

UNIVERSITY OF ILLINOIS
AT URBANA - CHAMPAIGN

Allerton Park and Retreat Center

515 Old Timber Road
Monticello, IL 61856



November 22, 2009

Mr. Suhail Barot
Committee Chairman
Student Sustainability Committee
University of Illinois

Re: Letter of Inquiry—Sustainability Grant
Green Allerton: Alternative Energy/Geothermal Systems Project

Dear Chairman Barot:

On behalf of the University's Allerton Park and Retreat Center (APRC), we appreciate the opportunity to submit a Letter of Inquiry to the Student sustainability Committee (SSC) for the 2009-2010 Sustainability Grant Program. We are requesting \$25,000 from the SSC to join with APRC and several funding partners to install four geo-thermal closed loop systems for four buildings at the Park. The entire project is estimated to cost \$83,100 (including equipment--\$32,900, material--\$16,100 and labor--\$34,100). These systems would be replacing natural gas fueled heating and cooling systems in the Evergreen Lodge, Gatehouse, House-in-the-Woods and the non-greenhouse section of the Visitor Center.

This proposed project is another component of the Green Allerton strategic goal: reducing the Park's and University's dependence on fossil fuels. Although replacing these four structures existing heating and cooling systems with more efficient natural gas fueled units would be less expensive, we feel that this project would assist us with meeting this strategic goal. Using today's utility prices, the geo-thermal systems would pay for themselves in only 4.5 years. Replacement of the existing natural gas fueled heating and cooling systems would realize an estimated annual savings of over \$18,500 (based on 2008-2009 utility bills). In addition, it is estimated that annually, CO₂ emissions would be reduced by 76,350 tons with the installation of the geo-thermal systems.

We propose to install Ground Source Heat Pumps (GSHP) and horizontal ground loops with flow centers to connect the indoor and outdoor equipment in and near the four buildings. The older heating and cooling systems would be replaced with the most energy efficient available today—GEOMax2 Two Stage Geo-thermal Heat Pump. If notification of grant award by Spring of 2010, this project would be completed by Spring of 2011 at the latest.

With several forms of alternative energy sources available why are we seeking the geo-thermal system as an appropriate choice? In 2007, APRC was designated a Historic District on the National Register for Historic Places. Many of the alternative energy sources such as solar, wind power, wood burning boilers and the necessary equipment would not be acceptable additions in the preservation of the historic structures and landscapes. The installation of the GSHP and the ground loop system would not require any significant alterations to the structures or the surrounding landscape that would hinder our compliance with the National Trust requirement. Sufficient land is available near each of these buildings to allow the installation of the horizontal closed loop pipes with no significant change to the landscape.

Past APRC alternative energy and green construction projects include: the new construction of a straw-bale maintenance facility with ‘on demand’ hot water heating system with radiant floor heating tubes; installation of two outdoor wood burning boilers to heat the Park’s three greenhouses, workshops and operations building; and the use of electric vehicles for maintenance activities.

The following table illustrates the proposed funding partners for this geo-thermal project at this time:

Funding Sources	Amount	Percentage
Allerton Park	\$34,100	41%
SSC	25,000	30%
DCEO*	23,000	28%
Other	1,000	1%
Total	\$83,100	100%

*Illinois Department of Commerce and Economic Opportunity. Allerton Park submitted with the University’s Facility and Services unit in October 2009, a grant proposal for these funds through the American Reinvestment and Recovery Act appropriated to the State of Illinois for alternative energy projects.

We look forward to working with the Students Sustainability Committee and the other funding partners in this exciting and significant project. We believe this will be a model for the University and the community-at-large. Should you require any further information, please contact me at 217-333-3287 x 204 or email bschleic@illinois.edu.

Sincerely,

Barbara A. Schleicher
Landscape Designer and Grant Writer

**Allerton Park and Retreat Center
 Illinois Department of Commerce and Economic Opportunity Grant
 Geothermal Closed Loop Systems Proposal***

Location	Retrofit Cost	Annual Natural Gas		Annual Reduction	Funding Sources					Employment		
		Savings**		CO2 Emmissions/tn	DCEO	AP	SSC	Other	Total	Install	Maintain	Supplier
		Therms	Cost									
Visitor Center	30,800	13,210	13,544	21,000	7,000	10,900	12,900		30,800	6	3	2
Equipment 7 ton	11,700											
Materials/ Tools	8,200											
Labor	10,900											
Evergreen Lodge	14,268	2,067	2,737	16,350	6,000	7,000	1,268		14,268	6	3	2
Equipment 6 ton	6,121											
Materials/Tools	1,147											
Labor	7,000											
Gatehouse	18,941	1,850	2301	21,000	5,000	9,600	4,341		18,941	6	3	2
Equipment 5 ton	7,573											
Materials/Tools	1,768											
Labor	9,600											
House-in-the-Woods	18,078	1,583	2,277	18,000	5,000	6,600	6,478		18,078	6	3	2
Equipment 5 ton	7,504											
Materials/Tools	3,974											
Labor	6,600											
Totals		18,710	20,859		23,000	34,100	24,987		82,087	24	12	8

* Start Dates in Spring and Summer 2010--Completion by 2011

**Ameren billing figures from 5/08 thru 6/09