



Building Guide

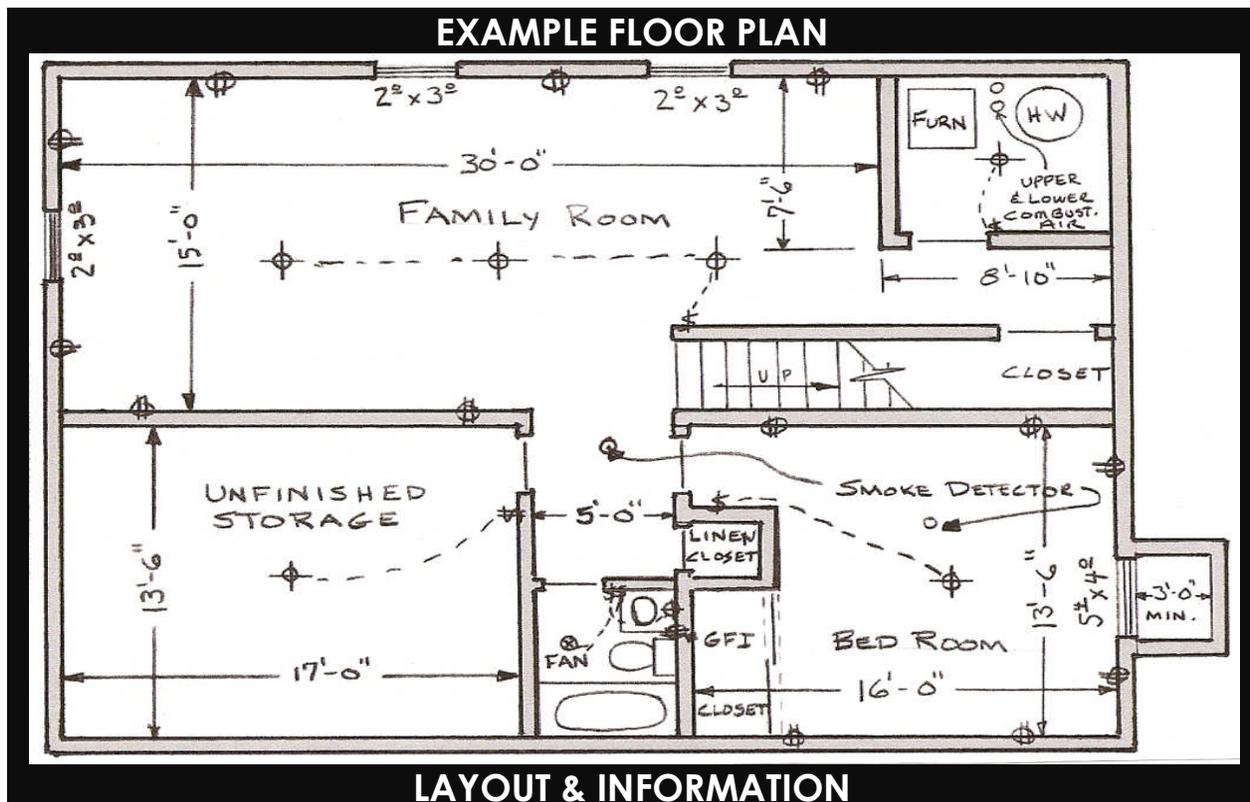
Mills County
Building & Zoning Department
403 Railroad Avenue
Glenwood, Iowa 51534
712-527-4347

Single Family Residential Basement Finish

How to Use This Guide

1. Review this Building Guide
2. Complete an **Interior Renovation building permit application**
3. Provide 2 Floor Plans – Minimum 11" X 17" paper size

The majority of permit applications are processed with little delay, within 7 – 10 working days. Detailed and complete submittal documents will help expedite the permit process and determine if the project is in compliance with building safety codes, zoning ordinances and other applicable laws.



This handout was developed by the Mills County, Iowa, Building & Zoning Department as a basic Plan Submittal under the 2009 IRC to help in questions that may arise in the application process. It is not intended to cover all circumstances or Code related issues as they pertain to individual projects.

Single Family Residential Basement Finish

Directions

Submit 2 (two) complete sets of required information.

1. Completed Interior Renovation building permit application.
2. Draw a floor-plan with dimensions drawn to scale, showing the layout of the entire basement. Label the use for ALL of the rooms and areas.
3. Show electrical outlets, switches, smoke alarm/detectors, lighting, fans, plumbing fixtures, cleanouts, furnace and water heaters, etc.
4. List door and window sizes, types, identify emergency escape and rescue windows, and egress window wells with ladder and clear dimensions of window well (if applicable).
5. Identify modifications to the existing structure such as posts, beams and floor joists.
6. Indicate height of dropped ceiling areas less than 7 feet.
7. A shower or tub equipped with a showerhead shall have a minimum ceiling height of 6'- 8" above a minimum area 30" by 30" at the showerhead.
8. Show clearance around the tub and water closet (toilet).

