

Larimer County Structural Design Information

2018 International Residential Code (IRC)

Homes and accessory buildings may be constructed per the prescriptive requirements of the IRC. The IRC has no prescriptive structural design tables for ground snow loads exceeding 70 psf or for Ultimate Design Wind Speeds equal to or exceeding 140 mph. Designs for such sites may instead use the International Building Code (IBC), ASCE Minimum Design Loads for Buildings and Other Structures (ASCE 7-16), the AF&PA Wood Frame Construction Manual, AISI Standard (S230) for Cold-Formed Steel Framing - Prescriptive Method for One- and Two-Family Dwellings, ICC Standard (400-12) on the Design and Construction of Log Structures, or ICC Standard (600-14) for Residential Construction in High-Wind Regions. See below for design values.

Exception: Loafing sheds and pole barns may be constructed per Larimer County Prescriptive Design Standards.

2018 International Building Code (IBC)

1608.2 Ground Snow Loads

The design ground snow load shall comply with the Colorado Design Snow Loads Report and Map, published by the Structural Engineers Association of Colorado (dated May 6, 2015) or the table below. The design roof snow load values shall be determined from Section 1608 of the IBC, including all applicable factors, and loading and drifting considerations of ASCE 7, Chapter 7, but in no case shall the final design roof snow load be less than a uniformly distributed load of 30 psf.

Exception: Heated greenhouses meeting specific criteria may take the full load reductions allowed per ASCE 7.

Ground Elevation does not exceed (feet)	Ground Snow Load P_g (psf)
5,000	35
6,000	45
6,500	50
7,000	60
8,000	70
9,000	100
10,000	140

Ground Snow Load Table Notes:

Ground snow load (p_g) may be linearly interpolated between tabulated values. For ground elevations above 10,000 feet, the ground snow load (P_g) shall be determined from the SEAC Snow Loads Report and Map noted above.

1609 Wind Loads

Minimum Basic Design Wind Speeds (V) vary between 115 and 225 mph. Wind exposure category shall be Exposure C unless designated otherwise by the design professional based on site-specific conditions and approved by the building official. Basic Design Wind Speed for a project shall comply with the Colorado Front Range Gust Map – ASCE 7-10 Compatible, published by the Structural Engineers Association of Colorado (dated 11/18/13) or the Larimer County Ultimate/Basic Design Wind Speed Map. See our [interactive winds map](#) for wind speeds, snow loads and other site-specific design criteria.

1611. 1 Design Rain Loads

The design rainfall shall be based on the 100-year hourly rainfall rate indicated in Figure 1611.1 or on other rainfall rates determined from *approved* local weather data.

1612 Flood Loads

Building construction within Flood Plain Overlay Zone Districts established in the Larimer County Land Use Code Section 4.2.2 shall comply with the requirements of LUC 4.2.2.

1613 Earthquake Loads. Except as noted below, seismic design values shall be determined from Section 1613 of the IBC. Site-specific seismic design values shall be determined from the USGS website

<http://earthquake.usgs.gov/designmaps/us/application.php>

For Risk categories I & II, the following values may be used for design:

0.2 second spectral response acceleration $S_s = 0.229g$, Site Class D, Seismic Design Category B

1.0 second spectral response acceleration $S_1 = 0.068g$, Site Class D, Seismic Design Category B

1809.5 Frost protection

Except where otherwise protected from frost, foundations and other permanent supports of buildings and structures shall be protected from frost by **extending a minimum of 30 inches below grade.**