



Sensors in the gym at Squalicum High School automatically turn off lights when the space isn't in use. Additionally, lighting controls are programmed in three distinct sections of the gym so that one, two or all three sections can be lit as use of the space demands.

Lighting case study: Squalicum High School

LED lighting retrofit earns \$146k PSE incentive

Squalicum High School is located in Bellingham, Wash. It's part of Bellingham Public Schools, which serves about 12,000 K-12 students and employs about 1,700 staff members in Whatcom County.

Energy challenges and opportunities

Squalicum High School was built in 1999. With a lighting system more than 20 years old that had aged poorly, district leaders knew upgrading the school's lighting would greatly improve the environment in the building for students and staff.

Their lighting distributor, North Coast, helped them understand that upgrading to new LED fixtures and lamps, and adding automatic lighting controls, would save substantial energy and lower energy bills in perpetuity. It would also advance the district's Bellingham Promise and Climate Action Plan.

Energy savings at a glance

 **294,506 kWh**
ELECTRIC SAVINGS

 **\$4,220**
ENERGY SAVINGS

 **34%**
PERCENTAGE OF PROJECT COST
COVERED BY PSE INCENTIVE

Energy and cost savings are annual.

“This project reduced energy use by 62%, which is a phenomenal number for a building this size. Not to mention how much work has been taken off the facilities staff given the low-maintenance LED lighting. We estimate it's about a \$40,000 annual savings in maintenance time and materials.”

Bob Nietfield, Senior lighting specialist at North Coast

“There aren’t many projects a school district can do that pay for themselves. This one will when you look at energy bill savings plus our PSE incentive. It’s a huge bonus in this period of budgetary challenges, when every dollar we save impacts a teacher or student.”

Austin Scheffer, Procurement specialist at Bellingham Public Schools

How PSE Helped

Our Business Lighting Incentive Program worked with North Coast to estimate energy savings and determine incentive amounts. From the beginning, our bonuses for lighting controls, in addition to fixture and sensor incentives, played a role in the scope of the project. It ended up being a major lighting retrofit with many intricacies, leaving no old fixture or space in the 178,000-square-foot school untouched.

North Coast installed controls on nearly every new fixture to provide maximum lighting customization. In each room, there are four pre-set scenes from which to choose. The scenes make it easy to meet specific lighting needs of students, teachers and situations, such as switching from lower presentation lighting to higher classwork lighting. In the gym, the controls allow for the entire space to be lit in sections, which means lights only have to be used in the exact area of the gym where they’re needed.

Occupancy and daylight sensors were installed to conserve energy when rooms are not in use and when they are adequately daylighted. Having sensors that adjust automatically to changing conditions means staff don’t have to remember to turn the lights off in order to save energy.



A teacher at Squaticum High School reached out to ask if the lighting in a particular classroom could be adjusted to meet the higher learning needs of a student. Because of the lighting controls system’s built-in flexibility, the request was easily met.

Results

Staff and students comment on how much brighter the building is after the retrofit, with many saying they never realized how dark the school was until the new lights were installed. The new controls also give teachers and staff the ability to dim the lights. Before the retrofit there were two lighting options: on or off.

In terms of energy savings, North Coast estimates the retrofit cuts more than \$38,000 from Squaticum High School’s annual energy bill. Add to that the estimated annual maintenance savings of around \$40,000 and the savings picture is even brighter.

Start your energy-management journey

Learn more about PSE’s Business Lighting Incentive Program at pse.com/businesslighting. Or get in touch with the program directly at businesslighting@pse.com.



Each switch for the new lighting system offers four pre-set scenes, which make switching from one lighting scenario to another as easy as the touch of a button.



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