

# DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK CITY OF PORTLAND

BUILDING INSPECTION

## PERMIT

Permit Number: 070305

Please Read Application And Notes, If Any, Attached

PERMIT ISSUED  
APR 17 2007  
CITY OF PORTLAND

This is to certify that BJFC LCC /Benchmark

has permission to Caravan Beads- Build new ( ) 8 SF on ( ) Store Addition

AT 915 FOREST AVE

142 F004001

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of this State and of the Ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and when permit on procedure before this building or part thereof is laid or closed-in. 24 HOUR NOTICE IS REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

**OTHER REQUIRED APPROVALS**

Fire Dept. Craig Cass  
Health Dept. \_\_\_\_\_  
Appeal Board \_\_\_\_\_  
Other \_\_\_\_\_  
Department Name

*[Signature]*  
Director - Building & Inspection Services

**PENALTY FOR REMOVING THIS CARD**

# BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 to schedule your inspections as agreed upon

Permits expire in 6 months, if the project is not started or ceases for 6 months.

The Owner or their designee is required to notify the inspections office for the following inspections and provide adequate notice. Notice must be called in 48-72 hours in advance in order to schedule an inspection:

By initializing at each inspection time, you are agreeing that you understand the inspection procedure and additional fees from a "Stop Work Order" and "Stop Work Order Release" will be incurred if the procedure is not followed as stated below.

A Pre-construction Meeting will take place upon receipt of your building permit.

- Footing/Building Location Inspection: Prior to pouring concrete
- Re-Bar Schedule Inspection: Prior to pouring concrete
- Foundation Inspection: Prior to placing ANY backfill
- Framing/Rough Plumbing/Electrical: Prior to any insulating or drywalling
- Final/Certificate of Occupancy: Prior to any occupancy of the structure or use. NOTE: There is a \$75.00 fee per inspection at this point.

Certificate of Occupancy is not required for certain projects. Your inspector can advise you if your project requires a Certificate of Occupancy. All projects DO require a final inspection

If any of the inspections do not occur, the project cannot go on to the next phase, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.

CERTIFICATE OF OCCUPANCIES MUST BE ISSUED AND PAID FOR, BEFORE THE SPACE MAY BE OCCUPIED

F. O'Neil  
Signature of Applicant/Designee

18 April 2007  
Date

[Signature]  
Signature of Inspections Official

4.18.07  
Date

CBL: 142-F-4

Building Permit #: 070305

**City of Portland, Maine - Building or Use Permit Application**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

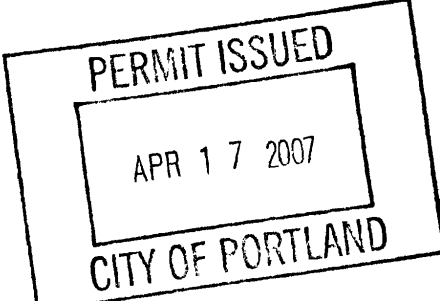
Permit No: 07-0305	Issue Date:	CBL: 142 F004001
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Location of Construction: 915 FOREST AVE	Owner Name: BJFC LCC	Owner Address: 915 FOREST AVE	Phone:
Business Name: Caravan Beads	Contractor Name: Benchmark	Contractor Address: 34 Thomas Dr. Westbrook	Phone: 2075917600
Lessee/Buyer's Name	Phone:	Permit Type: Additions - Commercial	Zone: B-2

Past Use: Commercial - Caravan Beads	Proposed Use: Commercial - Caravan Beads- Build new 12308 SF one (1) Story addition <i>see foundation permit # 07-0205</i>	Permit Fee: \$5,435.00	Cost of Work: \$533,784.00	CEO District: 4
Proposed Project Description: Caravan Beads- Build new 12308 SF one (1) Story addition		FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied	INSPECTION: Use Group: <i>E/M/S</i> Type: <i>JB</i> <i>4/11/07</i> Signature: <i>[Signature]</i>	
		PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.) Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Signature: _____ Date: _____		

Permit Taken By: Idobson	Date Applied For: 03/23/2007
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Zoning Approval		
<b>Special Zone or Reviews</b> <input type="checkbox"/> Shoreland <i>NA</i> <input type="checkbox"/> Wetland <i>see foundation permit</i> <input type="checkbox"/> Flood Zone <i>see foundation permit</i> <input type="checkbox"/> Subdivision <input checked="" type="checkbox"/> Site Plan Maj <input checked="" type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/> Date: <i>2006-0168</i> <i>OK w/ conditions</i> <i>3/26/07</i>	<b>Zoning Appeal</b> <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input checked="" type="checkbox"/> Conditional Use <i>warehousing</i> <input type="checkbox"/> Interpretation <input checked="" type="checkbox"/> Approved <i>8/17/06</i> <input type="checkbox"/> Denied Date: _____	<b>Historic Preservation</b> <input checked="" type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Date: <i>[Signature]</i>



**CERTIFICATION**

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT	ADDRESS	DATE	PHONE
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		DATE	PHONE

**City of Portland, Maine - Building or Use Permit**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

<b>Permit No:</b> 07-0305	<b>Date Applied For:</b> 03/23/2007	<b>CBL:</b> 142 F004001
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<b>Location of Construction:</b> 915 FOREST AVE	<b>Owner Name:</b> BJFC LCC	<b>Owner Address:</b> 915 FOREST AVE	<b>Phone:</b>
<b>Business Name:</b> Caravan Beads	<b>Contractor Name:</b> Benchmark	<b>Contractor Address:</b> 34 Thomas Dr. Westbrook	<b>Phone</b> (207) 591-7600
<b>Lessee/Buyer's Name</b>	<b>Phone:</b>	<b>Permit Type:</b> Additions - Commercial	

<b>Proposed Use:</b> Commercial - Caravan Beads- Build new 12308 SF one (1) Story addition	<b>Proposed Project Description:</b> Caravan Beads- Build new 12308 SF one (1) Story addition
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**Dept:** Zoning      **Status:** Approved with Conditions      **Reviewer:** Marge Schmuckal      **Approval Date:** 03/26/2007

**Note:** **Ok to Issue:**

- 1) All conditions of the conditional use appeal (area to be used for warehousing and distribution) shall be maintained.
- 2) Any and all previous requirements on the foundation permit are still in force.
- 3) Separate permits shall be required for any new signage.
- 4) This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.

**Dept:** Building      **Status:** Approved      **Reviewer:** Mike Nugent      **Approval Date:** 04/17/2007

**Note:** **Ok to Issue:**

**Dept:** Fire      **Status:** Approved      **Reviewer:** Cptn Greg Cass      **Approval Date:** 03/27/2007

**Note:** **Ok to Issue:**

**Comments:**

3/26/2007-mes: ties in with the foundation permit #07-0205 previously issued

4/8/2007-ldobson: I'm just about finished with the full permit, is there any information such as a "COMCheck" report that established energy code compliance? We'll need this prior to the issuance of the permit. Rec

4/10/2007-ldobson: "COMCheck" report Received 4/10/07

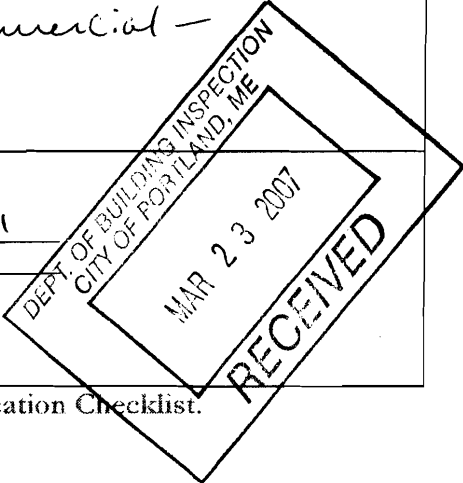




# General Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

Location/Address of Construction: <b>915 Forest Avenue, Portland, Maine</b>		
Total Square Footage of Proposed Structure <b>12,308</b>	Square Footage of Lot <b>51,087</b>	
Tax Assessor's Chart, Block & Lot Chart# <b>142</b> Block# <b>F</b> Lot# <b>4</b>	Owner: <b>BJFC, LLC</b>	Telephone: <b>800-230-8941</b> <b>415-9562</b>
Lessee/Buyer's Name (If Applicable)	Applicant name, address & telephone: <b>Benchmark 34 Thomas Drive Westbrook, ME 04092 591-7600</b>	Cost Of Work: \$ <b>533,784.</b> Fee: \$ _____ C of O Fee: \$ _____
Current legal use (i.e. single family) <u>retail business - Cream Beans</u> If vacant, what was the previous use? _____ Proposed Specific use: _____ Is property part of a subdivision? <u>NO</u> If yes, please name _____ Project description: <b>- 1 story; 12,308 SF Build Commercial -</b>		
Contractor's name, address & telephone: Who should we contact when the permit is ready: <u>Francis J. O'Neill</u> Mailing address: <u>Benchmark 34 Thomas Dr Westbrook, ME 04092</u> Phone: <u>591-7600</u>		



Please submit all of the information outlined in the Commercial Application Checklist. Failure to do so will result in the automatic denial of your permit.

