



Universal Housing Design is Within Reach

Aileen Dressler
Courtesy Care Plus, LLC

Photo Credit: <https://www.abilitiesunited.org/wp-content/uploads/2018/07/San-Mateo-Inclusion-Fair-2018.jpg>

What do you
LOVE
about home?

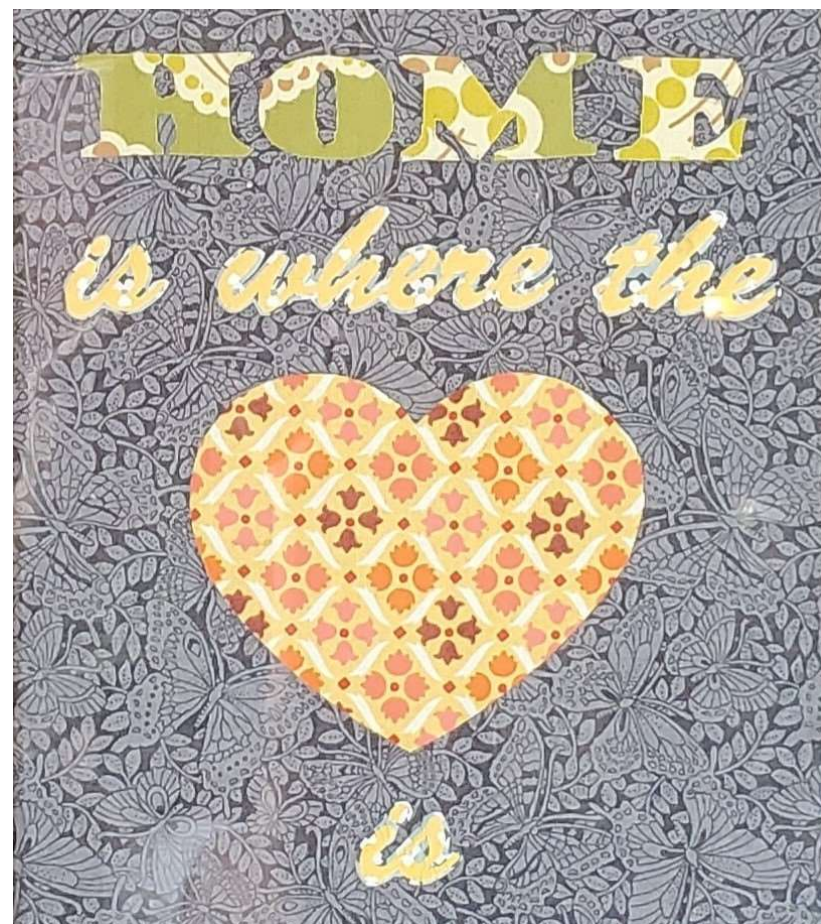


Photo credit: Aileen Dressler



Universal Design

The design of products and environments to be usable by all people, to the greatest extent possible, without adaptation or specialized design.



We can make anything more universally usable, but to do that, we must pay attention to details.
-Ronald L. Mace

