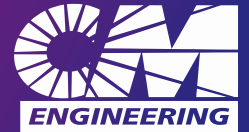


Palestine Elementary School

Palestine, Illinois



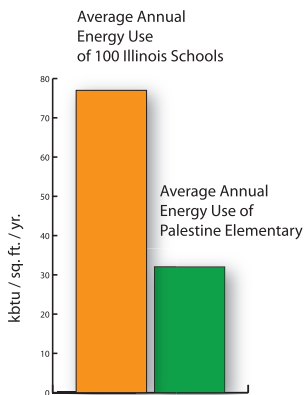
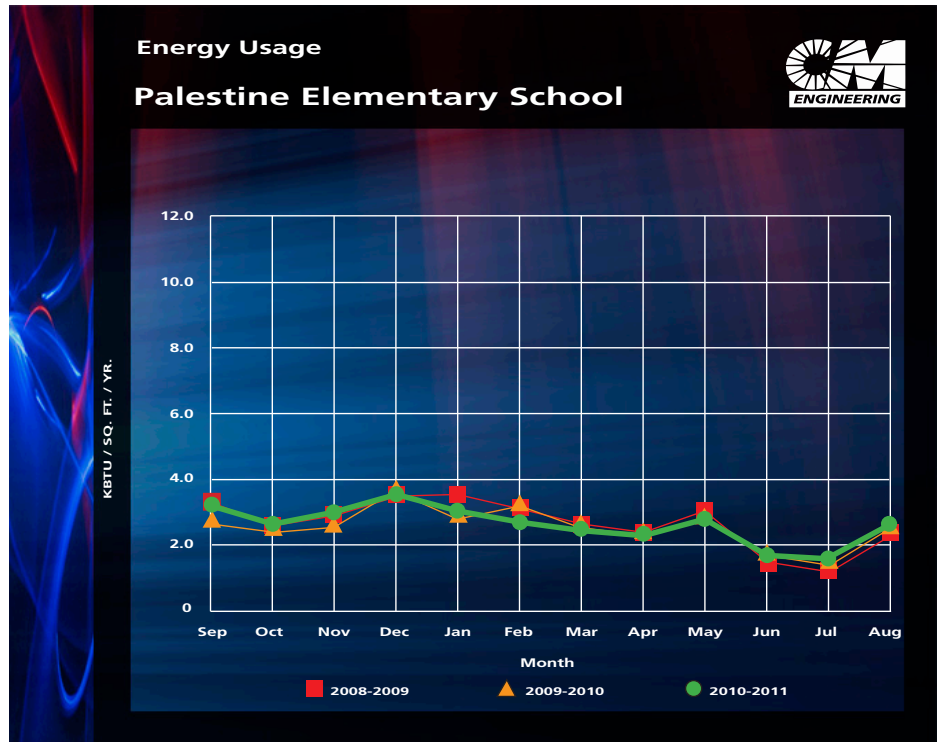
Palestine Elementary demonstrates the effectiveness of renewable energy features and good engineering design in new construction.

CM Engineering provided a total package of engineering design services, including mechanical, lighting, power distribution, HVAC and plumbing. Our ground source geo-exchange system provides all of the facility's heating and the entire school is air conditioned.

Palestine enjoys consistently low levels of energy consumption throughout the calendar year.

New school construction

- Air conditioning in all rooms
- Ground source geo-exchange system
- Two-pipe variable flow design
- 47,016 square feet
- 24 Classrooms
- Approximately 260 students
- Temperature controls in all rooms
- Cooling system efficiency:
Energy Efficiency Ratio-18
- Heating system efficiency:
Coefficient Of Performance-4
- Roof insulation: R 15
- Wall insulation: R 5.7
- Lighting: 1.0 W / sq. ft.
- Ventilation effectiveness: 85%



Energy use, average of 100 Illinois schools: 77 kbtu per square foot

Energy use, Palestine Elementary: 32.04 kbtu per square foot

These tracings show three consecutive years of remarkably consistent, measured energy consumption with our Two-Pipe variable flow Geo-exchange heating and cooling system. (Data source: Community Unit School District No. 3, Palestine, Illinois.)