Category: 5 - Best Building Project – Specialty Contractor ($2 - $6 Million)
Submission By: LONG Building Technologies
Project Name: 16th and Chestnut

The 16th and Chestnut Smart Building Modernizes the Denver Skyline

Have you noticed there is a new addition to the Denver skyline? Towering 250 feet tall, 19 stories, and 420,000 square feet, it is located in the bustling, up-and-coming Union Station neighborhood on the corner of 16th and Chestnut Street. It is the destination of choice for Fortune 500 companies in the area, and DaVita will hold the anchor tenant position.

In November of 2016, LONG was awarded the bid for the 16th and Chestnut Street building in downtown Denver. Though it was a standard core and shell mechanical job, it had special features that made it unique. Due to the large size and scope of the project, LONG's project team encompassed both the HVAC equipment sales and building automation integration teams. These teams spanned across three Colorado locations which highlighted early on in the project that communication and coordination efforts were key. For our Fort Collins location, 16th and Chestnut was the biggest and longest-running project they have worked on thus far. In addition, this project was one of the first BACnet I/P with unified lighting projects for LONG that used the Distech product line. A project as grand and expansive as this one certainly presented challenges that had to be managed on a fast-paced and compressed construction schedule, but the dedication, foresight, and careful planning from our crew allowed us to be a part of a large-scale accomplishment in the construction industry.

The mechanical systems LONG provided involved over a dozen specialized manufacturers to implement the specified result. The mechanical equipment ranged from Munter's custom DX air handling units, Daikin water source heat pumps, Raywall electric heat, ETI VAV boxes, Ampco boiler flue, and Yaskawa VFDs. The plethora of equipment necessitated unceasing and comprehensive work. This project had over 70 change orders throughout its construction. These spanned from revisions to acknowledgements, architect's supplemental instructions, requests for information, and bulletins. The considerable amount of change orders for this project required detailed organization and thoroughness from our project managers. LONG was responsible for keeping track of each change order, which included creating a new and repriced proposal after each change, adjusting timelines, and updating release

and delivery schedules. LONG's project managers were not only committed to ensuring the accuracy of the equipment but were committed to everyone involved in the project. Recognizing the importance of informing and coordinating with the contractor and engineer on these changes, LONG's project managers maintained open communication throughout.

LONG also applied an experienced foresight to the project when choosing the right equipment. The Denver Fire Department has certain standards that must be met before obtaining the necessary certificates on the building. LONG was aware of Denver Fire's higher temperature standards and was proactive when selecting the life/safety damper blade indicators and remote resets because they met Denver Fire's requirements. It is also beneficial to the building because it allows for better monitoring of damper blades and they can be reset with the push of a button. This preemptive decision was imperative to staying on schedule. If Denver Fire's standards had not been met then the contractor would have had to remove and re-install hundreds of dampers. On top of this, the owner would have been delayed in obtaining a Certificate of Occupancy from Denver Fire. LONG's preparation and forward-thinking allowed them to get in front of Denver Fire and abate any issues, preventing additional costs and further holdup on the project timeline.

Phasing, coordination, and communication on a project this size is essential to the project's success. On the 16th and Chestnut project, phasing was a bit of a challenge. When the contractor determined a phasing plan and it was communicated to LONG, our project manager worked with the factories and drivers to schedule the deliveries within a 2 to 3 hour window. As this was in downtown Denver and there were two other high-rises being built on the same block (one right next door), they also needed to know how much was in each truck (as far as weights per piece of equipment and palletization) so that they could acquire enough storage space on the jobsite to accommodate the large shipments, usually around ½ to 2 truckloads.

One of the exciting aspects of this job for LONG was the opportunity to implement Distech Controls BACnet I/P technology as it is one of the most advanced controls solutions within the industry at this time. 16th and Chestnut is one of the first BACnet I/P and lighting integration projects in our market for Distech. This project unified lighting and HVAC together which was also tied into the Envysion 3D graphics. Features include wireless capabilities, smart room comfort solution support for unified HVAC, and convergence of technologies onto one single pane of glass allowing for ease of use for the owner/facility manager.