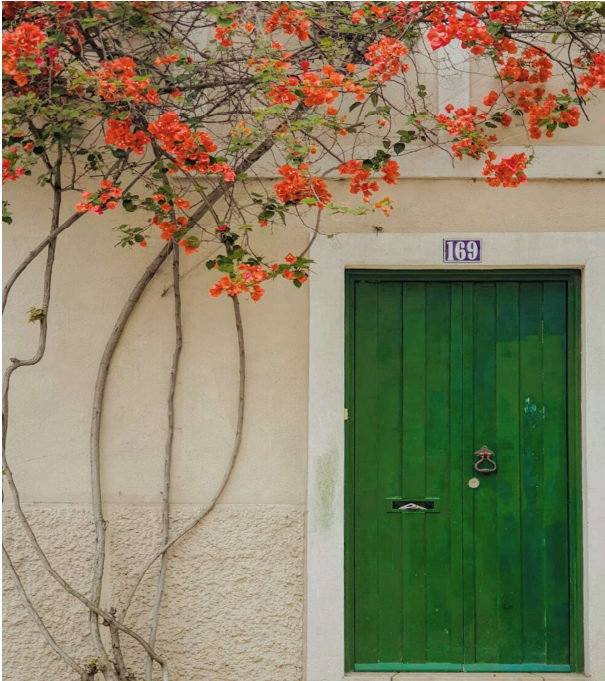


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1. EQUITABLE USE

2. FLEXIBILITY IN USE

3. SIMPLE AND
INTUITIVE USE

7 Principles of Universal Design



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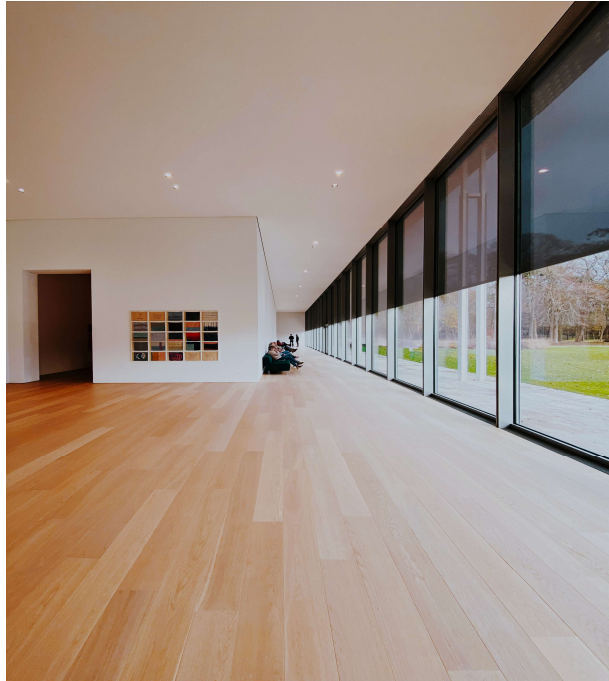


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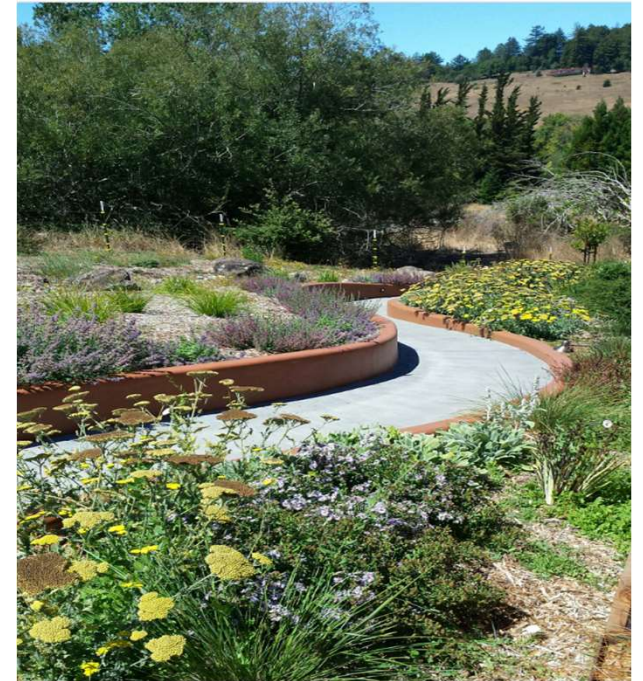


Photo credit: Leff Landscape Associates (Houzz)

4. PERCEPTIBLE
INFORMATION

5. TOLERANCE FOR
ERROR

6. LOW PHYSICAL
EFFORT

7 Principles of Universal Design



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7. SIZE AND SPACE FOR APPROACH AND USE

7 Principles of Universal Design



Universal Design
allows a person of
any age, ability, or
culture to enjoy life
anywhere with
dignity.

Aileen Dressler

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Universal Housing Design is Within Reach

