

SUSTAINABILITY IN DESIGN

Gundersen Health System opened its new hospital for patients to receive care in a building that was constructed with the environment in mind. A number of energy efficiency and green principles have been incorporated into the design and construction of the new hospital.

Two main sustainability principles have guided Gundersen's plans:

- The goal for the building is to run at 115 kBtu per square foot per year. Meeting this goal puts the new hospital in the top 1 percent for the energy efficiency of hospitals in its climate zone. At current energy costs, achieving 115 kBtu ft.² saves Gundersen about \$660,000 annually.
- The building is LEED (Leadership in Energy and Environmental Design) certified. By designing and building the hospital keeping LEED principles in mind, Gundersen improves the building's overall impact on the environment.

In order to achieve these goals, the environmental plan for the hospital included a number of components in areas such as energy efficiency, recycling and building design.

Energy efficiency

The 115 kBtu per ft.² target is an aggressive one, but it pays dividends over time, and ultimately helped Gundersen lower the cost of healthcare for patients. The energy-saving plan incorporates elements both large and small.

One of the most significant pieces of the energy plan was a geothermal heat pump. Gundersen installed a field of wells under a parking lot. The wells are used as a heating and

cooling source for the new Hospital, and result in a savings of 70 to 80 kBtu per square foot annually. This system drastically reduces Gundersen's dependence on fossil fuels and exposure to fuel price volatility. The system is also supplying heat for Gundersen's inpatient behavioral health building, which opened in early 2013.

Other elements include:

- Efficient lighting design with lower wattage lamps and high-efficiency ballasts, occupancy sensors and fixtures that better disperse light, for a savings of 5 to 7 kBtu per square foot.
- A highly insulated building shell (windows, walls, ceilings, etc.), for an energy savings of 17 kBtu per square foot.
- Energy efficient chillers, cooling towers and chilled water pumps that replaced an aging infrastructure and allows the new Hospital to be cooled more efficiently. This saves 8 to 10 kBtu per square foot.

Recycling

During construction, Gundersen aimed to keep as much construction waste as possible out of area landfills. Gundersen is working closely with their contractors to separate and recycle construction waste. Recycling/reuse rates for the new hospital and inpatient behavioral health building exceeded 93 percent.

Recycling stations has been incorporated into all waiting rooms, and containers are strategically placed throughout the building to promote recycling for patients, visitors and staff.



Gundersen's New Hospital

Gundersen's new hospital project included:

- Private rooms for all patients
- New operating rooms with specialized technology
- Improved medical, surgical and critical care units
- Centralized services for women and children
- The most comprehensive regional Trauma & Emergency Center
- Improved behavioral health services
- A new entrance and lobby

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Building design

When the building interior was designed, Gundersen worked with their architects and designers to incorporate a wide array of green elements, such as:

- Eliminating PVC materials from interior finishing, such as flooring, carpeting, upholstery and wall coverings, as much as possible.
- Water-efficient landscaping.
- Using materials with a recycled content when possible, such as counters in public rest rooms made from 50 percent recycled materials, a decorative ceiling in a main concourse, and the ceiling tiles and carpeting throughout the building.

- Using FSC-certified wood throughout the project. Companies with FSC-certification practice forestry in an environmentally responsible way.
- Using materials sourced within 500-miles of Gundersen when possible. For example, the decorative cast stone that will be used in the Lobby, Healing Garden and Café will be manufactured in New Ulm, Minn.
- Three rooftop gardens that will hold container plantings, including a selection that will be used for kitchen herbs and vegetables at Gundersen.

These are just a handful of the environmentally friendly features utilized in the new hospital project.