Project Description

- A donated cinder block building shell was renovated to U.S. Green Building Council LEED standards. This is now the MWA headquarters – our River Resource Center.
Project Background

- Several buildings and 3 acres of land located on the banks of the Musconetcong River in Asbury, NJ were donated to the MWA in 1999.

- Over the years funding was secured and ground was broken in July 2008. In April 2009 we moved into the building.
What is LEED?

- The Leadership in Energy and Environmental Design (LEED) Green Building rating system is an independent certification program. LEED is the nationally accepted benchmark for the design, construction and operation of high performance green buildings.

- LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health.
LEED – Five Key Areas

- Sustainable Site Development
- Water Savings
- Energy Efficiency
- Materials Selection
- Indoor Environmental Quality
Sustainable Site Development

- Re-use of existing developed site
Sustainable Site Development (cont’d)

- Riparian buffer conserves natural area
Sustainable Site Development (cont’d)

- Heat island is minimized by using Energy Star-compliant roof
Sustainable Site Development (cont’d)

- Outdoor light pollution is minimized with shielded fixtures. Light is directed where needed, not into the sky.
Pervious parking material allows water infiltration and reduces stormwater run-off.
Water Savings

- Composting Toilets
- Low flow fixtures
- 67% less water is used than same size building with conventional fixtures
Water Savings (cont’d)

- Native plantings resist drought
Captured rainwater for landscape watering instead of potable water (rain barrel)
Energy Efficiency

- Geothermal system – no fossil fuels are used to heat or cool building.
- 55 degree water goes into an evaporative heat exchanger. Fan disperses air throughout building.
- The HVAC system uses 47% less energy than standard systems.
Energy Efficiency (cont’d)

- Building is highly insulated
- 4” spray foam covers the interior ceiling
- Insulation is applied on the building exterior walls
Energy Efficiency (cont’d)

- High performance windows (low-e, argon filled)
Energy Efficiency (cont’d)

- Natural day lighting in all rooms
Energy Efficiency (cont’d)

- Energy efficient lighting (low voltage halogen or compact fluorescent)
- Motion & daylight sensors on interior lights; exterior lights on timers
Energy Efficiency (cont’d)

- Solar panels provide 15% of building’s energy use (includes heating and cooling)
Materials Selection

- Re-use of existing building shell reduced the need for new building materials
Materials Selection (cont’d)

- Construction debris was recycled by a company that separated wood, sheet rock, metal, glass, cardboard, paper, plastic and masonry rubble
- 80% of construction waste was diverted from landfill
Plywood for subfloor was salvaged from another building project
Materials Selection (cont’d)

- Recycled materials were used in
  - composite decking
  - metal framing
  - drywall
  - cement mix
Materials Selection (cont’d)

- Use of rapidly renewable materials (bamboo floor)

Before

After
Materials Selection (cont’d)

- Use of local materials (trim from local sawmill; local red shale for driveway)
Paints, sealants, and adhesives all low VOC to minimize toxic gases.
Indoor Environmental Quality

- CO2 sensors monitor indoor air quality
Indoor Environmental Quality (cont’d)

- Wood cabinetry made of wheat board to eliminate urea-formaldehyde
- Countertop in basement made of Paperstone
LEED Platinum Certified!

- The River Resource Center project was submitted to the U.S. Green Building Council for LEED Platinum level certification on 8/26/2009.
- Platinum certification was awarded on June 8, 2010.
Awards & Recognition

- Design Award from Society of American Registered Architects (PA chapter)
Awards & Recognition (cont’d)

- Green Building of America Award – to be featured in upcoming Northeast Real Estate & Construction Review – Green Success Stories Edition
Awards & Recognition (cont’d)

- Featured case study in the upcoming NJ Green Building Manual
- To be published by the Rutgers Center for Green Building, housed at the E.J. Bloustein School of Planning and Public Policy
Sunrise Reflections