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

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

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 INSUF	RANCE COMPANY USE
•	A1. Building Owner's Name Freeman Group LLC Policy Number:						
A2. Building Street Box No. 206 Lake Drive							
City Carolina Beach				State North Ca	rolina	ZIP Code 28428	
• •		nd Block Numbers, Ta mbination as seen at			•	,	.007-000
A4. Building Use (e.g., Residen	tial, Non-Residential,	Addition	, Accessory, e	etc.) Residentia	ıl	
A5. Latitude/Longit	ude: Lat. <u>3</u> 4	1° 01' 42"	Long. <u>-7</u>	7° 53' 48"	Horizontal	Datum: NAD 1	927 × NAD 1983
A6. Attach at least	2 photograp	hs of the building if the	e Certific	ate is being u	sed to obtain flood	d insurance.	
A7. Building Diagra	ım Number	6					
A8. For a building w	vith a crawls	pace or enclosure(s):					
a) Square foot	age of crawl	space or enclosure(s)			386.00 sq ft		
b) Number of p	ermanent flo	ood openings in the cr	awlspace	e or enclosure	e(s) within 1.0 foot	above adjacent gra	ide 4
c) Total net are	ea of flood op	penings in A8.b		800.00 sq in			
d) Engineered	flood openin	gs? 🗶 Yes 🗌 N	10				
A9. For a building w	rith an attach	ed garage:					
a) Square foota	age of attach	ed garage		N/A sq ft			
b) Number of p	b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade						
c) Total net are	a of flood op	penings in A9.b		sq	in		
d) Engineered	flood openin	gs? 🗌 Yes 🗌 N	lo				
	SF	CTION B - FLOOD	INSURA	NCF RATE	MΔP (FIRM) INF	ORMATION	
B1. NFIP Communi			110010	B2. County			B3. State
B1. NFIP Community Name & Community Number 375347 Town of Carolina Beach B2. County Name New Hanover B3. State North Carolina							
B4. Map/Panel Number	B5. Suffix	B6. FIRM Index Date	Effe	B7. FIRM Panel Effective/ Zone(s) B8. Flood Zone(s) B9. Base Flood Elevation(s) (Zone AO, use Base Floor E		levation(s) e Base Flood Depth)	
3720313000/3130	K	08-28-2018	08-28-2		AE	11	
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/Source:							
B11. Indicate elevation datum used for BFE in Item B9: NGVD 1929 NAVD 1988 Other/Source:							
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? Yes No							
Designation D	Date:		CBRS	☐ 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. 206 Lake Drive	o. Policy Number:			
City State ZIP Code Carolina Beach North Carolina 28428	Company NAIC Number			
SECTION C - BUILDING ELEVATION INFORMATION (SURVE	Y REQUIRED)			
C1. Building elevations are based on: Construction Drawings* Building Under Co *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). Э.			
Complete Items C2.a–h below according to the building diagram specified in Item A7. In Benchmark Utilized: NCGS VRS Vertical Datum: NAVD-88				
Indicate elevation datum used for the elevations in items a) through h) below.				
☐ NGVD 1929 区 NAVD 1988 ☐ Other/Source:				
Datum used for building elevations must be the same as that used for the BFE.				
To a file them floor (in all ding hose went every depose on analysis of floor)	Check the measurement used. 5.3 ⊠ feet ☐ meters			
a) Top of bottom floor (including basement, crawlspace, or enclosure floor)				
b) Top of the next higher floor	15.5 X feet meters			
c) Bottom of the lowest horizontal structural member (V Zones only)				
d) Attached garage (top of slab)	N/A feet meters			
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments)	13.9 × feet meters			
f) Lowest adjacent (finished) grade next to building (LAG)	4.6 X feet meters			
g) Highest adjacent (finished) grade next to building (HAG)	4.8 X feet meters			
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support	4.6 × feet meters			
SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CE	RTIFICATION			
This certification is to be signed and sealed by a land surveyor, engineer, or architect authoriz I certify that the information on this Certificate represents my best efforts to interpret the data statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.	ed by law to certify elevation information. available. I understand that any false			
Were latitude and longitude in Section A provided by a licensed land surveyor? ⊠ Yes □	No Check here if attachments.			
Certifier's Name License Number Joshua M. McKittrick L-5108 Firm#P-1608				
	William A CAR Office			
Title owner	SEAL SEAL			
Company Name Joshua M. McKittrick Land Surveying, PLLC	L-5108 Q:			
Address 809 Windgate Drive	M. MCK Thumburn			
CityStateZIP CodeWilmingtonNorth Carolina28412				
Signature Date Telephone Josh McKittrick Discrete McKitters to 20 and McKitters and 11-17-2021 (910) 231-53	Ext. 339			
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) C2.e) Lowest machinery servicing the building is the hvac unit.				

