

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK CITY OF PORTLAND

Please Read Application And Notes, If Any, Attached

BUILDING DEPARTMENT

Permit Number: 041140

This is to certify that One Pleasant Street Llc /Portland Cover LLC
has permission to 1-41" x 82" (replacement of existing awning) & 3' (w) - 57" (h) - 0"
AT 1 Pleasant St 038 E019001

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of Maine 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 work in permit in progress before this building or part thereof is occupied 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. _____
Health Dept. _____
Appeal Board _____
Other _____
Department Name

[Signature]
8/27/04
Director - Building & Inspection Services

PENALTY FOR REMOVING THIS CARD

City of Portland, Maine - Building or Use Permit Application

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

Permit No: 04- 1140	Issue Date:	CBL: 038 E019001
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Location of Construction: 1 Pleasant St	Owner Name: One Pleasant Street Llc	Owner Address: 440 Forest Ave	Phone:
Business Name:	Contractor Name: Portland Cover, LLC	Contractor Address: P.O. Box 814 Portland	Phone
Lessee/Buyer's Name	Phone:	Permit Type: Signs - Permanent	Zone: B-3

Fast Use: Restaraunt/ Hi Bombay	Proposed Use: Hi Bombay / Replace and add new awnings w/signage- 1-41" x 82" (replacement of existing awning) & 3 - 57" x 30"	Permit Fee: \$176.00	Cost of Work: \$176.00	CEO District: 1
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FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied Signature: <i>N/A</i>	INSPECTION: Use Group: U Type: Sign BOCA 1999 Signature: <i>[Signature]</i>
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Proposed Project Description:
1-41" x 82" (replacement of existing awning) & 3 (new) - 57" x 30"

Along Pleasant St

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)

Action: Approved Approved w/Conditions Denied

Signature: _____ Date: _____

Permit Taken By: Idobson	Date Applied For: 08/11/2004	Zoning Approval
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<p>Special Zone or Reviews</p> <p><input type="checkbox"/> Shoreland</p> <p><input type="checkbox"/> Wetland</p> <p><input type="checkbox"/> Flood Zone</p> <p><input type="checkbox"/> Subdivision</p> <p><input type="checkbox"/> Site Plan</p> <p>Major <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/></p> <p>Date: <i>8/24/04</i></p>	<p>Zoning Appeal</p> <p><input type="checkbox"/> Variance</p> <p><input type="checkbox"/> Miscellaneous</p> <p><input type="checkbox"/> Conditional Use</p> <p><input type="checkbox"/> Interpretation</p> <p><input type="checkbox"/> Approved</p> <p><input type="checkbox"/> Denied</p> <p>Date: _____</p>	<p>Historic Preservation</p> <p><input checked="" type="checkbox"/> Not in District or Landmark</p> <p><input type="checkbox"/> Does Not Require Review</p> <p><input type="checkbox"/> Requires Review</p> <p><input type="checkbox"/> Approved</p> <p><input type="checkbox"/> Approved w/Conditions</p> <p><input type="checkbox"/> Denied</p> <p>Date: _____</p>
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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

Permit No: 04-1 140	Date Applied For: 08/11/2004	CBL: 038 E019001
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Location of Construction: 1 Pleasant St	Owner Name: One Pleasant Street Llc	Owner Address: 440 Forest Ave	Phone:
Business Name:	Contractor Name: Portland Cover, LLC	Contractor Address: P.O. Box 8 14 Portland	Phone:
Lessee/Buyer's Name	Phone:	Permit Type: Signs - Permanent	

Proposed Use: Hi Bombay / Replace old along Pleasant St. and add new awnings along Center St w/signage- 1-41" x 82" (replacement of 25' long existing awning with one over door only) & 3 - 57" x 30"	Proposed Project Description: 1-41" x 82" (replacement of existing awning) & 3 (new) - 57" x 30"
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Dept: Zoning	Status: Approved	Reviewer: Marge Schmuckal	Approval Date: 08/24/2004
Note:			Ok to Issue: <input checked="" type="checkbox"/>
Dept: Building	Status: Approved with Conditions	Reviewer: Tammy Munson	Approval Date: 08/27/2004
Note: 1) Signage Installation to comply with Chapter 31 BOCA 1999			Ok to Issue: <input checked="" type="checkbox"/>

