
Zero Energy Home Development Moves Forward

The Zero Energy Homes (ZEH) development planned for East Austin's Montopolis neighborhood is moving forward. The Green Building Program recently held a design competition for Program members interested in designing homes for the ZEH development. We had a handful of excellent submittals; each project was required to meet criteria from the *GBP Single Family Residential Rating* and the *Montopolis Neighborhood Guidelines*. Our panel of judges then assigned scores to each design in three broad categories - Energy, Affordability, and Community. The first place award went to [LZT Architect](#) and the [Center for Maximum Potential Building Systems](#), who submitted a joint proposal. Second place was a tie between [Z Works Design/Build Inc.](#) and [Barley + Pfeiffer Architects](#). [9Design](#) received the Honorable Mention. All the submittals were excellent and the GBP intends to pursue use of the winning plans after some final revisions. Rich MacMath, an Architect on staff with GBP has also been working on home designs. He modified five homes to meet ZEH design and performance criteria. These five homes were included in the RFP announcement the week of November 29th. Austin Housing Finance Corporation (AHFC) intends to have homes on the ground and for sale by mid-May 2005.

A Short History of the ZEH Development

The Austin City Council approved Austin Energy's Ten-Year Strategic Plan in December 2003. This plan represents a shift from "business as usual" by recognizing that the electric utility industry is changing and new technology advances are on the horizon. One of the key goals within the plan is to aggressively increase Austin Energy's renewable portfolio. AE will achieve 20% renewables and 15% Demand Side Management (another term for conservation) by 2020. Another key goal is to assist in providing economic stimulus for the development, recruitment and retention of clean energy business enterprises to Austin.

Among many other things, Austin Energy will budget up to \$2 million a year for the installation of solar technology in Austin through the following initiatives: Offering the nation's most favorable rebates for solar installation.

Installation of solar systems on a limited number of schools, libraries and community centers
Development of interconnection protocols for solar systems, standby rates and payment rates for solar-produced power
Participation in the development of a solar powered/Green Building Zero Energy affordable housing subdivision.



View of Frontier Valley Road, entry point to site, facing south.

What are Zero Energy Homes?

The concept of Zero Energy Homes (ZEH) is to design and build homes to the highest level of energy efficiency possible, model the expected energy use of this design, and install sufficient distributed generation (DG) equipment, in this case solar photovoltaic (PV) panels, so that the anticipated annual net energy consumption of the home is zero. In a ZEH, the electricity is expected to flow both to and from the electric grid depending on energy needs. When the PVs produce electricity in excess of the home's needs, the excess energy will flow into the electric grid. At times when the PV electric production is not adequate to meet the home's load, i.e., peak cooling hours or at night, energy will flow from the grid to meet the shortfall in energy produced by the home. A ZEH is expected to produce enough energy to meet or exceed its net-modeled energy use over the course of a typical year.

Development Partners

Neighborhood Housing and Community Development

The mission of NHCD is to provide housing, community development, and small business development services to benefit eligible residents so they can have access to livable neighborhoods and increase their opportunities for self-sufficiency. To accomplish this mission, NHCD directly administers a variety of programs to serve the community's housing, community development, and economic development needs and provides grant funding to various agencies and non-profit organizations.

Austin Housing Finance Corporation

NHCD is the City's policy maker for reasonably priced housing and community development, and AHFC is the sub-recipient, which facilitates the construction of homes and implements the City's housing programs. The relationship between NHCD and AHFC was granted by the City and is administered under an annual contract between the NHCD and AHFC. AHFC assists the City in the delivery of reasonably priced housing programs using Home Investment Partnerships and Community Development Block Grant funds granted to the City by the U.S. Department of Housing and Urban Development.

AHFC acts as the primary reviewer for affordability and neighborhood compatibility criteria during the home design phase of the ZEH project. AHFC also acts as the primary administrator for subdivision design, construction management, and home sales phases of the project.

Austin Energy Green Building Program

Austin Energy (AE) is a community-owned electric utility and a department of the City of Austin. The Green Building Program (GBP), a department of Austin Energy, offers a membership program for building professionals who have made a commitment to sustainable building

practices. Active GBP members participate by designing, building, and rating their projects in accordance with the GBP single-family residential, multi-family or commercial rating tool. The GBP also provides associate memberships for manufacturers, suppliers, and real estate agents that are associated with green building materials and methods. The staff includes architects, engineers, and former builders who provide a wide range of Green Building consulting services to help building professionals design and construct better buildings - ones that are energy and water efficient, healthy, and comfortable.

GBP acts as the primary reviewer for energy performance during the home design phases of the project. GBP also acts as the primary administrator for PV installation, energy monitoring, and post-occupancy training and evaluation upon project completion and homeowner occupancy.