In order to be sure the City fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information or to download copies of this form and other applications visit the Inspections Division on-line at [www.portlandmaine.gov](http://www.portlandmaine.gov), or stop by the Inspections Division office, room 315 City Hall or call 874-8703.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature of applicant:	Date: <b>23 March 2007</b>
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**This is not a permit; you may not commence ANY work until the permit is issued.**



COMcheck Software Version 3.4.0

# Envelope Compliance Certificate

*Caravan Beads*

## 2003 IECC

Report Date: 04/09/07

Data filename: Caravan Beads.cck

### Section 1: Project Information

Project Title: Caravan Beads Building Expansion

**Construction Site:**

915 Forest Avenue  
Portland, ME 04103

**Owner/Agent:**

Barry Kahn  
BJFC, LLC  
915 Forest Avenue  
Portland, ME 04103  
207-761-2503  
barryk@caravanbeads.net

**Designer/Contractor:**

Michael Charek  
Michael Charek Architects  
25 Hartley Street  
Portland, ME 04103  
207-761-0556  
mcharek1@maine.rr.com

### Section 2: General Information

Building Location (for weather data):

**Portland, Maine**

Climate Zone:

**15**

Heating Degree Days (base 65 degrees F):

**7378**

Cooling Degree Days (base 65 degrees F):

**268**

Project Type:

**Addition**

Vertical Glazing / Wall Area Pct.:

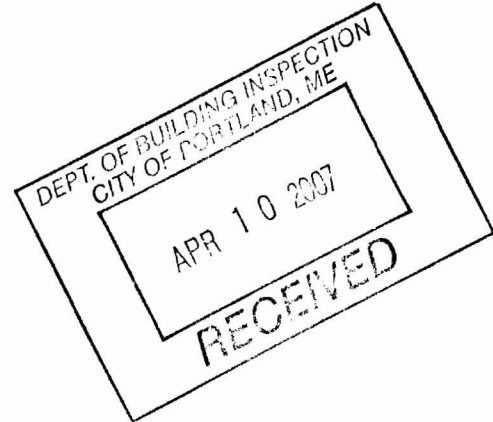
**6%**

**Activity Type(s)**

Retail Sales, Wholesale Showroom  
Storage, Industrial and Commercial

**Floor Area**

3040  
9179



### Section 3: Requirements Checklist

**Envelope PASSES:** Design 14% better than code.

#### Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor
Roof 1: Non-Wood Joist/Rafter/Truss	12219	0.0	24.0	0.040	0.053
Exterior Wall 1: Metal Frame, 24" o.c.	8272	19.0	0.0	0.097	0.075
Window 1: Metal Frame with Thermal Break:Double Pane, Tinted, SHGC 0.45	95	---	---	0.470	0.526
Window 2: Metal Frame with Thermal Break:Double Pane, Tinted, SHGC 0.45	85	---	---	0.470	0.526
Window 3: Metal Frame with Thermal Break:Double Pane, Tinted, SHGC 0.45	68	---	---	0.470	0.526
Window 4: Metal Frame with Thermal Break:Double Pane, Tinted, SHGC 0.45	68	---	---	0.470	0.526
Window 5: Metal Frame with Thermal Break:Double Pane, Tinted, SHGC 0.45	85	---	---	0.470	0.526
Window 6: Metal Frame with Thermal Break:Double Pane, Tinted, SHGC 0.45	85	---	---	0.470	0.526
Door 1: Overhead	100	---	---	0.060	0.122
Door 2: Solid	21	---	---	0.125	0.122
Door 3: Solid	21	---	---	0.125	0.122
Interior Wall 1: CMU >8" with Empty Cells, Furring: None	2500	---	0.0	0.316	0.122

Interior Wall 2: CMU >8" with Empty Cells, Furring: Metal	2000	13.0	0.0	0.118	0.122
Floor 1: Slab-On-Grade:Heated, Vertical 4 ft.	489	---	8.0	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

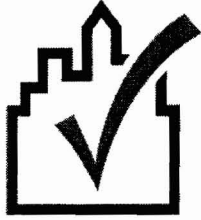
**Air Leakage, Component Certification, and Vapor Retarder Requirements:**

- 1. All joints and penetrations are caulked, gasketed or covered with a moisture vapor-permeable wrapping material installed in accordance with the manufacturer's installation instructions.
- 2. Windows, doors, and skylights certified as meeting leakage requirements.
- 3. Component R-values & U-factors labeled as certified.
- 4. Insulation installed according to manufacturer's instructions, in substantial contact with the surface being insulated, and in a manner that achieves the rated R-value without compressing the insulation.
- 5. Stair, elevator shaft vents, and other dampers integral to the building envelope are equipped with motorized dampers.
- 6. Cargo doors and loading dock doors are weather sealed.
- 7. Recessed lighting fixtures are: (i) Type IC rated and sealed or gasketed; or (ii) installed inside an appropriate air-tight assembly with a 0.5 inch clearance from combustible materials and with 3 inches clearance from insulation material.
- 8. Building entrance doors have a vestibule and equipped with closing devices.  
*Exceptions:*  
 Building entrances with revolving doors.  
 Doors that open directly from a space less than 3000 sq. ft. in area.
- 9. Vapor retarder installed.

**Section 4: Compliance Statement**

*Compliance Statement:* The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed envelope system has been designed to meet the 2003 IECC requirements in COMcheck Version 3.4.0 and to comply with the mandatory requirements in the Requirements Checklist.

Michael R. Charek - Principal            4/10/07  
 Name - Title      Signature      Date



# Lighting Compliance Certificate

## 2003 IECC

Report Date: 04/09/07

Data filename: Caravan Beads.ckk

### Section 1: Project Information

Project Title: Caravan Beads Building Expansion

Construction Site:  
915 Forest Avenue  
Portland, ME 04103

Owner/Agent:  
Barry Kahn  
BJFC, LLC  
915 Forest Avenue  
Portland, ME 04103  
207-761-2503  
barryk@caravanbeads.net

Designer/Contractor:  
Michael Charek  
Michael Charek Architects  
25 Hartley Street  
Portland, ME 04103  
207-761-0556  
mcharek1@maine.rr.com

### Section 2: General Information

Building Use Description by: **Activity Type**  
Project Type: **Addition**

Activity Type(s)	Floor Area
Retail Sales, Wholesale Showroom	3040
Storage, Industrial and Commercial	9179

### Section 3: Requirements Checklist

#### Interior Lighting:

1. Total actual watts must be less than or equal to total allowed watts.

Allowed Watts	Actual Watts	Complies
12511	10784	YES

2. Exit signs 5 Watts or less per side.

#### Exterior Lighting:

3. Efficacy greater than 45 lumens/W.

Exceptions:

Specialized lighting highlighting features of historic buildings; signage; safety or security lighting; low-voltage landscape lighting.

#### Controls, Switching, and Wiring:

4. Independent controls for each space (switch/occupancy sensor).

Exceptions:

Areas designated as security or emergency areas that must be continuously illuminated.

Lighting in stairways or corridors that are elements of the means of egress.

5. Master switch at entry to hotel/motel guest room.

6. Individual dwelling units separately metered.

7. Each space provided with a manual control to provide uniform light reduction by at least 50%.

Exceptions:

Only one luminaire in space;

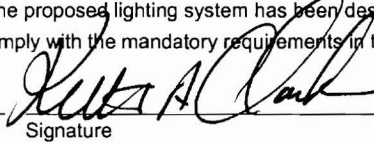
An occupant-sensing device controls the area;

- The area is a corridor, storeroom, restroom, public lobby or guest room;
  - Areas that use less than 0.6 Watts/sq.ft.
- 8. Automatic lighting shutoff control in buildings larger than 5,000 sq.ft.
  - Exceptions:
    - Areas with only one luminaire, corridors, storerooms, restrooms, or public lobbies.
- 9. Photocell/astronomical time switch on exterior lights.
  - Exceptions:
    - Lighting intended for 24 hour use.
- 10. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).
  - Exceptions:
    - Electronic high-frequency ballasts; Luminaires on emergency circuits or with no available pair.

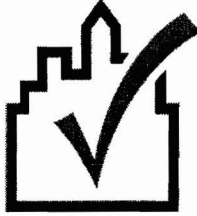
#### Section 4: Compliance Statement

*Compliance Statement:* The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2003 IECC, Chapter 8, requirements in COMcheck Version 3.4.0 and to comply with the mandatory requirements in the Requirements Checklist.

KENNETH A. CLARKE  
Name - Title

  
Signature

4-10-07  
Date



# Lighting Application Worksheet

## 2003 IECC

Report Date:

Data filename: Caravan Beads.cck

### Section 1: Allowed Lighting Power Calculation

A Area Category	B Floor Area (ft <sup>2</sup> )	C Allowed Watts / ft <sup>2</sup>	D Allowed Watts (B x C)
Retail Sales, Wholesale Showroom	3040	1.7	5168
Storage, Industrial and Commercial	9179	0.8	7343
Total Allowed Watts =			12511

### Section 2: Actual Lighting Power Calculation

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
<b>Retail Sales, Wholesale Showroom (3040 sq.ft.)</b>				
Linear Fluorescent 1: A: 2x4 Troffer, parabolic louver / 48" T8 32W / Electronic	3	36	79	2844
Incandescent 1: B: 4-head track / Incandescent 50W	4	10	200	2000
<b>Storage, Industrial and Commercial (9179 sq.ft.)</b>				
Linear Fluorescent 2: C: 8' Industrial, pendant mount / 48" T8 32W / Electronic	2	110	54	5940
Total Actual Watts =				10784

### Section 3: Compliance Calculation

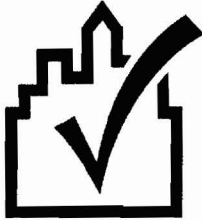
If the Total Allowed Watts minus the Total Actual Watts is greater than or equal to zero, the building complies.

