



Emergency Escape and Rescue Opening

1245 West Hwy 96 Arden Hills, MN 55112

651-792-7800

cityofardenhills.org

This handout is intended only as a guide and is based in part on the 2020 Minnesota State Building Code, Arden Hills City ordinances, and good building practice. While every attempt has been made to insure the correctness of this handout, no guarantees are made to its accuracy or completeness. Responsibility for compliance with applicable codes and ordinances falls on the owner or contractor. For specific questions regarding code requirements, refer to the applicable codes or contact your local Building Department.

BUILDING PERMITS

Building permits are required for most projects including decks with the following exception: freestanding decks, regardless of size, if they are not more than 30 inches above adjacent grade. Freestanding decks do not require footings that extend below the frost depth.

Building permits are not required for patios made of concrete or pavers on grade.

Building permits can be obtained from the Building Department by filling out and signing an application and submitting your building plans. Building permits are typically processed within 5 -10 business days after receiving a complete set of plans. **If your application is incomplete it will delay your project.**

GENERAL NOTES

1. The stamped "Approved" plan and the Inspection Record Card shall be made available to the inspectors during their inspections. As per MN2020 IRC, in accordance with 1300.0120 Subp. 13, the building permit shall be kept on site of the work until the completion of the project. Pursuant to Minnesota Statutes, Section 15.41, It shall be posted in a prominent location in the area of construction. If the card is not on site, the inspection may be failed as per Subp. 12
2. Separate permits are required when installing electrical wiring, heating equipment, or plumbing fixtures. Contact the Building Inspection Division for information regarding plumbing and heating, or call the contracted electrical inspector for electrical information.
3. Call the Building Inspection Division between the hours of 8:00 a.m. and 4:30 p.m. to arrange for an inspection. Please provide the permit number with your request. Call the contracted Electrical Inspector between the hours of 7:00 a.m. and 8:30 a.m. to arrange for an inspection. Please provide the permit number with your request.

LOST PERMIT CARDS

Lost permit cards can be replaced for a cost of \$ 30.00 each.

PERMIT EXPIRATION

If you suspend work on your project for more than 180 days since permit issuance or your last inspection, your permit will expire. If unforeseen circumstances delay construction, contact the Building Department **before** your permit expires.

PLANS

The Building Department has a handout illustrating what needs to be included on your plans. It is very important that your plans depict exactly how your project will be built. Plans must be neat and be of a scale of at least 1/4" = 1'. **Computer generated plans from home stores are not acceptable and will be**

returned. Plans are reviewed for code compliance and a copy is returned to the applicant with notes to identify required corrections. The plan review can only be as good as the information provided on the plans. PLEASE REVIEW THE PLANS WHEN THEY ARE RETURNED TO YOU SO THAT YOU WILL BE AWARE OF ANY CORRECTIONS NEEDED. The City only maintains plans for one year after completion of a residential deck. You may wish to retain a copy of your approved plans, permits, and inspection record cards for any future needs.

INSPECTIONS

1. Call 24 hours in advance or preferably 2 days in advance.
2. Have address, permit number, and type of inspection (ex. footing) ready.
3. Let the inspector know if you wish for an exact time and they will try to accommodate you.
4. Footing Inspection - Holes dug, loose material/water removed. Plans and record card on-site.
5. If work is approved, the inspector will sign the permit card and you may proceed with the next step.
6. Final Inspection - All work is complete plans and permit card on-site.
7. If corrections are noted, a correction notice will be left on the site. If a re-inspection is required it will be noted on the notice.

Please do not hesitate to call the Building Department at 651-792-7800. If necessary, we will be happy to meet with you on the site to help resolve any concerns or problems.

WHAT IS AN EMERGENCY ESCAPE AND RESCUE OPENING?

An emergency escape and rescue opening is a window (sometimes called an egress window) or door that is required in specific locations in new or altered dwellings and is intended to provide an emergency means of exiting a dwelling or provide an access for rescue. These openings must meet specific size requirements.

WHERE ARE EMERGENCY ESCAPE AND RESCUE OPENINGS REQUIRED?

Basements, habitable attics and every sleeping room shall have not less than one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, an emergency egress and rescue opening shall be required in each sleeping room, but not required in adjoining areas of the basement. Emergency escape and rescue openings shall open directly into a public way, or to a yard or court that opens to a public way.

