



# **FLOODPROOF CONSTRUCTION REQUIREMENTS**

*For lots touched by the Special Flood Hazard Area (100-yr  
floodplain) or  
lots with an approved FEMA Letter of Map Revision*

**ENGINEERING DEPARTMENT  
(218)299-5390**

8/29/2016

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# Section 1



## Floodproof Construction Requirements Checklist FEMA Special Flood Hazard Areas (100-year Floodplain)

**Step 1:** Check the City of Moorhead website for lot information to determine if floodproof construction requirements are applicable.

For new construction, if the lot is in or touched by the 100-year floodplain and included on the list at the website below, proceed to Step 2. If the lot in the 100-year floodplain but is not listed, a Conditional Use Permit (CUP) may be required. Contact the City Planning & Zoning Director for assistance.

[http://www.cityofmoorhead.com/the\\_city/floodplain/permits.asp](http://www.cityofmoorhead.com/the_city/floodplain/permits.asp)

For existing built lots, the mapping tools at the website below can be used to determine if the lot is in the 100-year floodplain. City Engineering staff is available to assist in determining the applicable requirements.

[http://www.cityofmoorhead.com/the\\_city/floodplain/maps.asp](http://www.cityofmoorhead.com/the_city/floodplain/maps.asp)

- Permitted Use
- Provisional Use (LOMR-F)
- Conditional Use

***All construction in the 100-year floodplain requires a Floodplain Development Permit.***

**Step 2:** Floodproof construction requirements package and required elevation forms are attached to this document.

- Floodplain Development Permit Application
- City Form A (completed by City, signed by applicant)
- Floodproof construction details

**Step 3:** Plans

If construction will vary from the detail sheets within this packed then the plans must be developed and signed by a professional engineer or architect licensed in the State of Minnesota.

*Construction plans for basements in the floodplain must not show sleeping rooms or a kitchen. Basements can be designed for bathrooms, closets, halls, storage rooms, laundry or utility space.*

When submitting the plans to the City for issuance of a Floodplain Development Permit, verify the following:

- Floodproof construction details are clearly shown

- Critical elevations are clearly shown
- Floodplain Development Permit Application is completed
- Plans signed by an engineer or architect (for the floodproofing portions of the plans that vary from the standard detail sheets)

**Step 4:** Submit plans to the City.

- 1 set of plans submitted to the Engineering Department
- 1 set of plans submitted to Building Codes

**Step 5:** The City will issue a Floodplain Development Permit (Engineering Department), Provisional Use Permit for LOMR-F lots (Planning and Zoning Department), and a Building Permit (Building Codes). Post the Floodplain Development Permit on-site with the Building Permit.

**Step 6:** Proceed to construction. Inspections listed below must be performed. ***All floodproofing inspections in the Engineer/Architect column must be completed by the builder's engineer or architect and certified on a signed inspection report. Failure to certify these inspections will void the floodproof certification.***

	Building Codes	Engineer/ Architect
Place Base Flood Elevation (BFE) stake		<input type="checkbox"/>
Elevation check on footings before concrete is placed		<input type="checkbox"/>
Footings	<input type="checkbox"/>	<input type="checkbox"/>
Foundation/rebar		<input type="checkbox"/>
Waterproofing		<input type="checkbox"/>
Drain tile		<input type="checkbox"/>
Concrete floor/poly		<input type="checkbox"/>
Sanitary sewer valve	<input type="checkbox"/>	
Sanitary sewer line	<input type="checkbox"/>	
Joist blocking	<input type="checkbox"/>	
Finish grading (LAG)		<input type="checkbox"/>

**Step 7:** Complete the following documents for a post-construction submittal to the City.

- Signed inspection report (completed by engineer or architect)
- Property Flood Survey
- FEMA Elevation Certificate
- FEMA Residential Basement Floodproofing Certificate

