GrayWay

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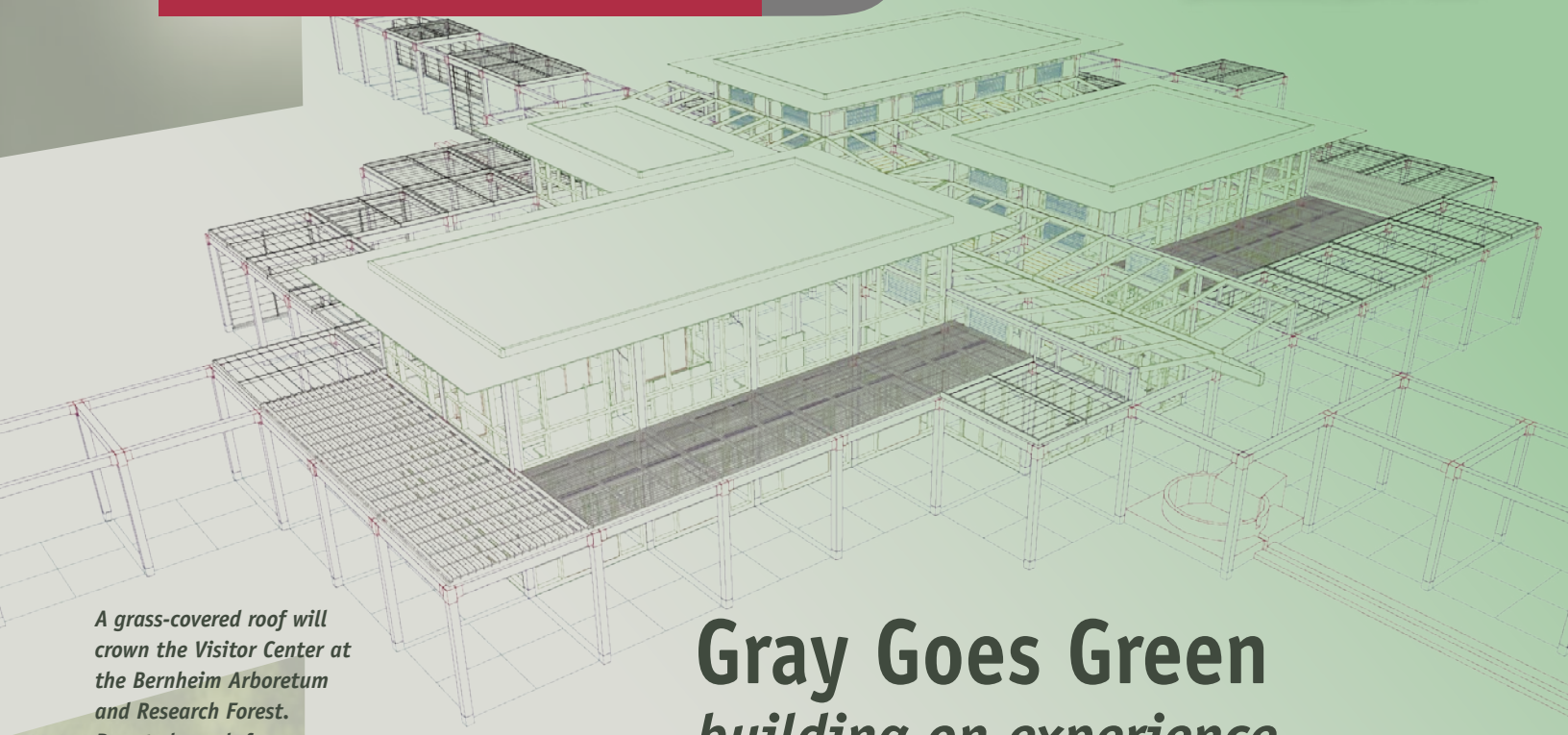
Sustainable building practices, part two.



A grass-covered roof will crown the Visitor Center at the Bernheim Arboretum and Research Forest. Donated wood, from pickle vats and distillery racks, has been incorporated into the design and construction.

Gray Goes Green

building on experience

"Green building" is catching fire across America as public and private sectors embrace sustainable concepts in planning for new and expanded facilities. The previous *GrayWay* reported that going green pays off economically and socially, especially when long-term costs of building and maintenance are considered.

A report to California's Sustainable Building Task Force, released October 2003, "The Costs and Financial Benefits of Green Building," is the first of its kind to fully aggregate the costs and benefits of green buildings. As part of the study, 33 recently constructed green buildings were evaluated and found to cost only about 2% more than the same buildings built with conventional design.

