



Certificate of Design Application

From Designer: Stantec Consulting Services Inc. & Affiliates
 Date: 08/11/2016
 Job Name: ImmuCell Corp. - Unit 11
 Address of Construction: 33 Caddie Lane - Unit 11, Portland, ME 04103

2009 International Building Code

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

Building Code & Year IBC-2009 Use Group Classification (s) B, F-1, H-2, H-3, H-4 & S-1
 Type of Construction Type IIB - Non-Combustible, Unprotected
 Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2009 IBC 903.2.5
 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 - NFPA 13

Structural Design Calculations

See attached 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
Slab on Grade	250 psf
2nd Floor	250 psf
Stairs	100 psf
Platforms	100 psf

Wind loads (1603.1.4, 1609)

ASCE 7 Design option utilized (1609.1.1, 1609.6)
118 mph Basic wind speed (1809.3)
1.0 Building category and wind importance Factor, I_w (table 1604.5, 1609.5)
C Wind exposure category (1609.4)
.18/- .18 Internal pressure coefficient (ASCE 7)
56/-61 psf Component and cladding pressures (1609.1.1, 1609.6.2.2)
Max 43 psf Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

FRAME Design option utilized (1614.1)
C Seismic use group ("Category")
.407 and .18 Spectral response coefficients, S_D & S_{D1} (1615.1)
E Site class (1615.1.5)

Eq. 16-22 Live load reduction
20 psf Roof live loads (1603.1.2, 1607.11)
120 psf drift Roof snow loads (1603.7.3, 1608)
60 psf Ground snow load, P_g (1608.2)
37.8 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)
37.8 psf Sloped roof snowload, P_s (1608.4)
C Seismic design category (1616.3)

Structural Steel Basic seismic force resisting system (1617.6.2)
Equivalent L₁ Response modification coefficient, R , and deflection amplification factor C_{d1} (1617.6.2)
3.25, Equiv. Analysis procedure (1616.6, 1617.5)
C_s = .1252 Design base shear (1617.4, 1617.5.1)

Flood loads (1803.1.6, 1612)

N/A Flood Hazard area (1612.3)
N/A Elevation of structure

Other loads

live controls Concentrated loads (1607.4)
15 psf Partition loads (1607.5)
.8, 7, 10, 11 Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)