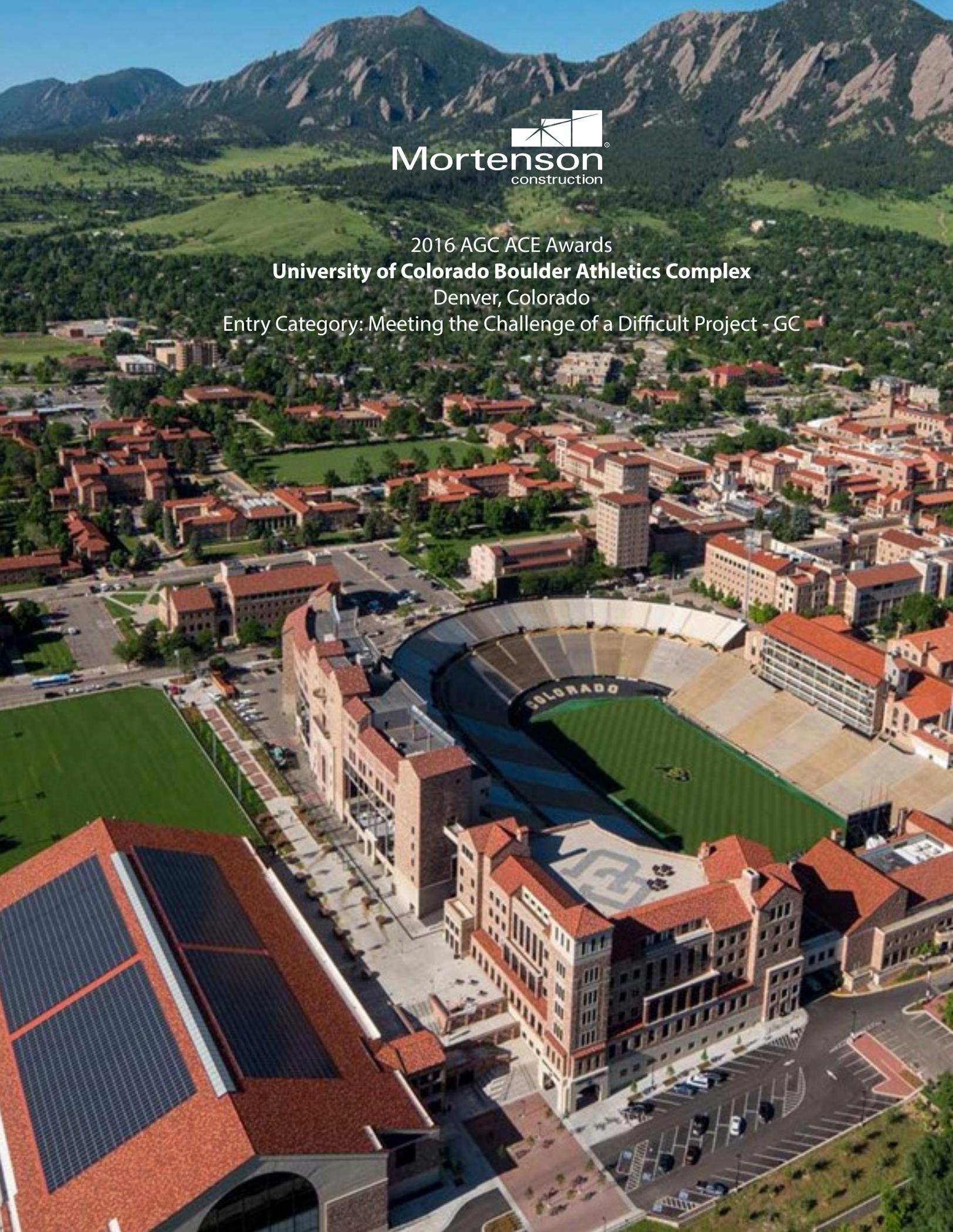




2016 AGC ACE Awards
University of Colorado Boulder Athletics Complex
Denver, Colorado
Entry Category: Meeting the Challenge of a Difficult Project - GC



MEETING THE CHALLENGE OF A DIFFICULT JOB - CU ATHLETICS COMPLEX

To ensure their football training and competition facilities are among the best in the nation, the University of Colorado made the most significant investment in facilities in their athletic department's history. Mortenson delivered this transformational fast-track project as the leader of a fully integrated design-build team on time and without significant disruption to daily campus activity. The schedule of this \$177M project was unprecedented as it was completed in less than two years with significant interim milestones such as the delivery of northeast endzone seating delivered for the 2014 season only a few months after breaking ground in May, allowing for revenue generation for CU.

