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## **Growing useful**

### **Universal design lets homeowners stay put as age and physical needs increase**

Author: CINDY HOEDEL; The Kansas City Star

When Bob Cantrell and his wife, Beth Randall, decided to build a waterfront house at Lake Lotawana, they wanted a home for a lifetime. "I've always said I'm not going to get kicked out of my house by the house," Cantrell said.

Cantrell and Randall are both able-bodied. But like a growing number of their baby boomer peers, they are building with an eye to the future, integrating features such as level entryways, roll-in showers and raised toilets that will allow them to stay in their homes as they age. After all, it's not a question of whether joints will stiffen and reflexes will slow, but when and to what extent.

Like many year-round lake residents, Cantrell and Randall are watersports enthusiasts. They've seen plenty of friends their own ages with "blown" backs and knees, and they wanted to make sure they would be able to get to their boat slip by wheelchair, if necessary. So they put an elevator in their three-level house, which sits on a sloping lot, and a winding concrete walkway from the house to the slip.

Inside, the house is entirely wheelchair-accessible. The 36-inch doorways and open layouts blend right in with the oversized windows and expansive views. The roll-in shower looks more like a chic design choice than a concession to the relentless advance of time.

#### **Designed with purpose**

The path from the driveway to the front door of retired teachers Karen Rugg and Jeanie McConnell's house looks much nicer than a ramp. Crossing the level threshold from the porch into the house, you don't even notice, at first, that there are no steps.

In the dining room, to the left of the door, widely spaced columns look like decorative accents, not a handicapped-accessible alternative to a wall. In the living room, the furniture is grouped in such a way that spaces left carefully empty for Rugg's motorized scooter don't stand out.

The overriding visual impression is one of a welcoming, lovingly decorated home, a sanctuary in a leafy Northland neighborhood, not a special-needs residence.

To the right of the door is "the world's largest powder room," as Rugg, who has multiple sclerosis, calls it. It's big enough for her to turn her scooter around in. Grab bars next to the toilet are hung with decorative towels. It looks like an eclectic mix of styles - stainless-steel industrial meets country cottage - not a hospital.

The stairway in the reverse story-and-a-half house, which leads down to a walk-out lower level, looks perfectly ordinary. Until, at the push of a button, a platform large enough to accommodate a scooter lifts out of the floor at the base of the stairs and glides up tracks mounted to the walls on both sides of the stairwell.

Rugg's mother, Kathryn Rugg, who lives with Rugg and McConnell, loves the lift. She uses it to transport laundry back and forth from her bedroom and bathroom downstairs to the utility room upstairs, even though she walks the stairs under her own steam.

McConnell, who is able-bodied and also has a bedroom and bathroom downstairs, uses the lift at Christmas time to take boxes of ornaments upstairs. Rockford the cat enjoys catching a ride on it, too.

For Rugg, the lift is more than a convenience; it is a potential life-saver. In her old duplex, she said, "if there was a storm, I prayed because I couldn't get downstairs (to the basement)."

When Rugg and McConnell sat down with an architect to plan the house, McConnell opted to have the same easy-access features installed as Rugg. At the time she was thinking only of being prepared for the future, but it turns out she wouldn't want to do without them even today: The grab bars near the toilet are handy for holding extra towels, and she holds onto the one in the shower for support when she shaves her legs.

### **All ages, all needs**

The term "universal design" used to be synonymous with "handicapped accessible." But as the name implies, proponents argue that universal design is not aimed at meeting the special needs of a small group, but at creating homes and buildings that work for people of all ages, sizes and degrees of physical and mental ability.

Architect Eddie Tapper of Rosemann & Associates, who designed what he believes is the first true universal design house in Kansas City, likes to say "universal design is common-sense design."

A typical family contains members of widely varying heights, so why should all work surfaces in a kitchen be one height? In the Universal Design Housing Network's model home in the Blue Valley neighborhood, there are counters at four heights in the kitchen.

In addition, the microwave is lowered and the dishwasher is raised. Cabinets all feature drop-down or pull-out storage, for safety as well as convenience: If storage is kept low, children are less likely to climb or to accidentally pull things down on their heads.

A peephole in the front door is installed at eye level - eye level for a child, that is, or a person in a wheelchair. Because what good is a standard-mounted peephole if the most vulnerable people, in terms of size and physical ability, can't use it? (There is also one at standard height.)

