

Category: 6 - Best Building Project – Specialty Contractor (\$6 - \$10 Million)
Contractor: MTech Mechanical
Project Name: UCCS William J. Hybl Sports Medicine and Performance Center

The human body is an amazing thing — running for miles, summiting mountains, swimming across oceans. Not often does a mechanical contractor contribute to cutting edge healthcare innovations and research but MTech Mechanical was able to do just that at the UCCS Hybl Center. MTech was a key partner providing the mechanical scope of work for this first-of-its-kind facility for the City of Champions in Colorado Springs.

The William J. Hybl Sports Medicine and Performance Center **[PHOTO 1]** is truly unique; integrating education, healthcare and research with partners from the University of Colorado Colorado Springs and Centura Health. It is expected that 400 patients and clients and 1,400 students will visit the center per day. The facility will allow for increased growth and participation in multiple UCCS degree programs including exercise science and human anatomy and physiology.

The 104,000 square foot, 4-story, LEED Silver facility will serve those from all walks of life including athletes young and old, military and first-responders, wounded warriors, individuals with disabilities and more. “Focusing on exercise as medicine will allow multidisciplinary teams to translate protocols developed with high-performance athletes into exercise prescriptions for patients with chronic diseases like diabetes and even cancer,” Bill Lueck, co-executive director, Hybl Center said.

“If you want to be the best, you have to do things that other people aren't willing to do.” – Michael Phelps

MTech was awarded the UCCS Hybl project based on a Design-Assist, RFP selection process. This procurement method aligned with MTech’s ability to infuse their preconstruction/engineering capabilities into the design, assuring the project criteria, innovative solutions, and best engineering practices are being delivered. MTech’s technical offering, recent success at UCCS and involvement with similar healthcare/higher education teaching facilities was instrumental in securing the project.

Creating a facility such as this meant that the mechanical systems needed serve a variety of uses while maintaining the protocols needed for the healthcare environment. The mechanical system consisted of common ducted custom air handlers, air-cooled chiller, boilers, a cooling tower, two specialized

Category: 6 - Best Building Project – Specialty Contractor (\$6 - \$10 Million)
Contractor: MTech Mechanical
Project Name: UCCS William J. Hybl Sports Medicine and Performance Center

condenser systems serving the Environmental and Altitude chambers, and an energy recovery unit serving the Anatomy / Cadaver labs.

One of the unique spaces at the Hybl Center is the performance area on the main floor. **[PHOTO 2]** It not only has standard workout equipment used for training and physical therapy, but also an 8-foot wide treadmill, and two separate force plates built underneath both the track and a stationary platform. The performance area was a challenge for the MTech team because of the 40-foot ceiling height and clean-duct protocols in place. **[PHOTO 3]** These were some of the last pieces of open ductwork to be uncovered due to the nature of the construction.

In addition to the performance area, the Hybl Center houses their own Altitude and Environmental Chambers. These specialized chambers were a first for MTech, coordinating with the supplier to ensure the install of ductwork and piping met their needs. These rooms can monitor an individual's performance while varying the conditions of the space. The Environmental Chamber can alter temperature and humidity (-4° F to 113° F and 30% to 95% relative humidity), while the Altitude Chamber can alter temperature and altitude by adjusting the amount of oxygen in the room to simulate change in elevation (53° F to 104° F and vary from sea level to 18,000 feet.) **[PHOTO 4]** It would be assumed that the purpose is to raise the altitude but, in most cases, athletes will live at high altitude such as Colorado Springs but want to train at low altitude so that their muscle gain is even greater.

Included within Centura's clinical space resides 22 exam rooms, rehabilitation areas, (2) X-rays and an MRI. MTech lead the charge of the MRI coordination amongst all trades due to the complex, technical nature of equipment. An opportunity to save time and costs was identified by routing the new exhaust up through the building in a straight shot. With MTech's healthcare knowledge, resulting in zero interference when the magnet was tested, giving clear MRI images.

Now for the room everyone is dying to get into...the anatomy and cadaver labs. **[PHOTO 5]** Because of the delicate nature of the cadavers, the space must ensure the mechanical system provides the proper air changes and requires fresh outside air to be used 100% of the time. To assist with the LEED Silver certification, an energy recovery unit was utilized to maximize energy savings. MTech installed

Category: 6 - Best Building Project – Specialty Contractor (\$6 - \$10 Million)
Contractor: MTech Mechanical
Project Name: UCCS William J. Hybl Sports Medicine and Performance Center

exhaust air dampers which prevent any formaldehyde smell from leaving the area and circulating into the rest of the building.

