89 / 3.02

U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY
National Flood Insurance Program

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
Policy Number:
Company NAIC Number:

A1. Building Owner's Name The Kuhn's

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.
3207 Sunset Ave.
City BOROUGH OF LONGPORT State NJ ZIP Code 08403

A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.)
BLOCK 89 LOT 3.02 & 3.03

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

A5. Latitude/Longitude: Lat. N 39.3213 Long. W 074.5235 Horizontal Datum: ☐ NAD 1927 ☒ NAD 1983

AUG - 4 2015

A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.

A7. Building Diagram Number 7

A8. For a building with a crawlspace or enclosure(s):
- a) Square footage of crawlspace or enclosure(s) 1837* sq ft
- b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade 10*
- c) Total net area of flood openings in A8.b 2630* sq in
- d) Engineered flood openings? ☒ Yes ☐ No

A9. For a building with an attached garage:
- a) Square footage of attached garage 539* sq ft
- b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade 3*
- c) Total net area of flood openings in A9.b 789* 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
BOROUGH OF LONGPORT 345302	ATLANTIC COUNTY	NJ

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)
345302/ 0001	B	No Index Printed	08/15/1983	A8**	10**

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: private Vertical Datum: NGVD 1929

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)	7.1***	☒ feet	☐ meters
b) Top of the next higher floor	13.4	☒ feet	☐ meters
c) Bottom of the lowest horizontal structural member (V Zones only)	N/A	☒ feet	☐ meters
d) Attached garage (top of slab)	7.5	☒ feet	☐ meters
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments)	11.7****	☒ feet	☐ meters
f) Lowest adjacent (finished) grade next to building (LAG)	7.1	☒ feet	☐ meters
g) Highest adjacent (finished) grade next to building (HAG)	7.9	☒ feet	☐ meters
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support	N/A	☒ 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.
☒ Check here if attachments.

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

PLACE SEAL HERE

Certifier's Name Paul M. Koelling, PLS, CFM License Number NJ24GS 04328800

Title Licensed Land Surveyor Company Name Paul H. Koelling & Associates, LLC-COA 24GA28133100

Address 2161 Shore Road City Linwood State NJ ZIP Code 08221

Signature [signature] Date 7/22/15 Telephone (609) 927-0279

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. 3207 Sunset Ave.	Policy Number
City BOROUGH OF LONGPORT State NJ ZIP Code 08403	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
*A8.) 1837 s. f. crawlspace vented with USA flood vents Model #FA-316 engineerd for 263 square inches of net area each (see attached)
*A9.) 564 s. f. garage vented with 3 USA flood vents Model #FA-316.....25 sq. ft. elevator shaft
**B8 & B9.) FEMA Pre-FIRM Zone "AE".....Base Flood Elevation 9 ft. (NAVD88) converted = 10.3 ft. (NGVD29)
***C2a.) crawlspace enclosure
****C2e.) exterior air unit elev. is 15.6, ductwork elev. is 11.7, elevator equipment elev. is 13.0, pool equipment elev. is 14.4

Signature [signature] Date 7/22/15

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

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

Continuation Page

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.
3207 Sunset Ave.

City	State	ZIP Code
Longport	**NJ**	**08403**

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."

Front View – Date of Photograph: (See Photo Stamp)

Rear View – Date of Photograph: (See Photo Stamp)

Right Side View – Date of Photograph: (See Photo Stamp)

Vent View – Date of Photograph: (See Photo Stamp)

Certification of Engineered Flood Openings

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

Certification Statement

I hereby certify that the flood vents manufactured by **USA Foundation Flood Air Vents** (Model No's FO-316, FA-316, FOAL, FAAL, RFPC and RFSS) are designed in accordance with the requirements of the 2011 NFIP "Flood Insurance Manual" to provide automatic equalization of hydrostatic flood loads on exterior walls by allowing the automatic entry and exit of floodwaters during floods up to and including the base 100-year flood. The flood vents must be installed and sized properly as set forth by the requirements below. This certification follows the design requirements and specifications that are established in FEMA Technical Bulletin 1-08 and ASCE/SEI 24-05.