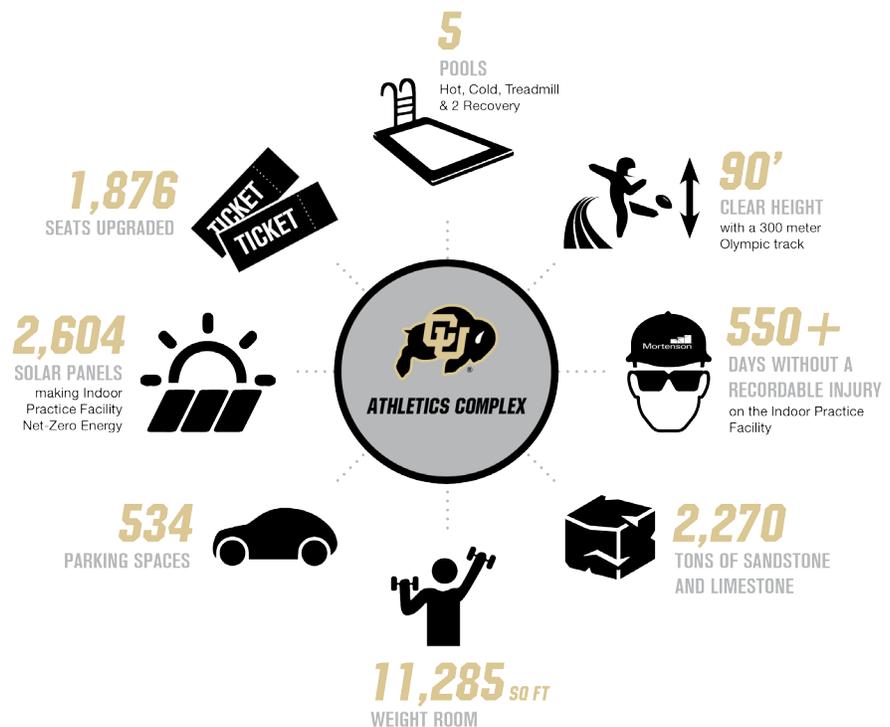
Key project elements

include:

- New seating areas, including loge boxes and premium seating, added to the north end zone and northeast corner
- The state-of-the-art 212,000-square-foot Champions Center, which serves as the new home of CU Football and many Olympic sport coaches and the Athletic

Administration. The Champions Center houses a team locker room and lounge, team dining facilities, and a rooftop terrace for game-day and special events

- A new Sports Medicine and Performance Center open to the public for injury rehabilitation and elite sports training consultation
- A 37,000-square-foot renovation of Dal Ward Athletic Center, which includes the addition of a men's & women's Olympic sport locker room, expansion of the Academic Center and a new weight room



- The construction of a 108,000-square-foot, net zero energy (NZE) indoor practice facility. This facility serves all sports programs and the six-lane 300-meter competition-venue track allows CU to host IAFF and NCAA-sanctioned indoor track and field events on campus
- A 534-car underground parking garage below the Indoor Practice Facility
- Franklin Field, a 106,000-square-foot outdoor grass practice field, adjacent to the Indoor Practice Facility

The project connects the campus through Boulder Creek and provides for a new front door to campus as visitors approach via Folsom drive. The new facilities are designed to help student-athletics achieve peak performance while centralizing CU's athletic programs for unified and efficient operations.

INNOVATION IN SCHEDULE AND SUSTAINABILITY

The Mortenson team faced an extremely tight schedule that was made challenging by ongoing football season operations and game days, special events (BolderBOULDER 10K, CU commencement in Folsom Field, 4th of July) and unusual weather in winter and late Spring of 2015. Mortenson worked multiple shifts, seven days a week, to have the seating



The IPF site and work on the Champions Center - October 2014. North and northeast end zone seating was already completed and open for the '14 season.

of the 2014 season, just seven months after start of design/award. Another challenge was not disrupting campus operations. The client requested that all campus access roads remain open, so Mortenson used multiple flaggers to direct traffic and ensure safety. Mortenson also developed an infographic calendar that was posted to the CU Buffs website communicating what to expect, as well as implemented a live webcam. Additionally, there were multiple stakeholders (Campus, Athletic Department, Football, Track & Field, Sports Performance tenants, CU Parking, and

