

Design Loads & Codes



THE CITY OF VANCOUVER ADOPTED CODES (effective February 1, 2021)

March 15, 2024 Anticipated effective date for the 2021 building codes & ANSI A117.1-2017

2018 International Building Code (IBC) w/ WAC 51-50	2018 Washington State Energy Code, Commercial WAC 51-11C
2018 International Residential Code (IRC) w/ WAC 51-51	2018 Washington State Energy Code, Residential WAC 51-11R
2018 International Existing Building Code w/ WAC 51-50-480000	2018 International Fuel Gas Code w/ WAC 51-52-21000
2018 International Mechanical Code w/ WAC 51-52	2018 International Fire Code w/ WAC 51-54A
2020 National Electrical Code (Eff. 10/29/2020)	ICC/ANSI A117.1-2009 Accessibility w/ WAC 51-50-1101.2
2018 Uniform Plumbing Code w/ WAC 51-56	Vancouver Municipal Code Title 17
2018 International Swimming Pool and Spa Code	Washington State Water Conservation Code
ASCE/SEI 7-16 Minimum Design Loads & Associated Design Criteria	Washington State Amendments available https://sbcc.wa.gov

MINIMUM DESIGN LOADS

SNOW		WIND	
Ground Snow load up to 150 ft	20 psf	Risk Occupancy Category (Table 1604.5)	3-Second Gust Wind
Ground Snow load over 150 ft	25 psf	Residential (IRC) & Commercial (IBC) II	V = 97 mph
Roof Snow load (regardless of slope)	25 psf Minimum	Commercial (IBC) III	V = 103 mph
Drift calculations as required by ASCE 7-16 Chapter 7		Commercial (IBC) IV	V = 107 mph
SEISMIC DESIGN CATEGORY	Residential : D1 Commercial: D	Exposure Category based on site specific conditions	
<i>Seismic upgrade may be required for existing buildings due to change of use/occupancy, addition or alteration.</i>		Exposure B minimum	
		Exposure C All structures within 1500 feet of the Columbia River	
SOIL BEARING PRESSURE	1500 psf or Site-specific Current Geotechnical Report	CELL TOWERS (TIA-222-G-2017)	
FLOOD	FEMA Maps	FLAG POLES (NAAMM FP 1001-07)	
DESIGN TEMP	WINTER 22 °F SUMMER 88 °F	V = 97 mph (V _{asd} = 75 mph) without ice	
MEAN ANNUAL TEMP	50 °F	V _c & radial ice thickness based on ASCE 7-16 Figure 10.4-5.	
ICE SHIELD & AIR FREEZING INDEX	N/A	DECKS & BALCONIES	
SUBJECT TO DAMAGE:		UNIFORM LIVE LOAD	
TERMITE	Slight to Moderate	RESIDENTIAL (IRC)	60 psf Minimum
FROST	12" Min	WAC 51-51-R301.5 SBCC Interpretation No. 16-11	
DECAY	Slight to Moderate	COMMERCIAL (IBC)	1.5 x live load of area served. Not to exceed 100 psf
WEATHER	Moderate	IBC Table 1607.1 item 5	
		RAINFALL	1.4 in/hr
		Maximum rate of rainfall storm drainage for 60 minute duration, 100 year hourly rate	

All other loading per 2018 IRC Chapter 3 or 2018 IBC Chapter 16 as applicable.