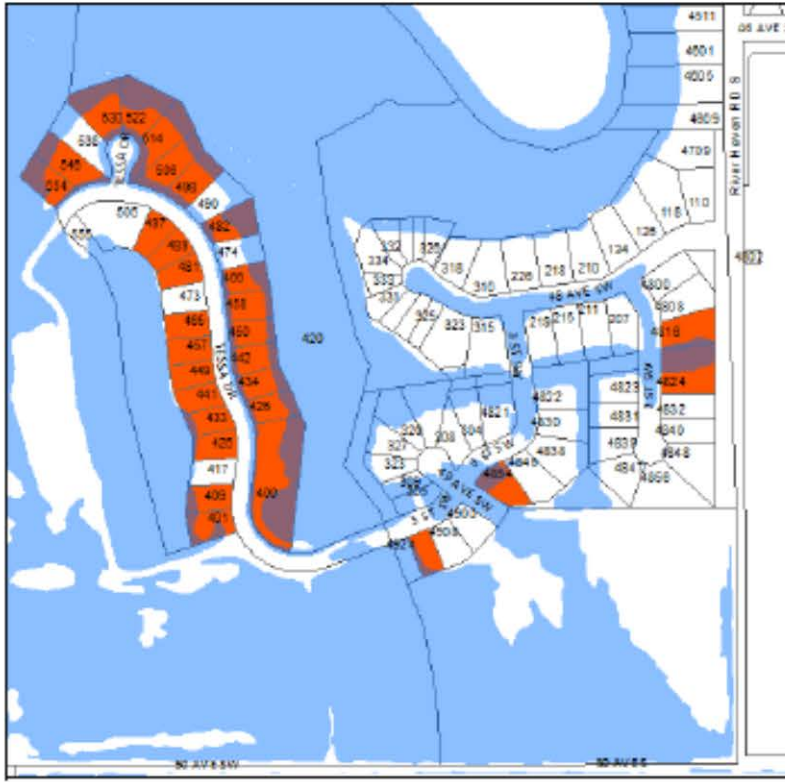
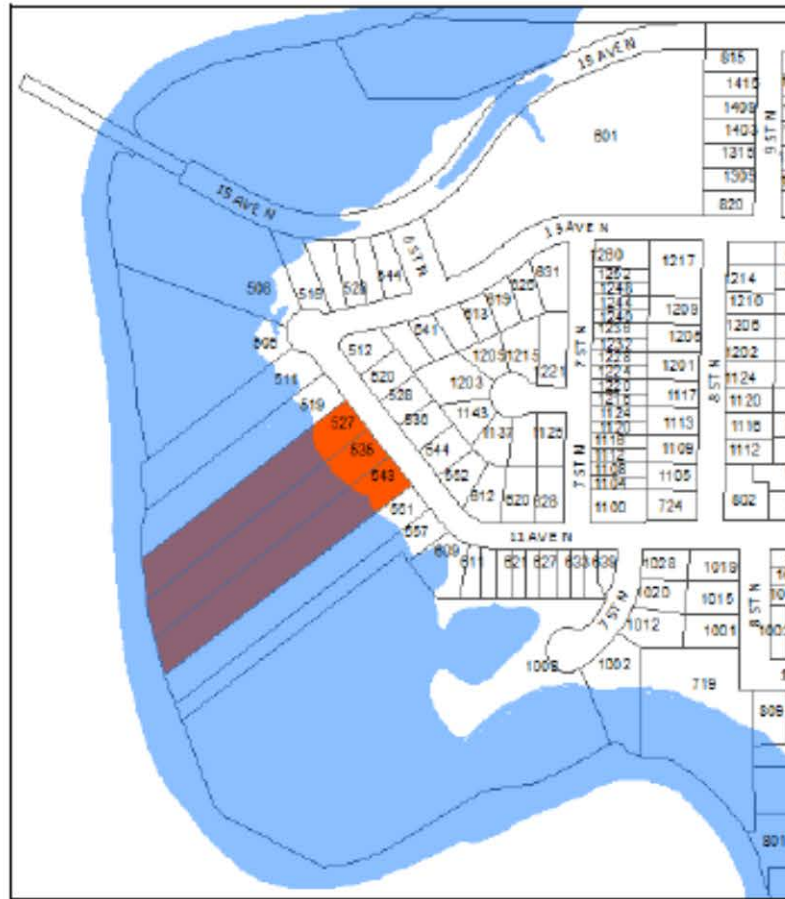
**Step 8:** Upon submission and verification of the documents in Step 7, Building Codes will issue a Certificate of Occupancy.

# **Section 2**

Below are the thirty-six (36) buildable vacant properties in the City of Moorhead that are touched by the FEMA 100 Year Floodplain that will require a Floodplain Development Permit and Floodproof Basement Certificate. ( \* This List is current as of December 2012 )

Parcel-ID	Land Address	Addition \ Subdivision	Block	Lot	BFE	FDL
587910240	4916 3RD ST SW	TESSA TERRACE 2ND ADD	3	3	905.2	907.2
587920160	401 TESSA DR	TESSA TERRACE 3RD ADD	1	16	905.3	907.3
587920150	409 TESSA DR	TESSA TERRACE 3RD ADD	1	15	905.3	907.3
587910140	4854 3RD ST SW	TESSA TERRACE 2ND ADD	1	14	905.3	907.3
587920130	425 TESSA DR	TESSA TERRACE 3RD ADD	1	13	905.3	907.3
587920340	400 TESSA DR	TESSA TERRACE 3RD ADD	2	18	905.3	907.3
587920120	433 TESSA DR	TESSA TERRACE 3RD ADD	1	12	905.3	907.3
587920330	426 TESSA DR	TESSA TERRACE 3RD ADD	2	17	905.3	907.3
587920110	441 TESSA DR	TESSA TERRACE 3RD ADD	1	11	905.3	907.3
587920320	434 TESSA DR	TESSA TERRACE 3RD ADD	2	16	905.3	907.3
587920100	449 TESSA DR	TESSA TERRACE 3RD ADD	1	10	905.3	907.3
587910010	4824 2ND ST SW	TESSA TERRACE 2ND ADD	1	1	905.3	907.3
587920310	442 TESSA DR	TESSA TERRACE 3RD ADD	2	15	905.2	907.2
587920090	457 TESSA DR	TESSA TERRACE 3RD ADD	1	9	905.2	907.2
587920300	450 TESSA DR	TESSA TERRACE 3RD ADD	2	14	905.2	907.2
587920080	465 TESSA DR	TESSA TERRACE 3RD ADD	1	8	905.2	907.2
587900210	4816 2ND ST SW	REPLAT TESSA TERRACE 1ST ADD	2	4	905.2	907.2
587920290	458 TESSA DR	TESSA TERRACE 3RD ADD	2	13	905.2	907.2
587920280	466 TESSA DR	TESSA TERRACE 3RD ADD	2	12	905.2	907.2
587920060	481 TESSA DR	TESSA TERRACE 3RD ADD	1	6	905.2	907.2
587920050	489 TESSA DR	TESSA TERRACE 3RD ADD	1	5	905.2	907.2
587920040	497 TESSA DR	TESSA TERRACE 3RD ADD	1	4	905.2	907.2
587920260	482 TESSA DR	TESSA TERRACE 3RD ADD	2	10	905.2	907.2
587890010	554 TESSA DR	TESSA COURT ADD	1	1	905.2	907.2
587920240	498 TESSA DR	TESSA TERRACE 3RD ADD	2	8	905.2	907.2
587890020	546 TESSA DR	TESSA COURT ADD	1	2	905.2	907.2
587890070	506 TESSA DR	TESSA COURT ADD	1	7	905.2	907.2
587890060	514 TESSA DR	TESSA COURT ADD	1	6	905.2	907.2
587890040	530 TESSA DR	TESSA COURT ADD	1	4	905.2	907.2
587890050	522 TESSA DR	TESSA COURT ADD	1	5	905.2	907.2
580030010	304 43RD AVE S	ALLYSON PKWY 1ST ADD	1	1	904.6	906.6
584290080	3737 10TH ST S	MALLARD CREEK 4TH ADD	1	8	904.0	906.0
580930130	543 11TH AVE N	BRIDGEVIEW POINTE 2ND ADD	2	5	899.1	901.1
580930120	535 11TH AVE N	BRIDGEVIEW POINTE 2ND ADD	2	4	899.1	901.1
580930110	527 11TH AVE N	BRIDGEVIEW POINTE 2ND ADD	2	3	899.1	901.1
586570070	3510 RIVERVIEW CIR S	RIVERVIEW ESTATES 2ND ADD	1	7	904.0	906.0

