



DESIGN CRITERIA

The City of Eagle Mountain's Building Division uses the following design criteria when reviewing projects submitted for a building permit within City limits.

1. Building codes: The Building Division enforces the following building codes with State amendments.

- 2024 International Building Code
- 2021 International Residential Code
- 2024 International Plumbing Code
- 2024 International Mechanical Code
- 2024 International Fuel Gas Code
- 2024 International Energy Conservation Code* *as amended by the State
- 2024 International Existing Building Code
- 2024 International Fire Code
- 2023 National Electric Code
- ICC A117.1-2009- Accessibility Standard

2. Snow loads:

- a) Residential: determined using the following website: <https://utahsnowload.usu.edu/>
- b) Commercial: Ground snow loads shall be determined using the ASCE Hazard Tool. <http://ascehazardtool.org/>
- c) Roof Snow loads:
 - Shall be determined per Chapter 7 of ASCE 7-22.
 - At locations where the roof snow load exceeds 45psf, a percentage of the snow load must be considered in the effective seismic weight of the structure per Section 15A-3-107 of the Utah Amended Code.

3. Wind:

- a) Speed: All wind speeds listed below are 3-second gust at 33 feet above the ground.
 - Residential: 100 - 105 mph
 - Accessory buildings: 115 mph
 - Commercial
 - Risk Category I = 95 - 100 mph (see IBC Figure 1609.3(1))
 - Risk Category II = 100 - 105 mph (see IBC Figure 1609.3(2))
 - Risk Category III = 105 - 110 mph (see IBC Figure 1609.3(3))
 - Risk Category IV = 110 - 115 mph (see IBC Figure 1609.3(4))

Site specific wind speeds can be obtained from the ASCE Hazard Tool.

<http://ascehazardtool.org/>

- b) Exposure: Site specific (per Section 1609.4 of the IBC). Assumed to be "C" unless justified.

4. Seismic:

a) Seismic Design Category:

- Residential: D2
- Commercial: D
- Site-specific: Because ground motions tend to vary substantially throughout the city, the mapped and design ground motions (SS, SDS, S1, SD1) should be obtained by considering the site-specific address or latitude and longitude values and obtaining the ground motions from the ASCE Hazard Tool.

<https://ascehazardtool.org/>

5. Soils:

- a) Frost Depth: 30 inches.
- b) Site Class: Site specific. See geotechnical report for site class.
- c) Commercial Soils Reports: Site-specific soils report required for all new buildings. (Must be updated within 2 years of permit submittal)
- d) Residential Soils Reports: Observation report required for each lot. (Excludes accessory buildings)

6. Flood hazards: see flood map.

- a) Flood Hazard Areas: see <https://floodhazards.utah.gov/mapping/>
- b) Residential: Buildings and structures located in flood hazard areas (i.e. Flood Zones A or V) must comply with IRC R322.
- c) Commercial: Buildings and structures located in flood hazard areas must comply with IBC 1612, Chapter 5 of ASCE 7-22 and ASCE 24-14.
- d) Floodways: Buildings and structures located in identified floodways must be designed and constructed in accordance with ASCE 24-14.

7. Rainfall:

- a) Rainfall intensity: 4.06 in/h (15-minute duration storm)
- b) Design storm: 100 years for risk category I & II, 200 years for risk category III and 500 years for risk category IV. 9 see IBC Table 1611.11

8. Climate zone: 5b

9. Weathering: severe

10. Termite: none to slight

11. Winter design temp: 0°f

12. Summer design temp: 98° f

13. Ice shield underlayment: yes

14. Air freezing index: ≤ 1000

15. Mean annual temp: 45°f