

~~FILE COPY~~

8-25-21:EME
 OMB No. 1660-0008
 Expiration Date: November 30, 2022

FPUP # P20FC01035
 DSD # P21BP01444

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 Alan F. Vesterdal				Policy Number:	
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 17355 South Columbus Boulevard				Company NAIC Number:	
City Sahuarita		State Arizona		ZIP Code 85629	
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) Taxcode: 303-64-0490 Township 17 Range 14 Section 22 SW4 NW4 NW4 SE4 2.50 AC SEC 22-17-14					
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.)				Accessory: Non-habitable Structure	
A5. Latitude/Longitude: Lat. 31.93414 Long. -110.90071				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. <small>Pima County Regional Flood Control District requires four (4) photographs.</small>					
A7. Building Diagram Number <u>1B</u>					
A8. For a building with a crawlspace or enclosure(s):					
a) Square footage of crawlspace or enclosure(s) <u>1,500</u> sq ft					
b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade <u>6</u>					
c) Total net area of flood openings in A8.b <u>>1500</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>N/A</u> sq ft					
b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade <u>N/A</u>					
c) Total net area of flood openings in A9.b <u>N/A</u> sq in					
d) Engineered flood openings? <input type="checkbox"/> Yes <input type="checkbox"/> No					
SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION					
B1. NFIP Community Name & Community Number Pima County / 040073			B2. County Name Pima County		B3. State Arizona
B4. Map/Panel Number 04019C3470	B5. Suffix L	B6. FIRM Index Date 09/28/2012	B7. FIRM Panel Effective/ Revised Date 06-16-2011	B8. Flood Zone(s) X	B9. Base Flood Elevation(s) (Zone AO, use Base Flood Depth) 101.00
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 type="checkbox"/> FIRM <input checked="" 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 type="checkbox"/> NAVD 1988 <input checked="" type="checkbox"/> Other/Source: Highest Adjacent Natural Grade (=100.0 ft)					
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. 17355 South Columbus Boulevard			Policy Number:
City Sahuarita	State Arizona	ZIP Code 85629	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: N/A Vertical Datum: N/A

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

NGVD 1929 NAVD 1988 Other/Source: HANG = 100.00 FT

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>101.22</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| b) Top of the next higher floor | <u>N/A</u> | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| c) Bottom of the lowest horizontal structural member (V Zones only) | <u>N/A</u> | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| d) Attached garage (top of slab) | <u>N/A</u> | <input 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>N/A</u> | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| f) Lowest adjacent (finished) grade next to building (LAG) | <u>99.93</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| PCRFCD Note: Indicate lowest adjacent natural grade (LANG) in Section D. | | | |
| g) Highest adjacent (finished) grade next to building (HAG) | <u>100.00</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| PCRFCD Note: Indicate highest adjacent natural grade (HANG) in Section D. | | | |
| h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support | <u>N/A</u> | <input 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 License Number

CHARS A. WOODROW P.E. 33065

Title

ENGINEER

Company Name

DSL ENGINEERING, LLC

Address

PO, Box 68299

City State ZIP Code

ORO VALLEY AZ 85737

Signature Date Telephone Ext.

[Signature] 8/19/21 (602) 881-7669



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)

The lowest service equipment (C2.e) is the N/A and the N/A is/are above this elevation. Highest adjacent natural grade is 100.00 Lowest adjacent natural grade is 99.93

ESR-4332 (SEE ATTACHED)

6(EACH) * 250 (SQFT/UNIT) = 1,500 SQFT

BUILDING PHOTOGRAPHS

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

ELEVATION CERTIFICATE

See Instructions for Item A6.

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. 17355 South Columbus Boulevard			Policy Number:
City Sahuarita	State Arizona	ZIP Code 85629	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.



Looking Southeast
8/23/21

Photo One

Photo One Caption

Clear Photo One



Looking Southwest
8/23/21

Photo Two

Photo Two Caption

Clear Photo Two

BUILDING PHOTOGRAPHS

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

ELEVATION CERTIFICATE

Continuation Page

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. 17355 South Columbus Boulevard			Policy Number:
City Sahuarita	State Arizona	ZIP Code 85629	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.



Looking Northwest
8/23/21

Photo Three

Photo Three Caption

Clear Photo Three



Looking North
8/23/21

Photo Four

Photo Four Caption

Clear Photo Four

Topo Survey

DSL Engineering LLC

Project: P20FC01035, Elevation Certificate

Date: 7/26/2021

Client: Alan F. Vesterdal

Parcel: 303-64-0490

Address: 17355 S. Columbus Ave.