PHYSICALLY



FINANCIALLY



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AESTHETICALLY

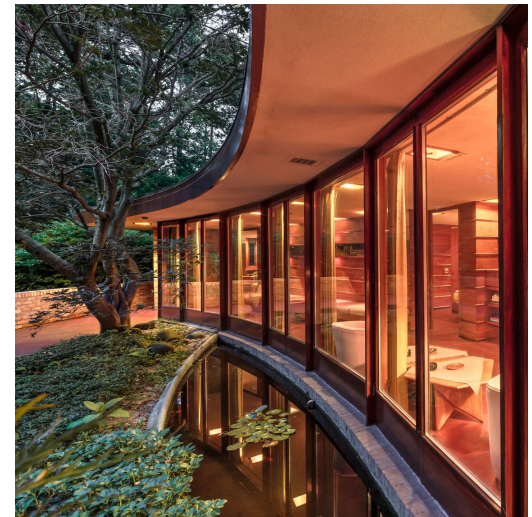


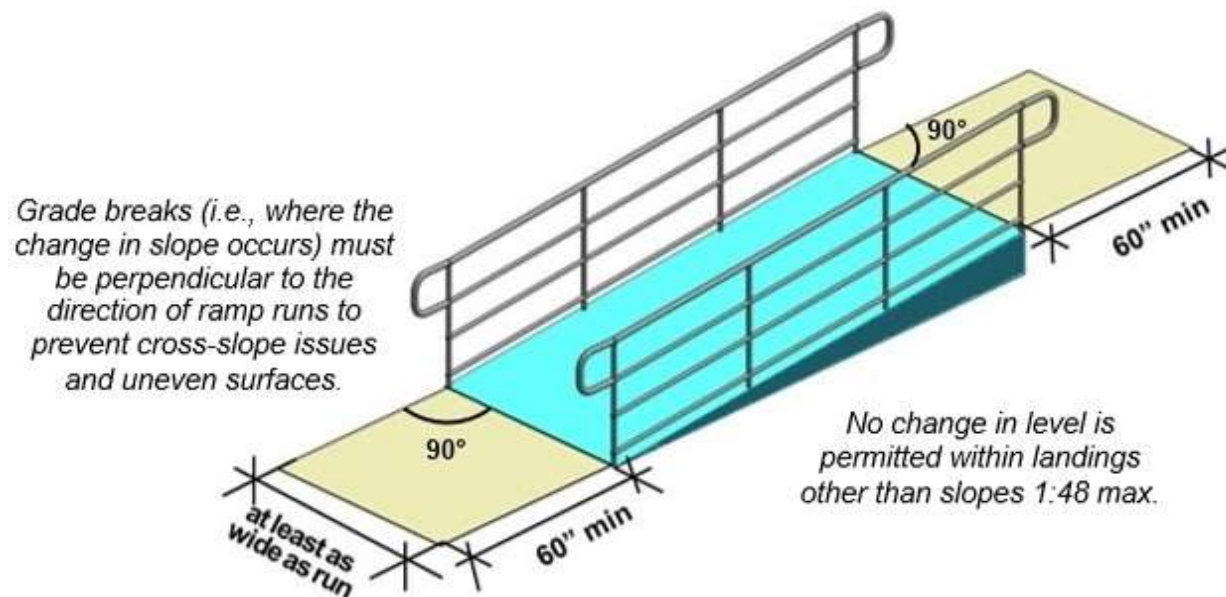
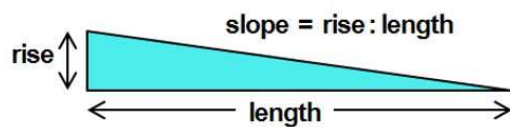
Photo by Andrew Pielage

Universal Housing Design is Within Reach

PHYSICALLY

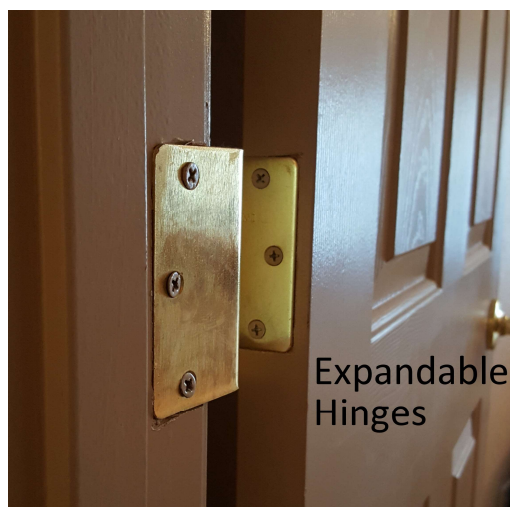
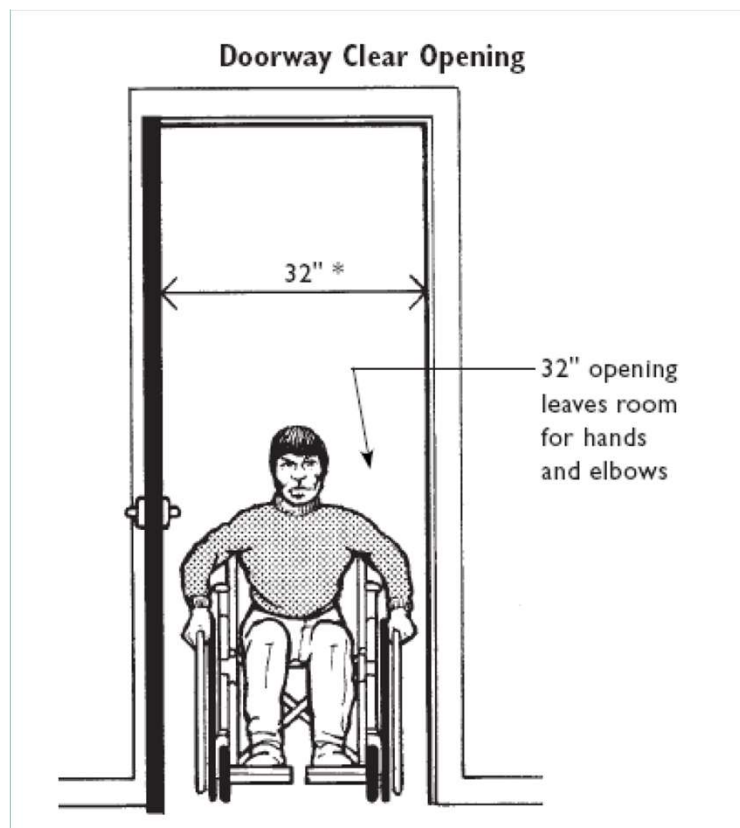


