

ELEVATION CERTIFICATE

Important: Follow the instructions on pages 1-9.

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

SECTION A – PROPERTY INFORMATION					FOR INSURANCE COMPANY USE
A1. Building Owner's Name James B. Lees Jr.					Policy Number:
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 476 N. Casey Key Road					Company NAIC Number:
City Osprey	State Florida	ZIP Code 34229			
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) Metes and Bounds 09-38-18 PID# 0146240002					
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) <u>Residential</u>					
A5. Latitude/Longitude: Lat. <u>27.187038°</u> Long. <u>-82.500770°</u> Horizontal Datum: <input type="checkbox"/> NAD 1927 <input checked="" type="checkbox"/> 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 <u>6</u>					
A8. For a building with a crawlspace or enclosure(s):					
a) Square footage of crawlspace or enclosure(s) <u>1958.60</u> sq ft					
b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade <u>17</u>					
c) Total net area of flood openings in A8.b <u>3400.00</u> sq in					
d) Engineered flood openings? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
A9. For a building with an attached garage:					
a) Square footage of attached garage <u>1013.38</u> sq ft					
b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade <u>5</u>					
c) Total net area of flood openings in A9.b <u>1020.00</u> sq in					
d) Engineered flood openings? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION					
B1. NFIP Community Name & Community Number Sarasota County 125144			B2. County Name Sarasota		B3. State Florida
B4. Map/Panel Number 12115C0217	B5. Suffix F	B6. FIRM Index Date 11-04-2016	B7. FIRM Panel Effective/ Revised Date 11-04-2016	B8. Flood Zone(s) AE	B9. Base Flood Elevation(s) (Zone AO, use Base Flood Depth) 10'
B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9: <input type="checkbox"/> FIS Profile <input checked="" type="checkbox"/> FIRM <input type="checkbox"/> Community Determined <input type="checkbox"/> Other/Source: _____					
B11. Indicate elevation datum used for BFE in Item B9: <input type="checkbox"/> NGVD 1929 <input checked="" type="checkbox"/> NAVD 1988 <input type="checkbox"/> Other/Source: _____					
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Designation Date: _____ <input type="checkbox"/> CBRS <input type="checkbox"/> OPA					

ELEVATION CERTIFICATE

OMB No. 1660-0008
Expiration Date: November 30, 2022

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. 476 N. Casey Key Road			Policy Number:
City Osprey	State Florida	ZIP Code 34229	Company NAIC Number

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. In Puerto Rico only, enter meters.

Benchmark Utilized: NGS 157I EL = 5.38' Vertical Datum: NAVD 1988

Indicate elevation datum used for the elevations in items a) through h) below.

NGVD 1929 NAVD 1988 Other/Source: _____

Datum used for building elevations must be the same as that used for the BFE.

Check the measurement used.

- | | | | |
|--|-------------|--|---------------------------------|
| a) Top of bottom floor (including basement, crawlspace, or enclosure floor) | <u>5.5</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| b) Top of the next higher floor | <u>16.2</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| c) Bottom of the lowest horizontal structural member (V Zones only) | <u>N/A</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| d) Attached garage (top of slab) | <u>11.1</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) | <u>15.9</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| f) Lowest adjacent (finished) grade next to building (LAG) | <u>4.4</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| g) Highest adjacent (finished) grade next to building (HAG) | <u>11.0</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support | <u>11.0</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |

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.

Were latitude and longitude in Section A provided by a licensed land surveyor? Yes No Check here if attachments.

Certifier's Name Martin S. Britt		License Number LS 5538		
Title Surveyor & Mapper				
Company Name MSB Surveying, Inc.				
Address 31 Sarasota Center Boulevard, Suite C				
City Sarasota	State Florida	ZIP Code 34240		
Signature 	Date 10-23-2021	Telephone (941) 341-9935	Ext. N/A	

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

Comments (including type of equipment and location, per C2(e), if applicable)

3 story structure with attached garage. 1st floor used for 1 storage & 2 non-occupiable spaces, entry/foyer & hallway to pool deck area. A5.) Determined by LABINS Website. A8.a-d) Denotes total of all 4 enclosed areas below BFE (See Page 7). A9.a-d) denotes the attached garage, finish floor above BFE (see Page 7). C2.a) Denotes the lowest level on ground floors used for storage (dirt floors). Hallway & Pool Storage=6.0'. Garage floor=11.1'. Foyer/Entry=11.6'. Elevator pit=10.3'. C2.b) Denotes first living floor. 2nd living floor=28.3'. C2.e) denotes elevated AC units. Tankless water heaters=21.4' (see Page 9 for photos). Lowest air handler=18.4'. Lowest horizontal structural member=14.9'. Bottom of elevator control box=13.9'. NOTE: Pages 7-10 added for Section D continued comments and additional photos. 2 attachment to this 10 page document for Building Diagram & ICC-ES Reports. REVISED: 10/28/2021

BUILDING PHOTOGRAPHS

See Instructions for Item A6.

OMB No. 1660-0008
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City Osprey	State Florida	ZIP Code 34229	Company NAIC Number

If using the Elevation Certificate to obtain NFIP flood insurance, affix at least 2 building photographs below according to the instructions for Item A6. Identify all photographs with date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8. If submitting more photographs than will fit on this page, use the Continuation Page.



Photo One

Photo One Caption (10/23/2021) Front View with Attached Garage

Clear Photo One



Photo Two

Photo Two Caption (10/23/2021) Left Side View from Front

Clear Photo Two

BUILDING PHOTOGRAPHS

Continuation Page

OMB No. 1660-0008
Expiration Date: November 30, 2022

ELEVATION CERTIFICATE

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. 476 N. Casey Key Road			Policy Number:
City Osprey	State Florida	ZIP Code 34229	Company NAIC Number

If submitting more photographs than will fit on the preceding page, affix the additional photographs below. Identify all photographs with: date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8.



