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Planning, Zoning & Construction Resources

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Emergency Escape & Rescue Openings and Window Wells

Based on the 2015 Michigan Residential Code

R310.1 Emergency escape and rescue required. *Basements*, habitable attics and every sleeping room shall have at least one operable emergency escape and rescue opening. Where *basements* contain one or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room. Emergency escape and rescue openings shall open directly into a public way, or to a *yard* or court that opens to a public way.

Exception: *Storm shelters* and basements used only to house mechanical *equipment* and not exceeding a total floor area of 200 square feet.

R310.1.1 Operational constraints. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys, tools or special knowledge. Opening control devices complying with ASTM F2090 shall be permitted.

R310.2.1 Minimum opening area. All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet. The opening dimensions shall be obtained by the normal operation of the opening from the inside. The minimum net clear opening height shall be 24 inches. The minimum net clear opening width shall be 20 inches.

Exception: *Grade* floor openings shall have a minimum net clear opening of 5 square feet.

R310.2.2 Window sill height. Emergency escape and rescue window openings shall have a sill height of not more than 44" above the floor. Where the sill height is below grade, it shall be provided with a window well in accordance with Sec. R310 with a window well in accordance with Section R310.2.3

R310.2.3 Window wells. The minimum horizontal area of the window well shall be 9 square feet (0.9 m²), with a minimum horizontal projection and width of 36 inches (914 mm). The area of the window well shall allow the emergency escape and rescue opening to be fully opened.

Exception: The ladder or steps required by Section R310.2.3.1 shall be permitted to encroach a maximum of 6 inches (152 mm) into the required dimensions of the window well.

R310.2.3.1 Ladder and steps. Window wells with a vertical depth greater than 44 inches (1118 mm) shall be equipped with a permanently affixed ladder or steps usable with the window in the fully open position. Ladders or steps required by this section shall not be required to comply with Sections R311.7 and R311.8. Ladders or rungs shall have an inside width of at least 12 inches (305 mm), shall project at least 3 inches (76 mm) from the wall and shall be spaced not more than 18 inches (457 mm) on center vertically for the full height of the window well.

R310.2.3.2 & R310.3.2.1 Drainage. Window wells and bulkhead enclosures shall be designed for proper drainage by connecting to the building's foundation drainage system required by R405.1.

Exception: A drainage system is not required where the foundation is on well drained soil or sand gravel mixture soils in accordance with United Soil Classification System Group I Soils as detailed in Table R405.1

R310.2.4 Emergency escape windows under decks and porches. Emergency escape windows are allowed to be installed under decks and porches provided the location of the deck allows the emergency escape window to be fully opened and provides a path not less than 36 inches (914 mm) in height to a *yard* or court.

R310.3 Bulkhead enclosures. Bulkhead enclosures shall provide direct access to the *basement*. The bulkhead enclosure shall provide the minimum net clear opening required by Section R310.3.1.

R310.4 Bars, grilles, covers and screens. Bars, grilles, covers, screens or similar devices are permitted to be placed over emergency escape and rescue openings, bulkhead enclosures, or window wells that serve such openings, provided the minimum net clear opening size complies with Sections R310.1.1 to R310.2.3, and such devices shall be releasable or removable from the inside without the use of a key, tool, special knowledge or force greater than that which is required for normal operation of the escape and rescue opening.

Calculating the minimum required square footage of the opening:

DOUBLE HUNG

SLIDING

CASEMENT

- Is the clear openable height, **H** at least 24 inches?
- Is the clear openable height, **W** at least 20 inches?

3) Check Window Opening Area (fill in the four blanks):

H ____ x **W** ____ = **A** ____ ÷ 144 sq in = ____
Openable height (inches) Openable width (inches) Openable area (square inches) (5.7" sq ft min)

Is the clear openable area **A** at least 820 square inches? Yes ☐ No ☐

4) Check the distance from the floor to the bottom of opening

Is the distance, **S** from the floor to the finished sill (bottom of opening) 44" inches or less? Yes ☐ No ☐

Minimum Width/Height (W/H) requirements for Emergency Escape and Rescue Windows (in inches)																
Width	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	34.2
Height	41.1	39.1	37.3	35.7	34.2	32.8	31.6	30.4	29.3	28.3	27.4	26.5	25.7	24.9	24.1	24

Window Well Requirmeents:

