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

ELEVATION CERTIFICATE

OMB No. 1660-0008
Expires March 31, 2012

Important: Read the instructions on pages 1-9.

SECTION A - PROPERTY INFORMATION

For Insurance Company Use:
Policy Number
Company NAIC Number

A1. Building Owner's Name RYAN A. DEBISSCHOP & KRISTINE L. DEBISSCHOP

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 22 PALOMA DRIVE

City CORTE MADERA State CA ZIP Code 94925

A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) LOT 36, "MAP OF MARIN ESTATES IN INCORPORATED TERRITORY IN TOWN OF CORTE MADERA, MARIN CO., CALIFORNIA, FILED 12/15/1955 IN MAP VOLUME 8, PG 110, MARIN CO.

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) RESID.

A5. Latitude/Longitude: Lat. 37.917275° Long 122.507042° Horizontal Datum: ☒ NAD 1927 ☐ 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 C2.a

A8. For a building with a crawlspace or enclosure(s):
- a) Square footage of crawlspace or enclosure(s) 1,474 sq ft
- b) No. of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade 12
- c) Total net area of flood openings in A8.b 1,536 sq in
- d) Engineered flood openings? ☒ Yes ☐ No

A9. For a building with an attached garage:
- a) Square footage of attached garage 378 sq ft
- b) No. of permanent flood openings in the attached garage within 1.0 foot above adjacent grade 5
- c) Total net area of flood openings in A9.b 640 sq in
- d) Engineered flood openings? ☒ Yes ☐ No

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP Community Name & Community Number	B2. County Name	B3. State
TOWN OF CORTE MADERA 0467D	MARIN	CA

B4. Map/Panel Number	B5. Suffix	B6. FIRM Index Date	B7. FIRM Panel Effective/Revised Date	B8. Flood Zone(s)	B9. Base Flood Elevation(s) (Zone AO, use base flood depth)
06041C 0467	D	5/4/2009	5/4/2009	AE	9 FT

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 (Describe) ____

B11. Indicate elevation datum used for BFE in Item B9: ☐ NGVD 1929 ☒ NAVD 1988 ☐ Other (Describe) ____

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐ Yes ☒ No
Designation Date ____ ☐ CBRS ☐ OPA

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. Use the same datum as the BFE.
Benchmark Utilized BM-K Vertical Datum ____ 4.89 NGVD 29 = 7.57 NAVD
Conversion/Comments ____

			Check the measurement used.	
a)	Top of bottom floor (including basement, crawlspace, or enclosure floor)	7.80	☑ feet	☐ meters (Puerto Rico only)
b)	Top of the next higher floor	10.55	☑ feet	☐ meters (Puerto Rico only)
c)	Bottom of the lowest horizontal structural member (V Zones only)		☑ feet	☐ meters (Puerto Rico only)
d)	Attached garage (top of slab)	8.53	☑ feet	☐ meters (Puerto Rico only)
e)	Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments)	8.53	☑ feet	☐ meters (Puerto Rico only)
f)	Lowest adjacent (finished) grade next to building (LAG)	8.27	☑ feet	☐ meters (Puerto Rico only)
g)	Highest adjacent (finished) grade next to building (HAG)	8.34	☑ feet	☐ meters (Puerto Rico only)
h)	Lowest adjacent grade at lowest elevation of deck or stairs, including structural support	8.57	☑ feet	☐ meters (Puerto Rico only)

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.*

☐ Check here if comments are provided on back of form.

Were latitude and longitude in Section A provided by a licensed land surveyor? ☒ Yes ☐ No

Certifier's Name ALBERT G. MASSO License Number RCE 30442

Title PRINCIPAL Company Name SUMMIT ENGINEERING

Address 5855 CASTLE DR City OAKLAND State CA ZIP Code 94611

Signature AGMasso Date 4/25/12 Telephone (510) 531-6655

REGISTERED PROFESSIONAL ENGINEER ALBERTO GOMEZ-MASSO No. C30442 Exp. 3/31/14 CIVIL STATE OF CALIFORNIA

See reverse side for continuation.

IMPORTANT: In these spaces, copy the corresponding information from Section A.

For Insurance Company Use:
Policy Number
Company NAIC Number

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.
22 PALOMA DRIVE

City State ZIP Code
CORTE MADERA, CA 94925

SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION (CONTINUED)

Copy both sides of this Elevation Certificate for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments EQUIPMENT USED IN HOUSE ARE WASHER & DRYER.
MAIN FLOOR FURNACE IS IN GARAGE RAFTERS.
WATER HEATER AND SECOND FURNACE ARE IN SECOND FLOOR MECHANICS ROOM.