DEGREES	GRADIENT	PERCENT
2.86°	1 : 20	5%
4.76°	1 : 12	8.3%



ADA Reference Ramps

- ❖ 1:20 sloped floors do NOT require handrails
- ❖ 1:12 sloped ramps are the maximum slope allowed by ADA codes and require handrails



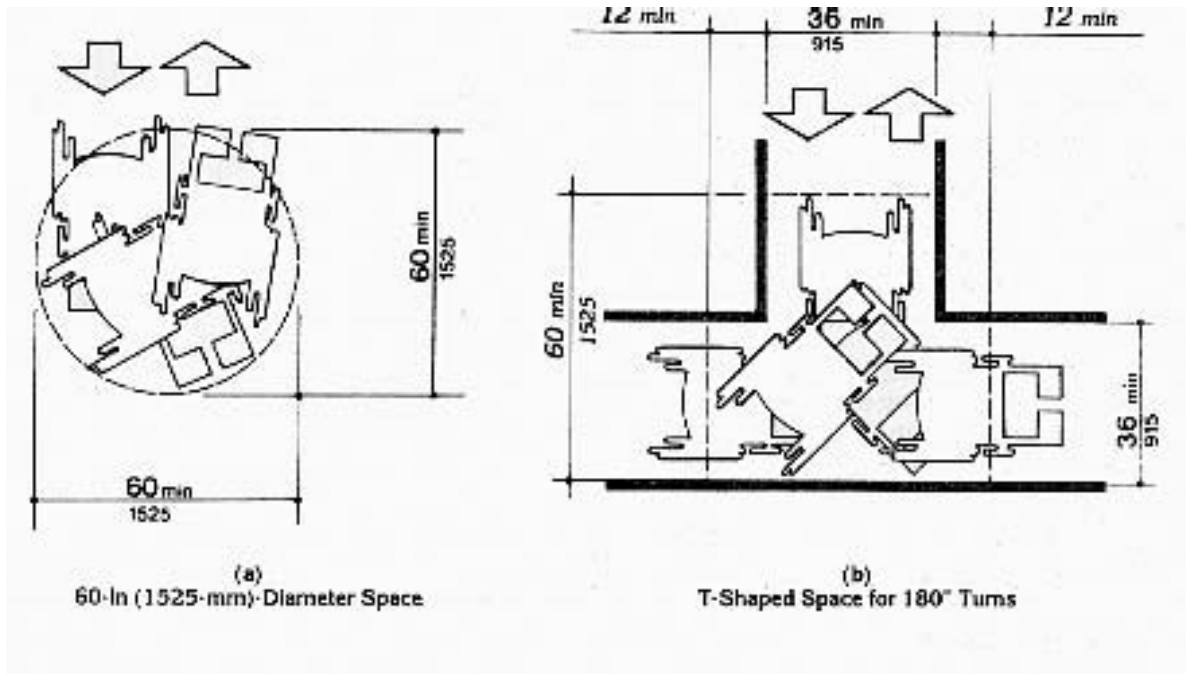
ADA Reference Door Clearance

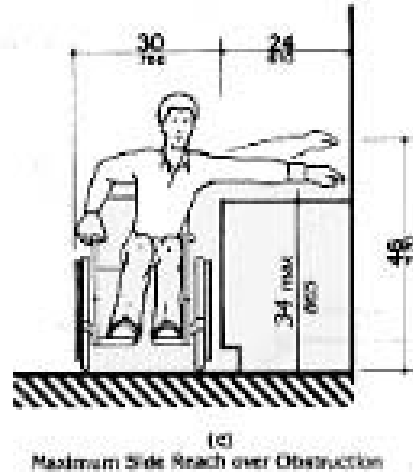
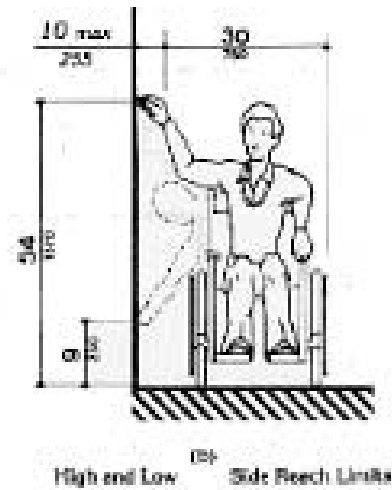
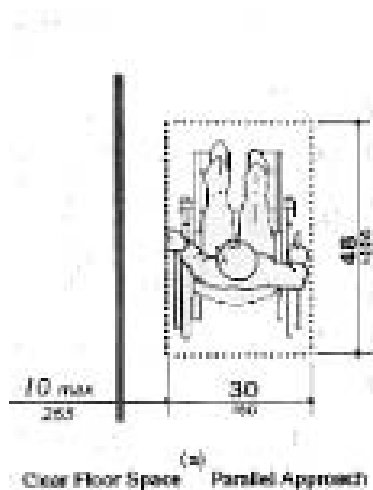
- ❖ Install 36" wide doors where possible.
 - ❖ Wheelchair users need a 32-inches CLEAR opening.
- Options:
- *Expandable/Off-set Hinge
 - *Barn door hardware

