U.S. DEPARTMENT OF HOMELAND SECURITY
Federal Emergency Management Agency
National Flood Insurance Program

# ELEVATION CERTIFICATE

OMB No. 1660-0008
Expires March 31, 2012

Important: Read the instructions on pages 1-9.

## SECTION A - PROPERTY INFORMATION

For Insurance Company Use:
Policy Number
Company NAIC Number

A1. Building Owner's Name Harbaugh Developers

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.
282 84th Street
City Stone Harbor State NJ ZIP Code 08247

A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.)
Block: 83.03 Lots: 111, 113

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) Residential

A5. Latitude/Longitude: Lat. 39° 03' 42" Long. 74° 45' 11" Horizontal Datum: ☒ NAD 1927 ☐ NAD 1983

A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.

A7. Building Diagram Number 8

A8. For a building with a crawlspace or enclosure(s):
- a) Square footage of crawlspace or enclosure(s) 1350 sq ft
- b) No. of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade 8
- c) Total net area of flood openings in A8.b See back sq in
- d) Engineered flood openings? ☒ Yes ☐ No

A9. For a building with an attached garage:
- a) Square footage of attached garage ____ sq ft
- b) No. of permanent flood openings in the attached garage within 1.0 foot above adjacent grade ____
- c) Total net area of flood openings in A9.b ____ sq in
- d) Engineered flood openings? ☐ Yes ☐ No

## SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

| B1. NFIP Community Name & Community Number | B2. County Name | B3. State |
|---|---|---|
| Borough of Stone Harbor 345323 | Cape May | New Jersey |

| B4. Map/Panel Number | B5. Suffix | B6. FIRM Index Date | B7. FIRM Panel Effective/Revised Date | B8. Flood Zone(s) | B9. Base Flood Elevation(s) (Zone AO, use base flood depth) |
|---|---|---|---|---|---|
| 345323 0001 | C | 07-15-92 | 07-15-92 | A7 | 10' |

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9.
☐ FIS Profile ☒ FIRM ☐ Community Determined ☐ Other (Describe) ____

B11. Indicate elevation datum used for BFE in Item B9: ☒ NGVD 1929 ☐ NAVD 1988 ☐ Other (Describe) ____

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐ Yes ☒ No
Designation Date ____ ☐ CBRS ☐ OPA

## SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: ☐ Construction Drawings* ☐ Building Under Construction* ☒ Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations – Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO. Complete Items C2.a-h below according to the building diagram specified in Item A7. Use the same datum as the BFE.
Benchmark Utilized ____ Vertical Datum 1929
Conversion/Comments ____

| | | | Check the measurement used. |
|---|---|---|---|
| a) | Top of bottom floor (including basement, crawlspace, or enclosure floor) | 5.8 | ☒ feet ☐ meters (Puerto Rico only) |
| b) | Top of the next higher floor | 11.3 | ☒ feet ☐ meters (Puerto Rico only) |
| c) | Bottom of the lowest horizontal structural member (V Zones only) | N/A | ☒ feet ☐ meters (Puerto Rico only) |
| d) | Attached garage (top of slab) | N/A | ☒ feet ☐ meters (Puerto Rico only) |
| e) | Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) | 11.3 | ☒ feet ☐ meters (Puerto Rico only) |
| f) | Lowest adjacent (finished) grade next to building (LAG) | 5.6 | ☒ feet ☐ meters (Puerto Rico only) |
| g) | Highest adjacent (finished) grade next to building (HAG) | 6.0 | ☒ feet ☐ meters (Puerto Rico only) |
| h) | Lowest adjacent grade at lowest elevation of deck or stairs, including structural support | 5.5 | ☒ feet ☐ meters (Puerto Rico only) |

RECEIVED JUN 03 2009 BOROUGH OF STONE HARBOR CONSTRUCTION OFFICE

## SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. *I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.*

☒ Check here if comments are provided on back of form. Were latitude and longitude in Section A provided by a licensed land surveyor? ☐ Yes ☒ No

Certifier's Name Gary Lee Thomas License Number 23921

Title Professional Land Surveyor Company Name Thomas*Amey*Shaw, Inc.

