# **ELEVATION CERTIFICATE**

Important: Follow the instructions on pages 1–9.

Copy all pages of this El	evation Cer	tificate and all attachm	nents for	(1) communi	ly official, (2) insur	ance agent/company	y, and (3) building owner.
SECTION A – PROPERTY INFORMATION					FOR INSUR	FOR INSURANCE COMPANY USE	
A1. Building Owner's MADDAWG SOUTH						Policy Num	ber:
A2. Building Street A Box No. 333 STANLEY DRIV		luding Apt., Unit, Suite	e, and/or	Bldg. No.) o	r P.O. Route and	Company N	AIC Number:
City	0			State		ZIP Code	
MURRELLS INL	ET			South C	arolina	29576	
		nd Block Numbers, Ta ON (PIN# 470-08-03-		Number, Leç	gal Description, et	c.)	
A4. Building Use (e.g	., Residen	tial, Non-Residential, /	Addition,	Accessory,	etc.) RESIDENT	IAL	
A5. Latitude/Longitud	le: Lat. 3	3-34-39.8	Long. 0	79-00-41.9	Horizonta	I Datum: 🗌 NAD 1	927 🗶 NAD 1983
A6. Attach at least 2	photograp	ns of the building if the	Certifica	ate is being u	used to obtain floo	d insurance.	
A7. Building Diagram	Number	6					
A8. For a building wit	h a crawls	pace or enclosure(s):					
a) Square footag	ge of crawls	space or enclosure(s)			300.00 sq ft		
b) Number of pe	manent flo	od openings in the cra	awlspace	or enclosure	e(s) within 1.0 foo	above adjacent gra	ade 4
		enings in A8.b					
		gs? 🗶 Yes 🗌 N					
A9. For a building wit				N// 00 8			
		ed garage					
b) Number of pe	rmanent flo	od openings in the att	ached ga	arage within	1.0 foot above ad	acent grade N/A	
c) Total net area	of flood op	enings in A9.b		N/A sq	in		
d) Engineered flo	ood openin	gs? 🗌 Yes 🗶 N	lo				
	SE	CTION B - FLOOD	NSURA	NCE RATE	MAP (FIRM) INF	ORMATION	
B1. NFIP Community	Name & C	Community Number		B2. County	Name		B3. State
HORRY COUNTY 4	50104			HORRY C	OUNTY		South Carolina
B4. Map/Panel I Number	35. Suffix	B6. FIRM Index Date	Effe	RM Panel ective/ vised Date	B8. Flood Zone(s)	B9. Base Flood E (Zone AO, us	Elevation(s) e Base Flood Depth)
45051C 0784	к	12-16-2021	12-16-	2021	AE	13'	
FIS Profile	FIRM	Base Flood Elevation Community Deter Used for BFE in Item B Coastal Barrier Reso	mined [ 39: 🗌 N	Other/Sou	Irce:	Other/Source:	 OPA)? [] Yes 🗶 No
FEMA Form 086-0-33	(12/19)	F	Replaces	all previous	editions.		Form Page 1 of

