



UNIVERSITY OF ILLINOIS COLLEGE OF ENGINEERING

URBANA-CHAMPAIGN, IL



AWARDS

2020 ASHRAE First Place
Technology Award



PROJECT SIZE

5 buildings
587,815 sq. ft.
\$40.8M



PROJECT SCHEDULE

12/15/2015-5/8/2020



CONTRACT METHOD

ESPC



SAVINGS INFORMATION

\$42M in energy and operational
savings



The University of Illinois at Urbana-Champaign (UIUC) competitively selected ESG to facilitate the implementation of much-needed comprehensive energy conservation and infrastructure improvements at the UIUC College of Engineering. This project marks the second time ESG has successfully completed a comprehensive Energy Savings Performance Contract (ESPC) initiative for the University.

SOLUTIONS

- New HVAC equipment and controls were installed, which allow for better temperature control, improved air quality, building pressure control, reduced maintenance, and energy savings.
- Occupancy sensors that reduce lighting load requirements were installed in all five buildings, saving energy and reducing maintenance. In addition, occupancy sensors were connected to HVAC systems to modulate airflow based on occupancy.
- A closed process water loop was installed to cool lab equipment that was previously cooled by millions of gallons of once-through city water each year.
- Ground water was utilized in a lab building for an exhaust air scrubber application.
- Exposed steam and condensate pipe was insulated, minimizing thermal energy loss, maximizing energy efficiency, and improving safety.
- Supply and return ductwork systems were cleaned, improving airflow, air quality, and increasing HVAC system efficiency.
- A cleanroom was constructed in an existing research facility. All associated HVAC, controls, and safety equipment were installed to meet ISO 5 cleanroom requirements.

RESULTS

From this project, ESG has been able to reduce UIUC energy consumption by a projected 22% as a result of the improvements. The University's carbon footprint will be reduced by more than 4,034 metric tons of carbon dioxide per year over the term of the project. To put this scope into perspective, this would equate to 3,819 acres of forest planted or 852 cars removed from the road to see a similar reduction in emission levels.