Maps for relevant properties located in Bridgeview Pointe, Tessa Court, and Tessa Terrace Additions:





# **Section 3**



Permit No. \_\_\_\_\_

# FLOODPLAIN DEVELOPMENT PERMIT APPLICATION

## SECTION 1: GENERAL PROVISIONS:

1. Applicant must either be the owner of the property or have written authorization from the owner(s).
2. Applicant must complete Sections 1 & 2. The Engineering Department will complete sections 3 & 4.
3. Applicant must provide additional information in Section 4 prior to permit issuance.
4. For floodproofed structures applicant must submit two complete plan sets (1 for Engineering and 1 for Building Codes).
5. **No work of any kind may start until a permit is issued.**
6. False statements made in this application may result in permit revocation.
7. If the permit is revoked, all work must cease.
8. Development or structures shall not be used or occupied until a Certificate of Occupancy is issued.
9. The permit will expire if no work is commenced within six months of permit issuance.
10. Other permits may be required to fulfill local, state, and federal regulatory requirements.
11. Applicant gives consent to the City Engineer or his/her representatives to make reasonable inspections required to verify compliance.

## SECTION 2: DESCRIPTION OF WORK (check all applicable boxes):

After completing Section 2, Applicant must submit form to the Engineering Department for review.

PROJECT ADDRESS: \_\_\_\_\_ PARCEL NO.: \_\_\_\_\_

LEGAL DESCRIPTION: \_\_\_\_\_

*To avoid delay in processing the application, please provide a map attached to this application showing the project location.*

### A. STRUCTURAL DEVELOPMENT

#### ACTIVITY

- New Structure
- Addition
- Alteration
- Repair/Maintenance
- Relocation
- Demolition
- Replacement
- Flood Mitigation

#### STRUCTURE TYPE

- Residential ( 1-4 family or  more than 4 family)
- Non-residential, commercial, office, etc. (Floodproofed?  Yes)
- Warehouse
- Combined Use (Residential & Commercial)
- Manufactured (Mobile) Home (In mobile home park?  Yes)
- Shed/Storage
- Deck
- Porch/3-Season Porch
- Garage
- Fence
- Other: \_\_\_\_\_

### B. OTHER DEVELOPMENT ACTIVITIES

- Clearing       Grading       Fill       Drilling
- Excavation (other than structural development checked above)
- Subdivision (new or expansion)
- Drainage Improvements (including culvert work)
- Road, Street or Bridge Construction
- Private Well or Septic/Drain Field
- Watercourse Alteration (including dredging & channeling modifications)
- Other (please specify) \_\_\_\_\_

C. Estimated Project Cost: \$ \_\_\_\_\_

APPLICANT CERTIFICATION: I HEREBY CERTIFY THAT ALL DATA ON THE APPLICATION FORMS, PLANS AND SPECIFICATIONS ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

APPLICANT (printed):

NAME ADDRESS PHONE NO.

APPLICANT SIGNATURE: DATE:

CONTRACTOR CERTIFICATION: I HEREBY CERTIFY THAT I WAS HIRED BY THE APPLICANT TO CONSTRUCT THE PROJECT TO FLOODPLAIN REQUIREMENTS.

CONTRACTOR (printed):

COMPANY NAME ADDRESS PHONE NO.

CONTRACTOR SIGNATURE: DATE:

ENGINEER AND/OR ARCHITECT CERTIFICATION: I HEREBY CERTIFY THAT I WAS HIRED BY THE APPLICANT AND/OR CONTRACTOR TO PERFORM FLOODPROOF REQUIREMENTS, SITE INSPECTIONS AND SUBMIT POST-CONSTRUCTION DOCUMENTS TO THE City of Moorhead.

ENGINEER AND/OR ARCHITECT (printed): (If Applicable)

COMPANY NAME ADDRESS PHONE NO.

ENGINEER AND/OR ARCHITECT SIGNATURE: DATE:

SECTION 3: FLOODPLAIN DETERMINATION (To be completed by the Engineering Department)

The proposed development is located on FIRM Panel Number/Suffix. Effective Date. A copy of the relevant area on the FIRM is attached.

The proposed development:

- Is NOT located in the SFHA.
Is located in the SFHA as shown on the effective FIRM, but has been removed by a:
Letter of Map Revision Based on Fill (LOMR-F) FEMA Case No.
Letter of Map Amendment (LOMA) FEMA Case No.
Is located in the SFHA as shown on the effective FIRM, and must be removed by a Letter of Map Revision Based on Fill (LOMR-F) FEMA Case No.
Is located or partially located in the SFHA
FIRM Zone(s): BFE: ft.
Datum: NAVD 88 NGVD 29
Is located in the floodway.
See section 4 for additional information required for permit issuance.

