

10

Residential Windows



1900 SW 4th Avenue
Portland, Oregon 97201
503-823-7300
bds@portlandoregon.gov
www.Portland.gov/BDS

Get information about Building Code requirements for windows in one- and two-family buildings (single-family homes, duplexes, townhouses, and detached accessory dwelling units).

Who can do the work

You can hire a licensed contractor to get the permits and complete the work. In most cases, you can apply for permits and do the work on your home.

Commercial buildings

Window requirements for multi-unit/commercial properties can be found in the Oregon Structural Specialty Code. You can view Oregon Building Codes at www.oregon.gov/BCD.

Special design standards may apply

Windows provide light and ventilation for your home.

They also serve as an emergency escape route in case of a fire. In some areas of the City, zoning code design standards regulate the style of windows you can use. Please contact zoning staff at 503-823-7526 to see if your project is affected by design standards.

Safety glass requirements

You must use tested and labeled safety glass, like tempered glass, in windows in these locations:

- Windows that are both within 24 inches of a door in a closed position and within 60 inches of the floor.
- Windows on a wall perpendicular to the plane of the door in a closed position and within a 24-inch arc of the hinged side in the direction of swing and within 60 inches of the door.
- Windows in enclosures for bathtubs, showers, hot tubs, whirlpools, saunas and steam rooms where the glass is within 60 inches above the standing surface. You don't need safety glass when there is intervening wall within the 60" horizontal distance. Measure the horizontal distance in a straight line from the water's edge.
- Windows with a pane larger than nine square feet, having a bottom edge closer than 18 inches to the floor and a top edge higher than 36 inches above the floor and that are within 36 inches of a walking surface. This window only needs safety glazing if all four items apply.
- Windows that are within 36 inches horizontally to stairways, landings or ramps and less than 60 inches above the walking surface or any stair tread.



WHEN IS A PERMIT NEEDED?	REQUIRED	NOT REQUIRED
Adding a new window where one did not exist before	X	
Replacing and widening a window	X	
Replacing a window with no change to the header size or location, and no reduction of the clear opening size		X
Installing or removing storm windows		X

Note: Land Use Reviews may be required if the property is in a design zone or historic zone.

- Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36 inches above the landing and within a horizontal arc less than 180 degrees from the bottom tread nosing shall be considered a hazardous location.

Replacement windows located in any of the places mentioned above must meet the safety glass requirements.

Energy conservation

Energy conservation requirements are applied to your whole house. The windows you can use in a new house depend on how well the home is insulated. Also:

- New windows list an energy conservation rating indicated by a U-factor. The lower the U-factor, the more energy the window conserves.
- New windows installed in an addition to an existing residence shall have a U-factor of 0.27 or less.
- Replacement windows installed in an existing house shall have a U-factor of 0.30 or less.
- Decorative or unique architectural feature windows not exceeding 1% of the heated floor area may be exempt from the energy code.

Stylish dual-pane windows not only add natural light and open for ventilation, but also save energy by adding winter warmth and keeping your home's interior cooler in summer temperatures.

High efficiency-rated windows make your home greener by making the most of natural resources for light and air.

Emergency egress windows

Basements and all sleeping rooms must have at least one opening window or exterior door for escape or rescue, also called egress, in case of a fire or other emergency.

- Emergency egress windows and doors must open directly into a public way, or to a yard or court that opens to a public way.
Note: You cannot enclose porch/roof covers of egress windows because they would impede an egress route directly to the yard.
- You must be able to open the emergency egress window or door from the inside without a key, special knowledge, or any separate tool.
- The bottom of an egress window's clear opening cannot be higher than 44 inches above the finished floor. Alternative standards may apply to existing windows when the space is converted to finished area. See Brochure #9, ***Converting Attics, Basements and Garages to Living Space***
www.portland.gov/bds/documents/converting-attics-basements-and-garages-living-space-brochure-9.
- When the window is fully open, the opening must be at least 5.7 square feet in area. An open area of five square feet is allowed at egress windows at the grade floor and at basements where the bottom of the window well is not more than 44 inches below the ground. Existing sleeping room windows may remain if the room was legally permitted as a bedroom previously and if the windows meet the historical code requirements in effect at the time that the bedroom was originally permitted. Information about historical code requirements can be found at www.portland.gov/bds/astr-permits/type-permits.
- The width of the egress opening must measure at least 20 inches. The height must measure at least 24 inches.

