U.S. DEPARTMENT OF HOMELAND SECURITY

Federal Emergency Management Agency National Flood Insurance Program

OMB No. 1660-0008 Expiration Date: November 30, 2018

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 MERRIE DAWN ALLEN | Policy Number: | | | |
| A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 5720 HILLTOP AVENUE | Company NAIC Number: | | | |
| City State PANAMA CITY BEACH Florida | ZIP Code 32408 | | | |
| A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) TAX PARCEL NUMBER: 32049-015-000 | | | | |
| A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) RESIDENTIA | L | | | |
| A5. Latitude/Longitude: Lat. 30008'57.2"N Long, 85045'25.5"W Horizontal Da | atum: NAD 1927 X NAD 1983 | | | |
| A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood ir | surance. | | | |
| A7. Building Diagram Number1B | | | | |
| A8. For a building with a crawlspace or enclosure(s): | | | | |
| a) Square footage of crawlspace or enclosure(s) N/A sq ft | | | | |
| b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot ab | ove adjacent grade N/A | | | |
| c) Total net area of flood openings in A8.b N/A sq in | | | | |
| d) Engineered flood openings? | | | | |
| A9. For a building with an attached garage: | | | | |
| a) Square footage of attached garage sq ft | | | | |
| b) Number of permanent flood openings in the attached garage within 1.0 foot above adjace | b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade 2 | | | |
| c) Total net area of flood openings in A9.b 256.00 sq in | | | | |
| d) Engineered flood openings? Yes No | | | | |
| SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFOR | RMATION | | | |
| B1. NFIP Community Name & Community Number B2. County Name B3. State | | | | |
| BAY COUNTY UNINCORPORATED AREA 120004 BAY | Florida | | | |
| B4. Map/Panel B5. Suffix B6. FIRM Index B7. FIRM Panel B8. Flood Effective/ Zone(s) Revised Date | 9. Base Flood Elevation(s) (Zone AO, use Base Flood Depth) | | | |
| 12005CO319 H 06-02-2009 06-02-2009 AE | 8.0 | | | |
| 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 Date: CBRS DPA | | | | |
| | | | | |

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| IMPORTANT: In these spaces, copy the corresponding information fr | FOR INSURANCE COMPANY USE | | |
|---|--|---|--|
| Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P 5720 HILLTOP AVENUE | Policy Number: | | |
| City State PANAMA CITY BEACH Florida | ZIP Code 32408 | Company NAIC Number | |
| SECTION C – BUILDING ELEVATION INFO | ORMATION (SURVEY R | EQUIRED) | |
| 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 sp | ecified in Item A7. In Puerl Datum: NAVD 1988 | to Rico only, enter meters. | |
| Indicate elevation datum used for the elevations in items a) through | | | |
| ☐ NGVD 1929 ☒ NAVD 1988 ☐ Other/Source: Datum used for building elevations must be the same as that used f | | Charletha magazinamant isand | |
| a) Top of bottom floor (including basement, crawlspace, or enclosu | re floor) | Check the measurement used. 9.60 ☒ feet ☐ meters | |
| b) Top of the next higher floor | | N/A feet meters | |
| c) Bottom of the lowest horizontal structural member (V Zones only |) | N/A feet meters | |
| d) Attached garage (top of slab) | | 8.60 X feet meters | |
| e) Lowest elevation of machinery or equipment servicing the buildin (Describe type of equipment and location in Comments) | ng | 9.20 🗵 feet 🗌 meters | |
| f) Lowest adjacent (finished) grade next to building (LAG) | · | 8.30 X feet meters | |
| g) Highest adjacent (finished) grade next to building (HAG) | | 8.70 X feet meters | |
| h) Lowest adjacent grade at lowest elevation of deck or stairs, inclustructural support | uding | N/A feet meters | |
| SECTION D - SURVEYOR, ENGINEER, C | R ARCHITECT CERTIF | ICATION | |
| 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 sur | veyor? ⊠Yes □No | Check here if attachments. | |
| Certifier's Name License Num ROGER BLAIN ANGLIN 5521 | ber | | |
| Title LAND SURVEYOR | | Place | |
| Company Name ANGLIN SURVEYING, LLC | | Seal | |
| Address 3712 CORNELIA LANE | | Here 19 | |
| City State PANAMA CITY Florida | ZIP Code 32409 | (cr o) | |
| Signature Date 07-24-2019 | Telephone (850) 271-4055 | Ext. | |
| 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) 1)EQUIPMENT SERVICING BUILDING IS AN OUTSIDE AIR CONDITIONER UNIT ON RIGHT SIDE OF HOUSE. 2) MODEL NUMBER OF ENGINEERED FLOOD VENTS IS 816CS. | | | |

