



Certificate of Design Application

From Designer: JOHN H. LEASURE, ARCHITECT (L & L STRUCTURAL ENG. SERVICES, INC. JOSEPH H. LEASURE, P.E.)
 Date: 4/26/2013
 Job Name: ETZ CHAIM SYNAGOGUE
 Address of Construction: 267 Congress Street

2009 International Building Code

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

Building Code & Year 2009 IBC Use Group Classification (s) Assembly A3

Type of Construction TYPE V

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2009 ^{IBC} IRC YES

Is the Structure mixed use? No If yes, separated or non separated or non separated (section 302.3) _____

Supervisory alarm System? YES Geotechnical/Soils report required? (See Section 1802.2) NO

Structural Design Calculations

YES Submitted for all structural members (106.1 - 106.11)

Design Loads on Construction Documents (1603)

Floor Area Use	Loads Shown
ASSEMBLY	100 PSF
ASSEMBLY (FIXED SEATS)	60 PSF (3 RD FLR BALCONY)
STAIRS AND EXITS	100 PSF
CORRIDORS	100 PSF

Wind loads (1603.1.4, 1609)

1609.6 Design option utilized (1609.1.1, 1609.6)
100 MPH Basic wind speed (1809.3)
II / 1.0 Building category and wind importance Factor, _{table 1604.5, 1609.5}
C Wind exposure category (1609.4)
+/- 0.18 Internal pressure coefficient (ASCE 7)
+26.0/-28.2 Component and cladding pressures (1609.1.1, 1609.6.2.2)
15.9/24.0 Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

1616.1 Design option utilized (1614.1)
I/C Seismic use group ("Category")
0.36/0.16 Spectral response coefficients, SDs & SD1 (1615.1)
D Site class (1615.1.5)

NA Live load reduction
NA Roof live loads (1603.1.2, 1607.11)
45 PSF Roof snow loads (1603.7.3, 1608)
50 PSF Ground snow load, P_g (1608.2)
45 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)
45 PSF Sloped roof snowload, P_s (1608.4)
C Seismic design category (1616.3)
I, K. Basic seismic force resisting system (1617.6.2)
6.5 Response modification coefficient, R and
4.0 deflection amplification factor, C_d (1617.6.2)
1617.5 Analysis procedure (1616.6, 1617.5)
0.067 W Design base shear (1617.4, 1617.5.1)

Flood loads (1803.1.6, 1612)

NO Flood Hazard area (1612.3)
'71.50' Elevation of structure *See Note 8 on civil Site, Grading & Utility Plans.*

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)