## **PLTW** Engineering

## **New Construction Guidelines**

## **Habitat for Humanity**

These guidelines are subject to change and are presented for information only. These are subject to building code requirements and are not considered specifications for any particular home.

- Relevant Codes: Each house will conform to relevant codes and requirements of the city or jurisdiction in which the house is built. This does not preclude a request for a variance if needed and appropriate.
- 2. Principle of Habitat: Each house will conform in principle to the Habitat for Humanity standard of simple and decent, deviating from that standard only as may be necessary. This means that HFH will seek to avoid the "creeping affluence" that tends to increase amenities and cause prices of Habitat houses to be inflated, and that the pre-unit costs of houses will be kept low to enable more families to be served and more houses to be built.
- 3. Size of the House: The Board of Directors, upon recommendation of the Family Services Committee and Construction Committee, will approve the size of the house. Sizes of houses shall not exceed the following limits unless special circumstances, such as code requirements, warrant an increase. Appropriate adjustments in size should be made if a basement is constructed due to the impacts of a loss of square footage due to the addition of a stairwell and an increase in square footage if the water heater and HVAC unit are relocated to the basement.
  - Two-bedroom—900 square feet
  - Three-bedroom—1,070 square feet
  - Four-bedroom—1,230 square feet
- 4. **Type of Construction—General:** The following describes types of construction and components that normally will be used; however, alternative types of construction may be considered, depending on circumstances:
  - Crawl space (4 ft deep) is the preferred choice, although slab on grade construction or full or partial basements (8 ft deep) may be required due to specific site conditions. The Construction Committee will make this determination based on the site conditions. In crawl space construction, access into the crawl space will be provided from the exterior through an access panel in the foundation wall. The access panel will be a minimum of 36 inches wide by 24 inches high.

- Where basements are required, access will be provided from the interior of the house. In addition, an exterior access will be provided to meet emergency escape and rescue requirements.
- Foundation drainage shall be provided. Drainage of the system shall be by gravity flow if the site allows it; by sump pump if the site requires it.
- If used, exterior wood frame wall construction will consist of fully sheathed 2 x 6 construction.
- If used, exterior concrete wall construction will conform to the systems manufacturer's recommendations for concrete wall construction.
- Roof construction shall consist of trusses on 16-inch centers with 7/16 OSB-rated panels.
- Roof pitch shall be approximately 5/12 (optimized to minimize waste) with gable ends.
- Houses will not include a basement, a garage, or a carport unless required by city code, other restrictions, family health needs, or neighborhood considerations
- 5. **Accessibility:** The following describes accessibility provisions to be incorporated in houses. Houses will be constructed to conform to standards of minimal accessibility or better and must meet the following requirements:
  - An accessible entrance with no steps and a porch or overhang
  - Passage doors, including the full bathroom, will be 36 in. wide. If necessary, secondary bathroom doors may be 32 in. wide
  - All hallways will be 42 in. minimum frame to frame
  - Kitchen will be designed to permit wheelchair maneuverability (5-ft-diameter open area)
  - At least one full bathroom must be accessible including:
    - Bathtub with clear floor space along its length, or minimum 5 ft x 3 ft deep curbless shower, or 3 ft x 3 ft shower with a transfer seat
    - Adequate maneuvering space (5-ft-diameter open area)
    - Toilet located in 5 ft deep x 3 ft wide minimum (5 ft x 5 ft preferred) clear space with toilet centered 18 in. from any sidewall, cabinet, or tub
    - Wall reinforcement for grab bars in bathrooms

The Center for Universal Design has published a Bathroom Tech Sheet that provides five sample bathroom plans that meet accessibility standards (Keyword search: NC QAP Bathroom Tech Sheet).

- 6. **Energy Efficiency:** Houses will incorporate energy conservation features, making them as energy efficient as practicable. Features of ENERGY STAR energy-efficient houses are considered a model to be emulated, not a standard to be achieved at this time.
- 7. **Insulation:** The following describe insulation to be provided.
  - Wood frame construction shall include insulation per the Residential Code Requirements.

- Crawl space or basement (if required) will be conditioned spaces and therefore no insulation is required in the elevated floor.
- For this project, ignore requirements for slab insulation.
- 8. **Doors and hardware:** The following describes doors and hardware to be provided.
  - Two steel clad-entry insulated doors will be provided. Both doors will be 3 ft 0 in. The primary entrance door shall be a 6-panel door with half-moon light.
  - Attic access shall be provided.
- 9. Windows: The following describes windows to be provided.
  - All windows shall be white, vinyl, single hung, tilt-in, low-E double pane meeting the thermal envelope requirements of the Residential Code Requirements.
  - Screens shall be integral with the windows.
  - Every bedroom will have at least one window and meet minimum egress requirements, as required by code.
  - Kitchen/dining room will have at least two windows or one double and one single window.
  - If a basement is provided, an egress window will be provided as required by the codes.
- 10. **Bathroom:** The following describes bathrooms to be provided.
  - A full bathroom must be accessible (see Accessibility above).
  - Two-bedroom houses shall have one bathroom.
  - Three-bedroom houses shall have 1-1/2 bathrooms.
  - Four-bedroom houses (and larger) shall have 1-3/4 bathrooms.
  - A linen closet will be provided. A built-in linen closet will be used when possible if the floor plan allows.
- 11. **HVAC, Washer/Dryer, and Plumbing**: The following describes heating, ventilation, and air conditioning to be provided.
  - Electric heat pumps (14 SEER units) will be provided for the heating and cooling system.
  - A 40-gallon water heater shall be installed for a two-bedroom house.
  - A 52-gallon water heater shall be installed for a three-bedroom house.
  - An area shall be provided for installation of a clothes washer and dryer.
  - Two hose bibs shall be provided on the home exterior.
- 12. **Lighting**: The following describes lighting to be provided.
  - Ceiling light fixtures for incandescent light shall be provided in all rooms.
  - A single fluorescent, switched fixture shall be installed in each closet.
  - A light fixture shall be installed over the sinks in the bathroom and kitchen.
  - The porches and entrance areas shall have exterior light fixtures.