

# Floodplain Management Programs

## Foundation Retrofit Program

### The Problem



- ✓ Increased risk of wall failure
- ✓ Higher flood insurance premiums

### The Solution



# Floodplain Management Programs

## Foundation Retrofit Program

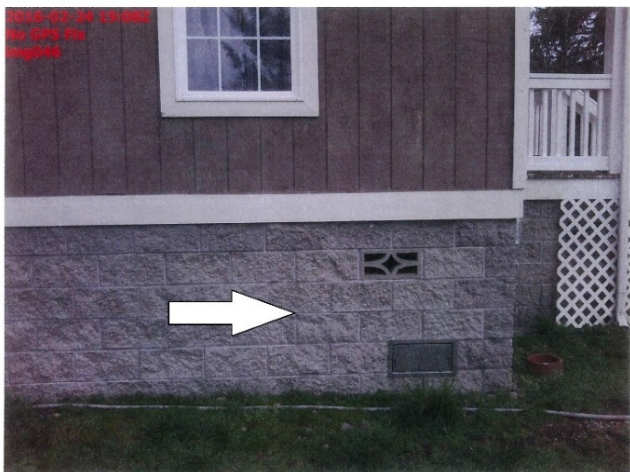
- ✓ Funds installation of correct openings
- ✓ Includes Elevation Certificate for correct insurance rating
- ✓ Pilot in Bucoda

**ELEVATION CERTIFICATE, page 4** **BUILDING PHOTOGRAPHS**  
Continuation Page

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

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or R.O. Route and Box No. 303 N. Market Street	State WA	ZIP Code 98530	FOR INSURANCE COMPANY USE Policy Number: Company NAC Number:
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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.



South (front-left) corner of house. Front of house faces southeast to N Market St.

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

**ELEVATION CERTIFICATE**  
IMPORTANT: Follow the instructions on pages 1-9.

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

**SECTION A - PROPERTY INFORMATION**

A1. Building Owner's Name: Colleen M. Tee

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or R.O. Route and Box No.: 303 N. Market Street

City: Bucoda State: WA ZIP Code: 98530

A3. Tax Parcel No. 6180030900

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

A5. Latitude/Longitude: Lat. 46 degrees 48' 02.62" N Long. 122 degrees 51' 53.65" W 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: B

A8. For a building with a crawlspace or enclosure(s):  
a) Square footage of crawlspace or enclosure(s): 550 sq ft  
b) No. of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade: 4  
c) Total net area of flood openings in A8.b: 512 sq in  
d) Engineered flood openings? ☒ Yes ☐ No

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 adjacent grade: sq in  
c) Total net area of flood openings in A9.b: sq in  
d) Engineered flood openings? ☐ Yes ☒ No

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

B1. NFIP Community Name & Community Number: Town of Bucoda WA & 530189

B2. County Name: THURSTON COUNTY

B3. State: WASHINGTON

B4. Map/Parcel Number: B5. Suffix: B6. FIRM Index Date: 09/02/1981 B7. FIRM Panel Effective/Revised Date: 10/16/2012 B8. Flood Zone(s): AE B9. Base Flood Elevation(s) (Zone AO, use base flood depth): 255.0'

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: 0 / 0 / 0 ☐ 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: WSDOT Mon ID 5521/TC: Bucoda & 221 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.

		feet	meters
a) Top of bottom floor (including basement, crawlspace, or enclosure floor)	251.7	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
b) Top of the next higher floor	256.7	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
c) Bottom of the lowest horizontal structural member (V Zones only)	NA, NA	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
d) Attached garage (top of slab)	NA, NA	<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)	256.7	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
f) Lowest adjacent (finished) grade next to building (LAG)	251.6	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
g) Highest adjacent (finished) grade next to building (HAG)	252.1	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support	251.6	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters

Check the measurement used.

**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 Dennis R. Baker	License Number 35972
Title Professional Land Surveyor	Company Name LeRoy Surveyors & Engineers, Inc.
Address P.O. Box 740	City Puyallup
State WA	State WA
Signature [Signature]	ZIP Code 98371
Date 03/03/2016	Telephone (360) 507-1166

FEMA Form 086-0-33 (7/12) See reverse side for continuation.

03-03-2016

Replaces all previous editions.

# Floodplain Management Programs

## Foundation Retrofit Program

### Status

- ✓ Developed procedures for contracting
- ✓ Developed forms for releases, etc.

