2012 Exhibition of School Planning and Architecture

Machias Elementary

Snohomish, Washington
Elementary School
Project of Distinction Award – New Construction
NAC|Architecture

Machias Elementary

Community Environment

Community Environment

The school district's desire to embrace the community resulted in public spaces located for easy and convenient community use after hours. Community is greeted by big welcoming porch adjacent to common space.

Particular attention in the planning process was given to identification of spaces that can serve multiple educational and civic functions.

The vision incorporates the Idea Lab spaces in both schools in a zone that is easily accessible by the community. They have plumbing, sinks, and kilns to serve arts and science projects, done both by the students and the larger community.

Learning Environment

Learning Environment

Physical Environment

District Goal:

- Environmental stewardship
- Creative use of existing assets

Material reuse

Connection to the past

Form regeneration

Repurposed beams generate the building form. The curving roof beams from the original building become arching columns along the perimeter while salvaged straight beams provide horizontal support.

Physical Environment

Planning Process

The Elementary Educational Specification and Design Committee represented the Machias school community through parents, teachers, community and board members. *Their task was to raise their aspirations beyond this project and lay the groundwork for 21st Century educational facilities in the District.* The group met 13 times during the initial visioning process, and at least that many times during the design process.

The participatory Ed Spec process created inspiring goals for the new school, including:

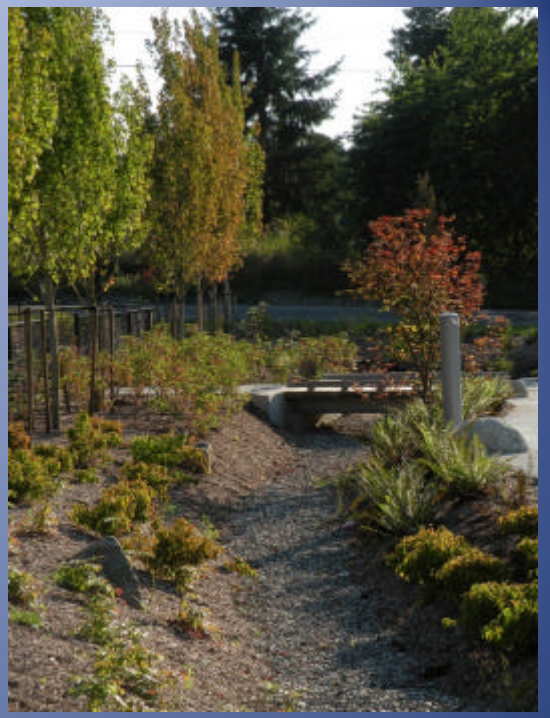
- "It should foster **a sense of community** within the school, in which students, parents and staff members feel they are part of a large and caring family."
- "The building should evoke **a sense of connection to place**; it should reflect both the natural environment and the surrounding community."
- "The design should help to create a sense of community within the school as a whole through **abundant connectivity and transparency**. "

"Through building schools we build community." - Superintendent

Open participatory process explored reimagining education, resulting in flexible shared spaces that provide ample opportunity for multiple modes of learning.

Planning Process

The philosophy of “building communities through building schools” deeply resonated with the Snohomish community. The Machias community has an individual identity and attachment to the previous school and the site. Through public meetings it was very clear that the community has an emotional stake in the success of the new project. The new school would be almost twice as large as the original one. A two story building would replace the lower scale one story building. It was critical that the process itself brought value so that the community can fully embrace the new school as their own.



Some of the key goals were quickly identified:

- Connection to the past and history of the original building
- Expression of being rural
- Connection to the site and the land

Exhibition of School Planning and Architecture Project Data

Submitting Firm :	NAC|Architecture
Project Role	Architects
Project Contact	Matthew W. Rumbaugh, AIA, LEED AP
Title	Principal Architect
Address	2025 First Avenue, Suite 300
City, State or Province, Country	Seattle, WA 98121
Phone	206-441-4522

Joint Partner Firm:	
Project Role	
Project Contact	
Title	
Address	
City, State or Province, Country	
Phone	

Other Firm:	
Project Role	
Project Contact	
Title	
Address	
City, State or Province, Country	
Phone	

Construction Firm:	Graham Construction & Management
Project Role	General Contractor
Project Contact	Karl Pauly
Title	Construction Manager
Address	9709 Third Ave NE, Suite 300
City, State or Province, Country	Seattle, Washington 98115
Phone	(206) 729-8844