Photo Three

Photo Three Caption (10/23/2021) Rear view

Clear Photo Three



Photo Four

Photo Four Caption (10/23/2021) Right side view from Front

Clear Photo Four

A8.a-d) Denotes total of all 4 enclosed areas (1958.6 sq.ft.) below BFE (Base Flood Elevation = 10' per FIRM Map).

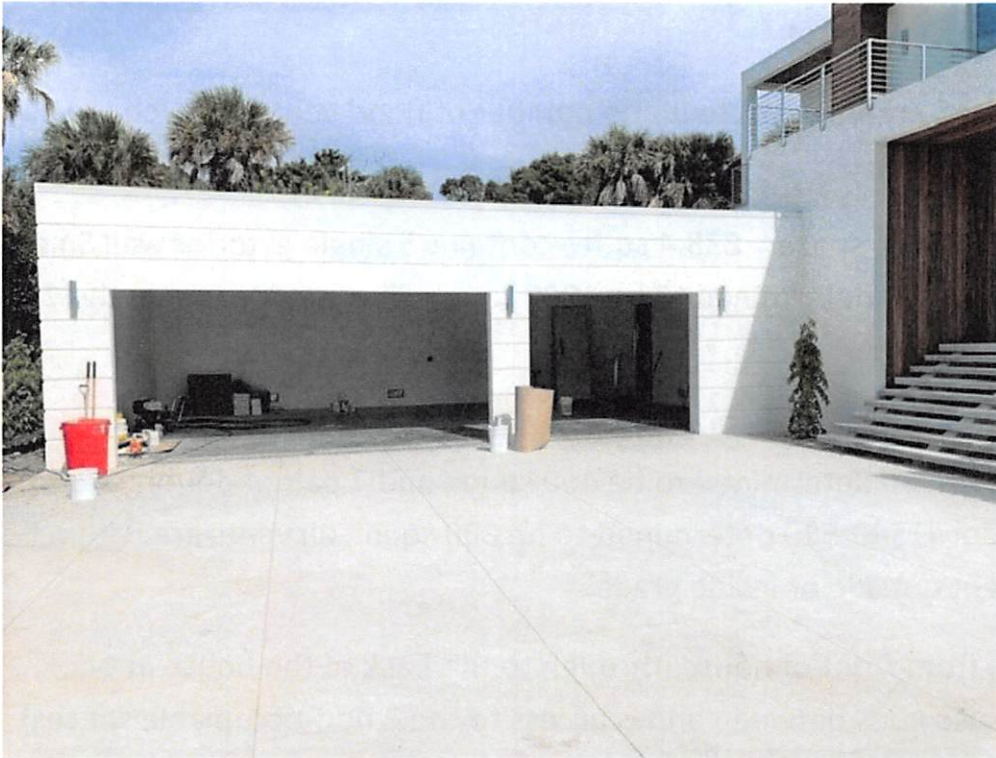
Each enclosed area, square feet and number of flood vents for each are as follows:

- 1). Large non-occupiable space = 835.4 sq.ft., contains 5 single exterior wall Smart Vents Model #1540-520 determined to be 1000 sq.in., all vents are within the 1.0' to adjacent outside grade.
- 2). Small non-occupiable space = 614.1 sq.ft., contains 2 single exterior wall Smart Vents Model #1540-520 determined to be 400 sq.in., and 2 pair of double/stacked Smart Vents Model #1540-520 determined to be 800 sq.in., all vents are within the 1.0' to adjacent outside or inside grade.
- 3). Hallway (goes from front of house, through to the back of the house at pool deck/patio. This also goes between and is access to the 2 non-occupiable spaces) = 217.4 sq.ft., no exterior walls for this enclosure.
- 4). Pool storage area = 291.7 sq.ft., contains 6 single exterior wall Smart Vents Model #1540-520 determined to be 1200 sq.in., all vents are within the 1.0' to adjacent outside grade.

A9. Attached Garage

- a) Overall sq.ft.
- b) Contains 4 Smart Vents Model #1540-520, each vent will accommodate 800sq.ft. of enclosure or 800sq.in. ICC-ES Evaluation Report #ESR-2074 AND 1 Flood Flaps Model #FFWF08, vent will accommodate 220sq.ft. of inclosure or 220sq.in. ICC-ES Evaluation Report #ESR-3560.