Signage/Awning 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: <u>1 Pleasant St.</u>		
Total Square Footage of Proposed Structure	Square Footage of Lot	
	<u>one + St</u>	
Lessee/Buyer's Name (If Applicable) <u>Hi Bombay</u>	Applicant name, address & telephone: <u>Hi Bombay</u> <u>1 Pleasant St</u> <u>Portland, ME</u>	Totals.f. of signage x \$2.00 per s.f. plus \$30.00/\$65.00 for H.D. signage = Total Fee: \$ <u>73</u> Awning Fee = Cost Of Work \$ _____ Total Fee: \$ <u>176</u>
<p>Proposed use: <u>4 new Awnings</u></p> <p>Project description: <u>1 - 41" x 82" + 3 - 57" x 30" with signage</u></p>		
Contractor's name, address & telephone: <u>Portland & @ LLC</u>		
Whom should we contact when the permit is ready: <u>David Caron</u>		
Mailing address:		
<p>We will contact you by phone when the permit is ready. You must come in and pick up the permit and review the requirements before starting any work, with a Plan Reviewer. A STOP WORK ORDER will be issued and a \$100.00 fee if any work starts before the permit is picked up. PHONE: <u>415-4727</u></p>		

IF THE REQUIRED INFORMATION IS NOT INCLUDED IN THE SUBMISSIONS THE PERMIT WILL BE AUTOMATICALLY DENIED AT THE DISCRETION OF THE BUILDING/PLANNING DEPARTMENT. WE MAY REQUIRE ADDITIONAL INFORMATION IN ORDER TO APPROVE THIS PERMIT.

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: <u>[Signature]</u>	Date: <u>08.06.09</u>
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This is NOT a permit, you may not commence ANY work until the permit is issued.

SIGNAGE/AWNING PRE-APPLICATION QUESTIONNAIRE

PLEASE COMPLETE ALL INFORMATION

ADDRESS: 1 Pleasant St ZONE: B-3

CBL: 38 E 19

SINGLE TENANT LOT? YES NO MULTI TENANT LOT? YES NO
MORE THAN ONE SIGN TOTAL WITH PROPOSED SIGN? YES NO

TENANT/ALLOCATED BUILDING SPACE FRONTAGE (FEET):

Length: 25' x 2 = 50' Height: 3 store Building.
Along Pleasant St
48' Along Center St x 2 = 96'

INFORMATION ON PROPOSED SIGN(S):

FREESTANDING (e.g., pole) SIGN? YES NO DIMENSIONS PROPOSED: _____
BLDG. WALL SIGN? (attached to bldg) YES NO DIMENSIONS PROPOSED: _____

INFORMATION ON ALREADY EXISTING AND PERMITTED SIGN(S):

FREESTANDING (e.g., pole) SIGN? YES NO DIMENSIONS: _____
BLDG. WALL SIGN(attached to bldg) ? YES NO DIMENSIONS: _____
AWNING? YES NO DIMENSIONS: _____
LOT FRONTAGE (FEET): _____

AWNING YES NO IS AWNING BACKLIT? YES NO

HEIGHT OF AWNING: see Attached LENGTH OF AWNING: _____ DEPTH: _____

IS THERE ANY COMMUNICATION, MESSAGE, TRADEMARK OR SYMBOL ON IT? YES NO

IF YES, TOTAL S.F. OF PANELS WITH COMMUNICATIONS/MESSAGE/TRADEMARK/SYMBOL? 23 s.f.

A SITE SKETCH AND BUILDING SKETCH SHOWING EXACTLY WHERE EXISTING AND NEW SIGNAGE IS LOCATED MUST BE PROVIDED. SKETCHES AND/OR PICTURES OF PROPOSED SIGNAGE ARE ALSO REQUIRED.

SIGNATURE OF APPLICANT: [Signature] DATE: 08.06.09

***** FOR OFFICE USE ONLY *****

Allowed Along Pleasant St = 50' ^{lots} removing old & adding one over entry 18.36' ^{ok}

Allowed Along Center St = 96' — 3 Awning over existing windows totaling 29.43' ^{ok}

CHECKLIST FOR SIGN/AWNING APPLICATION

Applicants for a sign or awning permit are required to submit the following information to the Code Enforcement Office at the time of application:

