

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 GORDON G. & DONGHE ZENG				Policy Number:	
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 117 SAND DOLLAR DR.				Company NAIC Number:	
City FORT MYERS BEACH		State Florida		ZIP Code 33931	
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) LAGUNA SHORES UNIT 2, LOT 28, PB 9/PG 84 STRAP: 03-47-24-W3-00228.0000					
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) <u>RESIDENTIAL</u>					
A5. Latitude/Longitude: Lat. <u>26.40571</u> Long. <u>-81.8883</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>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>8</u>					
c) Total net area of flood openings in A8.b <u>840</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 checked="" type="checkbox"/> No					
SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION					
B1. NFIP Community Name & Community Number TOWN OF FORT MYERS BEACH & 120673			B2. County Name LEE		B3. State Florida
B4. Map/Panel Number 12071C/0569	B5. Suffix F	B6. FIRM Index Date 08/28/2008	B7. FIRM Panel Effective/ Revised Date 08/28/2008	B8. Flood Zone(s) VE	B9. Base Flood Elevation(s) (Zone AO, use Base Flood Depth) 14' & 15'
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, 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 Bldg. No.) or P.O. Route and Box No. 117 SAND DOLLAR DR.			Policy Number:
City FORT MYERS BEACH	State Florida	ZIP Code 33931	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: LB 7075 Vertical Datum: (NAVD88)

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, craw/space, or enclosure floor) | <u>7.0</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| b) Top of the next higher floor | <u>18.16</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| c) Bottom of the lowest horizontal structural member (V Zones only) | <u>16.85</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| d) Attached garage (top of slab) | <u>N/A</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>17.70</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| f) Lowest adjacent (finished) grade next to building (LAG) | <u>5.90</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| g) Highest adjacent (finished) grade next to building (HAG) | <u>6.90</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>6.90</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 BILL H. HYATT, JR.	License Number LS 4636	 BILL H HYATT 2019.09. 11 16:47:56 -04'00'	
Title REGISTERED LAND SURVEYOR			
Company Name LIS SURVEYING, LLC (JOB#22208)			
Address 21430 PALM BEACH BLVD			
City ALVA	BILL H HYATT	State Florida	ZIP Code 33920
Signature	2019.09.11	Date 09/11/2019	Telephone (239) 481-2366

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) **NOTE: THE BOTTOM OF THE ELECTRICAL PANEL LOCATED AT THE SIDE OF THE HOME HAS AN ELEVATION OF 10.90'.**

A(5): OBTAINED FROM WWW.STEVE MORSE.ORG C(2)B=LIVING AREA

NOTE: A TOTAL OF (8) 8"X16" CRAWL SPACE DOOR SYSTEMS FLOOD VENTS MODEL 816CS FOR A TOTAL OF 840 SQ.IN. GARAGE IS PART OF ENCLOSURE AND INCLUDED IN SQUARE FOOT CALCULATION FOR VENT REQUIREMENTS.

NOTE: THE EQUIPMENT LISTED IN SECTION C(2)E REFERS TO THE HVAC COMPRESSOR LOCATED ON THE SIDE OF THE HOME WITH AN ELEVATION OF 17.70'.

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Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 117 SAND DOLLAR DR.			Policy Number:
City FORT MYERS BEACH	State Florida	ZIP Code 33931	Company NAIC Number

**SECTION E – BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED)
FOR ZONE AO AND ZONE A (WITHOUT BFE)**

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 check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).
- a) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ feet meters above or below the HAG.
- b) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ feet meters above or below the LAG.
- E2. For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 1–2 of Instructions), the next higher floor (elevation C2.b in the diagrams) of the building is _____ feet meters above or below the HAG.
- E3. Attached garage (top of slab) is _____ feet meters above or below the HAG.
- E4. Top of platform of machinery and/or equipment servicing the building is _____ feet meters above or below the HAG.
- E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? Yes No Unknown. The local official must certify this information in Section G.

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	State	ZIP Code
Signature	Date	Telephone	

Comments

Check here if attachments

BUILDING PHOTOGRAPHS

See Instructions for Item A6.

OMB No. 1660-0008

Expiration Date: November 30, 2018

ELEVATION CERTIFICATE

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Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 117 SAND DOLLAR DR.			Policy Number:
City FORT MYERS BEACH	State Florida	ZIP Code 33931	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 9/9/2019



Photo Two

Photo Two Caption-RIGHT VIEW 9/9/2019

BUILDING PHOTOGRAPHS

Continuation Page

OMB No. 1660-0008
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ELEVATION CERTIFICATE

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Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 117 SAND DOLLAR DR.			Policy Number:
City FORT MYERS BEACH	State Florida	ZIP Code 33931	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.