Like Rugg and McConnell's home and Cantrell and Randall's home, nothing about the appearance of the Universal Design Housing Network's model home looks like special-needs

housing. If there are elderly or disabled people in a house, not standing out is more than a question of aesthetics, it's a safety issue. "A ramp makes a house a possible target," said Paul Levy, executive director of the not-for-profit network.

Although network houses are ideally suited for disabled people, the network is trying to convince builders that universal design features should be standard in all homes. In fact, the first home built by the network for Habitat for Humanity was purchased by a family with two small children. The current model house probably also will be sold to an able-bodied buyer.

### **What are the costs?**

There are signs that mainstream builders in some areas recognize the potential market for universal design homes. Bill Koch, vice president of sales and marketing for Access Systems in Grandview, said one of his company's customers, a single-family homebuilder in the Pittsburg area, has begun including elevators as a standard feature in his company's multi-level new homes. Starting around \$169,000, the homes are targeted at middle-class homebuyers.

Craig Moncrief, construction manager for City Vision Ministries, the not-for-profit general contractor that built the Blue Valley model house, estimates that incorporating universal design features adds 3 percent to 5 percent to the total cost of building a home.

On the other hand, some universal design features, such as raised front loading washers or pull-out pantry shelves, are upgrades many homeowners would choose anyway.

Money isn't the only thing that makes some builders reluctant to embrace new standards. "Builders tend to be very slow to change," said Randy McKittrick, president of Woodstone Homes in Overland Park. However, "the market is changing. More and more buyers are in their 50s and 60s and they want a house they can stay in. They don't want to have to sell their house and move later."

Cantrell and Randall certainly aren't planning on moving. Standing on the terrace outside the living room of their lakeside home, Cantrell said, "When I'm 80, I'm going to be sitting right here in a wheelchair with a catheter bag sticking out the side, watching the regatta." And loving it, his grin implies.

To reach Cindy Hoedel, home and food reporter, call (816) 234-4304 or send e-mail to [choedel@kcstar.com](mailto:choedel@kcstar.com).

### **OPEN HOUSE**

A single-family home recently completed by the Universal Design Housing Network will be open to the public this weekend and during the Parade of Homes in September.

Address: 5615 E. 16th St.

Hours: Noon to 5 p.m. Saturday and Sunday.

Here are some sources for more information about incorporating universal design features in new construction or existing homes:

Universal Design Housing Network, Kansas City, (816) 751-7898: Maintains a list of area builders that have experience with universal design.

Center for Universal Design, [www.design.ncsu.edu/cud/](http://www.design.ncsu.edu/cud/): Information and pictures of universal design features for every room in the house.

AARP, [www.aarp.org/universalhome/](http://www.aarp.org/universalhome/): Virtual tour of universal design homes; universal design floorplans.

The Measure of Man & Woman, Revised Edition: Human Factors in Design (2002, John Wiley & Sons) by Henry Dreyfuss Associates: Covers the needs of children and elderly and differently abled people, with diagrams and dimensions for builders and architects.

### **Easy does it**

There are lots of modifications you can do yourself (or with the help of a handyperson) to make your house easier for people of all ages and ability levels to use:

- Replace two-handled faucets with single-lever models
- Replace round doorknobs with lever-type door handles
- Replace toggle switches with rockers
- Add pull-out or drop-down shelving units to cabinets
- Choose a front-loading washer; make sure washer and dryer have controls on the front panels
- Position telephones lower; choose models with large, illuminated numbers for easy dialing.
- Install low-level peepholes in outside doors.

### **Larger moves**

- Other universal design features require some degree of remodeling or skilled installation:
- Residential elevators
- Incline platform lifts or chair lifts
- Widened doorways
- Grab bars (if blocking is not already in place)
- Raised electrical outlets and lowered light switches

### **Caption:**

Karen Rugg has full access to her entire story-and-a-half house: Even the guest bathroom is big enough for her to turn her motorized scooter around in.

Pull-out pantry drawers eliminate overhead reaching and the danger of falling objects for Kathryn Rugg.

Beth Randall and Bob Cantrell plan to live in their recently constructed Lake Lotawana home for a long time, so they designed it with an elevator.