The report, based on a large volume of existing data, concluded: **The benefits of building green include cost savings from reduced energy, water, and waste usage; lower operations and maintenance costs; and enhanced occupant productivity and health. Analysis of these benefits indicates that total financial contributions of green buildings are over ten times the average initial investment required to design and construct a green building. Energy savings alone exceed the average increased cost associated with building green.**

The findings of this report point to a clear conclusion: building green is cost-effective and makes financial sense today. A link to the entire report and additional data sources can be found at http://www.usgbc.org/News/usgbcnews.asp.

Now, let's look at some current green building projects involving Gray team members who have gained great experience in "going green."

continued inside

Gray Goes Green

continued from front cover

The Bernheim Project

Each year, more than 225,000 nature lovers visit the Bernheim Arboretum and Research Forest near Louisville, Kentucky. The Arboretum is a popular destination for environmental education, for its many outdoor activities and for enjoying the ever-changing display of natural splendor.

Bourbon maker and philanthropist Isaac W. Bernheim established the 14,000-acre wooded wonderland in 1929, as a place where "... all people were welcome to relax and enjoy nature."

Recently, it was determined that a new Visitor Center would enhance the experience for guests, and a $6 million capital campaign was organized to create the necessary funds. Planners felt the lush nature preserve presented the ideal setting for incorporating sustainable concepts, and decision makers agreed. Since Bernheim is committed to research, education and preservation, the concept of sustainable design was met with overwhelming acceptance. James N. Gray Company was selected as construction manager and the groundbreaking was held on June 2, 2003. Teaming with Gray are architects Bagley and Associates of Lexington, Kentucky; green consultants, William McDonough and Partners of Charlottesville, Virginia; landscape architects, McIllwain + Associates of Lexington, Kentucky; and green HVAC consultants, Supersymmetry USA, Inc., Navisota, Texas.

We are confident that the late Mr. Bernheim would have appreciated the sustainable features planned for the new buildings, particularly the woodwork crafted from used bourbon barrels.

Completion of the Visitor Center is scheduled for April 2004, at which time the center will become a living demonstration of sustainable green construction. The goal of this project is to become the third facility in the nation to earn the highest "platinum" certification rating from the U.S. Green Building Council.

Bernheim Arboretum and Research Forest has long been a treasure in the state of Kentucky. Now, with foresight and dedication, it leads the way in sustainable construction. Be sure to stop by when traveling on I-65 through the Bluegrass State.

Sustainable Features Of The Bernheim Visitor Center Include:

- Grass roof system
- Recycled concrete foundations with 50% fly ash from coal-fired power plants
- Wood trim salvaged from a Jim Beam aging barn nearby
- Abundant natural lighting
- 12-volt lighting systems
- Recharging station for visitors' electric cars
- Structural frame of cypress salvaged from Heinz pickle vats
- Limited site disturbance
- Waterless urinals
- Peat septic system
- Geothermal heating and air conditioning
- Roof overhangs and trellis to limit interior solar gain
- Collection and reuse of storm water for irrigation
- Biofiltration swale to process oil runoff from parking areas

Green Power Comes To Kentucky

In March 2003, East Kentucky Power Cooperative (EKPC) received approval to construct three power plants designed to produce electricity by tapping methane gas emitted at municipal landfills.

The unique facilities are the first of their kind in the state, and make EKPC one of the leaders in green power among electric utilities in the southeastern United States. James N. Gray Company provided building and site construction services, process piping and electrical installation, equipment installation and building electrical, HVAC and plumbing.

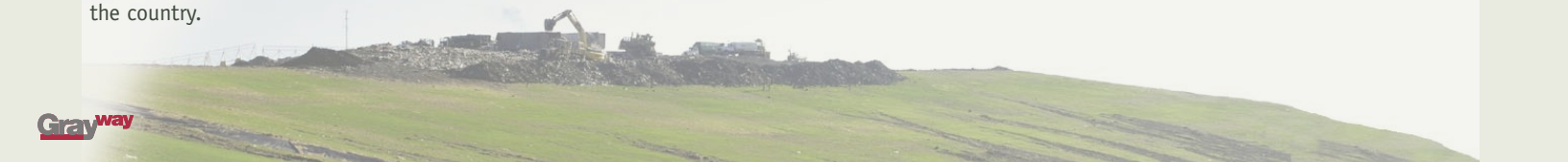
"This project is a triple win. First it's a win for the environment by using methane gas otherwise flared off and wasted. Second, it's a win for East Kentucky Power and its cooperatives because it provides an additional power supply source. Third, it's a win for individuals and companies because the power is generated at an affordable cost."