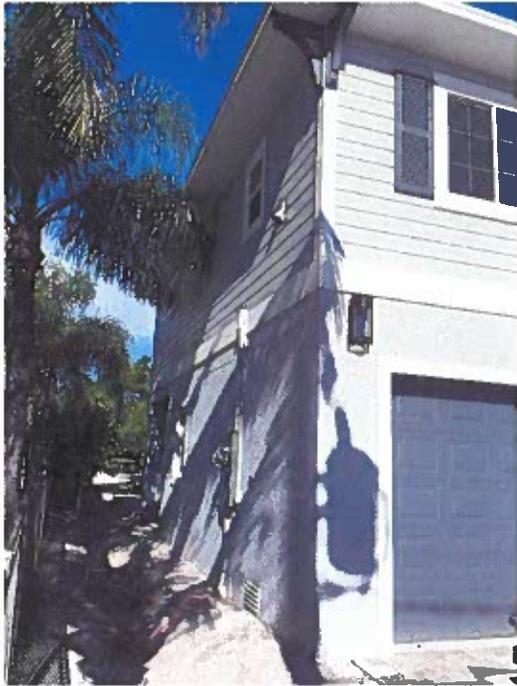


Photo Three

Photo Three Caption-LEFT VIEW 9/9/2019



Photo Four

Photo Four Caption-REAR VIEW 9/9/2019

BUILDING PHOTOGRAPHS

ELEVATION CERTIFICATE

Continuation Page

OMB No. 1660-0008
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Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 117 SAND DOLLAR DR.			Policy Number:
City FORT MYERS BEACH	State Florida	ZIP Code 33931	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 Five

Photo Five Caption

Photo Six

Photo Six Caption

Certification of Engineered Flood Openings

In accordance with NFIP, FEMA TB 1-08, and ASCE/SEI 24-05

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 NFIP "Flood Insurance Manual" (2011) 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. This certification follows the design requirements and specifications established in FEMA Technical Bulletin 1-08, "Openings in Foundation Walls and Walls of Enclosures Below Elevated Buildings in Special Flood Hazard Areas", and the ASCE Standard for "Flood Resistant Design and Construction" (ASCE/SEI 24-05). The actual vent opening measurements were determined and certified by Mr. Christopher Mark Loney, Virginia PE No. 029000. Calculations are based on the spreadsheet formulas, and "Review of certification of Engineered Flood Openings, dated January 16, 2012" prepared by Dr. Georg Reichard, Associate Professor of Building Construction, Virginia Tech.

Design Characteristics

Section 2.6.2.2 of ASCE 24 provides an equation to determine the required net area of engineered openings (A_o) for a given enclosed area (A_e). 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 respected flow rate through the individual openings between louvers; 2) the flow rate through the main frame opening in case the louver is blown out during a flood event; and 3) the flow rate of water flowing through louver blades following hydraulic short tube theory. The ultimate maximum total enclosed area (A_e) 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 with 5 feet/hour;
- The (maximum) difference between the exterior and interior floodwater levels has been assumed with 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.

*)	Model	H x W [in]	A_o [in ²]	A_e [ft ²]
<input checked="" type="checkbox"/>	816CS	8 x 16	106	205
<input type="checkbox"/>	1220CS	12 x 20	237	500
<input type="checkbox"/>	1232CS	12 x 32	306	645
<input type="checkbox"/>	1616CS	16 x 16	184	395
<input type="checkbox"/>	1624CS	16 x 24	312	670
<input type="checkbox"/>	1632CS	16 x 32	408	835
<input type="checkbox"/>	2032CS	20 x 32	630	1240
<input type="checkbox"/>	2424CS	24 x 24	570	1230
<input type="checkbox"/>	2436CS	24 x 36	852	1765

Table 1 Maximum total enclosed area (A_e) that can be served by each individual model based on the given net area of engineered openings (A_o)

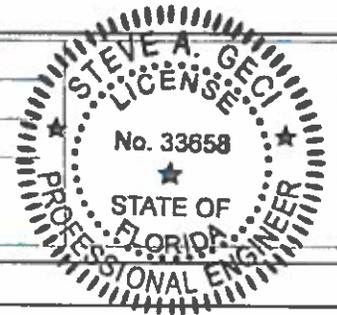
Installation Requirements and Limitations

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;
- The bottom of each required opening shall be no more than 1ft above the adjacent ground level;
- 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 analysis indicates rates of rise and fall greater than 5 ft/hr, the total enclosed area as given in Table 1 shall be reduced accordingly to account for the higher rates of rise and fall.

