Design Loads

The City of Vancouver adopted Codes (effective July 1, 2016)

*Please note the 2018 I-Codes with Washington Amendments will be in effect starting July 1, 2020*

The Washington State Building Code is comprised of the model code editions listed below with Washington State Amendments.

WA Amendments may be downloaded from the Washington State Building Code Council (https://fortress.wa.gov/ga/apps/sbcc/default.aspx)

The minimum design loads are as follows:

<table>
<thead>
<tr>
<th>Snow Load</th>
<th>Wind</th>
<th>Seismic Design Category</th>
<th>Subject to Damage</th>
<th>Design Temp.</th>
<th>Ice Shield Req’d</th>
<th>Flood Hazards</th>
<th>Air Freezing Index</th>
<th>Mean Annual Temp</th>
<th>Soil Bearing Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 psf *</td>
<td>See table below</td>
<td>Residential: D1 Commercial: D**</td>
<td>Moderate 12&quot; Min Slight to Moderate Slight to Moderate</td>
<td>Winter 22 °F Summer 88 °F</td>
<td>N/A</td>
<td>Based on FEMA maps</td>
<td>N/A</td>
<td>50 °F</td>
<td>1500 psf ***</td>
</tr>
</tbody>
</table>

* Ground snow load shall be 25 psf. Roof minimum snow load shall be 25 psf minimum regardless of slope (unreducible).
* Drift calculations are as required by ASCE 7-10 Chapter 7.
** Commercial seismic design parameters for specific sites shall be determined based upon zip-code or latitude and longitude using the web tool developed by the United States Geologic Survey located at: https://earthquake.usgs.gov/designmaps/us/application.php
*** Higher design bearing pressures may be used when based on a current, site-specific Geotechnical Report

Wind Speed Table

<table>
<thead>
<tr>
<th>Risk Occupancy Category (ASCE 7-10 Table 1.5.1)</th>
<th>3-Second Gust Wind Speed (rounded to the nearest 5 mph)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential (IRC) &amp; Commercial (IBC) - II</td>
<td>Vult = 135 mph</td>
</tr>
<tr>
<td>Commercial (IBC) - III, IV</td>
<td>Vult = 145 mph</td>
</tr>
</tbody>
</table>

⇒ Exposure B unless a higher exposure is warranted by surrounding site conditions.
⇒ All structures within 1500 feet of the Columbia River are Exposure C and shall be based on specific site location and conditions.
⇒ Cell towers (TIA-222-G) and flag poles (NAAMM FP 1001-07) shall be designed using the following two load cases:
  1. Vult = 135 mph (Vasd = 105 mph) without ice / 2. Vult = 40 mph (Vasd = 30 mph), with 1.25” radial ice thickness

Decks and Balconies, Minimum Uniform Live Load (Washington amended requirements):

Residential (IRC) - 60 psf live load (WAC 51-51-R301.5). Refer to WA building code interpretation No. 16-11 for guidance.
Commercial (IBC) - 1.5 x live load of the area served. Not required to exceed 100 psf (WAC 51-50-1607.1)

Rainfall: 1.4 in/hr, Maximum rate of rainfall storm drainage for 60 minute duration, 100-year return (per jurisdiction)