City of Portland Green Purchasing Case Study

Energy Efficient Sports Field Lighting

Purchasing Green

In spring 2005, Portland Parks & Recreation replaced eight lighting towers at Walker Stadium in Lents Park with six Musco Light-Structure Green™ lighting towers. The upgrade was prompted by the disrepair of the stadium's previous system, which included an old high voltage electrical service that presented safety risks.

Lents Park was the first Portland park to feature Musco Light-Structure Green™ outdoor sports lighting, and it has since been used for other sports field lighting projects.

Benefits

Outdoor lighting from sports fields like Walker Stadium can spill onto adjacent properties, creating a nuisance for neighbors. It also can spill light upward, obstructing views of the night sky. Musco Light-Structure Green™ lighting system's reflector design reduces this light pollution by 50 percent, resulting in more light being directed where it's needed: on the playing field.

Greater light control means that lighting is being used more efficiently, requiring fewer fixtures to generate adequate light. This results in lowered costs to purchase, install, and maintain fixtures. Portland Parks & Recreation was able to reduce the number of 1500 watt fixtures needed to light the field from 70 to 42, reducing the power required to light the field from 113.4 kilowatts to 65.7 kilowatts.

Cost

Because of the energy efficient design of Walker Stadium's new lighting, the City saves $859 in annual energy costs. Furthermore, the lighting system reduces maintenance costs by more than half. Musco's lighting system has a 25 year warranty, which covers routine maintenance, including lamp replacements. Over the 25-year life of the system, Portland Parks & Recreation estimates an overall savings of $58,000.

Performance

Portland Parks & Recreation characterizes the performance of the Musco Light-Structure Green™ lighting system as excellent and virtually maintenance-free. In fact, they are so pleased with this product that they installed Musco lighting at the softball and little league fields at Lents Park in 2009 and at Buckman Field in 2011.

Walker Stadium at Lents Park features energy efficient Musco sports lighting.

At a glance –

Who –

- **Portland Parks & Recreation**

Product –

- **Musco Light-Structure Green™ outdoor sports lighting**

Cost –

- **Reduces energy use by 40%**
- **Cuts maintenance costs in half**

Benefits –

- **Reduces light pollution**
- **More energy efficient than traditional lighting**
- **Requires fewer fixtures to achieve desired light levels**

"Looking at the long term, the Musco Light-Structure Green™ system is the most efficient, cost effective, and "green" system I know of. We are using 40% less energy to light Walker Stadium, and we expect to see an estimated $58,000 savings over the lighting system's 25 year lifecycle."

Richard Mayea,
Supervising Electrician,
Portland Parks & Recreation

Lessons Learned

An additional benefit of the Musco lighting system is that it allows remote on/off scheduling. Where before authorized users would have to turn lights on and off manually on-site, now Portland Parks & Recreation can operate them via computer, including programming them to switch on and off at certain times. This greater control makes maintenance easier for staff and saves energy by minimizing periods where lights are unnecessarily left on.

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About Portland Parks & Recreation

Portland Parks & Recreation provides care to over 10,000 acres of parks and natural areas, and offers thousands of programs for all ages at its community centers, swim pools, and other recreation facilities.

For more information: *Richard Mayea, Supervising Electrician, Portland Parks & Recreation, 503-823-1631.*