- 1 Will Fax Certificate of Liability listing the City as additional insured if any portion of the sign abuts or encroaches on any public right of way, or can fall into any public right of way. Amount must equal \$400,000.00.
 - 2 Will Fax Letter of permission from the owner indicating the permissions granted and the tenant/space building frontage.
 - 3 Attached A sketch plan of lot, indicating location of buildings, driveways, and any abutting streets or rights of way, lengths of building frontages, street frontages, and all existing setbacks. Indicate on the plan all existing and proposed signs with their dimensions and specific locations. Be sure to include distance from the ground and building facade dimensions for any signage attached to a building.
- Attached A sketch or photo of any proposed sign(s) indicating *content, dimensions, materials, source of illumination, and construction method, as well as specifics of installation/attachment.*
- Certificate of Flammability required for awning or canopy at time of application.
- NA UL# required for lighted signs at the time of Final Inspection. Failure to provide this information will invalidate the Sign Permit.
- ✓ Pre-Application Questionnaire completed and attached. Photos of existing signage attached.

**Permit Fee for signage or awning-with-signage:
\$30.00 plus \$2.00 per square foot of sign.**

**Permit Fee for awning-without-signage is based on cost of work
\$30.00 for the first \$1,000.00, plus \$9.00 for each additional \$1,000.00.**

Base Application Fee for any Historic District signage is \$65.00 instead of \$30.00

Sidewalk Signs

Design, Location, and Construction Standards

Quantity

One sign per establishment for each street frontage having a public entrance, provided that all dimension and location standards are met. When standards would not otherwise permit a sign, a sign may consist of multiple listings.

Sign Dimensions

Single Listing: Maximum width is **24** inches or such lesser width sufficient to retain **4 ½** feet of unobstructed sidewalk width perpendicular to major flows. Maximum height is 40 inches to top of sign in place. Minimum height is 30 inches to top of sign in place.

Multiple: Maximum width is 30 inches or such lesser width sufficient to retain **4 ½** feet of unobstructed sidewalk width perpendicular to major flows. Maximum height is 40 inches to top of sign in place. Minimum height is 30 inches to top of sign in place.

Location

Minimum distance between signs is 20 feet. Maximum distance of sign from public entrance of advertiser is 20 feet. The City may vary these distances for exceptional physical circumstances where public safety and streetscape aesthetics will be maintained. However, under no circumstances shall signs obstruct vehicular stops, benches, fire hydrants, or other street visual amenities. Signs shall be located near the curb rather than the building face.

Materials and Graphics

All signs shall be of an A-Frame type design, shall be constructed of durable, weather-resistant materials and finish, shall have no moving parts, and shall be non-electrified. All signs shall be maintained in a clean and original appearance. Sign materials, graphics, and finish shall be of a unified design and shall be compatible with the local streetscape. All signs shall have horizontal braces spanning each side of the sign to assure rigid support. Lettering shall be legible and consistent.

Sign Removal

All signs shall be removed when the business is closed or while any snow or ice exists on the walk within eight feet of the sign in any direction.

Insurance

No permit shall be issued unless the applicant has posted in advance with the City a Certificate of Liability listing the City as additional insured in the amount of \$400,000.00.

Enforcement

A sign may be removed after notice to the owner and the permit, if issued, may be revoked if the sign does not conform to the standards herein.

For a sidewalk sign permit, come to City Hall, 389 Congress Street, Room 315, with:

- _____ Certificate of Liability Insurance
- _____ Drawing of sign showing dimensions and design work
- _____ Payment of \$30.00 plus \$2.00 per s.f. of signage.
- _____ Complete application with pre-application questionnaire and checklist completed.

August 6, 2004

Building Code Enforcement Department
Planning & Code Development
389 Congress Street
Portland, Maine 04102

RE: Hi Bangla, One Pleasant Street, Portland

Dear Building Code Enforcement Department:

My company, MCR Real Estate, manages the building located at 1 Pleasant Street, Portland, Maine, for One Pleasant Street LLC. Khasru Alam, coowner of Hi Bangla Inc., owns the Hi Bombay Restaurant on the first floor of the building as shown in the picture below,

On behalf of One Pleasant Street, I hereby allow Hi Bangla, Inc. to replace its current awning on Pleasant Street and install new awnings over the windows on Center Street. Hi Bangla has 25' +/- of frontage on Center Street

Please call should you have any questions. Thank you.