Total Allowed Watts = 12511

Total Actual Watts = 10784

Project Compliance = 1727

**Lighting PASSES: Design 14% better than code.**



# Mechanical Compliance Certificate

## 2003 IECC

Report Date: 04/09/07

Data filename: Caravan Beads.cck

### Section 1: Project Information

Project Title: Caravan Beads Building Expansion

**Construction Site:**

915 Forest Avenue  
Portland, ME 04103

**Owner/Agent:**

Barry Kahn  
BJFC, LLC  
915 Forest Avenue  
Portland, ME 04103  
207-761-2503  
barryk@caravanbeads.net

**Designer/Contractor:**

Michael Charek  
Michael Charek Architects  
25 Hartley Street  
Portland, ME 04103  
207-761-0556  
mcharek1@maine.rr.com

### Section 2: General Information

Building Location (for weather data):	<b>Portland, Maine</b>
Climate Zone:	<b>15</b>
Heating Degree Days (base 65 degrees F):	<b>7378</b>
Cooling Degree Days (base 65 degrees F):	<b>268</b>
Project Type:	<b>Addition</b>

### Section 3: Mechanical Systems List

**Quantity System Type & Description**

- 1 HVAC System 1: Heating: Central Furnace, Gas / Cooling: Rooftop Package Unit, Capacity >=65 - <90 kBtu/h, Air-Cooled Condenser / Single Zone
- 1 HVAC System 2: Heating: Unit Heater, Gas
- 1 HVAC System 3: Heating: Unit Heater, Gas
- 1 HVAC System 4: Heating: Unit Heater, Gas
- 1 Storage Water Heater 1: Service Water Heater

### Section 4: Requirements Checklist

**Requirements Specific To: HVAC System 1 :**

- 1. Newly purchased heating equipment meets the heating efficiency requirements
- 2. Equipment minimum efficiency: Rooftop Package Unit: 10.1 EER
- 3. Integrated air economizer required

**Requirements Specific To: HVAC System 2 :**

- 1. Equipment minimum efficiency: Unit Heater (Gas): 80% Ec

**Requirements Specific To: HVAC System 3 :**

- 1. Equipment minimum efficiency: Unit Heater (Gas): 80% Ec

**Requirements Specific To: HVAC System 4 :**

- 1. Equipment minimum efficiency: Unit Heater (Gas): 80% Ec

**Requirements Specific To: Storage Water Heater 1 :**

- 1. Heat traps in inlet/outlet fittings *Plumber*

- 2. 1/2-in. insulation on 8 ft of inlet/outlet piping if no integral heat traps
- 3. No efficiency requirements for water heater with storage capacity less than 20 gallons.

*Plumber*

**Generic Requirements: Must be met by all systems to which the requirement is applicable:**

- 1. Load calculations per 2001 ASHRAE Fundamentals
- 2. Plant equipment and system capacity no greater than needed to meet loads
  - Exception: Standby equipment automatically off when primary system is operating
  - Exception: Multiple units controlled to sequence operation as a function of load
- 3. Minimum one temperature control device per system
- 4. Minimum one humidity control device per installed humidification/dehumidification system
- 5. Thermostatic controls has 5 degrees F deadband
  - Exception: Thermostats requiring manual changeover between heating and cooling
- 6. Automatic Controls: Setback to 55 degrees F (heat) and 85 degrees F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
  - Exception: Continuously operating zones *Warehouse 55° 24/7*
  - Exception: 2 kW demand or less, submit calculations
- 7. Automatic shut-off dampers on exhaust systems and supply systems with airflow >3,000 cfm
- 8. Outside-air source for ventilation; system capable of reducing OSA to required minimum
- 9. R-5 supply and return air duct insulation in unconditioned spaces R-8 supply and return air duct insulation outside the building R-8 insulation between ducts and the building exterior when ducts are part of a building assembly
  - Exception: Ducts located within equipment
  - Exception: Ducts with interior and exterior temperature difference not exceeding 15 degrees F.
- 10. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics
  - Exception: Continuously welded and locking-type longitudinal joints and seams on ducts operating at static pressures less than 2 inches w.g. pressure classification
- 11. Mechanical fasteners and sealants used to connect ducts and air distribution equipment
- 12. Hot water pipe insulation: 1 in. for pipes <=1.5 in. and 2 in. for pipes >1.5 in. Chilled water/refrigerant/brine pipe insulation: 1 in. for pipes <=1.5 in. and 1.5 in. for pipes >1.5 in. Steam pipe insulation: 1.5 in. for pipes <=1.5 in. and 3 in. for pipes >1.5 in.
  - Exception: Piping within HVAC equipment
  - Exception: Fluid temperatures between 55 and 105 degrees F
  - Exception: Fluid not heated or cooled
  - Exception: Runouts <4 ft in length
- 13. Operation and maintenance manual provided to building owner
- 14. Balancing devices provided in accordance with IMC 603.15
- 15. Newly purchased service water heating equipment meets the efficiency requirements
- 16. Water heater temperature controls: 110 degrees F for dwelling units or 90 degrees F for other occupancies
- 17. Stair and elevator shaft vents are equipped with motorized dampers

**Section 5: Compliance Statement**

*Compliance Statement:* The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2003 IECC requirements in COMcheck Version 3.4.0 and to comply with the mandatory requirements in the Requirements Checklist.

*Robert A. Mitchell*  
Name - Title

*[Signature]*  
Signature

*4/10/07*  
Date





COMcheck Software Version 3.4.0

# Mechanical Requirements Description

## 2003 IECC

Report Date:

Data filename: Caravan Beads.cck

The following list provides more detailed descriptions of the requirements in Section 4 of the Mechanical Compliance Certificate.

### Requirements Specific To: HVAC System 1 :

1. The specified heating equipment is covered by Federal minimum efficiency requirements. New equipment of this type can be assumed to meet or exceed ASHRAE 90.1 Code requirements for equipment efficiency.
2. The specified heating and/or cooling equipment is covered by ASHRAE 90.1 Code and must meet the following minimum efficiency:  
Rooftop Package Unit: 10.1 EER
3. An integrated air economizer is required for individual cooling systems over 65 kBtu/h in the selected climate. An integrated economizer allows simultaneous operation of outdoor-air and mechanical cooling.

### Requirements Specific To: HVAC System 2 :

1. The specified heating and/or cooling equipment is covered by the ASHRAE 90.1 Code and must meet the following minimum efficiency: Unit Heater (Gas): 80% Ec

### Requirements Specific To: HVAC System 3 :

1. The specified heating and/or cooling equipment is covered by the ASHRAE 90.1 Code and must meet the following minimum efficiency: Unit Heater (Gas): 80% Ec

### Requirements Specific To: HVAC System 4 :

1. The specified heating and/or cooling equipment is covered by the ASHRAE 90.1 Code and must meet the following minimum efficiency: Unit Heater (Gas): 80% Ec

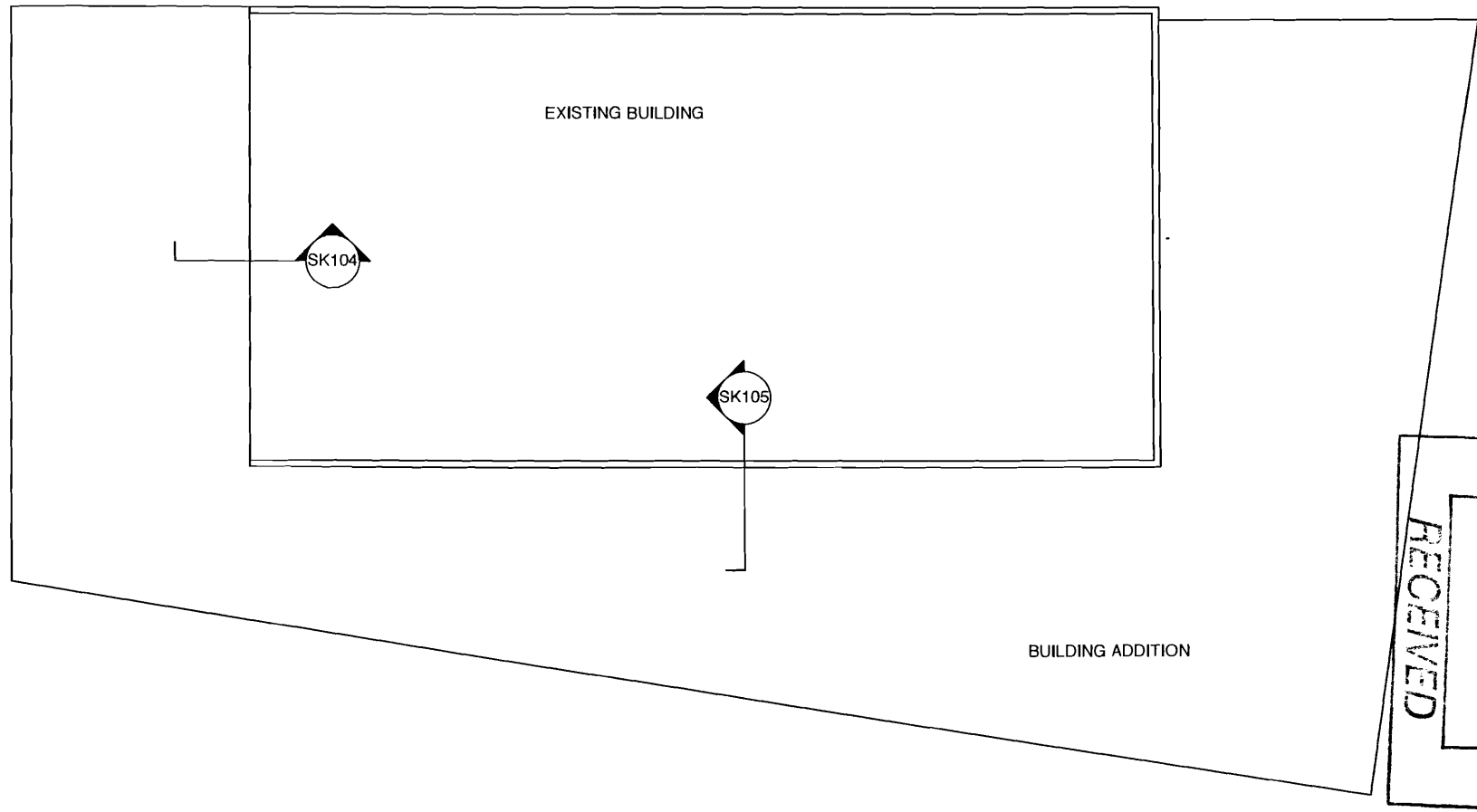
### Requirements Specific To: Storage Water Heater 1 :

