

## Universal Designed Bathing Solutions

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### Q & A

**Q.** We are considering building a new home, we want to design it so it will work for future accessibility needs as well as work for our ambulatory younger children. Can you please explain the different types of bathing types that can be used by all of us?

**A.** There are many different types of bathing products and construction designs that can work for all people of all abilities and disabilities.

In most of our home plans home plans in the book titled *Universal Designed Smart homes, for the 21<sup>st</sup> Century*, home plans you can order and build, available at [www.UniversalDesignOnline.com](http://www.UniversalDesignOnline.com) or by calling Mr. Schwab personally (Our preferred method) at 309-792-4599 in Illinois, we feature several bathrooms that have a unique area called a “wet room”. This is an area of the bathroom that is somewhat separated from the sink area. It contains the bathtub, toilet and it has a drain in the floor adjacent the toilet but outside of the tub. The tub obviously also has its standard separate drain.

The bathtub has the water controls with a pressure balanced temperature control that is located toward the outside wall, on the narrow side of the tub. We specify the hand held units with 7’0” hose on a sliding pole. This is a standard Universal Design feature. It makes it easier to turn on the water without bending over too far and is accessible for someone using a wheelchair. There is a minimum 3’-0” space between the toilet and the tub to allow full access to the water controls. In this case the hand held shower serves two purposes. It can be used in the tub in the typical manner or a person using a shower wheelchair or sitting on the toilet can use it.

The floor area adjacent the tub, where the toilet is located has a min. 5’-0” turning area and the floor slopes a min 1/8”/ft, max ¼”/ft to the drain in the “wet room” area. There is a passageway, min. 3’-0” wide with a neoprene bendable threshold that can be rolled or walked over but keeps floor water in the “wet room”. One can either install a shower curtain into that area or leave it open with new door. A pocket door can also be installed so you can close off the room when using the toilet.

We specify a unique detail for pocket doors in this case in an effort to mitigate mold within the pocket door assembly itself. We always specify smooth porcelain tile with a coved radius at the base for ease of cleaning. The tile also is specified with the ADA recommended coefficient of friction for slip resistance (Wet .70 dry.80.) For a sloped tile floor, whether in a curb-less shower or a wet room we specify 2’x2” tiles which can easily form the required slope without cracking, which can happen with larger tiles. The walls of the wet- room may have a tile wainscot and is always specified with the new water repellant gypsum board that has no cellulose in its construction. In any case it has a minimum 2 levels of 8” tile as a base and had a 2 layer of waterproof gyp. Bd. This will protect the wall from dents if a wheelchair foot- rest accidentally hits the wall.

In the larger plans that have both a whirlpool tub and a separate shower we have designed a min 5'-0" x 5'-0" curb-less, zero step shower. Many of these showers feature double shower heads with the same type of hand help pole showers discussed above. 2 Two showerheads function just as well for a young newly wed couple as they do for a person who uses a wheelchair. It allows for two choices of approach and hand held use. And lets face it; many of the custom new "trendy" and modern homes have two showerheads.

The large shower comes with several construction detail and design challenges. A5x5 shower can weigh from 2-3 tons with a wheel-chair use and a caregiver. We design ours with 2 layers of water- proof gypsum board that also provides protection from wheel chair footrests. Of course this is covered with porcelain tile. The shower floor pan itself must be recessed 2.5 inches to allow for a 1/4"/ft slope to the drain. This means either your slab or your floor joist must be at a lower level (2-1/2") than the adjacent joists. This is a critical detail. If your Curb-less shower fails, your entire home could be ruined. Ours have not and do not fail!

We specify a "Oatey" 6" drain for maximum water drainage, which must of course meet plumbing codes . The threshold of the shower is specified with the neoprene collapsible water dams that keep the water inside the shower. We specify either a weighted curtain or a curb-less folding shower door. There are of course a number of products and details that go into this construction that are too numerous to explain here.

Most of you are probably familiar with the myriad of accessible tub shower pre-fabricated units. Much research says that a 2'6" x 5'-0" shower is accessible, we do not believe this to be the case. This will indeed serve a certain population of the disabled community but will not be adequate for a Quadriplegic or anyone who needs a caregiver at bathing time. Over time, an acrylic shower will also crack, especially if a rolling shower chair is used inside it. There are several units on the market though that have a 1/2" thick plywood and fiberglass backing with a smooth gel-coat finish. These will allow you to install a grab-bar any wear and protect against wheelchair foot- rest abuse.

Many of you have probably also seen the bathtubs with doors that open on the tub sidewall that allows a person to enter without having to raise their legs. One of the common complaints of these units is that one must sit in the tub as it fills up with water, often shivering and then repeat the same process as it empties. We have discovered a new product from England called "Watergate"

The "Watergate" bath is divided by a pair of inner doors into two sections- a seated area and a wet-area. Each section has its own plughole for drainage. The bath is accessed in four simple stages.

First, the bather fills up the wet section of the bath prior to entry, checking the water is at the required temperature. (A scald proof temperature valve will automatically solve this problem for those who cannot feel temperature). Second, the bather enters the dry, seated section of the bath through level-access folding doors on the side of the bath, shuts them and sits down.

Third, the bather releases a simple mechanism that allows the pre-run water in the wet section of the bath to quickly flow into the seated area through a large-diameter tube. The bather is immediately in warm water at the right temperature. Fourth, when the two water levels are at the same height, the inner doors are lightly pushed to float open and fold away into the side of the bath creating a normal full- length bath in which the bather can choose whether to remain seated or move to a reclined position within the bath.

After bathing, the process of getting out of the bath is even simpler. The bather returns to the seated position and pulls the inner doors closed to once again create a bath with two sections. They pull the plug to quickly drain the seated area and leave the bath through the level access side doors. Once they are out and toweled down, the remaining water on the wet side can be drained.

The bath offers a number of advantages. The bath can be pre-filled at the correct temperature, avoiding scolding or lukewarm water. Easy access doors avoid having to lift your leg over the side. The bather is not stranded shivering in the bath while water fills or drains. There are two positions for bathing, seating or reclining.

Unfortunately this bathtub is still in the research / marketing and development process. For other curb-less showers and all the accessories as well as other bathtubs with doors that open, I recommend you contact my friends at Accessible Environments, Inc. Contact Earl Weis at [www.accessibleenvironments.com](http://www.accessibleenvironments.com) to find dozens of universal designed bathing products. They represent several different companies. Please tell them Charles Schwab Architect sent you as they have been kind enough to sponsor our plan book and web site. Ill also make sure he offers the “Watergate” when it comes to the U.S.

Enjoy your Universal Designed Bathing.  
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