Exceptions:

1. Basements or basement bedrooms when the building is protected with an automatic sprinkler system installed in accordance with IRC Section P2904 or NFPA 13D.
2. Basements or basement bedrooms where the entire basement area, including all portions of the means of egress to the level of exit discharge, and all areas on the level of exit discharge that are open to the means of egress is protected with an automatic sprinkler system in accordance with IRC Section P2904 or NFPA 13D.

WHAT ARE THE SIZE REQUIREMENTS FOR WINDOWS USED AS EMERGENCY ESCAPE AND RESCUE OPENINGS?

A window used as an emergency escape and rescue opening must satisfy four Minnesota Residential Code criteria:

R310.2.1

- Minimum net clear width of opening: 20 in.
- Minimum net clear height of opening: 24 in.

- Minimum net clear opening: 5.7 sq. ft. (5.0 sq. ft. for ground floor).

Maximum sill height above floor: 44 in.

R310.1.1 The window must have a minimum net clear opening of 5.7 sq. ft. Net clear opening refers to the actual free and clear space that exists when the window is open. It is not the rough opening size or the glass panel size, but the actual opening a person can crawl through.

The window opening must be operational from the inside without keys, tools or special knowledge. Window opening control devices on windows serving as a required emergency escape and rescue opening shall comply with ASTM F2090.

Do the math

At first glance, you might assume that a 20-in. by 24-in. window would be acceptable for emergency escape or rescue. However, those dimensions would yield a net clear opening of only 3.3 sq. ft. To achieve the required net clear opening of 5.7 sq. ft., a 20-in. wide window would have to be 42 in. high. Likewise, a 24-in. high window would have to be 34 in. wide.

Exception: Grade floor openings or below grade openings shall have a net clear opening area of not less than 5 square feet.

R310.2.2 Window Sill Height. Where a window is provided as the emergency rescue and escape opening, it 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 **Section R310.2.3'**

R310.2.3 Window wells. The horizontal area of the window well shall not be less than 9 square feet, with a horizontal projection and width of not less than 36". The area of the window well shall allow the emergency escape and rescue opening to be fully opened.

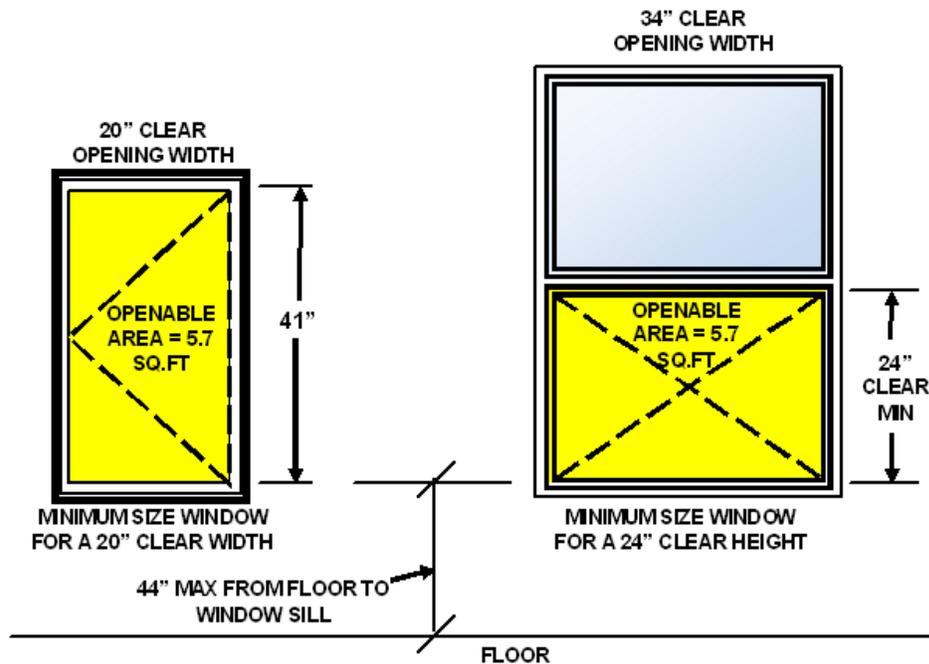
R310.2.3.1 Ladder and steps. window wells with a vertical depth greater than 44" shall be equipped with a permanently affixed ladder or steps usable with the window in the fully open position. Ladder or steps required by this section shall not be required to comply with Section R311.7. Ladder or rungs shall have an inside width of not less than 12" , shall project not less than 3" from the wall and shall be spaced not more than 18" on center vertically for the full height of the window well.