SECTION 4: Additional Information Required (To be completed by the Engineering Department)

The applicant must submit the documents checked below before a permit can be issued:

- Subdivision or other development plans (including future development master plan).

- A site plan showing the location of all existing structures, water bodies, adjacent roads, lot dimensions, easements, proposed grading/fill, and proposed development/buildings to the extent known.
- Supplemental Data for Grading/Building Permit in SFHA (Form A).
- Building plans (drawn to scale) (2 sets required if floodproofed) and specifications, including where applicable:
  - floodproofing details per City floodproof construction requirements or as designed by a Professional Engineer or Architect.
  - proposed elevation of the first floor
  - proposed elevation of lowest floor (including basement)
  - proposed lowest adjacent grade to the structure
  - proposed fill elevation 15 ft. from the structure
  - types of water-resistant materials used below the first floor
  - details for floodproofing of utilities located below the first floor
  - details of enclosures below the first floor, if applicable
  - details for anchoring structures, if applicable
- Plans showing the extent of watercourse relocation and/or landform alterations, if applicable.
- LOMR-F and Community Acknowledgement Form upon completion of construction.
- No fill or construction may be placed in the floodway without a conditional use permit and a “No-Rise” certificate.
  - “No-Rise” Certificate - Certification from a registered engineer that the proposed activity in a regulatory floodway will not result in an increase in the BFE. A copy of all data and hydraulic/hydrologic calculations supporting this finding must be submitted.
- A geotechnical review is recommended for slope stability issues.
- Other: \_\_\_\_\_

SIGNED: \_\_\_\_\_ DATE: \_\_\_\_\_

TITLE: \_\_\_\_\_



# SUPPLEMENTAL DATA FOR GRADING/BUILDING PERMIT IN SFHA (FORM A)

Parcel No.

Permit No.

### A. General Information

Applicant's Name (Last, First, M.I.):

Address:

Project Location:

Phone:

Email:

### B. Project Information

#### Floodplain District

- Floodway
- Flood Fringe

#### Effective Flood Insurance Study:

FIS Effective Date: \_\_\_\_\_

Community /Panel #: \_\_\_\_\_

Flood Zone: \_\_\_\_\_

FIS Cross-section: \_\_\_\_\_

Flooding Source: \_\_\_\_\_

#### Zoning Determination

- Permitted Use
- Provisional Use Permit (PUP)
- Conditional Use Permit (CUP)
- Variance

Hearing date: \_\_\_\_\_

DNR Notified: \_\_\_\_\_

Planning Dept. Initials: \_\_\_\_\_

#### Type of Project

- New Structure
- Addition
- Flood Mitigation
- Repair/Maintenance
- Relocation
- Demolition
- Replacement
- Alteration

#### Type of Structure

- Residential ( 1-4 family or  more than 4)
- Non-residential, commercial, office, etc. (Floodproofed?  Yes)
- Warehouse
- Combined Use (Residential & Commercial)
- Manufactured (Mobile) Home (In mobile home park?  Yes)
- Shed/Storage
- Deck
- Porch/3-Season Porch
- Garage
- Fence
- Other: \_\_\_\_\_

#### Floodproofing Design Level (FDL) (to the nearest one-tenth foot): Basements & crawlspace

A. Base Flood Elevation (BFE) = \_\_\_\_\_ ft.\*

B. Freeboard required by ordinance = 2.0 ft.

FDL (A + B) = \_\_\_\_\_ ft.

Datum:  NGVD 1929  NAVD 1988

#### Regulatory Flood Protection Elevation (RFPE) (to the nearest one-tenth foot): Slab-on-grade

A. Base Flood Elevation (BFE) = \_\_\_\_\_ ft.\*

B. Freeboard (1.0 ft.) plus stage = \_\_\_\_\_ ft.

RFPE (A + B) = \_\_\_\_\_ ft.

Datum:  NGVD 1929  NAVD 1988

Comments:

**\*BFE must be verified by a Professional Engineer or Architect.**

### C. Construction Information

Structure Elevation Requirements	Proposed	Required FDL	Required RFPE	Recommended 42.2' River Stage
a. Top of bottom flooring (slab-on-grade, basement or crawl space)		>BFE - 5 ft. =	> RFPE =	
b. Top of next higher floor		> FDL =	> RFPE =	
c. Attached garage (top of slab)		> FDL =	> RFPE =	
d. Lowest elevation of machinery or equipment servicing the building (describe equipment _____)		> BFE - 5 ft. =	> RFPE =	
e. Lowest adjacent (finished) grade (LAG)		BFE + 1.5 =	BFE + ____ = (B-.5")	
f. Lowest compacted fill elevation at 15 ft. from building		> BFE + 0.75 =	> BFE =	

**I have been informed and understand that the City of Moorhead's Floodplain Manager recommends that the lowest adjacent grade of the structure be built to a river stage of 42.2 feet. \_\_\_\_\_ initials**

### D. Project Cost Factors for additions, improvements or repairs/maintenance (for nonconforming structures)

a. Cost of improvements/repairs/maintenance (including cost of labor and all supplies)	\$
b. Cost of previous improvements/ repairs/maintenance	\$
c. Total cost of improvements/repairs/maintenance (a + b)	\$
d. Estimated market value of existing structure (not including land value) without any improvements	\$
e. Percentage cost of improvements/repairs/maintenance (c ÷ d)*100, (must be < 50% for approval).	%

**All floodproof construction inspections must be completed by a Professional Engineer or Architect. At the conclusion of construction, Property Flood Survey (as-built), inspection certification form, FEMA elevation certificate, and FEMA Floodproof Basement Certification forms must be completed and submitted to the City before a Certificate of Occupancy can be issued.**

