Children’s Museum of Pittsburgh

Pittsburgh, PA

Current Owner: Children’s Museum Pittsburgh
Building Type: Interpretive Center
Original Building Construction: 1897
Restoration/Renovation Completion: 2004
Square Footage: 85,000 ft²
Percentage Renovated: 83% + 17% new construction
Occupancy: 167 people (50 hrs/week); 630 visitors (1–7 hrs/day)
Recognition: LEED NC v2.0—Silver; Mid-Atlantic Association of Museums Buildy Award 2009; PennFUTURE Platinum Green Power Award 2008; Western, Pennsylvania Environmental Award 2008; Rudy Bruner Award Gold Medal 2007; AIA National Honor Award 2006; AIA California Council Honor Award 2006; AIA Los Angeles Honor Award 2006; AIA Pittsburgh Honor Award and Green Design Citation 2006; I.D. Magazine Annual Design Review 2006; Design Distinction Award, MBA Building Excellence Award/Best Project Over $5 million 2005; Chicago Athenaeum American Architecture Award 2005; AISC IDEAS Merit Award 2005.

“We’re proud there’s been so much attention. Our next generation will inherit our progress, disasters, cities, and buildings…. Is there really an acceptable reason not to be healthy, productive, and environmentally sound? We pass these standards on as a legacy.”

—Rebecca Flora, Design Competition Advisor

PROJECT DESCRIPTION

The Children’s Museum received the 2007 Rudy Bruner Gold Medal Award for Urban Excellence as the year’s top urban place distinguished by quality design and social, economic, and contextual contributions to the urban environment. The museum was cited for its historic preservation, innovative architecture, and unique partnerships created
Figure 7.22 The new entry to the Children’s Museum is cloaked in a shimmering wind sculpture that creates a focal point between the two historic buildings. Goals of the expansion project included environmental sustainability, utilization of the LEED Green Building Rating System, protection of the historic nature of the existing buildings, improved access to adjacent neighborhoods, cost effectiveness, and integration of innovative technology and design. © Albert Vecerka/Esto

Figure 7.23 The expanded Children’s Museum created a unique “town square” for nearby residents and now serves as a revitalizing agent of change in an historic community. A new collaborative effort among the museum, Pittsburgh officials, community representatives, artists, architects, and designers focuses on transforming the public square into a new green space that serves as a shaded gathering place for farmers’ markets, art shows and other festival events. © Albert Vecerka/Esto
as part of its expansion completed in November 2004. The museum’s role as a catalyst for urban redevelopment in its neighborhood was also cited.

Housed in three buildings whose architectural styles represent three centuries—the old Allegheny Post Office (a registered Historic Landmark), the Depression-era former Buhl Planetarium, and the new connecting structure referred to as the Lantern building—the museum incorporated environmental sustainability into every aspect of the renovations. Educational programs and facility-maintenance strategies carry on the commitment to sustainable practices.
Materials and Resources
The renovations utilized 100 percent of the two historic building shells and more than 50 percent of the interior walls and ceilings. More than 60 percent of construction waste was diverted. During the construction, “items of value” (things such as marble panels, doors, and light fixtures) were salvaged from the existing historic buildings and made available to the community at large through a third-party nonprofit organization. Building materials use high quantities of recycled materials and are locally manufactured and/or locally harvested.

All adhesives, sealants, paints, carpets, and composite wood are certified low-emitting—that is, they are formaldehyde-free and have low levels of volatile organic compounds. Much of the wood in the project is certified.

Examples of environmentally benign operations include “green cups” in the café made from NatureWorks™ PLA, a corn-based, 100 percent renewable

Figure 7.25. The exploded axonometric shows how the addition connects the two historic buildings. The project maintained 100 percent of the existing buildings’ shells and more than 50 percent of the non-shell (interior walls and ceilings). In addition, 60 percent of construction waste was diverted. Koning Eisenberg
resource and a compostable, eco-friendly alternative to OPS and PETE plastics. A facility-wide recycling program accepts white and mixed-use paper, newspaper, cardboard, glass, plastic, cans, computer equipment, batteries, copier and printer toner, phone books, and light bulbs.

Educational
The museum welcomes more than 220,000 visitors a year. This offers many opportunities to communicate a message of sustainability to children, families, school groups, and educators. The museum does so through ongoing programs, partnerships, and practices:

- **Everything Green**, a field trip that shows children how natural light, recycled materials, green building products and creative thinking combine to make a green building. Children also explore what they can do to create a greener environment at home and in school.

- The museum uses recycled paperboard, wood, plastic containers, and small appliances for art projects in two exhibit areas: the Studio and the Garage Workshop.

- An outdoor **worm compost bin** custom-made by the Pennsylvania Resources Council provides the focus for **Worms Are Wonderful**, a program that allows the public to feed food scraps from the café to 30,000 red wiggler worms and learn about worm life science and vermicomposting.

- **Child Development Series** sessions on healthy and energy-efficient homes are presented by Conservation Consultants, Inc., Healthy Homes Resources, and the Rachel Homestead Association.

- Outdoor **Tot Hikes** are offered in collaboration with Venture Outdoors.

- **Earth Day programs** include plays and puppet shows with environmental themes, plantings, and a green scavenger hunt.

- **The Green Table** serves a resource site for information from local environmental and conservation groups.

- **Teacher training programs:** Green Building as a Teaching Tool is a professional-development course that has been offered in collaboration with Conservation Consultants, Inc., and the Green Building Alliance since 2005. The **Environmental Stewardship Awareness Workshop** is offered in summer in collaboration with Conservation Consultants, Inc.
### GREEN DESIGN ELEMENTS

**Children's Museum of Pittsburgh**

**Sustainable Sites:**
- Public transportation proximity
- Bicycle accommodation
- Carpooling incentive program
- Small green roof (trial)
- White reflective roof

**Water Efficiency:**
- Low-flow plumbing fixtures
- Dual-flush toilets
- Faucet aerators

**Energy and Atmosphere:**
- Photovoltaic system
- Renewable-energy certificates (100 percent)
- Occupancy sensors
- Digital systems monitor
- Commissioned building

**Materials and Resources:**
- Over 60 percent construction waste salvaged or recycled
- Recycled content materials
- Forest Stewardship Council (FCS)-certified wood
- Locally manufactured materials

**Indoor Environment Quality:**
- Low-VOC materials and finishes
- CO₂ monitors
- Green cleaning policy
- Walk-off mats

**Additional Features:**
- Occupant recycling program
- Vermiculture composting bin
- Sustainable café products ("green cups")
- Environmental education programs

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### PROJECT TEAM

- Children's Museum Pittsburgh
- Koning Eizenburg Architecture
- Perkins Eastman Architects, PC
- Mascaro Corporation
- Steeb Associates
- Ned Kahn, environmental artist
- Elwood S. Tower Corporation
- Atlantic Engineering Services
- Gateway Engineers
- LaQuatra Bonci Landscape Designers
- Pentagram Design
- Vortex Lighting
ENDNOTES


9. Ibid., p. 5.

10. Ibid., p. 5.


26. Ibid., p. 58.

27. Ibid., p. 62.

28. Ibid., p. 78.

29. Stop Trashing the Climate, p. 30.

30. Ibid., p. 45.

31. Rogers, p. 177.


35. Ibid.
36. Ibid.
45. Ibid., 132.
46. Sam Grawe, “A Deadline for Design,” Editor’s Note, Dwell (July/August 2008).