Certifying Design Professional

Name, Title	Steve A. Geci, President, Geci & Associates Engineers, Inc.
Address	2950 N 12 th Avenue, Pensacola, FL 32503
License	Florida Professional Engineer, License No. 33658
Signature	 10/30/12



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 117 Sand Dollar Dr. Ft. Myers Beach, FL, 33931

Note: The V Zone design certificate is not a substitute for the NFIP Elevation Certificate (see Fact Sheet No. 1.4, Lowest Floor Elevation), which is required to certify as-built elevations needed for flood insurance rating.

V ZONE DESIGN CERTIFICATE

Name GORDON G. & DONGHE ZENG Policy Number (Insurance Co. Use) _____
Building Address of Other Description 117 SAND DOLLAR DR. LAGUNA SHORES UNIT 2, LOT 28, PB 9/PG 84
Permit No. BLD18-0146 City FORT MYERS BEACH State FL Zip Code 33931

SECTION I: Flood Insurance Rate Map (FIRM) Information

Community No. 120673 Panel No. 12071C/056 Suffix FIRM Date 08/28/2 FIRM Zone(s) VE 14 & 15

SECTION II: Elevation Information Used for Design

[NOTE: This section documents the elevations/depths used or specified in the design – it does not document surveyed elevations and is not equivalent to the as-built elevations required to be submitted during or after construction.]

1. FIRM Base Flood Elevation (BFE).....	14 & 15 feet*
2. Community's Design Flood Elevation (DFE).....	14 & 15 feet*
3. Elevation of the Bottom of Lowest Horizontal Structure Member.....	16.85 feet*
4. Elevation of Lowest Adjacent Grade.....	5.9 feet*
5. Depth of Anticipated Scour/Erosion used for Foundation Design.....	3.5 feet
6. Embedment Depth of Pilings of Foundation Below Lowest Adjacent Grade.....	-11' feet

* Indicate elevation datum used in 1-4: NGVD29 NAVD88 Other _____

SECTION III: V Zone Design Certification Statement

I certify that: (1) I have developed or reviewed the structural design, plans, and specifications for construction of the above-referenced building and (2) that the design and methods of construction specified to be used are in accordance with accepted standards of practice** for meeting the following provisions:

- The bottom of the lowest horizontal structural member of the lowest floor (excluding piles and columns) is elevated to or above the BFE.
- The pile and column foundation and structure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of the wind and water loads acting simultaneously on all building components. Water loading values used are those associated with the base flood***. Wind loading values used are those required by the applicable State or local building code. The potential for scour and erosion at the foundation has been anticipated for conditions associated with the base flood, including wave action.

SECTION IV: Breakaway Wall Design Certification Statement

[NOTE. This section must be certified by a registered engineer or architect when breakaway walls are designed to have a resistance of more than 20 psf (0.96 kN/m2) determined using allowable stress design]

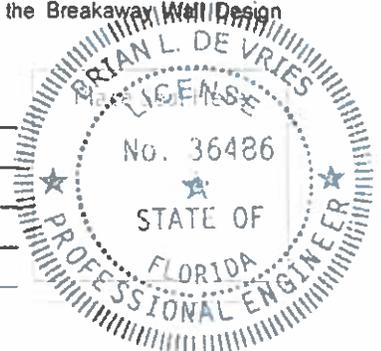
I certify that: (1) I have developed or reviewed the structural design, plans, and specifications for construction of breakaway walls to be constructed under the above-referenced building and (2) that the design and methods of construction specified to be used are in accordance with accepted standards of practice** for meeting the following provisions:

- Breakaway wall collapse shall result from a water load less than that which would occur during the base flood***.
- The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (see Section III).

SECTION V: Certification and Seal

This certification is to be signed and sealed by a registered professional engineer or architect authorized by law to certify structural designs. I certify the V Zone Design Certification Statement (Section III) and X the Breakaway Wall Design Certification Statement (Section IV, check if applicable).

