

# ELEVATION CERTIFICATE

Important: Read the instructions on pages 1-9.

OMB No. 1660-0008  
 Expiration Date: July 31, 2015

## SECTION A - PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

A1. Building Owner's Name Gary Lamb and Phyllis Lamb

Policy Number:

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.  
 60 Timothy Dr

Company NAIC Number:

City Elizabeth City

State NC

ZIP Code 27909

A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.)  
 PIN 8904 02674132 TM P119-200

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

A5. Latitude/Longitude: Lat. N36 19.312 Long. W76 15.737

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 1A

A8. For a building with a crawlspace or enclosure(s):

- a) Square footage of crawlspace or enclosure(s) 960 sq ft
- b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade 2
- c) Total net area of flood openings in A8.b 1,180 sq in
- d) Engineered flood openings?  Yes  No

A9. For a building with an attached garage:

- a) Square footage of attached garage na sq ft
- b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade na
- c) Total net area of flood openings in A9.b na sq in
- d) Engineered flood openings?  Yes  No

## SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP Community Name & Community Number  
 Pasquotank County 370184

B2. County Name  
 Pasquotank

B3. State  
 NC

B4. Map/Panel Number  
 3720890400

B5. Suffix  
 J

B6. FIRM Index Date  
 Jul 19, 2005

B7. FIRM Panel Effective/Revised Date  
 Oct 5, 2004

B8. Flood Zone(s)  
 AE

B9. Base Flood Elevation(s) (Zone AO, use base flood depth)  
 6.0

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  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. In Puerto Rico only, enter meters.

Benchmark Utilized: M24

Vertical Datum: NAVD 88

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) 5.5  feet  meters
- b) Top of the next higher floor na  feet  meters
- c) Bottom of the lowest horizontal structural member (V Zones only) na  feet  meters
- d) Attached garage (top of slab) na  feet  meters
- e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) na  feet  meters
- f) Lowest adjacent (finished) grade next to building (LAG) 4.7  feet  meters
- g) Highest adjacent (finished) grade next to building (HAG) 5.3  feet  meters
- h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support na  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.

- 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
- Check here if attachments.

Certifier's Name Stephen L. Cardwell

License Number L-4340 F-1257

Title Land Surveyor

Company Name S.L. Cardwell Surveying

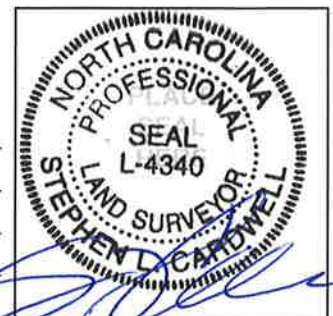
Address 106 Marla's Way

City Camden

State NC ZIP Code 27921

Signature  Date 05/06/2013

Telephone 252.336.5827




**ELEVATION CERTIFICATE, page 2**

<b>IMPORTANT: In these spaces, copy the corresponding information from Section A.</b>	<b>FOR INSURANCE COMPANY USE</b>
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 602 Timothy Dr	Policy Number:
City Elizabeth City State NC ZIP Code 27909	Company NAIC Number:

**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 Finished Construction Elevation Certificate  
A8-b,c--foundation has 2 openings: 1-Engineered opening (model D1616) rated @ 485 Sq in and 1-Engineered opening (model D1624) rated @ 695 Sq in  
No machinery or equipment equipment installed

Signature  Date 05/06/2013

**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 \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_ Telephone \_\_\_\_\_

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–G10. In Puerto Rico only, enter meters.

- 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–G10) is provided for community floodplain management purposes.

G4. Permit Number	G5. Date Permit Issued	G6. Date Certificate Of Compliance/Occupancy Issued
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- 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 Datum \_\_\_\_\_
- G9. BFE or (in Zone AO) depth of flooding at the building site: \_\_\_\_\_  feet  meters Datum \_\_\_\_\_
- G10. Community's design flood elevation: \_\_\_\_\_  feet  meters Datum \_\_\_\_\_

Local Official's Name \_\_\_\_\_ Title \_\_\_\_\_

Community Name \_\_\_\_\_ Telephone \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Comments \_\_\_\_\_

Check here if attachments.

# Building Photographs

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.  
600 Timothy Dr

Policy Number:

City Elizabeth City

State NC

ZIP Code 27909

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.



Front view 05/06/2013



Rear view 05/06/2013

# Building Photographs

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.  
600 Timothy Dr

Policy Number:

City ELizabeth City

State NC

ZIP Code 27909

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.



Type of Engineered Vent 05/06/2013

# Certification of Engineered Flood Openings (TB 1 – August 2008)

I do hereby certify that the CRAWLSPACE FEMA FLOOD LOUVER, Patent No. US D583,042, dated December 16, 2008 and owned by Crawl Space Door Systems, Inc. properly installed and sized in accordance with Federal Emergency Management Agency's National Flood Program regulations (44 CFR 60.3(c)(5)) and National Flood Insurance Program, Technical Bulletin (TB) 1-August 2008 will allow for the automatic equalizing of 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 the Flood Louvers. The results of the calculations are recorded in the table below. The Engineered size opening calculation was performed by using the formula in TB 1 – August 2008, Openings in Foundation Walls for Buildings Located in Special Flood Hazard Areas in accordance with the National Flood Insurance Program and ASCE/SEI 24-05, Flood Resistance Design and Construction. I measured the size of each flood louver and the size of all obstructions to determine the Non-Engineered and Net-Free Air opening size for each model. I used the formula ( $A^o = 0.033 [1/C] RA\hat{e}$ ) in TB 1 – Aug 2008 to determine the Engineered opening size for each model. I used the following assumptions:  $A^o$  = total net area of openings required (in<sup>2</sup>); 0.033 = coefficient corresponding to a factor of safety of 5.0 (in<sup>2</sup> · hr.ft<sup>3</sup>); c = 0.40 opening coefficient (ASCE 24 Table 2-2 "rectangular, long axis horizontal, short axis vertical unobstructed during design flood", there is an unobstructed rectangular shape between the louvers); R = 5 ft/hr worst case rate of rise and fall; and  $\hat{e}$  = 1 ft<sup>2</sup> total enclosed area.

$$A^o = 0.033 [1/C] RA\hat{e} = 0.033 [1/0.40] 5 = .4125 \text{ in}^2$$

Example: D0816: = 95/.4125 = 230

Model #	Size (HXW)	Non-Engineered (Sq. Inches)	Net-Free Air (Sq. Inches)	Engineered (Sq. Inches)
D0816	8" x 16"	120	95	230
D1220	12" x 20"	240	175	425
D1232	12" x 32"	380	290	705
D1616	16" x 16"	255	200	485
D1624	16" x 24"	380	285	695
D1632	16" x 32"	510	385	935
D2032	20" x 32"	640	505	1,225
D2424	24" x 24"	575	435	1,065
D2436	24" x 36"	860	665	1,620

### Installation Limitations and Instructions

600 TIMOTHY DRIVE, ELIZABETH CITY NC 27809

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 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 in. 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 ground level; the difference between the exterior floodwater levels shall not exceed 1 ft; in the absence of reliable data on the rates of rise and fall, assume a minimum rate of rise and fall of 5 ft/h.

Signature: *[Handwritten Signature]*

Title: PRESIDENT, ROOSE ENGINEERING, P.C.

Type of License: PROFESSIONAL ENGINEER

License Number: 24740

P.O. BOX 466  
KITTY HAWK, NC  
27949