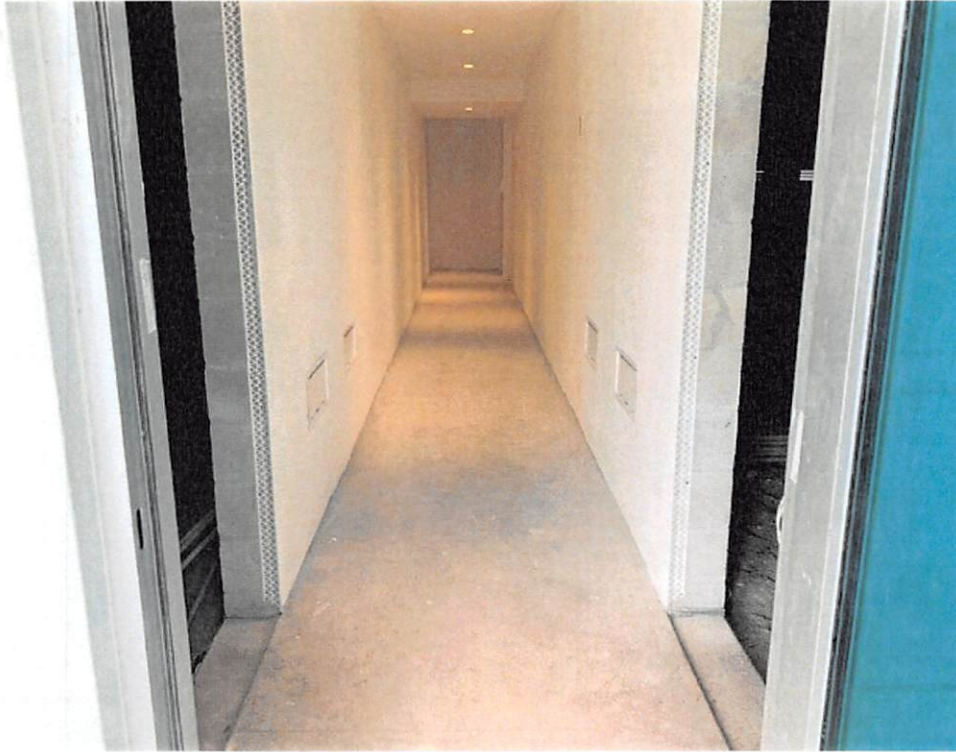
(10/23/2021) Attached Garage



(10/23/2021) Entry to Hallway from Pool Deck



(10/23/2021) Inside Hallway with Storage Areas on Each Side



(10/23/2021) Entry/foyer & elevator area from Garage. Stairs to Living Above.



(10/23/2021) Pool Storage Area from Pool Deck



(10/23/2021) Elevated AC Units and Tankless Water Heaters



Building Diagrams

DIAGRAM 3

All split-level buildings that are slab-on-grade, either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature – The bottom floor (excluding garage) is at or above ground level (grade) on at least 1 side.*

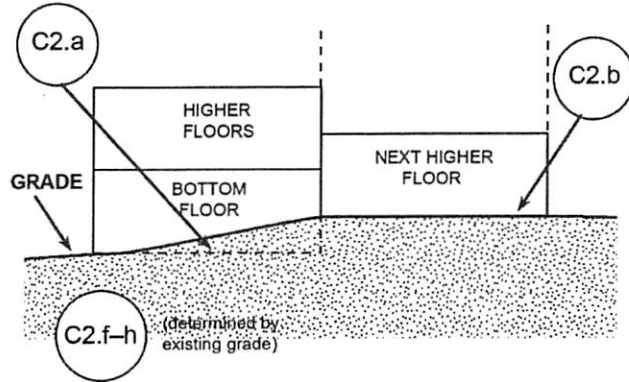


DIAGRAM 4

All split-level buildings (other than slab-on-grade), either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature – The bottom floor (basement or underground garage) is below ground level (grade) on all sides.*

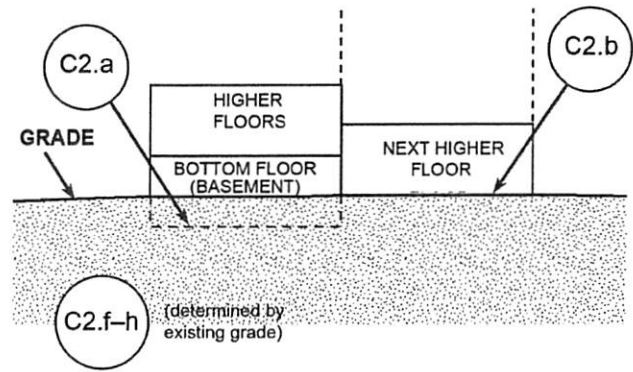


DIAGRAM 5

All buildings elevated on piers, posts, piles, columns, or parallel shear walls. No obstructions below the elevated floor.

Distinguishing Feature – For all zones, the area below the elevated floor is open, with no obstruction to flow of floodwaters (open lattice work and/or insect screening is permissible).

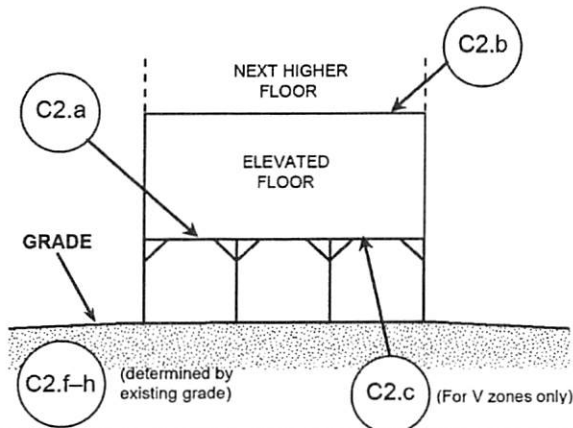
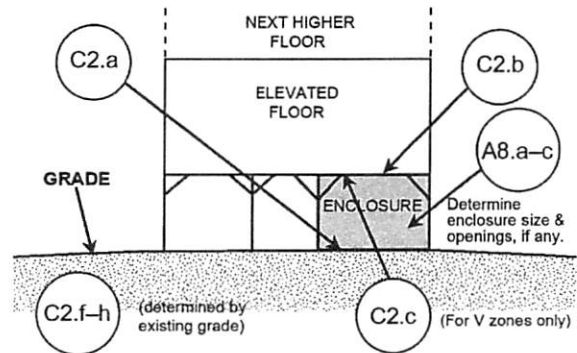


DIAGRAM 6

All buildings elevated on piers, posts, piles, columns, or parallel shear walls with full or partial enclosure below the elevated floor.

Distinguishing Feature – For all zones, the area below the elevated floor is enclosed, either partially or fully. In A Zones, the partially or fully enclosed area below the elevated floor is with or without openings** present in the walls of the enclosure. Indicate information about enclosure size and openings in Section A – Property Information.



* A floor that is below ground level (grade) on all sides is considered a basement even if the floor is used for living purposes, or as an office, garage, workshop, etc.

