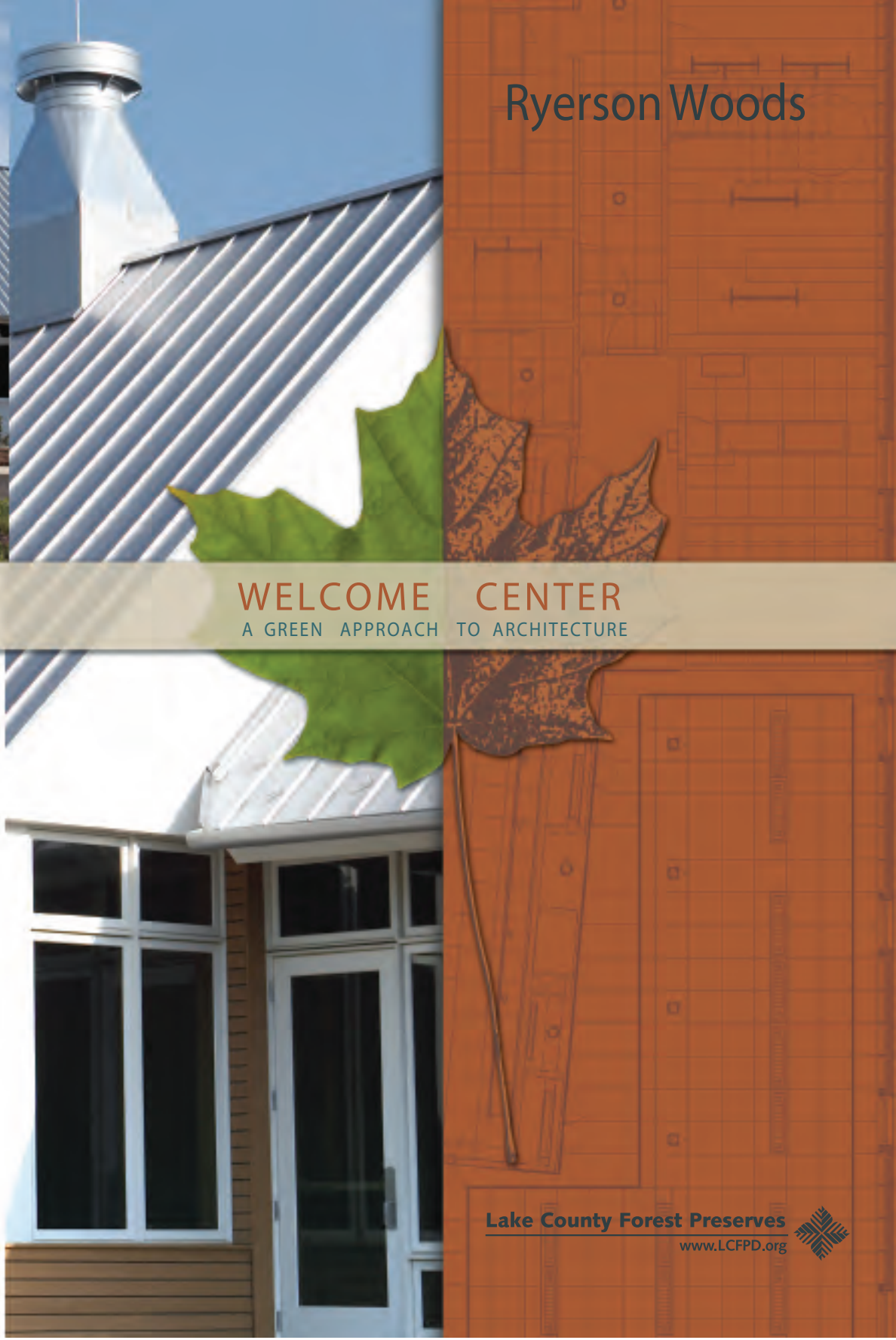




Ryerson Woods



WELCOME CENTER
A GREEN APPROACH TO ARCHITECTURE

Ryerson Woods

21950 N. Riverwoods Road | Riverwoods IL 60015
847-968-3321 | 847-968-7712 fax
forestpreserves@LCFPD.org
www.LCFPD.org



Printed on recycled paper using soy based inks.

Building Design—Serena Sturm Architects
Photos—architectural - © Kim Karpeles, botanical - © Joseph Kayne
Brochure Design—Blueraven Creative

Lake County Forest Preserves
www.LCFPD.org



COME IN
AND LOOK
AROUND



Planned as a model of green architecture, the Welcome Center takes advantage of the latest advances and trends in environmentally-friendly construction and design. We hope the Center serves as inspiration to individuals, businesses and organizations planning to build or remodel in the future.



GO GREEN!

How we design and build our homes and other facilities and the product choices we make have a significant impact on the environment. **GREEN ARCHITECTURE** emphasizes the design and construction of high-performance, sustainable buildings that minimize negative environmental impact. Green facilities typically make optimal use of natural light, employ the sun, the wind and the earth for heating and cooling, and incorporate water-efficient landscaping, as well as local products and recycled and recyclable materials.

The building was designed using the Leadership in Energy and Environmental Design (LEED) guidelines developed by the U.S. Green Building Council, with the goal of receiving a LEED certification.



