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Building Official
Code Enforcement**

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Guide to Habitable Basements

Every habitable area and every sleeping room shall have at least one primary means of escape and one secondary means of escape. The purpose of the secondary means of escape is to provide the occupant with an alternate means of escape from the dwelling unit. This life safety requirement is no different for habitable basements. Of all of the places to be trapped, the basement is considered by some as the worst. (Life Safety 101 2000 Edition Chapter 24 One- and Two-Family Dwellings and IRC 2009 Section R310)

Special note of interest is that the recent codes not only apply this “emergency escape and rescue opening (EERO)” requirement to habitable basements but also specifically to all basements; in that, for new construction every basement must be provided with an EERO. This also applies to habitable attics, i.e. walkup attics.

Basements with habitable space (finished space) and every sleeping room within that space, shall have a least one open-able emergency escape and rescue window or an exterior door opening to the outside for emergency escape and rescue. It is the intent that the secondary means of escape be independent of and remote from the primary means. If the habitable basement contains more than one sleeping area – each sleeping area shall be provided with a direct emergency escape and rescue opening.

Emergency escape windows and doors must be located on the exterior of the building and open directly to the outside so that the occupants may escape or be rescued directly from the room to the outside without having to travel through the building itself.

Where openings are provided as a means of escape and rescue they shall have a sill height of not more than 44 inches above the floor. A number of manufacturers provide pre-fabricated window wells specific to service these requirement.

Where a door opening having a threshold below grade serves as an emergency escape and rescue opening, and is provided with a bulkhead enclosure, the bulkhead enclosure shall comply with the minimum opening requirements.

Direct openings from a garage are not permitted to access into a room used for sleeping purposes.

Emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet with the net clear opening height not less than 24 inches and the net clear opening width not less than 20 inches. Caution when sizing: do the math, these minimum net opening dimensions will not create a 5.7 square foot opening and are presented to state the minimum dimensions; however if for example the minimum width dimension is used (20 inches) than the height will need to be at least 41.2 inches.

When window wells are installed to meet the emergency escape and rescue opening requirement they shall have horizontal dimensions that allows the door or window of the emergency escape and rescue opening to be fully opened. The area for this horizontal projection adjacent to the well shall provide a minimum net clear area of 9 square feet with a minimum horizontal projection and width of at least 36 inches. Ladders or rungs shall have an inside width of at least 12 inches, shall project at least 3 inches from the wall and shall be spaced not more than 18 inches on center vertically for the full height of the window well.

All emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools.

The habitable basement must have at least one window that looks out to or faces the outside of the building. The glass or glazed area of the window (the part of the window that allows light to enter) must be measured and that measurement must be at least 8 % of the total floor area of the basement. Every habitable space shall have at least one window of approved size facing directly to the outdoors. The minimum total glazed area for every habitable space shall be 8 percent of the floor area of such room.

Fresh air must be coming into the habitable basement through windows, doors, louvers or other openings into the basement. The homeowner must be able to access and control these openings. The basement also must have at least one window that opens. The size of the opening to the outside air must measure at least 4% of the total floor area. Exception provisions do apply to glazing and ventilation requirements; consult the code requirements.

Combustible air requirements for heating and cooling systems need to be considered when closing off areas of the basements that contain mechanical appliances. The creation of confined space areas providing for less than 50 cubic feet per 1000 BTU/h of the combined ratings of fuel burning appliances is prohibited – provisions must be made to provide for makeup air.

Smoke detectors are required at each level of the dwelling, in each sleeping area, and immediately outside each separate sleeping area. Additions and alterations to existing dwelling units require that such detectors be hard wired and interconnected. A carbon dioxide detector is required.

Minimum ceiling height for basement areas with habitable space shall be not less than 7 feet.

Minimum room dimensions apply and no room or area may be less than 70 sq feet and no room dimension may be less than 7 feet in any horizontal direction. Not more than 50% of any room may have a sloping ceilings less than 7 feet and with no portion of the required space less than 5 feet.

Insulation values are as defined within the International Energy Conservation Code (IECC). Foam plastic insulation shall be separated from the interior of a building by a minimum ½ inch gypsum board or another approved finish material equivalent to a thermal barrier having a finish rating of 15 minutes of fire exposure. Vapor barriers are required, as was required throughout the existing dwelling. There are a number of additional resources to help determine the best methods of construction in attempting to prohibit mold and mildew created within sealed wall systems.

Renovations may not affect the working space and clearance requirements of electrical equipment. Panels may not be installed in clothes closets or bathrooms.

Habitable basements are prohibited in flood plain defined areas.

When in direct contact with concrete, pressure treated lumber shall be used

This document sheet may be used as a guideline when considering the life safety requirements as applied to habitable basements and is not intended to be a complete listing of all building code requirements.