1. Heat traps are required on noncirculating water heating systems on both inlet and outlet connections. Heat traps may be purchased or field-fabricated by creating a loop or inverted U-shaped arrangement on the inlet and outlet pipes.
2. Pipe insulation for the specified noncirculating service hot water system is required for all piping in the following categories:a) the first 8 ft of outlet piping from any constant-temperature, noncirculating storage systemb) the inlet piping between the storage tank and a heat trap in a noncirculating storage systemPipe insulation must be at least 1/2 in. and have a conductivity no >0.28 Btu-in/(h-ft<sup>2</sup>-degrees F).
3. Service water heating equipment used solely for heating potable water, pool heaters, and hot water storage tanks must meet the following minimum efficiency: No efficiency requirements for water heater with storage capacity less than 20 gallons.

### Generic Requirements: Must be met by all systems to which the requirement is applicable:

1. Design heating and cooling loads for the building must be determined using procedures in the ASHRAE Handbook of Fundamentals or an approved equivalent calculation procedure.
2. All equipment and systems must be sized to be no greater than needed to meet calculated loads. A single piece of equipment providing both heating and cooling must satisfy this provision for one function with the capacity for the other function as small as possible, within available equipment options.
  - Exception: The equipment and/or system capacity may be greater than calculated loads for standby purposes. Standby equipment must be automatically controlled to be off when the primary equipment and/or system is operating.
  - Exception: Multiple units of the same equipment type whose combined capacities exceed the calculated load are allowed if they are provided with controls to sequence operation of the units as the load increases or decreases.
3. Each heating or cooling system serving a single zone must have its own temperature control device.
4. Each humidification system must have its own humidity control device.
5. Thermostats controlling both heating and cooling must be capable of maintaining a 5 degrees F deadband (a range of temperature where no heating or cooling is provided).
  - Exception: Deadband capability is not required if the thermostat does not have automatic changeover capability between heating and cooling.

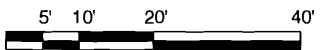
6. The system or zone control must be a programmable thermostat or other automatic control meeting the following criteria:
  - a) capable of setting back temperature to 55 degrees F during heating and setting up to 85 degrees F during cooling
  - b) capable of automatically setting back or shutting down systems during unoccupied hours using 7 different day schedules
  - c) have an accessible 2-hour occupant override) have a battery back-up capable of maintaining programmed settings for at least 10 hours without power.
    - Exception: A setback or shutoff control is not required on thermostats that control systems serving areas that operate continuously.
    - Exception: A setback or shutoff control is not required on systems with total energy demand of 2 kW (6,826 Btu/h) or less.
7. Outdoor-air supply systems with design airflow rates >3,000 cfm of outdoor air and all exhaust systems must have dampers that are automatically closed while the equipment is not operating.
8. The system must supply outside ventilation air as required by Chapter 4 of the International Mechanical Code. If the ventilation system is designed to supply outdoor-air quantities exceeding minimum required levels, the system must be capable of reducing outdoor-air flow to the minimum required levels.
9. Air ducts must be insulated to the following levels:
  - a) Supply and return air ducts for conditioned air located in unconditioned spaces (spaces neither heated nor cooled) must be insulated with a minimum of R-5. Unconditioned spaces include attics, crawl spaces, unheated basements, and unheated garages.
  - b) Supply and return air ducts and plenums must be insulated to a minimum of R-8 when located outside the building.
  - c) When ducts are located within exterior components (e.g., floors or roofs), minimum R-8 insulation is required only between the duct and the building exterior.
    - Exception: Duct insulation is not required on ducts located within equipment.
    - Exception: Duct insulation is not required when the design temperature difference between the interior and exterior of the duct or plenum does not exceed 15 degrees F.
10. All joints, longitudinal and transverse seams, and connections in ductwork must be securely sealed using weldments; mechanical fasteners with seals, gaskets, or mastics; mesh and mastic sealing systems; or tapes. Tapes and mastics must be listed and labeled in accordance with UL 181A or UL 181B.
  - Exception: Continuously welded and locking-type longitudinal joints and seams on ducts operating at static pressures less than 2 inches w.g. pressure classification.
11. Mechanical fasteners and seals, mastics, or gaskets must be used when connecting ducts to fans and other air distribution equipment, including multiple-zone terminal units.
12. All pipes serving space-conditioning systems must be insulated as follows: Hot water piping for heating systems: 1 in. for pipes <=1 1/2-in. nominal diameter 2 in. for pipes >1 1/2-in. nominal diameter. Chilled water, refrigerant, and brine piping systems: 1 in. insulation for pipes <=1 1/2-in. nominal diameter 1 1/2 in. insulation for pipes >1 1/2-in. nominal diameter. Steam piping: 1 1/2 in. insulation for pipes <=1 1/2-in. nominal diameter 3 in. insulation for pipes >1 1/2-in. nominal diameter.
  - Exception: Pipe insulation is not required for factory-installed piping within HVAC equipment.
  - Exception: Pipe insulation is not required for piping that conveys fluids having a design operating temperature range between 55 degrees F and 105 degrees F.
  - Exception: Pipe insulation is not required for piping that conveys fluids that have not been heated or cooled through the use of fossil fuels or electric power.
  - Exception: Pipe insulation is not required for runout piping not exceeding 4 ft in length and 1 in. in diameter between the control valve and HVAC coil.
13. Operation and maintenance documentation must be provided to the owner that includes at least the following information:
  - a) equipment capacity (input and output) and required maintenance actions
  - b) equipment operation and maintenance manuals
  - c) HVAC system control maintenance and calibration information, including wiring diagrams, schematics, and control sequence descriptions; desired or field-determined set points must be permanently recorded on control drawings, at control devices, or, for digital control systems, in programming comments
  - d) complete narrative of how each system is intended to operate.
14. Each supply air outlet or diffuser and each zone terminal device (such as VAV or mixing box) must have its own balancing device. Acceptable balancing devices include adjustable dampers located within the ductwork, terminal devices, and supply air diffusers.
15. Service water heating equipment must meet minimum Federal efficiency requirements included in the National Appliance Energy Conservation Act and the Energy Policy Act of 1992, which meet or exceed ASHRAE 90.1 Code. New service water heating equipment can be assumed to meet these requirements.
16. Water-heating equipment must be provided with controls that allow the user to set the water temperature to 110 degrees F for dwelling units and 90 degrees F for other occupancies. Controls must limit output temperatures of lavatories in public facility restrooms to 110 degrees F.
17. Stair and elevator shaft vents must be equipped with motorized dampers capable of being automatically closed during normal building operation and interlocked to open as required by fire and smoke detection systems. All gravity outdoor air supply and exhaust hoods, vents, and ventilators must be equipped with motorized dampers that will automatically shut when the spaces served are not in use. Exceptions:
  - Gravity (non-motorized) dampers are acceptable in buildings less than three stories in height above grade.
  - Ventilation systems serving unconditioned spaces.