# Floodplain Management Programs



## Installation of Foundation Flood Openings

Form 1-2015 -- Property Access Permission

PART I -- Owner of Residential and/or Business Structure

Return completed form to Scott Boettcher at either:  
1. Chehalis River Basin Flood Authority  
2601 Capitol Way S  
Olympia, WA 98501-3326, or  
2. [scottb@chah-partners.com](mailto:scottb@chah-partners.com)

1. I/We are requesting an evaluation be prepared to prepare compliant foundation flood openings at no cost to our own at:

(street address)

2. I/We also understand the purpose of foundation flood openings is to protect the foundation of My/Our residential structure from flood events.

3. I/We hereby grant permission to the Contractor to enter My/Our property at a prearranged date and collect data to prepare an estimate of foundation flood openings. I/We understand the Contractor(s) foundation to prepare an accurate estimate of foundation flood openings. The estimate will fund for installation. If funding for installation does not proceed with any work until You sign For

4. I/We hereby release the Chehalis River Basin Flood Authority, its offices, and departments and employees from any liability or costs that may arise in connection with the resulting access. The Contractor(s) is independent of the State of Washington. This release

5. Signed:

(owner's signed name)

(date)

(co-owner's signed name)

Form No. 1-2015  
Property Access Permission



## Installation of Foundation Flood Openings

Form 2-2015 -- Contractor Bid<sup>1</sup>

Return completed form to Scott Boettcher at either:  
1. Chehalis River Basin Flood Authority  
2601 Capitol Way S  
Olympia, WA 98501-3326, or  
2. [scottb@chah-partners.com](mailto:scottb@chah-partners.com)

1. The following lump sum bid is to install FEMA compliant foundation flood openings in the residential and/or business structure located at:

(street address)

(city, state, zip)

(parcel number)

2. The time required to install FEMA compliant foundation flood openings at this residential and/or business structure shall not exceed \_\_\_\_\_ days following notice to proceed.

3. The cost to install FEMA compliant foundation flood openings at this residential and/or business structure shall not exceed:

- a. Labor = \_\_\_\_\_  
b. Materials = \_\_\_\_\_  
c. Permits, licenses and approvals = \_\_\_\_\_  
d. Elevation certificate = \_\_\_\_\_  
e. Total = \_\_\_\_\_

4. This bid is good until \_\_\_\_\_.

5. Signed:

(Contractor's signed name)

(Contractor's printed name)

(date)

<sup>1</sup> This Form 2-2015 is a Contract and incorporates the terms of RCO's Master Contract regarding installation of foundation flood openings, insofar as they are consistent with this Form 2-2015.

Form No. 2-2015  
Contractor Bid

(1)

6/02/2015



## Installation of Foundation Flood Openings

Form 3-2015 -- State of Washington Approval of Bid

1. Subject to the General Terms and Conditions and other provisions of RCO Contract No. 15-1030 and RCO Contract No. 15-1031, as applicable, the State of Washington, acting through the Recreation and Conservation Office (AGENCY), approves \_\_\_\_\_ to install FEMA compliant foundation flood openings in the residential and/or business structure located at:

(street address)

(city, state, zip)

2. The State shall reimburse \_\_\_\_\_ amount of \$ \_\_\_\_\_, upon satisfaction by the CONTRACTOR.

- a. CONTRACTOR certifies to the AGENCY it has obtained a Registered Land Surveyor licensed in the State of Washington with a copy to the local Basin government.

- b. Following inspection of the installation by a building code official, the AGENCY shall provide a copy of the building code official's final approval of foundation flood openings in the residential and/or business structure.

- c. The CONTRACTOR has provided the AGENCY properly document to the AGENCY'S satisfaction a description of building code official, and fees. To receive reimbursement breakdown of authorized expenses, identifying what was approved.

3. Payment shall be considered timely if made by the AGENCY properly completed invoices. Payment shall be sent to the CONTRACTOR.

4. This bid approval is good until \_\_\_\_\_.

5. Approved by AGENCY (Recreation and Conservation Office)

(printed name)

(date)

Form No. 3-2015  
State of Washington Approval of Bid

(1)

Return completed form to Scott Boettcher at either:  
1. Chehalis River Basin Flood Authority  
2601 Capitol Way S  
Olympia, WA 98501-3326, or  
2. [scottb@chah-partners.com](mailto:scottb@chah-partners.com)



## Installation of Foundation Flood Openings

Form 4-2015 -- Foundation Flood Opening Installation Contract

This CONTRACT is entered into and between \_\_\_\_\_ the CONTRACTOR and \_\_\_\_\_ the Owner(s) of the subject property at:

(street address)

(city, state, zip)

(parcel number)

WHEREAS, at My/Our request the CONTRACTOR performed an evaluation of My/Our property for the sole purpose of determining its suitability for installation of FEMA compliant foundation flood openings, and, if suitable, the design and bid of such openings to be submitted to the State of Washington for approval.

