

PROJECT PROFILE



FIRST PLACE

2008 ASHRAE TECHNOLOGY AWARD:
INSTITUTIONAL CATEGORY

LEED[®] Silver: Fossil Ridge H.S.

1.44 PEAK WATTS/SQ.FT. AND 1050 SQ.FT /TON

CALMAC IceBank®

Project Profile



FOSSIL RIDGE HIGH SCHOOL

- Poudre School District, Ft. Collins, CO
- 1800 students
- 296,375 ft² (262,700 ft² of conditioned space)
- Built in 2004
- Day lighting
- 5.2 kW photovoltaic panels
 - Heat Recovery Wheels
- Ice energy storage with air cooled chillers
- Well analyzed building orientation
 - Beat ASHRAE 90.1 Standard by 50%
 - Super efficient building envelope
- Well designed building envelope

BUILDING COSTS

- \$135/sq.ft. (2004) Similar cost to non-sustainable design
- Operating costs 60% less than similar 1,800 student school using conventional design

COOLING SYSTEM INFORMATION / BENCHMARKS

- Peak design cooling load: 250 tons
 - 1,050 sq.ft./ton
- 8 CALMAC IceBank® Storage tanks
- Nominal Trane 140 ton air-cooled chiller
 - 1900 sq.ft./ installed chiller ton

Architect: RB + B Architects, Ft. Collins, CO.
Mechanical Consultant: MKK Engineers, Inc., Ft. Collins, CO.



ENERGY BENCHMARKS (2007)

- Summer demand 428 kW; 1.44 W/ft²
- Annual energy consumption
 - Electric 1,700,000 kWh (5,800 MMBtu)
 - 19.6 kBtu/ft² - \$0.31/ft²
 - Natural Gas 59,500 therms (5,950 MMBtu)
 - 20.1 kBtu/ft² - \$0.17/ft²
- Total building energy consumption
 - 11,700 MMBtu
 - 39.5 kBtu/ft² - \$0.47/ft²

DESIGN AWARDS / SUSTAINABILITY

- 2008 1st Place ASHRAE Technology Award, Category: Institutional Building (New)
- LEED NC SILVER 2004
- ENERGY STAR 2005 (75 points)
- ENERGY STAR 2006 (80 points)
- ENERGY STAR 2007 (83 points)
- Saves 56,400 lbs. of CO₂ monthly
- First Year Energy Savings of \$86,000





Learn more about IceBank®
Ice Storage Systems from CALMAC.

A BETTER WAY TO AIR CONDITION



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