ELEVATION CERTIFICATE

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

MPORTANT: In these spaces, copy the correspondir			FOR INSURANCE COMPANY USE	
Building Street Address (including Apt., Unit, Suite, and/206 Lake Drive	or Bldg. No.) or P.O. Ro	oute and Box No.	Policy Number:	
- ,		Code 428	Company NAIC Number	
SECTION E – BUILDING ELE FOR ZONE	VATION INFORMATI AO AND ZONE A (W		REQUIRED)	
For Zones AO and A (without BFE), complete Items E1–complete Sections A, B,and C. For Items E1–E4, use na enter meters. E1. Provide elevation information for the following and complete the highest adjacent grade (HAG) and the lowest action.	tural grade, if available. theck the appropriate bo	. Check the measure	ment used. In Puerto Rico only,	
 a) Top of bottom floor (including basement, crawlspace, or enclosure) is b) Top of bottom floor (including basement, crawlspace, or enclosure) is 		feet meter		
 E2. For Building Diagrams 6–9 with permanent flood op the next higher floor (elevation C2.b in the diagrams) of the building is E3. Attached garage (top of slab) is E4. Top of platform of machinery and/or equipment servicing the building is E5. Zone AO only: If no flood depth number is available floodplain management ordinance? Yes 	, is the top of the botton	feet meter feet meter feet meter feet meter	above or below the HAG.	
			•	
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 or Owner's Authorized Representative's Name				
Address	City	St	ate ZIP Code	
Signature	Date	Te	lephone	
Comments				
			Check here if attachments.	

ELEVATION CERTIFICATE

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

MPORTANT: In these spaces, copy the corre	FOR INSURANCE COMPANY USE			
Building Street Address (including Apt., Unit, So 206 Lake Drive	Policy Number:			
City Carolina Beach	State North Caro	ZIP Code lina 28428		Company NAIC Number
SECTIO	ON G – COMMUNI	TY INFORMATION (OPT	IONAL)	
The local official who is authorized by law or or Sections A, B, C (or E), and G of this Elevation used in Items G8–G10. In Puerto Rico only, en	Certificate. Comp			
G1. The information in Section C was tak engineer, or architect who is authoriz data in the Comments area below.)				
G2. A community official completed Section or Zone AO.	on E for a building	located in Zone A (withou	ıt a FEMA	A-issued or community-issued BFE)
G3. The following information (Items G4-	·G10) is provided f	or community floodplain m	nanageme	ent purposes.
G4. Permit Number	G5. Date Permit	: Issued		Date Certificate of Compliance/Occupancy Issued
G7. This permit has been issued for:	New Constructio	n	ment	
G8. Elevation of as-built lowest floor (including of the building:	g basement) -		feet	meters Datum
G9. BFE or (in Zone AO) depth of flooding at	the building site:		feet	meters Datum
G10. Community's design flood elevation:	-		feet	meters Datum
Local Official's Name		Title		
Community Name		Telephone		
Signature		Date		
Comments (including type of equipment and loc	cation, per C2(e), i	f applicable)		
				Check here if attachments.

