Certificate of Design Application

From Designer: Ryan Senatore Architecture

Date: 11/3/15

Job Name: 667 Congress Street Apartments

Address of Construction: 667 Congress Street, Portland, ME 04102

2009 International Building Code

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

Building Code & Year MUBEC/IBC 2009 Use Group Classification (s) R-2, S-2, M

Type of Construction 1B (Non-Combustible)

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) Separated

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

Structural Design Calculations

-- 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
Residential & Corridors Serving	40 psf
Public & Corridors Serving	100 psf
1st Flr Retail	125 psf

Wind loads (1603.1.4, 1609)

Analytical Design option utilized (1609.1.1, 1609.6)

100 mph Basic wind speed (1809.3)

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

C Wind exposure category (1609.4)

0.18 Internal pressure coefficient (ASCE 7)

35psf / 60psf Component and cladding pressures (1609.1.1, 1609.6.2.2)

14.3-21 : 12.9psf Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

Equiv. Lateral Force Design option utilized (1614.1)

II/1.0 Seismic use group ("Category")

.210/.051 Spectral response coefficients, SDs & SD1 (1615.1)

B Site class (1615.1.5)

as applicable Live load reduction

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

42 flat + drift Roof snow loads (1603.7.3, 1608)

60 Ground snow load, P_g (1608.2)

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

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

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

1.0 Roof thermal factor, C_t (1608.4)

-- Sloped roof snowload, P_s (1608.4)

B Seismic design category (1616.3)

H Basic seismic force resisting system (1617.6.2)

R=3, Cd=3 Response modification coefficient, R_I and deflection amplification factor C_d (1617.6.2)

Equiv. Lateral Force Analysis procedure (1616.6, 1617.5)

235k Design base shear (1617.4, 16175.5.1)

Flood loads (1803.1.6, 1612)

None Flood Hazard area (1612.3)

118 Elevation of structure

Other loads

see plans Concentrated loads (1607.4)

15psf Partition loads (1607.5)

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