R310.2.3.2 Drainage. Window wells shall be designed for proper drainage by connecting to the buildings foundation drainage system required by Section R405.1 or by an approved alternative method.

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

R310.2.4 Emergency escape and rescue openings under decks and porches. Emergency escape and window openings installed under decks and porches shall be fully openable and provided a path not less than 36" in height to a yard or court.

R310.2.5 Replacement windows. Replacement windows installed in buildings meeting the scope of this code shall be exempt from the maximum sill height requirements of Section 310.2.2. and the requirements of Section R310.2.2 and the replacement windows meets the following conditions.



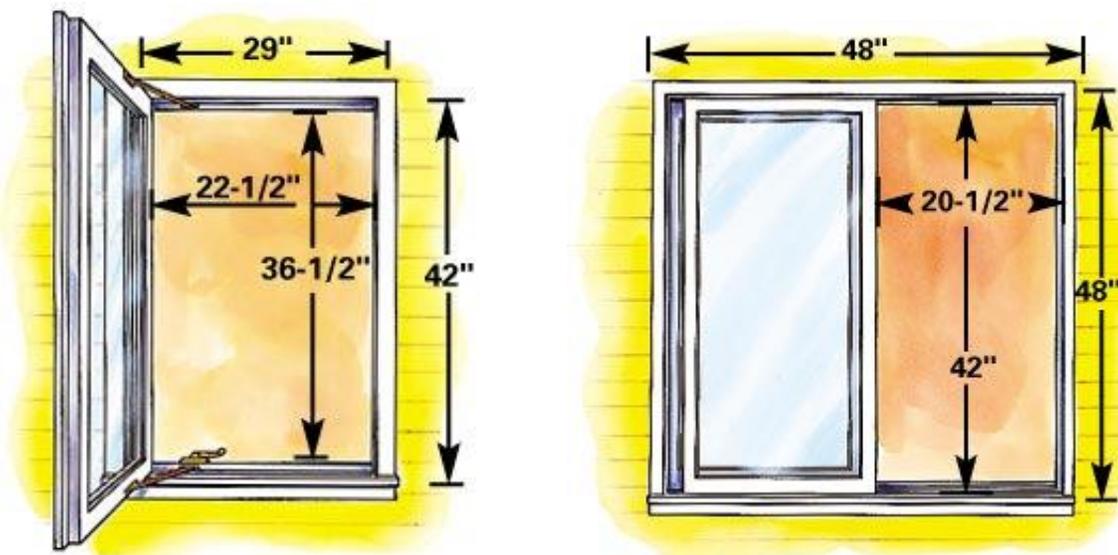
Because Minnesota uses a national model residential code, nearly all window manufacturers specify which of their windows meet these standards. This should take the guesswork out of selecting a window for your addition or remodeling project. Also, the sales person who sells you the window should be able to help you select a code compliant window provided that they know you need a window that is required to be an emergency escape or rescue opening.

MUST I USE A SPECIAL TYPE OF WINDOW?

A wide variety of window designs can be used for emergency escape or rescue openings. You should select a window design that meets your architectural, aesthetic, space, and financial limitations.