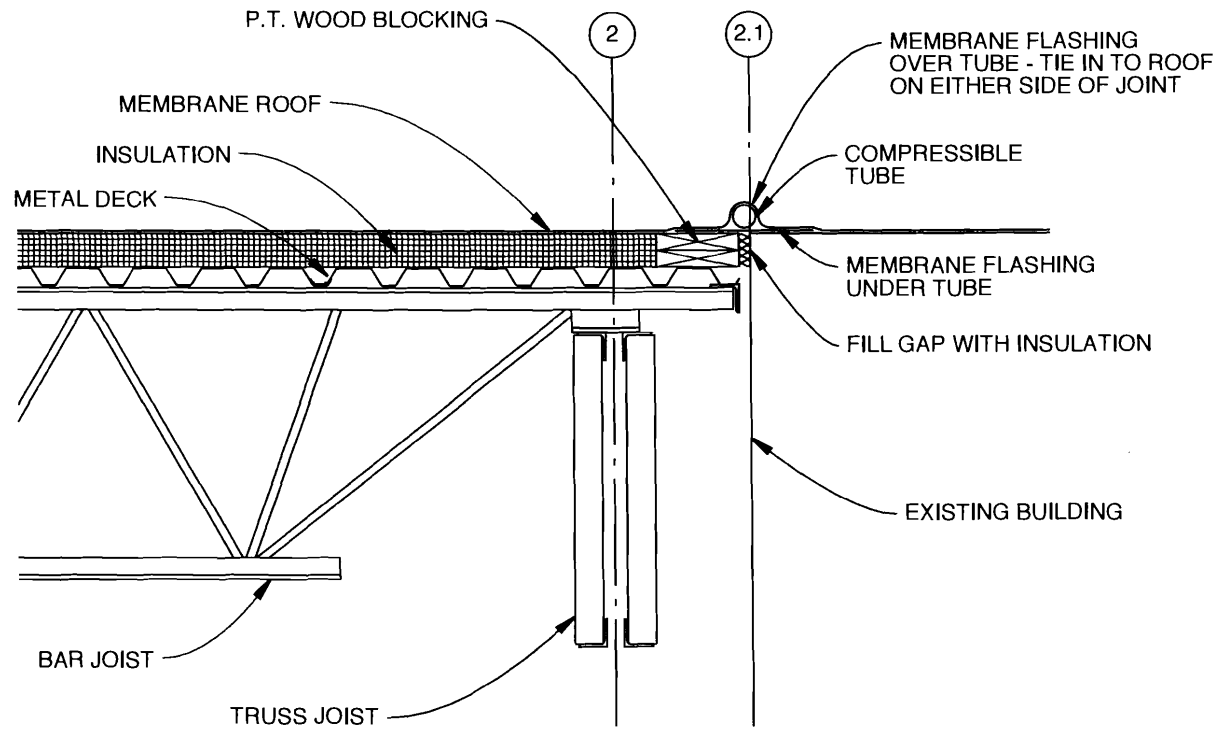
DEPT. OF PERMITS INSPECTION  
CITY OF PORTLAND, ME  
APR 10 2007  
RECEIVED

# SK-103

Title: Key Plan for Roof Details  
Scale: 1" = 20'-0"  
Date: 4/10/07  
Project: Caravan Beads Building Expansion

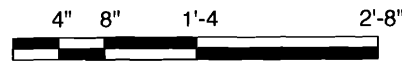


Michael R. Charek, Architect  
25 Hartley Street  
Portland, Maine 04103  
(207) 761-0556

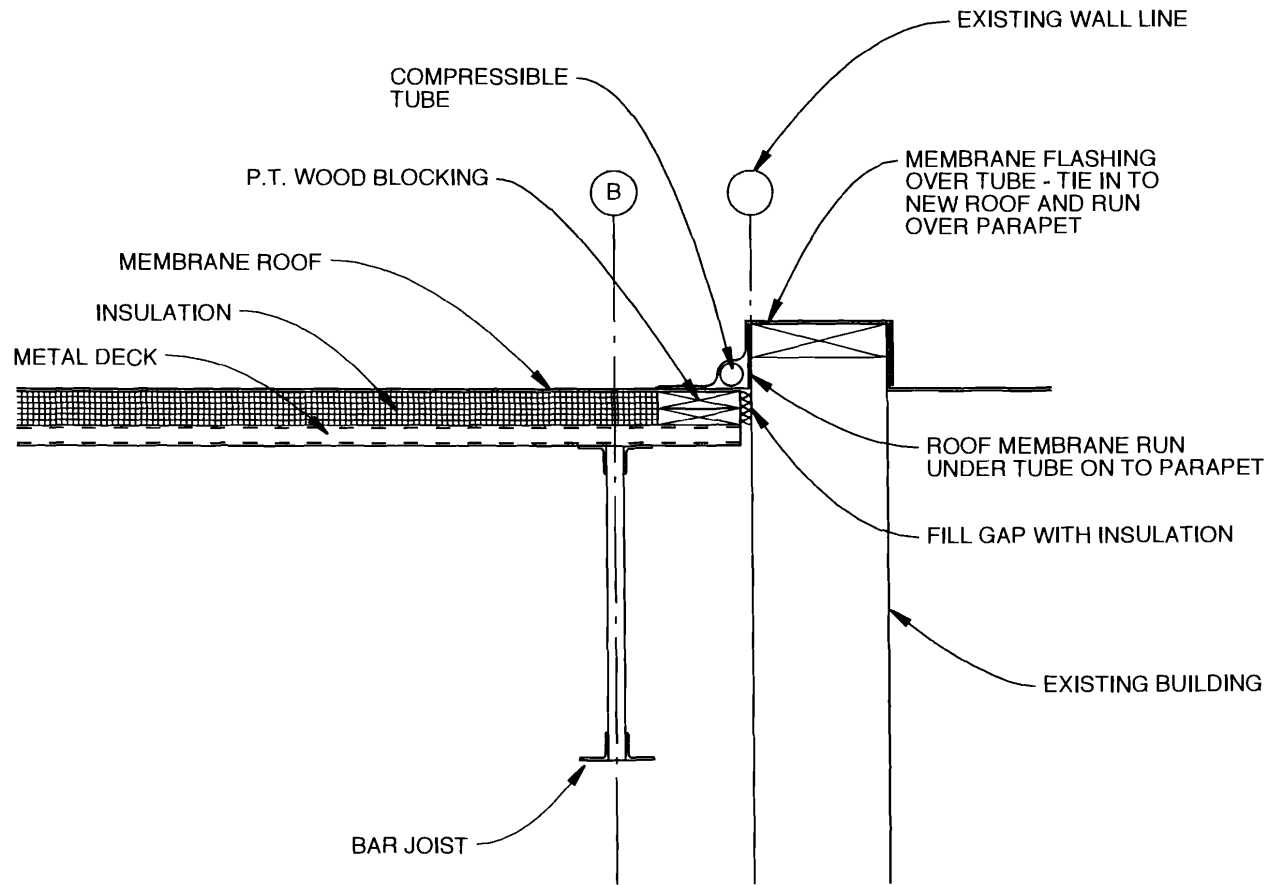


# SK-104

Title: Roof Detail  
 Scale: 3/4"=1'-0"  
 Date: 4/10/07  
 Project: Caravan Beads Building Expansion

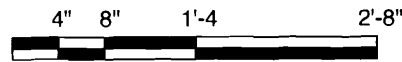


Michael R. Charek, Architect  
 25 Hartley Street  
 Portland, Maine 04103  
 (207) 761-0556



# SK-105

Title: Roof Detail  
 Scale: 3/4"=1'-0"  
 Date: 4/10/07  
 Project: Caravan Beads Building Expansion



Michael R. Charek, Architect  
 25 Hartley Street  
 Portland, Maine 04103  
 (207) 761-0556



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: Michael R. Charek

RE: Certificate of Design

DATE: March 21, 2007

These plans and / or specifications covering construction work on:

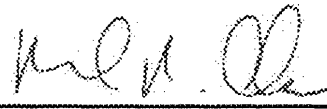
Caravan Beads Building Expansion:

Pre-engineered metal building addition to existing masonry/steel building.

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

(SEAL)



Signature: 

Title: Principal

Firm: Michael Charek Architects

Address: 25 Hartley Street

Portland, ME 04103

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.



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

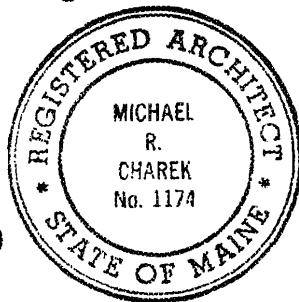
ACCESSIBILITY CERTIFICATE

Designer: Michael R. Charek

Address of Project: 915 Forest Avenue

Nature of Project: Caravan Beads Building Expansion

The undersigned, to the best of his knowledge, agrees that  
The technical submissions covering the proposed construction work as described above  
have been designed in compliance with applicable referenced standards found in the  
Maine Human Rights Law and Federal Americans with Disability Act.



(SEAL)

Signature: *Michael R. Charek*

Title: Principal

Firm: Michael Charek Architects

Address: 25 Hartley Street

Portland, ME 04103

Phone: 207-761-0556

**NOTE: If this project is a new Multi Family Structure of 4 units or more, this project must also be designed in compliance with the Federal Fair Housing Act. On a separate submission, please explain in narrative form the method of compliance.**

FROM DESIGNER: Michael R. Charek

DATE: March 21, 2007

Job Name: Caravan Beads Building Expansion

Address of Construction: 915 Forest Avenue, Portland, ME 04103

To the best of my knowledge and belief, Construction project was designed according to the building code criteria listed below:

2003 International Building Code

Building Code and Year IBC 2003 Use Group Classification(s) B, M, S-1

Type of Construction IIB

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) Non-separated

Supervisory alarm system? Yes Geotechnical/Soils report required?( See Section 1802.2) Yes

This section to be submitted by structural engineers.