Design Characteristics

I hereby certify that I have measured the flood vent models listed below. I have also calculated the maximum total enclosed area that can be served by each individual model based on the net area of the opening using the equation taken from ASCE/SEI 24-05, Section 2.6.2.2 and the following design assumptions listed below.

Design Assumptions:

1. The rates of rise and fall have been assumed to be 5 feet per hour.
2. The maximum difference between the exterior and interior floodwater levels have been assumed to be 1 foot during base flood conditions.
3. A factor of safety of 5 has been used in the design.

Area of Engineered Openings per ASCE 24, Section 2.6.2.2

$A_c = (0.0333)[1/c]R(A_e) \rightarrow Ae = Ao / [(0.0333)[1/c]R]$

Where:

A_c =	Total Net Area of Openings Required (in^2)
0.033 =	Coefficient Corresponding to a Factor of Safety of 5.0 ($in^2 \cdot hr/ft^3$)
c =	Opening Coefficient (Non-Dimensional; see ASCE 24, Table 2-2)
R =	Worst Case Rate of Rise and Fall (ft/hr)
A_e =	Total Enclosed Area (ft^2)

Maximum Area Coverage in Square Feet per Vent for each Model

Model	Height (in.)	Width (in.)	A_o ($in.^2$)	Constant ($in^2 \cdot hr/ft^3$)	c	R (ft/hr)	A_e* (ft^2)
FO-316	7.00	15.50	108.50	0.0330	0.400	5	263
FA-316	7.00	15.50	108.50	0.0330	0.400	5	263
FOAL-W	7.00	15.50	108.50	0.0330	0.400	5	263
FOAL-B	7.00	15.50	108.50	0.0330	0.400	5	263
FOAL-G	7.00	15.50	108.50	0.0330	0.400	5	263
FAAL-W	7.00	15.50	108.50	0.0330	0.400	5	263
FAAL-B	7.00	15.50	108.50	0.0330	0.400	5	263
FAAL-G	7.00	15.50	108.50	0.0330	0.400	5	263
RFPC	7.00	13.75	96.25	0.0330	0.398	5	232
RFSS	7.00	13.75	96.25	0.0330	0.398	5	232

**Note: (A_e) is the maximum total enclosed area that can be served for each individual model based on the net area of the opening (A_o)*

Limitations and Installation Requirements

This certification will be voided in it's entirety if the following installation requirements and limitations are not enforced. USA Foundation Flood Air Vents and Conn Engineering Consultants, Inc. do not recommend or authorize any modifications to the flood vents and will not be held liable for improper installation or modification of the flood vents.

FEMA/ NFIP Limitations and Installation Requirements:

1. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
2. The bottom of all openings shall be no higher than one foot above grade that is immediately under each opening.
3. Openings may be equipped with screens, louvers, valves or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
4. It is recommended that openings be reasonably distributed around the perimeter of the enclosed area unless there is clear justification for putting all openings on just one or two sides (such as in townhouses or buildings set into sloping sites).
5. Where analysis indicates rates of rise and fall greater than 5 feet per hour, the total enclosed area shall be reduced accordingly.

Design Professional

Name / Title:	Jason M. Conn, P.E. President, Conn Engineering Consultants, Inc.
Address:	107 N. Bridge St., Linden, MI 48451
License Type:	Professional Engineer
State:	**New Jersey**
License Number:	**24GE04573000**

Installation Address

Customer and Installation Address:

3207 Sunset Avenue
Longport, NJ 08403

Model Installed

Model Number: **FA-316**

Maximum total enclosed area that can be served for **EACH** individual vent: **263 Square Feet**

Professional Engineering Seal

Certification Date: 7/29/2015