“Obstacles don’t have to stop you. If you run into a wall, don’t turn around and give up. Figure out how to climb it, go through it, or work around it.” – Michael Jordan

On every project, it is inevitable that there will be challenges. The important part is how you handle them and provide solutions. Weather, coordination and prefabrication, and a global pandemic were three challenges the team faced.

Colorado Springs is known for summer storms due to it being at the base of Pikes Peak, and Mother Nature gave no mercy right when the MTech field teams were getting started. These storms delayed the schedule by 24 days, but the team was able to develop a plan to stay on track.

MTech led the conversation about changing the sequence for the concrete pours, giving more weather protection to smaller areas instead of a single larger space for install. This required MTech to closely work with BIM and fabrication teams to change sequences of fabricating ductwork and piping. Through MTech’s lead, the team was able to adjust the entire construction schedule and still have prefabricated materials delivered for timely installation.

During the coordination process, MTech evaluated the 4th floor mechanical room **[PHOTO 6]** and knew this was going to be the team’s pinch point. This area had the most hours and was one of the last areas ready for construction. MTech’s team was able to be innovative with what they do best — create a solution to a challenge. Structural skids were prefabricated to incorporate the hydronic system specialties. This allowed the assemblies to be lifted into the 4th floor space and essentially “plug & play”. **[PHOTO 7 & 8]** The fabrication of the skids and pumps eliminated over 300 field installation hours, resulting in efficiency and an on-time schedule for MTech’s critical space.

Another opportunity to save time was fully fabricating the ductwork and hydronic piping that ran vertically through all floors. The whole 47-foot piece was picked up and placed by the crane saving time and offering a better safety solution versus traditional floor by floor installation. **[PHOTO 9]**

Category: 6 - Best Building Project – Specialty Contractor (\$6 - \$10 Million)
Contractor: MTech Mechanical
Project Name: UCCS William J. Hybl Sports Medicine and Performance Center

With this creativity, the team was able to finish the mechanical scope within the shaft in less than 1 day compared to the 10-day duration shown on the construction schedule.

Finally, COVID-19 hit the project during the final months of completion. MTech was on final trim, quality control and start-up processes, immediately creating a proactive response plan. MTech's team worked the morning shift from 5:00a.m. until 2:00p.m. then had a 30-minute meeting to coordinate with trade partners working the night shift. The communication and collaboration of all parties kept the project on track in the uncertain climate, resulting in enhanced safety and most importantly keeping the project schedule accountable.