** An "opening" is a permanent opening that allows for the free passage of water automatically in both directions without human intervention. Under the NFIP, a minimum of 2 openings is required for enclosures or crawlspaces. The openings shall provide a total net area of not less than 1 square inch for every square foot of area enclosed, excluding any bars, louvers, or other covers of the opening. Alternatively, an Individual Engineered Flood Openings Certification or an Evaluation Report issued by the International Code Council Evaluation Service (ICC ES) must be submitted to document that the design of the openings will allow for the automatic equalization of hydrostatic flood forces on exterior walls. A window, a door, or a garage door is not considered an opening; openings may be installed in doors. Openings shall be on at least 2 sides of the enclosed area. If a building has more than 1 enclosed area, each area must have openings to allow floodwater to directly enter. The bottom of the openings must be no higher than 1.0 foot above the higher of the exterior or interior grade or floor immediately below the opening. For more guidance on openings, see NFIP Technical Bulletin 1.



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ICC-ES Evaluation Report

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ESR-2074

Reissued 02/2021
Revised 04/2021

This report is subject to renewal 02/2023.

DIVISION: 08 00 00—OPENINGS

SECTION: 08 95 43—VENTS/FOUNDATION FLOOD VENTS

REPORT HOLDER:

SMART VENT PRODUCTS, INC.

EVALUATION SUBJECT:

**SMART VENT® AUTOMATIC FOUNDATION FLOOD VENTS: MODELS #1540-520;
#1540-521; #1540-510; #1540-511; #1540-570; #1540-574; #1540-524; #1540-514
FLOOD VENT SEALING KIT #1540-526**



"2014 Recipient of Prestigious Western States Seismic Policy Council (WSSPC) Award in Excellence"



A Subsidiary of

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DIVISION: 08 00 00—OPENINGS
Section: 08 95 43—Vents/Foundation Flood Vents

REPORT HOLDER:

SMART VENT PRODUCTS, INC.

EVALUATION SUBJECT:

**SMART VENT® AUTOMATIC FOUNDATION FLOOD
VENTS: MODELS #1540-520; #1540-521; #1540-510; #1540-
511; #1540-570; #1540-574; #1540-524; #1540-514
FLOOD VENT SEALING KIT #1540-526**

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, 2015, 2012, 2009 and 2006 *International Building Code*® (IBC)
- 2021, 2018, 2015, 2012, 2009 and 2006 *International Residential Code*® (IRC)
- 2021, 2018 *International Energy Conservation Code*® (IECC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)†

†The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:

- Physical operation
- Water flow

2.0 USES

The Smart Vent® units are engineered mechanically operated flood vents (FVs) employed to equalize hydrostatic pressure on walls of enclosures subject to rising or falling flood waters. Certain models also allow natural ventilation.

3.0 DESCRIPTION

3.1 General:

When subjected to rising water, the Smart Vent® FVs internal floats are activated, then pivot open to allow flow in either direction to equalize water level and hydrostatic pressure from one side of the foundation to the other. The FV pivoting door is normally held in the closed position by a buoyant release device. When subjected to rising water, the buoyant release device causes the unit to unlatch, allowing the door to rotate out of the way and allow flow. The water level stabilizes, equalizing the lateral forces. Each unit is

fabricated from stainless steel. Smart Vent® Automatic Foundation Flood Vents are available in various models and sizes as described in Table 1. The SmartVENT® Stacking Model #1540-511 and FloodVENT® Stacking Model #1540-521 units each contain two vertically arranged openings per unit.

3.2 Engineered Opening:

The FVs comply with the design principle noted in Section 2.7.2.2 and Section 2.7.3 of ASCE/SEI 24-14 [Section 2.6.2.2 of ASCE/SEI 24-05 (2012, 2009, 2006 IBC and IRC)] for a maximum rate of rise and fall of 5.0 feet per hour (0.423 mm/s). In order to comply with the engineered opening requirement of ASCE/SEI 24, Smart Vent FVs must be installed in accordance with Section 4.0.

3.3 Ventilation:

The SmartVENT® Model #1540-510 and SmartVENT® Overhead Door Model #1540-514 both have screen covers with 1/4-inch-by-1/4-inch (6.35 by 6.35 mm) openings, yielding 51 square inches (32 903 mm²) of net free area to supply natural ventilation. The SmartVENT® Stacking Model #1540-511 consists of two Model #1540-510 units in one assembly, and provides 102 square inches (65 806 mm²) of net free area to supply natural ventilation. Other FVs described in this report do not offer natural ventilation.

3.4 Flood Vent Sealing Kit:

The Flood Vent Sealing Kit Model #1540-526 is used with SmartVENT® Model #1540-520. It is a Homasote 440 Sound Barrier® (ESR-1374) insert with 21 – 2-inch-by-2-inch (51 mm x 51 mm) squares cut in it. See Figure 4.

4.0 DESIGN AND INSTALLATION

4.1 SmartVENT® and FloodVENT®:

SmartVENT® and FloodVENT® are designed to be installed into walls or overhead doors of existing or new construction from the exterior side. Installation of the vents must be in accordance with the manufacturer's instructions, the applicable code and this report. Installation clips allow mounting in masonry and concrete walls of any thickness. In order to comply with the engineered opening design principle noted in Section 2.7.2.2 and 2.7.3 of ASCE/SEI 24-14 [Section 2.6.2.2 of ASCE/SEI 24-05 (2012, 2009, 2006 IBC and IRC)], the Smart Vent® FVs must be installed as follows:

- With a minimum of two openings on different sides of each enclosed area.

- With a minimum of one FV for every 200 square feet (18.6 m²) of enclosed area, except that the SmartVENT® Stacking Model #1540-511 and FloodVENT® Stacking Model #1540-521 must be installed with a minimum of one FV for every 400 square feet (37.2 m²) of enclosed area.
- Below the base flood elevation.
- With the bottom of the FV located a maximum of 12 inches (305.4 mm) above the higher of the final grade or floor and finished exterior grade immediately under each opening.

4.2 Flood Vent Sealing Kit

The Flood Vent Sealing Kit Model 1540-526 is used in conjunction with FloodVENT® Model #1540-520. When installed and tested in accordance with ASTM E283, the FV and Flood Vent Sealing Kit assembly have an air leakage rate of less than 0.2 cubic feet per minute per lineal foot (18.56 l/min per lineal meter) at a pressure differential of 1 pound per square foot (50 Pa) based on 12.58 lineal feet (3.8 lineal meters) contained by the Flood Vent Sealing Kit.