Exhibition of School Planning and Architecture Project Details

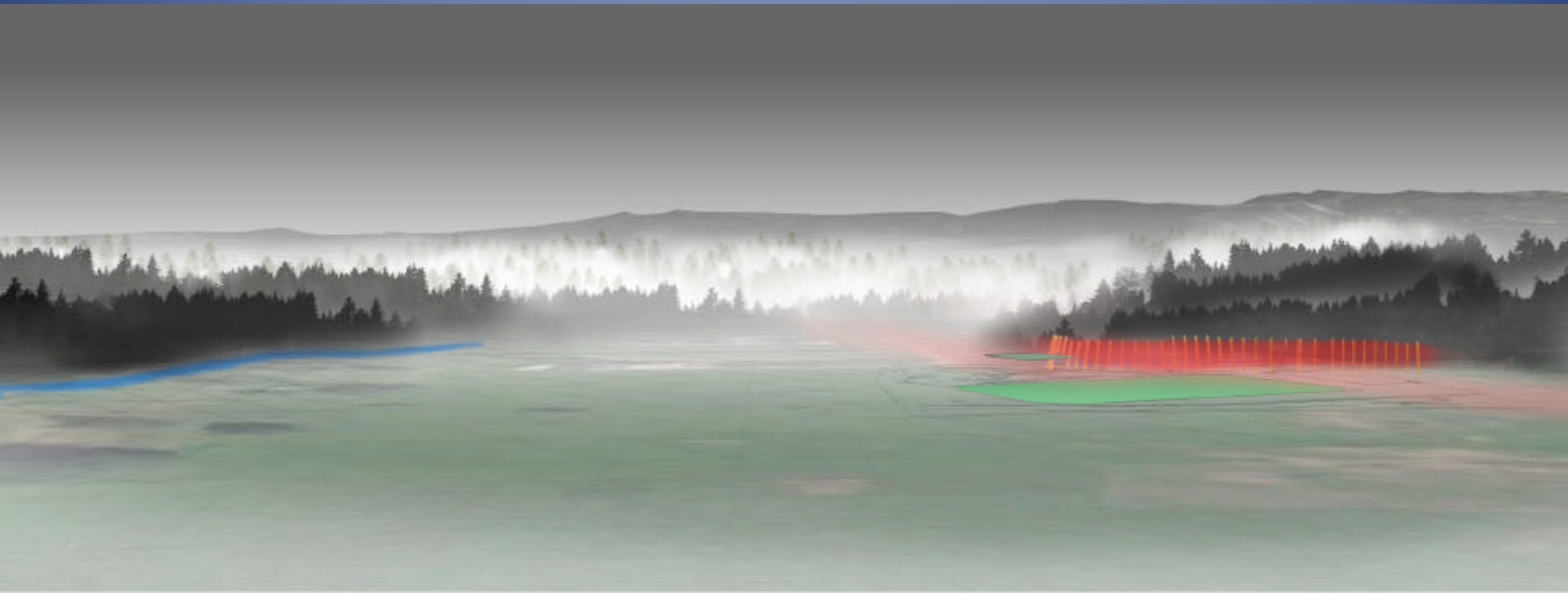
Project Name	Machias Elementary School
City	Snohomish
State	Washington
District Name	Snohomish School District
Supt/President	Dr. William A. Mester
Occupancy Date	January 2011
Grades Housed	K-6
Capacity(Students)	600 students
Site Size (acres)	9.7 acres
Gross Area (sq. ft.)	72,340
Per Occupant(pupil)	120.57 SF/student
gross/net please indicate	gross
Design and Build?	
If yes, Total Cost:	
Includes:	
If no,	
Site Development:	$2,656,786
Building Construction:	$18,699,241
Fixed Equipment:	NA
Other:	
Total:	$21,356,027




Rural Sustenance in Machias Valley

Located in a river valley with ranches, barns and farmhouses, the physical and cultural context of Machias has a distinct rural quality. The school site is a plateau slightly above the valley floor with a significant forested hill as a natural boundary to the east.

