

Residential Basement Finish

Permit submittal requirements

Incomplete submittals will be returned for completion without review or approval

1. A complete Building Permit Application, signed and dated.
2. Construction plans, (2) drawn to scale, and clearly indicating all work to be performed. These plans must include the:
 - square footage of the area being finished, showing dimensions for each room
 - intended or possible use of each room or area
 - location of the furnace and water heater, and code compliant working clearances
 - stairway location and whether the under stair area is to be finished
 - location of all egress windows, along with verification of a code compliant window well and egress ladder when required.
 - required clearances at the water closet of a minimum 30" clear width and minimum 21" clear space in front of the stool
 - Indicate finished ceiling heights for all areas, as the ceiling height must be a minimum of 7 feet, though soffit areas may be reduced to 6'- 6" for a maximum width of 8 feet when necessary to conceal beams, ducts and piping
3. Partially or totally finished basements require an egress window (or an egress door) in compliance with the 2015 IRC Section R310. Each sleeping room must have a fully compliant egress window (door) in place and must be compliant with the following:
 - A minimum of 5.7 square feet of openable area.
 - Minimum clear openable height of 24 inches.
 - Minimum clear openable width of 20 inches.
 - Maximum sill height of 44 inches.
 - The window well shall have a minimum horizontal area of (9) sq. ft. and a minimum dimension of 36" inches.
 - Egress ladders (bolted in place) are required in window wells over 44" in depth and shall not encroach into the required dimensions of the window well by more than 6 inches.
4. Code compliant combustion air for all fuel-fired appliances will be required to be installed if not currently existing or adequate.
5. GFI protection is required for outlets in bathrooms and unfinished areas.
6. Smoke detectors shall be installed on each story, in the basement being finished, in all sleeping rooms, and in the immediate vicinity directly outside sleeping rooms, as per the requirements of the 2015 IRC, Section R314.
7. Walls must be provided with a minimum of 1 ½" of "float" space when built on concrete, though an increased gap may be required due to actual site (soil) conditions.
8. Insulate the basement exterior walls completely with a minimum of R-13 insulation, or provide calculations showing compliance with 2009 International Energy Conservation Code for the entire building including using an alternative R value the basement area.
9. **Please refer and use the attached Colorado ICC Chapter guidelines as an aid in proper permit submittal, though additional details are normally required.**



Building Guide

Colorado Chapter of the International Code Council

Single Family Residential Basement Finish

How to Use this Guide

Check with your jurisdiction regarding type of submittal (paper or electronic) and for additional requirements. Draw to scale and complete the following (hint: use graph paper with $\frac{1}{4}$ " squares. Example: $\frac{1}{4}$ " = 1'):

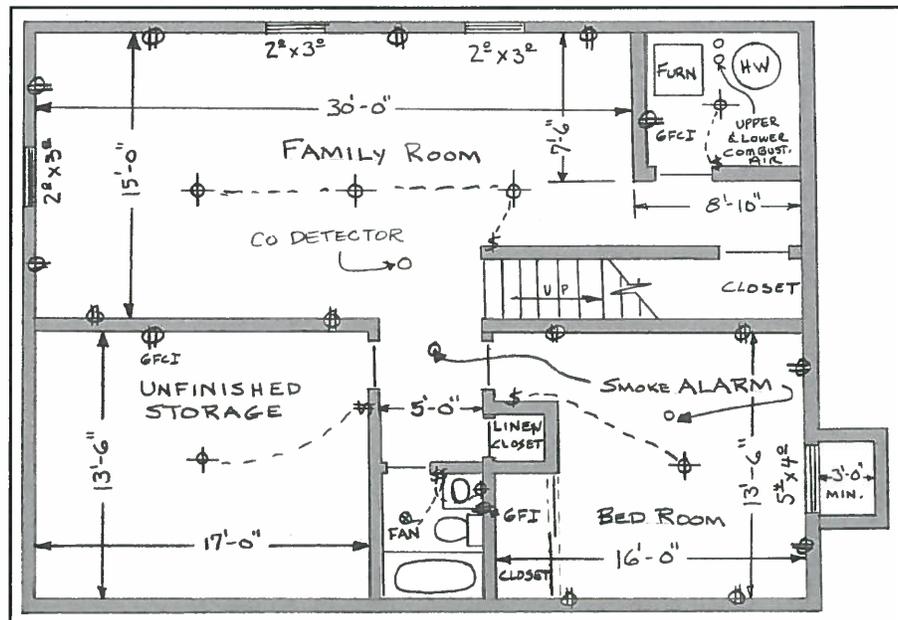
1. Review this Building Guide
2. Provide Floor Plans
3. Fill out a Building Permit Application

The majority of permit applications are processed with little delay. The submitted documents will help determine if the project is in compliance with building safety codes, zoning ordinances and other applicable laws.