WHEREAS, the CONTRACTOR's evaluation determined the property is suitable for FEMA compliant foundation flood openings and prepared a design and bid which has been approved by the State of Washington for such payment as set forth through Form 2 -- Contractor Bid and Form 3 -- State of Washington Approval of Bid, both attached.

I/We the Owner(s) acknowledge by My/Our initials below that I/We have received a copy of both the completed Form 2 -- Contractor Bid and completed Form 3 -- State of Washington Approval of Bid:

(owner's initials)

(owner's initials)

WHEREAS, the CONTRACTOR has agreed to install FEMA compliant foundation flood openings at My/Our property for an amount not to exceed \$ \_\_\_\_\_ (plus tax) and the State of Washington has agreed to pay such amount as stated on Form 3 -- State of Washington Approval of Bid.

The parties to this CONTRACT hereby agree to the following terms and conditions as follows:

1. The Owner(s) grants permission to the CONTRACTOR to enter the Property at a prearranged date and time for the sole purpose of installing FEMA compliant foundation flood openings as shown on Form 2 and approved on Form 3 (both attached). The Owner(s) agrees to sign necessary building and permitting applications as may be required to complete this work.
2. The Owner(s) understand the project will require that holes be cut in the foundation of My/Our residential and/or business structure and there may be some unavoidable damage to plantings in close proximity to the foundation work, for which the Owner(s) shall be responsible.
3. The Owner(s) will not be responsible for the costs of installing the foundation flood openings.
4. The CONTRACTOR will seek compensation for the costs of installing the foundation flood openings solely from the State of Washington pursuant to the State of Washington Approval of Bid.

Form No. 4-2015  
Foundation Flood Opening Installation Contract

(1)

6/05/2015

Owner	Parcel #	Address	Form 1	Form 2	Form 3	Form 4	Closure		
			Owner Provides Property Access	Contractor Provides Bid	State Approves Bid	Parties Agree To Install	Elevation Certificate	Final Inspection	Payment
*****	*****	*****	✓	✓	✓	✓	✓	✓	✓

# Floodplain Management Programs

## Foundation Retrofit Program (Status)

- ✓ Developed procedures for contracting
- ✓ Developed forms for releases, etc.

Foundation Flood Opening Program → Click [here](#).

File Name	File Size	Description▼	Category	Date Added
 <a href="#">Form 4-2015 -- Final Foundation Flood Opening Installation Contract 06052015.pdf</a>	84.6 KB	Forms	None	04/26/16 04:09 AM
 <a href="#">Form 3-2015 -- Final State of Washington Approval of Bid 06022015.pdf</a>	72.5 KB	Forms	None	04/26/16 04:10 AM
 <a href="#">Form 2-2015 -- Final Contractor Bid 06022015.pdf</a>	83.3 KB	Forms	None	04/26/16 04:10 AM
 <a href="#">Form 1-2015 -- Final Property Owner Access Permission 06022015.pdf</a>	81.8 KB	Forms	None	04/26/16 04:10 AM
 <a href="#">Bucoda Mapping Technical Memo 6-4-2015.pdf</a>	2.6 MB	Bucoda Revised Mapping	None	04/26/16 06:58 AM
 <a href="#">Bucoda Floodplain Mapping Presentation 7-28-2015.pdf</a>	2.8 MB	Bucoda Revised Mapping	None	04/26/16 06:59 AM
 <a href="#">Bucoda Revised Ordinance 09-16-2016.pdf</a>	4.3 MB	Bucoda Revised Mapping	None	04/26/16 07:00 AM
 <a href="#">Part II Bucoda Community Meeting Presentation -- 03182015.pdf</a>	1.1 MB	Background -- Presentation	None	03/18/15 12:20 PM
 <a href="#">FPMgt Meeting 4-26-16 Bucoda.pdf</a>	1.8 MB	Background -- Presentation	None	04/26/16 07:00 AM
 <a href="#">fema tb 1 1 .pdf</a>	5.3 MB	Background	None	03/18/15 12:17 PM
 <a href="#">General Process Flow 03092015.pdf</a>	199.4 KB	Background	DRAFT	03/18/15 12:18 PM
 <a href="#">FAQs New Foundation Flood Openings Program 03182015.pdf</a>	80.9 KB	Background	None	03/18/15 12:19 PM

# Floodplain Management Programs

## Foundation Retrofit Program

### Status

- ✓ Developed procedures for contracting
  - ✓ Developed forms for releases, etc.
  - ✓ Two buildings retrofitted
  - ✓ One contractor selected for seven more
    - ✓ Waiting for papers to be signed by the owners
  - ✓ Side benefit: BFEs provided by WSE for approximate A Zone
- Ready for another community