LEVATION CERTIFICATE	OMB No. 1660-0008 Expiration Date: November 30, 202				
MPORTANT: In these spaces, copy	FOR INSURANCE COMPANY U				
Building Street Address (including Apt. 333 STANLEY DRIVE	, Unit, Suite, and/or Bldg. No.) or P	.O. Route and Box No.	Policy Number:		
City     State     ZIP Code       MURRELLS INLET     South Carolina     29576			Company NAIC Number		
SECTION	C - BUILDING ELEVATION INFO	ORMATION (SURVEY F	REQUIRED)		
C1. Building elevations are based or *A new Elevation Certificate will	n: Construction Drawings* be required when construction of th	Building Under Const e building is complete.	ruction* IX Finished Construction		
C2. Elevations - Zones A1-A30, AE	, AH, A (with BFE), VE, V1–V30, V ccording to the building diagram sp	(with BEE) AR AR/A AF	R/AE, AR/A1–A30, AR/AH, AR/AO. rto Rico only, enter meters.		
	r the elevations in items a) through				
	D 1988 D Other/Source:	n) below.			
	ns must be the same as that used for	or the BFE.			
			Check the measurement used		
<ul> <li>a) Top of bottom floor (including</li> </ul>	basement, crawlspace, or enclosu	re floor)	10.4 x feet meters		
b) Top of the next higher floor			19.5 X feet meters		
c) Bottom of the lowest horizont	al structural member (V Zones only	)	N/A feet meters		
d) Attached garage (top of slab)	N 57	·	N/A feet meters		
	v or equipment servicing the buildin	ng	14.2 🗶 feet 🗌 meters		
f) Lowest adjacent (finished) gr	ade next to building (LAG)		10.1 X feet meters		
g) Highest adjacent (finished) gr	4.7750.7470 fz		10.3 x feet meters		
	est elevation of deck or stairs, inclu	ding	10.3 <b>x</b> feet meters		
	D - SURVEYOR, ENGINEER, C				
This certification is to be signed and s I certify that the information on this Co statement may be punishable by fine Were latitude and longitude in Section	sealed by a land surveyor, engineer ertificate represents my best efforts or imprisonment under 18 U.S. Coo	, or architect authorized b to interpret the data avail de, Section 1001.	y law to certify elevation information		
Certifier's Name					
J. JASON COX	License Numb SC# 26950	ber	annannannanna anna anna anna anna anna		
Title			- WITH CARO		
OWNER			SCO OFESSION 1		
Company Name					
COX SURVEYORS & ASSOCIATES	, LLC		E (No. 26950		
Address			No. 26950		
			SIRVE T		
4325 DICK POND ROAD, SUITE A City	State South Carolin	ZIP Code a 29588	No. 26950		
4325 DICK POND ROAD, SUITE A City MYRTLE BEACH			Ext.		
4325 DICK POND ROAD, SUITE A City MYRTLE BEACH Signature	South Carolin Date 03-07-2022	na 29588 Telephone (843) 650-1500	Ext.		
4325 DICK POND ROAD, SUITE A City MYRTLE BEACH Signature J. Jasa Cox Copy all pages of this Elevation Certific	South Carolin Date 03-07-2022 ate and all attachments for (1) comm	Telephone (843) 650-1500 nunity official, (2) insurance	Ext.		
4325 DICK POND ROAD, SUITE A City MYRTLE BEACH	South Carolin Date 03-07-2022 ate and all attachments for (1) comm ent and location, per C2(e), if applica	a 29588 Telephone (843) 650-1500 iunity official, (2) insurance able)	Ext.		
4325 DICK POND ROAD, SUITE A City MYRTLE BEACH Signature J. Jack Cox Copy all pages of this Elevation Certific Comments (including type of equipme C2e is the air conditioner pad located	South Carolin Date 03-07-2022 ate and all attachments for (1) comm ent and location, per C2(e), if applica I on the right side of the house. Ven IOR TO EFFECTIVE FIRM MAP 45	a 29588 Telephone (843) 650-1500 nunity official, (2) insurance able) its are engineered "Flood	Ext. Ext. Flap" brand model # FFWF05 rated 3/23/1999, FLOOD ZONE "AE-11."		

ELEVATION CERTIFICATE				MB No. 1660-0 xpiration Date:	008 November 30, 2022
IMPORTANT: In these spaces, copy the cor	F	FOR INSURANCE COMPANY USE			
Building Street Address (including Apt., Unit, \$ 333 STANLEY DRIVE				Policy Number:	
City MURRELLS INLET	State South Carolina	ZIP Code 29576	C	Company NAIC	Number
	DING ELEVATION INFOR			EQUIRED)	
For Zones AO and A (without BFE), complete complete Sections A, B,and C. For Items E1– enter meters.					
<ul> <li>E1. Provide elevation information for the follo the highest adjacent grade (HAG) and the a) Top of bottom floor (including basement</li> </ul>	e lowest adjacent grade (LA		w whether t	he elevation is	above or below
<ul> <li>a) Top of bottom floor (including baseme crawlspace, or enclosure) is</li> <li>b) Top of bottom floor (including baseme</li> </ul>		[] feet	meters	above or	below the HAG.
crawlspace, or enclosure) is	nıt, 	feet	meters	above or	below the LAG.
E2. For Building Diagrams 6–9 with permane the next higher floor (elevation C2.b in	nt flood openings provided	10-11/7	s <u>——</u> —		
the diagrams) of the building is			meters		below the HAG.
<ul><li>E3. Attached garage (top of slab) is</li><li>E4. Top of platform of machinery and/or equi</li></ul>	pment		meters	above or	below the HAG.
servicing the building is	Ne series de la companya de la comp	feet	meters		below the HAG.
E5. Zone AO only: If no flood depth number in floodplain management ordinance?	s available, is the top of the Yes No Unknov	n. The local offi	cial must ce	rdance with the rtify this informa	ation in Section G.
SECTION F - PROPE	RTY OWNER (OR OWNER	S REPRESENT	ATIVE) CER	TIFICATION	
The property owner or owner's authorized rep community-issued BFE) or Zone AO must sig	presentative who completes n here. The statements in S	Sections A, B, an Sections A, B, and	d E for Zone E are corre	e A (without a F ct to the best of	EMA-issued or fmy knowledge.
Property Owner or Owner's Authorized Repre	sentative's Name				
Address	C	iity	State	Э	ZIP Code
Signature	D	late	Tele	phone	
Comments					
				ERTIFICATION	COX URVEYORS ASSOCIATES LLC No. 4099
					here if attachments.
FEMA Form 086-0-33 (12/19)	Replaces all previo	ous editions.		Letter Col	Form Page 3 of

