

THREE IN ONE The three programs profiled in this section—LEED for Homes, Minnesota GreenStar, and Minnesota Green Communities—collaborated on a brochure that highlights their similarities and differences. “Going Green, Looking for Answers?” can be downloaded at www.mngreencommunities.org/publications/download/mngreenprograms.pdf



CURIOUS ABOUT THE INCREASINGLY POPULAR CERTIFICATION PROGRAMS FOR GREEN HOMES, THE BENEFITS THEY PROVIDE, AND WHICH ONE MIGHT BE RIGHT FOR YOUR RESIDENTIAL PROJECT? WE'VE GOT SOME ANSWERS FOR YOU.

Now that global warming and going green have entered the American lexicon infused with a sense of urgency, more homeowners, apartment dwellers, and managers of multi-family housing are walking the talk. Recycling is the norm. Nontoxic materials from cleaning products to carpets and paint are used inside. Outdoors, rain gardens and native plants are restoring residential landscapes. Energy-efficient appliances, low-flow plumbing fixtures, and even solar panels are fast becoming part of home renovations and new construction.

But some builders and buyers, owners and renters are actively seeking a more holistic approach to sustainable design, whether for their own homes or those that represent their livelihood. In Minnesota,

three green-certification programs for residences provide the guidelines architects, developers, builders, and owners need to thoroughly understand and implement strategies that save natural resources such as energy and water, ensure a healthy indoor living environment, and promote healthy communities—one house or one neighborhood at a time.

The three certification programs—LEED for Homes, Minnesota Greenstar, and Minnesota Green Communities—also cut through any confusion about sustainable materials and products, techniques and strategies. The programs prioritize the most cost- and energy-saving strategies. They encourage best construction practices. In doing so, these certification programs ensure that,

upon completion, a new home, renovated residence, or multi-family dwelling has been designed to meet a credible, objective standard for green building.

Each program is also oriented to address a particular type of residential construction. LEED for Homes is the primary national program for new construction, with a focus on high-performance homes. Minnesota GreenStar is the leading program in the state for new home construction and remodels. Sustainability on an affordable-housing budget was the criteria for the creation of Minnesota Green Communities. The following pages are snapshots of the certification programs and the green home projects they guided to fruition.

“USING LEED, WE LEARNED HOW TO BE EFFICIENT WITH WASTE AND MATERIAL USE. ALL ARCHITECTS SHOULD DESIGN AT LEAST ONE HOUSE USING LEED.”



JEFF GALLO

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JEFF GALLO

LEED FOR HOMES A program of the US Green Building Council, which devised one of the first sustainability certification programs—Leadership in Energy and Environmental Design (LEED) Green Building Rating System—for new construction, LEED for homes was added to the growing family of LEED programs five years ago. Around that time, Salena and Jeff Gallo approached Shelter Architecture’s John Dwyer, AIA, about designing a modern home that would achieve the pilot program’s highest rating: Platinum.

“They wanted a high-design home with demonstrable levels of sustainability, which intrigued us,” says Dwyer. The team began “diving into the LEED checklists and criteria to design the home in a holistic way, so we could achieve Platinum while staying within budget,” he adds.

The building envelope of precast-concrete panels collects and holds heat (and boasts an R-30

rating), and was left exposed on the exterior and interior. An energy-efficient heat pump provides supplementary heating (and cooling in the summer) to in-floor heat. Inside the house, cabinetry of sustainably harvested woods, bathroom tiles of recycled glass, resin-based 3-Form decorative panels and Kerai wall panels made of sorghum stalks, and lots of natural light are among the green features.

“LEED provided us with common-sense design strategies and an underlying design philosophy that wasn’t just about green building enhancements, like recycled materials,” Dwyer explains. “Using LEED, we learned how to be efficient with waste and material use. All architects should design at least one house using LEED. The program is an excellent educational tool for getting architects to the next plane of understanding sustainable design.”



JEFF GALLO

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www.usgbc.org/leed



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ENERGY EFFICIENCY

RESOURCE EFFICIENCY

WATER CONSERVATION

INDOOR ENVIRONMENTAL QUALITY

SITE AND COMMUNITY IMPACT



MINNESOTA
GREENSTAR

www.mngreenstar.org

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THERE IS A CERTAIN PEACE OF MIND THAT COMES FROM KNOWING THAT THE PROGRAM WAS CREATED SPECIFICALLY FOR THE ISSUES RELATIVE TO CONSTRUCTION IN MINNESOTA.

