



Keene Middle School

Keene, New Hampshire



Public Front Entrance
Photo Credit: Marinace Architects

General Information

Location: 167 Maple Avenue Keene, NH 03431
Scope: 173,000 square feet
Cost: \$35,800,000
Completion: 2011
Enrollment: 750 students, grades 6 to 8 (core capacity of 1,000 students)
Architect: Frank P. Marinace / Architect, P.A.
Engineer: Kohler & Lewis
Certification: NE-CHPS

Project Overview:

The construction of the new [Keene Middle School](#) commenced in 2009 after being approved by voters earlier that year. The project includes the construction of a state-of-the-art high performance school, as well as the addition of a 14,000 square feet office for the School Administrative Unit (SAU) #29. Building the SAU concurrently with the middle school yielded an integrative site design and significant savings in construction costs. The new building achieves 33.6 kBtu/sq. ft.



The 173,000 square-foot, two-story school facility has a capacity of 1,000 students which opened in 2011 not only incorporates a wide-range of “green” design element and high performance features, but also provides extensive outdoor playing fields that were lacking at the existing school. By meeting the [Northeast Collaborative for High Performance Schools \(NE-CHPS\)](#) criteria, the Keene Middle School was eligible to receive an additional 3 percent aid from the [New Hampshire Department of Education](#).

High-performance features include:

- Wood-chip heating plant
- Low-flow fixtures
- High level of thermal insulation
- Reflective roof surface,
- Extensive daylighting
- High efficiency heat recovery system
- Energy management system

The design of the school also incorporates several eco-friendly features including rain gardens, high-efficiency field irrigation, and a 30,000 gallon rainwater harvesting system.



Site Plan

Keene Middle School

Keene, New Hampshire



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1. Light shelves reflect daylight to the back of the classrooms.
2. Electrostatic precipitator coupled with the wood chip heating plant scrubs particulates from exhaust gases resulting in emission level 60 percent better than that allowed by state regulations.
3. SAU Building
4. Cafeteria with skylights

This case study was prepared by NEEP with information provided by Marinace Architects. To learn more about this project, please contact Paul Mariane (pmarinace@marinacearchitects.com). For more information about NE-CHPS, contact Carolyn Sarno, NEEP Senior Program Manager, High Performance Buildings, at csarno@neep.org or 781-860-9177 ext. 119.