Montopolis Neighborhood

The Montopolis community was originally settled as a separate community on the outskirts of Austin, surrounded by open fields which helped to both isolate and preserve the unique identity of the area. Today, as Austin makes its metamorphosis into a metropolitan region covering five counties, Montopolis is becoming less isolated. Small single-family subdivisions have been carved out of original land tracts in a pattern that is relatively compact. Most subdivisions in the area have access directly to Montopolis Dr. or Vargas Rd. A major exception is the area south of Riverside Dr. In that area, long dead-end streets access Riverside Dr. Although few major projects have been completed in the area over the last ten years (1990s), there is a steady and increasing level of activity to the west and southwest. Development projects stimulated by the construction of Austin-Bergstrom International Airport (ABIA) will undoubtedly create additional impacts over the next few years.

The Site and the ZEH Project

The project site is a 13-acre tract of property currently owned by NHCD/AHFC in the Montopolis Neighborhood just northwest of the intersection of Riverside Dr. and Ben White. It is bounded on the east by Frontier Valley Dr. and a mobile home development, on the south by the same mobile home development, on the west by Lawrence Street and single-family residences, and on the north by open space (mostly floodplain) owned by the City of Austin. View a land use map of the area: www.ci.austin.tx.us/greenbuilder/downloads/mont_zeh.pdf

Austin's Rhizome Collective Awarded \$100,000 Grant for Brownfield Cleanup

Austin is lucky to have many groups that care about our environment. One group, distinguishing themselves as a major environmental force, is the Rhizome Collective. The Collective recently

received a \$100,000 grant from the Environmental Protection Agency (EPA) to remediate a Brownfield site in East Austin that was donated to the non-profit group. Brownfields are defined as abandoned, idle, or under-utilized properties where development is hindered by real or perceived environmental contamination. A few examples of potential Brownfields include former dry-cleaning sites, warehouses, manufacturing facilities, old landfills, and auto repair shops. The 9.8-acre Brownfield site adjacent to the Guerrero Colorado River Park in the Montopolis neighborhood was formally used as the City of Austin's very first landfill beginning in 1968. The landfill area has been capped since the early 1970s but the site is covered with illegally dumped trash.

According to Amber Perry, Project Manager, from Region 6 EPA, just that fact that the Rhizome Collective was awarded the grant is very impressive. A national panel reviewed 370 Brownfield Clean Up proposals in 2004. Twenty-two of those proposals came from Region 6, which includes New Mexico, Oklahoma, Texas, Arkansas and Louisiana. Nationally, 92 proposals were selected for funding. Competition for the Clean Up funds is very high and Region 6 doesn't usually get a big percentage of the Clean Up funds. When compared to other areas, Perry says, our sites are not that bad so funding is usually sent to areas that have worse contamination. In fact, of the 22 Region 6 proposals submitted, only four were selected for funding.

Perry, who will act as a technical resource for the Rhizome Collective, says that one reason the proposal was successful is because of its innovative nature. The Rhizome Collective plans to reuse and recycle as much of the debris as possible. The 5000 cubic yards of trash includes tires and concrete pieces that will be used to create educational kiosk structures on the site. Non-pressure treated wood will be chipped and used as trail mulch. Asphalt shingles will be recycled into road base by a company in Fort Worth called Thelin Recycling Company (1-817-926-5626). Austin's recycling cooperative, [Ecology Action](#), will recycle bottles, cans and metal. The Collective is using a tractor owned by Sustainable Revolution Incorporated (the for-profit arm of the Rhizome Collective) that runs off of biodiesel. The tractor is available for other organizations to rent. Contact Skott Kellog at 512-294-9580 or skotty@rhizomecollective.org for more info. After the clean up phase, Rhizome will create a bicycle/walking trail that connects the Montopolis neighborhood to the River Park. Members of the Rhizome Collective plan to go door to door in the neighborhood to find what the residents would like the land to be used for. However, the group intends for the land to be tended according to ecological and permacultural principals, with the goal of creating a place for appreciating and learning about nature, sustainability and the environmental justice movement.

"Making green space out of a Brownfield site doesn't happen very often because green space doesn't typically make money," said Perry. "The Grove Brownfield project is unique in that it is a project that the City of Austin began in 2000 by using EPA funds for a site assessment. Later, TCEQ provided more money for a water testing assessment and now, a non profit is taking the next step of cleaning up the site." Perry says she is excited by the Rhizome Collective's project and plans to attend some of their public meetings in coming year.

