2012 Exhibition of School Planning and Architecture

Mount Nittany Elementary School

State College Area School District, State College, PA
Project of Distinction -
New Construction
Schradergroup Architecture

Mount Nittany Elementary School

All-Purpose Space

Community Environment:

At the start of the project, the community was invited to participate in the planning and design process for the facility, and was offered opportunities throughout the project's duration to keep abreast of project development both through a series of live public meetings as well as through District television broadcasts of the meetings. The community engagement in the visioning, brainstorming and design workshop process resulted in planning and design that addressed the concerns and needs of the community, thus developing a true sense of ownership.

An all-purpose space can be subdivided during the day to provide gym and dining areas yet functions as a full-court facility for the public in the evening.

Main Entrance

Community Environment:

The new facility is situated within a high-volume residential area and, as a result of public input throughout the planning process, responds to important community issues that include:

- connecting the surrounding neighborhoods with the facility via a continuous trail,
- providing evening function spaces (gymnasium and cafeteria) accessible to the public while keeping educational areas secure,
- siting the building to create an open playground for community use,
- creating a bus loop to serve as a walking/running track, and
- creating a true learning campus by situating the building adjacent to the Middle School.

At the front entrance, the building functions as a rule. Heights are marked in the banding of the bricks to help teach students about measurement and scale. Also, a gnomon (pole extending above entryway) functions as a sundial.

Large Group Instruction

Learning Environment:

Learning space design for the facility focuses on a centrally-located learning resources center surrounded by large group instruction areas that branch into classroom areas. The classroom clusters promote several levels of social and academic interaction by providing individual, group learning and typical classroom settings.

To achieve the goal of the facility functioning as a teaching tool, the design incorporates a number of educational features that include a 'Building Dashboard' showing energy used by the facility, rain gardens and butterfly gardens, a compass built into the floor surfacing to teach magnetic and true north, exposed structural systems and color-coded building systems, heights marked in the bricks to illustrate measurement and scale, and a gnomon at entry to function as a sundial. The educational elements, combined with the organization of the learning spaces, allow the facility to promote the concept of "learning anytime, anywhere."

A large group instruction area provides for various levels and scales of social engagement within each of the classroom clusters.

Courtyard

Learning Environment:

The effectiveness of using the building as a teaching tool was validated during the tours given by fourth grade students at the opening of the facility. The students were able to describe to visitors the building systems, bilateral daylighting, rain gardens as aids to storm water control, and recycled/renewable materials utilized throughout the building. Although developed as a response to this particular school facility, their understanding and awareness of the features and their meaning will be transferred to other settings and will encourage curiosity, promote perception, and allow them to become lifelong stewards of sustainability.

Newly-planted rain and butterfly gardens serve as a courtyard for the entire school and as a focal point for specific classrooms.

Central Area

Physical Environment :

The school, which is one story at the entrance, expands to two stories linked by a series of centrally-located ramps that offer easy accessibility and unite the classroom clusters. The multi-story design follows the slope of the topography, minimizing the amount of site work required. The siting of the building achieves the important goal of creating a true campus environment between the new facility and the existing neighboring middle school.

Throughout the new facility, both wired and wireless technologies are available for use by students, faculty and staff. Fully-integrated building control systems link and coordinate all building systems and make the information available to the students through a “Building Dashboard.” This monitoring system functions as a teaching tool by helping students to be aware of how the building is functioning and utilizing energy.

The central area of the facility connects all internal community functions visually.

Typical Classroom

Physical Environment :

The facility (slated for LEED Gold certification) utilizes a ground source heat pump system; incorporates a reflective roof system; uses roof monitors for bilateral daylighting within classrooms to reduce the need for artificial lighting; uses rain gardens to aid with storm water control; utilizes high value wall insulation systems with light gauge steel and combinations of masonry and metal panel systems; uses low flow fixtures; incorporates exterior light shades and shelves within oversized windows to optimize overall daylighting; and uses reused, renewable and recycled materials.

The building is an inspirational facility both inside and out. The striking front entry tower draws students and parents alike into the transparent central ramp area. Once inside, all community areas are visually connected through glazed openings to the colorful central ramp system. Windows are abundantly located throughout the building with most providing dramatic views of the ranges of hills surround the facility, including views to Mount Nittany, for which the school is named.

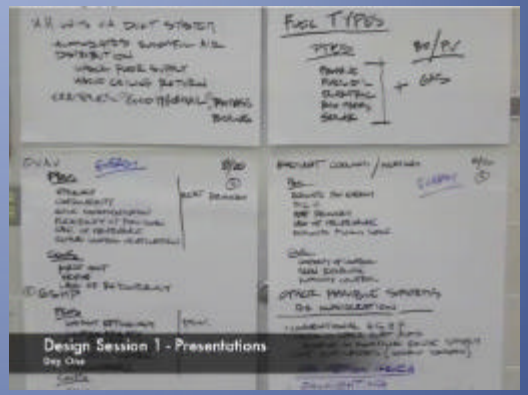
Acoustical treatments are customized for each classroom to “tune” the room according to the finishes so that reverberation can be reduced and sound quality improved. Abundant natural lighting reduces the need for artificial lighting.

Planning Sessions

Planning Process:

The planning process included three primary planning sessions for over 200 members of the school community, administration, faculty, staff and student body. The sessions included:

- an evening dinner visioning session that determined overall goals for the District,
- a brainstorming session to develop educational and sustainable goals, and
- a two-day design workshop held on site.



Planning Sessions

Planning Process:

The planning process offered multiple opportunities to express thoughts on existing facilities, program, sustainable goals, educational needs, and learning environment design. Continuous follow-up public meetings conducted in person and on the District television station kept the public informed. The full planning and design process took place in a very condensed time period with the project progressing from planning to bid in 8 months.

Exhibition of School Planning and Architecture 2012 Project Data

Submitting Firm :	Schradergroup Architecture
Project Role	Architectural planning and design
Project Contact	David Schrader, AIA, LEED AP
Title	Managing Partner
Address	161 Leverington Avenue, Suite 105
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Joint Partner Firm:	
Project Role	
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Other Firm:	
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Construction Firm:	Alexander Building Construction Company
Project Role	Construction Management
Project Contact	Chris Magent
Title	Project Manager
Address	2545 North Atherton Street
City, State or Province, Country	State College, PA 16803
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Exhibition of School Planning and Architecture 2012 Project Details

Project Name	Mount Nittany Elementary School
City	State College
State	Pennsylvania
District Name	State College Area School District
Supt/President	Dr. Robert J. O'Donnell
Occupancy Date	August 2011
Grades Housed	K-5
Capacity(Students)	400
Site Size (acres)	56 acres overall
Gross Area (sq. ft.)	60,500 SF
Per Occupant(pupil)	151 SF/pupil
gross/net please indicate	gross
Design and Build?	
If yes, Total Cost:	
Includes:	
If no,	
Site Development:	$1,344,554
Building Construction:	$11,460,476
Fixed Equipment:	$881,683
Other:	$2,427,743
Total:	$16,114,465

Facility at Sunset

Learning Resource Center

The Learning Resource Center:

- Incorporates vibrant colors to enhance the ‘fun’ behind research and learning
- Includes two levels of space providing areas for research on the upper level and group learning on the level below
- Is located directly adjacent to the outdoor learning garden to allow for exterior teaching on nice days
- Is located at the core of the structure and is adjacent to the large group instruction spaces to provide equidistant proximity to all
- Is located adjacent to the main entry to provide evening access for the community

Courtyard