5.0 CONDITIONS OF USE

The Smart Vent® FVs described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The Smart Vent® FVs must be installed in accordance with this report, the applicable code and the manufacturer's installation instructions. In the event of a conflict, the instructions in this report govern.

- 5.2 The Smart Vent® FVs must not be used in the place of "breakaway walls" in coastal high hazard areas, but are permitted for use in conjunction with breakaway walls in other areas.

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with the ICC-ES Acceptance Criteria for Mechanically Operated Flood Vents (AC364), dated August 2015 (editorially revised February 2021).
- 6.2 Test report on air infiltration in accordance with ASTM E283.

7.0 IDENTIFICATION

- 7.1 The Smart VENT® models and the Flood Vent Sealing Kit described in this report must be identified by a label bearing the manufacturer's name (Smartvent Products, Inc.), the model number, and the evaluation report number (ESR-2074).
- 7.2 The report holder's contact information is the following:

SMART VENT PRODUCTS, INC.
 430 ANDBRO DRIVE, UNIT 1
 PITMAN, NEW JERSEY 08071
 (877) 441-8368
www.smartvent.com
info@smartvent.com

TABLE 1—MODEL SIZES

MODEL NAME	MODEL NUMBER	MODEL SIZE (in.)	COVERAGE (sq. ft.)
FloodVENT®	1540-520	15 ³ / ₄ " X 7 ³ / ₄ "	200
SmartVENT®	1540-510	15 ³ / ₄ " X 7 ³ / ₄ "	200
FloodVENT® Overhead Door	1540-524	15 ³ / ₄ " X 7 ³ / ₄ "	200
SmartVENT® Overhead Door	1540-514	15 ³ / ₄ " X 7 ³ / ₄ "	200
Wood Wall FloodVENT®	1540-570	14" X 8 ³ / ₄ "	200
Wood Wall FloodVENT® Overhead Door	1540-574	14" X 8 ³ / ₄ "	200
SmartVENT® Stacker	1540-511	16" X 16"	400
FloodVent® Stacker	1540-521	16" X 16"	400