Roy Palk, President and CEO of East Kentucky Power Cooperative

Construction began on two plants simultaneously this past spring with the third beginning in April and was headed up by Gray's Doug Ross as project manager. The plants were operational in October 2003. Doug noted, "the concept is wonderful in terms of reduction of greenhouse gases and in resource recovery and use — it makes a lot of sense."

Each of the $4 million plants is approximately 5,000 square feet. The first to be fully operational was at the Bavarian landfill near Walton, Kentucky, the second at Green Valley landfill in Greenup County. These two facilities are scheduled to produce up to 3.2 megawatts of electricity each. The third plant, at the Laurel Ridge landfill near London, Kentucky, will produce 4 megawatts.

Of the 6,000 landfills in the United States, there are approximately 340 with gas-to-electric projects in operation. The Environmental Protection Agency estimates that another 500 landfills could cost-effectively produce enough electricity to power one million homes across the country.



News Briefs

JAMES N. GRAY COMPANY

NEW CUSTOMERS of note: **MGC Advanced Polymers** (formerly Mitsubishi Gas Chemical), which will build a nylon production facility in Colonial Heights, Virginia. Gray worked on the project for 18 months prior to being awarded the contract. **Nestlé** has selected Gray to build an expansion to their Hot Pockets brand manufacturing facility in Mt. Sterling, Kentucky. We are delighted to have a customer "with a name like **Smuckers**" (to quote their own advertising) that is adding capacity to their peanut butter plant in Lexington, Kentucky.

Our Alabama office weighs in with new projects for **Hyundai**, **Sejong** and **T&WA** — all part of the explosion of new auto related business there. Our governmental business unit has secured recent contracts with the **U.S. Navy** for projects in California and Maine.

Jill Wilson, director of marketing for Gray, has been elected president of **KIDC** (Kentucky Industrial Development Council) for 2004. Founded in 1967, KIDC is the association for


Jill Wilson

economic development professionals in Kentucky. Its 550 members are actively engaged in the critical work of attracting, retaining and creating jobs across the Commonwealth. Jill, a member since 1987, previously served as committee chair, board member, secretary-treasurer and president-elect.


Dennis Bopp

Dennis Bopp, vice president, planning and design, and **Randolph Wilson**, manager, process engineering, were speakers at the Design-Build Institute's Ohio Valley Chapter meeting in Lexington on December 4. Dennis spoke about


Randolph Wilson

design-build legislative issues in Kentucky and Randolph presented a complex process project executed by Gray using the design-build approach.

WS CONSTRUCTION

NEW CONTRACTS at WS, our sister company in Versailles, Kentucky include: general contractor for 60,000 square feet of manufacturing space for **Arvin Meritor** in Frankfort, Kentucky, and steel erection for **Monessen** in Paris, Kentucky, a 150,000-square-foot addition for manufacturing with Gray as the design-build contractor.

Another cooperative project with Gray is the **Smuckers** project in Lexington where WS is providing the concrete and general trades work. WS is also proud of their work at the highly visible **Jack Kain Ford** dealership in Versailles. They were the general contractor for this attractive 25,000-square-foot facility that had a gala grand opening December 10.

I.C.E. BUILDERS

I.C.E., our California-based company, reports they have been asked to build a special project for a long-time client, **Hollywood Entertainment** and **Shriners Hospital** of Los Angeles. The project entails the build-out of the Starlight Teen Lounge at Shriners Children's hospital in L.A. The themed area will mimic the surroundings of a Hollywood Video store and is designed for teen patients to enjoy DVDs and videos in a theater setting rather than in their room or other typical hospital settings. Everyone involved is donating time and materials for the project, which will be completed just six weeks after the January 5 start.

I.C.E. has just been awarded its first project for **Limited Brands**. The negotiated project, set for a February 2 start, is a build-out of a new Express store in Portland, Oregon's Lloyd Center. **Limited Brands** operates over 3,500 stores nationwide under The Limited, Express, Bath & Body Works, White Barn Candle and Victoria's Secret brands.

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Habitat For Humanity Turns Green

Habitat for Humanity is pleased to announce the completion of a new publication, "Design Handbook for Neighborhood Infill and Redevelopment Using Resource Efficient Methods and Materials."

