

## *Aldo Leopold Legacy Center*

SIZE: 12,000 sq. feet

**FUNCTIONS:**

Classroom: Capacity ~80

Meeting Room: Capacity ~30

Exhibit Hall

Library and Archives

Workshop

Offices

**DESIGN TEAM:**

*The Kubala Washatko Architects*

*Oscar J. Boldt Construction*

*Supersymmetry USA*

*Helios Design*

*Hines & Co.*

*Matrix Mechanical Systems*

*Powrtek*

*Komp/Gilomen*



## *The Land Ethic: A Timeless Challenge*

Often, people come to us asking, “How can I reduce my impact on the environment?”

The Aldo Leopold Legacy Center is, in part, the result of attempting to answer that question. At heart, the Legacy Center attempts to answer a more difficult, yet essential question—“How can we ensure both people and the land will prosper in the long run?”

From the beginning, Leopold’s Land Ethic guided the design of the Aldo Leopold Legacy Center. The Legacy Center not only meets the highest standards of the U.S. Green Building Council, but also sustains the health, wildness, and productivity of the land, locally and globally. It is a place to learn about Leopold’s intimate, life-long relationship with the American landscape and to see his ideas put into practice.

Aldo Leopold recognized that no matter how sophisticated we become, people will depend on the land—the land being shorthand for a large community that not only includes and values people but also plants, animals, soils, and waters. We may take natural resources and ecosystems for granted, but, ultimately, the land is what sustains us.

“Conservation is a state of harmony between men and land,” Aldo Leopold wrote. When the land is degraded, the community suffers—people included. By promoting the health of the land, we are striving to practice the Land Ethic and promote healthy land and prosperity in our lifetime and for future generations.

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*“Drawing on his life-long study of ecology, land use, history, and ethics, Aldo Leopold concluded that the highest task of civilization was to figure out how ‘to live on a piece of land without spoiling it.’ It’s an ideal articulated by one of the greatest thinkers of the 20th Century, an ideal we must embrace in this one.”*

**BUDDY HUFFAKER**  
*ALF Executive Director*

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*“That land is a community is the basic concept of ecology, but that land is to be loved and respected is an extension of ethics.”*

**ALDO LEOPOLD**



## *The Land Ethic in Action: Meeting the Highest Standards in Green Building*

### *Promoting the health of the land*

Going beyond the attempt to “do less harm,” construction of the Aldo Leopold Legacy Center is intertwined with ethical land stewardship.

The pines planted by Aldo Leopold and his family during the 1930s and 1940s suffered from over-competition by 2000. Removing the smallest, weakest trees reduced competition for resources, promoting the long-term health of the strongest trees and the forest as a whole. An oak woodland on the Leopold Memorial Reserve was also thinned, removing shade tolerant trees like red maple and black cherry, benefiting the plants and animals that depend on this important but dwindling part of the southern Wisconsin landscape. The harvested trees were used extensively in the construction of the Aldo Leopold Legacy Center.

This effort shows that we can do ‘more with less.’ Rather than disrupting ancient, healthy forests, we can obtain building materials and attempt to restore health to ailing lands at the same time.

### *Changing the way we use energy*

The Legacy Center uses 70 percent less energy than a typical building of its size, demonstrating that we can meet tomorrow’s energy conservation goals with today’s techniques and technologies. By reducing demand for energy, a suite of renewable energy systems on the site will meet most of the building’s energy needs, cutting the Legacy Center’s dependence on coal, natural gas, and other fossil fuels. On an annual basis, the systems will produce 10 percent more energy than the building consumes.

### *Knowing where our wood comes from*

Nearly 100% of the Legacy Center’s structural skeleton was built with pine trees planted by Leopold and his family. Site harvested wood products in the Legacy Center include:

- Hand peeled Leopold pine trusses and beams in the round
- Red maple ceiling decking
- Leopold pine paneling
- Black oak exterior siding
- White oak flooring
- Red maple paneling
- Leopold pine trusses milled on site
- Cherry flooring
- Hand-made oak tables and cherry chairs

*The building has 198 solar panels mounted on the roof, producing a total of 50,000 kilowatt hours of energy per year—enough to meet the needs of 5 typical homes in the region, and will be more than enough to power the 12,000 square foot Aldo Leopold Legacy Center.*

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*“We end, I think, at what might be called the standard paradox of the twentieth century: our tools are better than we are, and grow better faster than we do. They suffice to crack the atom, to command the tides. But they do not suffice for the oldest task in human history: to live on a piece of land without spoiling it.”*

*ALDO LEOPOLD, “ENGINEERING AND CONSERVATION,” 1938*

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## *Building Green and Conserving Energy*

### *Using locally harvested and recycled materials*

The pine trees Aldo Leopold and his family planted in 1935-1948 are a major building component in the Legacy Center. In the form of trusses, structural beams, siding, finish work, and even impressions in concrete, Leopold wood appears in all the Legacy Center buildings. Other locally harvested material has been used for the exterior siding, flooring, furniture, and interior paneling. The remaining building materials, where possible, are comprised of recycled aluminum, reused wood, reclaimed stone, and rapidly renewable materials.

### *Maximizing use of materials through innovative engineering*

Small diameter trees were used “in the round” in the construction of the Legacy Center. This technique preserves the strongest portion of the wood and allowed the architects and engineers to use material that would ordinarily be considered substandard for structural purposes. Joined in truss formation, these logs are incredibly strong and span the roofs of the 30-foot-deep Restoration Workshop and Home Range Hall without any internal support columns.