A window opening with the minimum width and the minimum height will not meet the minimum area requirement. For example, a window having a minimum width of 20 inches must be 36 inches high to provide five square feet and 41 inches high to provide 5.7 square feet. Or, a window with a minimum height of 24 inches must be 30 inches wide to provide five square feet or 34.5 inches wide to provide 5.7 square feet.

Light and ventilation

- Any room used for sleeping, living, cooking or dining purposes must have light and ventilation. Light and ventilation requirements may be met naturally, without mechanical equipment and/or permanent artificial light, through the use of operable windows, doors or skylights.
- To meet the natural ventilation requirements, windows, doors and skylights must open to the outside. The total open area must measure at least 4% of the floor area of a room. Existing conditions may allow for reduced requirements or mechanical ventilation may be provided.

Window wells

- If the bottom of your window is below the adjacent ground, like basement windows, you will need to excavate to add a window well. Depending on the height, you may be able to use a pre-manufactured corrugated metal window well. Or, the window well may be constructed of materials such as concrete, concrete block or pressure treated lumber.
- The window must be able to open completely inside of the window well.
- Inside the window well there must be a clear space in front of the window opening that is at least 36" x 36".
- If the bottom of the window well is more than 44 inches below the top of the well, a permanently attached ladder or steps must be used. Steps in a window well do not need to meet the code requirements for stairs. The ladder or stairs may project 6 inches into the 36" x 36" clear space required for window wells but cannot restrict the window opening.
- A ladder must have rungs that are at least 12 inches wide. Rungs must be spaced so that they are measured a maximum 18 inches from rung to rung at the same point on each rung. The ladder must be attached to the window well so that there is at least 3 inches between the wall of the window well and the ladder. The ladder must extend all the way from the bottom of the window well to the top of the well.
- Any grill, cover or other obstruction over a window well, needs to be easily removable from the inside without the use of a key, tool or special knowledge. The opening size of the grill, cover or other obstruction must be at least 5.7 square feet clear.

Fall prevention

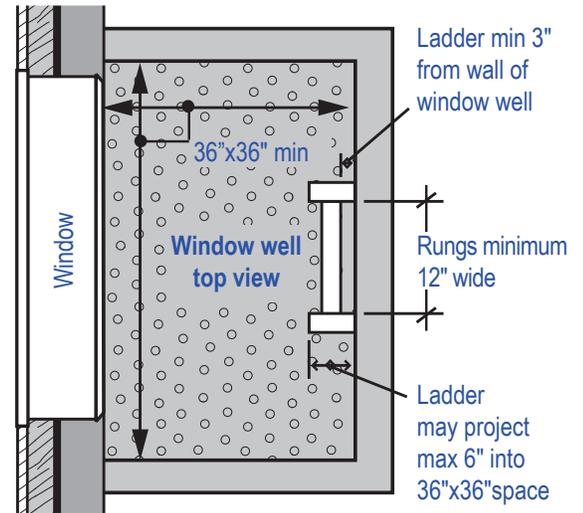
- Depending on the height of a window above the ground and the floor, windows may need to have limited opening sizes to prevent persons from falling through.
- Portions of windows that are less than 24 inches above the floor and more than 72 inches above the outside ground or surface below must not allow a 4-inch diameter sphere to pass through when the

window is in its largest opened position.

