



Green School Building
New Construction

NACIARCHITECTURE

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DESIGN TEAM

Gregory J. Stack, AIA, LEED AP,
Principal-in-Charge
Guy J. Overman, AIA,
Project Manager
Boris Srdar, AIA, Project Designer
Philip Riedel, AIA, LEED AP,
Project Architect
Eve Carlson, Interior Design
Hargis Engineers, Inc.
Mechanical Engineer
Tres West Engineers, Inc.,
Electrical Engineer

OWNER/CLIENT

Tacoma School District
Tacoma, WA
Dr. Arthur Jarvis,
Interim Superintendent
253/571-1010
Type of School and
Grades Served:
High School, 9-12
Capacity: 1,000 students
Size of Site: 41 acres
Area of Building:
99,000 square feet
Space per Student:
99 square feet
Cost per Student: \$19,293
Square Foot Cost: \$195
Cost of Construction:
\$19.3 million
Contract Date: Jan. 2005
Completion Date: Sept. 2006
Percent of Completion: 100%

GREEN | HIGH SCHOOLS

Woodrow Wilson High School, Phase 1

Tacoma, Washington

NAC|Architecture

In this comprehensive replacement and modernization project, a new three-story building replaced four existing buildings and eight portables, helping consolidate the campus. The site area of the demolished buildings was redeveloped to provide landscaped areas, plazas, and parking. The new building houses 25 general classrooms, nine science classrooms, six computer labs, a therapeutic learning center, a library, and administration and guidance centers.

To create a high-performance facility, the design team incorporated sustainable features through a fully integrated system that involves building siting and layout; envelope and materials; and mechanical, electrical, and control systems. The new building is oriented along an east-west axis to maximize daylighting potential. Exterior sunshades and louvers on the south façade provide high-quality daylighting while reducing solar heat gain to the interior. Photosensitive control of the indirect/direct classroom lighting further reduces heat loads, while directly cutting electricity consumption.

One- and two-story light shafts bring daylight to the rear of the classrooms and conduct warm return air to the rooftop mechanical penthouse by fan-assisted natural convection. A displacement ventilation system—the first installed in a Washington high school—provides both



OVAL COURTYARD AT DUSK



BALANCED DAYLIGHT IN THE CLASSROOMS

efficient air distribution and 100 percent filtered outside air to the building, minimizing energy usage while maximizing indoor air quality.

The architecture, lighting,

and mechanical systems work together in an integrated way, each helping the others to create a more energy-efficient, stimulating, and comfortable learning environment. ■

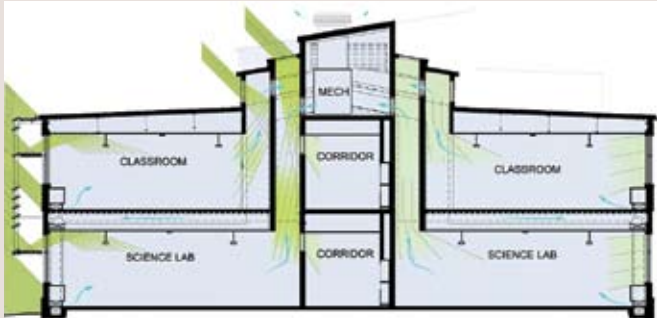
PHOTOS: BENJAMIN BENSCHNEIDER



SOUTH FAÇADE WITH SUN SHADES



LIBRARY WITH REFLECTIVE LIGHTSHELVES AND STUDENT GLASSWORK DISPLAY



SECTION—INTEGRATED DISPLACEMENT VENTILATION AND DAYLIGHTING



OUTDOOR STUDENT GATHERING SPACE

PHOTOS: TOP & CENTER LEFT, BENJAMIN BENSCHNEIDER; BOTTOM LEFT & RIGHT, NACI ARCHITECTURE