Emergency Escape Windows:

All basements and sleeping rooms must have an emergency escape window or exterior door. Emergency escape windows with a sill height below grade must be provided with an emergency escape window well and ladder.



IMPORTANT CODE NOTE:

Smoke Alarms:

Smoke alarms are required in all basements. If the finished basement contains a sleeping room, a smoke alarm must be installed on the ceiling or wall in the sleeping room and in the hallway or area immediately outside of the sleeping room. Smoke alarms added to satisfy the above requirements must be hard wired with the battery backup, and interconnected with existing smoke alarms. Smoke alarms are required to be hardwired and interconnected in new and existing bedrooms, halls and on each level unless removal of interior wall or ceiling finish would be required. In this case, battery operated devices are acceptable.



Basement Finish Code Requirements

1. Ceiling Heights:

If finished ceiling will be less than 7' in height, Please inquire with the Building & Safety Division for possible exceptions.

2. Emergency Escapes:

All basements and sleeping rooms must have an emergency escape window or exterior door. Emergency escape windows with a sill height below grade must be provided with an emergency escape window well and ladder. (For emergency escape window and window well requirements, see page 4).

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Smoke alarms are required in all basements. If the finished basement contains a sleeping room, a smoke alarm must be installed on the ceiling or wall in the sleeping room and in the hallway or area immediately outside of the sleeping room. Smoke alarms added to satisfy the above requirements must be hard wired with the battery backup, and interconnected with existing smoke alarms. Smoke alarms are required to be hardwired and interconnected in new and existing bedrooms, halls and on each level unless removal of interior wall or ceiling finishes would be required. In this case, battery operated devices are acceptable.

4. Fuel burning Appliances:

Furnaces and water heaters cannot be located in a bedroom or bathroom unless appliances are installed in a dedicated enclosure in which all combustion air is taken directly from outdoors, and a weather stripped solid door equipped with an approved self closing device is installed. If the furnace and water heater are being enclosed, adequate combustion air must be provided for these appliances to operate properly. For maintenance purposes, a minimum of 30 inches clear working space must be provided in front of furnaces and water heaters. Maintenance or removal of each appliance must be possible without removing or disturbing walls, piping, valves, wiring and junction boxes.

5. Floated Walls:

In areas subject to floor heaving, non-bearing walls on basement floor slabs should be built to accommodate not less than 1-1/2 inches of floor movement. A detail of a typical floated wall is included on page 4 of this hand-out. Drywall should be held to a minimum of 1 inch above the slab to allow for movement. This area is typically covered with the finish wall base board or decorative floor molding attached to the pressure treated floors plate.

6. Fire-blocking:

Fire-blocking must be installed in concealed spaces of wood-furred walls at the ceiling level, at 10 foot intervals along the length of the wall and at all interconnections of concealed vertical and horizontal spaces such as intersection of stud walls and soffits or dropped ceilings. A detail of typical fire-blocking is included on page 4 of this handout. Fire-blocks may be constructed of 1-1/2 inch lumber, 3/4 inch plywood or particle board, 1/2 inch gypsum board or fiberglass insulation 16 inches minimum in height, securely fastened.

7. Insulation:

Minimum R-13 Insulation or equivalent is required to be in all frame walls adjacent to basement exterior walls.

8. Space Under Stairs:

If access to the area or space under the basement stairs is provided for storage or other uses, the walls and ceiling of this enclosed space must be protected on the inside, with a minimum 1/2 inch Gypsum/Sheetrock installed

9. Bathrooms:

Toilets must be provided with a minimum of 21 inches in front of the toilet and 15 inches from the center of the toilet and any sidewall or other obstruction. Showers shall have a minimum inside dimension of 900 square inches, capable of encompassing a 30 inch circle and be finished 72 inches above the floor with non-absorbent materials.

10. Lighting, Ventilation & Heating: Lighting, ventilation and heating are required for any finished portion of the basement.

Habitable Rooms: All habitable rooms shall have an aggregate glazing area of not less than 8 percent of the floor area of such rooms. Natural ventilation shall be through windows, doors, louvers or other approved openings to the outdoor air. Such openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants. The minimum open-able area to the outdoors shall be 4 percent of the floor area being ventilated.

Exceptions:

1. The glazed areas need not be open-able where an approved mechanical ventilation system capable of producing 0.35 air change per hour in the room is installed or a whole-house mechanical ventilation system is installed capable of supplying outdoor ventilation air of 15 cubic feet per minute (cfm) per occupant computed on the basis of two occupants for the first bedroom and one occupant for each additional bedroom.
2. The glazed areas need not be installed in rooms where artificial light is provided capable of producing an average illumination of 6 foot-candles (65 lux) over the area of the room at a height of 30 inches (762 mm) above the floor level.

Adjoining rooms: For the purpose of determining light and ventilation requirements, any room shall be considered as a portion of an adjoining room when at least one-half of the area of the common wall is open and unobstructed and provides an opening of not less than one-tenth of the floor area of the interior room but not less than 25 square feet (2.3 m²).