Very truly yours,

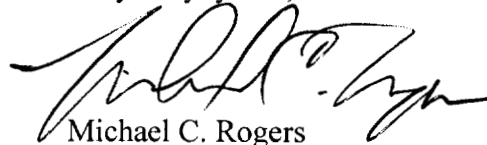
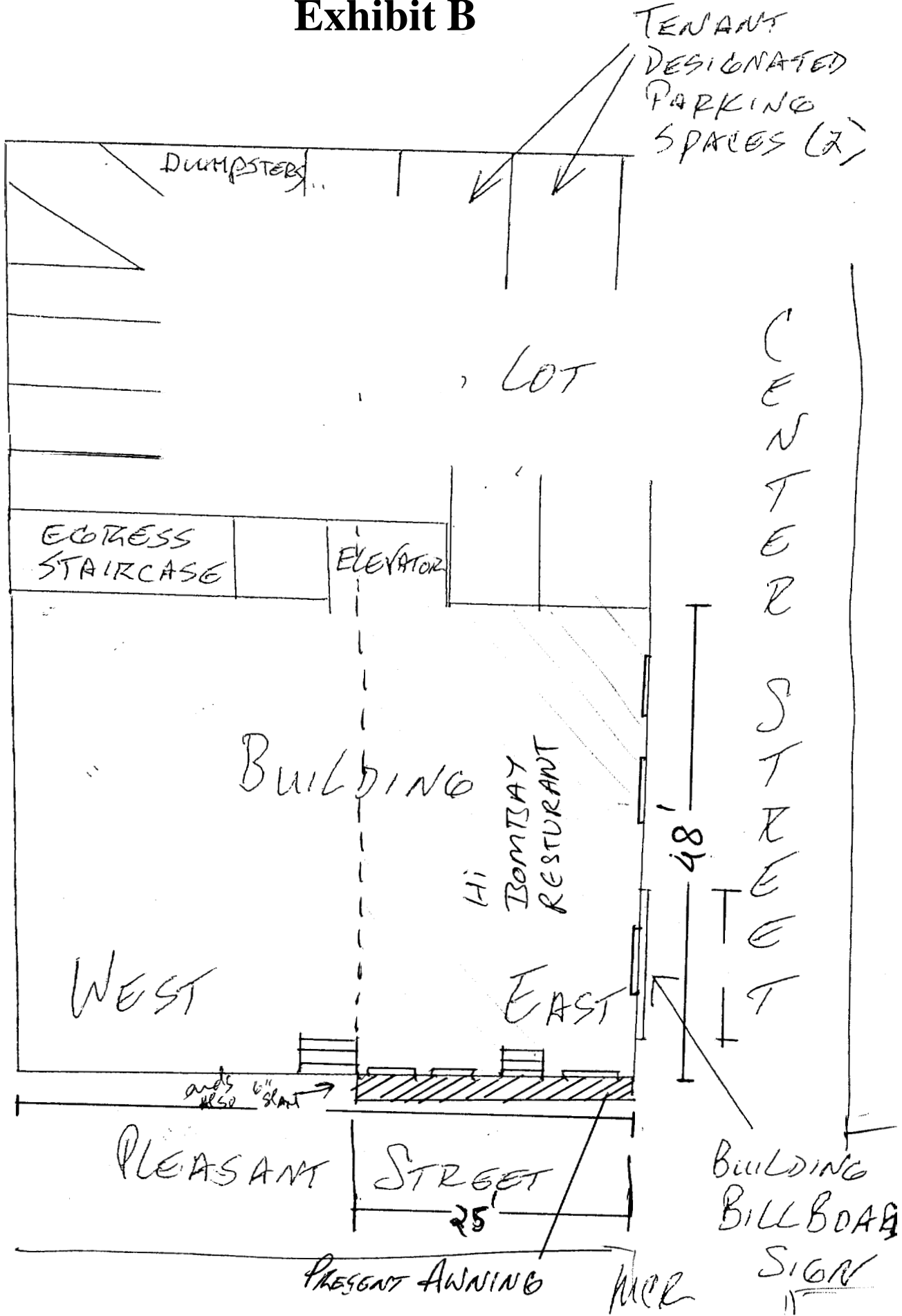
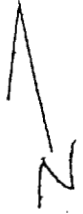

Michael C. Rogers



Exhibit B



AGORP™ CERTIFICATE OF LIABILITY INSURANCE DATE (MM/DD/YYYY)
08/06/2004

PRODUCER (207) 883-8229
SOUTHERN MAINE INSURANCE
432 US RTE 1
P.O. Box 6803
SCARBOROUGH ME 04070-6803

INSURED
HI BANGLA INC
1 PLEASANT STREET

PORTLAND ME 04101-

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE	NAIC #
INSURER A: GRESHAM & ASSOCIATES	
INSURER B:	
INSURER C:	
INSURER D:	
INSURER E:	