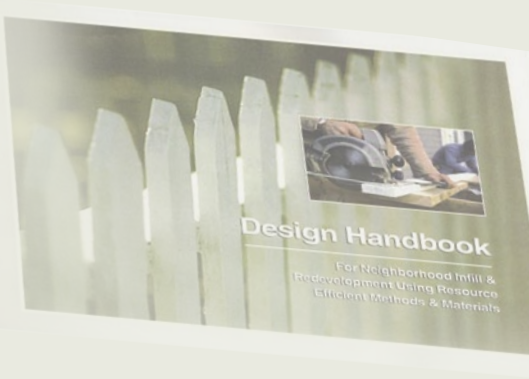
The handbook is the result of a collaborative effort between Lexington Habitat for Humanity, James N. Gray Company, and the Lexington-Fayette Urban County Planning Department. Funding was provided by a community development block grant from the Lexington-Fayette Urban County Government to Lexington Habitat for Humanity.

Three public workshops involving 22 organizations set the stage for the handbook, which pays particular attention to proven sustainable concepts such as energy efficiency, material selection, site protection, water conservation and waste reduction. Although the guide was written with Habitat homes in mind, many of its green principles apply to homes in any price range. Fifteen individuals were responsible for reviewing the handbook prior to publication. Gray's own Stephanie Gilbert, design manager, spearheaded the writing and editing task.

The collaborative effort will culminate in the design and construction of Lexington's first green Habitat home in 2004. Because the nature of the Habitat market demands efficiency and low operating costs for the ultimate homeowners, Habitat is becoming a strong proponent of green building.

The 2004 home in Lexington will incorporate the following green components to achieve significant sustainable and energy-reducing results:

- **Modular construction**
- **Efficient floor planning (less space, less cost, less energy)**
- **Higher ceilings with fans to provide more spacial comfort**
- **Environmental orientation to take advantage of sun and shade**



- **Plumbing installed on interior walls**
- **Low-flow fixtures**
- **Reduction of air infiltration through building envelope**
- **Ductwork installed in conditioned spaces**
- **Low-E glazing**
- **Energy-efficient appliances**

Adaptive Re-use With Shades Of Green

James N. Gray Company has taken on an exciting green project in Lexington, Kentucky, that will, according to architect John Thorne, "convert unused land and infrastructure into a contributor to the downtown community."

This project is for the **Community Action Council** (CAC) in Lexington which was looking to transform a classic 1960s structure into new administrative offices. Gray provided design, engineering and construction services for the 18,000-square-foot building. The work began in fall 2003 and is scheduled for completion by late January 2004. John Thorne, AIA, is design manager and David Martin is project manager.

Sustainable Green Aspects Of The CAC Project Include:

- **Adaptive re-use of an existing building, preserving material, land and infrastructure**
- **Leasing existing parking spaces nearby to reduce on-site parking**
- **Reducing existing hard surface and increasing green space**
- **Maintaining existing sunscreen**
- **Adding roof insulation and new insulating glass to reduce energy costs for heating and cooling the building**
- **Creating open offices to reduce construction materials and expense**
- **Removing sections of first floor to introduce daylighting into lower level office space**
- **Specifying energy-efficient HVAC with zoning capability**
- **Installing two-level lighting systems to maximize natural light**

News Briefs

continued from inside

OPERATIONS ASSOCIATES

Dale Brubaker is a principal with Operations Associates (OA) in Greenville, South Carolina, the Gray consulting company that specializes in supply chain strategies. Dale was published in the fall 2003 edition of *Trade and Industry Development*. The title of his article is "Logistics Site Selection — A Weighty Decision."

The article shoots down some commonly accepted thinking about distribution center siting. It sends a clear message about the dangers of over-simplification, and is a "must read" for anyone considering location of a distribution center. Does Dale know what he's talking about? Recently OA worked with a client to analyze inventory mix and transportation within the client's existing distribution network and identified $9.5 million in savings, representing 15% of their annual logistics budget.

To read Dale's entire article, click on to http://www.tradeandindustrydev.com/issues/article.asp?ID=40.
To learn more about Operations Associates, contact Alan Nager or Mike Rigg at 800-860-4902 or at http://www.operationsassociates.com.

Other Gray Projects Incorporating Sustainable Concepts

The Gap, Fresno, CA *top row;* Montaplast, Frankfort, KY *bottom left and center;* Gray Headquarters, Lexington, KY *bottom right.*

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