Certifier's Name BRIAN L. DEVRIES License Number 63486
Title P.E. Company Name DeVries Engineering, Inc.
Address 2077 FIRST STREET, A205
City FORT MYERS State FL Zip Code 33901
Signature B. L. DeVries Date 9-19-2019 Telephone 239-332-5022



TOWN OF FORT MYERS BEACH COMMUNITY DEVELOPMENT

CERTIFICATE OF COMPLIANCE

Building Permit Number: BLD18-0146 **Date Issued:** 10/02/2019

This Certificate is issued pursuant to the requirements of the Florida Building Code certifying that at the time of issuance, and to the best of my knowledge and belief, this structure was in compliance with the technical codes and other applicable laws and ordinances.

For the Following:

Parcel Number: 034724W3002280000

Owner of Building: ZENG GORDON G + DONGHE

Owner Address: _____

Contractor Name: Woodland Custom Homes

Building Address: 117 SAND DOLLAR DR FMB, FL 33931

Legal Description: LAGUNA SHORES UNIT 2 PB 9 PG 84 LOT 28

Occupancy / Use: Residential

Type of Construction: SFH

Subdivision: _____

Building Official: _____
Town of Fort Myers Beach

Established 1995

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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: LB 7075 Vertical Datum: (NAVD88)

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>7. 0</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| b) Top of the next higher floor | <u>18. 16</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| c) Bottom of the lowest horizontal structural member (V Zones only) | <u>16. 85</u> | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
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| g) Highest adjacent (finished) grade next to building (HAG) | <u>6. 90</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>6. 90</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 BILL H. HYATT, JR.	License Number LS 4636	 <p>BILL H HYATT 2019.09. 11 16:47:56 -04'00'</p>	
Title REGISTERED LAND SURVEYOR			
Company Name LIS SURVEYING, LLC (JOB#22208)			
Address 21430 PALM BEACH BLVD			
City ALVA	BILL H HYATT 2019.09.11	State Florida	ZIP Code 33920
Signature 	16:47:36 -04'00'	Date 09/11/2019	Telephone (239) 481-2366

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) **NOTE: THE BOTTOM OF THE ELECTRICAL PANEL LOCATED AT THE SIDE OF THE HOME HAS AN ELEVATION OF 10.90'.**
A(5): OBTAINED FROM WWW.STEVE MORSE.ORG C(2)B=LIVING AREA

NOTE: A TOTAL OF (8) 8"X16" CRAWL SPACE DOOR SYSTEMS FLOOD VENTS MODEL 816CS FOR A TOTAL OF 840 SQ.IN. GARAGE IS PART OF ENCLOSURE AND INCLUDED IN SQUARE FOOT CALCULATION FOR VENT REQUIREMENTS.

NOTE: THE EQUIPMENT LISTED IN SECTION C(2)E REFERS TO THE HVAC COMPRESSOR LOCATED ON THE SIDE OF THE HOME WITH AN ELEVATION OF 17.70'.

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City FORT MYERS BEACH	State Florida	ZIP Code 33931	Company NAIC Number

SECTION E – BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO AND ZONE A (WITHOUT BFE)

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 check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).
- a) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ feet meters above or below the HAG.
- b) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ feet meters above or below the LAG.
- E2. For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 1–2 of Instructions), the next higher floor (elevation C2.b in the diagrams) of the building is _____ feet meters above or below the HAG.
- E3. Attached garage (top of slab) is _____ feet meters above or below the HAG.
- E4. Top of platform of machinery and/or equipment servicing the building is _____ feet meters above or below the HAG.
- E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? Yes No Unknown. The local official must certify this information in Section G.

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 _____ State _____ ZIP Code _____

Signature _____ Date _____ Telephone _____

Comments

Check here if attachments

BUILDING PHOTOGRAPHS

See Instructions for Item A6.