ADA Reference Turning Radius

180-degree turn
requirements for a
wheelchair user

- ❖ 60-inch diameter (5'-0") clear space (fig. a), or
- ❖ T-shaped space (fig. b)

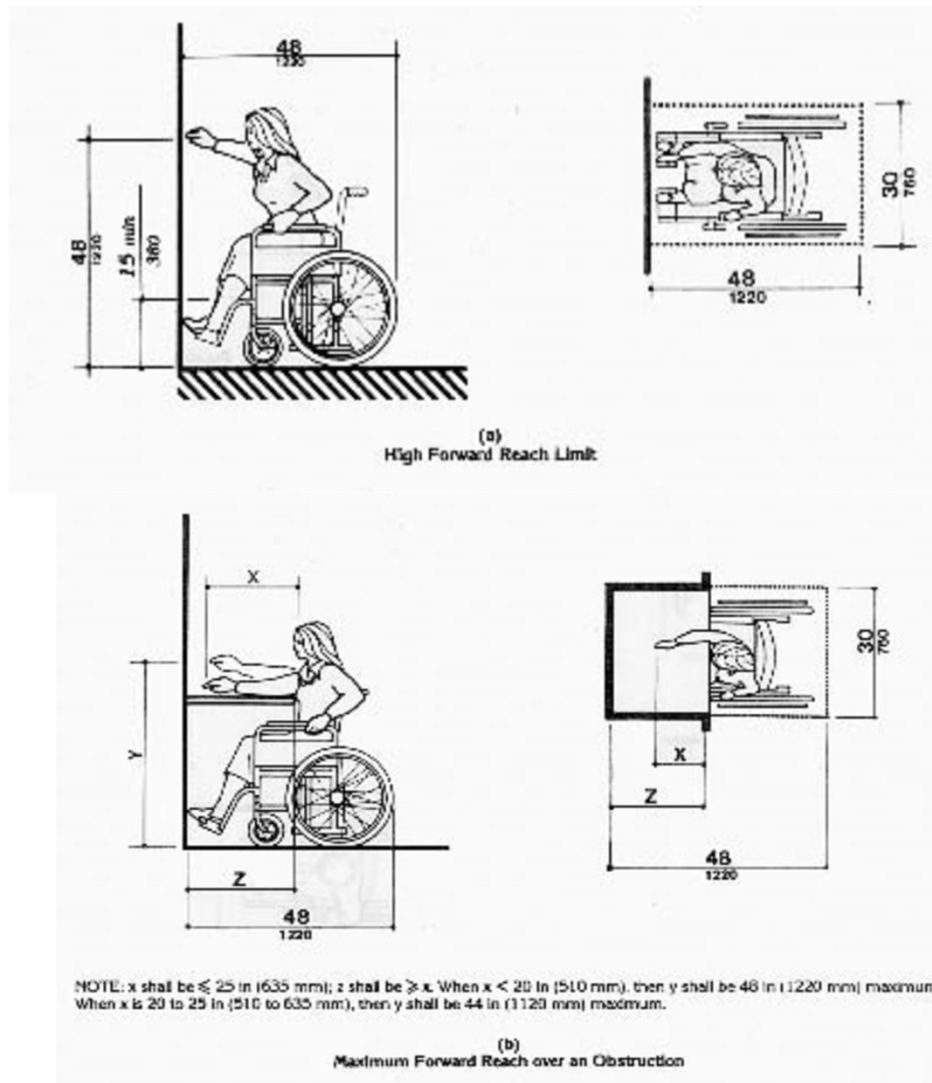




ADA Reference Side Reach

A clear parallel (side) approach

- ❖ 54" max. high side reach (fig. b)
- ❖ 9" max. low side reach (fig. b)
- ❖ 46" max. high side reach over an obstruction (fig. c)



ADA Reference Forward Reach

A clear forward (front) approach

❖ 48" max. high front reach above the floor

ZERO STEP ENTRY



Photo by [Ivy Barn](#) on [Unsplash](#)

WIDE INTERIOR DOORS



Photo by [Filip Kominik](#) on [Unsplash](#)