ELEVATION CERTIFICATE

OMB No. 1660-0008 Expiration Date: November 30, 2018

| IMPORTANT: In these spaces, copy the corresponding information from Section A. | | | FOR INSURANCE COMPANY USE |
|--|--|--|---|
| Building Street Address (including Apt., Unit, Suite, and/or 5720 HILLTOP AVENUE | Bldg. No.) or P.O. R | Route and Box No. | Policy Number: |
| City Stat | | IP Code | Company NAIC Number |
| PANAMA CITY BEACH Flori | | 2408 | |
| SECTION E – BUILDING ELEVA FOR ZONE A | ATION INFORMAT O AND ZONE A (V | | T REQUIRED) |
| For Zones AO and A (without BFE), complete Items E1–E5. If the Certificate is intended to support a LOMA or LOMR-F request, complete Sections A, B,and C. For Items E1–E4, use natural grade, if available. Check the measurement used. In Puerto Rico only, enter meters. | | | |
| E1. Provide elevation information for the following and che the highest adjacent grade (HAG) and the lowest gra | eck the appropriate to cent grade (LAG). | ooxes to show wheth | er the elevation is above or below |
| a) Top of bottom floor (including basement, crawlspace, or enclosure) is | | _ | ers 🔲 above or 🔲 below the HAG. |
| b) Top of bottom floor (including basement, crawlspace, or enclosure) is | | _ | ers above or below the LAG. |
| E2. For Building Diagrams 6–9 with permanent flood open | ings provided in Sec | ction A Items 8 and/c | or 9 (see pages 1–2 of Instructions), |
| the next higher floor (elevation C2.b in the diagrams) of the building is | | _ | ers above or below the HAG. |
| E3. Attached garage (top of slab) is | | _ | ers above or below the HAG. |
| E4. Top of platform of machinery and/or equipment servicing the building is | | _ | ers above or below the HAG. |
| E5. Zone AO only: If no flood depth number is available, is floodplain management ordinance? | s the top of the botto Unknown. T | om floor elevated in a The local official mus | ccordance with the community's t certify this information in Section G. |
| SECTION F - PROPERTY OWNER | (OR OWNER'S RE | EPRESENTATIVE) C | ERTIFICATION |
| The property owner or owner's authorized representative w community-issued BFE) or Zone AO must sign here. The s | /ho completes Section | ons A, B, and E for Z ns A, B, and E are co | one A (without a FEMA-issued or |
| Property Owner or Owner's Authorized Representative's Name | | | |
| Address | City | S | State ZIP Code |
| Signature | Date | Т | elephone |
| Comments | | | |
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ELEVATION CERTIFICATE

OMB No. 1660-0008 Expiration Date: November 30, 2018

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|---|---------------------------|--------------------------|---|
| IMPORTANT: In these spaces, copy the corre | FOR INSURANCE COMPANY USE | | |
| Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. | | | No. Policy Number: |
| 5720 HILLTOP AVENUE | | | |
| City | State | ZIP Code | Company NAIC Number |
| PANAMA CITY BEACH | Florida | 32408 | |
| SECTIO | N G – COMMUNIT | Y INFORMATION (OPTI | ONAL) |
| The local official who is authorized by law or ord Sections A, B, C (or E), and G of this Elevation used in Items G8–G10. In Puerto Rico only, en | Certificate. Comple | | |
| | | | signed and sealed by a licensed surveyor, dicate the source and date of the elevation |
| G2. A community official completed Section or Zone AO. | on E for a building l | ocated in Zone A (withou | t a FEMA-issued or community-issued BFE) |
| G3. The following information (Items G4– | G10) is provided for | community floodplain m | anagement purposes. |
| G4. Permit Number | G5. Date Permit Is | ssued | G6. Date Certificate of |
| RB18-0913 | 7/25/201 | 8 | Compliance/Occupancy Issued |
| G7. This permit has been issued for: | New Construction | Substantial Improver | ment |
| G8. Elevation of as-built lowest floor (including of the building: | basement) — | | feet meters Datum |
| G9. BFE or (in Zone AO) depth of flooding at t | he building site: | 0 | feet meters Datum |
| G10. Community's design flood elevation: | · - | | feet meters Datum |
| Local Official's Name | | Title | |
| Community Name | | Telephone | - |
| Signature | | Date 8/7 / 2019 | |
| Comments/(including type of equipment and loc | ation, per C2(e), if a | applicable) | 79. (|
| OKfor Co. | | | |
| W | | | |
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BUILDING PHOTOGRAPHS

