



PLANNING AND DEVELOPMENT SERVICES

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PDS	Document Number
	#301

Currently Adopted Building Codes

Rev. 1/2022

Revised and updated to apply to projects submitted on or after January 1, 2021. (Mass Timber January 1, 2022)

- 2018 *International Building Code (IBC)* (Including Appendix H – Signs and Appendix J - Grading) Mass Timber Provisions only of the 2021 IBC
- 2018 *International Existing Building Code (IEBC)*
- 2018 *International Residential Code (IRC)*, parts I through IV and IX, (Including Appendix Q – Tiny Houses and Appendix S – Strawbale Construction)
- 2018 *International Energy Conservation Code (IECC)*
- 2017 *Idaho State Plumbing Code* (Including Chapter 13 – Medical Gas); based on the 2015 *Uniform Plumbing Code (UPC)*
- 2017 *National Electrical Code (NEC)*
- 2018 *International Fire Code (IFC)* (Including Appendices B, C, D, F and L) (2019 NFPA 13 and 2019 NFPA 72 Standards)
- (Voluntary – not required) 2012 *International Green Construction Code (IgCC)* (Including Appendix A – Project Electives)
- International Code Council Free Online Library link - <https://codes.iccsafe.org/codes/i-codes>
- City Code (See Title 9 Building Codes and Regulations) link - <https://citycode.cityofboise.org/>

Mechanical Codes

Commercial projects and all residential projects with more than two units:

- 2018 *International Mechanical Code (IMC)* (Including Appendix A)
- 2018 *International Fuel Gas Code (IFGC)* (Including Appendices A, B, C, and D)

Residential projects with one-or-two-family dwellings:

- 2018 *International Residential Code (IRC)* (parts V, VI and Appendices A, B, C, and D)

2018 IBC Basic Design Criteria

- **Ground Snow Load = 20 psf** (p_g)
- **Uniform Roof Snow Load = 25 psf** (p_m) Local amendment language, including clarification on drifting, to IBC Sections 1605.2, 1605.3.1, 1608.1 and 1608.2 can be viewed in City Code at link above.
- **Basic Design Wind Speed (3-second gust)** Using IBC Figures 1609.3(1), 1609.3(2), 1609.3(3) and 1609.3(4). Exposure category per IBC Section 1609.4.
- **Frost Depth = 24 inches minimum** (local amendment to IBC)
- **Rainfall Rate = 1 inch per hour minimum** (per Idaho State Plumbing Code and IBC Section 1611)
- **Earthquake Loads** (IBC Section 1613)

Use this basic procedure to determine the Seismic Design Category:

Step 1: Determine the mapped maximum considered earthquake spectral response acceleration at short periods (S_s), and at 1-second period (S_1), for the site location from IBC Figures 1613.2.1(1) through 1613.2.1(8).

Step 2: Determine the (soil) site class in accordance with ASCE 7.

Step 3: Determine the site coefficients F_a and F_v from IBC Tables 1613.2.3(1) and 1613.2.3(2), respectively.

Step 4: Determine the 5-percent damped design spectral response acceleration at short periods (S_{DS}) and at 1-second period (S_{D1}) as follows:

$$S_{DS} = (2/3)(S_{MS})$$

$$S_{D1} = (2/3)(S_{M1})$$

Step 5: Determine the seismic design category as prescribed by IBC Tables 1613.2.5(1) and 1613.2.5(2). The highest of the seismic design categories from the two tables is the category assigned to the building, unless Section 1613.2.5.1 is applicable.

2018 IRC Climatic and Geographic Design Criteria (One-And-Two-Family Dwellings)

TABLE R301.2(1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD^o: 20 PSF.

Design roof load shall not be less than a uniform snow load of 25 psf.

WIND DESIGN SPEED^d (mph): 90

Wind speed from the basic wind speed map [Figure R301.2(5)A]. Wind exposure category shall be determined in accordance with Section R301.2.1.4.

WIND DESIGN TOPOGRAPHIC EFFECTS^k: NO

In accordance with Section R301.2.1.5.

SEISMIC DESIGN CATEGORY^f: C

In accordance with Section R301.2.2.1.

WEATHERING^a: Severe

As determined from the Weathering Probability Map [Figure R301.2(4)]. The grade of masonry units shall be determined from ASTM C34, C55, C62, C73, C90, C129, C145, C216 or C652.

FROST LINE DEPTH^b: 24 inches

TERMITE^c: Slight to Moderate

Based on history of local subterranean termite damage.

WINTER DESIGN TEMP^e: 10 degrees F

The outdoor design dry-bulb temperature shall be selected from the columns of 97¹/₂ percent values for winter from Appendix D of the International Plumbing Code or as determined by the Building Official.

ICE BARRIER UNDER LAYMENT REQUIRED^h: NO

In accordance with Sections R905.2.7, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming.

FLOOD HAZARDS^g: First Floodplain Ordinance for the City of Boise City became effective December 12, 1983. Flood Insurance Study (FIS) June 19, 2020. Panel numbers (all with a date of June 19, 2020) are: 0160 J, 0161 J, 0162 J, 0166 J, 0167 J, 0169 J, 0178 J, 0186 J, 0187 J, 0188 J, 0189 J, 0193 J, 0254 J, 0258 J, 0259 J, 0265 J, 0267 J, 0270 J, 0276 J, 0277 J, 0281 J, 0282 J, 0283 J, 0284 J, 0286 J, 0287 J, 0291 J, 0295 J, 0305 J, 0315 J. The adopted flood hazard map and supporting data are hereby adopted by reference and declared to be part of this section.

AIR FREEZING INDEXⁱ: 894

Based on the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99%) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32° Fahrenheit)" at <https://www.ncdc.noaa.gov/sites/default/files/attachments/Air-Freezing-Index-Return-Periods-and-Associated-Probabilities.pdf>.

MEAN ANNUAL TEMP^j: 51.1 degrees F

Based on the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)" at <https://www.ncdc.noaa.gov/sites/default/files/attachments/Air-Freezing-Index-Return-Periods-and-Associated-Probabilities.pdf>.

MANUAL J DESIGN CRITERIAⁿ:

Elevation: 2867	Latitude: 44 deg. N.	Winter heating: 11 deg.
Summer cooling: 95 deg.	Altitude correction factor: .98	Indoor design temperature: Heating-70 deg.
Design temperature cooling: 75 deg.	Heating temperature difference: 60 deg.	Cooling temperature difference: 20 deg.
Wind velocity heating: 15.0	Wind velocity cooling: 7.5	Coincident wet bulb: 63 deg.
Daily range: High	Winter humidity: 50%	Summer humidity: 50%

Footnotes published underneath Table R301.2(1) in the code are applicable.