

Project: McGregor Square

Category: 13 - Best Building Project – General Contractor (Over \$70 Million)

Company: Hensel Phelps

Project Overview

The 860,000 SF McGregor Square project is a vibrant mixed-use development located adjacent to the Colorado Rockies Coors Field in downtown Denver. This fast-track, Construction Management at Risk project showcased Hensel Phelps' expertise at managing a project while collaborating with the architect, Stantec, to deliver a landmark project to the Colorado Rockies Baseball Club, Ltd.

McGregor Square comprises three towers (office, hospitality and residential) and a two-story below-grade parking garage, as well as retail and restaurant space on the ground floor. This "Gateway to the Ballpark" includes 230,000 SF of office space (11 stories), 175,000 SF of residential space (13 stories) consisting of 105 high-end condominiums and a rooftop pool, amenity deck and fitness room located on the bridge. In addition, McGregor Square includes 156,000 SF of hotel space (13 stories) with 176 hotel rooms, 71,000 SF of retail space including the future Rockies Hall of Fame and 196,000 SF of parking with 402 parking spaces. Nestled in between the towers, the 58,000 SF plaza will serve as a year-round outdoor entertainment area, which features a 20'x60' big screen, extending the game day experience to the facility.

In transforming a vacant parking lot into a massive, bustling downtown project, the entire team overcame challenges inherent in building within a downtown environment next to a baseball stadium that holds more than 50,000 fans, as well as some unexpected ones. These included regularly communicating construction activities that may impact their surrounding neighbors, a global pandemic and a cargo ship fiasco that held up key construction materials required to complete the project. This is a true mixed-use and one-of-a kind building in Denver that improved the viability and vibrancy of the city, and ultimately, supported the decision to host the 2021 All Stars Game at Coors Field.

Solutions of Special Projects

A unique aspect of the project's structural system was the skybridge that connects the hotel and residential buildings. Two different project teams successfully installed the structural steel skybridge within 1/8" at 122' high (12 stories) with support from the structural engineer. For constructing the skybridge, credit goes to the field engineers for setting the control properly from the start of the project and coordinating between both projects. This special obstacle was recognized early on so that the teams from both buildings established communication and cooperation to ensure the successful installation of this notable project feature.

McGregor Square is only the ninth building in the world to be registered by the WELL Community Building Standard and was the first project in Denver to be designed to the Green Roof Ordinance. It was so new that it was difficult to design to the guidelines and design standards because the City and County of Denver was still developing them for new construction projects. Hensel Phelps helped the Denver Fire Department (DFD) with the testing and navigation of these new ordinances in relation to fire protection, barriers and the thermal break at the roof barrier on McGregor Square. The project paved the way for the City and County of Denver and DFD in interpreting the Green Roof Ordinance on future roof and elevated patio projects.

Excellence in Project Execution and Management/Team Approach

The overall schedule for this project was very aggressive due to the owner's desire to have it completed and open by the Colorado Rockies 2021 Opening Day. Moreover, the project team worked around approximately 21,000 fans at each home game throughout two baseball seasons through close coordination with the owner. These fans also had unhindered access to Coors Field gate E via the project's walkway for both seasons. Despite this challenge, McGregor Square was completed on March 10th, three weeks ahead of opening day.

Understanding the workforce needs for a project of this size and speed and the fact that all three towers were being constructed concurrently, Hensel Phelps worked with local and national trade partners to diversify the contractors on the project. This resulted in three different concrete trade partners, three different glazing trade partners and two different drywallers working on the

project. This approach prevented labor resource shortages for any single trade partner and allowed Hensel Phelps to assist each trade partner when needed. This proved instrumental in managing through the schedule challenges caused by the COVID-19 pandemic.

With three separate towers, with different uses, all sitting on top of a common below grade concrete parking garage, the permitting approach for this project started early on during the Schematic Design phase. The owner's goal was to bring each tower "on-line" independently; therefore, the decision was made to secure permitting for each tower separately and include the below grade parking garage along with one of the towers. To further complicate things, the entire complex shares various systems, such as chilled and heating water systems, fire pump, and the emergency generator. Hensel Phelps and the design team worked extensively with the Building Department early in the design phase on this approach to ensure that there would be no issues during the permit review process. As construction progressed, close coordination was required with all the trade partners, inspectors and Authorities Having Jurisdiction (AHJs) to track each building separately. The result was a streamlined sign-off and turnover of each respective tower to meet the schedule.

Construction Innovations/State-of-the-Art Advancement

When the project broke ground, the team reviewed the soil reports and understood there could be productivity issues when digging the underdrain and underground plumbing. The project started with an excavator with an attached breaker; however, it was immediately evident that this method would not be efficient enough to meet the schedule. After researching and contacting earthwork trade partners, the project team hired a trade partner accustomed to working in mountain soil conditions by using a trencher. This method safely trenched 3,100 linear feet and accelerated the schedule by five days and directly saved the project \$18,850. If this method had not been pursued, it would have resulted in two months of additional schedule delays and nearly \$1 million of incurred damages.

Another innovative manner was employed to expedite concrete placement for each level. Hensel Phelps researched and discovered a concrete strength tool, IntelliRock Maturity Logger, which provided quicker concrete strength results than waiting for official lab results. By using this tool,

the team was able to start construction on the next level of the building 2.5 weeks earlier. When the project was moving rapidly and billing at a rate of \$600,000/day, it was critical to maintain the schedule, which was made possible in part by the use of the data loggers.

Environmental/Safety

On McGregor Square, Safety is paramount, particularly in a downtown environment. At the peak of the project, 70 Hensel Phelps craft and 650 trade partner craft worked 1,929,646 work hours on this landmark project for the Colorado Rockies Baseball Club, Ltd. Executive safety charettes, monthly trainings and a craft-led safety program provided multiple avenues for open dialogue.

With three active cranes on one city block, it was important to prevent collisions and provide warnings of when material was going to be lifted. The team invested in specific crane sky horn, but with a twist wherein each crane had a uniquely different tone to communicate which crane was actively hoisting material. Additionally, anti-collision software was used to prevent the cranes from crossing paths.

Hensel Phelps craft performed all leading-edge fall protection and self-performed the installation of the debris netting on each level of the three towers as they worked their way up each floor. Initially, the owner did not understand the necessity of the debris netting. However, the project team emphasized the importance of installing the debris netting around the entire perimeter of the three towers to maintain the safety of both the workers and the surrounding neighborhood on such a tight, urban site.

Contribution to Community

Hensel Phelps would not have been able to maintain their productivity without support from their trade partners, specifically, Sackor Dennis, a project manager with Burgess Services. As technology was incorporated into all aspects of the project, the project team mentored Sackor in Virtual Design and Construction (VDC) and learning the processes of model coordination and laser scanning. Meanwhile, with more than a decade of experience with MEP systems, quality assurance and quality control and commissioning, Sackor used his experience with Burgess

Services to help facilitate communication among all the trade partners for the model coordination while learning hands-on how VDC could benefit his company. Sackor's mentorship with Hensel Phelps' VDC team allowed the project team to grow by promoting clear communication, better direction and explaining the 'why' behind the model coordination.

Hensel Phelps supports local small businesses as part of their culture to continue the success of businesses and sustainable growth for the industry even when it is not a required part of their contract. McGregor Square achieved 7% small business participation, which included 5.84% subcontracted to Small Disadvantaged Business Enterprise firms, 0.52% subcontracted to Service-Disabled Veteran-Owned Small Business firms and 0.65% subcontracted to Woman-Owned Business Enterprise firms.