MAIN LEVEL BATH



Photo by [Steven Ungermann](#) on [Unsplash](#)

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FINANCIALLY



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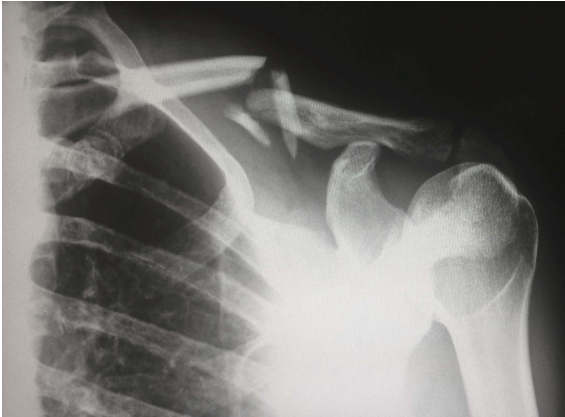


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The cost of doing nothing

- ❖ Medical cost due to injury
- ❖ Moving
- ❖ Renovation
- ❖ Nursing Home

Building a New Home

Today the cost difference between a typical and Universally Designed home is negligible



Photo by [Alexander Andrews](#) on [Unsplash](#)

PLANNING IS KEY

- ❖ Grading and landscaping for Zero-step Entry
- ❖ Accessible room, bathroom, doors on entry-level
- ❖ Multi-story home stack closets for future elevator

HOME ACCESSIBILITY

Allow yourself to live comfortably



Available near you

- ❖ Home Depot – Independent Living Services
- ❖ Menards – Home Accessibility
- ❖ IKEA - ThisAbles



Video “IKEA – ThisAbles – The Project” (2019) from IKEA Israel. YouTube: https://youtu.be/a0PA_VpLIDw

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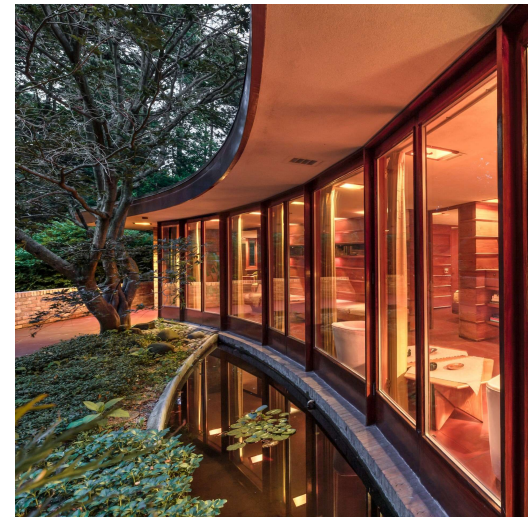


Photo by Andrew Pielage

Laurent House

Phyllis & Kenneth
Laurent
Rockford, Illinois

1948 Commissioned
Frank Lloyd Wright

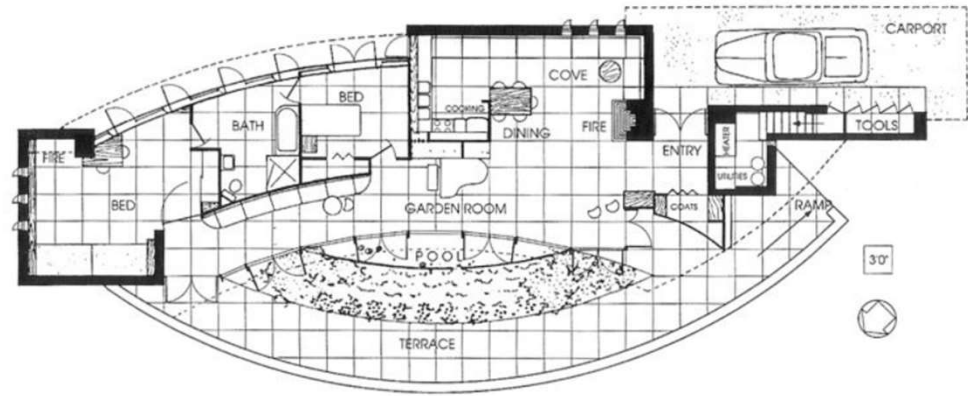


Photo credit: Rockford Register Star



Video excerpts from "Laurent House Furniture" (2020) located on the Laurent House by Frank Lloyd Wright Facebook page: <https://www.facebook.com/LaurentHouse/>

Laurent House

Connection and flow
in the home and
with nature.
Flexible and efficient
use of space and
furnishings.



