



Certificate of Design Application

ASSOCIATED DESIGN PARTNERS, INC

From Designer:

7-25-14

Date:

ALLAGASH FERMENTATION TANK STRUCTURE EXPANSION

Job Name:

50 INDUSTRIAL WAY, PORTLAND MAINE

Address of Construction:

2009 International Building Code

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

Building Code & Year 2009 IBC Use Group Classification (s) Industrial

Type of Construction II

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2009 IBC Y

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

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

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 Production	Loads Shown 125 PSF
Mezzanine and Stairs	100 PSF

Wind loads (1603.1.4, 1609)

ANALYTICAL Design option utilized (1609.1.1, 1609.6)

98 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 Internal pressure coefficient (ASCE 7)

PER ASCE BASED ON EWA Component and cladding pressures (1609.1.1, 1609.6.2.2)

15PSF Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

ASCE 12.8.1 Design option utilized (1614.1)

I Seismic use group ("Category")

0.245 / .125 Spectral response coefficients, S_D & S_{D1} (1615.1)

D Site class (1615.1.5)

NO Live load reduction

20 Roof *live* loads (1603.1.2, 1607.11)

42+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)

NA Sloped roof snowload, P_s (1608.4)

B Seismic design category (1616.3)

OSMF Basic seismic force resisting system (1617.6.2)

(3.5/3) Response modification coefficient, R , and
deflection amplification factor C_{d1} (1617.6.2)

ASCE 12.8.1 Analysis procedure (1616.6, 1617.5)

60.5K / 35.3K Design base shear (1617.4, 1617.5.1)

Flood loads (1803.1.6, 1612)

NA Flood Hazard area (1612.3)

NA Elevation of structure

Other loads

NA Concentrated loads (1607.4)

NA Partition loads (1607.5)

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