Signature AGMasso Date 4/25/12 ☐ Check here if attachments

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 8-9 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's or Owner's Authorized Representative's Name ALBERT G. MASSO

Address 5855 CASTLE DR City OAKLAND State CA ZIP Code 94611

Signature AGM9550 Date 4/25/2012 Telephone (510) 531-6655

Comments

☐ Check here if attachments

SECTION G - COMMUNITY INFORMATION (OPTIONAL)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below. Check the measurement used in Items G8 and G9.

G1. ☐ The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)

G2. ☐ A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.

G3. ☐ The following information (Items G4-G9) is provided for community floodplain management purposes.

G4. Permit Number	G5. Date Permit Issued	G6. Date Certificate Of Compliance/Occupancy Issued

G7. This permit has been issued for: ☐ New Construction ☐ Substantial Improvement

G8. Elevation of as-built lowest floor (including basement) of the building: _____ ☐ feet ☐ meters (PR) Datum _____

G9. BFE or (in Zone AO) depth of flooding at the building site: _____ ☐ feet ☐ meters (PR) Datum _____

G10. Community's design flood elevation _____ ☐ feet ☐ meters (PR) Datum _____

Local Official's Name Title

Community Name Telephone

Signature Date

Comments

☐ Check here if attachments

CERTIFICATION OF ENGINEERED FLOOD OPENINGS (FEMA TB-1 August 2008)

I do hereby certify that the **FLOOD SOLUTIONS LLC** Flood Vent properly installed and sized in accordance with Federal Emergency Management Agency's (FEMA's) National Flood Program regulations is designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for entry and exit of floodwater during floods up to and including the base 100-year flood.

I also do hereby certify that I calculated the Non Engineered Net Free Air and Engineered Opening size for each model and size of FLOOD SOLUTIONS LLC flood vents. The results of the calculations are recorded in the table below. The Engineered size opening calculation was performed using the formula in FEMA Technical Bulletin 1 – August 2008, Openings in Foundation Walls for Buildings Located in Special Flood Hazard Areas in accordance with the National Flood Insurance Program (NFIP) and ASCE/SEI 24-05, Flood Resistance Design and Construction.
I measured the Non Engineered Net Free Air by calculating the minimum distance between the top blade and the top of the vent times the clear opening width of the vent; plus the minimum distance between the bottom blade and the bottom of the vent the clear opening width of the vent; plus the minimum distance between each blade times the number of spaces between the blades in vent times the clear opening width of the vent.

I used the formula in TB 1 – August 2008 (A^o = 0.033 [1/C] RAê) to determine the Engineered Opening size for each model listed below. I used the following assumptions: A^o = total net area of openings required (in^2); 0.033 = coefficient corresponding to a factor of safety of 5.0 (in^2 hr/ft^3); c = 0.40 opening coefficient (ASCE 24 Table 2-3 "rectangular, long axis horizontal, short axis vertical unobstructed during design flood") or C = 0.35 (square unobstructed during design flood); R = 5 ft/hr worst case rate of rise and fall; and Aê = 1 ft^2 total enclosed area.

Note: When the horizontal dimension is twice or more the vertical dimension, use 0.4; as the dimensions approach a square, interpolate from 0.4 to 0.35

A^o / Aê = 0.033 [1/C] R = 0.033 [1/0.40 for rectangle, long axis horizontal] = 0.4125 in^2 per ft^2
or A^o / Aê = 0.033 [1/C] R = 0.033 [1 / 0.35 for square] = .4719 in^2 per ft^2

Each individual opening, and any louvers, screens, or other covers, shall be designed to allow automatic entry and exit of floodwaters during design flood or lesser flood conditions; there shall be a minimum of two openings on different sides of each enclosed area; if a structure has more than one enclosed area below the DFE, each area shall have openings; openings shall not be less than 3 inches in any direction in the plane of the wall; the bottom of each required opening shall be no more than 1 ft. above the adjacent grade; the difference between the exterior and interior floodwater levels shall not exceed 1 ft. during base flood conditions; in the absence of reliable data on the rates of rise and fall, assume a rate of rise and fall of 5ft/hr; where data or analysis indicated more rapid rates of rise and fall, the total net area of the required openings shall be increased to account for the higher rates of rise and fall.

MODEL Number Flood Solutions:	SIZE WIDTH X HEIGHT:	Net Free Air (square inches):	**ENGINEERED OPENING (square ft.):**
1608-F	**16" x 8"**	51	**124**
1608-D	**16" x 8"**	51	**124**
1608-C	**16" x 8"**	65	**158**
1616-F	**16" x 16"**	104	**221**
1616-D	**16" x 16"**	102	**216**
2412-F	**24" x 12"**	113	**274**
2412-D	**24" x 12"**	110	**267**
2416-F	**24" x 16"**	156	**362**
2416-D	**24" x 16"**	154	**357**
3208-F	**32" x 8"**	104	**252**
3208-D	**32" x 8"**	104	**252**

SIGNATURE: _____

NAME: Daniel G. Farabaugh

TYPE OF LICENSE: Professional Engineer

STATE: California LICENSE NUMBER: 40352