Interior photos of The Laurent House. Photo Credit: Nels Akerlund

Universal Design - Exterior Approach

- ❖ Rampscape – 1:20 slope does not require a handrail
- ❖ Low walls and landscaping define the ramp edge
- ❖ Curb appeal and easy access



Photo credit: Leff Landscape Associates (Houzz)



Photo Credit: GMF+Associates Architects (Houzz)

Universal Design Garage Ramp

- ❖ Safe, covered entry from the elements
- ❖ Reduces the trip and fall hazards of steps

Universal Design - Interior Entry



Photo by [Reiseuhu](#) on [Unsplash](#)

- ❖ Zero-Step Entry
- ❖ 5'x5' clear, level area inside
- ❖ Glass door or sidelite
- ❖ Bench or table



Photo by [Douglas Sheppard](#) on [Unsplash](#)

Universal Design - Living/Dining

- ❖ Non-slip, easy-care flooring
- ❖ Open floor plan, circulation, and natural light
- ❖ 36" clear path around furniture



Photo by Marcus Aurelius on Pexel



Photo by Sidekix Media on Unsplash

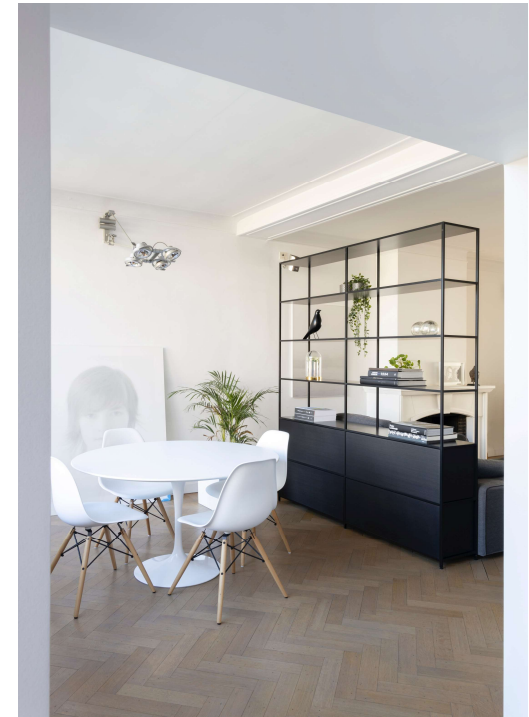
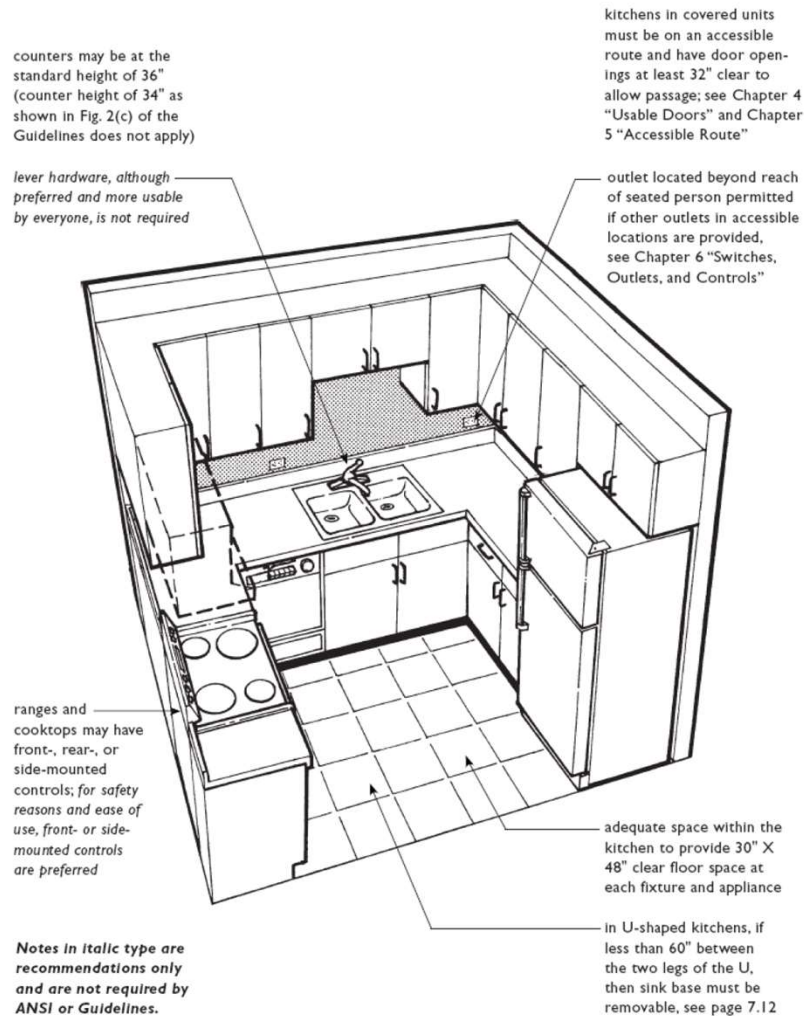


