

The Phillip Merrill Environmental Center (Chesapeake Bay Foundation Headquarters) Annapolis, Maryland



LEED
LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

**Version 1.0
PLATINUM**



Notes from the Project Team: *LEED was instrumental in conveying the importance of the sustainable elements of the design to CBF's Board of Trustees.*

Sustainable Sites

- **Site Selection:** *Erected in Smart Growth Funding Area on footprint of existing structure; 26.6 acres remain undisturbed in Land Trust.*
- **Educational Model:** *Interpretive trails and demonstrations for public visitors*
- **Storm/Waste Water:** *Composting toilets and bioretention/wetland*
- **Resource Protection:** *Woodland, wetland, and tidal water restoration*

Water Efficiency

- **Water:** *Rainwater catchment and reuse for hand washing and irrigation*

Energy and Atmosphere

- **Domestic Hot Water:** *Thermomax-solar technology*
- **Energy:** *Exceeds ASHRAE/IES Standard 90.1-1989 by 50%*
- **Envelope:** *Structural Insulated Panels (SIP) R-20 walls; R-30 roof*
- **HVAC:** *Natural ventilation and desiccant dehumidification and heat recovery; heat pump system with geo-thermal heat exchanger*
- **Controls/Monitoring:** *"Green Light" building energy management system notifies staff to open windows when outside conditions comply*
- **Renewable Energy:** *10.7% of energy needs met by photovoltaic panels; solar hot water heating*
- **Lighting:** *Daylight harvesting; time clock lighting controls*

Materials and Resources

- **Rapidly Renewable:** *Paralam post, beam, and truss system; bamboo, cork and linoleum floorings*
- **Recycled Content:** *Metal roofing and siding, acoustic ceiling, ceramic tile, and MDF cabinetry*
- **Framing:** *Structural Insulated Panels (SIP) decrease wood use*

Indoor Environmental Quality

- **Indoor Environmental Quality:** *CO₂ and VOC monitors*
- **Furniture:** *Small, open offices allow for communal space; systems furniture allows flexible layout to accommodate "churn"*

Owner: Chesapeake Bay Foundation

Project Team:

Architect:	SmithGroup, Inc.
Engineer:	SmithGroup, Inc.
P.Manager:	Synthesis, Inc.
Contractor:	Clark Construction Group
Consultant:	Janet Harrison, Architect

Building Statistics:

Completion Date:	November, 2000
Cost:	\$6.36 Million
Size:	30,600 gross square feet
Footprint:	12,000 square feet
Construction Type:	3B, Two Stories over Open Parking
Use Group:	Business(B), Assembly(A-3), Storage(S-2)
Lot Size:	33 acres
Annual Energy Use:	23 kBtu/sf/year
Occupancy:	90 Staff



Phillip Merrill Environmental Center
LEED Version 1 Certification Level: PLATINUM
March 30, 2000

36 Points Achieved Possible Points: **52**

Bronze 22 to 26 points Silver 27 to 30 points Gold 31 to 35 points Platinum 36 or more points

8 Planning Sustainable Sites Possible Points: **11**

Y		
1	Credit 1	Landscaping for Erosion Control 1
2	Credit 2	Reduced Heat Islands (1 or 2 points) 2
	Credit 3	Infill Development 1
1	Credit 4	Reduce Habitat Disturbance 1
1	Credit 5	Site Preservation/ Restoration 1
	Credit 6	Efficient Building Location 1
2	Credit 7	Alternative Transit Facilities (1 or 2 points) 2
1	Bonus	Bonus Credit 1 - Alternative Fueling Facilities 1
	Bonus	Bonus Credit 2 - Brownfield Development 1

7 Improving Energy Efficiency Possible Points: **11**

Y		
Y	Prereq 1	Building Commissioning
Y	Prereq 2	Energy Efficiency
5	Credit 1	Energy Efficiency (1 to 5 points) 5
	Credit 2	Natural Ventilation, Heating & Cooling 1
1	Credit 3	Waste Heat Recovery 1
1	Credit 4	Renewable/Alternative Energy (1 to 3 points) 3
	Bonus	Bonus Credit 1 - Measurement and Verification 1

7 Conserving Materials & Resources Possible Points: **12**

Y		
Y	Prereq 1	Elimination of CFCs
Y	Prereq 2	Storage & Collection of Recyclables
	Credit 1	Existing Building Rehab (1 or 2 points) 2
1	Credit 2	Resource Reuse (1 or 2 points) 2
1	Credit 3	Recycled Content (1 or 2 points) 2
2	Credit 4	Construction Waste Management (1 or 2 points) 2
1	Credit 5	Local Materials 1
1	Credit 6	Elimination of CFCs/Halons (1 or 2 points) 2
1	Credit 7	Occupant Recycling 1

5 Enhancing IEQ Possible Points: **7**

Y		
Y	Prereq 1	Elimination/Control of Asbestos
Y	Prereq 2	Indoor Air Quality
Y	Prereq 3	Smoking Ban
Y	Prereq 4	Thermal Comfort
	Credit 1	IAQ Management Plan (1 or 2 points) 2
2	Credit 2	Low VOC Materials (1 or 2 points) 2
1	Credit 3	Permanent Air Monitoring 1
1	Credit 4	Chemical Storage Areas 1
1	Credit 5	Architectural Entryways 1

6 Safeguarding Water Possible Points: **8**

Y		
Y	Prereq 1	Water Conservation
Y	Prereq 2	Elimination of Lead
1	Credit 1	Water Conserving Fixtures 1
1	Credit 2	Water Recovery System 1
	Credit 3	Water Conserving Cooling Towers 1
1	Credit 4	Water Efficient Landscaping 1
1	Credit 5	Surface Runoff Filtration 1
1	Credit 6	Surface Runoff Reduction 1
	Bonus	Bonus Credit 1 - Biological Waste Treatment 1
1	Bonus	Bonus Credit 2 - Measurement and Verification 1

3 Improving the Design Process Possible Points: **3**

Y		
1	Credit 1	LEED® Accredited Professional 1
1	Credit 2	Low Water Use 1
1	Credit 3	Exceptional Energy Measures 1