STRUCTURAL DESIGN CALCULATIONS	
Submitted for all structural members (1003.1, 1007.1)	Live load reduction (1003.1.1, 1607.9, 1607.10)
DESIGN LOADS ON CONSTRUCTION DOCUMENTS (1603)	Roof live loads (1603.1.2, 1607.11)
Uniformly distributed floor live loads (7603.11, 1607)	Roof snow loads (7603.7.3, 1608)
Floor Area Use	Ground snow load, $P_g$ (1608.2)
Loads Shown	If $P_g > 10$ psf, flat-roof snow load, $P_f$ (1608.3)
	If $P_g > 10$ psf, snow exposure factor, $C_e$ (Table 1608.3.1)
	If $P_g > 10$ psf, snow load importance factor, $I_s$ (Table 1604.5)
	Roof thermal factor, $C_t$ (Table 1608.3.2)
	Sloped roof snowload, $P_s$ (1608.4)
Wind loads (1603.1.4, 1609)	Seismic design category (1616.3)
Design option utilized (1609.1.1, 1609.6)	Basic seismic-force-resisting system (Table 1617.6.2)
Basic wind speed (1609.3)	Response modification coefficient, $R$ , and deflection amplification factor, $C_d$ (Table 1617.6.2)
Building category and wind importance factor, $I_w$ (Table 1604.5, 1609.5)	Analysis procedure (1616.6, 1617.5)
Wind exposure category (1609.4)	Design base shear (1617.4, 1617.6.1)
Internal pressure coefficient (ASCE 7)	Flood loads (1603.1.6, 1612)
Component and cladding pressures (1609.1.1, 1609.6.2.2)	Floodhazard area (1612.3)
Main force wind pressures (7603.1.1, 1609.6.2.1)	Elevation of structure
Earthquake design data (1603.1.5, 1614-1623)	Other loads
Design option utilized (1614.1)	Concentrated loads (1607.4)
Seismic use group ("Category") (Table 1604.5, 1616.2)	Partition loads (1607.5)
Spectral response coefficients, $S_{ps}$ & $S_{ps}$ (1615.1)	Impact loads (1607.8)
Site class (1615.1.5)	Misc. loads (Table 1607.6, 1607.9.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 1604)



FROM DESIGNER: Aaron C Jones, P.E. / Structural Integrity, Inc.  
 DATE: 2/2/2007  
 Job Name: Conover Books Building Expansion  
 Address of Construction: 915 Forest Ave, Portland, ME 04108

**2003 International Building Code**

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

Building Code & Year IBC 2003 Use Group Classification (s) See Arch  
 Type of Construction See Arch  
 Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IRC See Arch  
 Is the Structure mixed use? See Arch If yes, separated or non separated or non separated (section 302.3) See Arch  
 Supervisory alarm System? See Arch Geotechnical/Soils report required? (See Section 1802.2) See Arch

**STRUCTURAL DESIGN CALCULATIONS**

As Noted Submitted for all structural members (106.1 - 106.11)

**DESIGN LOADS ON CONSTRUCTION DOCUMENTS**  
(1603)

Uniformly distributed floor live loads (705.11, 1807)

Floor Area Use	Loads Shown
<u>office</u>	<u>50 psf</u>
<u>public spaces</u>	<u>100 psf</u>
<u>Commercial</u>	<u>100 psf</u>
<u>Storage</u>	<u>125 psf</u>

**Wind loads (1603.1.4, 1609)**  
As Noted Design option utilized (1609.1.1, 1609.6)  
100 mph Basic wind speed (1609.3)  
1.0 Building category and wind importance Factor,  $C_w$  (Table 1604.5, 1609.5)  
B Wind exposure category (1609.4)  
See Arch Internal pressure coefficient (ASCE 7)  
See Arch Component and cladding pressures (1609.1.1, 1609.6.2.2)  
See Arch Main force wind pressures (703.1.1, 1609.6.2.1)

**Earth design data (1603.1.5, 1614-1623)**  
See Arch Design option utilized (1614.1)  
II Seismic use group ("Category") (Table 1604.5, 1616.2)  
2.9g rllg Spectral response coefficients,  $S_D$ s &  $S_I$  (1615.1)  
C Site class (1615.1.5)

	Live load reduction
<u>200 ft</u>	Roof live loads (1603.1.2, 1607.11)
<u>43</u>	Roof snow loads (1603.7.3, 1608)
<u>50 psf</u>	Ground snow load, $P_g$ (1608.2)
<u>35</u>	If $P_g > 10$ psf, flat-roof snow load $p_f$
<u>1.0</u>	If $P_g > 10$ psf, snow exposure factor, $C_e$
<u>1.0</u>	If $P_g > 10$ psf, snow load importance factor, $I_s$
<u>1.0</u>	Roof thermal factor, $C_t$ (1608.4)
<u>N/A</u>	Sloped roof snowload, $p_s$ (1608.4)
<u>B</u>	Seismic design category (1616.3)
<u>As Noted</u>	Basic seismic force resisting system (Table 1617.5.2)
<u>3</u>	Response modification coefficient, $R$ , and deflection amplification factor, $C_d$ (Table 1617.6.2)
<u>3</u>	Analysis procedure (1616.6, 1617.5)
<u>As Noted</u>	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 structures

**Other loads**  
N/A Concentrated loads (1607.4)  
N/A Partition loads (1607.5)  
N/A Misc. loads (Tables 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)



# Certificate of Design

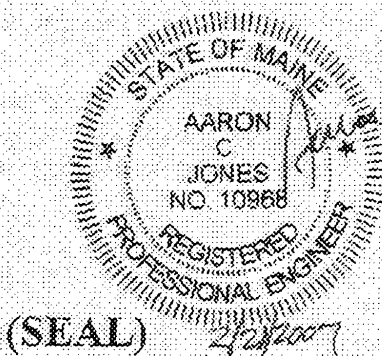
Date: 3-21-2007

From: Aaron C Jones PE

These plans and / or specifications covering construction work on:

Foundation for pre-engineered building by Morex and  
review of pre-engineered building documents @ 915 Forest  
Ave, Portland, ME 04103

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



Signature: Aaron C Jones

Title: President

Firm: Structural Integrity Inc.

Address: 77 Oak Street  
Portland, ME 04101

Phone: 207-774-4614

For more information or to download this form and other permit applications visit the Inspections Division on our website at [www.portlandmaine.gov](http://www.portlandmaine.gov)

Project: Caravan Beads  
 Date Prepared: 3-21-2007

Structural Statement of Special Inspections (Continued)

List of Agents

Project: Caravan Beads  
 Location: 915 Forest Ave, Portland, ME 04103  
 Owner: Barry Kahn  
 This Statement of Special Inspections encompasses the following discipline: Structural

(Note: Statement of Special Inspections for other disciplines may be included under a separate cover)

This Statement of Special Inspections / Quality Assurance Plan includes the following building systems:

- Soils and Foundations
- Cast-in-Place Concrete
- Precast Concrete System
- Masonry Systems
- Structural Steel
- Wood Construction
- Special Cases

Special Inspection Agencies	Firm	Address, Telephone, e-mail
1. STRUCTURAL Special Inspections Coordinator (SSIC) Aaron C. Jones, P.E.	Structural Integrity, Inc	77 Oak Street Portland, ME 04101 207-774-4614 aaron@structuralintegrity.com
2. Special Inspector (SI 1) Aaron C. Jones, P.E.	Structural Integrity, Inc	77 Oak Street Portland, ME 04101 207-774-4614 aaron@structuralintegrity.com
3. Special Inspector (SI 2) Summit Geoenvironmental Services	Summit Geoenvironmental Services	One Industrial Way Suite 7 Portland, Maine 04103 207 221-9396 mwalsh@summitenv.com
4. Testing Agency (TA 1) Summit Geoenvironmental Services	Summit Geoenvironmental Services	One Industrial Way Suite 7 Portland, Maine 04103 207 221-9396 mwalsh@summitenv.com
5. Testing Agency (TA 2)		
6. Other (O1)		

Note: The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

Project: Caravan Beds  
Date Prepared: 3-21-2007

## Structural Statement of Special Inspections (Continued)

### Final Report of Special Inspections (SSIC/SI 1)

[To be completed by the Structural Special Inspections Coordinator (SSIC/SI 1). Note that all Agent's Final Reports must be received prior to issuance.]

Project:  
Location:  
Owner:  
Owner's Address:

Architect of Record: \_\_\_\_\_  
(name) (firm)

Structural Registered Design Professional in Responsible Charge: \_\_\_\_\_  
(name) (firm)

To the best of my information, knowledge and belief, the Special Inspections required for this project, and itemized in the *Statement of Special Inspections* submitted for permit, have been performed and all discovered discrepancies have been reported and resolved.

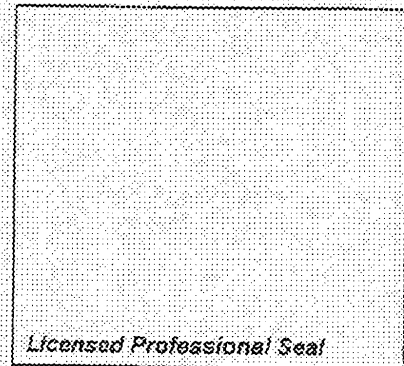
Interim reports submitted prior to this final report form, a basis for and are to be considered an integral part of this final report.

Respectfully submitted,  
Structural Special Inspection Coordinator

\_\_\_\_\_  
(Type or print name)

\_\_\_\_\_  
(Firm Name)

Signature \_\_\_\_\_ Date \_\_\_\_\_



379



Project: Caravan Beads  
Date Prepared: 3-21-2007

**Structural Statement of Special Inspections (Continued)**  
**Special Inspector's/Agent's Final Report**

Project:  
Special Inspector or  
Agent:

(name)

(firm)

Designation:

To the best of my information, knowledge and belief, the Special Inspections or testing required for this project, and designated for this Inspector/Agent in the *Statement of Special Inspections* submitted for permit, have been performed and all discovered discrepancies have been reported and resolved.

Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.