Bathrooms: Bathrooms, water closet compartments and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet (0.3 m²), one-half of which must be open-able.

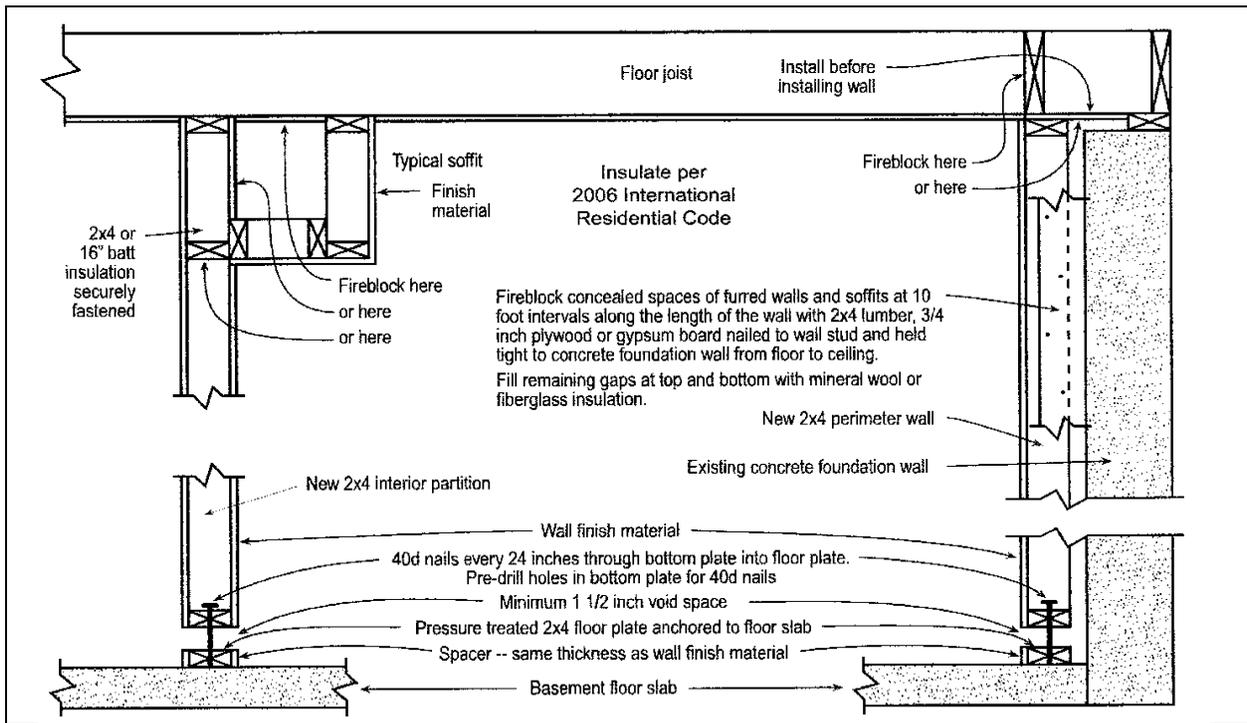
Exceptions:

1. The glazed areas shall not be required where artificial light and a mechanical ventilation system are provided. The minimum ventilation rates shall be 50 cubic feet per minute (24 L/s) for intermittent ventilation of 20 cubic feet per minute (10 L/s) for continuous ventilation. Ventilation air from the space shall be exhausted directly to the outside.

Required Heating: Capable of maintaining a minimum room temperature of 68°F (20°C) at a point 3 feet (914 mm) above the floor and 2 feet (610 mm) from exterior walls in all habitable rooms at the design temperature. The installation of one or more portable space heaters shall not be used to achieve compliance.

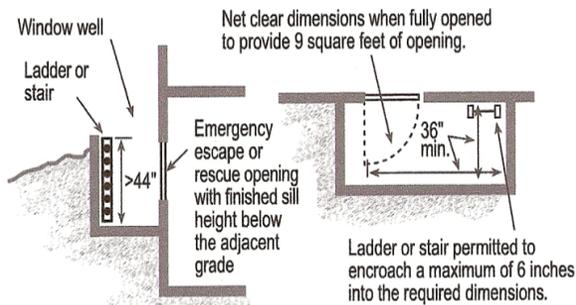
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Basement Floating Wall Detail



Emergency Escape & Rescue Window Well

Emergency Escape And Rescue window wells must provide a minimum area of 9 square feet with a minimum dimension of 36 inches and shall enable the window to open fully. If the depth of the window well exceeds 44 inches, a permanently affixed ladder must be provided. The ladder must not interfere with the operation of the window.



Emergency Escape & Rescue Window

Emergency Escape And Rescue Windows must meet the following criteria:

- A minimum total openable area of not less than 5.7 square feet
- A minimum clear openable height of not less than 24 inches
- A minimum clear openable width of not less than 20 inches.
- A finished sill height of not more than 44 inches above the floor and should be openable from the inside with normal operation and without the use of tools, keys or effort.

Examples of Complying Height & Width Combinations

