



## **LEED for Homes**

### **Approved ID Request:**

### ***Visitability and Universal Design***

### **Introduction**

The following is an Innovative Design Request (IDR) that has been approved for broader use in for the LEED for Homes program. This credit should not be considered part of the standard LEED for Homes Rating System; any points earned using this IDR must be counted under ID 3 in the LEED for Homes Rating Project Checklist.

The measures in this IDR may not be suitable for all homes. The strategies outlined below should be part of an integrated design process to ensure that the benefits of these strategies are not offset by other concerns (e.g. energy, durability, comfort).

## Approved ID Request: Visitability and Universal Design

### Maximum Points: 2

#### Intent

To reduce the need for, and extent of, future renovations of the home, (including avoided use of construction materials and construction waste), so that homes can enable aging in place and be usable by people of diverse abilities.

#### Requirements

##### Prerequisites

None.

##### Credits

*Note: Credit 1.1 cannot be awarded to multi-family projects that are already required to meet the Fair Housing Amendments Act (FHAA) (e.g., a building with  $\geq 4$  residential units and an elevator). Projects earning Credit 1.2 must earn Credit 1.1 or meet the requirements of the FHAA.*

1.1 **Visitability** (1 point). Incorporate all of the following visitability features into the home.

- a) **Visible entrance.** Provide at least one zero-step entrance which provides access to the floor of the home which contains the central living area, as follows:
  - o The zero-step entrance must be connected to the public street or sidewalk, or to the driveway, by a path of travel which does not include a running slope in excess of 1:12 (8.33%), and a cross slope not to exceed 1:50 (2%). The path of travel may include level changes which do not exceed  $\frac{1}{2}$  inch. Level changes between  $\frac{1}{4}$  and  $\frac{1}{2}$  inch must be beveled. (Consider locating the entrance at the front or side of the home.)
  - o The entrance must include a door which provides a clear opening<sup>1</sup> of no less than 32 inches. A maximum threshold height of  $\frac{1}{2}$  inch is permitted. Thresholds between  $\frac{1}{4}$  and  $\frac{1}{2}$  inch must be beveled on both sides.
- b) **Visible passage.** Provide a minimum 36-inch wide path of travel through the floor of the home which contains the central living area. The path of travel may be reduced to no less than 32 inches at user passage doors. The path of travel may include level changes which do not exceed  $\frac{1}{2}$  inch. Level changes between  $\frac{1}{4}$  and  $\frac{1}{2}$  inch must be beveled.
- c) **Adaptable bathroom.** A powder room or full bathroom must be provided on the floor of the home which contains the central living area. The powder room or full bathroom must include the following:
  - o A clear floor space of at least 30" x 48". The toilet, counter, and door swing may not encroach into the clear floor space.
  - o A reinforced wall located to the side or the back wall of the toilet, to facilitate the later installation of grab bars. Document the location of the reinforced walls in the operations and maintenance manual required under AE 1.1.

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<sup>1</sup> The width of a "clear opening" is measured between the face of the door and the opposing stop with the door open 90°. A 32" clear opening can generally be provided with a 34" or 36" width door.

1.2 **Universal Design** (1 point). Incorporate all of the following universal design elements. *Page numbers in parentheses refer to the Housing and Urban Development (HUD) document, "Residential Remodeling and Universal Design", available at: [www.huduser.org/publications/destech/resid.html](http://www.huduser.org/publications/destech/resid.html).*

- a) **Environmental controls.** Light switches, thermostats, and breaker boxes must be no higher than 48" above the finished floor, measured to the top of the control. Electrical receptacles must be located no less than 18" above the finished floor, measured to the bottom of the lowest receptacle. Thermostats, breaker boxes, and security system controls, if provided, must be located on the floor of the home which contains the central living area.
- b) **Basic gripping features.** Throughout the home, include all of the following features:
  - o Lever hardware on doors (p. 21)
  - o Lever faucets (p. 49)
  - o D-pull-type or C-pull-type cabinet hardware (C or D styles, or see p. 38)
- c) **Kitchen, bedroom and bathroom features.** On the floor of the home containing the central living area, or on another floor serviced by an elevator or stair lift, include all of the following:
  - o Kitchen features:
    - A kitchen sink with knee-space below (p. 34)
    - A cooktop or stove with controls at the front (p. 35), and with knee space below or beside it. For example, use an adjustable height cooktop, or put a removable cabinet beside or below the cooktop (p. 37); or locate a cooktop & oven unit next to the sink, or next to an opening that is at least 32 inches wide (e.g., at the end of a kitchen work station).
    - At least one-third (by volume) of storage shelves and cabinets must be rotating shelves (p. 38), pull-down shelves (p. 39), or no higher than 48 inches above the finished floor (measured to the top of the shelf or cabinet).
  - o Include at least one bedroom, with the following features:
    - Area to accommodate a bed with 5' diameter turning circle. The bed cannot encroach into the turning circle.
    - A clothes closet with a door that provides a clear opening<sup>2</sup> of at least 32 inches, and with an adjustable hanging rod (p. 67). At least half (by area) of the storage shelves in the closet must be pull down shelves (p. 39), height-adjustable shelves (p. 67), or located no higher than 48 inches (measured to the top surface of a shelf).
  - o Include at least one full bathroom, with the following features:
    - A clear floor space of at least 30" x 48". The toilet, counter, and door swing may not encroach into the clear floor space.
    - An adjustable height or hand-held shower head in the shower or tub, and an installed grab bar.
- d) **Stacked closets.** If the home has a 2<sup>nd</sup> floor that is conditioned, vertically align a closet on the 1<sup>st</sup> floor with a closet on the 2<sup>nd</sup> floor to allow for future installation of an elevator.

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<sup>2</sup> The width of a "clear opening" is measured between the face of the door and the opposing stop with the door open 90°. A 32" clear opening can generally be provided with a 34" or 36" width door.

- e) **Documentation of universal design strategy.** Briefly describe the universal design features, particularly any reinforced sections of walls and removable or adjustable features. Features can be described pictorially, as a narrative, or as a combination. Include this in the operations and maintenance manual required under AE 1.1.

## Verifications and Submittals

### Builder / Project Team:

- Present to the Green Rater a list of measurements that meet the requirements.
- For 1.1 part (c), present to the Green Rater the description of the reinforced bathroom wall's location in the operations and maintenance manual.
- For 1.2 part (e), present to the Green Rater the universal design strategy in the operations and maintenance manual.

### Green Rater:

- Verify that the project is eligible to earn credits 1.1 and/or 1.2 of this approved ID credit.
- Visually verify that the requirements are met.
- Visually verify that the list of measurements presented by the Builder / Project Team meets the requirements.
- For 1.1 part (c), verify that the location of the reinforced bathroom wall is documented in the operations and maintenance manual.
- For 1.2 part (e), verify that the universal design strategy is in the operations and maintenance manual.

## Additional Information

### Resources & References

The "Fair Housing Act Design Manual", prepared for the U.S. Department of Housing and Urban Development, is available at: <http://www.huduser.org/publications/destech/fairhousing.html>

Concrete Change is an organization that focuses on visitability: <http://www.concretechange.org/>

North Carolina State University College of Design Center for Universal Design provides resources at <http://www.design.ncsu.edu/cud/> including the Next Generation Universal Design Home: [http://www.design.ncsu.edu/cud/projserv\\_ps/projects/psnextgen.htm](http://www.design.ncsu.edu/cud/projserv_ps/projects/psnextgen.htm)

The Universal Design Living Laboratory, a national demonstration home featuring universal design and green building practices, includes many universal design and green building resources: <http://www.udll.com/>