Respectfully submitted,  
Special Inspector or Agent:

\_\_\_\_\_  
(Type or print name)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
*Licensed Professional Seal or  
Certification Number*

*3/21/07*

Project: Caravan Beads  
 Date Prepared: 3-21-2007

**Structural Schedule of Special Inspections**  
**SOILS & FOUNDATION CONSTRUCTION**

VERIFICATION AND INSPECTION	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
IBC Section 1704.7, 1704.8, 1704.9						
1. Verify existing soil conditions, fill placement and load bearing requirements:						
a. Prior to placement of prepared fill, determine that the site has been prepared in accordance with the approved soils report.	Y	P	IBC 1704.7.1	3	PE/GE, EIT or EIT	
b. During placement and compaction of fill material, verify material being used and maximum lift thickness comply with the approved soils report.	Y	P	IBC 1704.7.2	3	PE/GE, EIT or EIT	
c. Test in-place dry density of compacted fill; complies with the approved soils report.	Y	P	IBC 1704.7.2	4	PE/GE, EIT or EIT	
2. Pier foundations						
<i>N/A</i> a. Observe and record procedures for static load testing of piles.		C	IBC 1704.8		PE/GE, EIT or EIT	
b. Observe and record procedures for dynamic load testing of piles.		C			PE/GE, EIT or EIT	
c. Record installation of each pile and results of load test. Include cutoff and tip elevations of each pile relative to permanent reference.		C			PE/GE, EIT or EIT	
d. Test welded splices of steel piles.		C	AWS D1.1		AWS-CWI	
3. Pier foundations: Verify installation of pier foundations for buildings assigned to Seismic Design Category C, D, E or F.		C	IBC 1704.9		PE/GE, EIT or EIT	
a. Verify pier diameter and length.		C			PE/GE, EIT or EIT	
b. Verify pier embedment (socket) into bedrock.		P			PE/GE, EIT or EIT	
c. Verify suitability of end bearing strata.		P			PE/GE, EIT or EIT	



Project: Caravan Beads  
 Date Prepared: 3-21-2007

**Structural Schedule of Special Inspections**  
**CONCRETE CONSTRUCTION**

VERIFICATION AND INSPECTION	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGEN T	AGENT QUALIFICATION	TASK COMPLETED
IBC Section 1704.4						
1. Inspection of reinforcing steel, including prestressing tendons, and placement	Y	P	ACI 318: 3.5, 7.1-7.7	2	PE/SE or EIT	
2. Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5B	N/A	N	Welding of Rein Men Allowed		AWS-CWI	
3. Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased.	N	C	IBC 1912.3		PE/SE or EIT	
4. Verifying use of required design mix	Y	P	ACI 318: Ch 4, 5.2-5.4	2	PE/SE or EIT	
5. At time fresh concrete is sampled to fabricate specimens for strength test, perform slump and air content test and temperature	Y	C	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	4	ACI-CPTT or ACI-STT	
6. Inspection of concrete and shotcrete placement for proper application techniques.	Y	C	ACI 318: 5.9, 5.10	2	PE/SE or EIT	
7. Inspection for maintenance of specified curing temperature and techniques.	Y	P	ACI 318: 5.11-5.13	2	PE/SE or EIT	
8. Inspection of Prestressed Concrete	N/A					
a. Application of prestressing force	N	C	ACI 318: 18.20		PE/SE or EIT	
b. Forming of bonded prestressing tendons in seismic force resisting system	N	C	ACI 318: 18.18.4		PE/SE or EIT	
9. Erection of precast concrete members	N	P	ACI 318: Ch 16		PE/SE or EIT	
10. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and form beams and structural slabs	N	P	ACI 318: 6.2		ACI-STT	

6/9

Project: Caravan Bends  
 Date Prepared: 3-21-2007

**Structural Schedule of Special Inspection Services**  
**FABRICATION AND IMPLEMENTATION PROCEDURES -- STRUCTURAL STEEL**

VERIFICATION AND INSPECTION	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
ISC Section 1704.2						
1. Fabrication Procedures. Review of fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by an approved special inspection agency. At the completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents. -OR-		S	Fabricator shall submit one of the two qualifications		PE/SE or EIT	
2. ASCE Certification	Y			2		
3. At completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents.	Y	S	ISC 1704.2.2	2	PE/SE or EIT	



Project: Caravan Beads  
 Date Prepared: 3-21-2007

**Structural Schedule of Special Inspections - STEEL CONSTRUCTION**

VERIFICATION AND INSPECTION	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
<b>IBC Section 1704.3</b>						
<b>1. Material verification of high-strength bolts, nuts and washers:</b>						
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Y	S	Applicable ASTM material specifications. AISC 335, Section A3.4; AISC LRFD, Section A3.3	2	PE/SE or EIT	
b. Manufacturer's certificate of compliance required.	Y	S		2	PE/SE or EIT	
<b>2. Inspection of high-strength bolting</b>						
a. Bearing-type connections.	Y	P	AISC LRFD Section M2.5	2	PE/SE or EIT	
b. Slip-critical connections.	N	C or P (method dependent)	IBC Sect 1704.3.3		PE/SE or EIT	
<b>3. Material verification of structural steel (IBC Sect 1708.4):</b>						
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Y	S	ASTM A 5 or ASTM A 568 IBC Sect 1708.4	2	PE/SE or EIT	
b. Manufacturer's certified mill test reports.	Y	S	ASTM A 5 or ASTM A 568 IBC Sect 1708.4	2	PE/SE or EIT	
<b>4. Material verification of weld filler materials:</b>						
a. Identification markings to conform to AWS specification in the approved construction documents.	Y	S	AISC, ASD, Section A3.6; AISC LRFD, Section A3.5	2	PE/SE or EIT	
b. Manufacturer's certificate of compliance required.	Y	S		2	PE/SE or EIT	
<b>5. Submit current AWS D1.1 welder certificate for all field welders who will be welding on this project.</b>						
<b>6. Inspection of welding (IBC 1704.3.1):</b>						
<b>a. Structural steel:</b>						
1) Complete and partial penetration groove welds.	N/A	C	AWS D1.1		AWS-CWI	
2) Multipass fillet welds.	N/A	C			AWS-CWI	
3) Single-pass fillet welds > 5/16"	N/A	C			AWS-CWI	
4) Single-pass fillet welds < 5/16"	Y	P		2	PE/SE or EIT	
5) Floor and deck welds.	Y	P		2	PE/SE or EIT	
<b>b. Reinforcing steel (IBC Sect 1903.5.2):</b>						
1) Verification of weldability of reinforcing steel other than ASTM A706.	N	C				
2) Reinforcing steel-resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special reinforced concrete shear walls and shear reinforcement.	N	C	AWS D1.4		AWS-CWI	
3) Shear reinforcement.	N	C	ACI 318, 17.2		AWS-CWI	
4) Other reinforcing steel.	N	P			AWS-CWI	
<b>7. Inspection of steel frame joint details for compliance (IBC Sect 1704.3.2) with approved construction documents:</b>						
a. Details such as bracing and stiffening.	Y	P		2	PE/SE or EIT	
b. Member locations.	Y	P		2	PE/SE or EIT	
c. Application of joint details at each connection.	Y	P		2	PE/SE or EIT	

Project: Caravan Bends  
 Date Prepared: 3-21-2007

**Quality Assurance Plan – Seismic and Wind**

**QUALITY ASSURANCE FOR SEISMIC RESISTANCE CHECK LIST [IBC 1705]**

Seismic Design Category B

N/A

FOR SEISMIC DESIGN CATEGORY C OR HIGHER:

Structural:

- The seismic force-resisting systems
  - Steel Braced Frames and associated connections/anchorage
  - Steel Moment Frames and associated connections
  - Shear walls:  CMU  Wood  Concrete  Diaphragms  Floor  Roof
  - Other

**QUALITY ASSURANCE FOR WIND RESISTANCE CHECK LIST [IBC 1706]**

Wind Exposure Category B

N/A

REQUIRED	NOT REQUIRED	NOT APPLICABLE	QUALITY ASSURANCE PLAN REQUIREMENTS (A Quality Assurance Plan is required where indicated below)
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In wind exposure Categories A and B, where the 3-second-gust basic wind speed is 120 miles per hour (mph) (52.8 m/sec) or greater.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	In wind exposure Categories C and D, where the 3-second-gust basic wind speed is 110 mph (49 m/sec) or greater.

Prepared by:

Building Code Official's Acceptance:

*[Handwritten Signature]*  
 Signature

3/21/2007  
 Date

Signature

Date

FIRM: MURX : STRUCTURAL STEEL BLDG SYSTEM ONLY  
 B.O. : BY OTHERS  
 FROM DESIGNER: \_\_\_\_\_

DATE: \_\_\_\_\_

Job Name: CARAVAN BEADS EXP. BLDG

Address of Construction: 915, FOREST AVE, PORTLAND, ME 04103

**2003 International Building Code**

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

Building Code & Year IBC 2003 Building Classification (s) II STD

Type of Construction I/II (1604.5) NP 3-13-2007

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IRC B.O.

Is the Structure mixed use? B.O. If yes, separated or non separated or non separated (section 302.3) B.O.

Supervisory alarm System? B.O. Geotechnical/Soils report required? (See Section 1802.2) B.O.