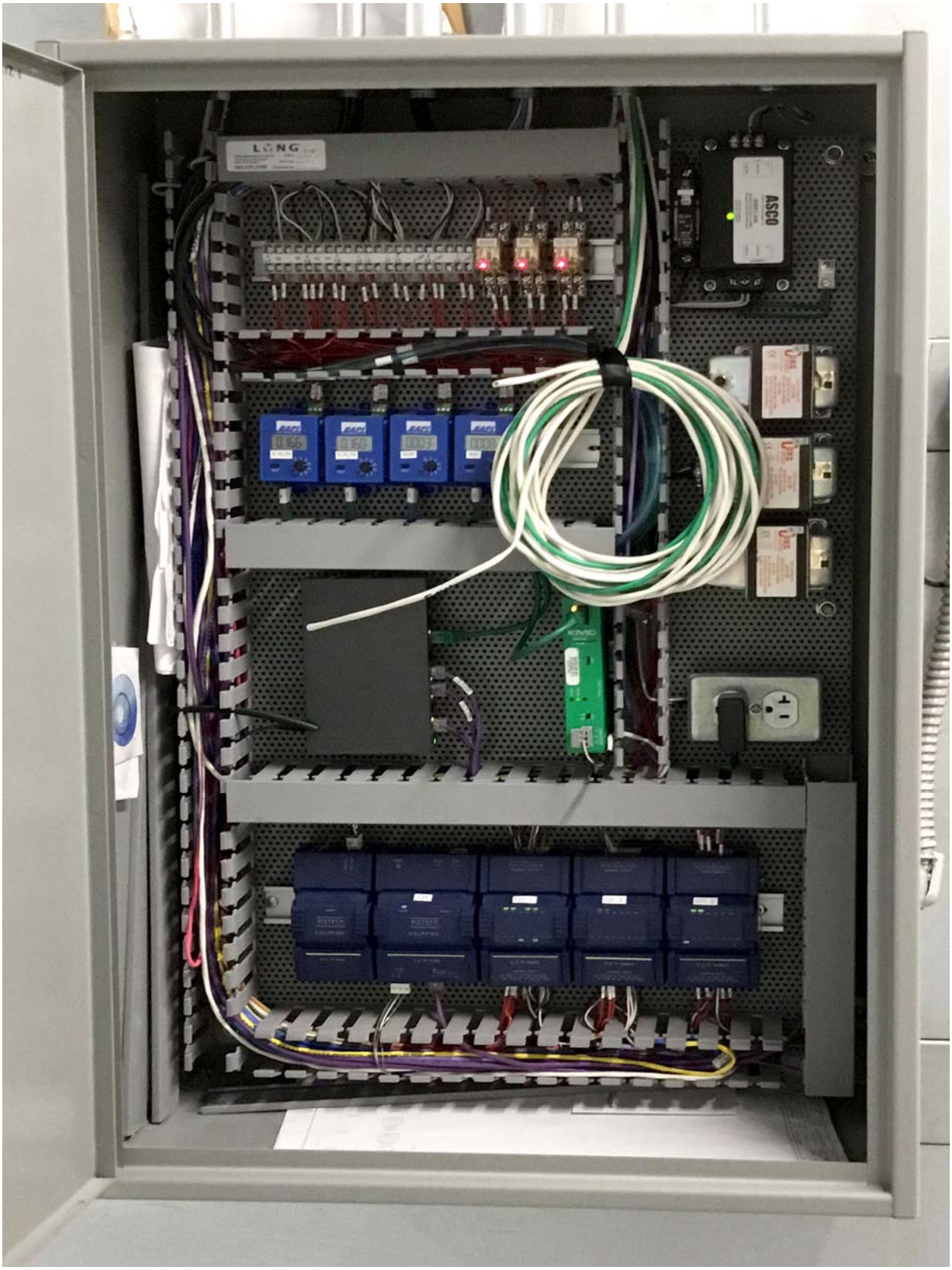
The result is an expandable system that allows growth with other IoT (Internet of Things) technology. By having the controls and lighting on the same system, a user can both easily manage their system as well as collect their data for energy savings. In an IoT world, having a smart building helps save tenants and owners money. Typically, the larger the building is, the more controllers are required, but as you add controllers it takes longer to update the end user graphics. The new BACnet I/P system allows a building to have less points of failure and better methods for tuning the communication, which results in higher efficiency of equipment and building comfort. Distech considers 16th and Chestnut a highly successful representation of their facility solution and considers this a showcase job.

This was the first project in which LONG implemented BACnet I/P with unified lighting within a building, which presented its own challenges. Though the product was similar to other Distech controls, the Envysion graphics and Eclypse controllers required additional training for each technician. Additional time and attention also had to be planned for and dedicated to working through any issues that arose. Because it was a new to LONG, we also had to determine the most efficient way to implement the product on a building this large and a construction schedule as compressed as it was.

As this 19-story skyscraper is located in a busy, congested urban area, logistical challenges were prevalent. Some of these obstacles required much work scheduling deliveries and call ahead notifications, accommodating other construction sites, and ensuring trucks were aware of the routes and could navigate them efficiently. These are all situations that pose a safety risk, and safety is always a constant topic of discussion on all jobsites. It is LONG's standard to ensure everyone is aware of the obstacles or any known issues in the area, which involved holding daily meetings on the jobsite. Despite the vast size of the building, congested location, and busy jobsite, there were no lost hours on the job due to LONG's strict adherence to their safety protocol.

LONG is proud of their work that was put into planning, training, and successful implementation on such a high-profile project. The building will be LEED certified, and is aiming for Platinum certification, so it will be energy efficient and have less impact on the environment. As DaVita expands its headquarters, this new building on 16th and Chestnut will add 800 jobs to the community within the next 10 years, not only assisting the Denver community but growing Denver's economic standpoint as well.


Chestnut


LONG
ASCO


2-HOUR FIRE WALL
PROTECT ALL OPENINGS


First, think. Second, believe. Third, dream.
And finally, dare.
~ Walt Disney
Our Symbols


DaVita
Chestnut