



The Universal Design Living Laboratory

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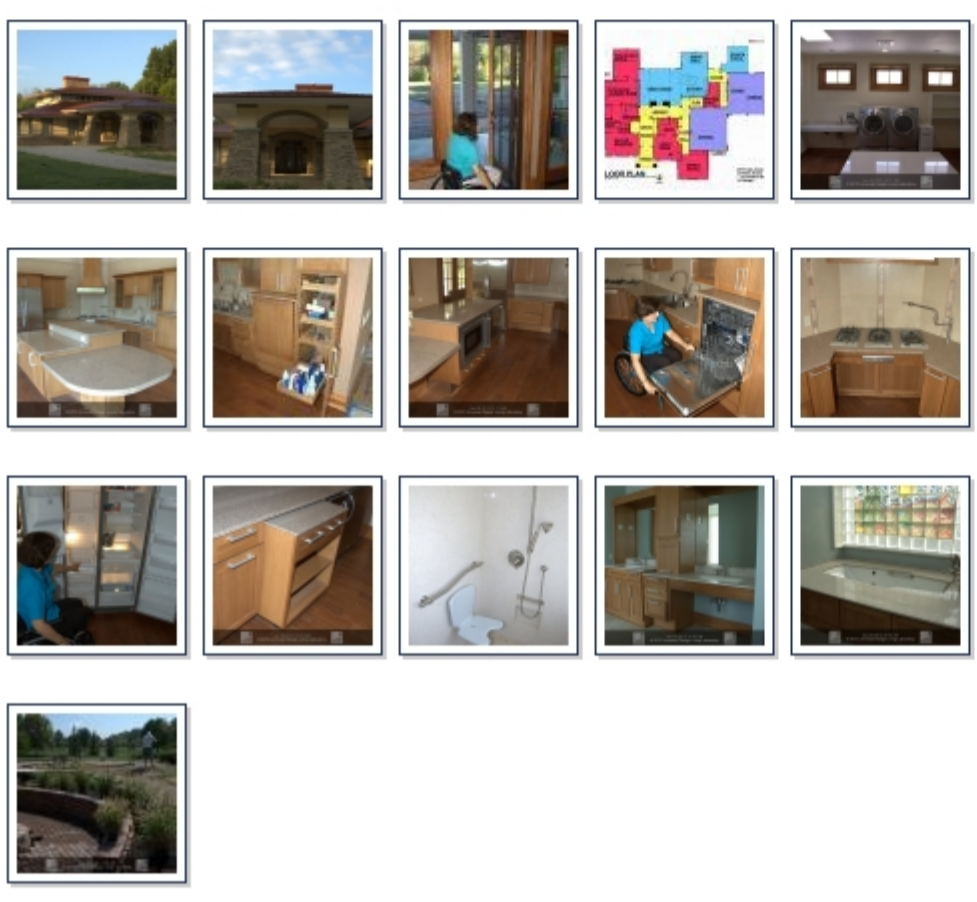
Location: Columbus, OH
Date: 2012
Building Type: Residential Housing

INTRODUCTION:

This newly-built house in Columbus, Ohio is more than just a home to Rosemarie Rossetti, Ph.D. and her husband Mark Leder - it also serves as their two home offices, education facility and living laboratory for the study of Universal Design. After years of planning and research, the couple assembled a team of experts to help them achieve a showplace of green design, Universal Design, and healthy living. Rossetti, a speaker, writer and consultant, included educational space for visitors, including architects, builders, designers, product manufacturers and students, so that all may better understand what makes a home work for people at all stages of life.

Perspectives and Goals

Fourteen years ago an accident caused Rossetti to be paralyzed from the waist down. At the time, the couple's two-story home was not wheelchair accessible. Even after making numerous adaptations, there were still too many areas of the home that were inaccessible to Rosemarie. The couple set out to find a newly built home that could meet their needs, but found that builders in their area were not incorporating Universal Design into their plans. They decided to create a custom home that could serve as both a showcase of Universal Design products and a real-life laboratory to test out how Universal Design features work in a home over time. The home/laboratory includes state-of-the-art materials, fixtures, appliances, and technology, much of which was contributed by vendors interested in being part of the project.



