Certificate of Design Application

From Designer: JEFFREY S. NAWROCKI, P.E.

Date: 05/07/10

Job Name: HOTEL, RESTAURANT, AND PORTSIDE RESIDENCES

Address of Construction: 207 - 209 FORE STREET, PORTLAND, MAINE

2003 International Building Code

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

Building Code & Year IBC 2003** Use Group Classification (s) HOTEL R-1, RESIDENTIAL R-2, OFFICE B, RESTAURANT A-2, POOL/CONF.RM A-3

Type of Construction IB - STRUCTURAL STEEL, STEEL JOISTS, CONCRETE SLABS, MASONRY VENEER

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 ~~IRC~~ YES (IBC 2003)

Is the Structure mixed use? YES If yes, separated or non separated or non separated (section 302.3) NON-SEPARATED

Supervisory alarm System? YES Geotechnical/Soils report required? (See Section 1802.2) YES (REPORT PROVIDED)

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
Public (1st/2nd)	100 PSF
Private/Residence	40 PSF
Corridor 2nd Flr	100 PSF
Corridor Upper Flrs	40 PSF (serve 40 PSF areas)
Stairs	100 PSF | 300#

Wind loads (1603.1.4, 1609)

1609.1.1 Design option utilized (1609.1.1, 1609.6)

100 MPH Basic wind speed (1809.3)

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

Exp. C Wind exposure category (1609.4)

± 0.18 Internal pressure coefficient (ASCE 7)

P=27|47PSF Component and cladding pressures (1609.1.1, 1609.6.2.2)

P= 22PSF Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

ASCE 7 Design option utilized (1614.1)

II Seismic use group ("Category")

0.32|0.128 Spectral response coefficients, S_{DS} & S_{D1} (1615.1)

D (geotech) Site class (1615.1.5)

Y - varies Live load reduction

20PSF/300# Roof *live* loads (1603.1.2, 1607.11)

39 PSF Roof snow loads (1603.7.3, 1608)

50 PSF Ground snow load, P_g (1608.2)

39 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)

39 PSF Sloped roof snowload, P_s (1608.4)

B Seismic design category (1616.3)

CAT. B *** Basic seismic force resisting system (1617.6.2)

R=3 Cd=3 Response modification coefficient, R_I and

Eqv.Lat.Force deflection amplification factor C_d (1617.6.2)

ASCE 7-05 Analysis procedure (1616.6, 1617.5)

422 KIPS Design base shear (1617.4, 16175.5.1)

Flood loads (1803.1.6, 1612)

NO Flood Hazard area (1612.3)

1st=17.6 FT Elevation of structure

Other loads

200#(scuttle) Concentrated loads (1607.4)

not appl. Partition loads (1607.5)

rails-50psf/200# Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404

**WAIVER REQUESTED (03/30/10) FOR IBC 2006 SEISMIC PROVISIONS

*** STRUCTURAL STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE