

# GREAT SENECA CREEK ELEMENTARY SCHOOL

GERMANTOWN, MARYLAND  
 MONTGOMERY COUNTY PUBLIC SCHOOLS  
 Completed August 2006

## DESIGN INTENT

Great Seneca Creek Elementary School is located at the intersection of Mateny Road and Dairymaid Drive in the Village of Cloppers Mill of Germantown, Maryland. The purpose of this project was to construct a new elementary school to accommodate growing student enrollment in the Germantown community. The new building is designed for an initial capacity of 640 students with core spaces to support 740 students. The new facility will provide program spaces for Pre-K through grade 5. The design will encourage a flexible approach that accommodates changing educational programs, interdisciplinary teaching methods, and efficient and cost-effective use of space. The multi-purpose room with stage, instructional media center, and gymnasium will be accessible to the community for use during non-school hours.

*Great Seneca Creek Elementary School is the first K-12 public school in the state of Maryland to be Gold certified with the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED™).*

## SITE LOCATION AND DESIGN

The school site consists of two adjoining properties, when combined are approximately 13.71 acres. The school building fronts Dairymaid Drive and is oriented on the east-west axis, ideal for classroom daylighting from the north and south. The geothermal well field serving the school was installed under the existing athletic fields on site. The site is naturally bound on the south by Great Seneca Creek, a stream buffer, a wetland area, and stormwater management. The school is bound to the west by the shared playing field in South Gunners Branch Park and adjacent residential development. Special consideration was given to incorporating environmentally-enhancing site designs that minimized site disturbance, preserve existing open space, and minimize stormwater runoff.



Ken Wyner Photography



**GOLD**

### LEED™ GOLD RATED\*

Sustainable Sites	7
Water Efficiency	4
Energy and Atmosphere	8
Materials and Resources	7
Indoor Environmental Quality	8
Innovation	5
<b>Total Credits Achieved</b>	<b>39*</b>

*\*Awarded Certification Spring 2007*

### NEW CONSTRUCTION

- Steel and Concrete Block Structure
- Concrete Slabs
- Brick and Metal Shingle Exterior
- Concrete Block and Gypsum Partitions
- Sloped Asphalt Roof
- Built-Up Roof System

### CONSTRUCTION COST

(Building and Site)  
 \$17,780,138

### COST PER SQUARE FOOT

\$215

### TOTAL GROSS SQUARE FOOTAGE

82,511 gsf



## **PROJECT CONSULTANTS**

### **CIVIL ENGINEERS**

Adtek Engineers, Inc.  
97 Monocacy Boulevard  
Frederick, Maryland 21701

### **STRUCTURAL ENGINEERS**

Wolfman & Associates, Inc.  
8720 Georgia Avenue, Suite 908  
Silver Spring, Maryland 20910

### **MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION ENGINEERS**

James Posey Associates  
3112 Lord Baltimore Drive  
Baltimore, Maryland 21244

### **SUSTAINABLE CONSULTANT**

Sustainable Design Consulting  
1606 West Grace Street  
Richmond, Virginia 23220

### **LANDSCAPE ARCHITECTS**

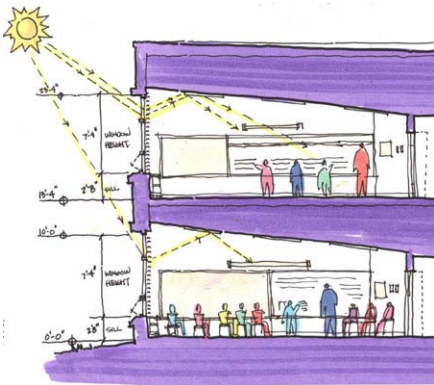
South Fork Studio  
10810 Cliff Road  
Chestertown, Maryland 21620

### **COMMISSIONING AGENT**

Advanced Building Performance, Inc.  
11225 Hurdle Hill Drive  
Potomac, Maryland 20854

### **CONSTRUCTION MANAGER**

Hess Construction Company, Inc.  
804 West Diamond Avenue, Suite 300  
Gaithersburg, Maryland 20878  
301.670.9000



## **BUILDING DESIGN**

Energy design features incorporated into the project include the following:

- Compact two-story building footprint and overlapping fields to minimize environmental impact. An open-air educational courtyard allows for minimal site disturbance while still maintaining maximum daylight spaces and views to the exterior.
- Encouraging alternate modes of transportation by providing additional bike storage with shower/changing rooms and preferred carpool parking spaces
- Light pollution reduction: reduced footcandle output and provided fixture cutoffs to ensure that site lighting does not spill off site
- Energy star roof coating: high albedo, white coating on the built-up roof system reduces the heat island effect
- Expected over 40% water use savings (approximately 370,000 gallons per year) through plumbing systems that minimize the use of water: including waterless urinals, dual-flush toilets, faucet aerators, low-flow shower heads, sensed multi-font lavatories, and dual-flush toilets in kindergarten classrooms.
- Expected over 30% energy usage savings due to energy-efficient geothermal mechanical system. HVAC system's multiple heat pumps allow users flexible comfort control.
- MCPS Energy Management System and HCFC-free cooling
- Lighting and power electrical systems that will utilize techniques of energy conservation.
- Green power purchased to supplement 100% building's operation
- Commissioning during design, construction, and occupancy
- Dedicated collection and storage of recyclables
- Efficient electric hand dryers in group toilet rooms - pilot program
- Approximately 90% recycled construction waste
- Low-emitting materials including adhesives, sealants, paints, carpets
- Wheatboard casework in classrooms and Media Center
- High percentage of recycled materials include recycled toilet partitions and concrete containing ground granulated blast furnace slag
- Use of local/regional materials including masonry, metal shingles, steel, concrete, cast stone, site furnishings and play equipment
- Solar loads controlled by use of double-glazed, low-e, insulated glass in fiberglass windows that open for ventilation
- Maximum natural daylight in classrooms: large windows, sloped ceilings, light and bright colors
- MCPS-developed High Performance Cleaning Program and Green User Education Program

Typical classroom overlooking wetlands with tall, fiberglass windows, sloped ceiling, and wheatboard casework.



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