COVERAGES
 THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
A		<input checked="" type="checkbox"/> GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR	CPS0586925	05/28/2004	05/28/2005	EACH OCCURRENCE \$ 500,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 50,000 MED EXP (Any one person) \$ 1,000 PERSONAL & ADV INJURY \$ 500,000 GENERAL AGGREGATE \$ 1,000,000 PRODUCTS - COMP/OP AGG \$ 500,000
		GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJ <input type="checkbox"/> LOC		/ /	/ /	
		AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS		/ /	/ /	COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
		GARAGE LIABILITY ANY AUTO		/ /	/ /	AUTO ONLY - EA ACCIDENT \$ OTHER THAN AUTO ONLY: EA ACC \$ AGG \$
		EXCESS/UMBRELLA LIABILITY <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> DEDUCTIBLE RETENTION \$		/ /	/ /	EACH OCCURRENCE \$ AGGREGATE \$ \$ \$ \$
		WORKERS COMPENSATION AND EMPLOYERS LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below		/ /	/ /	<input type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
		OTHER		/ /	/ /	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS

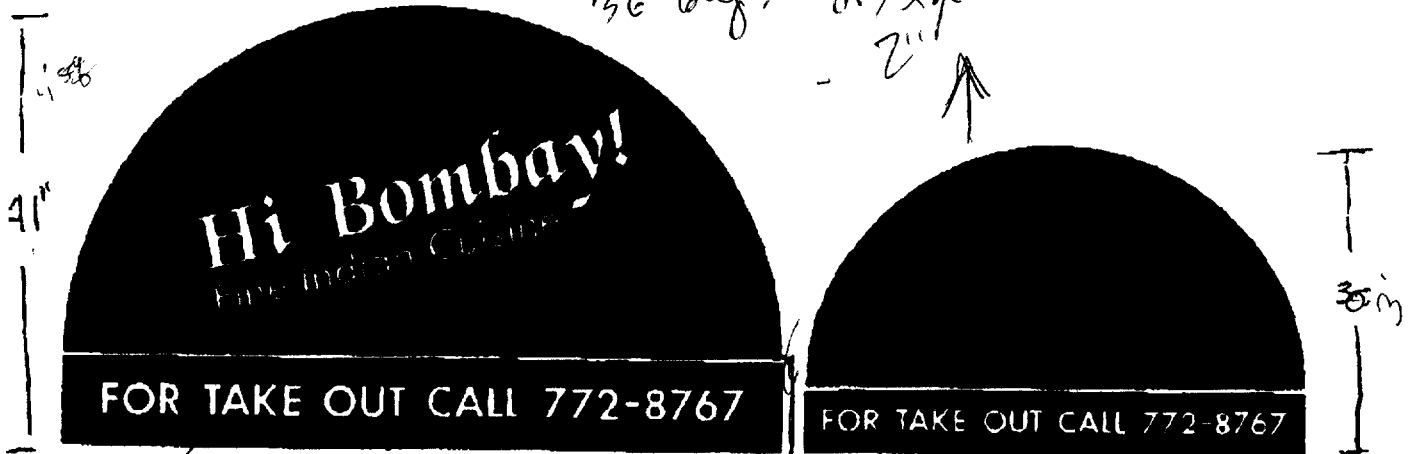
() - () -

CITY OF PORTLAND
CITY HALL

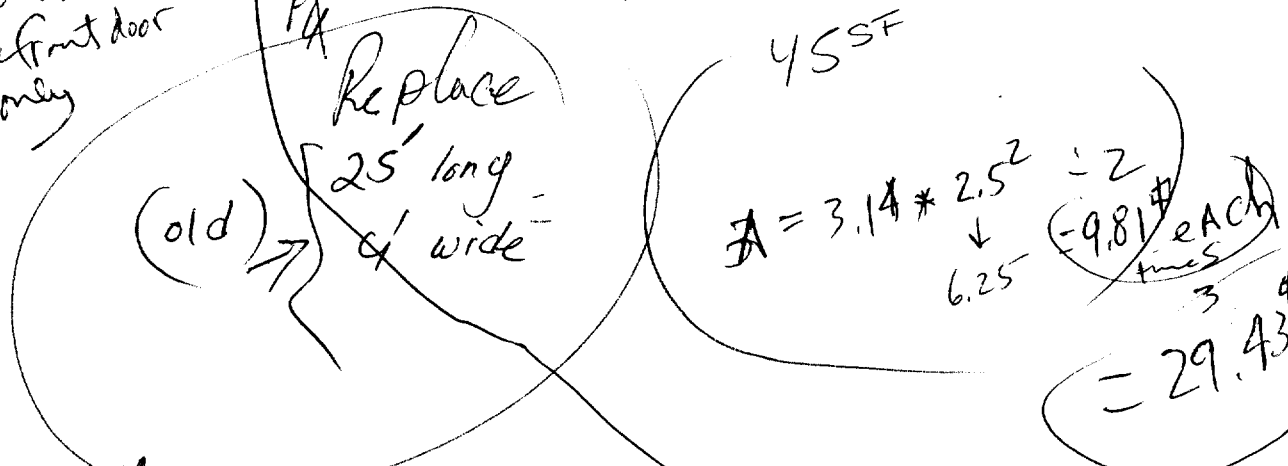
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 10 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE
Barbara W. Smith