ELEVATION CERTIFICATE

See Instructions for Item A6.

OMB No. 1660-0008

Expiration Date: November 30, 2018

| IMPORTANT: In these spaces, copy the corresponding information from Section A. | | | FOR INSURANCE COMPANY USE Policy Number: |
|---|---------|----------|--|
| Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 5720 HILLTOP AVENUE | | | |
| City | State | ZIP Code | Company NAIC Number |
| PANAMA CITY BEACH | Florida | 32408 | |

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

07/23/2019

Clear Photo One



Photo Two

REAR VIEW Photo Two Caption

07/23/2019

Clear Photo Two

BUILDING PHOTOGRAPHS

ELEVATION CERTIFICATE

Continuation Page

OMB No. 1660-0008

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| | XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX | | |
|---|--|----------|---------------------------|
| 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. 5720 HILLTOP AVENUE | | | Policy Number: |
| City | State | ZIP Code | Company NAIC Number |
| PANAMA CITY BEACH | Florida | 32408 | |

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 RIGHT SIDE VIEW

07/23/2019

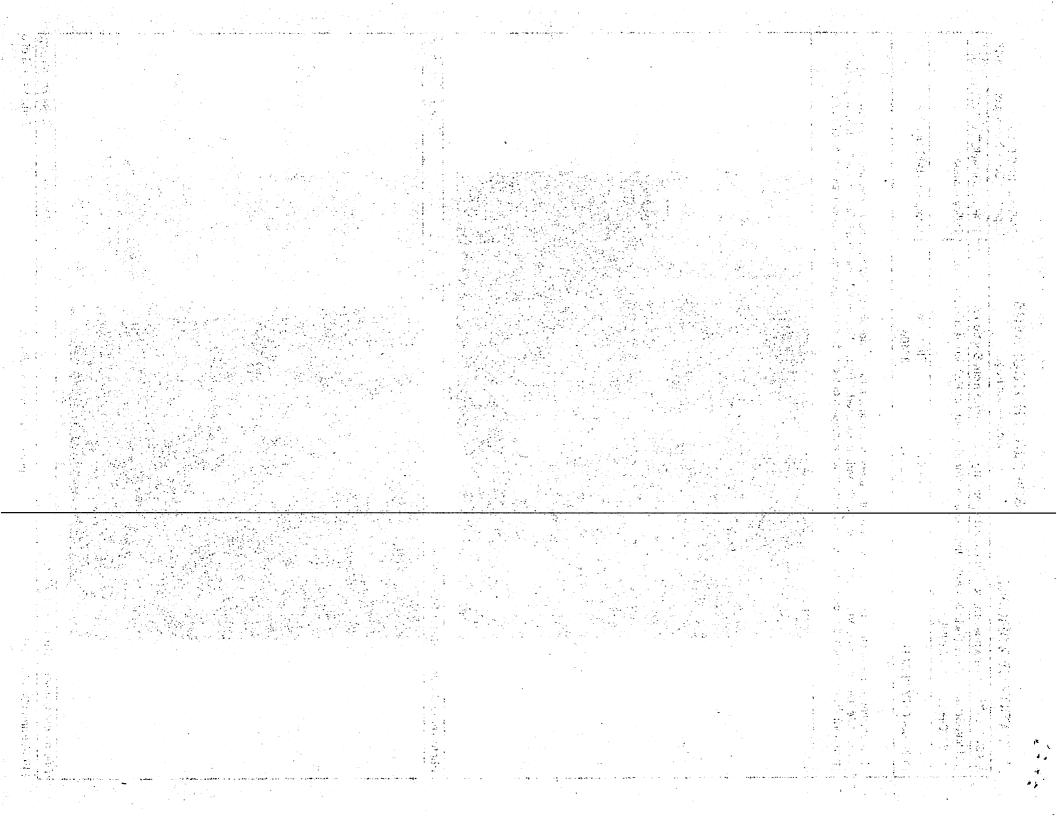
Clear Photo Three



Photo Four Caption LEFT SIDE VIEW

07/23/2019

Clear Photo Four



Certification of Engineered Flood Openings

In accordance with the Code of Federal Regulations for the National Flood Insurance Program