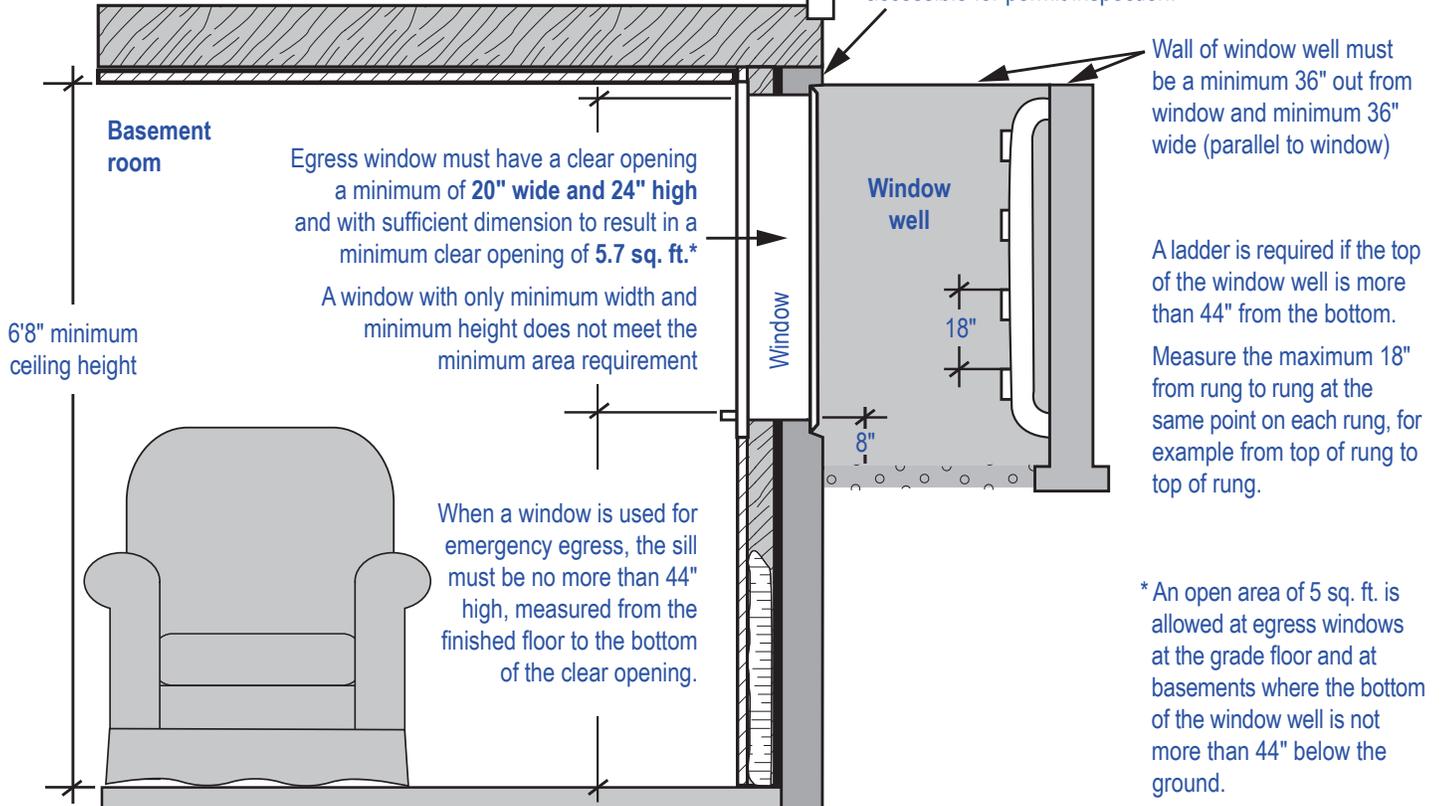
- A railing attached across the front of a window with restricted openings as described above may be installed to provide the fall protection.
- Fall prevention window opening restrictions may not reduce the minimum net clear opening of required egress windows.
- Note that any fall prevention devices installed on egress windows must be identified as being in compliance with ASTM F2090 standard. Specific requirements can be found in the Oregon Specialty Code, section R612.2-612.3. View Oregon Building Codes online at www.oregon.gov/BCD.

