

ZA00A – Miscellaneous Grant Programs

- **Phase 1: Living Shoreline** – A living shoreline has been constructed to enable the return to the currently eroded Potomac River shoreline for educational programming and to reduce sediment entering the Potomac River.

- **Phase 2:**
 - **Day Use Education Building** – The creation of an indoor education building will allow for year-round educational programming and the ability to increase the number of individuals served from 8,000 to 11,000 per year.

 - **Overnight Cabins** – The expansion of sleeping quarters by 28 beds will help meet the needs of teacher groups and larger student groups.

- **Phase 3:**
 - **Overnight Lodge** – The construction of a new overnight lodge will meet Americans with Disabilities Act requirements, allow for the housing of adult chaperones in appropriate accommodations, facilitate the expansion of the number of individuals served by educational programming, and alleviate the concerns of mold and other problems experienced in the current building – constructed in 1974.

 - **Wetland Boardwalk and Challenge Trail** – A raised, Americans with Disabilities Act complaint boardwalk will allow for greater access to restored wetlands, a refuge from beaver dam flooding, and the creation of a Challenge Trail for problem-solving exercises in a natural environment.

The Living Building Challenge is a building certification program begun in calendar 2006 by the Cascadia Region Green Building Council, which then formed the International Living Building Institute. The Living Building Challenge is similar to the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) certification program but incorporates requirements more strict than the LEED Platinum certification, the highest standard in the LEED certification program. The Alice Ferguson Foundation indicates that the Potomac Watershed Study Center will have an energy density – the amount of energy required per square foot to operate on an annual basis – approximately half of the Chesapeake Bay Foundation's Merrill Center, one of the most energy efficient buildings in the country when it was built in 2001. Some of the Living Building Challenge components are reflected in **Exhibit 1**.

**Exhibit 1
Living Building Challenge Components**

<u>Component</u>	<u>Requirement</u>	<u>Solution</u>	<u>Costs/Benefits</u>
Energy	Supplied 100% by on-site renewable energy on a net annual basis.	Generate 100% of energy onsite from renewable energy sources (photovoltaic and geothermal). Reduce energy density by increasing thermal and infiltration performance of walls, roof, windows, and doors. Include advanced lighting, HVAC equipment, and effective natural daylighting.	Increased upfront costs for photovoltaic and geothermal. Reduced operating costs and climate change impact mitigation in the long term.
Water	Obtained from either precipitation or a closed loop water system.	Operate using only captured rainwater and treat 100% of stormwater and wastewater discharge onsite through groundwater recharge or agricultural uses.	Increased costs for rainwater capture and treatment systems and bioremediation and infiltration of stormwater and wastewater. Reduced operating costs in the long term and local and regional water quality improvements (<i>i.e.</i> , the Chesapeake Bay).
Materials	Restricted from using a list of materials and chemicals banned by the International Living Building Institute due to health/toxicity concerns.	Construct without use of the banned toxic chemicals.	Increased costs due to the limited availability of toxics-free materials and climate change mitigation requirements (distance traveled and weight limitations). Benefits of improved human health and decreased environmental toxicity.

HVAC: heating, ventilation, and air conditioning

Source: Alice Ferguson Foundation; Department of Legislative Services

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Upfront costs are the main trade-off of the long-term benefits from an energy efficient, low-impact building, with no toxic chemicals in the building materials. However, it appears that the Alice Ferguson Foundation has worked to keep these costs down. **Exhibit 2** reflects similar facilities across the country against which the Alice Ferguson Foundation benchmarked its proposed Potomac Watershed Study Center; the average per square foot cost for the Potomac Watershed Study Center buildings is well below the average for the other buildings. In addition, none of these other buildings have met the requirements of the Living Building Challenge. Finally, the Alice Ferguson Foundation indicates that the energy efficiency components of the design will have a rapid 14-year payback based on current energy prices and no subsidies due to \$0 energy bills and the potential to generate revenue through net metering. There is no simple payback projected for the net zero water use since the Alice Ferguson Foundation uses well water and thus does not pay for water service.

Exhibit 2
Cost Per Square Foot Costs for Buildings
Similar to the Potomac Watershed Study Center

<u>Project</u>	<u>Cost Per Square Foot</u>
Potomac Watershed Study Center	
Grass Day Use Education Building	\$296
Moss Overnight Lodge and Education Building	238
Overnight Cabins	214
Average	\$249
Other Benchmarked Buildings	
Cusano Environmental Education Center	\$350
Stroud Water Research Center Education Building	349
Morris Arboretum Center	335
Pocono Environmental Education Center	326
Aldo Leopold Legacy Center	305
Natural Lands Trust Headquarters and Education Building	287
Girl Scouts of Chesapeake Bay Education Center	287
Average	\$320

Note: The Alice Ferguson Foundation normalized the data for the other benchmarked buildings for 2011 market pricing.