For SI: 1 inch = 25.4 mm; 1 square foot = m²

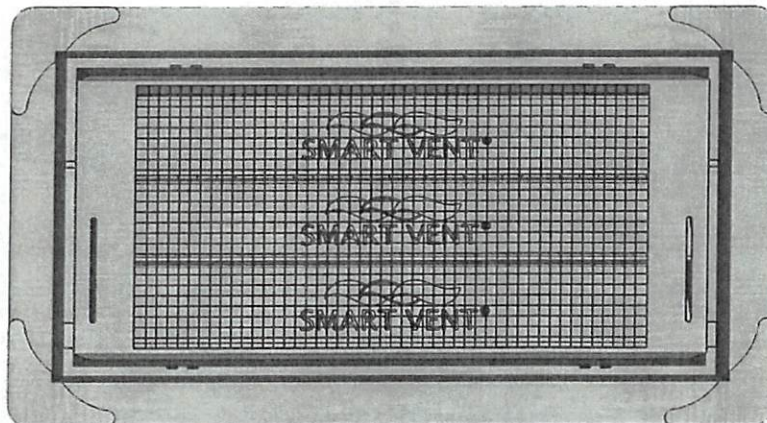


FIGURE 1—SMART VENT: MODEL 1540-510

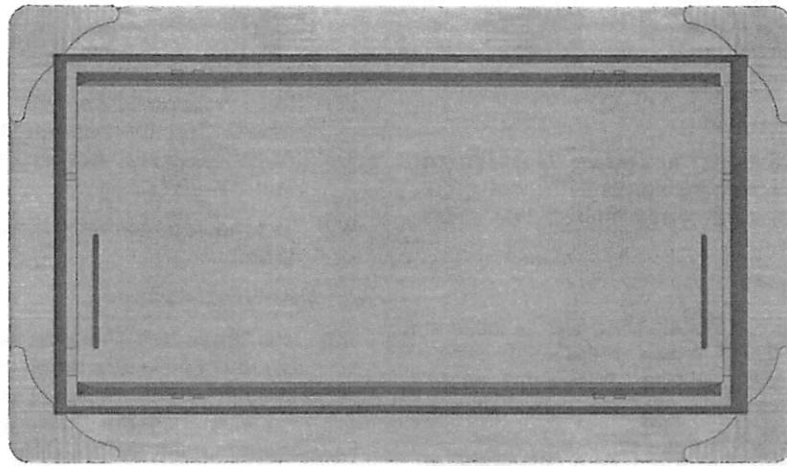


FIGURE 2—SMART VENT MODEL 1540-520

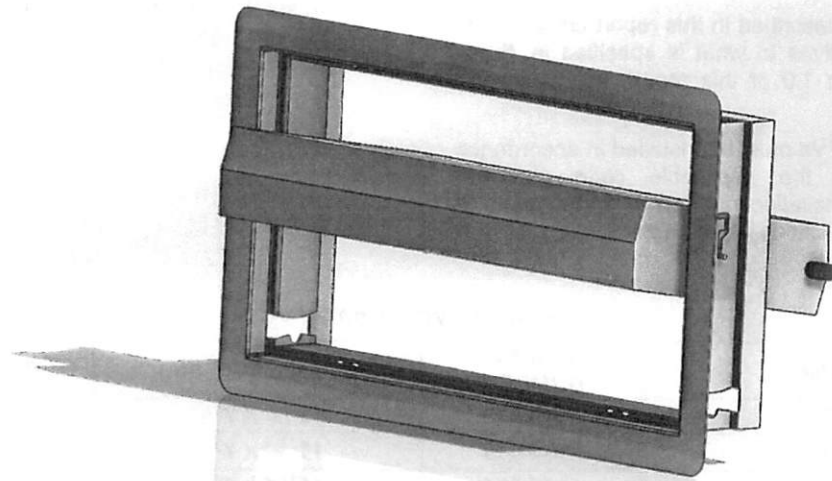


FIGURE 3—SMART VENT: SHOWN WITH FLOOD DOOR PIVOTED OPEN

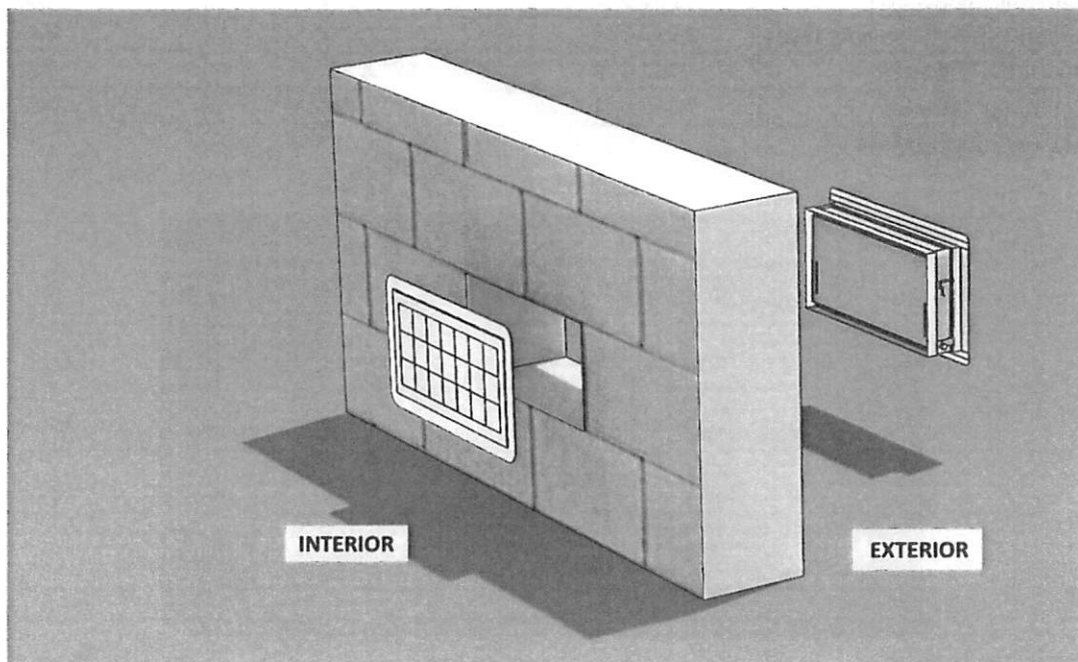


FIGURE 4—FLOOD VENT SEALING KIT

DIVISION: 08 00 00—OPENINGS**Section: 08 95 43—Vents/Foundation Flood Vents****REPORT HOLDER:****SMART VENT PRODUCTS, INC.****EVALUATION SUBJECT:****SMART VENT® AUTOMATIC FOUNDATION FLOOD VENTS: MODELS #1540-520; #1540-521; #1540-510; #1540-511; #1540-570; #1540-574; #1540-524; #1540-514
FLOOD VENT SEALING KIT #1540-526****1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that Smart Vent® Automatic Foundation Flood Vents, described in ICC-ES evaluation report ESR-2074, have also been evaluated for compliance with codes noted below.

Applicable code editions:

- 2019 *California Building Code (CBC)*

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2019 *California Residential Code (CRC)*

2.0 CONCLUSIONS**2.1 CBC:**

The Smart Vent® Automatic Foundation Flood Vents, described in Sections 2.0 through 7.0 of the evaluation report ESR-2074, comply with 2019 CBC Chapter 12, provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 12 and 16, as applicable.

2.1.1 OSHPD:

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

2.2 CRC:

The Smart Vent® Automatic Foundation Flood Vents, described in Sections 2.0 through 7.0 of the evaluation report ESR-2074, comply with the 2019 CRC, provided the design and installation are in accordance with the 2018 *International Residential Code*® (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued February 2021 and revised April 2021.

DIVISION: 08 00 00—OPENINGS

Section: 08 95 43—Vents/Foundation Flood Vents

REPORT HOLDER:

SMART VENT PRODUCTS, INC.

EVALUATION SUBJECT:

SMART VENT® AUTOMATIC FOUNDATION FLOOD VENTS: MODELS #1540-520; #1540-521; #1540-510; #1540-511; #1540-570; #1540-574; #1540-524; #1540-514
FLOOD VENT SEALING KIT #1540-526

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Smart Vent® Automatic Foundation Flood Vents, described in ICC-ES evaluation report ESR-2074, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2020 Florida Building Code—Building
- 2020 Florida Building Code—Residential

2.0 CONCLUSIONS

The Smart Vent® Automatic Foundation Flood Vents, described in Sections 2.0 through 7.0 of the evaluation report ESR-2074, comply with the *Florida Building Code—Building* and the *Florida Building Code-Residential*, provided the design requirements are determined in accordance with the *Florida Building Code-Building* or the *Florida Building Code-Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-2074 for 2018 *International Building Code*® meet the requirements of the *Florida Building Code-Building* or the *Florida Building Code-Residential*, as applicable.

Use of the Smart Vent® Automatic Foundation Flood Vents has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and the *Florida Building Code—Residential*.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued February 2021 and revised April 2021.



- I-Codes provide recognition in all 50 states
- Specialty code recognition

ICC-ES Evaluation Report ESR-3560

Reissued September 2021

This report is subject to renewal September 2022.