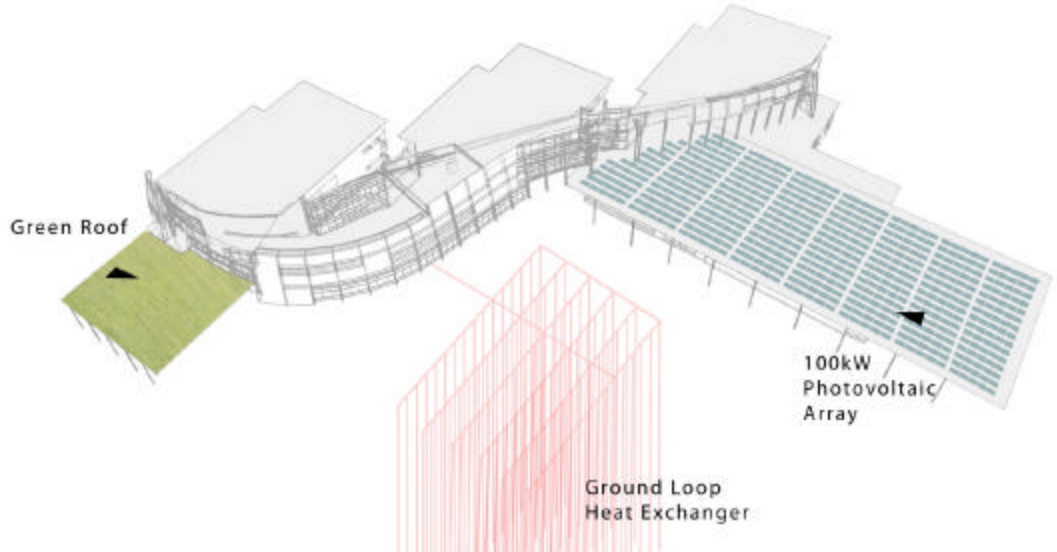
So how can a contemporary public school create an authentic sense of place that connects the people to the rural cultural and physical context?



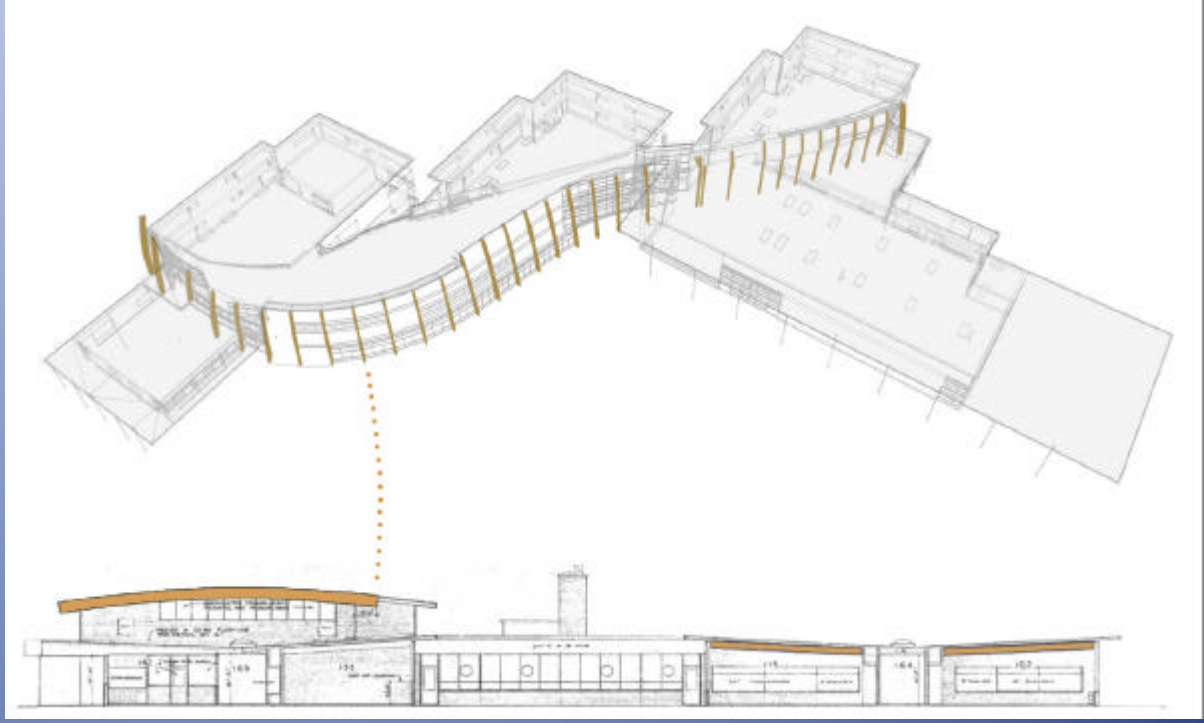
Sustainability as a Cultural Paradigm:

Self-Sustenance as a Guiding Design Principle

A highly efficient envelope of spray-foam insulation and triple-pane glazing is coupled with daylight harvesting and a ground source heat exchanger that provides conditioning through displacement ventilation. A 100 kW photovoltaic array generates 17% of required annual energy. An EUI of 18 kBTU/SF/year contributes toward self-sufficiency.



Material Reuse:
Form Regeneration



Salvaged structural elements from original school

Repurposed beams generate the building form. The curving roof beams from the original building become arching columns along the perimeter, generating a new unique experience for the interior spaces.

“Truth” wall: Building systems are exposed from the main hallway.

The path of light through sunshading elements educates occupants about time and seasons.

Building as a Teaching Tool

Signage throughout the building teaches students and community members about sustainable strategies in the building.