ELEVATION CERTIFICATE		OMB No. 1660-0008 Expiration Date: November 30, 2022
MPORTANT: In these spaces, copy the corresponding informatio	FOR INSURANCE COMPANY USE	
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) o 333 STANLEY DRIVE	or P.O. Route and Box N	o. Policy Number:
City State	ZIP Code	Company NAIC Number
MURRELLS INLET South Carolina		
SECTION G – COMMUNITY I	NFORMATION (OPTION	IAL)
The local official who is authorized by law or ordinance to administer t Sections A, B, C (or E), and G of this Elevation Certificate. Complete t used in Items G8–G10. In Puerto Rico only, enter meters.		
G1. The information in Section C was taken from other documer engineer, or architect who is authorized by law to certify eleverate in the Comments area below.)		
G2. A community official completed Section E for a building loca or Zone AO.	ated in Zone A (without a	FEMA-issued or community-issued BFE)
G3. The following information (Items G4–G10) is provided for co	ommunity floodplain man	agement purposes.
G4. Permit Number G5. Date Permit Issu	ued	G6. Date Certificate of Compliance/Occupancy Issued
G7. This permit has been issued for:	] Substantial Improveme	nt
G8. Elevation of as-built lowest floor (including basement) of the building:		] 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 location, per C2(e), if app	plicable)	
		Check here if attachments.
FEMA Form 086-0-33 (12/19) Replaces all pre	evious editions	Form Page 4 of

ELEVATION CERTIFICATE	BUILDING PHOT See Instructions f		OMB No. 1660-0008 Expiration Date: November 30, 202
MPORTANT: In these spaces, copy the co	prresponding information f	rom Section A.	FOR INSURANCE COMPANY US
Building Street Address (including Apt., Unit, 333 STANLEY DRIVE			Policy Number:
City	State	ZIP Code	Company NAIC Number
MURRELLS INLET	South Carolina	29576	
If using the Elevation Certificate to obta instructions for Item A6. Identify all photogr "Left Side View." When applicable, photogr vents, as indicated in Section A8. If submitt	aphs with date taken; "Front graphs must show the foun	View" and "Rear View"; a dation with representative	nd, if required, "Right Side View" and e examples of the flood openings or
Photo One Caption Front View; 03/07/202	22		Clear Photo Or
			Oliver Disub T
Photo Two Caption Rear View; 03/07/202			Clear Photo T

FEMA Form 086-0-33 (12/19)

Replaces all previous editions.

Form Page 5 of 6

Building Street Address (inclu 333 STANLEY DRIVE City MURRELLS INLET If submitting more photogra with: date taken; "Front V	es, copy the corresponding information fro uding Apt., Unit, Suite, and/or Bldg. No.) or P. State South Carolina	ALC ACTIVITY OF A CONTRACT	Expiration Date: November 30, 202 FOR INSURANCE COMPANY US Policy Number:
Building Street Address (inclu 333 STANLEY DRIVE City MURRELLS INLET If submitting more photogra with: date taken; "Front V	uding Apt., Unit, Suite, and/or Bldg. No.) or P. State	O. Route and Box No.	Policy Number:
City MURRELLS INLET If submitting more photogra with: date taken; "Front V		7IP Code	
MURRELLS INLET			Company NAIC Number
If submitting more photogra with: date taken; "Front V photographs must show the		29576	
	e foundation with representative examples of the	he flood openings or vent	ts, as indicated in Section A8.
Photo Three Caption Vents	(Typical): 03/07/2022		Clear Photo Th
	Photo Fo	ur	
	Photo Four		
Photo Four Caption		us editions.	Clear Photo F Form Page 6

ES EVALUATION

## **ICC-ES Evaluation Report**

Reissued September 2020 This report is subject to renewal September 2021.