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

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. 117 SAND DOLLAR DR.			Policy Number:
City FORT MYERS BEACH	State Florida	ZIP Code 33931	Company NAIC Number

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Photo One

Photo One Caption-FRONT VIEW 9/9/2019



Photo Two

Photo Two Caption-RIGHT VIEW 9/9/2019

ELEVATION CERTIFICATE

BUILDING PHOTOGRAPHS

Continuation Page

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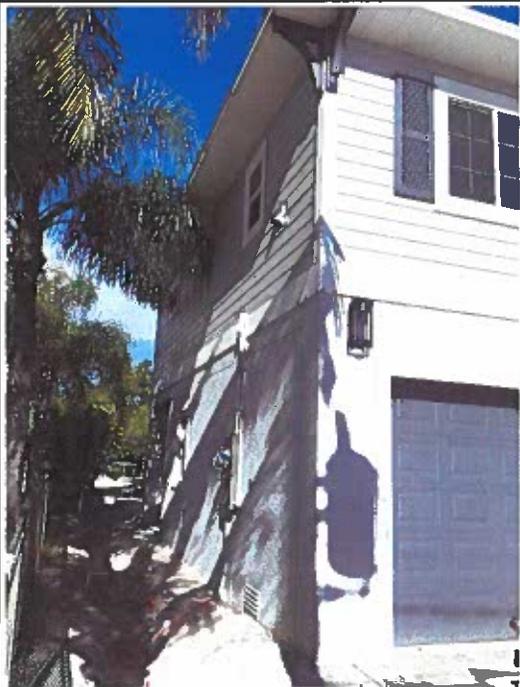


Photo Three

Photo Three Caption-LEFT VIEW 9/9/2019



Photo Four

Photo Four Caption-REAR VIEW 9/9/2019

BUILDING PHOTOGRAPHS

ELEVATION CERTIFICATE

Continuation Page

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Photo Five

Photo Five Caption

Photo Six

Photo Six Caption

Note: The V Zone design certificate is not a substitute for the NFIP Elevation Certificate (see Fact Sheet No. 1.4, *Lowest Floor Elevation*), which is required to certify as-built elevations needed for flood insurance rating.

V ZONE DESIGN CERTIFICATE

Name GORDON G. & DONGHE ZENG Policy Number (Insurance Co. Use) _____
Building Address of Other Description 117 SAND DOLLAR DR. LAGUNA SHORES UNIT 2 LOT 28. PB 9/PG 84
Permit No. BLD18-0146 City FORT MYERS BEACH State FL Zip Code 33931

SECTION I: Flood Insurance Rate Map (FIRM) Information

Community No. 120673 Panel No. 12071C/056 Suffix FIRM Date 08/28/2 FIRM Zone(s) VE 14 & 15

SECTION II: Elevation Information Used for Design

[NOTE: This section documents the elevations/depths used or specified in the design - it does not document surveyed elevations and is not equivalent to the as-built elevations required to be submitted during or after construction.]

1. FIRM Base Flood Elevation (BFE).....	14 & 15 feet*
2. Community's Design Flood Elevation (DFE).....	14 & 15 feet*
3. Elevation of the Bottom of Lowest Horizontal Structure Member.....	16.85 feet*
4. Elevation of Lowest Adjacent Grade.....	5.9 feet*
5. Depth of Anticipated Scour/Erosion used for Foundation Design.....	3.5 feet
6. Embedment Depth of Piliings of Foundation Below Lowest Adjacent Grade.....	-11 feet

* Indicate elevation datum used in 1-4: NGVD29 NAVD88 Other _____

SECTION III: V Zone Design Certification Statement

I certify that: (1) I have developed or reviewed the structural design, plans, and specifications for construction of the above-referenced building and (2) that the design and methods of construction specified to be used are in accordance with accepted standards of practice** for meeting the following provisions:

- The bottom of the lowest horizontal structural member of the lowest floor (excluding piles and columns) is elevated to or above the BFE.
- The pile and column foundation and structure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of the wind and water loads acting simultaneously on all building components. Water loading values used are those associated with the base flood***. Wind loading values used are those required by the applicable State or local building code. The potential for scour and erosion at the foundation has been anticipated for conditions associated with the base flood, including wave action.

SECTION IV: Breakaway Wall Design Certification Statement

[NOTE: This section must be certified by a registered engineer or architect when breakaway walls are designed to have a resistance of more than 20 psf (0.96 kN/m2) determined using allowable stress design]

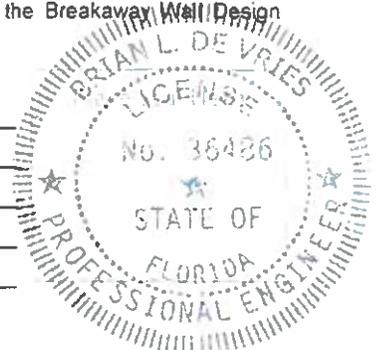
I certify that: (1) I have developed or reviewed the structural design, plans, and specifications for construction of breakaway walls to be constructed under the above-referenced building and (2) that the design and methods of construction specified to be used are in accordance with accepted standards of practice** for meeting the following provisions:

- Breakaway wall collapse shall result from a water load less than that which would occur during the base flood***.
- The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (see Section III).