FOLLOW THE SUN

The orientation of any building is key to green design. The Welcome Center has an **EAST-WEST ORIENTATION** to **MAXIMIZE SOUTHERN EXPOSURE**. An **EXTENDED OVERHANG** blocks direct rays of the sun from the south during the height of the summer, while still letting in plenty of natural light. Large **SLIDING SHUTTERS** are shading devices on the east and west sides of the building. Many of the **WINDOW SHADES** are made of a special material to disperse the heat of the sun yet let in plenty of light.



RAIN, RAIN GO AWAY

RAIN GARDENS in the center of the circular driveway and on the south side of the building capture and hold stormwater runoff. The gardens allow the rainwater to be absorbed into the soil replenishing groundwater instead of moving over land to the Des Plaines River.

Our amazing **POROUS ASPHALT PARKING LOT** is the first of its kind in Lake County. Its design allows rainwater to soak right through the pavement into a deep layer of gravel, permitting the rain to infiltrate into the groundwater. Typically, rain runs off of regular asphalt and concrete paving into the surrounding landscape, washing traces of oil, gas, grease, road salt and other pollutants into the nearest streams. Our parking lot's design reduces stream pollution.

A small silver cistern outside of the building collects rainwater for watering plants.



LOOK OUT BELOW

Underneath the office area is a **CISTERN**, a cement tank used as a reservoir to hold rainwater collected from the rooftop. In the event of a fire, the water in the cistern will be used to protect the Welcome Center and other buildings in the farm area. You can take a peek at the cistern through the viewing window to the left of the reception desk. The pipes leading down to the cistern can be viewed through a small window just outside the library. When cisterns are full, excess water is channeled into the rain garden.

left—cistern pipes viewing area
right—heart of geoechange system

AUTOMATIC PILOT

Wherever possible, we installed automatic features to help us efficiently use energy. **MOTION DETECTORS** turn lights on when we enter the room and turn them off when no one is around. **AUTOMATIC TOILETS** flush for us in the bathrooms. **GEOEXCHANGE TECHNOLOGY**, which uses the earth to dissipate heat in the summer and gather warmth in the winter, heat and cool the Center, while **PROGRAMMABLE THERMOSTATS** maintain the temperature.

BREATHE DEEP

Inside air quality can be compromised by gases released from paints, sealants, carpeting and furniture. We chose products that don't release gases that negatively impact our air-quality. In addition, there is **LIMITED RE-CIRCULATED AIR** in the building and plenty of **NATURAL VENTILATION**, so breathe easy.

left—library showing open construction
right—program room showing southern exposure



SOMETHING OLD, SOMETHING NEW

You'll see plenty of **RECYCLED** and **RECYCLABLE MATERIALS** here. The beautiful **PORCELAIN WALL TILE** in our bathrooms is made from recycled tile and the stalls are made of recycled plastic. Our **ENTRY MATS** are made from old tires. The **CARPETING** in the library is made from recycled carpet. Divided into squares, we can replace any worn-out carpet only where it is needed, saving further resources and money. The **TEXTURED CEMENT BLOCK** in the foyer includes **FLY ASH** and **BLAST FURNACE SLAG**, industrial manufacturing byproducts that typically end up in a landfill. **PRESSED WHEATBOARD**, a renewable resource made from wheat stalks leftover after harvest, has been used throughout the Center for shelving, countertops, wallboards and table tops.

left—recycled tile
top—flyash and slag cement blocks
bottom—wheatboard

Wherever we couldn't take advantage of recycled materials, we made sure to buy **RECYCLABLE PRODUCTS**. For example, our **OFFICE FURNITURE** can eventually be recycled when worn out, instead of ending up in a landfill. Our **METAL ROOF** is not only made using recycled metal, it ultimately can be recycled after its 50-year life expectancy.

ARE WE DONE YET?

Many of the wall and ceiling areas were purposely left exposed. Though untraditional, we chose to put the **INSULATION ON THE OUTSIDE**. This allowed us to save resources by using less drywall and ceiling tile in the interior, creating a rustic and open aesthetic. And, by using special installation techniques we receive the added bonus of significantly increasing the insulation's effectiveness, reducing the amount of air leakage, and lowering our energy costs.

left—program room showing natural light
right—roof stack for ventilation



drip chain guides water from eave to rain garden

THE BOTTOM LINE

*F*or most people, cost is a primary concern when designing and constructing a new home or building. One of the exciting advantages of green architecture is the savings that can be realized over time.

FOR EXAMPLE:

- The Center's total utility bill is a fraction of a standard building of this size.
- Because the water won't puddle we expect our porous asphalt parking lot to weather longer than standard paving.
- Our metal roof should last at least 50 years. *(A shingled roof typically lasts 15 - 20 years.)*
- After eight years, our geexchange system will have paid for itself in energy savings.

WE COULDN'T HAVE DONE IT WITHOUT YOU!

*W*e gratefully acknowledge the generous support of the following grantors and project partners:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

ILLINOIS CLEAN ENERGY COMMUNITY FOUNDATION

ILLINOIS DEPARTMENT OF NATURAL RESOURCES-
CONSERVATION 2000 ECOSYSTEMS PROGRAM

LINCOLNSHIRE GARDEN CLUB

OFFICE OF LIEUTENANT GOVERNOR, ILLINOIS

FRIENDS OF RYERSON WOODS

A grant has been obtained to develop an education program that will help middle and high school students learn about the porous asphalt parking lot, rain gardens, and the energy efficiencies of the building.