Source: Alice Ferguson Foundation

Another cost consideration for the Grass Day Use Education Building, in particular, is that it will house the main infrastructure hub – central mechanical and electrical systems such as geothermal headers and pumps, fire pump, and renewable energy inverters – that will serve the entire project, which artificially raises its cost. The Overnight Cabins are also more costly than one might expect since they will be fully heated and air conditioned with basements, fire suppression systems, and efficient mechanical and lighting systems.

Prior Authorization and Capital Improvement Program

**Authorization Uses
(\$ in Millions)**

<i>Fund Uses</i>	<i>Prior Authorization</i>	<i>2013 Request</i>	<i>2014 Estimate</i>	<i>2015 Estimate</i>	<i>2016 Estimate</i>	<i>2017 Estimate</i>
Acquisition	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
Planning	1.024	0.017	0.280	0.000	0.000	0.000
Construction	1.694	3.027	1.420	3.709	0.533	0.000
Equipment	0.000	0.035	0.000	0.066	0.000	0.000
Total	\$2.718	\$3.079	\$1.700	\$3.775	\$0.533	\$0.000

**Authorization Sources
(\$ in Millions)**

<i>Fund Sources</i>	<i>Prior Authorization</i>	<i>2013 Request</i>	<i>2014 Estimate</i>	<i>2015 Estimate</i>	<i>2016 Estimate</i>	<i>Estimated Totals</i>
General Obligation Bonds	\$0.522	\$1.700	\$1.700	\$1.700	\$0.000	\$5.622
Nonbudgeted	2.196	1.379	0.000	2.074	0.533	6.182
Total	\$2.718	\$3.079	\$1.700	\$3.774	\$0.533	\$11.804

As noted above, the Alice Ferguson Foundation is projected to provide \$6.2 million, or 52%, toward the total estimated project costs, which meets the requirement that the Alice Ferguson Foundation provide an equal and matching fund for this purpose as stipulated in the general obligation (GO) bond authorizing language. The total project is estimated to be \$11.8 million.

The \$522,000 in prior authorization is comprised of \$47,000 in general funds from a \$300,000 pay-as-you-go grant in the fiscal 2001 operating budget, \$225,000 in GO bond authorization from the fiscal 2007 capital budget, \$100,000 in GO bond authorization from the fiscal 2008 capital budget, and \$150,000 in GO bond authorization from the fiscal 2009 capital budget. The \$272,000 from fiscal 2001 and 2007 have been expended for early stages of the project. The \$100,000 in fiscal 2008 funding was expended as of December 5, 2011. The Alice Ferguson Foundation expects to spend the remaining \$150,000 from fiscal 2009 in the coming year.

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In terms of the out-year State funding projected in the 2012 *Capital Improvement Program*, the Alice Ferguson Foundation will use the fiscal 2014 and 2015 funding as follows:

- **Fiscal 2014** – The \$1,700,000 in GO bond authorization will be used for construction of the Wetland Boardwalk (\$340,000), completion of construction documents for the Moss Overnight Lodge (\$160,000), and construction of the Moss Overnight Lodge (\$1,200,000); and
- **Fiscal 2015** – The \$1,700,000 in GO bond authorization will be used for construction of the Moss Overnight Lodge.

In addition to the State funding, the Alice Ferguson Foundation has secured or will secure matching grant funding from a number of sources totaling \$6,181,900. The status and use of this funding is reflected in **Exhibit 3**.

Exhibit 3
Status and Use of Matching Funding

<u>Source</u>	<u>Status/Use</u>	<u>Amount</u>
Capital Campaign – Private Donors	Private donors have provided \$619,600 of the \$2,147,700 fundraising goal.	\$2,147,700
Prince George’s County	Funds were awarded in the county’s fiscal 2012 budget and will be used to construct the Grass Day Use Building and Overnight Cabins.	2,000,000
American Recovery and Reinvestment Act – National Oceanic and Atmospheric Administration	Funding has been received and spent on the Living Shoreline phase of the project.	1,159,200
Cafritz Foundation	The Cafritz Foundation has awarded \$380,000 of the \$500,000 with the remainder of \$120,000 expected in fall 2012.	500,000
U.S. Department of the Interior	Funds were received in 2006 and supported the very early stages of concept development and design for the entire project.	300,000
Kresge Foundation Green Planning	Funds have been received and were expended for planning and design of the entire project.	75,000
Total		\$6,181,900

Source: Alice Ferguson Foundation; Department of Legislative Services

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DLS recommends that the Alice Ferguson Foundation comment on the likelihood that it will achieve the full \$2,147,700 Capital Campaign – Private Donors fundraising goal given that it has raised only \$619,600 so far. In addition, DLS recommends that the Alice Ferguson Foundation comment on any funding contingency plans should fundraising from private donors be insufficient to meet the \$2,147,700 goal.

GO Bond Recommended Actions

1. Approve the \$1,700,000 general obligation bond authorization for the Potomac Watershed Study Center. This funding will allow the Alice Ferguson Foundation, Inc. to construct the Day Use Education Building and Overnight Cabins.