovation project, especially given the time constraints the team was working with, since there would be no time for rework or redesign. Since the addition had to connect to the existing building and have a consistent flow between wings at each floor level, this created design challenges both structurally and architecturally. Floor to floor heights were controlled by the

existing structure, but to be able to create multipurpose spaces with adequate ceiling heights and daylighting, the team worked closely utilizing BIM to coordinate the multitude of utilities and finishes to maximize the form and functions of the addition. This was especially crucial with floor to floor penetrations since the new structure is post-tensioned concrete, and as a result of the Beck led effort, there were not any post installed penetrations in the structural decks.

To be able to span over the existing central plant structure and connect to the existing building, it was necessary to drop a column through the central plant roof, and land that column on a new micropile foundation, located between multiple pieces of equipment. To achieve this, the existing central plan interior, including utilities and equipment were 3D laser scanned, and the point cloud that was generated from this scan was imported into the design model allowing the team to find a constructible location for this crucial structural element. A second outcome of this scanning and upfront planning is that after removing the roofing material, it was determined that the concrete roof structure of the central plant became the lobby floor for the new addition, truly blending new and old.

DeSmet Hall is located at the heart of Regis University, requiring constant planning and communication focused on safely working within an active campus environment. The project is surrounded by, and connected to, occupied facilities requiring care and planning prior to work, deliveries, demolition and new construction of any kind to protect students, faculty, and facilities management. To help with communication with students, especially around temporary road closures, graphic plans were created that Regis was then able to push out to students through social media.

To make the original building blend with the addition, and to maintain a consistent campus architecture with the surrounding buildings, it was decided during the design phase that both the new addition and the original building would both have new gable roofs. To achieve this on the existing building the portion of the concrete roof that extended past the existing walls was demolished, and a new structural steel roof was erected, requiring more than 300 penetrations to connect the new structure. This necessitated an accelerated coordination of steel design, fabrication and delivery to coincide with winter recess, and rigorous pre-planning to allow for the safe erection of structural steel over a partially occupied structure.

COVID-19 has challenged everyone to find a new and safe ways to adapt and move forward. The DeSmet Hall addition project was well underway when COVID-19 hit, and it was critical to keep workers safe, inspections performed, and progress moving forward, and the team adapted and innovated to new guidelines as they were issued. Beck was one of few GC's in Denver that implemented temperature screenings for all workers at the onset of the pandemic to mitigate any potential of COVID impact. The team worked with AGC to implement strategic plans to create a safe, healthy, and protected workforce and campus throughout the duration of the project. Ultimately the due diligence and hard work kept the job on schedule, and safe. Without a culture of safety, and each team member buying into Beck's philosophy that "Safety Begins with Me", the job would not have been successful. Throughout all of these challenges, Beck maintained a Zero Lost Time Incident Rate with over 94,000 man-hours worked for the project.

The Beck Group is extremely proud to have been able to successfully deliver this project, which will continue to serve students seeking higher education for many years to come. In closing, we would like to offer the following testimonial from Mr. Michael Redmond, Associate Vice President of Regis University who directly oversaw this project.

Regis University has had the pleasure to interface with The Beck Group for the past two years. During that time, we have worked on a Design/Build project to add a 104 bed facility onto an existing facility. The existing facility was built in 1966 and was a very simple double loaded room facility with gang bathrooms. The facility also housed the central plant for the University. We asked for the new addition to be squeezed between two buildings and to also accommodate our current tree population because the were key plantings for our Arboretum. To also make matters complex our central plants underground utility supply systems had never been fully identified and created critical issues as the facility foundations were being installed. Another item we had to deal with was our campus has numerous underground streams that actually traverse the campus and they are very difficult to locate and actually move underground as the season changed. The University also had demands for the facility to be constructed within a calendar year to be ready for our fall semester.

Beck was selected to build our facility because of their strong experience with higher educational housing and work on diverse complicated projects. I knew we needed there expertise to get this project on time and in budget; what I did not expect was we would have to finish the project

during a COVID outbreak which challenged the schedule tremendously both working with the city, material product delivery and also assuring a solid workforce was available to meet and exceed expectations to get the project done on time. Through the project experiencing encountering an unmarked gas line, unknown chiller lines, finding underground water and experiencing delays in project inspection this project was finished with outstanding results and was on time and in projected budget. I have brought many projects out of the ground in my career and can honestly say this project presented the most difficult combined obstacles and without Beck we would not be have completed this project on time and with the quality of construction provided. The old facility and added portion look like a brand-new building.

Beck is a company we intend to continue to use because of their outstanding method of project delivery. The cradle to grave process was excellent and they made timely critical decisions with immense experience from the team members during all facets of the project.

Thank you for letting me share our wonderful interface on this great project with The Beck Group.

Figure 01 – DeSmet Hall prior to the start of the project



Figure 02 –Existing roof overhang removed; ancillary facilities demolished



Figure 03 – New roof structure being added to the original building



Figure 04 – Addition under construction



Figure 05 – Central plant roof (left) becomes a new lobby floor (right)



Figure 06 – Upgrading the original (left) and blending in the new (right)



Figure 07 – New placemaking in the addition*



Figure 08 – Old meets new, with a completed renovation*



**Preferred Completion Images to use at AGC banquet, website and annual magazine.*