

HousingIowa Award

Single Family Development and Resource Conservation

Iowa Valley Habitat for Humanity is creating models of resource conservation, reuse and recycling when building safe, decent and affordable housing.

While still building small and efficient homes for families below 50% of area median income, Iowa Valley Habitat for Humanity has branched out into other areas of home building materials and furnishings which benefits everyone in the service area of Johnson, Cedar and Iowa counties.

New Homes for the Working Poor

In 2009, five new 1100 square foot homes are being built which all feature energy savings designs and equipment. While having to spend a couple thousand more dollars per home for some of the specialized items, it is estimated that each Habitat home will require as little as \$40 per month to heat and cool for the life of their home (est. current energy prices) compared to +\$100 per month for similar homes. All of the homes are rated by an independent energy auditor and are scoring 64 on the HER's rating scale. The auditor's most recent comment was, "There are no other homes in greater Iowa City that are built as tightly with as much attention to energy conservation and with a rating as high as Habitat homes." It does not good to put a lower income family into home ownership if they have to spend excessive amounts of their income on high utility bills.

All homes offer 0% interest, 20-25 year mortgages. Housing costs to families average about 60% of what they would be paying for rent and are less than one-half compared to the unsubsidized buyer.

All of the improvements are off-the-shelf hardware and are simple to use by the homeowner. It is our long-term goal to educate other residential builders in the

area to these improvements in the hopes that they will begin to copy them for their more upscale homes.

Improvements include:

- a) 24" spacing of 6" exterior wall studs (use less 7% less lumber than 16" spacing and get 7% more insulation) and California corners (saves one board per corner)
- b) 96% efficient furnace put near the center of the house to shorten the ductwork
- c) ERV (energy recovery ventilation) system: captures any heat going up the chimney and recycles it, dehumidifies and conditions the air, and brings in fresh air to minimize and mold or air quality problems.
- d) Tankless water heater (no tank losing heat)
- e) Dual flush toilet to save on water (one button for liquids only, one button for solids)
- f) Soy based spray foam on the exterior walls and under the roof: creates a "thermos bottle" where there is very little air leakage and little chance for condensation problems; increases the R value about 50% over batt insulation and makes the attic space useable since the foam is sprayed on the bottom of the roof; in addition the roof sheeting and shingles will last longer due to less temperature and humidity fluctuations
- g) Caulk and fill all top and bottom plates, window and outlet openings
- h) Place 1" Dow foam board on the exterior before siding
- i) Tape all windows and seams in the TyVek paper to decrease chance of air leakage
- j) Reduced flow faucets for bathroom and kitchen
- k) PEX plumbing with a central control system to decrease heat loss, condensation and chance of leakage at outlying valves
- l) Minimum of 2" Dow foam board under all floors and basement/slab walls

m) Energy efficient lighting and fixtures

n) All homes are fully handicap accessible

Site Waste: A “no dumpster” policy was put into place in 2008 where no large dumpster is sent to a building site. Instead, workers must do one of two things with waste: a) Put aside scraps of lumber for the public who pick it up for heating their homes; or, b) Put it in waste cans and haul it back to the office. This makes all the workers and volunteers on the build site much more aware of the creation waste; the amount of waste has been reduced by an estimated 40% since they have to handle it at the end of everyday (it is much easier just to toss waste into a dumpster than to have to set it aside or pack it up and bring it back to the office at the end of a workday).

And we don't want to rest on our laurels: work is underway at this time to design the homes for the 2010 construction season to have heat in the floor to eliminate the need for a furnace and most of the ductwork. In addition we are looking at alternative wall building systems to reduce the use of lumber, rainwater retention and alternative choices to concrete for driveways and sidewalks.

Other Efforts to Save Resources and Reduce Waste

But Iowa Valley Habitat for Humanity does more to reduce waste and conserve resources. To reduce the amount of waste going to the landfills, Iowa Valley Habitat for Humanity created their Habitat ReStore in 2005. The ReStore takes in donated building materials and appliances and resells them to the public. To date more than 350,000 pounds of materials have been diverted from the landfill and put back into homes and businesses creating a less expensive way to remodel. The current facility is leased from the City of Iowa City with the Habitat ReStore acting as both the security and staff for a larger on-site community recycling center (paper, cardboard, tin, glass) called the Eastside Recycling Center. In late 2009, Iowa City will contract for a \$3.5 million expansion of this three acre site to include waste oil recycling and a LEEDs certified educational classroom for K-12 students to learn firsthand what recycling is all about. Habitat ReStore will double its floor space and hours to serve the public when the expansion is complete.

In addition, Habitat ReStore takes in redeemable cans and bottles as the public does not always want to take the time to take them back to the stores. Young adults from a sheltered workshop come to sort the containers. Last year more than \$4000 was earned from this small effort.

In 2008, Iowa Valley Habitat for Humanity was asked by the City of Iowa City to take over their Furniture Project: a service where donated furniture is picked up, trucked to a warehouse and given out to families in need free of charge. Since taking over the Furniture Project, more than 800 poor individuals and families have received furniture to help them make their rental units a little more livable.

Also in 2008, Iowa Valley Habitat for Humanity helped spearhead an effort to create "Rummage in the Ramp": an annual 10 day long project which sets aside space in a public parking ramp and takes in donated furniture and furnishings from renters moving out of apartments (all rental units in greater Iowa City have one year leases which expire July 31) rather than allowing furnishings to be tossed out and piled up on the curbside. The effort has proven to be so successful, ten non-profit groups now staff the 7 day project to sell donated items to the public and equally share in any profits. Estimates are that more than 10 tons of perfectly good furniture and furnishings are recycled each year through Rummage in the Ramp. In 2008 more than \$9000 was netted by the furniture sales and divided up among non-profit agencies that helped staff the sale.

In conclusion, Iowa Valley Habitat is earnestly pursuing ways to "do good and do well" at the same time. We seek to create a win/win/win proposition: put in a little more time/effort into building a quality home so that the new owner and the world wins as it will take so much less natural resources. And the community wins when building materials and furniture are salvaged and reused. In the end, we all win when we use less and salvage more.