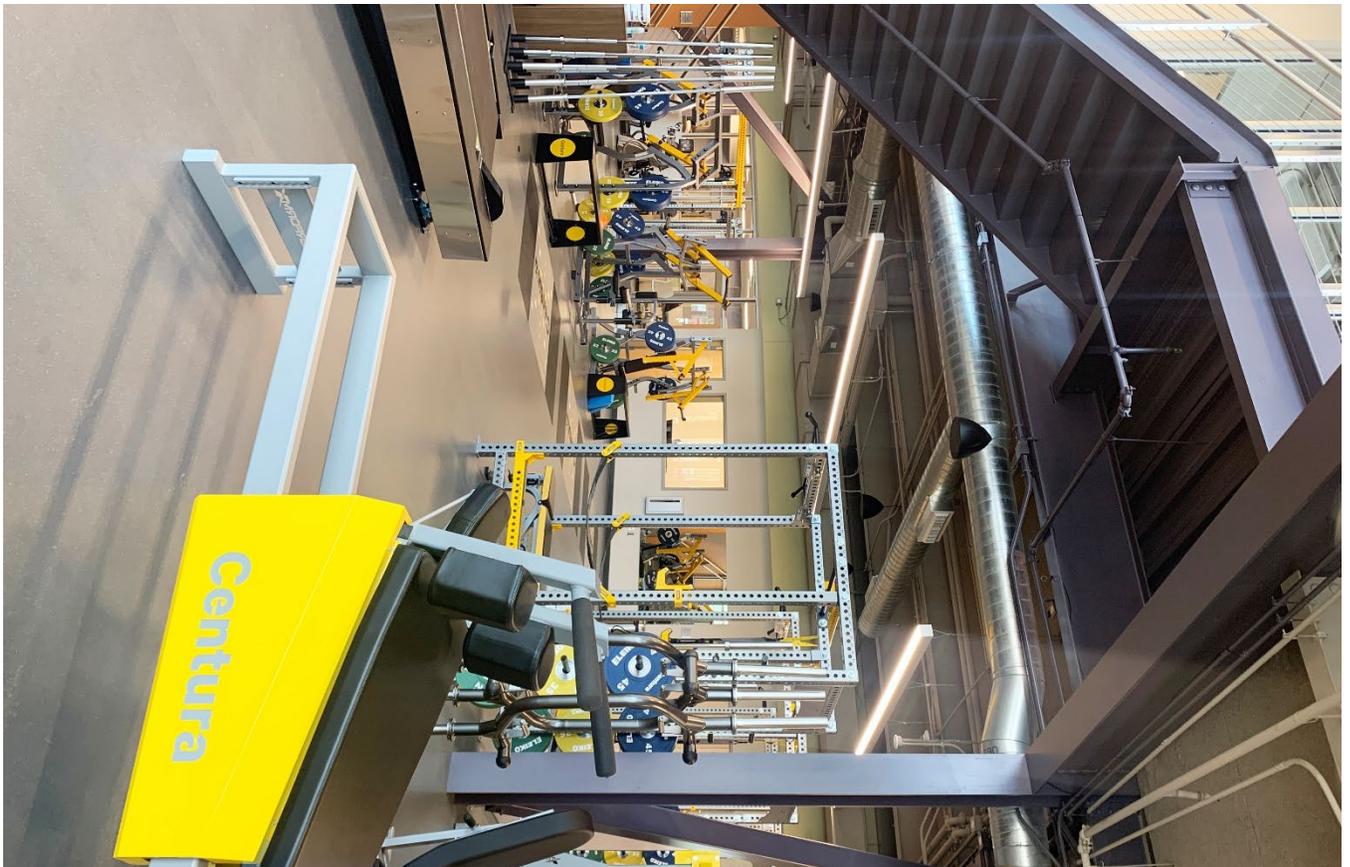
“Success is no accident. It is hard work, perseverance, learning, studying, sacrifice and most of all, love of what you are doing or learning to do.” – Pelé

With 32,000 manhours worked on the project, it is an extraordinary achievement that there was not a single injury or recordable from MTech's team! MTech sets the standard on safety and was one of few contractors that had participation from upper management on weekly safety walks. Not only were they able to show a top down approach to safety, but several MTech field team members were recognized publicly amongst the entire jobsite as “safety leaders” by the general contractor.

One of MTech's greatest safety accomplishments was hoisting the two return air fans for the building systems. **[PHOTO 10]** Each fan weighs approximately 2,190 pounds and 70” tall – essentially lifting a small pickup truck to the ceiling of the mechanical room. Preplanning was a key task and field managers collaborated proactively with MTech's safety team to make it happen.

The William J. Hybl Sports Medicine and Performance Center officially opened to Centura clients on June 30, 2020. Contributing to a facility that is going to make a difference within the community is something MTech is truly proud of and can only anticipate the level of success these doctors, students and athletes are able to achieve. To say the UCCS Campus is making strides in the City of Champions would be an understatement. MTech was able to stay on top of the schedule through both the extreme Colorado Springs weather and a world-wide pandemic hitting within months of finishing. MTech Mechanical was able to cross the finish with no safety incidents and as a true champion of the team.

Category: 6 - Best Building Project – Specialty Contractor (\$6 - \$10 Million)
Contractor: MTech Mechanical
Project Name: UCCS William J. Hybl Sports Medicine and Performance Center



Category: 6 - Best Building Project – Specialty Contractor (\$6 - \$10 Million)
Contractor: MTech Mechanical
Project Name: UCCS William J. Hybl Sports Medicine and Performance Center



Category: 6 - Best Building Project – Specialty Contractor (\$6 - \$10 Million)
Contractor: MTEch Mechanical
Project Name: UCCS William J. Hybl Sports Medicine and Performance Center



Category: 6 - Best Building Project – Specialty Contractor (\$6 - \$10 Million)
Contractor: MTech Mechanical
Project Name: UCCS William J. Hybl Sports Medicine and Performance Center



Category: 6 - Best Building Project – Specialty Contractor (\$6 - \$10 Million)
Contractor: MTEch Mechanical
Project Name: UCCS William J. Hybl Sports Medicine and Performance Center

