



Brooklyn Park Library: Larger Space, Lower Energy Bills



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Leah Hiniker,
Hennepin County Energy Manager

For more than a decade, the residents of Brooklyn Park waited for their new library to be planned, designed and built. They will tell you now that the beautiful, spacious new property — three times the size of the old one — was worth the wait.

The new building caters to three primary audiences: adults, teens and children with open space living rooms that are all within eyesight of a centrally located help desk. There are 78 computer work stations and a teen center with an audio/video production center. The interactive children's play areas were designed in conjunction with the Minnesota Children's Museum.

Energy and sustainability are top priorities with the Hennepin County Library System. Energy Manager Leah Hiniker worked with Xcel Energy's Energy Design Assistance program to build energy efficiency and sustainability measures from the ground up. The program identifies the various efficiency measures available, potential costs, payback terms and rebates.

They implemented a wide variety of energy efficient strategies, but the lighting and HVAC systems provided most of the energy savings.



Project Highlights

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| Square feet | 39,300 |
| Xcel Energy rebate | \$53,787 |
| Estimated annual energy savings | \$33,561 |
| Estimated annual energy savings over code | 44% |

Lighting

They installed enormous glass windows to allow as much daylight as possible, which reduced the number of fixtures needed. They used LED fixtures, motion sensors, dimmers and daylighting controls to ultimately achieve a lighting design that was 38 percent better than code.

HVAC System

In addition to a high efficiency chiller and boiler, they utilized underfloor air distribution. Chilled beams were added to south and east sides of the building, enabling better exterior zone conditioning for perimeter spaces that are most impacted by solar effects and outside temperatures.

They designed their system to recover heat from the air handling system to condition the incoming outdoor air, and reduce the energy used for the HVAC system.

"These improvements to our facilities, both new and old, come in all shapes and sizes. We know that no single strategy can work, so we make efforts across all areas," says Hiniker.

The combination of measures implemented in this project earned the Brooklyn Park Library more than \$53,000 in Xcel Energy rebates and is estimated to save them more than \$33,000 each year in energy costs.

"Hennepin County has long been a leader in energy conservation. We have set aggressive energy reduction goals, including reducing energy consumption by 20 percent by 2020," says Hiniker.



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