### *Heating and cooling with passive geothermal technology and a radiant floor system*

The primary means of heating and cooling the Legacy Center is a geothermal radiant floor system. The floor of most of the main building is a concrete slab that houses internal tubing. A glycol mixture runs through the tubes, and is heated or cooled by a heat exchanger tied to geothermal wells beneath the ground. The concrete takes on the temperature of the glycol coils and radiates it into the rooms. Because of the mass of the system and concrete’s insulative qualities, once the slabs reach the desired temperature, it is easy to maintain the temperature without high inputs of heat.

### *Saving energy with a unique ventilation system*

Separating the fresh air ventilation systems from heating and cooling systems will save 2 to 5 times the amount of energy of a conventional building by delivering only the air required by codes for ventilation and a healthy environment. Energy required for ventilation is further reduced through the use of a unique system of buried earth tubes, preheating ventilation air during winter and pre-cooling air during summer before entering the building.



### *Tapping solar energy to help reach “net zero” energy consumption*

The solar panels that cover the Legacy Center’s south-facing roof make up the building’s most conspicuous renewable energy system. Impressive reductions in energy use and a combination of less-noticeable renewables give the Legacy Center a “net zero” energy budget—producing more energy than the building consumes over the course of a year.



*The harvested Leopold trees were milled on or within 90 miles of the building site, saving most of the cost and energy ordinarily used for hauling building materials.*

*By using 70 percent less energy than a typical building of its size, the Legacy Center can rely on energy from the sun and earth to sustainably heat, cool, and power the building.*

*Structural insulated roof panels, with insulation sandwiched between sheets of plywood, reduce gaps in insulation so that less heat is transferred between the building and the outdoors in both winter and summer.*



## A Revolutionary Experiment

In the winter of 1935, Aldo Leopold went down a two-track sand road in search of land for a family hunting camp. Alongside the Wisconsin River, he found a “worn out” farm available for eight dollars per acre.

Running counter to all cultural currents, he bought the bleak, windswept place rather than seeking out richer land some where else. The decision proved pivotal to Leopold’s family, his relationship to the land, and the millions of readers since inspired by *A Sand County Almanac*.

Did Leopold realize the abandoned farm’s potential from the outset? No one knows for certain, but soon the family embraced the farm as a new kind of workshop or laboratory—a place to tinker and experiment with restoring health to an ailing piece of land. It was the sort of land common to a nation long obsessed with homesteading and suddenly stricken with the Great Depression and the Dust Bowl, twin specters of economic and natural catastrophe that shook the United States in the 1930s.

During weekends and breaks from school, Leopold, his wife Estella and their five children lived close to the land. Fixing up a dilapidated chicken coop, they created a home away from home which came to be known as “the Shack.” They tended a garden, cut firewood, and planted trees—eventually, some 40,000.

Doomed by Dust Bowl droughts, more than 95 percent of the pines died in the early years. Yet the family persevered, and spring planting at the farm became a rite of spring. Thousands of pines and other plantings eventually thrived, transforming the landscape into a mosaic of conifers, hardwoods, and prairie.



*“My own farm was selected for its lack of goodness and its lack of high-way. In fact, my whole farm lies in the backwash of the River Progress.”*

ALDO LEOPOLD

### Leopold’s Legacy

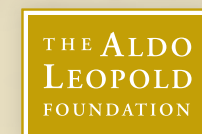
*“As we transformed the land, it transformed us. At the Shack, we all became participants in the drama of the land’s inner workings. In the very process of restoration, we grew increasingly to appreciate and admire the interconnectedness of living things.”*

NINA LEOPOLD BRADLEY

Each of the Leopold children went on to great accomplishments in the natural sciences. In 1982, they established the Aldo Leopold Foundation, in response to growing interest in their father’s legacy. Today, ALF’s programs foster the land ethic through land stewardship, education, and outreach. Built using pines the family planted and embodying the Land Ethic in its design, the Aldo Leopold Legacy Center will serve as a springboard to strengthen and expand the Foundation’s impact and reach.

### THE ALDO LEOPOLD FOUNDATION

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*Fostering the Land Ethic through the legacy of Aldo Leopold*

### Thank You to our Partners in Building the Legacy Center!

**CONTRACTORS:** Oscar J. Boldt Construction, Bachmann Construction, H&H Industries, H&H Electric, Monona Masonry, LMS Construction, G.O. Loop, Schadde Plumbing & Heating, Wallenfang Custom Millwork, D.L. Gasser, Middleton Construction, Skupniewitz Painting, Control Works, Acorn Construction, Rainbow Insulators, Zander Solutions, Overhead Door Company - Seven Rivers Region, Sergenians, Nations Roofing, Samsel’s Sawmill, Fike Forest Products, Johnny Micheel, Troy Zietlow, Majestic Farms Landscaping



**TECHNICAL PARTNERS:** US Forest Service Forest Products Laboratory, Beaudette Engineering, Clark Forestry, Community Forestry Resource Center, Expedition Log Homes, Institute for Agriculture and Trade Policy, Log Homes Council, Luther Farms, Northeastern Lumber Manufacturers Association, Adams Columbia Electrical Cooperative, Orion Survey

**SUPPLIERS:** Kohler Company, Vyron Industries, County Materials, Certified Wood Products, Portage Lumber, Lycon, Pella, Mid-City Steel, Gerdau Ameristeel, AEP Span, ACH Foam