**STRUCTURAL DESWV 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
<u>B.O.</u>	<u>50</u>

**Wind loads (1603.1.4, 1609)**

**ANALYTIC METHOD** Design option utilized (1609.1.1, 1609.5)

100 MPH Basic wind speed (1809.3)

Iw = 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)

P = 15.23 (GCp = 0.18) Components and cladding pressures (1609.1.1, 1609.6.2.2)

P = 15.23 (GCp = 0.18) Main force wind pressures (7603.1.1, 1609.6.2.1)

**Earth design data (1603.1.5, 1614-1623)**

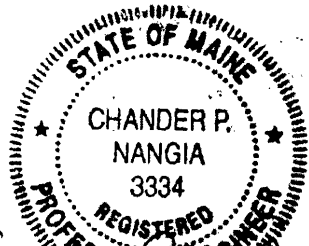
**EQUIVALENT LATERAL FORCE PROCEDURE** Design option utilized (1614.1)

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

Sds = 0.3; Sd1 = 0.4 Spectral response coefficients,  $S_d$  &  $S_{d1}$  (1615.1)

C Site class (1615.1.5)

<u>N/A</u>	Live load reduction
<u>0</u>	Roof live loads (1603.1.2, 1607.11)
<u>43 psf</u>	Roof snow loads (1603.7.3, 1608)
<u>60 psf</u>	Ground snow load, $P_g$ (1608.2)
<u>43 psf</u>	If $P_g > 10$ psf, flat-roof snow load $P_f$
<u>1</u>	If $P_g > 10$ psf, snow exposure factor, $C_e$
<u>1</u>	If $P_g > 10$ psf, snow load importance factor, $I_s$
<u>1</u>	Roof thermal factor, $C_t$ (1608.4)
<u>N/A</u>	Sloped roof snowload, $P_s$ (1608.4)
<u>B</u>	Seismic design category (1616.3)
<u>B</u>	Basic seismic force resisting system (Table 1617.6.2)
<u>3</u>	Response modification coefficient, $R$ and
<u>3</u>	deflection amplification factor, $C_d$ (Table 1617.6.2)
<u>EQ. LAT. FORCE PROC.</u>	Analysis procedure (1616.6, 1617.5)
<u>30 kips</u>	Design base shear (1617.4, 1617.5.1)
<b>Flood loads (1803.1.6, 1612)</b>	
<u>B.O.</u>	Flood Hazard area (1612.3)
<u>B.O.</u>	Elevation of structure
<b>Other loads</b>	
<u>RTU-SEE PLAN</u>	Concentrated loads (1607.4)
<u>B.O.</u>	Partition loads (1607.5)
<u>B.O.</u>	Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)



*Chandler P. Nangia*  
 3/13/2007



# Certificate of Design

Date: \_\_\_\_\_

From: CHANDER P. NANGIA

These plans and / or specifications covering construction work on:

CARAVAN BEADS EXP. BLDG  
915, FOREST AVE, PORTLAND, ME 04103

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



Signature: Chandar P. Nangia 3/23/2007

Title: CHIEF ENGINEER

Firm: MUROX (A DIVISION OF CANAM GROUP)

Address: 2050, 127<sup>e</sup>me RUE  
ST-GEORGES, G5Y 2W8

Phone: 1-418-228-8031

For more information or to download this form and other permit applications visit the Inspections Division on our website at [www.portlandmaine.gov](http://www.portlandmaine.gov)

# *American Institute of Steel Construction, Inc.*

*is proud to recognize*

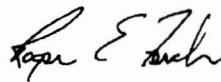
## **Canam Steel Corporation**

St-Gedeon, QC

*for successfully meeting the quality certification requirements for*

### **Standard for Steel Building Structures, Simple Steel Bridges and Major Steel Bridges**

Fracture Critical Endorsement  
Sophisticated Paint Coating Endorsement-Enclosed



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Roger E. Ferch



---

Bobbi Marsteller

*Certification valid through November 2007*



# Certificate of Registration

*This is to certify that QUASAR has registered the Quality Management System of:*

## **GROUPE CANAM INC.**

115, Boulevard Canam Nord, St-Gédéon de Beauce (Québec) G0M 1T0

*to the Quality System Standard:*

# ISO 9001:2000

**Initial Registration:** 29 July 1998

**Date of Issue:** 8 June 2005

**Date of Expiry:** 29 July 2007

**Scope:** Design and manufacturing of structural steel components, open web steel joist and pre-fabricated buildings (MUROX).

**Certificate Number:**



General Manager  
E. J. Whalen, P.Eng.



Terms and Conditions governing registration and the use of this certificate are defined in the contract between QUASAR and the Holder. Contact the certificate holder for further information related to the scope and boundaries of the registration. QUASAR, A Division of the CWB Group, 7250 West Credit Avenue, Mississauga, Ontario, Canada, L5N 5N1, Tel: (905) 542-0547, Fax: (905) 542-1318, Web: [www.quasarquality.org](http://www.quasarquality.org)

**FICHE D'INSPECTION - MURS MUROX**  
**( Inspection report - MUROX panels)**

**PROJET:** CARAVANS BEADS

**CONTRAT:** H00727

**No. Panneau:** \_\_\_\_\_  
*(Panel Number)*

**Type de Panneau:** \_\_\_\_\_  
*(Panel Type)*

**VÉRIFICATION DU MATÉRIEL**

**Vérifié**  
*(Verified)*

**Assemblage du Cadre d'Acier**  
*(Steel Frame Assembly)*

**Membrures Principales Verticales**  
*(Main Vertical Members)*

Profondeur & Largeur de Semelles (6" x 2")  
*(Depth & Flange Width)*

\_\_\_\_\_

**Profondeur & Épaisseur de**  
*(Depth & Gage of)*

Entremise de Tête de Panneau (6" x 16 ga.)  
*(Top Girt)*

\_\_\_\_\_

Entremise de Tête des Fenêtres (6" x 0.118")  
*(Window opening Head Girts)*

\_\_\_\_\_

Entremise de Rebord de Fenêtres (6" x 0.118")  
*(Window opening Sill Girts)*

\_\_\_\_\_

Entremise à la Base de Panneau (6" x 16 ga.)  
*(Base Girt)*

\_\_\_\_\_

**Dimension & Épaisseur de**  
*(Size & Thickness of)*

Plaques de Base ( 5 " x ½" x 6" )  
*(Base Plates)*

\_\_\_\_\_

**Profondeur & Épaisseur des Entremises Intermédiaires** (6" x 16 ga.)  
*(Depth & Gage of Intermediate Girts)*

\_\_\_\_\_

**Soudure des:**  
*(Welding of)*

Entremises  
*(Girts)*

\_\_\_\_\_

Plaques de Base  
*(Anchor Plates)*

\_\_\_\_\_

Supports d'Entremises  
*(Girts Brackets)*

\_\_\_\_\_

**Peinture du Cadre d'Acier** (à l'exception de l'âme de la colonne)  
*(Steel Frame Painting)(column web excluded)*

\_\_\_\_\_

Date: \_\_\_\_\_

Inspecté par : \_\_\_\_\_

**FICHE D'INSPECTION - MURS MUROX**  
( Inspection report - MUROX panels)

**PROJET:** CARAVANS BEADS

**CONTRAT:** H00727

**No. Panneau:** \_\_\_\_\_  
(Panel Number)

**Type de Panneau:** \_\_\_\_\_  
(Panel Type)

(Checked by)

**Installation du Recouvrement Extérieur**  
(Exterior siding Installation)

**Vérifié**  
(Verified)

**Détails du Revêtement Extérieur**  
(exterior siding Material)

Manufacturier (Manufacturer)	MUROX	_____
Marque de Commerce (Material Trade Name)	M - 156 R ( 1 ½ " )	_____
Épaisseur (Thickness)	26 GA	_____

**Attaches du Recouvrement Extérieur**  
(Barrier Fasteners)

Manufacturier (Manufacturer)	LELAND	_____
Marque de Commerce (Material Trade Name)	TEK /3	_____
Diamètre & Longueur (Diameter & Length)	# 12 - 14 x 1 "	_____

**Retrait du Recouvrement Extérieur à**  
(Barrier Set Back at)

Rebord de Fenêtre (Window Sill)	_____
Tête de Fenêtre (Window Head)	_____

**Alignement du Recouvrement Extérieur au**  
(Barrier Alignment at )

Côté Droit (Right Side)	_____
Côté Gauche (Left Side)	_____

Date: \_\_\_\_\_

Inspecté par : \_\_\_\_\_  
(Checked by)



**FICHE D'INSPECTION - MURS MUROX**  
( Inspection report - MUROX panels)

**PROJET: CARAVANS BEADS**

**CONTRAT: H00727**

**No. Panneau:** \_\_\_\_\_  
(Panel Number)

**Type de Panneau:** \_\_\_\_\_  
(Panel Type)

**Installation du coupe-air, coupe-vapeur et laine minérale**  
(Air barrier, Vapourbarrier and fiberglass wool Installation)

**Vérifié**  
(Verified)

**Membrane coupe-air**  
(Air barrier)

Manufacturier (Manufacturer)	DUPONT	_____
Marque de Commerce (Material Trade Name)	TYVEK HOME WRAP	_____

**Séparateur thermique**  
(thermal strip)

Manufacturier (Manufacturer)	JACOBS & THOMPSON inc.	_____
Marque de Commerce (Material Trade Name)	FOAMFLEX # 2542E	_____

**Laine minérale**  
(fiberglass wool)

Manufacturier (Manufacturer)	OTTAWA FIBRE	_____
Marque de Commerce (Material Trade Name)	OFI Basic (unfaced metal building insulation)	_____

**Membrane coupe-vapeur**  
(Vapour barrier)

Manufacturier (Manufacturer)	LAMTEC	_____
Marque de Commerce (Material Trade Name)	WMP - 10	_____

Date: \_\_\_\_\_

Inspecté par : \_\_\_\_\_  
(Checked by)