

UCHealth Longs Peak

Northern Colorado is growing by leaps and bounds, and with that comes the need for increased access to quality healthcare. Haselden Construction was tasked with building the new Longs Peak Hospital for UCHealth [Photo 1] at a pace that kept up with the quickly expanding population of the region. In an incredible 14 months, we took this from an empty 44 acre site with a historically registered irrigation ditch running through it to a state-of-the-art, 220,000 SF hospital including a scope that was greatly expanded from that of the original RFP.

Haselden's purpose is to "fulfill our customers' needs completely." With the UCHealth Longs Peak Hospital project, that meant adding a significant amount of scope (equating approximately \$7M in owner-driven change orders) to allow the hospital to serve the needs of the growing community. A large portion of this was finishing out a space (around 10,000 SF) that was originally programmed to be shell only. Haselden was able to absorb this major modification—along with several other owner change orders—and still hold tight to the original schedule.

By anyone's standards, building a 220,000 SF facility as complex as a hospital in a mere 14 months is an astonishing feat. Add to that 22 weather days and the interesting predicament of a historically registered irrigation ditch running across the site, and the project becomes even more challenging. The ditch amounted to a critical path item, and it had to be relocated (some portions replaced with box culvert) and operable by a certain date so the farmers that used it could irrigate [Photo 2]. However, the site preparation paled in comparison to building the facility. Through a combination of innovative prefabrication techniques and team ideology, we brought this project in on-time, despite the delays and change orders.

This is the second project Haselden has performed large-scale prefabrication on, the first being on UCHealth's Anschutz campus. Always wanting to challenge ourselves, we took this level of prefab to the next stage. Even though we had previously prefabricated headwalls and overhead corridor racks on our UCHealth Anschutz project, we still kicked it up a notch. At Longs Peak Hospital, we created a 20,000 SF shop on-site to perform this multi-trade prefabrication. Being located at the project allowed for efficiencies in the management of materials, personnel, and

work that an off-site prefab warehouse could not. It also provided a benefit to the AHJs (authorities having jurisdiction) as they now had the ability do their inspections at the site, not having to travel to another location. The multiple variations of the headwalls were constructed (including framing, plumbing, electrical, ducting, med-gas, and vacuum systems) [Photo 3], with a final device count of approximately 20 per headwall. We built a template for each different headwall variation, which we test-fit in the field to guarantee the placement and size of the cut-outs for the multitude of devices. That template was then used to fabricate the finish wood surface using a CNC machine. By using this method instead of manual fabrication, we saved hundreds of hours. Additionally, from an infectious disease standpoint, the cuts made by the CNC machine are much smoother, creating a surface that's easier to keep clean. In addition to headwalls and overhead corridor racks, we took on unitized curtain walls and exterior wall panels. The unitized curtain wall system required extensive upfront coordination to determine exact details and dimensions. This meant our planning started six months earlier than we normally would for this system, but it went up exponentially faster. The curtain wall was fabricated at the manufacturer's facility and shipped to the site ready to install. The exterior wall panels were framed at Midwest Drywall's shop in Kansas and shipped to the project where sheathing was performed and the brick ledger angle was welded. We then sprayed fluid-applied air barrier and waterproofing; after sealing the joints to the glass and panel to panel, we were dried in. This rapidly accelerated our ability to overlap interior and exterior construction.

A crucial reason prefabrication was such a success can be attributed to the teamwork philosophy that infused the project. We brought on our subcontractors as trade management partners early in the process to assist in completing the design and help eliminate the need for value engineering. This allowed us to preserve the design intent while ensuring constructability. The designers and installers worked together from the start of the project to establish the best solutions the first time around.

This project team used technology to its full potential and in innovative new ways. By combining BIM 360 Field & Glue with QR codes, we were able to do two things: make the punchlist process easier and more efficient and provide the owner with an invaluable tool to use after turnover. The general steps involved included: 1. Generating an equipment list from the

AutoDesk BIM 360 Glue models; 2. Determining which custom fields were needed (custom fields vary by trade and equipment type from approximately 4 to more than 20 components); 3. Creating a component matrix outlining the custom fields required in QR code models, broken out by trade; 4. Printing QR codes and placing them on door frames and individual pieces of equipment. With the QRs on the door frames, it was simply scan—instantaneously pulling up the room location—and click. Once the issue was recorded, it coordinated all punch items to everyone’s iPads, tasks became assignable and shareable with all subs, and team members could all notify each other and send reminders. Because of this QR code system, the punchlist on this 220,000 SF building was recorded and completed in record time. The QR codes remain in place now that the building is turned over, allowing the owner to walk up to a room, scan the code, and pull up relevant information regarding the equipment in the room and any quality control, maintenance, or warranty issues within that space [Photo 4]. The QR codes are also on the individual pieces of major equipment, allowing for ease of maintenance tracking [Photo 5].

Safety remained a priority throughout this project. Haselden is a part of the AGC OSHA CHASE Partnership, and this project was chosen for a CHASE inspection. The inspector came back with zero findings. The project had a full-time on-site safety manager, and a rotating safety committee consisting of craft workers and forepersons lending their voices on issues such as training and education. They met every month discussing what they observed on the site and their ideas on what we could improve upon, as well as taking part in a job walk. Over the course of the project, Haselden provided on-site safety orientations for over 1,700 craft workers. This site also pioneered our “Why I Work Safe” board, a weatherproof bulletin board outside the jobsite trailer where all team members are encouraged to put photos of who/what they and their teammates are going home to, a visual reminder of why they should take the extra step to do their job safely. Haselden logged 86,969 hours with no lost time. Haselden also participates in CSEP, the Colorado Stormwater Excellence Program, which is the first industry self-policing stormwater compliance management program in the country. As part of this program, our projects are subject to annual stormwater inspections. This project was inspected twice, both times with zero findings.