BUILDING PHOTOGRAPHS

ELEVATION CERTIFICATE

See Instructions for Item A6.

OMB No. 1660-0008

Expiration Date: November 30, 2022

IMPORTANT: In these spaces, co	FOR INSURANCE COMPANY USE		
Building Street Address (including A 206 Lake Drive	Policy Number:		
City Carolina Beach	State North Carolina	ZIP Code 28428	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 Front View

Clear Photo One

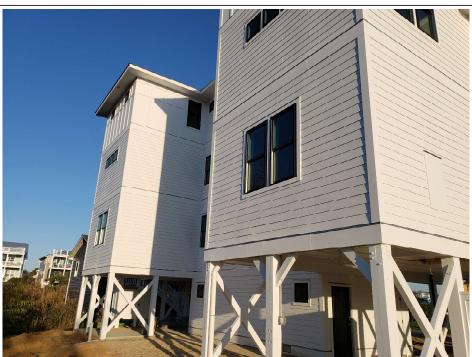


Photo Two

Photo Two Caption Rear view

Clear Photo Two

BUILDING PHOTOGRAPHS

ELEVATION CERTIFICATE

Continuation Page

OMB No. 1660-0008

Expiration Date: November 30, 2022

		-	<u> </u>
IMPORTANT: In these spaces, copy t	FOR INSURANCE COMPANY USE		
Building Street Address (including Apt., 206 Lake Drive	Policy Number:		
City	State	ZIP Code	Company NAIC Number
Carolina Beach	North Carolina	28428	

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 Left side view

Clear Photo Three



Photo Four

Photo Four Caption Right side view

Clear Photo Four





ICC-ES | (800) 423-6587 | (562) 699-0543 | www.icc-es.org

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 CODE COUNCIL

ICC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.





ESR-2074

Reissued February 2021 Revised April 2021 This report is subject to renewal February 2023.

www.icc-es.org | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

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

TARI	E 1_	EL SIZES
IADL		L 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 = m^2

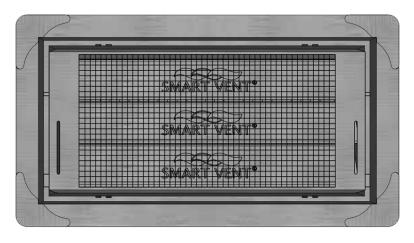


FIGURE 1—SMART VENT: MODEL 1540-510

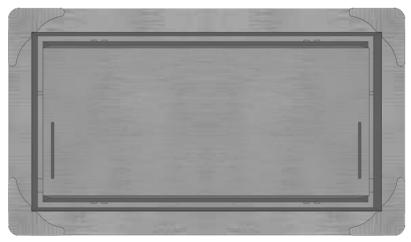


FIGURE 2—SMART VENT MODEL 1540-520



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

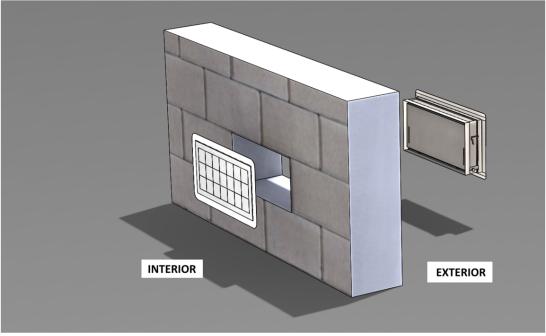


FIGURE 4—FLOOD VENT SEALING KIT



ESR-2074 CBC and CRC Supplement

Reissued February 2021 Revised April 2021 This report is subject to renewal February 2023.

www.icc-es.org | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

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; #1540-524; #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.





ESR-2074 FBC Supplement

Reissued February 2021 Revised April 2021 This report is subject to renewal February 2023.

www.icc-es.org | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

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.