**I hereby certify that all data on the application forms, plans and specifications are true and correct to the best of my knowledge.**

Signature of Applicant or Contractor

Date

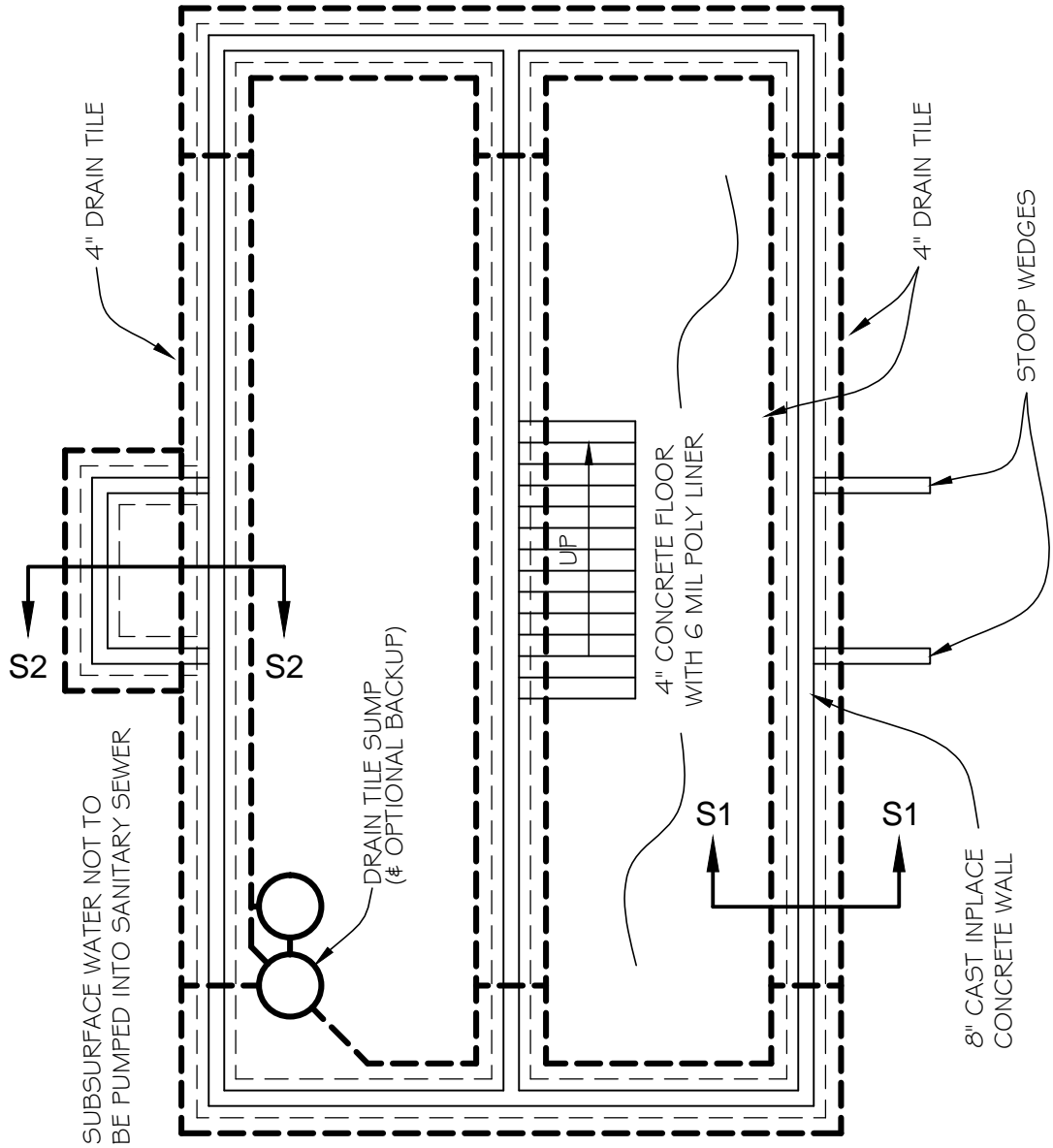
**I hereby certify that the BFE has been reviewed and is correct.**

