UConn Student Recreation Center
Project #: 1000069506
Project Narrative

Currently under construction, the new Student Recreation Center at the University of Connecticut Storrs Campus will serve as the new campus hub for intramural sports, fitness and recreation. The approximately 185,000 net square foot building will contain fitness areas, multi-activity courts including volleyball and badminton, basketball and racquet ball courts, two swimming pools, indoor track, fitness studios, an indoor rock climbing wall, a juice bar and supporting office spaces for the UConn Recreation Department. The project team has been committed to sustainable design since project inception, establishing a goal for both LEED Gold and SITES Certified ratings. Engaging in an integrated process, the design team collaborated with UConn students and stakeholders to explore design concepts and establish key sustainability factors, including energy and water use, building materials, air and lighting quality, and occupant satisfaction. Currently, the project design is on track to meet these ambitious targets.

Project Site
The Student Recreation Center is strategically located at the heart of the University and central to the extensive campus in Storrs, CT. The University’s mission for this project is to reinvigorate UConn’s dedication to and support of recreation, health and wellness and to promote recreation access for all students, faculty, and campus occupants. The project site was previously the location of an outdated residence complex, taken down by the University under a different contract, and started as a demolished, flat site. In addition to creating a state-of-the-art facility for fitness and recreation, the design intent is to renew the entire landscape and integrate the site seamlessly with the surrounding campus buildings and pedestrian pathways.

Site and Landscape
Committed to find synergies between the LEED and SITES rating systems, sustainable site strategies were part of the design conversation at project inception. Existing parking in the immediate area was reduced from 49 to 37 spaces. Additionally, the Dodd parking lot has been regraded and redesigned with pervious asphalt to infiltrate and manage site stormwater. Relative to the large building footprint, the surrounding landscape area successfully achieves a big sustainable impact. Low-maintenance and drought-tolerant native plants and grasses connect the site with the surrounding campus landscape and bioswale planting located along Hillside Road will reduce stormwater runoff. No irrigation will be required to maintain the site. Pedestrian-oriented hardscape materials and canopy tree locations have been carefully chosen to limit heat island effects and designed in a manner to provide efficient pedestrian mobility throughout the site. Many seating areas are provided throughout the site to invite occupants to linger, rest, and engage with the site context.
Transportation
In addition to reducing existing parking spaces in the immediate area, the project further emphasizes use of alternative transit by providing 30 bike racks, equivalent to 60 spaces for bicycle parking on site. Located in the heart of UConn’s campus, the building is within walking distance to many local services and businesses, connecting occupants to various amenities and making recreation more accessible to the campus. The project site is accessible by multiple means of campus and public transportation, convenient for students, building staff and the campus at large. Five bus lines service multiple stops within a quarter mile walking distance of the site. Combined with campus bus lines, bus service provides over 300 stops near the project site each day.

Water Conservation
The University of Connecticut has a large water reclamation facility that distributes greywater to surrounding campus facilities. The new Student Recreation Center will be connected to the water reclamation plant and campus greywater will be utilized for flushing toilets and urinals within the building. To further reduce water consumption, low flow fixtures were selected for all fixtures within the building. The team calculates that the proposed plumbing fixture usage exceeds the LEED WEp1 minimum required savings of 20% and demonstrates a potable water reduction approximately 39.4% below EPAct 2003 standards. Combined with the campus greywater to serve flush fixtures, the combined water conservation is estimated to be over 51% compared to a baseline building.

Energy Conservation: HVAC & Lighting design strategies
Energy conservation and long-term energy cost savings are significant components of UConn’s commitment to environmental stewardship. Subject to meeting the Connecticut High Performance Building Standard, UConn projects must exceed a minimum 21% cost savings benchmarked against the State of Connecticut’s current ASHRAE 90.1-2007 energy standard. Using a whole-building energy model, the project team performed iterative energy analyses to optimize the HVAC system selection and evaluate innovative strategies to reduce energy consumption.

The Proposed Design will use 26% less annual site energy compared to the ASHRAE 90.1-2007 minimally compliant Baseline Design. The 46% energy cost savings of the Proposed Design exceeds UConn’s target and may earn the project up to 18 points for the LEED EAc1 credit. The Proposed Design is predicted to have a site energy use intensity (EUI) of 99 kBtu/SF/year compared to a baseline building with a site EUI of 133 kBtu/SF/year. The building is connected to the campus Central Utility Plant and follows Option 2 of the USGBC’s district energy systems (DES) guidelines, whereby the model accounts for the campus plant efficiency. The cumulative energy savings are based on the following efficiency strategies:

- High performance wall and roof (opaque construction) R-values
- High performance glazing with thermally broken aluminum frames
- Reduced lighting power densities
- Ceiling fans and relaxed cooling temperature setpoints (fitness areas)
- Occupancy sensors, automatic daylight dimming controls
- Demand controlled ventilation in select spaces for two (2) out of six (6) air handling units
- Enthalpy wheel energy recovery for five (5) out of the six (6) air handling units
The lighting design will incorporate efficient LED technologies and is targeting a 34% reduction in lighting power density compared to the ASHRAE 90.1-2007 interior lighting power allowance. The efficient exterior lighting plan reduces exterior lighting energy consumption by 83% compared to the Baseline Design. In addition to the lower installed lighting power, the Proposed Design also incorporates automatic lighting controls, including occupancy sensors in most regularly occupied areas and photo sensors for daylight dimming in many perimeter spaces.

**Indoor Environmental Quality**

Building a strong visual connection between inside and outside spaces was a primary goal for this project to both showcase recreation and promote wellness for the UConn community. During initial programming by the design architect, careful attention was paid to the program areas and adjacencies. Daylighting sensors are located in perimeter spaces and occupancy sensors are located throughout not only to reduce lighting power consumption but to optimize available daylight. CO₂ sensors are provided in densely occupied spaces to ensure adequate fresh air is provided to densely occupied spaces. The project team specified low-emitting materials throughout the project, including adhesives, sealants, paints, coatings, and flooring systems. Air-testing is scheduled to be administered prior to occupancy to ensure good indoor air quality practices were maintained throughout construction.

**Materials and Waste Management**

Within the building, occupants will be able to recycle paper, cardboard, glass, plastic and metal and designated recycling receptacles will be located in office spaces and open areas. During construction, the project’s construction waste management plan assumes single-stream commingled recycling processes will be employed on site. The Construction Manager is targeting 75% of construction waste be diverted from landfill. In the new building, construction materials are specified to contain recycled content to meet the LEED MRc4 credit and be specified to be manufactured and extracted regionally to meet the LEED MRc5 credit. Over 50% of all new wood products are specified to come from sustainably harvested forests and carry FSC certification. The Construction Manager is dedicated to providing careful procurement and tracking of materials to meet the project’s LEED Gold target.