

FACT SHEET

A Demonstration Project: the Water House

Background

- The property at 1616 NE 140th Avenue – on a residential street – was a vacant surplus Portland Water Bureau (PWB) property. It was the site of two decommissioned groundwater wells that the PWB took over from the former Richland Water District.
- Water House was intended as a demonstration project showcasing – for a defined amount of time – water conservation and energy-efficient practices through an innovative local green building partnership.
- The house was built so that it had similar characteristics to other homes in the neighborhood.
- From plumbing to landscaping, the house showed Portland homebuilders and home improvement do-it-yourself-ers accessible water conservation methods.
- The project was created as a public/private partnership with 41 local partners and sponsors.
- Neighbors were given an opportunity to vote on the house's exterior design as most appropriate for the neighborhood at a Glendoveer Neighborhood Association meeting.

Project Costs

- The original contract was \$310,900.
- The final construction cost was \$374,430 (20.4% over original estimate).
- Sponsors donated \$157,914 in products and services.
- The “hard costs” of the project totaled \$456,287, which included the \$123,000 cost of decommissioning two groundwater wells.
- The “soft costs” of the project totaled \$484,174. These costs included design, construction management, inspection staff time.

Construction Dates

- The contract was signed on June 8, 2010.
- The Notice to Proceed was given on June 8, 2010.
- Construction began on site on July 1, 2010.
- The contract was completed on February 1, 2011.

Contractors

- Architect – Alan Mascord Design Associates
- Builder – NoMarco Inc. (selected through a standard public purchasing contract process)
- Landscape Design – MIG (with guidance from Metro's Nature in Neighborhoods staff)
- Interior Design – Rivoli Designs

House Tours and Events

- More than 90 tours and events were held from January 2011 to October 2012.
- Approximately 2,500 people have toured the house.
- The first open house had more than 900 visitors.
- The house was twice on the schedule for the *Build It Green! Home Tour*.
- The house was listed on the *Ultimate Open House Tour* by the Home Builders Association.
- Partners and sponsors held specialty tours and classes in the house.
- The Portland Water Bureau held over a dozen open houses, plus classes on greywater, irrigation and water efficiency.

Certification

- **Earth Advantage® certified platinum** – rigorous third-party verified Energy Efficiency.
- **WaterSense** - The Water House is the first WaterSense certified home in Oregon. WaterSense for New Homes is a new EPA certification program for homes that use water efficiently - 20% more efficiently than a standard new home.
- **ENERGY STAR certified**

Water Conservation

- **Grey water recycling system** – each system fills up to 5 gallons of water from hand washing/tooth brushing. Automatic filter cleans the gray water of soap scum/tooth paste. Very easy to install/maintain, and they can be retrofitted depending on space.
- **Kohler donated all the plumbing fixtures that are EPA WaterSense certified** – the perceived flow is normal, but actual water savings will add up to 500 gallons a year.
- **High-Efficiency Toilets** that save up to 4,000 gallons a year. Dual flush 1.6/.8 gallons.
- **Landscaping** includes low water use plants, drip irrigation for the first years (none after that), and plenty of organic amendments/mulch.

Exterior Features

- **Solar reflective roofing shingles made from recycled materials** by local company, Malarkey Roofing
- **Porous pavement** by Evolution Paving reduces stormwater runoff.
- **Decking is made of FSC certified Tigerwood** from Ecohaus.
- **Garage door is EcoBuilt from 100% recycled wood fiber** by Overhead Door.
- **Siding is cement-fiber** from James Hardie Building Products and has a 50-year guarantee.
- **Recycled paint** is a custom line of colors made from recycled paint by MetroPaint
- **Extended Eaves** help cool a home by providing shade and protecting from the elements, extending the life of materials.
- **Radon mitigation** by Cascade Radon.
- **Water-friendly landscaping** has a rain garden, eco-lawn, and native plants from Portland Nursery.

Energy Efficiency Features

- **Slab insulation** regulates hot/cold exchange between the slab and the outside environment
- **Spray in-place foam** insulation seals beyond normal standard by filling voids that traditional insulation cannot seal. Demilec product is made of soy, installed by Western Spray Foam.
- **Ductless Heat Pump System** (Mini-split) improves the energy efficiency by eliminating air loss into attics and crawlspaces, as well as leaks in traditional ducts. Daikin mini-splits are very accurate in their temperature control and avoid overheating/cooling unused spaces.
- **ConvectAir electric heaters** pull air from the floor to circulate heat efficiently.
- **High Efficiency Electric Water Heater** uses 10-20% less energy by current federal standards.
- **ENERGY STAR Refrigerator** use 20% less energy than federal standards, and uses 40% less energy than refrigerators from before 2001. Donated by BASCO and FisherPaykel.
- **ENERGY STAR® Premium Lighting Package** - 100% of all lighting fixtures feature ENERGY STAR® products and uses up to 75% less energy than standard lighting. Donated by Cascade Lighting.
- **Energy Truss** design allows for attic insulation to the wall's edge, increasing energy savings.
- **Intermediate Framing** - This home uses framing techniques to improve opportunities for installing insulation in wall cavities.

General Features

- **Recycled Content Countertops** - These countertops reduce the amount of new materials needed and help with overall land conservation. Donated by Pratt & Larson and InFuez.
- **Reclaimed flooring** was salvaged from reclaimed wood from a school gym by McGee Salvage.
- **Marmoleum** flooring is used in the bathrooms, and stained concrete is used in the Accessory Dwelling Unit.
- **Triple paned argon filled windows** donated by Atrium Windows
- **Wood trim** by Medallion has no formaldehyde, plus 100% recycled wood fiber.
- **Central Vacuum** by Gary's VacuFlo vents directly outside to maintain air quality.
- **Cabinetry** is eco-friendly of FSC wood and bamboo by Neil Kelly Cabinets and Koru Cabinetry.
- **EcoMaids** donated bi-weekly cleaning service.

Indoor Air Quality Features

- **HRV/ERV Ventilation System** is the most advanced ventilation system on the market today. This system has significant benefits both directly and indirectly in terms of energy efficiency, indoor air quality, and downsizing of the remaining HVAC equipment.
- **House Tightening Measures** help ensure the home's energy performance by reducing air infiltration through the thermal shell. This is accomplished by sealing areas such as plumbing and electrical penetrations.
- **Hard Surface Flooring** - This flooring does not harbor dust mites, mold, household dust and debris, or harmful chemicals that can off-gas into the home over time. Increasing the percentage of hard flooring provides a surface that is more durable and easier to clean than carpet. The Water House flooring is made from reclaimed hardwood maple by McGee Salvage.
- **Low Volatile Organic Compound (VOC) Paint/Stain/Wood Finish/Sealants/Caulking** - Low VOC products reduces the amount of irritating and harmful chemicals in the home for occupants and workers.

Material Responsibility Features

- **Recycled Content metal and composite roofs** reduce the amount of new materials used during construction.
- **Fiber Cement Siding** (50-7 Year Warranty) drastically reduces the demand on forest products by recycling industrial materials into a useful product. The siding can be produced to a specified size, supporting waste-free design.
- **Rain-screen Wall System** (airspace under siding) A moisture management system that increases the longevity of materials by preventing moisture from entering the wall cavity. It also integrates drainage and ventilation to remove cavity moisture.
- **Recycled Exterior Paint** This paint offers numerous environmental and economic benefits, including the reuse of a product and its inexpensive cost. It can also help lower demand for limited resources consumed by manufacturing new products.

H&H Preferred Real Estate, representing the Portland Water Bureau, has set an Asking Price of \$475,000.