63" long 4" high letter
 44" x 6" High Bombay - 30"
 36" long 3" high Hi Indian Cuisine
 2" x 4" long



28 SF
 7' new for over the front door only
 4.5 SF
 82" Dark Green Awning 4x82 Painted White
 2" (3) "skirts" 7x57 Painted White
 5 SF
 51" 45 SF



$A = \pi R^2 \div 2$
 $A = 3.14 * 4^2 \div 2 = 25.12$
 $A = 3.14 * 3.42^2 \div 2 = 18.36$
 one Along Pleasant St

$A = 3.14 * 2.5^2 \div 2 = 9.81$
 $9.81 * 3 = 29.43$
 EACH times 3

Portland Cover LLC
Post Office Box 814
Portland, Maine 04104-0814
(207) 774-7465

August 9, 2004

Michael J. Nugent
Planning & Developing Department
City of Portland
389 Congress Street
Portland, ME 04101

(207) 874-8700

This letter is representing the facts that the awnings manufactured for Hi Bombay Restaurant located at One Pleasant Street on this date August 9, 2004 have been treated with flame retardant chemical approved and registered by the California State Fire Marshal and that the application of said chemical was done in conformance with the laws of the State of California and the rules and regulations of the State Fire Marshal.

In addition, the articles described **Sunbrella® # 8637** Forest Green is made from Flame resistant fabric or material **registered and** approved by the State Fire Marshal for such use. (ASTME-84-00a & #801, Title 19, Registration # F368.01)

For further information please call us @ (207) 774-7465.

Regards,



David Cairns

President Portland Cover LLC

Certificate of Flame Resistance



REGISTERED APPLICATION CONCERN No.

FA-36801

ISSUED BY

GLEN RAVEN CUSTOM FABRICS, LLC
1831 N PARK AVE
GLEN RAVEN NC 27217

336-227-6211

Date Work Performed:

8/10/04

This is to certify that the materials described on the reverse side hereof have been flame-retardant treated (or are inherently nonflammable).

FOR ASTRUP COMPANY AT 2937 WEST 25th STREET
CLEVELAND STATE OHIO 44113

Certification is hereby made that. (Check "a" or "b")

(a) The articles described on the reverse side of this Certificate have been treated with a flame-retardant chemical approved and registered by the State Fire Marshal and that the application of said chemical was done in conformance with the laws of the State of California and the Rules and Regulations of the State Fire Marshal.

Name of chemical used _____ Chem. Reg. No. _____

Method of application _____

(b) The articles described on the reverse side hereof are made from a flame-resistant fabric or material registered and approved by the State Fire Marshal for such use.

Trade name of flame-resistant fabric or material used FR SUNBRELLA Reg. No. FA-36801

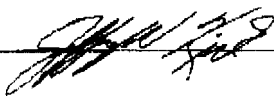
The flame Returdant Process Used WILL NOT Be Removed By Washing
(will or will not)

GLEN RAVEN CUSTOM FABRICS
Name of Production Superintendent

By STEVEN L. ELLINGTON, GEN. MGR
Title

We hereby certify this to be a true copy of the original "CERTIFICATE OF FLAME RESISTANCE" issued to us, "original copy" of which has been filed with the California State Fire Marshal.