Smoke alarms and carbon monoxide alarms are required.

The Colorado Chapter of the International Code Council is a professional organization seeking to promote the public health, safety and welfare to building construction. We appreciate your feedback and suggestions. To obtain a master copy of this building guide, please write to the Colorado Chapter of the International Code Council, P.O. Box 961, Arvada, CO 80001.

<http://www.coloradochaptericc.org>



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Directions

- Submit two complete paper sets or one electronically of required information.
- Draw a floor plan with dimensions drawn to scale, showing the layout of the entire basement. Label the use for all of the rooms.
- Show electrical outlets, smoke alarms, carbon monoxide alarms, lighting, fans, plumbing modifications, cleanouts, furnace, and water heater.
- List window sizes and types, identify emergency escape and rescue windows, and egress window wells with ladder and clear dimensions of window well.
- Identify modifications to the existing structure such as posts, beams and floor joists.
- Indicate height of dropped ceiling areas less than 7 feet.
- 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. See Exception 2, P2708.1.
- Show plumbing fixtures and clearances around each.
- Show insulation values

Basement Finish Requirements

1. Ceiling Heights:

If the finished ceiling will be less than 7', please consult your Building Department.

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 3.)

3. 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 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. Listed wireless alarms are acceptable.

4. Carbon Monoxide Alarms:

Carbon Monoxide alarms are required on each floor with bedrooms. They are recommended to be located no farther than 15 ft. from any bedroom entrance. Do not install within 15 ft. of a fuel burning appliances. Follow manufacture's recommendations for location testing and replacement.

5. 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 the other or disturbing walls, piping, valves, ducts, vents, wiring or junction boxes.

6. 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 3 of this hand-out.

7. Fireblocking:

Fireblocking 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 fireblocking is included on the following page of this handout. Fireblocks may be constructed of 1-1/2 inch lumber, 3/4 inch plywood, OSB or particle board, 1/2 inch gypsum board or fiberglass insulation 16 inches minimum in height, securely fastened.

8. Insulation:

Check with your Building Department for insulation requirements.

9. 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 1/2 inch gypsum board.

10. 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. Shower door minimum clear opening width is 22 inches. See Exception 2, P2708.1.

A ventilation fan is required in toilet rooms and bathrooms with unopenable windows. The fan must be vented to the exterior of the building and not to terminate within 3 feet of an opening.