Address 2900 Dune Drive, Ste. 8 City Avalon State NJ ZIP Code 08202

Signature Date 6-1-09 Telephone 609-967-3999

NJPLS 23921 PLACE SEAL HERE 6-1-09

| IMPORTANT: In these spaces, copy the corresponding information from Section A. | For Insurance Company Use: |
|---|---|
| Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.<br>282 84th Street | Policy Number: |
| City Stone Harbor State NJ ZIP Code 08247 | Company NAIC Number: |

## SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION (CONTINUED)

Copy both sides of this Elevation Certificate for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments A8.c. Smartvents were installed. See attached information.
C2.e. First Floor

Signature [signature] Date

☒ Check here if attachments

## SECTION E - BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO AND ZONE A (WITHOUT BFE)

For Zones AO and A (without BFE), complete Items E1-E5. If the Certificate is intended to support a LOMA or LOMR-F request, complete Sections A, B, and C. For Items E1-E4, use natural grade, if available. Check the measurement used. In Puerto Rico only, enter meters.

E1. Provide elevation information for the following and check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).
a) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.
b) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ ☐ feet ☐ meters ☐ above or ☐ below the LAG.

E2. For Building Diagrams 6-9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 8-9 of Instructions), the next higher floor (elevation C2.b in the diagrams) of the building is _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

E3. Attached garage (top of slab) is _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

E4. Top of platform of machinery and/or equipment servicing the building is _____ ☐ feet ☐ meters ☐ above or ☐ below the HAG.

E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? ☐ Yes ☐ No ☐ Unknown. The local official must certify this information in Section G.

## SECTION F - PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here. *The statements in Sections A, B, and E are correct to the best of my knowledge.*

Property Owner's or Owner's Authorized Representative's Name

Address City State ZIP Code

Signature Date Telephone

Comments

☐ Check here if attachments

## SECTION G - COMMUNITY INFORMATION (OPTIONAL)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below. Check the measurement used in Items G8 and G9.

G1. ☒ The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)

G2. ☐ A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.

G3. ☐ The following information (Items G4-G9) is provided for community floodplain management purposes.

| G4. Permit Number | G5. Date Permit Issued | G6. Date Certificate Of Compliance/Occupancy Issued |
|---|---|---|
| 08-8245 | 8/29/08 | 5/3/10 |

G7. This permit has been issued for: ☒ New Construction ☐ Substantial Improvement

G8. Elevation of as-built lowest floor (including basement) of the building: 11.3 ☒ feet ☐ meters (PR) Datum NGVD 1929

G9. BFE or (in Zone AO) depth of flooding at the building site: 10.0 ☒ feet ☐ meters (PR) Datum NGVD 1929

G10. Community's design flood elevation 10.0 ☒ feet ☐ meters (PR) Datum NGVD 1929

Local Official's Name MICHAEL KOOCHENBERG Title CONSTRUCTION OFFICIAL

Community Name BOROUGH OF STONE HARBOR Telephone 609-368-6814

Signature [signature] Date 5/3/10

Comments

☐ Check here if attachments

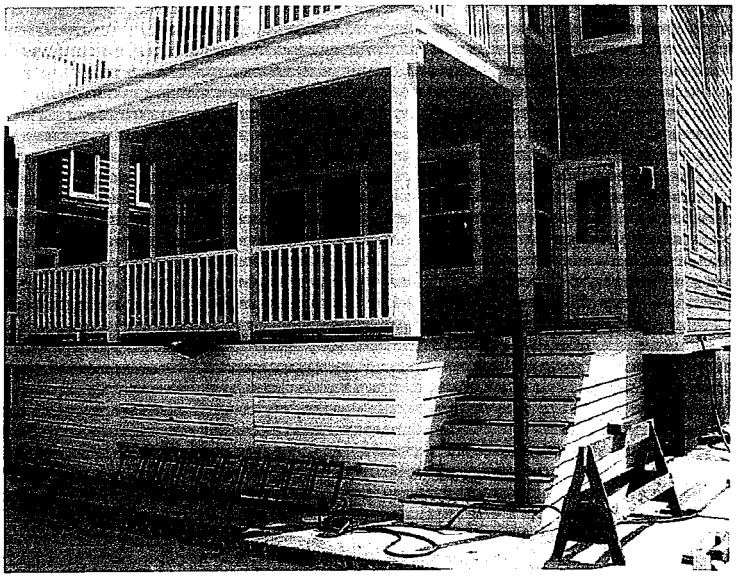
# Building Photographs

See Instructions for Item A6

| | | | For Insurance Company Use: |
|---|---|---|---|
| Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box<br>282 84th Street | | | Policy Number |
| City<br>Stone Harbor | State<br>NJ | ZIP Code<br>08247 | Company NAIC Number |

If using the Elevation Certificate to obtain NFIP flood insurance, affix at least two building photographs below according to the instructions for Item A6. Identify all photographs with: date taken; "Front View" and "Rear View"; and if required, "Rigth Side View" and "Left Side View". If submitting more photographs than will fit on this page, use the Continuation Page, following.

