



CITY OF PORTLAND
BUILDING CODE CERTIFICATE
389 Congress St., Room 315
Portland, Maine 04101

TO: Inspector of Buildings City of Portland, Maine
Department of Planning & Urban Development
Division of Housing & Community Service

FROM: PAUL B. BECKER, P.E.

RE: Certificate of Design

DATE: 7/13/07

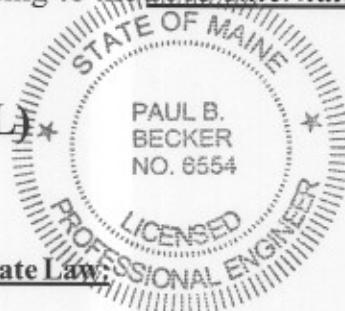
These plans and / or specifications covering construction work on:

SUPERSTRUCTURE FRAMING FOR BAYSIDE VILLAGE

120 MARGINAL WAY, PORTLAND, ME

Have been designed and drawn up by the undersigned, a Maine registered Architect / Engineer according to the 2003 International Building Code and local amendments.

(SEAL)



Signature: [Handwritten Signature]

Title: PRESIDENT

Firm: BECKER STRUCTURAL ENGINEERS

Address: 75 YORK ST
PORTLAND, ME 04101

As per Maine State Law:

\$50,000.00 or more in new construction, repair expansion, addition, or modification for Building or Structures, shall be prepared by a registered design Professional.

BECKER STRUCTURAL ENGINEERS

FROM DESIGNER: CWS ARCHITECTS
 DATE: 6/15/07
 Job Name: BAYSIDE VILLAGE
 Address of Construction: 120 MARGINAL WAY PORTLAND, ME

2003 International Building Code

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

Building Code and Year 2003 IBC Use Group Classification(s) II (TABLE 1604.5) **ALSO SEE ARCH CODE ANALYSIS**
 Type of Construction IA & VA (SEE ATTACHED CODE ANALYSIS)
 Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IRC YES
 Is the Structure mixed use? YES if yes, separated or non separated (see Section 302.3) SEPARATED
 Supervisory alarm system? YES Geotechnical/Soils report required? (See Section 1802.2) YES

STRUCTURAL DESIGN CALCULATIONS
Completed Submitted for all structural members
 (106.1, 106.1.1)

DESIGN LOADS ON CONSTRUCTION DOCUMENTS
 (1603)

Uniformly distributed floor live loads (7603.11, 1607)

Floor Area Use	Loads Shown
<u>RESIDENTIAL</u>	<u>40 PSF</u>
<u>CORRIDORS</u>	<u>100 PSF</u>
<u>PUBLIC SPACES</u>	<u>100 PSF</u>
<u>STAIRS</u>	<u>100 PSF</u>
<u>RETAIL</u>	<u>100 PSF</u>

PER 1607.9 Live load reduction
 (1603.1.1, 1607.9, 1607.10)
SEE SNOW Roof live loads (1603.1.2, 1607.11)

Roof snow loads (7603.7.3, 1608)

60 PSF Ground snow load, P_g (1608.2)

46 PSF If $P_g > 10$ psf, flat-roof snow load, P_f
 (1608.3)

1.0 If $P_g > 10$ psf, snow exposure factor, C_e
 (Table 1608.3.1)

1.0 If $P_g > 10$ psf, snow load importance
 factor, I_s (Table 1604.5)

1.1 Roof thermal factor, C_t (Table 1608.3.2)

N/A Sloped roof snowload, P_s (1608.4)

D Seismic design category (1616.3)

Basic seismic force-resisting system
 (Table 1617.2.2)

Wind loads (1603.1.4, 1609)

ANALYTICAL Design option utilized (1609.1.1, 1609.6)

100 Basic wind speed (1609.3)

II/III Building category and wind importance
 factor, I_m (Table 1604.5, 1609.5)

C Wind exposure category (1609.4)

±0.18 Internal pressure coefficient (ASCE 7)

ASCE 7-02 Component and cladding pressures
 (1609.1.1, 1609.2.2)

17.8 PSF Main force wind pressures (7603.1.1,
 1609.6.2.1)
MAX

Earthquake design data (1603.1.5, 1614-1623)

ELFP Design option utilized (1614.1)

II Seismic use group ("Category")
 (Table 1604.5, 1616.2)

0.522
0.230 Spectral response coefficients, S_{DS} &
 S_{D1} (1615.1)

F Site class (1615.1.5)

SPECIAL CONCENTRIC
BRACED FRAMES

R=6

Cd=5

ELFP

960 K

Response modification coefficient, R ,
 and deflection amplification factor, C_d
 (Table 1617.8.2)

Analysis procedure (1618.6, 1617.5)

Design base shear (1617.4, 1617.5.1)

Flood loads (1603.1.6, 1612)

N/A Flood hazard area (1612.3)

12.0 FT Elevation of structure

Other loads

IBC 2003 Concentrated loads (1607.4)

N/A Partition loads (1607.5)

N/A Impact loads (1607.8)

AS APPLICABLE Misc. loads (Table 1607.6, 1607.8.1,
 1607.7, 1607.12, 1607.13, 1610,
 1611, 2404)