Windows for emergency egress must have a clear opening a minimum of 5.7 sq. ft. in area*

Area of clear opening



Plans should clearly show the proposed header condition and any structural alterations if the original basement window opening is widened to accommodate egress window dimensions. Note the framing must remain accessible for permit inspection.



* An open area of 5 sq. ft. is allowed at egress windows at the grade floor and at basements where the bottom of the window well is not more than 44" below the ground.

Good to know

- The 5.7 square feet of clear opening required for an emergency egress window is based on the space necessary for a fully-equipped firefighter wearing oxygen tanks to gain entry in the event of an emergency, and to allow an occupant to escape.
- U-factor is a measure of how well heat is transferred by the entire window assembly, either into or out of the building. The insulating value is indicated by the R-value which is the inverse of the U-factor. The lower the U-factor, the greater a window's resistance to heat flow and the better its insulating value.
- Solar Heat Gain Coefficient measures how well a window blocks heat caused by sunlight. The lower a window's solar heat gain coefficient, the less solar heat it transmits.
- Visible Transmittance measures how much visible light comes through a window. The higher the visible transmittance, the more light is transmitted.
- Air Leakage is indicated by an air leakage rating expressed as the equivalent cubic feet of air passing through a square foot of window area (cfm/sq. ft.). Heat loss and gain occur by infiltration through cracks in the window assembly.
- Condensation Resistance (CR) measures the ability of a window to resist the formation of condensation on the interior surface. The higher the CR rating, the better it is at resisting condensation formation.
- If you have any questions or concerns about your project, check with staff in the DSC about zoning and building requirements.

Contact Us

Bureau of Development Services
 City of Portland, Oregon
 1900 SW 4th Avenue, Portland, OR 97201
www.portland.gov/bds

Office Hours:

Monday through Friday, 8 a.m. to 5 p.m.
 BDS main number: 503-823-7300

Permit Information is available at the following location:

- Development Services Center (First Floor)
 For Hours Call 503-823-7310 or visit www.portland.gov/bds
- Permitting Services (Second Floor)
 For Hours Call 503-823-7310 or visit www.portland.gov/bds

Important Telephone Numbers

BDS main number	503-823-7300
DSC automated information line.....	503-823-7310
Permit information for electrical, mechanical, plumbing, sewer and signs.....	503-823-7363
Building code information	503-823-1456
Planning and Zoning information	503-823-7526
Permitting process and fee information	503-823-7357
Permit resources and records	503-823-7660
Residential information for one and two family dwellings....	503-823-7388
BDS 24-hour inspection request line (requires IVR number and three-digit inspection code)	503-823-7000
Oregon Relay Service	711

For more detailed information regarding the bureau's hours of operation and available services:

**VISIT OUR WEBSITE:
WWW.PORTLAND.GOV/BDS**

Note: All information in this brochure is subject to change.

Traducción e interpretación | Chuyển Ngữ hoặc Phiên Dịch | 翻译或传译
 Turjumida ama Fasiraadda | 翻訳または通訳 | Письменный или устный перевод
 Traducere sau Interpretare | 번역 및 통역 | الترجمة التحريرية أو الشفوية |
 ການແປພາສາ ຫຼື ການອະທິບາຍ | Письмовий або усний переклад

 503-823-7300  BDS@PortlandOregon.gov  www.portland.gov/bds/brochures-forms/translated-brochures-forms

The City of Portland is committed to providing meaningful access. For accommodations, modifications, translation, interpretation, or other services, please call **503-823-7300** or the **Oregon Relay Service** at **711**.