Signature of Engineer or Architect

Date

# **Section 4**

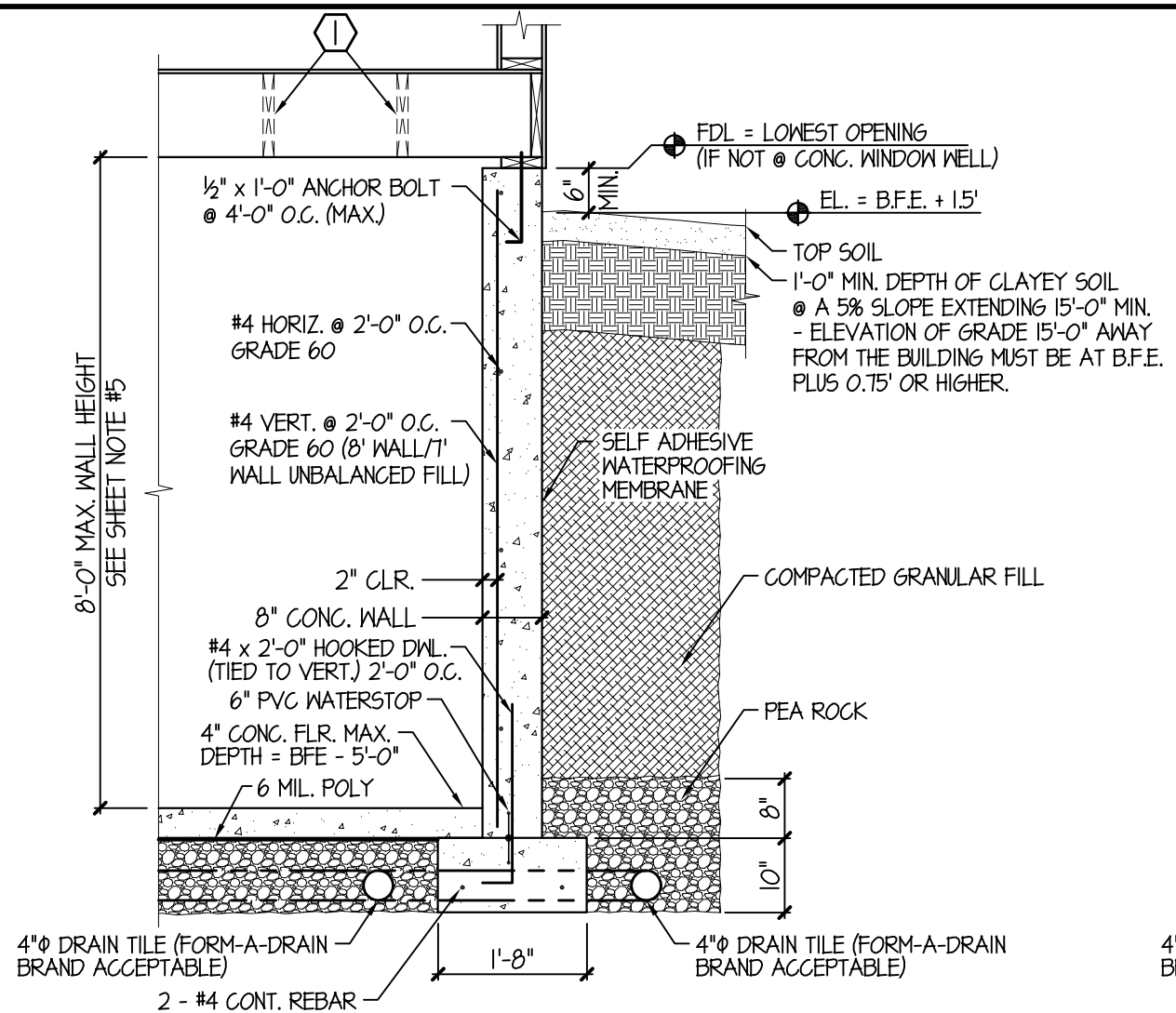
TOP OF ATTACHED GARAGE SLAB =  
FDL OR HIGHER



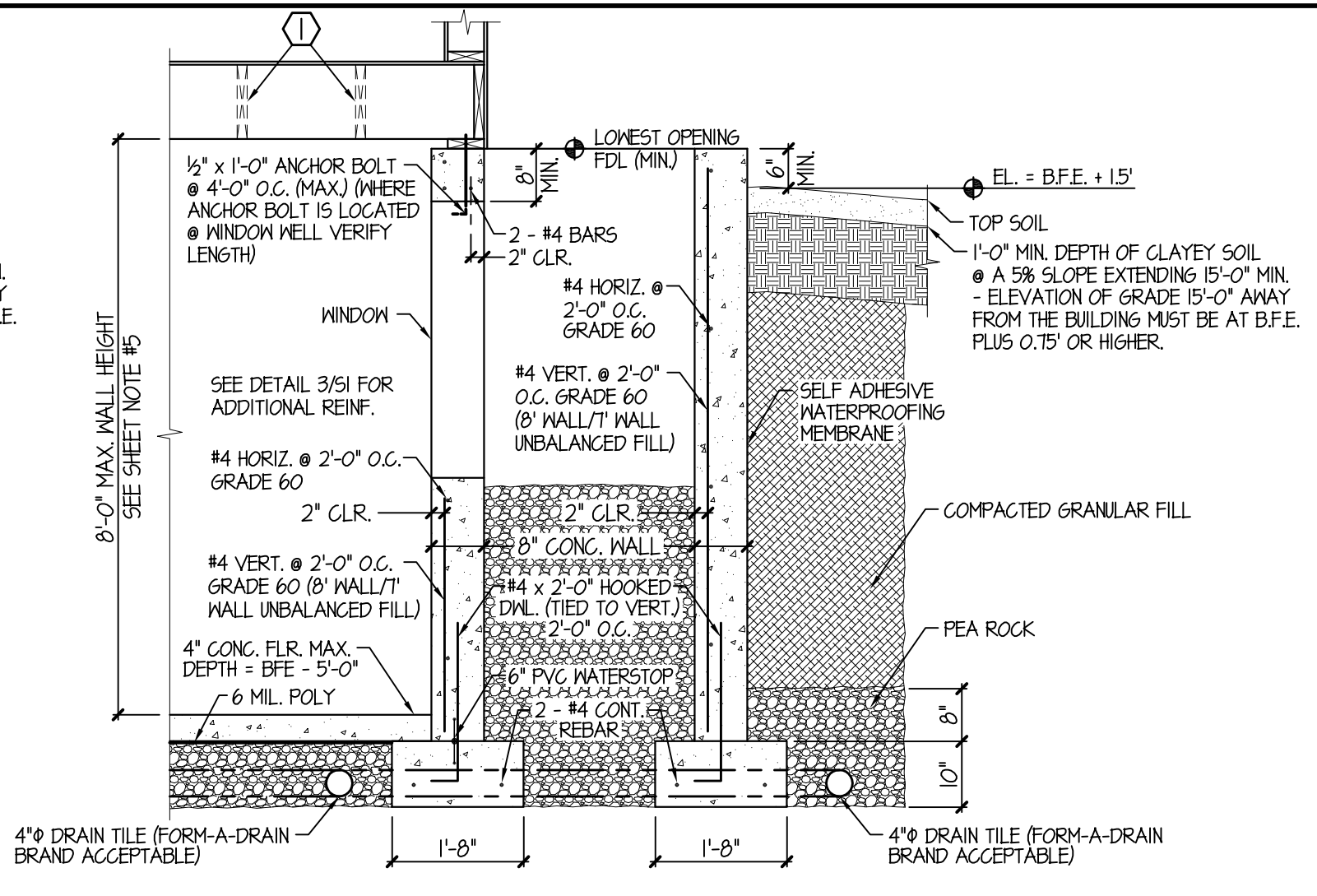
CONTRACTOR SHALL BE RESPONSIBLE TO CALL FOR ALL REQUIRED INSPECTIONS.

