



Certificate of Design Application

Bruce W. MacLeod, PE

From Designer:

Date:

07/19/16

Job Name:

Addition to single family residence

Address of Construction:

45 Birchvale

2009 International Building Code

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

Building Code & Year 2009 IRC Use Group Classification (s) Residential

Type of Construction V

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2009 IRC no

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

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

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	Loads Shown
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

- _____ Live load reduction
- _____ Roof *live* loads (1603.1.2, 1607.11)
- 46psf + drift Roof snow loads (1603.7.3, 1608)
- 60 psf Ground snow load, P_g (1608.2)
- 46 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)
- _____ Sloped roof snowload, P_s (1608.4)
- _____ Seismic design category (1616.3)
- _____ Basic seismic force resisting system (1617.6.2)
- _____ Response modification coefficient, R_f and deflection amplification factor C_d (1617.6.2)
- _____ Analysis procedure (1616.6, 1617.5)
- _____ Design base shear (1617.4, 1617.5.1)

Wind loads (1603.1.4, 1609)

- _____ Design option utilized (1609.1.1, 1609.6)
- _____ Basic wind speed (1809.3)
- _____ Building category and wind importance Factor, I_w , table 1604.5, 1609.5)
- _____ Wind exposure category (1609.4)
- _____ Internal pressure coefficient (ASCE 7)
- _____ Component and cladding pressures (1609.1.1, 1609.6.2.2)
- _____ Main force wind pressures (7603.1.1, 1609.6.2.1)

Flood loads (1803.1.6, 1612)

- _____ Flood Hazard area (1612.3)
- _____ Elevation of structure

Earth design data (1603.1.5, 1614-1623)

- _____ Design option utilized (1614.1)
- _____ Seismic use group ("Category")
- _____ Spectral response coefficients, S_D & S_{DI} (1615.1)
- _____ Site class (1615.1.5)

Other loads

- _____ Concentrated loads (1607.4)
- _____ Partition loads (1607.5)
- _____ Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)



Certificate of Design



Inspections Division
Date: 08/30/16

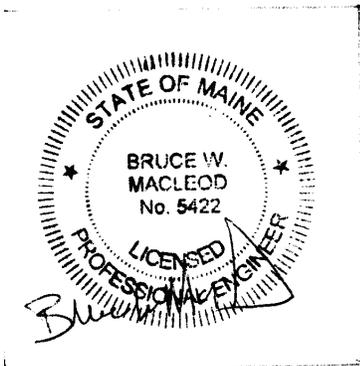
Date: 07/19/2016

From: Bruce W. MacLeod, PE

These plans and / or specifications covering construction work on:

45 Birchvale

Have been designed and drawn up by the undersigned, a Maine registered Architect / Engineer according to the **2009 International Building Code** and local amendments.



Signature: *Bruce W. MacLeod*

Title: Professional Engineer

Firm: MacLeod Structural Engineers, PA

Address: 90 Bridge Street
Westbrook, Maine 04096

Phone: 207-839-0980

For more information or to download this form and other permit applications visit the Inspections Division on our website at www.portlandmaine.gov