Bringing this new facility to this thriving area of Colorado will not only bring cutting edge healthcare facility to the community, but a host of jobs, as well. Throughout the construction of the project, Haselden endeavored to hire local subcontractors and craft workers, attending job fairs and placing ads in the local papers. Scott McGough, Facilities Manager at Longs Peak Hospital, wrote to the president of Haselden Construction saying, “Every time I visit the site, all of my questions or opinions are fielded with consistent professionalism The team takes pride in their work, and it shows in the facility and everything they do, meaning, the team is outstanding and place looks great! Please recognize all staff at the LPH project for consistent professionalism, attention to detail, a caring “can-do” attitude, doing great work, and for being amazing in every way!”



Photo 1 – Haselden Construction – UCHealth Longs Peak Hospital



Photo 2 – Haselden Construction – UCHealth Longs Peak Hospital



Photo 3 – Haselden Construction – UCHealth Longs Peak Hospital



Photo 4 – Haselden Construction – UCHealth Longs Peak Hospital



Photo 5 – Haselden Construction – UCHealth Longs Peak Hospital

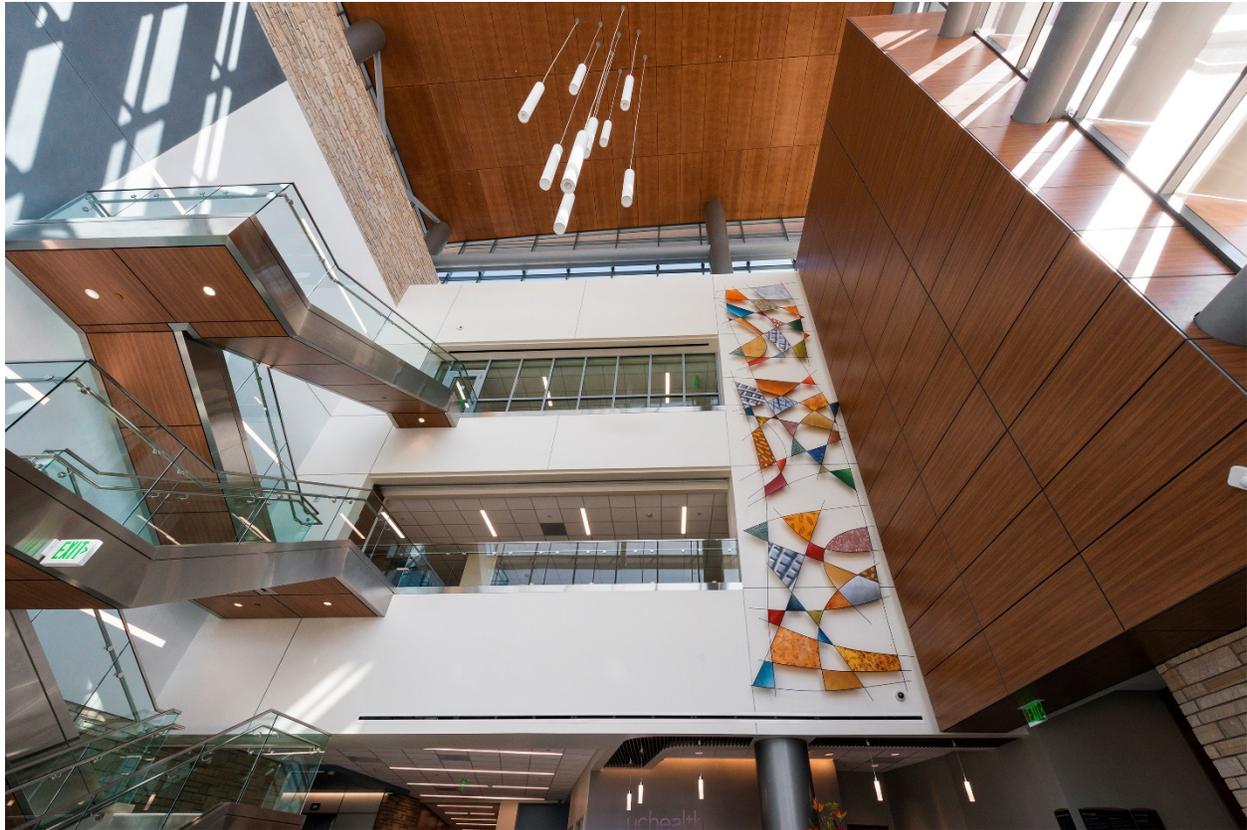


Photo 6 – Haselden Construction – UCHealth Longs Peak Hospital



Photo 7 – Haselden Construction – UCHealth Longs Peak Hospital



Photo 8 – Haselden Construction – UCHealth Longs Peak Hospital



Photo 9 – Haselden Construction – UCHealth Longs Peak Hospital



Photo 3 – Haselden Construction – UCHealth Longs Peak Hospital