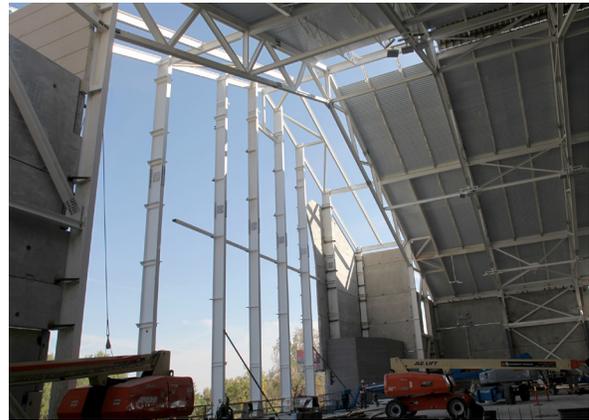
multiple departments within CU Facilities) to satisfy, so communication was critical. The team held goal development sessions and numerous design management meetings to align everyone's thinking. Given the tight site and lack of space to stage material, Mortenson creatively decided to leave a hole in the middle of the garage for the large crawler crane to set up and gradually backed it out as steel was erected. Staging was performed day and night since there wasn't enough space to do it all during the day. The parking garage was also not part of the original scope, so Mortenson was forced to adjust its construction methodology and sequencing after the project had already started. Another complication was the extremely sensitive existing site utilities that powered all of campus and part of the City. Mortenson performed extensive potholing to ensure no disruption and re-designed its retaining concept to prevent soil nails conflicting with the street and utilities.

Mortenson prefabricated the exterior wall panels of the Champions Center, which saved at least six weeks on the exterior enclosure. To optimize the use of the crane, the team erected steel during the day and installed the wall panels from 4pm to midnight. Given the amount of sandstone and limestone required (2,270 tons or roughly 68,000 feet), the team used two companies, Mortenson and Gallegos, to improve the schedule. This allowed both companies to work simultaneously on multiple elevations. In addition, the project team worked with Boulder Community Health and University physicians to bring the Sports Performance Center, including an MRI facility, to fruition. Another late scope addition, the center was designed and built in only 11 months and provides top notch service to both athletes and the community.



Progress on the Champions Center and the IPF from March 2015

While the entire project is targeting LEED Gold certification, this project raised the bar in energy efficiency in that it included one of the first NCAA Division I Net Zero Energy (NZE) Indoor Practice Facilities in the country. In fact, the 2,604 solar panels actually help make the facility Net Positive. Any surplus power helps to fuel the adjacent Champions Center. The Indoor Practice Facility functions to create a sustainable environment while saving the University money in the process. The project utilized a Power Purchase Agreement with SunPower, which essentially enabled CU to receive the panels with no upfront cost.



Solar panels on the roof of the IPF allows for excess power to be sent to the adjacent Champions Center.

ENSURING QUALITY CONSTRUCTION TO MEET STRICT DESIGN GUIDELINES

Repeatedly ranked as one of the nation’s most visually striking collegiate campuses, the University of Colorado is known for its architectural palette of rustic sandstone walls and red-clay tile roofs. This strict architectural mandate is managed by the CU-Boulder Design Review Board with very high standards. The project team presented to the Design Review Board for review and approval, from early stages of conceptual design through the document phases. Several building material mockups were constructed in order to get final approval from the Design Review Board and CU Campus Architects before exterior materials commenced.

The strategy worked, and as a testament to the masonry craftsmanship, the Campus Architect rejected less than 1% of the stonework. That is an impressive achievement by any measure, but especially rewarding given the level of masonry detail and aggressive installation schedule. Mortenson completed the Champions Center project on time for football season, which was a significant concern of the Owner. Phased occupancy occurred by area, and by level, in order to deliver the most important areas early so they were immediately functional. Boulder experienced uncharacteristic weather in 2015, including above average snowfall in February and 23-out-of-31 days of rain in May, which added to the challenges of an already very compressed schedule.



The completed 212,000 square foot Champions Center

IMPROVING THE LIVES OF STUDENT ATHLETES

Everything about this project was designed for efficiency and to improve the daily life of student-athletes. One of the guiding principles was to configure each athletic function with adjacency to each other and have all the key football functions on one level so that student-athletes and staff could easily transition from one activity to the next. Previously football players had to cross a bridge to their practice fields north of Boulder Creek. Other sports had to go to the Coors Event Center for practice and training. Within the new facilities, student athletes can conveniently practice, weight train, eat, attend meetings, study, lounge, and receive medical treatment all within a

few yards. It is estimated that these improvements save student athletes at least a half hour per day in travel time. The addition of five hydrotherapy pools (hot, cold, treadmill, and two recovery) and Sports Performance Center are also unique features designed to improve athletic performance.