FEATURES OF THE HOME/LAB INCLUDE:

- Entrances**
 - The entrances have step-free thresholds, gradual level grades instead of ramps, and doors that are wide enough for mobility devices.
 - A wide porte-cochere provides weather protection from car to door.
 - Glass panels at the entrance let all residents easily see visitors at the door.
- Circulation**
 - The home is divided into private and public spaces, which are connected by a 42" wide hallway. Lever handles are used on swinging doors, while pocket doors improve circulation in many areas.
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 - A residential elevator accesses the lower level which includes office and training spaces.
 - Hardwood and non-slip tile flooring are used throughout, with smooth transitions between flooring materials and matte finish to reduce glare.
- Laundry**
 - Raised, front-loading washer and dryer are conveniently located in the master suite near the bedroom.
 - The laundry room doubles as a walk-in closet, with closet rods and shelf storage at multiple levels.
 - An island provides a surface on which to fold clothes, a nearby sink makes it easy to pre-treat a stain, and a fold down ironing board provides plenty of knee clearance.
- Kitchen**
 - Kitchen counters are at multiple heights to accommodate seated and standing use, and feature easy to reach electrical plugs for small appliances.
 - Lever handled faucets are used at the sink and the filtered water dispenser, and the microwave and oven are mounted under the center island and have side-hinged doors. A pot filler faucet is located near the cook top and in-counter steamer to eliminate the need to carry heavy water-filled pots.
 - Open knee space is provided under all sinks and the cook top.
 - Side-by-side style refrigerator/freezer allows seated users to access both compartments easily.
 - The wall cabinets are built slightly deeper and mounted at 51" from the floor, while pull-out storage is provided in many drawers and cabinets.
 - A pull-out cart provides flexibility between under cabinet storage and knee clearance at the wet bar.
- Bathrooms**
 - Spacious bathrooms include, decorative grab bars and comfort height toilets.
 - The curbless roll-in shower includes a trench drain, seat and handheld shower head.
 - Large mirrors over bathroom vanities accommodate both seated and standing users.
 - The glass block mosaic installed above the tub provides light and privacy, while the large ledge around the tub facilitates transferring in and out.
- Green/Energy Features**
 - Recycled and /or renewable resources were used in roofing, countertops, flooring and insulation.
 - Energy efficient windows, appliances, lighting, heating and cooling systems were used throughout.
 - The recycled aluminum shingle roof features solar panels as well as six foot overhangs that surround the home to provide shade and reduce solar heat gain in summer.
 - Rain water runs off the roof into a water harvesting system that that is used for landscape irrigation.
 - Low VOC emitting products including matte finish wall paint.
- Lighting and Acoustics**
 - Large windows, skylights and glass block are used to provide natural light.
 - LED lights will be installed in nearly 98% of the fixtures. LED light strips were installed over and under the kitchen cabinetry and are positioned to provide glare-free task lighting to both seated and standing cooks.
 - Dimmer switches and motion detectors make it easy to move through the home after dark.
 - Electrical outlets raised 25" above the floor throughout the house.
 - Upholstered furniture, a floor to ceiling padded headboard and acoustical gypsum drywall minimize sound in the master bedroom.
- Landscape**
 - The patio and grounds feature raised garden beds with native plants that require less water and maintenance than exotic plants.
 - Wheelchair-accessible pathways curve throughout the garden and even pass over the garden's water feature.

ANALYSIS:

The home is working towards certification as a NAHB Green Building and LEED residence. Students from several schools have been involved with the project, including students from Ohio State University, Hocking College and the Delaware Area Career Center, so that even before its completion, the house had already begun providing a hands-on learning experience for the next generation of design professionals.

PROJECT CREDITS:

- Project:* Universal Design Living Laboratory
 - General Contractors and Homeowners:* Rosemarie Rossetti, Mark Leder
 - Architect:* Patrick Manley of Manley Architecture Group
 - Construction Consultants:* Chris Vandenoever and Bob White
 - Interior Designers:* Anna Lyon, Mary Jo Peterson
 - Feng Shui Consultant:* Cathy Van Volkenburg
 - Lighting Designers:* Ardra Zinkon, Patricia Rizzo
 - Landscape Architects:* Tracy Disabato-Aust, Bill Gerhardt, Tom Lehner
 - Photo Credits:* Mark Leder
- Follow [this link](#) for a full list of corporate contributors (jacomment on)

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