



Residential Design Criteria

Bulletin 12

Division of Building, Safety, and Inspection for 2018 International Codes

This bulletin establishes the design criteria used in designing buildings using the current International Residential Code (IRC). This is referred to as the “prescriptive” method.

It is the responsibility of the property owner to verify all design criteria for their specific build site.

Table R301.2(1)

Ground Snow Load	Wind Design		Seismic Design Category	Subject to Damage From			Winter Design Temp	Ice Barrier Under-Layment Required	Flood Hazard	Air Freezing Index	Mean Annual Temp
	Speed (mph)	Topographic Effects		Weathering	Frostline Depth	Termite					
See below	110 Mph Ult	No	D1 / D2	Moderate	See below	Slight to Moderate	26	No	Ask Dev Eng	50	50

Table items above in **bold** vary depending on your location. Read below for more information.

Ground Snow Loads

- All structural tables in the International Residential Code (IRC) have a minimum ground snow load of 30 pounds per square foot (PSF). Pierce County requires construction designed to comply with the prescriptive IRC to meet this.
- If plans are designed by engineer using the International Building Code (IBC) then a minimum ground snow load of 25psf may be used.
- Higher elevations (above 700 feet, PCC 17C.20.170) may have a higher snow load.
- Ground snow loads greater than 70psf require structural calculations prepared by a WA state registered engineer (2018 IRC section R301.2.3).

Wind Design Criteria

- 110 mph Ultimate with a 3-second gust.
- Exposure B shall be assumed unless the site meets the definition of another type.

Exposure A: Not used for residential construction.

Exposure B: Urban and suburban areas, wooded areas, or other terrain with numerous closely spaced obstructions having the size of single-family dwellings or larger.

Exposure C: Open terrain with scattered obstructions, including hills or other landscape features generally less than 30 feet extending more than 1,500 feet from the building site in any direction.

Exposure D: Flat, unobstructed areas exposed to wind flowing over open water for a horizontal distance of at least 5000 feet.

Seismic Design Categories

The majority of Pierce County is Category D1. The area of Pierce County abutting Kitsap County (Gig Harbor area) is designated as D2 on the IRC map. However, by calculation the increase in seismic acceleration is only 1.5% more than D1.

Soil Site Class

All of Pierce County will be assumed to be soil Site Class D, unless a geotechnical evaluation is required from Development Engineering. In this case, the findings of the professional evaluation will set the soil site class and related seismic information. This report must be turned in with the building application.

Soil Load-Bearing Values

Assume 1,500 pounds per square foot (PSF) unless a soils report from a licensed geotechnical engineer is provided.

Frost Depth

All low-land areas have a frost depth of 12 inches below grade. Higher elevations will have a deeper frost depth. Check "About My Property" feature on our website or with Building technical support for your specific project.

About My Property

<https://pals.piercecountywa.gov/palsonline/#/AboutMyProperty>

***Site specific snow loads do not apply to your minimum required design criteria.*

***This website provides approximate information only and does not guarantee validity.*