DATE: June 1, 2009, Front View of Residence



DATE: June 1, 2009, Rear View of Residence

# Engineered Flood Openings Certificate

## To satisfy requirements of the National Flood Insurance Program

This certification must be submitted to, and kept on file by, the local jurisdiction's permit authority. A copy should be retained by the owner to demonstrate compliance in order to receive the best flood insurance rating.

The Smart VENT® and Flood VENT™ Foundation Flood Vent is certified as meeting the flood opening requirements for engineered openings as set forth in the Federal Emergency Management Agency's National Flood Insurance Program regulations (44 CFR 60.3(c)(5)) and ASCE 24-98, provided it is installed according to the those references, as summarized below. Flood openings are required in enclosures below elevated buildings, attached and detached garages, and accessory structures that meet the required limitations. For a copy of the report documenting this certification dated June 21, 2002, and a copy of the National Evaluation Service report NER 624, contact Smart VENT, Inc., at 877/441-8368 or visit:

www.smartvent.com

**I do hereby certify that the Smart VENT® Louvered Foundation Flood Vent and the FloodVENT™ Insulated Foundation Flood Vent opening (s) is designed for installation in buildings, will allow for the automatic equalizing of hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater during floods up to and including the base (100-year) flood. One Smart VENT® or one FloodVENT™ for every 200 Sq.Ft. of enclosed area will provide sufficient hydrostatic pressure equalization during a flood provided the installation limitations and instructions are followed as listed below. To Calculate the required number of Smart VENTS® or FloodVENTS™ divide the Square Feet of enclosed area by 200.**

**Example: A 2000 Sq.Ft. enclosed area requires 10 vents. 2000 Sq.Ft / 200 =10 Vents**

Signature Robert D Haen

Title Professional Engineer

Type of License Professional Engineering

License Number NJ PE GE26637

*Project Name _____

*Project Address _____

*Date Submitted _____

* Required Fields*


Professional Seal

**Installation Limitations and Instructions**

1. The Smart VENT® or FloodVENT™ unit provides sufficient automatic equalization of hydrostatic pressure on walls and foundations of buildings located in flood hazard areas where the rate of rise is expected to be less than or approximately 5 feet per hour.
2. Enclosed areas below otherwise elevated buildings, non-elevated attached and detached garages, and certain non-elevated accessory structures located in flood hazard areas are to be used solely for parking of vehicles, building access, or storage.
3. Each enclosed area shall have at least two flood openings, installed on different sides of the enclosed area.
4. The bottom of the flood openings shall be no more than one foot above the adjacent finished ground level.
5. Installation must be in accordance with manufacturer's instructions.

**"REFERENCE ONLY" From FEMA TB 1-93**

**Guidance for Engineered Openings**

Openings in Foundation Walls

**National Flood Insurance Program (NFIP) Technical Bulletin TB 1-93**

"In situations where it is not feasible or desirable to meet the openings criteria stated previously, a design professional (registered engineer or architect) may design and certify openings. This section provides guidance for such engineered designs. For openings not meeting all four requirements for non-engineered openings listed on page 2 and 3 of TB 1-93, certification by a registered professional engineer or architect is required. Such certification must be submitted to, and kept on file by, the community. These certifications must assure community officials that the openings are designed in accordance with accepted standards of practice. A certification may be affixed to the design drawings or submitted separately. It must include appropriate certification language, and the name, title, address, signature, type of license, license number, and professional seal of the certifier." (TB 1-93 is available through Smart VENT® or online at www.fema.gov)

