



Certificate of Design Application

From Designer: David Webster (Architect) and Dave Tetrault (Structural Engineer)
 Date: 10 April 2013
 Job Name: OA MRI Renovation & Expansion
 Address of Construction: 33 Sewall Street

2009 International Building Code

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

Building Code & Year IBC 2009 Use Group Classification (s) Business (also I-2 exg in bldg)
 Type of Construction Type II B (existing, assumed) & Type IIB new
 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) _____

Structural Design Calculations

n/a 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
<u>office area</u>	<u>50 psf</u>
_____	_____
_____	_____
_____	_____

Wind loads (1603.1.4, 1609)

ASCE 7-05 Design option utilized (1609.1.1, 1609.6)

100 mph Basic wind speed (1809.3)

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

B Wind exposure category (1609.4)

n/a Internal pressure coefficient (ASCE 7)

+18, -19.5 psf Component and cladding pressures (1609.1.1, 1609.6.2.2)

n/a Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

n/a Design option utilized (1614.1)

n/a Seismic use group ("Category")

n/a Spectral response coefficients, S_D & S_{D1} (1615.1)

n/a Site class (1615.1.5)

n/a Live load reduction

n/a Roof *live* loads (1603.1.2, 1607.11)

_____ Roof snow loads (1603.7.3, 1608)

60 psf Ground snow load, P_g (1608.2)

42 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

1.0 Roof thermal factor, C_t (1608.4)

n/a Sloped roof snowload, P_s (1608.4)

n/a Seismic design category (1616.3)

n/a Basic seismic force resisting system (1617.6.2)

n/a Response modification coefficient, R , and deflection amplification factor, C_d (1617.6.2)

n/a Analysis procedure (1616.6, 1617.5)

n/a Design base shear (1617.4, 1617.5.1)

Flood loads (1803.1.6, 1612)

_____ Flood Hazard area (1612.3)

_____ Elevation of structure

Other loads

n/a Concentrated loads (1607.4)

20 psf Partition loads (1607.5)

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