DIVISION: 08 00 00—OPENINGS
Section: 08 95 43—Vents/Foundation Flood Vents

REPORT HOLDER:

FLOOD FLAPS®, LLC

EVALUATION SUBJECT:

FLOOD FLAPS® AUTOMATIC FLOOD VENTS: MODELS
FFWF12; FFNF12; FFWF08; FFNF08; FFWF05; FFNF05

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2018, 2015, 2012 and 2009 *International Building Code*® (IBC)
- 2018, 2015, 2012 and 2009 *International Residential Code*® (IRC)

Properties evaluated:

- Physical operation
- Water flow
- Weathering

2.0 USES

Flood Flaps® automatic flood vents are used to provide for the equalization of hydrostatic flood forces on exterior walls. Certain models also allow natural ventilation.

3.0 DESCRIPTION

3.1 General:

Flood Flaps® automatic flood vents are engineered mechanically operated flood vents (FVs) that automatically allow flood waters to enter and exit enclosed areas. The FVs are constructed of ABS plastic which serves as the FV's housing, and a front grill that contains an anodized metal screen imbedded in polypropylene plastic. On contact with rising flood water, the grill will disengage from its secured position, allowing flood water and debris to flow through in either direction. The FVs are available in two series as described in Section 3.3.

The sealed series models contain two rubber flaps that close the FV to the passage of air when using with conditioned areas or sealed crawl spaces. In the same manner as the grill, the two rubber flaps are pushed open

by water pressure, allowing water and debris to flow through the FV in either direction. See Figure 1 for an illustration of the Flood Flaps® automatic FV.

3.2 Engineered Opening:

The Flood Flaps® automatic FVs comply with the design principle noted in Sections 2.7.2.2 and 2.7.3 of ASCE/SEI 24-14 (2018 and 2015 IBC and IRC) [Section 2.6.2.2 of ASCE/SEI 24-05 (2012 and 2009 IBC and IRC)] for a rate of rise and fall of 5 feet per hour (0.423 mm/s). In order to comply with the engineered opening requirement of ASCE/SEI 24, Flood Flaps® automatic FVs must be installed in accordance with Section 4.0.

3.3 Flood Vent Series Models:

Flood Flaps® automatic FVs are available in two series with multiple models and sizes as described in Table 1. The sealed series models, designated FFWF, include two rubber flaps for the prevention of air flow. The multi-purpose series, designated FFNF, omits the rubber flaps.

3.4 Natural Ventilation:

Flood Flaps® automatic FV models FFNF12, FFNF08, FFNF05, and FFNF02 have metal screens with 1/4 inch by 1/4 inch (6 mm by 6 mm) openings and provide 37 square inches (0.02 m²) of net free opening to supply natural ventilation for under-floor ventilation. Flood Flaps® automatic FV models FFWF12, FFWF08, and FFWF05 have not been evaluated for use as openings for under-floor ventilation.

4.0 DESIGN AND INSTALLATION

Flood Flaps® automatic FVs are designed to be installed into walls of existing or new construction. Installation of the FVs must be in accordance with the manufacturer's instructions, the applicable code and this report. Flood Flaps® automatic FVs can be installed in wood, masonry and concrete walls up to a thickness of 12 inches (305 mm). In order to comply with the engineered opening design principle noted in Sections 2.7.2.2 and 2.7.3 of ASCE/SEI 24-14 (2018 and 2015 IBC and IRC) [Section 2.6.2.2 of ASCE/SEI 24-05 (2012 and 2009 IBC and IRC)], the Flood Flaps® FVs must be installed as follows:

- With a minimum of two openings on different sides of each enclosed area.
- With a minimum of one FV for every 220 square feet (20 m²) of enclosed area.
- Below the base flood elevation.

- With the bottom of the FV located a maximum of 12 inches (305 mm) above grade.

5.0 CONDITIONS OF USE

The Flood Flaps® automatic flood vents described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The Flood Flaps® automatic FVs must be installed in accordance with this report, the applicable code and the manufacturer’s installation instructions. In the event of a conflict, the instructions in this report govern.
- 5.2 The Flood Flaps® automatic FVs must not be used in place of “breakaway walls” in coastal high hazard areas, but are permitted for use in conjunction with breakaway walls in other areas.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Mechanically Operated Flood Vents (AC364), dated August 2015 (editorially revised October 2017).

7.0 IDENTIFICATION

- 7.1 The Flood Flaps® models recognized in this report are identified by a label bearing the manufacturer’s name, the model number, and the evaluation report number (ESR-3560).
- 7.2 The report holder’s contact information is the following:

FLOOD FLAPS®, LLC
POST OFFICE BOX 1003
ISLE OF PALMS, SOUTH CAROLINA 29451
(843) 881-0190
www.floodflaps.com
info@floodflaps.com

TABLE 1—FLOOD FLAP AUTOMATIC FLOOD VENT MODEL SIZES

MODEL NUMBER	MODEL DESIGNATION	ROUGH OPENING (Width X Height) (inches)	VENT SIZE (W X H X D) (inches)	ENCLOSED AREA COVERAGE (ft²)	NET FREE AREA OPENING¹ (in²)
FFWF12	Sealed Series	16 x 8	15 ⁵ / ₈ X 7 ³ / ₄ X 12	220	NA
FFNF12	Multi-Purpose	16 x 8	15 ⁵ / ₈ X 7 ³ / ₄ X 12	220	37
FFWF08	Sealed Series	16 x 8	15 ⁵ / ₈ X 7 ³ / ₄ X 8	220	NA
FFNF08	Multi-Purpose	16 x 8	15 ⁵ / ₈ X 7 ³ / ₄ X 8	220	37
FFWF05	Sealed Series	16 x 8	15 ⁵ / ₈ X 7 ³ / ₄ X 5	220	NA
FFNF05	Multi-Purpose	16 x 8	15 ⁵ / ₈ X 7 ³ / ₄ X 5	220	37

For SI: 1 inch = 25.4 mm; 1 ft² = 0.093 m²

¹For under-floor ventilation only.