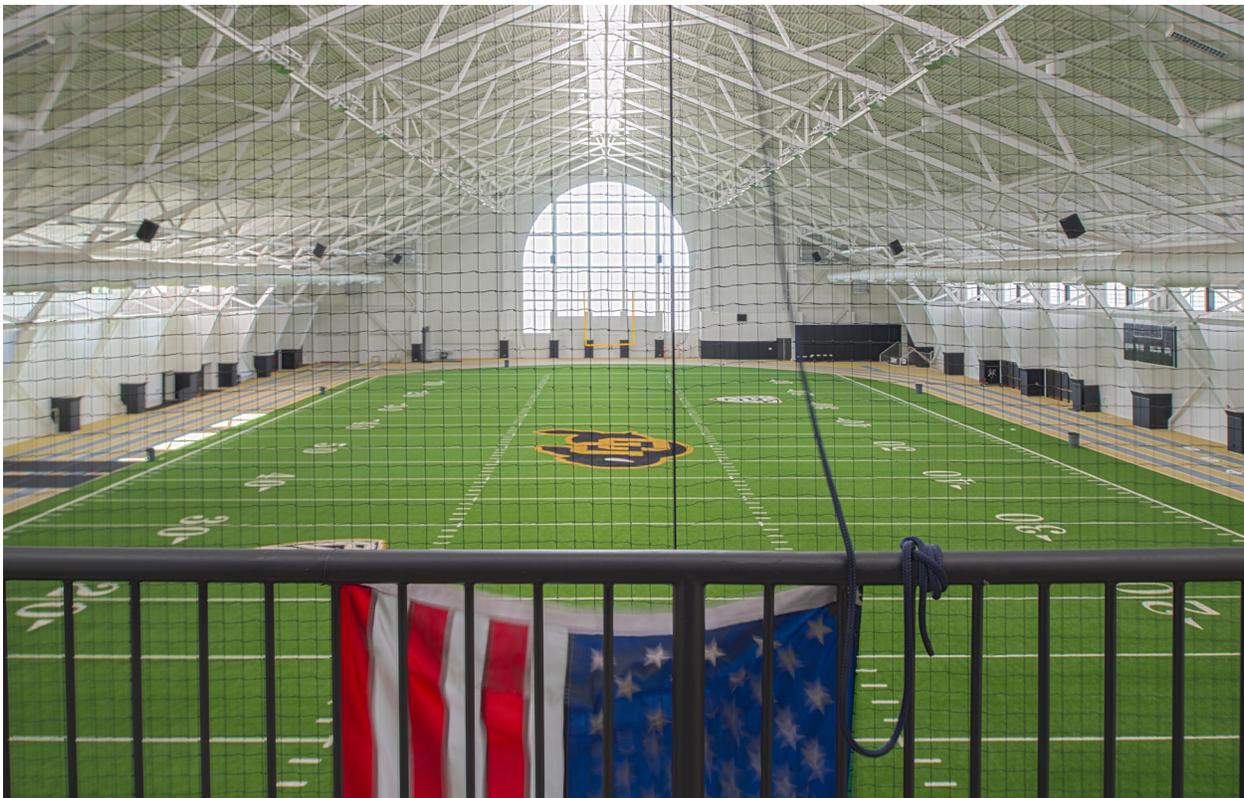
One of the five new hydrotherapy pools helps CU significantly expand its hydrotherapy program.



The new locker room.

During the construction of the project, Mortenson engaged the community and various stakeholders by creating an interactive model of the project that users could navigate using a game controller. The exhibit was displayed on a mobile TV in campus buildings near the stadium and served as a communication, recruiting, and fundraising tool. The team also participated in Athletic Career Outreach events, led numerous student tours, hired five CU students as interns, and had one CU professor work on the project part time.

Mortenson had 3,161 workers on the project and a peak workforce of 600 craft workers on the project onsite in one day. To keep that many people safe is not easy while facing adverse weather, working on an active campus, and being confined to a tight site. However, Mortenson worked more than 550 consecutive days on the Indoor Practice Facility without a single recordable injury! To create a safe jobsite, Mortenson implemented daily pod meetings, stretch ‘n bend, a site safety committee, worker-to-worker evaluation program, daily site audits, and three orientation sessions for every work on site. Mortenson staffed the project with three full-time safety professionals and seven superintendents whose first obligation was safety. The project team also organized a Family Day event that allowed workers to show



the accomplishments of the project to friends and family. Stations were set up to learn about hazards encountered in everyday construction life and how we work together to create a safe environment for everyone. Families enjoyed goodie bags full of safety gear and information, cotton candy and popcorn stands, and a visit from CU's mascot, Chip. The inclusion of family served as a powerful reminder that our safety affects not only ourselves, but also our loved ones. office, Production Support Building, Central Energy Plant and Café.

THE END RESULT: A PROJECT ENABLING CU TO ELEVATE ITS ATHLETICS

Careful consideration and detailing were executed in order to achieve seamless architecture between the new buildings and existing architectural campus character. The new structures were configured to create a signature "front door" to the complex. The new premium seating and northeast rooftop terrace were designed to maximize views of Boulder's signature Flatiron mountain range and sightlines to the football field, enhancing the fan experience while allowing the customer to generate increased revenues on football game days and for off-season facility banquet event rentals.



The new rooftop terrace at sunset.