Certificate of Design Application

From Designer: Dan Green Engineering

Date: 2/8/16

Job Name: Portland Retirement Residence

Address of Construction: 802 Ocean Avenue, Portland, ME 04103

2009 International Building Code

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

Building Code & Year 2009 IBC Use Group Classification (s) I-1, A-2, A-3, B

Type of Construction VA

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

Is the Structure mixed use? Yes If yes, separated or non separated or non separated (section 302.3) Both

Supervisory alarm System? Yes Geotechnical/Soils report required? (See Section 1802.2) Yes

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
Living Units	40 psf
Offices	50 psf
Common Areas	100 psf
Storage Areas	125 psf

Wind loads (1603.1.4, 1609)

MWFRS-Method 1 Design option utilized (1609.1.1, 1609.6)

100 MPH Basic wind speed (1809.3)

1.0 Building category and wind importance Factor, I_w table 1604.5, 1609.5)

B Wind exposure category (1609.4)

+0.18/-0.18 Internal pressure coefficient (ASCE 7)

20.2 psf/-.21.8 psf Component and cladding pressures (1609.1.1, 1609.6.2.2)

16.3 psf Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

Equivalent lateral force procedure Design option utilized (1614.1)

B Seismic use group ("Category")

.253/.087 Spectral response coefficients, SDs & SD1 (1615.1)

C Site class (1615.1.5)

0 Live load reduction

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

40 psf Roof snow loads (1603.7.3, 1608)

50 psf Ground snow load, P_g (1608.2)

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

1.0 If P_g > 10 psf, snow exposure factor, C_e

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

1.1 Roof thermal factor, C_t (1608.4)

40 psf Sloped roof snowload, P_s (1608.4)

B Seismic design category (1616.3)

Wood SW's Basic seismic force resisting system (1617.6.2)

6.5 Response modification coefficient, R_I and deflection amplification factor C_d (1617.6.2)

Analysis procedure (1616.6, 1617.5)

.039xW Design base shear (1617.4, 16175.5.1)

Flood loads (1803.1.6, 1612)

- Flood Hazard area (1612.3)

- Elevation of structure

Other loads

- Concentrated loads (1607.4)

- Partition loads (1607.5)

- Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404