

# SUNY Institute of Technology - Sports Field House

Utica, NY

## Background

SUNY Institute of Technology implemented the construction of a 57,611 gross square foot new building in Utica, N.Y. Approximately 28,189 gross square feet of the building serves as the field house. The balance of the building is comprised of common space, a conference room, corridors, a fitness area, bathrooms, showers, storage area, office space, a kitchen and locker rooms. The field house's components were selected by following sustainability criteria such as high recycled content, regional sourcing, and materials with low volatile organic compound (VOC) emissions. Only Forest Stewardship Council-certified wood materials were considered during the product selection process for this project. More than 50 percent of all construction waste was recycled on this project. This project adhered to the US Green Building Council's Leadership in Energy and Environmental Design (LEED®) high-performance, green building rating system and was awarded a LEED Gold Certification.

A Technical Assistant (TA) was retained by NYSERDA and evaluated the electric energy efficiency opportunities that were available for the new building under the New Construction Program.

## Recommendations

The TA identified cost-effective improvements to the building and its systems that reduced energy consumption, decreased demands on the utility's distribution system and increased the comfort of its occupants.

Among the energy efficiency improvements implemented in the building were:

- Improved building shell (walls and roof): increased insulation levels above code will result in lower loads on the HVAC equipment.
- High performance glazing: less solar gain through the windows will put a lesser load on the cooling system in summer, and less heat loss through the windows will result in smaller heating load in winter.
- High efficiency lighting and occupancy controls: Reduced lighting power density combined with vacancy lighting controls will reduce energy required for lighting.



- High efficiency air conditioning: high efficiency electric chiller coupled with air handling units with economizers and demand controlled ventilation. Less system energy is lost and more is delivered to the building. Fans will be equipped with variable frequency drives, modulating to use less energy when less airflow is needed.
- Energy Recovery: recapture heating and cooling energy that would otherwise leave the building, thereby reducing HVAC loads.

### Incentives and Results

NYSERDA's incentive of \$189,520 helped the SUNY Institute of Technology defray a portion of the implementation cost to install the efficiency improvements.

In total, SUNY Institute of Technology's investment could result in:

- Annual Energy savings of more than 319,569 kWh.
- Peak demand savings of 154 kW in the summer.
- Annual Energy Cost savings of almost \$61,872.
- Simple payback (after incentive) of 8.07 years for the project.

SUNY Institute of Technology Sports Field House is 34.0% above ASHRAE 90.1-04.



***“As campus Director of Facilities and as the past chair of the Sustainability Committee, having a building that is both comfortable and energy efficient is vitally important. The “Wildcat Field House” has met these goals. This is our first LEED Gold and NYSERDA certified “High Performance Building” which now sets the standard for future construction. NYSERDA has followed through with their commitment to the New Construction Program that was established at the outset of design. NYSERDA and their consultants have been very cooperative, even when the Commissioning and LEED certification process took longer than expected. Our students, staff, and administration are all very pleased with the results.”***

*– Carson Sorrell, SUNY  
Institute of Technology*