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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

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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 multipurpose 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 underfloor 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 m<sup>2</sup>) of enclosed area.

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.



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ESR-3560

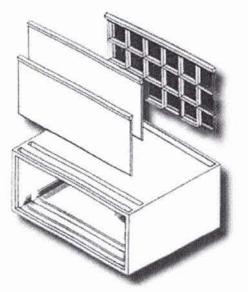
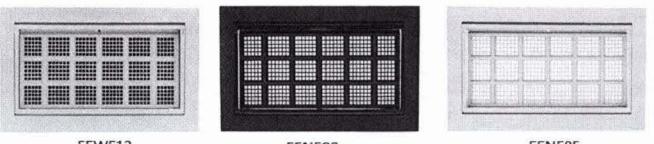


FIGURE 1-FLOOD FLAPS® AUTOMATIC FLOOD VENT

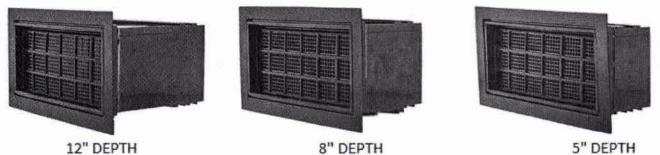


FFWF12

FFNF08

FFNF05

FIGURE 2-FLOOD FLAPS® AUTOMATIC FLOOD VENT SERIES MODELS



12" DEPTH 8" DEPTH FIGURE 3—FLOOD FLAPS® AUTOMATIC FLOOD VENTS MULTIPLE DEPTH OFFERINGS

ALUATION

## **ICC-ES Evaluation Report**

## ESR-3560 FBC Supplement

Reissued September 2020 This report is subject to renewal September 2021.

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A Subsidiary of the International Code Council®

#### 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<sup>®</sup> 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:

2017 Florida Building Code—Building

2017 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 and installation are in accordance with the 2015 *International Building Code®* provisions noted in the evaluation report.

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 9N-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 September 2020.

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.



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## ESR-3560 | Most Widely Accepted and Trusted

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

MODEL NUMBER	MODEL DESIGNATION	ROUGH OPENING (Width X Height) (inches)	VENT SIZE (W X H X D) (inches)	ENCLOSED AREA COVERAGE (ft <sup>2</sup> )	NET FREE AREA OPENING <sup>1</sup> (in <sup>2</sup> )
FFWF12	Sealed Series	16 x 8	15 <sup>5</sup> / <sub>8</sub> X 7 <sup>3</sup> / <sub>4</sub> X 12	220	NA
FFNF12 Multi-Purpose FFWF08 Sealed Series		16 x 8	15 <sup>5</sup> / <sub>8</sub> X 7 <sup>3</sup> / <sub>4</sub> X 12	220	37
		16 x 8	15 <sup>5</sup> / <sub>8</sub> x 7 <sup>3</sup> / <sub>4</sub> x 8	220	NA
FFNF08	Multi-Purpose	16 x 8	15 <sup>5</sup> / <sub>8</sub> x 7 <sup>3</sup> / <sub>4</sub> x 8	220	37
FFWF05	Sealed Series	16 x 8	15 <sup>5</sup> / <sub>8</sub> x 7 <sup>3</sup> / <sub>4</sub> x 5	220	NA
FFNF05	Multi-Purpose	16 x 8	15 <sup>5</sup> / <sub>8</sub> x 7 <sup>3</sup> / <sub>4</sub> x 5	220	37

## TABLE 1-FLOOD FLAP AUTOMATIC FLOOD VENT MODEL SIZES

For SI: 1 inch = 25.4 mm; 1  $f^2$  = 0.093 m<sup>2</sup>

<sup>1</sup>For under-floor ventilation only.

