

Providence Central High School Renovation, RI

Providence Central High School is a large urban campus which is comprised of three buildings. The main building, which serves as home for academic programs was built in the 1920's. The Hanley building, which houses the career/technical programs was built in the 1950's and is the vocational compliment to Central High School. The third building, functions as the Central High School cafeteria and gym. This campus serves a population of 1,600 students.

Project Summary

High Performance Building Envelope Features

- High Performance Glazing

Efficient Mechanical Equipment and Systems

- Variable flow hot water pumping system
- Optimized chiller plant
- Demand ventilation in cafeteria and gym with CO2 sensors
- Occupancy based HVAC controls for classrooms

High Performance Lighting Systems and Controls

- Recessed indirect lighting fixtures
- Reduced Lighting Power Densities
- Daylight harvesting controls

Technical Assistance

- Full life cycle cost analysis for all measures including utilization of DOE2 simulation for energy saving measures and integrated engineering principals



Recessed indirect fixtures

Daylight harvesting controls



Strategic Partners

City of Providence - Alan Sepe
Mount Vernon Group - Joe DaSilva, Architect
Gilbane - Angelo Petrocelli, General Contractor
Garcia-Galuska-Desousa - Carlos DeSousa, Engineer
Adelman and Lelek Engineering, Inc. - Magda Lelek
National Grid - Tom Coughlin and Deepak Vishnu

These efficiency services and materials are paid for by the customers of Rhode Island's Electric Utilities.



Providence Central High School
Providence, RI.

Savings Summary

The need – A state of the art school building utilizing high performance design principles

The solution – An integrated approach utilizing computer modeling through the Comprehensive Design Approach Program

Design Assistance from National Grid - \$14,000

Anticipated National Grid CDA Incentive - \$157,000

Estimated Annual Electric Energy Savings 470,318 kWh

Estimated Annual Gas Savings For All Measures 2677 terms

Predicted Avoided Annual Energy Cost \$36,214

CO₂ Lifetime Reduction 5,232 tons

Payback after Incentive 1.0 years