Form: SMRT100 Rev.A July 2002

# LEGACY REPORT

**NER-624**

*Reissued July 1, 2005*

**ICC Evaluation Service, Inc.**
**www.icc-es.org**

Business/Regional Office ▪ 5360 Workman Mill Road, Whittier, California 90601 ▪ (562) 699-0543
Regional Office ▪ 900 Montclair Road, Suite A, Birmingham, Alabama 35213 ▪ (205) 599-9800
Regional Office ▪ 4051 West Flossmoor Road, Country Club Hills, Illinois 60478 ▪ (708) 799-2305

**Legacy report on the 2000 *International Building Code®*, the 2000 *International Residential Code®*, the *2002 Accumulative Supplement to the International Codes™*, the BOCA® *National Building Code*/1999, the 1999 *Standard Building Code®*, the 1997 *Uniform Building Code™*, the 1998 *International One- and Two-Family Dwelling Code®*, the 1995 *CABO One- and Two-Family Dwelling Code*, the 1998 *International Mechanical Code®*, and the 1996 *International Mechanical Code®***

**DIVISION 10—SPECIALTIES**
**Section 10230—Vents**

**SMART VENT®, INC.**
**450 ANDBRO DR, SUITE 2B**
**PITMAN, JN 08071**
**(877) 441-8368**
**eval@smartvent.com**
**www.smartvent.com**

## 1.0 SUBJECT

1.1 FloodVENT™ Model #1540-520
1.2 Smart VENT® Model #1540-510

## 2.0 PROPERTY FOR WHICH EVALUATION IS SOUGHT

2.1 Floodwater Venting
2.2 Natural Ventilation

## 3.0 DESCRIPTION

Smart VENT®, Inc.'s Smart VENT® Model #1540-510 and FloodVENT™ Model #1540-520 reduce hydrostatic pressures of floodwaters on foundations and buildings caused by rising and falling floodwater. They open automatically to rising floodwater pressure from any direction, quickly equalizing hydrostatic forces on both sides of the foundation wall.

The vents are designed to fit an 8 by16 inch (203 by 406 mm) opening and provide a 76 square inches (49 020 mm 2) net free area for flood mitigation. The vents are made from Type 304 Stainless Steel or better and have a screen cover with $^1/_4$ square inch (161 mm$^2$) holes. The vents have been tested to show that they meet the design principle of ASCE 24-98 and FEMA Technical Bulletin 1-93 for a minimum rate of rise and fall of 5.0 feet per hour (152 mm/s).

The vents pivoting door is locked in the closed position by means of a patented floating release device, which resists the entry of rodents and other pests. In the event of a flood, the rising water causes the release device to rise, while flowing flood water immediately opens the door, quickly equalizing the water level on both sides of the wall and thus equalizing the lateral forces on the foundation walls. In the event of fast flowing floodwater, the patented floating device instantly uses the force of the flowing floodwater to open the door. The vents are completely bi-directional and automatically allow floodwater to exit as well as enter unobstructed through the foundation walls. In order to comply with the engineered opening requirement, one vent unit is required for every 200 square feet (19 m) of enclosed area below the base flood elevation to meet flood mitigation requirements.

The Smart VENT® is also capable of providing 50 square inches (0.30 m$^2$) of net free area to supply supplemental natural ventilation to occupiable and habitable rooms and spaces and as a supplemental opening to an under-floor space between the bottom of the floor joist and the earth under any building.

## 4.0 INSTALLATION

Smart VENT® and FloodVENT™ are designed to be installed into foundation walls of existing and new construction without the use of tools completely from the exterior side of the wall. The installation of the vents shall be in accordance with the manufacturer's instructions dated February 21, 2003, and this evaluation report. The patented mounting straps allow mounting in wood and masonry walls up to 12 inches (305 mm) thick. One vent unit is required for every 200 square feet (19 m) of enclosed area below the base flood elevation to meet flood mitigation requirements.

### 4.1 EXISTING BUILDING INSTALLATION

Smart VENT® and FloodVENT™ are installed into foundation walls of existing buildings located in flood prone areas. Remove existing 8 by 16 inch (203 by 406 mm) foundation vents found within 12 inches (305 mm) of the ground and clean the opening in accordance with the instructions. If there are not sufficient number of existing vents as required by code for the size of the enclosed area, cut an additional 8 by 16 (203 by 406 mm) opening in the foundation walls for each vent required. Install in accordance with the instructions.