SECTION V: Certification and Seal

This certification is to be signed and sealed by a registered professional engineer or architect authorized by law to certify structural designs. I certify the V Zone Design Certification Statement (Section III) and X the Breakaway Wall Design Certification Statement (Section IV, check if applicable).

Certifier's Name BRIAN L. DEVRIES License Number 63486
Title P.E. Company Name DeVries Engineering, Inc.
Address 2077 FIRST STREET, A205
City FORT MYERS State FL Zip Code 33901
Signature B. L. DeVries Date 9-19-2019 Telephone 239-332-5022



ELEVATION CERTIFICATE

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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: LB 7075 Vertical Datum: (NAVD88)

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) 7. 0 feet meters
- b) Top of the next higher floor 18. 16 feet meters
- c) Bottom of the lowest horizontal structural member (V Zones only) 16. 85 feet meters
- 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) 17. 70 feet meters
- f) Lowest adjacent (finished) grade next to building (LAG) 5. 90 feet meters
- g) Highest adjacent (finished) grade next to building (HAG) 6. 90 feet meters
- h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support 6. 90 feet 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 BILL H. HYATT, JR.		License Number LS 4636		 <p>BILL H HYATT 2019.09. 11 16:47:56 -04'00'</p>
Title REGISTERED LAND SURVEYOR				
Company Name LIS SURVEYING, LLC (JOB#22208)				
Address 21430 PALM BEACH BLVD				
City ALVA	BILL H HYATT	State Florida	ZIP Code 33920	
Signature 	16:47:36 -04'00'	Date 09/11/2019	Telephone (239) 481-2366	

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) **NOTE: THE BOTTOM OF THE ELECTRICAL PANEL LOCATED AT THE SIDE OF THE HOME HAS AN ELEVATION OF 10.90'.**

A(5): OBTAINED FROM WWW.STEVE MORSE.ORG C(2)B=LIVING AREA

NOTE: A TOTAL OF (8) 8"X16" CRAWL SPACE DOOR SYSTEMS FLOOD VENTS MODEL 816CS FOR A TOTAL OF 840 SQ. IN. GARAGE IS PART OF ENCLOSURE AND INCLUDED IN SQUARE FOOT CALCULATION FOR VENT REQUIREMENTS.

NOTE: THE EQUIPMENT LISTED IN SECTION C(2)E REFERS TO THE HVAC COMPRESSOR LOCATED ON THE SIDE OF THE HOME WITH AN ELEVATION OF 17.70'.

ELEVATION CERTIFICATE

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**SECTION E – BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED)
FOR ZONE AO AND ZONE A (WITHOUT BFE)**

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 check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).
- a) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ feet meters above or below the HAG.
- b) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ feet meters above or below the LAG.
- E2. For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 1–2 of Instructions), the next higher floor (elevation C2.b in the diagrams) of the building is _____ feet meters above or below the HAG.
- E3. Attached garage (top of slab) is _____ feet meters above or below the HAG.
- E4. Top of platform of machinery and/or equipment servicing the building is _____ feet meters above or below the HAG.
- E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? Yes No Unknown. The local official must certify this information in Section G.

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	State	ZIP Code
Signature	Date	Telephone	

Comments

Check here if attachments.

BUILDING PHOTOGRAPHS

ELEVATION CERTIFICATE

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Photo One

Photo One Caption-FRONT VIEW 9/9/2019



Photo Two

Photo Two Caption-RIGHT VIEW 9/9/2019

ELEVATION CERTIFICATE

BUILDING PHOTOGRAPHS

Continuation Page

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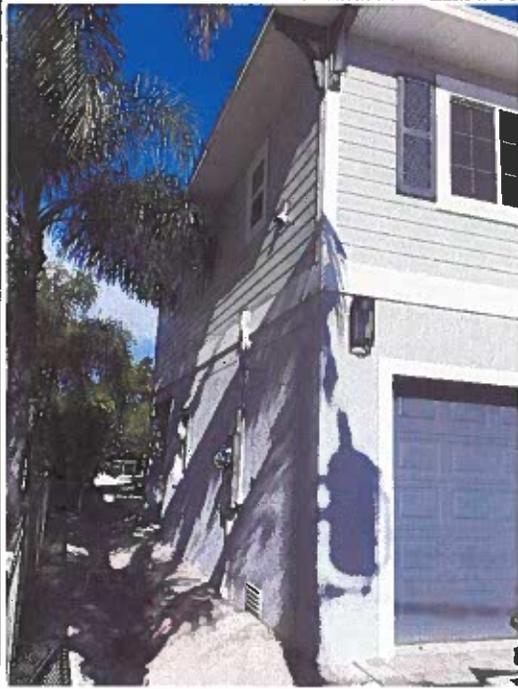