The ASTRUP COMPANY

By 

Control/lot # _____

Quantity 10,000 YD

Customer order # DAVE

Description SUNBRELLA FIRESIST 8637/60 FR

Astrup Invoice # 9708703

Product Code 898637

PORTLAND COVER LLC
PO BOX 814
DBA: AWNING & COVER
PORTLAND

ME 04104-0814

Installing Dome Style Awnings

To install a dome awning on a wall with continuous internal structure, such as sheet blocking (see page 75) or solid masonry walls, install a single hanging bracket at the top of the dome. The bracket fastener will be installed at $1\frac{13}{16}$ " below the highest point of the installed dome, as shown in Figure 619. The z-bracket should be installed with the removable $\frac{1}{4}$ " spacer as described in step 1 of the *Awning Installation Procedure* section on page 410. This provides the perfect gap for the *FlashStrip*® fin to catch the wall as the top-bar slips into the bracket. If the dome is large enough to allow tool clearance for direct connections, make sure to pre-drill the direct connections as discussed in the *Pre-Drilling Holes for Direct Connections* section on page 408. The pre-drilled holes should be located as discussed in the *Wall Connections* section starting on page 227. Hang the dome and level it as shown in Figure 620. Make the structural connections as discussed in the *Fasteners* section on page 397, and the *Connection Types* section on page 407 (use direct connections for large domes, and z-bracket connections for small domes).

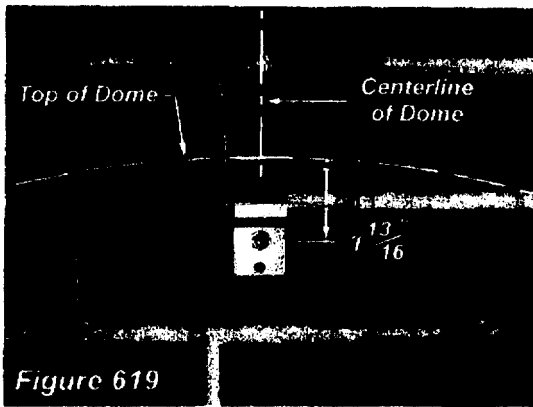


Figure 619

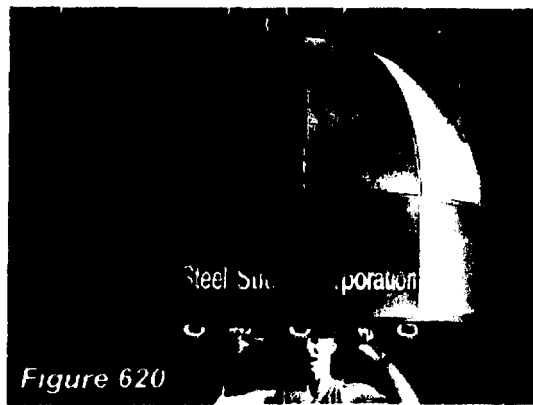


Figure 620

To install a dome awning on a stud wall with no sheet blocking (see page 75), an outline of the dome must be made on the wall at the correct installed position. To do this, raise the dome into place and hold it while someone traces the dome along the outside of the top-bar. Find each stud and mark its centerline where it crosses the curved outline as shown in Figure 621. Make a second curved line at $1\frac{13}{16}$ " below the traced outline by using a compass as shown in Figure 622. The $1\frac{13}{16}$ " measurement used to locate the second curved line is only accurate for use with Steel Stitch™ extruded r-brackets. If you use a different z-bracket, then you will need to measure it to determine its unique offset value for this operation.