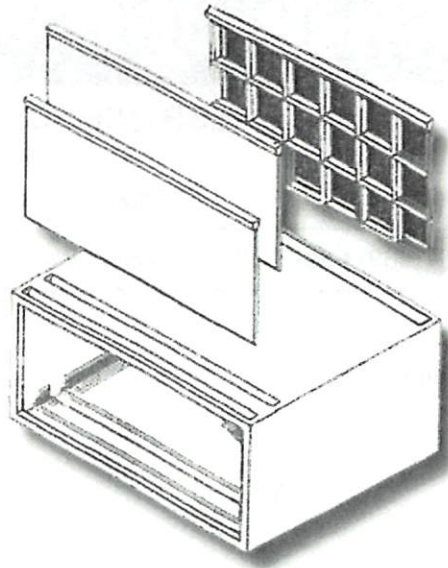
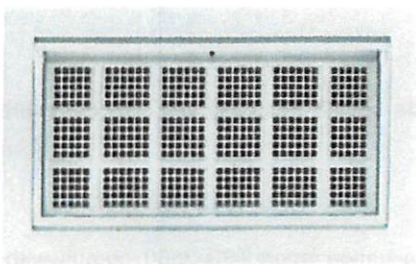
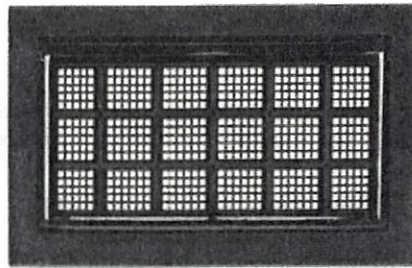


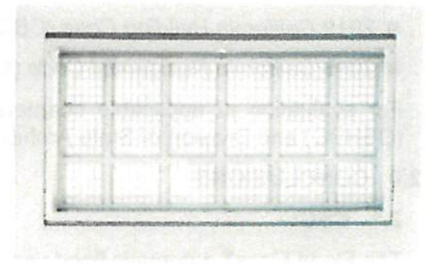
FIGURE 1—FLOOD FLAPS® AUTOMATIC FLOOD VENT



FFWF12

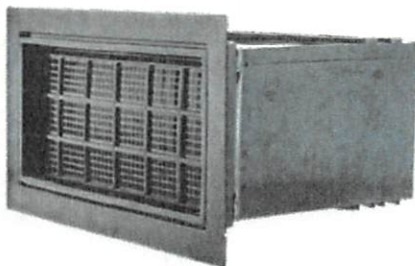


FFNF08

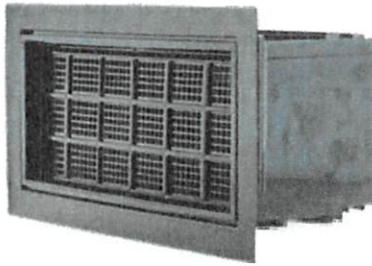


FFNF05

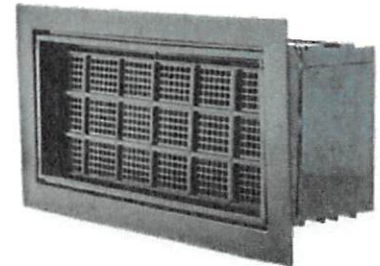
FIGURE 2—FLOOD FLAPS® AUTOMATIC FLOOD VENT SERIES MODELS



12" DEPTH



8" DEPTH



5" DEPTH

FIGURE 3—FLOOD FLAPS® AUTOMATIC FLOOD VENTS MULTIPLE DEPTH OFFERINGS

DIVISION: 08 00 88—OPENINGS

Section: 08 95 43—Vents/Foundation Flood Vents

REPORT HOLDER:

FLOOD FLAPS®, LLC

EVALUATION SUBJECT:

FLOOD FLAPS® AUTOMATIC FLOOD VENTS: MODELS FFWF12; FFNF12; FFWF08; FFNF08; FFWF05; FFNF05

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Flood Flaps® automatic flood vents, described in ICC-ES evaluation report ESR-3560, has also been evaluated for compliance with the code(s) noted below.

Applicable code editions:

- 2019 California Building Code (CBC)
- 2019 California Residential Code (CRC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

2.0 CONCLUSIONS

2.1 CBC:

The Flood Flaps® automatic flood vents, described in Sections 2.0 through 7.0 of the evaluation report ESR-3560, comply with CBC Chapter 12, provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 12 and 16, as applicable.

2.1.1 OSHPD: The applicable OSHPD Sections of the CBC are beyond the scope of this supplement.

2.1.2 DSA: The applicable DSA Sections of the CBC are beyond the scope of this supplement.

2.2 CRC:

The Flood Flaps® automatic flood vents, described in Sections 2.0 through 7.0 of the evaluation report ESR-3560, comply with 2019 CRC, provided the design and installation are in accordance with the 2018 *International Residential Code*® (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued September 2021.

DIVISION: 08 00 00—OPENINGS

Section: 08 95 43—Vents/Foundation Flood Vents

REPORT HOLDER:

FLOOD FLAPS®, LLC

EVALUATION SUBJECT:

FLOOD FLAPS® AUTOMATIC FLOOD VENTS: MODELS FFWF12; FFNF12; FFWF08; FFNF08; FFWF05; FFNF05

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Flood Flaps® automatic flood vents, described in ICC-ES evaluation report ESR-3560, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2020 Florida Building Code—Building
- 2020 Florida Building Code—Residential

2.0 CONCLUSIONS

The Flood Flaps® flood vents, described in Sections 2.0 through 7.0 of the evaluation report ESR-3560, comply with the *Florida Building Code—Building* and the *Florida Building Code—Residential*, provided the design requirements are determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-3530 for the 2018 *International Building Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable.

Use of the Flood Flaps flood vents has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and the *Florida Building Code—Residential*.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality-assurance program is audited by a quality-assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official, when the report holder does not possess an approval by the Commission).

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