## FOOTING & FOUNDATION WALL PLAN

SCALE:  $\frac{1}{8}" = 1'-0"$



1 TYP. BASEMENT WALL SECTION  
SI 1/2" = 1'-0"



2 TYP. BASEMENT WALL SECTION @ WINDOW WELL  
SI 1/2" = 1'-0"

SHEET NOTES:

1. BASEMENT FLOOR MUST NOT BE LOWER THAN 5'-0" BELOW BFE (100 YEAR).
  2. MAIN FLOOR MUST BE ABOVE FDL.
  3. CONTRACTOR SHALL BE RESPONSIBLE TO CALL FOR ALL REQUIRED INSPECTIONS.
  4. FLOODPROOFING DESIGN LEVEL (FDL) SHALL BE BFE PLUS 2'-0".
  5. CONTACT STRUCTURAL ENGINEER IF WALL IS TO BE CONSTRUCTED GREATER THAN 8'-0" IN HEIGHT.
- CONSTRUCTION DESIGN MUST MEET OTHER REQUIREMENTS AND SPECIAL CONSIDERATIONS THAT ANY CONSTRUCTION SITE MAY PRESENT.
  - 8" POURED CONCRETE WALL MIN. COMPRESIVE STRENGTH 3000 PSI

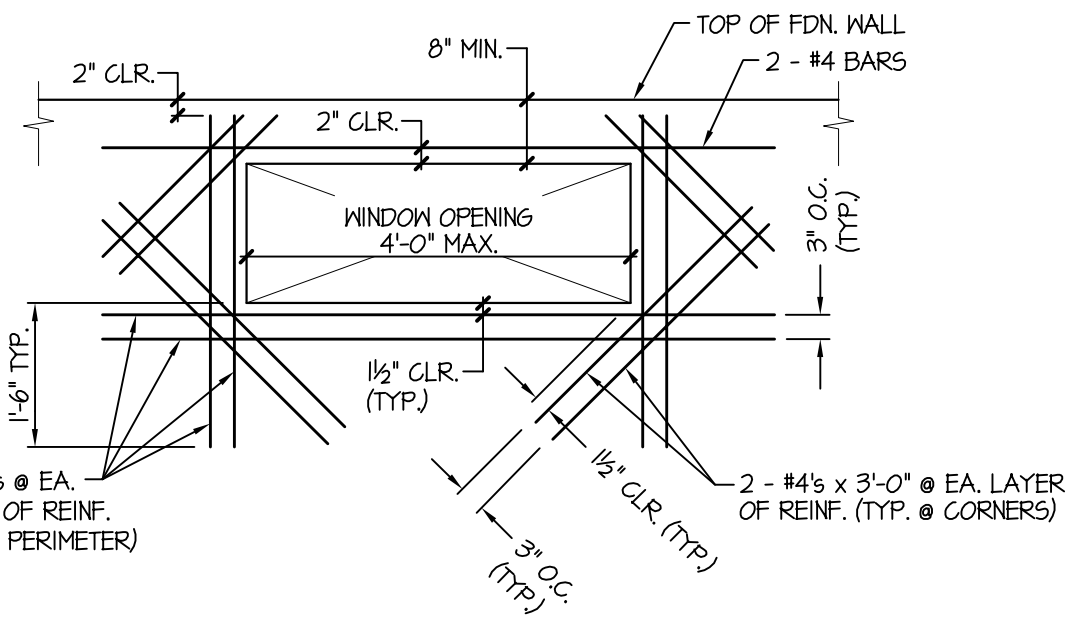
KEY NOTES:

- ① AT FOUNDATION WALL LOCATION WHERE JOISTS/TRUSSES ARE PARALLEL TO WALL, INSTALL TWO ROWS OF BLOCKING @ SAME SPACING & SIZE OF FRAMING JOIST/TRUSS.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

*Jim Heyer*  
JIM HEYER

Date: 4-11-2012 Reg. No. 16374



3 ADDITIONAL REINF. @ OPENING  
SI 1/2" = 1'-0"



# **Section 5**



Floodplain Dev. Permit #

**ENGINEERING DEPARTMENT**  
**500 CENTER AVENUE**  
**MOORHEAD, MN 56560**  
**(218) 299-5390**

**BUILDING CODES**  
**500 CENTER AVENUE**  
**MOORHEAD, MN 56560**  
**(218) 299-5424**

# FLOODPROOFING INSPECTION REPORT

Permit Applicant: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Property Address: \_\_\_\_\_ Parcel Number: \_\_\_\_\_

## INSPECTIONS

Inspection Type	Inspection Date	Inspected By	Photo	Comments
BFE Stake				BFE Benchmark:
Elev. Check				Elevation of footings must be checked before concrete is placed.
Footing				
Foundation & rebar				
Waterproofing				
Drain Tile				
Concrete Floor & Poly				
Finish Grading (LAG)				

**Note:** Photographs must be submitted with Floodproof inspection report.  
 Engineer and/or Architect must complete all inspections listed above.  
 Building Codes must complete inspections of footings, sewer line, sewer valve, and joist blocking in addition to other routine construction inspections.