Photo by Jean-Philippe Delberghe on Unsplash

Guideline Specifications For Kitchens



Universal Design Kitchen

Minimum kitchen considerations

- ❖ 30"x48" clear floor space at fixtures & appliances
- ❖ 34" high counter height (wheelchair)
- ❖ 36" high standard counter height

Universal Design - Kitchen

- ❖ Contrasting colors between countertop and cabinets
- ❖ Lighting
- ❖ Varying counter heights
- ❖ Approach to appliances and controls
- ❖ Pantry



Photo by Max vakhtbovych on Pexels



Photo by [Dinh Ng.](#) on [Unsplash](#)

Universal Design - Kitchen

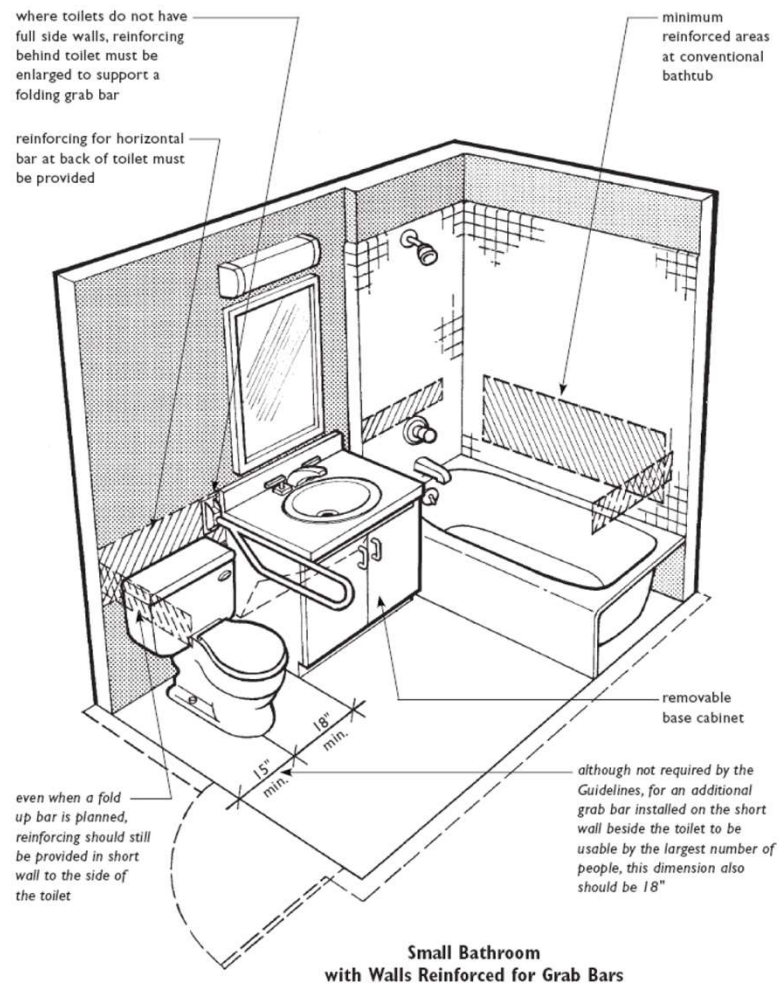
- ❖ Lever/touch faucet
- ❖ Pot filler at stove
- ❖ Roll-out shelves
- ❖ Undercounter microwave
- ❖ Rocker-style light switch
- ❖ Side-by-side refrigerator with bottom freezer



Photo courtesy of IKEA



Photo by [Jacek Dylag](#) on [Unsplash](#)



Universal Design Bathroom-Small

Example Renovation

- ❖ Open door out if clearance is an issue
- ❖ Pedestal sink or removable base cabinet
- ❖ Remove tub and install a roll-in shower



Photo by Steven Ungermann on Unsplash

Universal Design Bathroom

- ❖ Knee clearance under sink
- ❖ Toilet seat 17"-19" high
- ❖ Bidet
- ❖ Roll-in Shower with channel or trench drain
- ❖ Adjustable height shower wand
- ❖ Non-slip flooring
- ❖ Color contrast
- ❖ Lighting



Photo courtesy of HEWI. <https://www.hewi.com/en-us> Photo courtesy of Kohler Co.

Universal Design - Bedroom

- ❖ Pocket or sliding doors
- ❖ Underbed LED Lighting
- ❖ Closet drawers and pull-down clothes rack



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Universal Design – Specialty items

- ❖ Lighted handrail
- ❖ Stair tread lighting
- ❖ Stack closets for future elevator
- ❖ Wide, straight-run stair for future chair lift



Photo courtesy of KLUS, LLC





Aileen Dressler

Aileen Dressler is moved to advocate for Universally Designed Housing by her experience as an architect, and as the parent of a child with global physical and developmental attributes.



Photo credit: Tamara Thomas

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