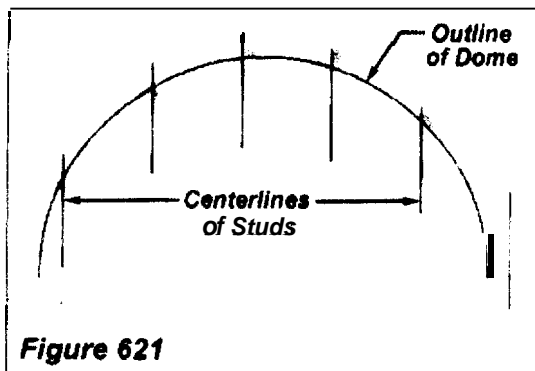


Figure 621

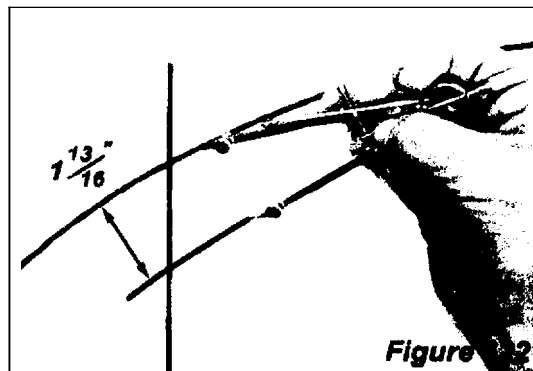


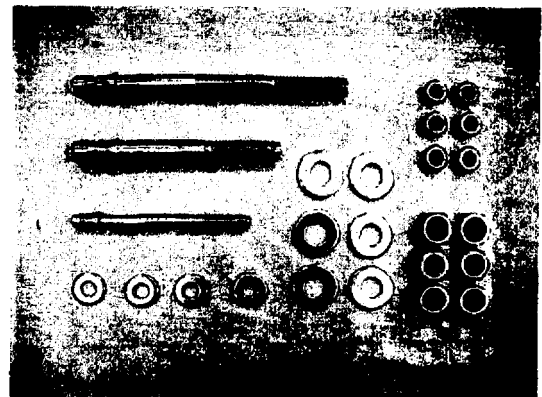
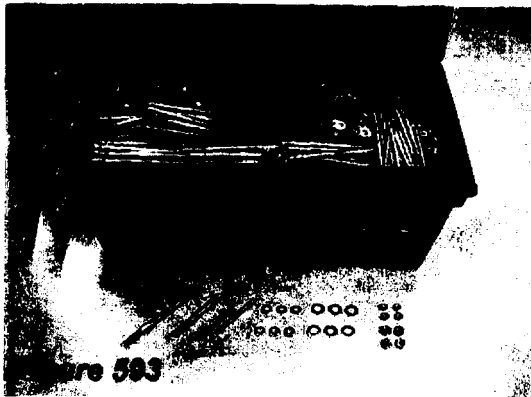
Figure 622

AUG 27 2004

FIVE

Fastener Category #5 - Expansion Anchors

Expansion anchors are used to connect column base plates to concrete footings or slabs. They are also used when awning or canopy frames must be connected to solid concrete walls. An expansion anchor fastener box like the one shown in **Figure 593** should be kept in the installation vehicle. As a minimum, the following expansion anchors and hardware (shown in **Figure 594**) should be included: $1/4"$ x $3 1/4"$ expansion anchors, $3/8"$ x $3 3/4"$ expansion anchors, $3/8"$ x $5"$ expansion anchors, $5/16"$ i/d. x $3/4"$ o/d. x $1/16"$ flat washers, $13/32"$ i/d. x $13/16"$ o/d. x $1/16"$ flat washers, $1/4"$ masonry bits, and $3/8"$ masonry bits. The $1/4"$ diameter expansion anchors are used to make frame-to-wall connections, while the $3/8"$ anchors are reserved for base plate attachment.



Before expansion anchors can be installed, the base plate (or awning frame members) must be pre-drilled. Drill a $3/8"$ diameter hole for $1/4"$ anchors and a $1/2"$ diameter hole for $3/8"$ anchors. These are a little larger than normal predrilled holes because the wedging portion of the anchor can be up to $1/16"$ larger than the nominal anchor diameter, and sometimes the anchor must be inserted into the concrete while the base plate (or frame member) is held in place. The pre-drilled hole in the base plate (or frame member) must be large enough for the wedge portion of the anchor to slide through easily.

To install an expansion anchor, position the base plate (or awning frame) into its installed position, and mark the location of the pre-drilled holes on the concrete surface as shown in **Figure 595**. Remove the base plate, then use the hammer drill motor and the appropriate masonry bit to drill each anchor hole as shown in **Figure 596**. The hole should be drilled $1/2"$ deeper than the length of the expansion anchor. Use canned CO_2 (or compressed air) to blow all of the dust out of each anchor hole as shown in **Figure 597**. Place the washer and the nut onto the threaded end of the anchor, and drop the anchor through the plate and into the anchor hole as shown in **Figure 598**. You may need to use a hammer to tap the anchor into the hole. If so, the top of the nut should be below the end of the anchor, about one or two threads. This keeps the nut clear of damaged threads that are sometimes produced by the hammer. Tighten the nut carefully, until the anchor expands as shown in **Figure 599**. You can feel the nut become harder to turn as the anchor expands. Only tighten the nut about $1/2$ to $3/4$ turns beyond the point when the first resistance is felt. The finished connection is shown in **Figure 600**. Make sure the finished connection has at least two full threads above the top of the nut and washer.

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