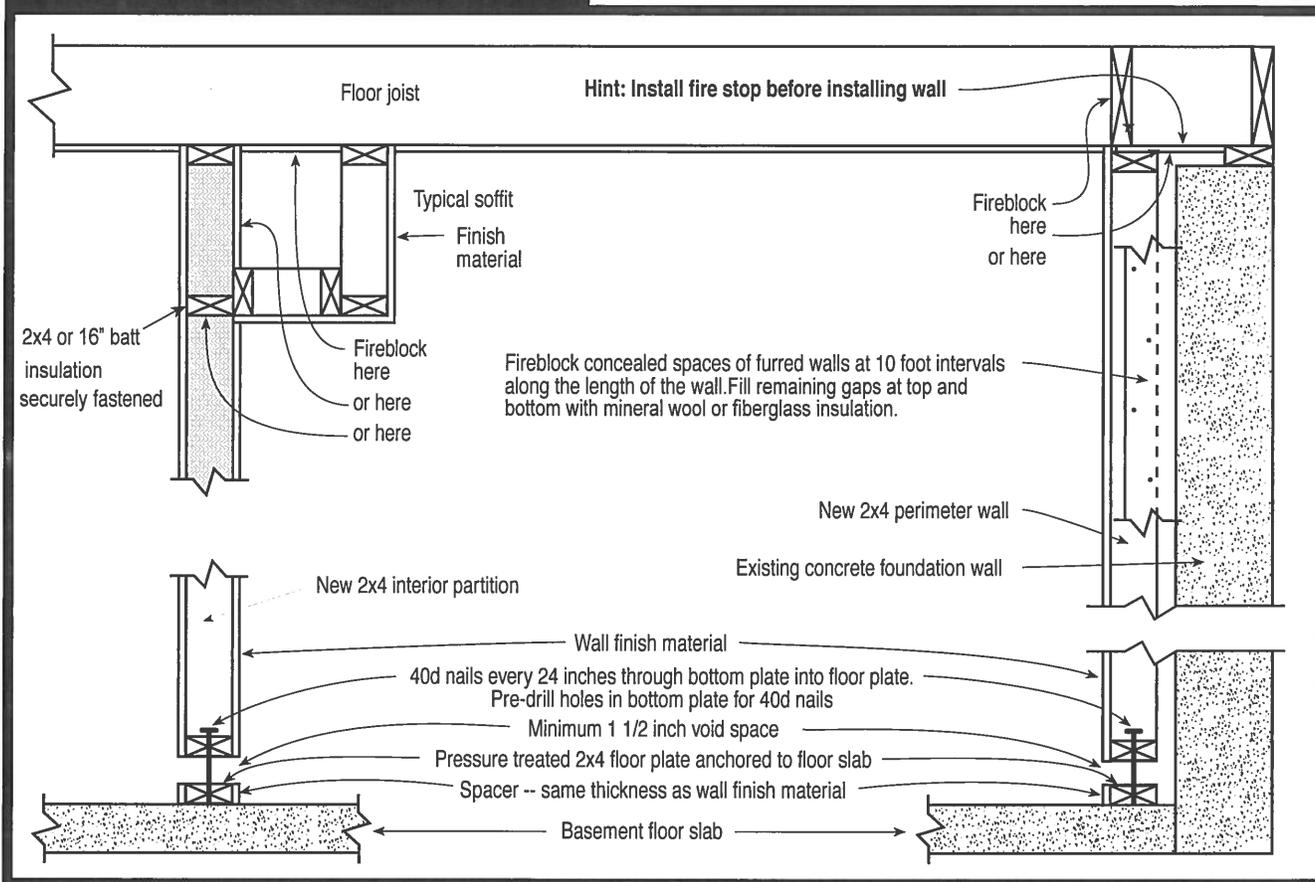
11. Lighting & Ventilation:

Lighting and ventilation are required for any finished portion of the basement. Contact your Building Department for specific requirements.

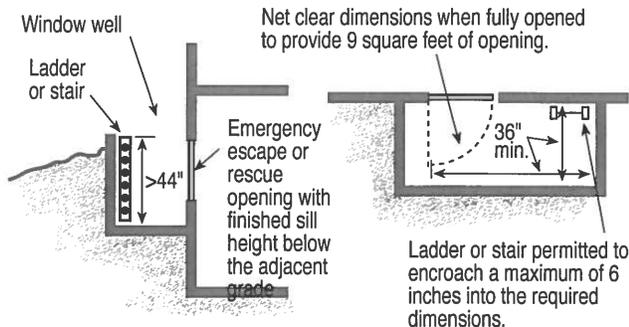
The Building Department staff can help you determine what is necessary to meet minimum safety requirements.

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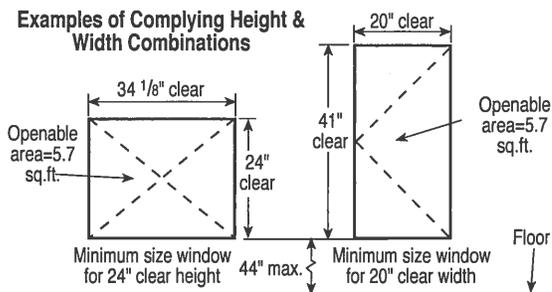
Emergency Escape And Rescue window wells must provide a minimum area of 9 square feet with a minimum dimension of 36 inches and shall enable the window to open fully. If the depth of the window well exceeds 44 inches, a permanently affixed ladder must be provided. The ladder must not interfere with the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



Emergency Escape 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 the window should be openable from the inside with normal operation and without the use of tools, keys or special knowledge.

Examples of Complying Height & Width Combinations



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