

## Recycled Materials

- The wood used to finish the inside walls of the Center is local timber not usually used for this purpose because it is judged to be lesser quality. We think otherwise; that there is beauty even in “**cull**” trees and wormy red oak **salvaged** after a gypsy moth infestation.
- The Center’s **stone foundation** is recycled from a barn once owned by Ann Rudd Saxman (for whom the adjacent Nature Park is named) on nearby Georges Station Road.
- The Center’s two exterior decks are covered with a protective coating made entirely of **recycled automobile tires** from Pennsylvania.



reusing stone

## Water Efficiency

- **Water-saving toilets** reduce the amount of potable water drawn from the municipal system, and save twice: once in the cost of water and once in the cost of sewage.
- Outside, landscaping with **indigenous plants** reduces the need to water.
- The building itself has been designed to create no burden on the storm sewers. A **cistern** catches rainwater runoff from the roof and then uses the sun’s energy to pump it to the garden. Gravel parking areas are a better alternative than asphalt because they allow snow and rain to slowly infiltrate the ground instead of flooding into the storm-sewer system.

## Heating and Cooling

- In winter, a **geothermal system** pulls heat from the ground and brings it inside. In summer, it takes heat out of the building and deposits it in the ground. A geothermal system costs more to install, but much less

to operate than a conventional HVAC system. In winter, it can produce an extra \$3 of heat for every \$1 spent to run it. In summer, it can save as much as 60% on your cooling bill. Plus, in the air-conditioning mode, it uses the heat it takes out of the building to heat the Center’s water – for free!

- **Radiant floor heat** makes our feet warmer than our heads – an arrangement that most people feel is very comfortable. Warm water flows through flexible tubing under the concrete, warming the floor gradually to a maximum of 85°F and then acting as a huge radiator that keeps the air warm at your feet instead of letting it rise.



geothermal system

- Windows that can be swung wide open **allow nature to do the space conditioning** many days. This means we could purchase a smaller, less-costly mechanical HVAC system, save energy, and be invigorated with fresh outside air. Careful orientation of the Center and elongating the east-west axis allows the structure to draw significant natural warmth from the southern sun. During summer, south-facing windows are shaded by a canopy to reduce heat gain. Concrete floors inside the Center provide thermal mass and help in passive solar performance.

## Insulation

The Center’s shell is made of **structural insulated panels**. Produced locally, the panels are a “sandwich” of waste wood with a non-CFC-producing foam in between.



“sandwich” insulation

**For more information contact the  
Westmoreland Conservation District  
724-837-5271 [www.wcdpa.com](http://www.wcdpa.com)**

**This 120-year-old barn  
has some amazing  
NEW THINGS to show you**



**Westmoreland  
Conservation  
District**

**The Center For  
Conservation Education**

218 Donohoe Road • Greensburg, PA



The Center for Conservation Education is a place where you can find PRACTICAL NEW WAYS to build, operate, and maintain your home or business – ways that can save you money, create a healthier environment, and make your home or business a more pleasing (and productive) place to be.

In the process, you also will benefit your community with cleaner water and air, less waste, and a better quality of life.

We've built a variety of conservation measures right into the Center – from “sandwich” insulation in its walls...to tube heating in its floors...and honeycomb grids in its parking lot.

And because we use the Center every business day, we can give you a firsthand report on how well these measures are doing their job.

## New Ways of Thinking

Building with conservation in mind starts with a **teamwork approach to planning**. Instead of operating separately, the Center's architect, engineers, and contractors all spent time at the table together before the first shovel of earth was turned. They agreed on common goals for the project and worked together to design and build integrated systems that achieve those goals.

## Sustainable Approaches

Concrete floors and window shades have been **colored with iron oxide**, a harmless pigment when it is in this form...but a pollutant when it gets into our streams and rivers. Iron oxide forms in streams when water from abandoned coal mines



*concrete floor was colored with iron oxide*

reacts with oxygen in the air. It is the reason so many of our local streams look rusty orange in color. A local group is working on a great idea: raise money to clean up the streams by capturing and selling the iron oxide. More than 400 pounds of iron oxide removed from Sewickley Creek were used as pigment in the Center.

- Wood is a renewable resource and the limited number of new structural timbers needed for the Center came from **Westmoreland County forests**.
- The Center's construction took advantage of **existing infrastructure**, such as next-door Donohoe Center's parking areas; sewage; and water, electric, and telephone lines.
- Many of the goods and services for the Center – from lumber to lights – were **obtained locally**, which helps our community's economy and reduces transportation costs.

## Thoughtful Siting

The site was evaluated to see whether or not it was **appropriate** to put an education center here.

- We found that there had been a barn here in the past – in almost the exact same location – when this land was the Westmoreland County Farm.
- The physical geography of the site also was appropriate for this use because the style of



*“bank barn” design fits the area's topography*

the barn – one designed to fit into the profile of a hill – minimized the amount of earth-moving.

## Adaptive Reuse

This education center **was once a barn on a family farm** in Penn Township, where it housed animals and grain for about 120 years. In the late 1990s, the farm was sold for development and the barn was set to be razed. We saw its value and, instead, enlisted the help of Amish craftsmen to dismantle the barn, move it, and rebuild it as an education center. More than 80% of the barn's original structural timbers were able to be reused, and we estimate that these timbers of poplar, white oak, and red oak have at least another 120 years of life in them.



*reusing original timbers*