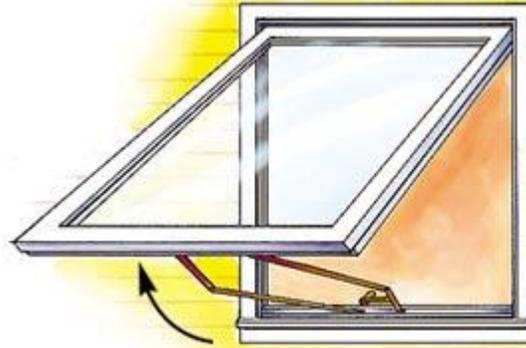
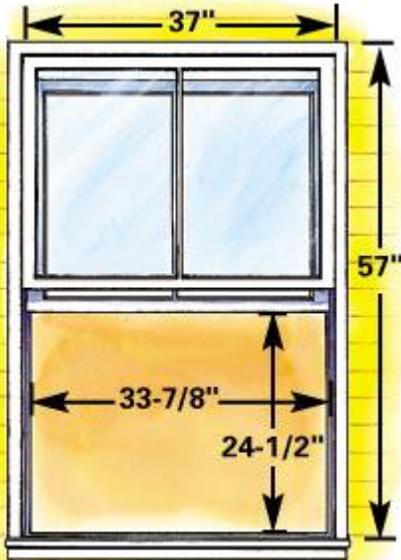
Casement windows with hinged sashes that swing free and clear of the opening can be relatively small and still meet code requirements. This makes them ideal for basements and other areas where space is limited. Some manufacturers can install a special operator arm that allows the window to open wider than the standard operating arm to meet opening requirements. Others have an operator arm that can be pushed to open the window wider in an emergency. These meet egress requirements as long as you leave the "PUSH HERE" label in place.

Glider or slider windows have sashes that fill nearly half the possible window opening when the window is opened. They require a window nearly twice the size of a casement window.



Note: Dimensions shown only for illustration purposes.

Even when it's fully open, more than half of a **double-hung window's** overall area is blocked by glass. To meet height requirements, a window must be nearly 4 ft. 9 in. in overall height. This height requirement makes it undesirable for most basement situations.



Note: Dimensions shown only for illustration purposes.

Awning windows are problematic. Since the opened sash prevents escape from most window wells, they're unsuitable for basement use. And with most awning windows, the center opening hardware and height don't meet opening requirements.

WHY DON'T MY WINDOWS MEET EGRESS REQUIREMENTS?

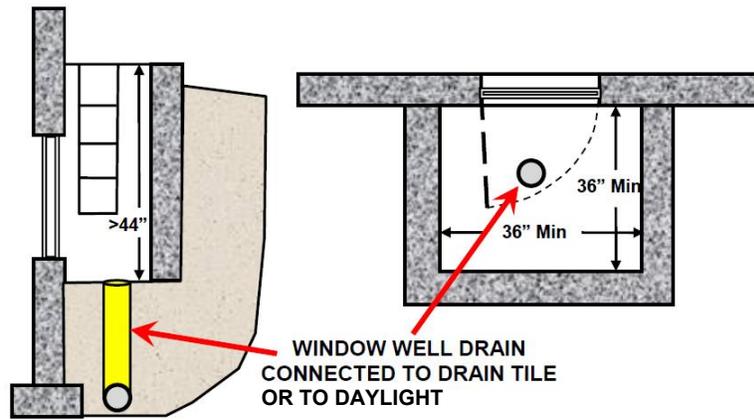
Some older homes were built before there were emergency escape and rescue opening requirements. Changing rules are responsible for other discrepancies. And sometimes homeowners or contractors engage in work without permits that results in noncompliance.

BASEMENT WINDOWS USED FOR EMERGENCY ESCAPE OR RESCUE OPENINGS

Because of their location below grade, basement windows present an added challenge. Below grade windows must have a window well that permits the window to function as an emergency escape or rescue opening. Window wells must:

- Allow the rescue window opening to be fully opened.
- Provide 9 sq. ft. of "floor area," with a minimum dimension of 36" in width and length.
- **If the window well depth exceeds 44 inches**, the well must contain a permanently affixed ladder or steps. The ladder must be at least 12" wide and project no less than 3" from the window well wall. Ladders may not obstruct the operation of the window or project more than 6 inches into the required window well dimensions.

Window wells may be made of rust resistant metal, treated wood, wood naturally resistant to decay, concrete, masonry, or plastic. Some window well designs have steps built or molded into them. Window wells must have a drain connected to the house foundation drainage system. If an egress window is located under a deck or porch, the code requires at least 36 inches between the top of the window well and the bottom of the deck or porch joists.



NOTE: For specific code requirements, please contact the Building Inspection Division. Questions regarding design and cost should be referred to a professional builder or architect.

Building Inspector: Terry Hagstrom 651-792-7818

This handout is written as guide to common questions and problems.
It is not intended nor shall it be considered a complete set of requirements.