### 4.2 NEW CONSTRUCTION INSTALLATION

For each vent required, provide a standard 8 by 16 inch (203 by 406 mm) hole in the foundation walls, 12 inches (305 mm) or less above grade. The wall face must be vertical, flat and smooth. The vent's frame is first installed into the wall using

the patented mounting straps. The vent's door can be installed immediately thereafter or later when construction has been completed.

## 5.0 IDENTIFICATION

Smart VENT®, Inc.'s Smart VENT® Model #1540-510 and FloodVENT™ Model #1540-520 described in this report shall be identified by a label bearing the manufacturer's name, model number, and this report number for field identification.

## 6.0 EVIDENCE SUBMITTED

6.1 Smart VENT®, Inc.'s Smart VENT® Model #1540-510 and FloodVENT™ Model #1540-520 installation instructions, dated February 21, 2003.

6.2 Letter of analysis on "Performance of Stainless Steels in Seacoast Environments", dated April 5, 2001, and signed by James D. Fritz, Ph.D.

6.3 Architectural Testing Inc., Report No. 01-38957.01, dated June 1, 2001, signed by Steven M. Urich, P.E., and Allen N. Reeves, P.E., covers the following items:

- Installation Test
- Floodwater Rise Test
- Submerged Flow Test
- Floodwater Recession Test
- Structural Integrity Test
- Surge Test
- Salt Spray Test

6.4 Metallurgical Test Report from AK Steel, dated July 18, 2000, signed by R. A. West.

6.5 Architectural Testing Inc., Report No. 01-42966.01, dated November 15, 2002, signed by Steven Urich, P.E., covering the following items:

- Installation Test
- Floodwater Rise Test
- Submerged Flow Test
- Floodwater Recession Test
- Structural Integrity Test
- Debris Test

6.6 *Certificate of Engineered Flood Openings*, dated September 3, 2002, signed and sealed by Steven Urich, P.E., as set forth in the Federal Emergency Management Agency's National Flood Insurance Program regulations (44 CFR 60.3©)(5)) and *Flood Resistant Design and Construction* (ASCE 24-98).

6.7 Net free ventilation opening calculations, dated February 20, 2003, signed and sealed by Steven Urich, P.E.

## 7.0 CONDITIONS OF USE

The ICC-ES Subcommittee on the National Evaluation Service finds that Smart VENT® Inc.'s FloodVENT™ Model #' 540-520 and Smart VENT® Model #1540-510 as described in this report comply with or are suitable alternates to that specified in the 2000 *International Building Code®*, the 2000 *International Residential Code®*, the *2002 Accumulative Supplement to the International Codes™*, the BOCA® *National Building Code*/1999, the 1999 *Standard Building Code®*, the 1997 *Uniform Building Code™*, the 1998 *International One- and Two-Family Dwelling Code®*, the 1995 *CABO One- and Two-Family Dwelling Code*, the 1998 *International Mechanical Code®*, and the 1996 *International Mechanical Code®* subject to the following conditions:

7.1 Installation of the Smart VENT® and FloodVENT™ referenced herein shall be in accordance with this report and manufacturer's installation instructions referenced herein.

7.2 To conform with supplemental ventilation requirements, Smart VENT® and FloodVENT™ shall only be used to provide 50 square inches (0.30 $m^2$) of net free area of supplemental natural ventilation to occupiable and habitable rooms and spaces, and as a supplemental opening to an under-floor space between the bottom of the floor joists and the earth under any building. Smart VENT® and FloodVENT™ shall only be used to provide supplemental openings, which provide ventilation air, to an under-floor space between the bottom of the floor joist and the earth under any building. Primary net free area used to provide natural ventilation to occupiable and habitable rooms and spaces, and openings, which provide ventilation air to an under-floor space between the bottom of the floor joist and the earth under any building shall comply with the applicable Codes.

7.3 Smart VENT® and FloodVENT™ shall not be used in the place of "Breakaway Walls" in coastal high hazard areas, but is permitted for use in conjunction with breakaway walls.

7.4 One Smart VENT® and/or FloodVENT™ shall vent unit shall be installed for every 200 square feet (19 m) of enclosed area below the base flood elevation to meet flood mitigation requirements.

7.5 This report is subject to periodic re-examination. For information on the current status of this report, contact the ICC-ES.