Sahuarita, AZ 85629

Instrument: C. Woodrow PE

Rod: Bi-pod legs

Datum: Highest Adjacent Natural Grade = **100.00** = Pt No, 3

PT NO.	DESCRIPTION	ROD	HI	EL
SETUP NO. 1 - Driveway SW of bldg				
1	FF Elevation	3.96		101.22
2	Lowest Adjacent Grade SW Cor 20'	5.25		99.93
3	Highest Adjacent Grade SE Cor 22'	5.18	105.18	100.00



Exp: 12/31/22

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

REPORT HOLDER:

SMART PRODUCT INNOVATIONS, INC.

EVALUATION SUBJECT:

FREEDOM FLOOD VENT™ AUTOMATIC FOUNDATION FLOOD VENT: MODEL FFV-1608

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2018, 2015, 2012, 2009 and 2006 *International Building Code®* (IBC)
- 2018, 2015, 2012, 2009 and 2006 *International Residential Code®* (IRC)

Properties evaluated:

- Physical operation
- Water flow
- Weathering

2.0 USES

The model FFV-1608 Freedom Flood Vent™ is used to equalize hydrostatic pressure on walls of enclosures subject to rising or falling floodwaters. With the cover removed, the model FFV-1608 also provides natural air ventilation.

3.0 DESCRIPTION

3.1 General:

The model FFV-1608 Freedom Flood Vent™ is an engineered mechanically operated in-wall flood vent (FV) that automatically allows floodwater to enter an enclosed area and exit. The FV is comprised of a polycarbonate frame with mounting flange and a polycarbonate horizontally pivoting door. When subjected to rising water, the model FFV-1608 Freedom Flood Vent™ door is activated and pivots to allow water and debris to flow in either direction to equalize hydrostatic pressure from one side of the enclosure to the other. The FV features a removable polycarbonate cover. The FV door will activate and pivot when subjected to rising water with or without the polycarbonate cover installed.

3.2 Engineered Opening:

The FV complies with the design principle noted in Section 2.7.2.2 and Section 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, 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, Freedom Flood Vent™ FVs must be installed in accordance with Section 4.0 below. See Table 1 for vent size and maximum allowable area coverage for a single vent.

4.0 DESIGN AND INSTALLATION

The model FFV-1608 Freedom Flood Vent™ is designed to be installed into walls or overhead doors of existing or new construction. Installation of the vent must be in accordance with the manufacturer's instructions, the applicable code, and this report. 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, 2009, 2006 IBC and IRC)], the Freedom Flood Vent™ 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 250 square feet (23.2 m²) of enclosed area. ←
- Below the base flood elevation.
- With the bottom of the vent located a maximum of 12 inches (305.4 mm) above the higher of the final interior grade or floor and the finished exterior grade immediately under each opening.

5.0 CONDITIONS OF USE

The Freedom Flood Vent™ described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The model FFV-1608 Freedom Flood Vent™ unit must be installed in accordance with this report, the applicable code and the manufacturer's published installation instructions. In the event of a conflict, the instructions in this report shall govern.
- 5.2 The model FFV-1608 Freedom Flood Vent™ unit 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.

5.3 Use of the Freedom Flood Vent as under-floor space ventilation is outside the scope of this report.

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 Freedom Flood Vent™ model recognized in this report must be identified by a label bearing the manufacturer’s name (Smart Product Innovations, Inc.) and the evaluation report number (ESR-4332.).

7.2 The report holder’s contact information is the following:

SMART PRODUCT INNOVATIONS, INC.
 430 ANDBRO DRIVE, UNIT 1
 PITMAN, NEW JERSEY 08071
 (800) 507-1527
www.freedomfloodvent.com
info@freedomfloodvent.com

TABLE 1—FREEDOM FLOOD VENT™

MODEL NAME	MODEL NUMBER	MODEL SIZE	COVERAGE (sq. ft.)
Freedom Flood Vent™	FFV-1608	15 ³ / ₄ " X 8 ¹ / ₈ "	250

