



BATAAN MEMORIAL

ELEMENTARY SCHOOL

Port Clinton, Ohio

The renovation and expansion will more than double the size of the existing Bataan Memorial Elementary School. The project will also significantly reduce energy use — the district is anticipating 30 percent energy savings compared to the baseline defined by ASHRAE 90.1-2007.

The highlight of the project is a mechanical system that will use ceiling-mounted active chilled beams in conjunction with

a dedicated outdoor air-handling unit for the academic areas. The unit will treat outside air through an energy recovery wheel, heating water coil, and chilled water cooling. The chilled beams will contain both heating and cooling coil connected to a four pipe system. A wall-mounted sensor will open or close the valves as required to maintain space temperature.

sustainable design elements

- Active chilled beam system in classrooms
- High efficient dedicated outdoor air system
- High efficient condensing boilers
- High performance wall and roof insulation
- High performance double pane, low E windows
- High efficient interior and exterior lighting
- Daylighting controls throughout control
- Carbon Dioxide sensors in large volume spaces

energy cost: \$0.83/sf

building type: Elementary School

total sf: 101,918 sf

energy use intensity: 104 kBtu/sf/yr

percent CO₂ reduction: 42%

ENERGY STAR rating: 92

energy savings: 7,574,927 kBtu

CO₂ savings: 436 Metric Tons CO₂/yr



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