

## East Moline Glass East Moline, Illinois



In 1960, Keith and Jean Anderson planted the roots for a family business that would grow for decades to come. This two-person team began building a family legacy called East Moline Glass, which would turn out to be one of the most successful glass companies in Illinois.

When the Anderson's son, Larry, decided to join his parents' company after college and a two-year employment with PPG industries, he began running the day-to-day operations for them. Upon their retirement in 1990, Larry took over East Moline Glass completely and began grooming his son, Todd, for an entry similar to his. Todd graduated from Illinois State University with a degree in construction management and joined the family business in 2001. It then became clear to the Anderson family that business was booming and their building needed to grow with it, so they decided to start fresh and build an energy efficient facility to accommodate their successes.

East Moline Glass will construct a new facility that is approximately 22,500 ft<sup>2</sup> in total area and is to be constructed on the site of a former John Deere foundry. It contains a two-story office area of approximately 6,000 ft<sup>2</sup>, a shop area of 2,000 ft<sup>2</sup>, and a warehouse/fabrication area of 17,500 ft<sup>2</sup>. These areas were approximate at the time of the study. Activity within the structure will generally consist of light industrial and office work.

### Energy Analysis Shows Potential Improvements

Larry Anderson cares about his family, his community and his business. Larry knew that energy efficiency is not only a great way to help the environment, but also to help his company's profitability. This in mind, he sought the design assistance services of the Small Business Smart Energy Program's Smart Energy Design Assistance Center (SEDAC) team and was ready to hear their suggestions.

Building envelope, lighting and geothermal heat pump energy savings measures were evaluated. Insulation and infiltration changes were analyzed, but were found to have a less than favorable payback and were not recommended. However, the implementation of thermostat setbacks, 25-Watt T-8 fluorescent lamps and electronic ballasts in the office

area, high-bay 6-lamp T8 fluorescent fixtures in the warehouse/ fabrication area, and a geothermal heat pump system were all found to be greatly beneficial. It was also found that warehouse cooling reduction and warehouse daylighting would greatly help to conserve energy and operational costs.

### **Building Savings Through Efficiency**

The facility's analysis shows that with implementation of a geothermal heat pump, energy efficient lighting schemes, and the use of temperature setbacks during unoccupied building times, the electricity use increases by 13,542 kWh, but natural gas use is decreased by 5,532 therms. An annual savings of \$10,410 will apply once all recommended ECMs are implemented.

Once the SEDAC team confirmed this data, Larry Anderson was provided with an analysis showing the cost to cool the warehouse area versus various warehouse thermostat temperature settings. This allowed Larry the opportunity to weigh the cost of cooling versus his perceived decrease in employee productivity as summer warehouse temperatures increased. Larry was also provided with advice on obtaining a special winter heating electric rate, on warehouse lighting savings when using skylights, and avoiding temperature stratification in the warehouse area. After receiving this information, Larry decided to accept all the team's suggestions and began working to implement them into his building's design.

### **Conserving Today for a Better Tomorrow**

After the construction has been completed and everything is said and done, East Moline Glass will have invested an additional \$70,000 in the

building's future, which Larry considers to be an extremely sound investment. In less than 7 years, his energy efficiency upgrades will have paid for themselves through the company's significantly lower monthly bills and East Moline Glass will be paying approximately one tenth of what his competition is paying to keep their businesses operating on a monthly basis.

For East Moline Glass, it just makes sense to save money and energy by choosing an intelligent design over something that simply has a lower first cost. Even though it may cost a little more to begin with, Larry Anderson stands behind his decision one hundred percent, stating that he is "investing in the long-term health of his company," ensuring that, once his son Todd takes over the company, East Moline Glass will still be a leader in their industry, continuing to expand and grow while others downsize. Furthermore, by choosing sustainable and environmentally friendly building upgrades, he's investing in the long-term health of his community, and for a family businessman like Larry, that means everything in the world.

#### ***Building Data***

**Location:** East Moline, Illinois  
**IL Economic Region:** North West  
**Office Space:** 22,500 sq. ft.  
**Warehouse Space:** 17,500 sq. ft.  
**Office Space:** 6,000 sq. ft.  
**Exterior Wall Construction:** Insulated metal panels (R=15) and curtain walls (R=3.5)  
**Roof Construction:** Standing seam metal, insulated (R-25)  
**Windows:** Viracon VE1-2M Transmittance=70%, Reflectance+11%; SC=0.43, SHGC=0.37, U-value=0.29, LSG=1.89  
**Infiltration:** 0.5 air changes per hour

**Design/Build Team**  
**Owner:** Larry Anderson, East Moline Glass  
**Developer:** Russell Construction  
**Architect/engineer:** Gere Dismer & Associates  
**Geothermal heat pump contractor:** Soukup Heating and A/C