For SI: 1 inch = 25.4 mm

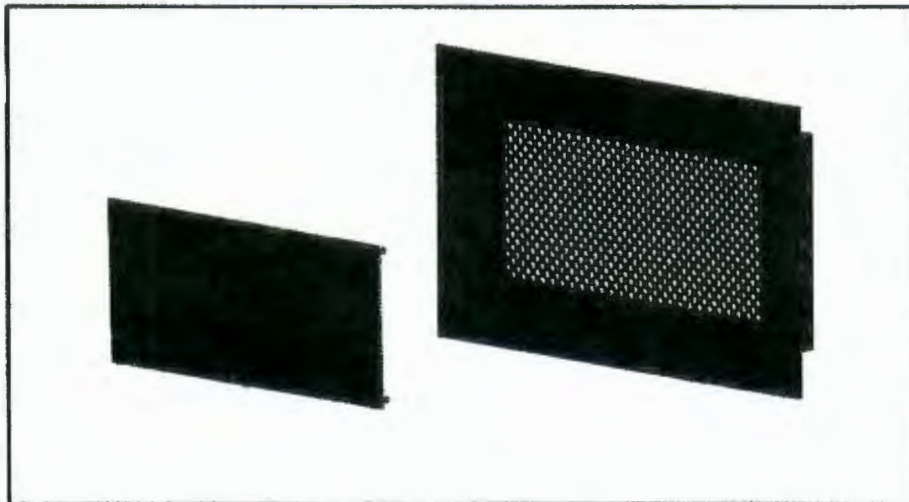


FIGURE 1—MODEL FFV-1608 FREEDOM FLOOD VENT™: SHOWN WITH COVER REMOVED



FIGURE 2—MODEL FFV-1608 FREEDOM FLOOD VENT™: SHOWN WITH FLOOD DOOR PIVOTED OPEN

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

SMART PRODUCT INNOVATIONS, INC.

EVALUATION SUBJECT:

FREEDOM FLOOD VENT™ AUTOMATIC FOUNDATION FLOOD VENT: MODEL FFV-1608

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that the Freedom Flood Vent™ Automatic Foundation Flood Vent: Model FFV-1608, recognized in ICC-ES master evaluation report ESR-4332, has also been evaluated for compliance with codes noted below.

Applicable code edition(s):

- 2016 *California Building Code* (CBC)
- 2016 *California Residential Code* (CRC)

2.0 CONCLUSIONS**2.1 CBC:**

The Freedom Flood Vent™ Automatic Foundation Flood Vent: Model FFV-1608, described in Sections 2.0 through 7.0 of the master evaluation report ESR-4332, complies with CBC Chapters 12, 16 and 16A, provided the design and installation are in accordance with the 2015 *International Building Code*® (2015 IBC) provisions noted in the master report and the additional requirements of 12, 16, and 16A, as applicable.

The product recognized in this supplement has not been evaluated under CBC Chapter 7A for use in the exterior design and construction of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area.

2.2 CRC:

The Freedom Flood Vent™ Automatic Foundation Flood Vent: Model FFV-1608, described in Sections 2.0 through 7.0 of the master evaluation report ESR-4332, complies with the 2016 CRC, provided the design and installation are in accordance with the 2015 *International Residential Code*® (2015 IRC) provisions noted in the master report.

The product recognized in this supplement has not been evaluated under 2016 CRC Chapter R337, for use in the exterior design and construction of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area.

The product recognized in this supplement has not been evaluated for compliance with the *International Wildland-Urban Interface Code*®.

This supplement expires concurrently with the evaluation report, reissued March 2020.

DIVISION: 08 00 00—OPENINGS

Section: 08 95 43—Vents / Foundation Flood Vents

REPORT HOLDER:

SMART PRODUCT INNOVATIONS, INC.

EVALUATION SUBJECT:

FREEDOM FLOOD VENT™ AUTOMATIC FOUNDATION FLOOD VENT: MODEL FFV-1608

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Freedom Flood Vent™ Automatic Foundation Flood Vent: Model FFV-1608, recognized in ICC-ES master evaluation report ESR-4332, has 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 Freedom Flood Vent™ Automatic Foundation Flood Vent: Model FFV-1608, described in Sections 2.0 through 7.0 of the master evaluation report ESR-4332, complies with the *Florida Building Code—Building* and the *Florida Building Code—Residential*, provided the design and installation are in accordance with the *International Building Code*® (IBC) provisions noted in the master report.

Use of the Freedom Flood Vent™ Automatic Foundation Flood Vent: Model FFV-1608 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 March 2020.