I hereby certify that the Crawl Space Door Systems flood vents 816CS, 1220CS, 1232CS, 1616CS, 1624CS, 1632CS, 2032CS, 2424CS, and 2436CS are designed in accordance with the requirements of the Code of Federal Regulations for the National Flood Insurance Program (NFIP) to provide automatic equalization of hydrostatic flood forces by allowing for the entry and exit of floodwaters, when properly installed and sized as set forth below. Vent opening measurements were measured and certified by Mr. Christopher Mark Loney, Virginia P.E. NO. 029000. Detailed calculations were prepared as outlined in "Review of certification of Engineered Flood Openings," prepared by Dr. Georg Reichard, Associate Professor of Building Construction, Virginia Tech (available upon request from Crawl Space Door Systems, Inc. billy@crawlspacedoors.com)

Design Characteristics

Section 2.6.2.2 of ASCE/SEI 24-05 provides an equation to determine the required <u>net area</u> of engineered openings (A_p) for a given <u>enclosed area</u> (A_p) . This equation is based on the hydraulic formula for the flow rate across sharp edged orifices. I have utilized this equation to calculate 1) the restricted flow rate through the main frame opening in case the louver is blown out during a flood event; 2) the flow rate through the individual openings between louver blades; and 3) the flow rate through projected openings between louver blades following hydraulic short-tube theory. The maximum total enclosed area (A_p) that can be serviced by a single vent has then been determined by utilizing the lowest flow rate of the three assessed scenarios for each vent and is listed in Table 1. These values are based on the following assumptions:

- In absence of reliable data, the rates of rise and fall have been assumed at a minimum rate of 5 feet/hour;
- The (maximum) difference between the exterior and interior floodwater levels shall not exceed 1 foot during base flood conditions;
- A factor of safety of 5 has been assumed, which is consistent with design practices related to protection of life and property;
- The net area of openings (A_o) as provided by the manufacturer.

This certification will be voided if the following installation requirements and limitations are not enforced:

- There shall be a minimum of two openings on different sides of each enclosed area subject to flooding;
- The bottom of all openings shall be no higher than one foot
 above the higher of the interior or exterior grade that is immediately under each opening;
- 1632CS 16 x 32 405 835 П 2032CS 630 20 x 32 1240 2424CS 24 x 24 570 1230 2436CS 24 x 36 850 1765 Table 1 Maximum total enclosed area (Ae) that can be

H x W

[in]

8 x 16

12 x 20

12 x 32

16 x 16

16 x 24

Model

816CS

1220CS

1232CS

1616CS

1624CS

X

- Table 1 Maximum total <u>enclosed area</u> (A_e) that can be serviced by each individual model based on the given <u>net area</u> of engineered openings (A_o)
- No temporary (e.g. during cold weather) or permanent solid cover may be placed into or over the flood vent that would block the automatic entry or exit of floodwaters at any time;
- Where data or analyses indicate more rapid rates of rise and fall, the required number of openings shall be increased to account
 for those different conditions. The number or size of the openings may be decreased if data or analyses indicate rates of rise
 and fall are less than 5 feet per hour.

Certifying Design Professional

Name Steve A. Geci Title President

Company Geci & Associates Engineers, Inc.

Address 2950 N 12th Avenue, Pensacola, FL 32503

License Florida License No. 33658

Signature:

Date: 1/29/17

ONAL ENGINEERS

Identification of the Building and Installed Flood Vents (By Others)

The flood vent models marked in Table 1*) are being installed at the following building:

Building Address

5720 Hilltop Ave, Panama City Beach, FL 32406

Garage SF = 293

2 Vents @ 8x16 Marked and Cut

[ft²]

205

500

645

395

670

[in²]

105

235

305

180

310

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galija ar iz 19. september 19.