Photo Three

Photo Three Caption-LEFT VIEW 9/9/2019



Photo Four

Photo Four Caption-REAR VIEW 9/9/2019

BUILDING PHOTOGRAPHS

ELEVATION CERTIFICATE

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Photo Five

Photo Five Caption

Photo Six

Photo Six Caption

Certification of Engineered Flood Openings

In accordance with NFIP, FEMA TB 1-08, and ASCE/SEI 24-05

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 NFIP "Flood Insurance Manual" (2011) 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. This certification follows the design requirements and specifications established in FEMA Technical Bulletin 1-08, "Openings in Foundation Walls and Walls of Enclosures Below Elevated Buildings in Special Flood Hazard Areas", and the ASCE Standard for "Flood Resistant Design and Construction" (ASCE/SEI 24-05). The actual vent opening measurements were determined and certified by Mr. Christopher Mark Loney, Virginia PE No. 029000. Calculations are based on the spreadsheet formulas, and "Review of certification of Engineered Flood Openings, dated January 16, 2012" prepared by Dr. Georg Reichard, Associate Professor of Building Construction, Virginia Tech.

Design Characteristics

Section 2.6.2.2 of ASCE 24 provides an equation to determine the required net area of engineered openings (A_o) for a given enclosed area (A_c). 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 respected flow rate through the individual openings between louvers; 2) the flow rate through the main frame opening in case the louver is blown out during a flood event; and 3) the flow rate of water flowing through louver blades following hydraulic short tube theory. The ultimate maximum total enclosed area (A_c) 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 with 5 feet/hour;
- The (maximum) difference between the exterior and interior floodwater levels has been assumed with 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.

*)	Model	H x W [in]	A_o (in ²)	A_c (ft ²)
<input checked="" type="checkbox"/>	816CS	8 x 16	106	205
<input type="checkbox"/>	1220CS	12 x 20	237	500
<input type="checkbox"/>	1232CS	12 x 32	306	645
<input type="checkbox"/>	1616CS	16 x 16	184	395
<input type="checkbox"/>	1624CS	16 x 24	312	670
<input type="checkbox"/>	1632CS	16 x 32	408	835
<input type="checkbox"/>	2032CS	20 x 32	630	1240
<input type="checkbox"/>	2424CS	24 x 24	570	1230
<input type="checkbox"/>	2436CS	24 x 36	852	1765

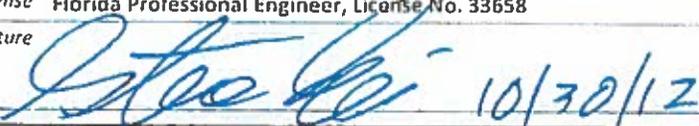
Table 1 Maximum total enclosed area (A_c) that can be served by each individual model based on the given net area of engineered openings (A_o)

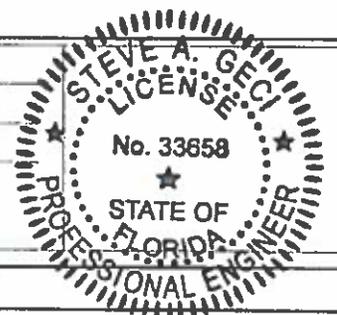
Installation Requirements and Limitations

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;
- The bottom of each required opening shall be no more than 1ft above the adjacent ground level;
- 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 analysis indicates rates of rise and fall greater than 5 ft/hr, the total enclosed area as given in Table 1 shall be reduced accordingly to account for the higher rates of rise and fall.

Certifying Design Professional

Name, Title	Steve A. Geci, President, Geci & Associates Engineers, Inc.
Address	2950 N 12 th Avenue, Pensacola, FL 32503
License	Florida Professional Engineer, License No. 33658
Signature	 10/30/12



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 117 Sand Dollar Dr. Ft. Myers Beach, FL, 33931