Funding for Brownfields

Three types of funding is available under EPA's Brownfields Project: Site Assessment Funds, Clean Up Funds, and Revolving Loan Funds (RFL). Non profits are not eligible for RLFs, that money is dedicated to communities so that they can set up and offer low interest loans (but not grants) for brownfields cleanups. Until 2002, only money for Brownfield Site Assessments was available to non-profits. A new law passed in 2002 allowed EPA to distribute Clean Up funds for Brownfield sites. The 2005 grant recipients are only the second group of organizations to receive Clean Up funding, and Rhizome is only the second non-profit organization Perry has worked with during her seven years at EPA. Read more about [Austin's Brownfield's Initiative](#).

More About the Rhizome Collective

The Rhizome is a consensus based organization that is managed using Permaculture principles. Located in East Austin, this group of dedicated environmentalists occupies a warehouse space that was once surrounded by an asphalt jungle. Now, after a few years of hard work, a beautiful, healthy garden space surrounds the building.

Other improvements include a constructed wetlands used to treat their gray water, a rainwater harvesting operation, and most recently, a 5.4 kW solar photovoltaic system (installed pro bono by [Meridian Solar Energy](#)) that should completely meet the energy usage needs of the group.

GBP Welcomes Larry Brinkmeyer

Our newest staff member is Larry Brinkmeyer. Larry has been a Conservation Program Specialist since 1995. His official title with the Green Building Program is Code Specialist, but like many GBP staff, he will likely wear a few other hats. Specifically, Larry will be working in the field quite a bit for single family, multifamily and [S.M.A.R.T. Housing](#) projects. Larry has many years of experience in inspections and energy auditing. He will be working closely with City building inspectors to help them better understand and enforce the energy code. Larry can be reached at 512-482-5326 or larry.brinkmeyer@austinenergy.com.

Member Bulletin Board

Mueller Redevelopment Homes Must Meet Three-Star GBP Rating

The Green Building Program is very excited about the Mueller Redevelopment Green Building Design requirements. The development plan, which has been approved by City Council, specifies that buildings must meet Austin Energy Green Building Program guidelines or USGBC LEED guidelines. Single-family and any duplex residential development will be required to achieve a Three-Star minimum level while multifamily, institutional, commercial and retail structures greater than 25,000 square feet will be required to achieve a Two-Star rating or a LEED Certified rating.

Cool House Tour 2005 Date Set

The [Texas Solar Energy Society \(TXSES\)](#) is once again organizing the Cool House Tour. The 2005 Cool House Tour will be held on Sunday, May 15, from noon - 6:00 p.m. The Tour was wildly successful in 2004, in fact, it sold out! The Green Building Program and the City of Austin Water Conservation Department are co-producing the event with TXSES. Green Building Program members will be invited to nominate homes for the Tour. Look for a letter from TXSES in January. Application forms will also be available on the TXSES website. Typically, only one site from any one builder or architect will be selected but you may nominate more than one. The deadline for nominations is usually mid-March. Last year, there were 11 GBP rated houses on the tour plus examples of WaterWise landscapes, rainwater harvesting systems, and solar electric systems. Don't miss this opportunity to have your project seen by thousands of green-minded Austenite.

USGBC Emerging Green Builders Natural Talent 2005 Design Competition

This competition, open to all university students (of any discipline and level) and individuals with less than five years experience in the building industry, provides an applied learning experience in the principles of integrated design, sustainability, innovation, and social consciousness. Working with Boys & Girls Clubs of America, USGBC will select two planned Boys & Girls Club projects as the subjects of this year's competition. There will be two separate categories in which to submit: **New Construction** and **Existing Building**. Each category will consider the needs for a specific Boys & Girls Club, with a different site selected for each category. Twelve finalists, six for each category, will be chosen. Awards include Green Building Scholarships to be used towards LEED education as well as registration and publicity at Greenbuild 2005 in Atlanta. [Find out more about the competition.](#) [Austin Remodelers' Association \(ARA\) Partners with the National Association of the Remodeling Industry \(NARI\)](#)

The Austin Remodeling Association, founded in 1977, announced their partnership with the National Association of the Remodeling Industry (NARI) in May 2004. Now called AUSTIN NARI,

this association is made up of remodeling contractors, suppliers, subcontractors, lending institutions and associated businesses. Austin NARI provides free remodeling referrals through a special hotline, leads community service projects such as building handicap ramps for those in need and provides access to the latest industry news and state-of-the-art developments through regular meetings, advice and training by experts in their field, publications and networking events.

Comments Needed on the USGBC's LEED for New Construction Rating System

The U.S. Green Building Council (USGBC) is now soliciting comments on the first draft of the LEED for New Construction Rating System (LEED-NC), version 2.2. The first public comment period will be open for 60 days from Friday, December 3, 2004 through Tuesday, February 1, 2005 at 5:00 p.m. Pacific Standard Time. Anyone can comment on this draft, after registering a site user profile on the USGBC Web site. The USGBC will respond to all comments, and post the comments and responses (without commentary's names or organizations) to the USGBC website. [Click here for more information.](#)