MINNESOTA GREENSTAR Even before choosing an architect and contractor, Dave and Marge Gardeen knew they wanted to renovate their 1950s rambler in Golden Valley using the Minnesota GreenStar certification program. A collaboration of the Builders Association of the Twin Cities, the Minnesota chapter of the National Association of the Remodeling Industry, the Minnesota Pollution Control Agency, and the nonprofit Green Institute, GreenStar was designed with the flexibility to accommodate remodeling projects, large and small.

The Gardeens were committed to the program's whole-systems approach to new construction and remodeling projects. The approach integrates five key components of sustainable building (energy efficiency, resource efficiency, indoor environmental quality, water conservation, site and community) with eight construction components (outdoor and site, building envelope and systems, mechanicals, electrical and lighting,

plumbing systems and fixtures, finish materials and coatings, waste management).

Acacia Architects' Jeremiah Battles, AIA, helped the Gardeens transform their rambler into a modern, open, and light-filled home with energy-efficient windows, new insulation and reclaimed timbers. GreenStar also quantifies the sustainable aspects of the project: Third-party verification assured the Gardeens their remodel is performing as designed. GreenStar offers three levels of certification; the Gardeens' remodel achieved Gold.

"The program was also specifically designed to address our climate extremes and construction concerns," adds Battles, "so we didn't have to wade through information only relevant to other climates as we worked through the process. There is a certain peace of mind that comes from knowing that the program was created specifically for the issues relative to construction in Minnesota."

**“MINNESOTA GREEN COMMUNITIES PROVIDES
GOOD BASELINE STANDARDS FOR SUSTAINABLE DESIGN
AND AFFORDABILITY.”**

MINNESOTA GREEN COMMUNITIES A

statewide collaboration of the Greater Minnesota Housing Fund, the Family Housing Fund, and the community-development nonprofit Enterprise, the Minnesota Green Communities initiative is the largest green building program in Minnesota. The program was designed to ensure all new affordable housing built in the state is green, and that 10,000 units of existing affordable housing are sustainably rehabbed or retrofitted by 2015. Thus far, 497 units have been completed, 908 are under construction, and another 1,645 are in development.

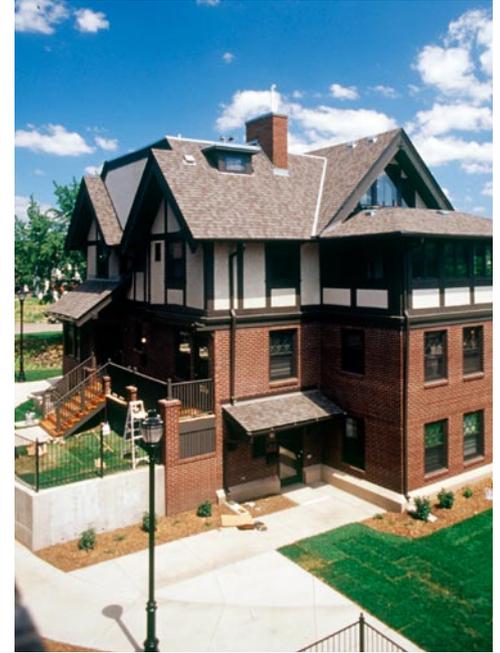
Ripley Gardens was one of four demonstration projects initially undertaken by Minnesota Green Communities. Located in Minneapolis’ Harrison Neighborhood, the project included rehabbing the historic Ripley Maternity Hospital, restoring a stucco house and a stone cottage, and adding three new buildings to provide 52 rental and 8 home ownership units for households from very-low to median income levels. The site is listed on both the National and Local Registers of Historic Places.

“The greenest aspects of this project were that we repurposed three existing historic buildings,” says Kim Bretheim, AIA, of architecture and engineering firm LHB. “The downside is that because of their historic nature, our options were limited. We couldn’t do energy-efficient windows because they would have altered the buildings’ historicity, and ventilation options were compromised because we couldn’t put fans in the walls.”

But the site’s historic nature inspired the sensitive design and placement of the infill structures. The new buildings were designed to reflect the massing, material and scale of the historic structures, and with energy-efficient building envelopes and systems. The new housing was

also densely sited to preserve open space landscaped with rain gardens and walking paths, thereby fulfilling Green Communities’ criteria for conservation-minded land use planning that provides amenities that encourage healthy lifestyles for families and neighborhoods.

Such thoughtful design initiatives augment the Energy Star appliances, low-flow fixtures, low-voc paints and daylighting incorporated into the housing units. “Minnesota Green Communities provides good baseline standards for sustainable design and affordability,” says Bretheim. “After figuring out which strategies are the most cost effective and best suited to buildings and site, it’s easy for architects and community developers to move beyond the minimum criteria.” **AMN**



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