



Certificate of Design Application

From Designer: Grant Hays Associates - Michael F. Hays, Architect

Date: 6/23/15

Job Name: 48 Wilmot Street 15 Unit Apartment Building

Address of Construction: 48 Wilmot Street, Portland, Maine

2009 International Building Code

Construction project was designed to the building code criteria listed below:

Building Code & Year 2009 Use Group Classification (s) _____

Type of Construction VB

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2009 IRC Yes - NFPA 13R

Is the Structure mixed use? No If yes, separated or non separated or non separated (section 302.3) Not Applicable

Supervisory alarm System? Yes Geotechnical/Soils report required? (See Section 1802.2) Not Applicable

Structural Design Calculations

Yes Submitted for all structural members (106.1 - 106.11)

Design Loads on Construction Documents (1603)

Uniformly distributed floor live loads (7603.11, 1807)

Floor Area Use	Loads Shown
Common Areas	100.0 psf
Floors: Residential	40.0 psf

Wind loads (1603.1.4, 1609)

Method 1 Design option utilized (1609.1.1, 1609.6)

110 mph Basic wind speed (1809.3)

CA#1.1.00 Building category and wind importance Factor, I_w (table 1604.5, 1609.5)

B Wind exposure category (1609.4)

0.18 Internal pressure coefficient (ASCE 7)

18.0 Component and cladding pressures (1609.1.1, 1609.6.2.2)

25.0 Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

Simplified Design option utilized (1614.1)

1 Seismic use group ("Category")

.257 & .125 Spectral response coefficients, S_D s & S_{D1} (1615.1)

D Site class (1615.1.5)

None Live load reduction

45.0 psf Roof *live* loads (1603.1.2, 1607.11)

45.0 psf Roof snow loads (1603.7.3, 1608)

60.0 psf Ground snow load, P_g (1608.2)

45.0 psf If $P_g > 10$ psf, flat-roof snow load P_f

0.9 If $P_g > 10$ psf, snow exposure factor, C_e

1.0 If $P_g > 10$ psf, snow load importance factor, I_s

1.0 Roof thermal factor, C_t (1608.4)

n/a Sloped roof snowload, P_s (1608.4)

B Seismic design category (1616.3)

Shear Walls Basic seismic force resisting system (1617.6.2)

6.5 & 4.0 Response modification coefficient, R , and deflection amplification factor C_d (1617.6.2)

Load Analysis Analysis procedure (1616.6, 1617.5)

101 Kips Design base shear (1617.4, 16175.5.1)

Flood loads (1803.1.6, 1612)

n/a Flood Hazard area (1612.3)

n/a Elevation of structure

Other loads

2,000# Concentrated loads (1607.4)

n/a Partition loads (1607.5)

n/a Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)