### CERTIFICATION

I certify that the above-referenced inspections have been completed by me or under my direct supervision and the construction activities were verified to meet federal, state and local requirements.

\_\_\_\_\_

**Print Name**
**Signature**
**MN License #**
**Date**

(Engineer/Architect)

# Section 6

# Property Flood Survey Form (as-built)

Parcel-ID: \_\_\_\_\_

Property Address: \_\_\_\_\_

Subdivision\Legal Description: \_\_\_\_\_

Longitude: \_\_\_\_\_ Latitude: \_\_\_\_\_

Is this property in or touched by the Special Flood Hazard Area (SFHA) as shown on the Flood Insurance Rate Map (FIRM)  Yes  No

Community/Panel Number: \_\_\_\_\_ Effective Date: \_\_\_\_\_ FIS Cross-section: \_\_\_\_\_

Flood Zone(S): \_\_\_\_\_

LOMA/LOMR Submitted:  Yes  No Date Submitted: \_\_\_\_\_

LOMA/LOMR Received:  Yes  No Date Received: \_\_\_\_\_  Approved  Denied FEMA Case Number: \_\_\_\_\_

Year Constructed: \_\_\_\_\_

Type of Structure: \_\_\_\_\_ FEMA Elevation Certificate Building Diagram Number: \_\_\_\_\_

Benchmark Used (NAVD88): \_\_\_\_\_

Base Flood Elevation (BFE): \_\_\_\_\_. \_\_\_\_ ft.

Floodproofing Design Level (FDL): \_\_\_\_\_. \_\_\_\_ ft. or Regulatory Flood Protection Elevation (RFPE): \_\_\_\_\_. \_\_\_\_ ft.

Basement Information:

Floodproof Basement:  Yes  No

Walk-out Basement:  Yes  No Elevation: \_\_\_\_\_. \_\_\_\_ ft.

Basement Floor or Crawlspace Elevation: \_\_\_\_\_. \_\_\_\_ ft. Square Feet: \_\_\_\_\_

Basement Equipment: \_\_\_\_\_

Main Floor Elevation: \_\_\_\_\_. \_\_\_\_ ft. Square Feet: \_\_\_\_\_

Garage Floor Elevation: \_\_\_\_\_. \_\_\_\_ ft. Square Feet: \_\_\_\_\_ Attached Garage:  Yes  No

Lowest Opening: \_\_\_\_\_. \_\_\_\_ ft.

Lowest Ground on Lot: \_\_\_\_\_. \_\_\_\_ ft.

Lowest Adjacent Grade: \_\_\_\_\_. \_\_\_\_ ft. Highest Adjacent Grade: \_\_\_\_\_. \_\_\_\_ ft. Ground 15' from Building: \_\_\_\_\_. \_\_\_\_ ft.

Deck Stairs Elevation: \_\_\_\_\_. \_\_\_\_ ft. Attached to House  Yes  No

Top of Private Dike: \_\_\_\_\_. \_\_\_\_ ft.

Survey Date: \_\_\_\_\_

## Survey

Signature: \_\_\_\_\_ MN License# \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

# **Section 7**

# 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				Policy Number:	
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.				Company NAIC Number:	
City		State		ZIP Code	
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.)					
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) _____					
A5. Latitude/Longitude: Lat. _____ Long. _____ Horizontal Datum: <input type="checkbox"/> NAD 1927 <input 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 _____					
A8. For a building with a crawlspace or enclosure(s):					
a) Square footage of crawlspace or enclosure(s) _____ sq ft					
b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade _____					
c) Total net area of flood openings in A8.b _____ sq in					
d) Engineered flood openings? <input type="checkbox"/> Yes <input type="checkbox"/> 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 _____					
c) Total net area of flood openings in A9.b _____ sq in					
d) Engineered flood openings? <input type="checkbox"/> Yes <input type="checkbox"/> No					
SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION					
B1. NFIP Community Name & Community Number			B2. County Name		B3. State
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)
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 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 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 type="checkbox"/> No Designation Date: _____ <input type="checkbox"/> CBRS <input type="checkbox"/> OPA					

# ELEVATION CERTIFICATE

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

<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.	Policy Number:
City <span style="float:right">State <span style="float:right">ZIP Code</span></span>	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: \_\_\_\_\_ Vertical Datum: \_\_\_\_\_

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) _____ . _____   | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| b) Top of the next higher floor _____ . _____   | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| c) Bottom of the lowest horizontal structural member (V Zones only) _____ . _____   | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| d) Attached garage (top of slab) _____ . _____  | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| e) Lowest elevation of machinery or equipment servicing the building<br>(Describe type of equipment and location in Comments) _____ . _____ | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| f) Lowest adjacent (finished) grade next to building (LAG) _____ . _____  | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| g) Highest adjacent (finished) grade next to building (HAG) _____ . _____   | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support _____ . _____                                  | <input 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	License Number	
Title		
Company Name		
Address		
City <span style="float:right">State <span style="float:right">ZIP Code</span></span>		
Signature	Date <span style="float:right">Telephone</span>	

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)

# ELEVATION CERTIFICATE

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

<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.			Policy Number:
City	State	ZIP Code	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.



# ELEVATION CERTIFICATE

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

<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.			Policy Number:
City	State	ZIP Code	Company NAIC Number

## 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 (including type of equipment and location, per C2(e), if applicable)

Check here if attachments.

# BUILDING PHOTOGRAPHS

See Instructions for Item A6.

OMB No. 1660-0008

Expiration Date: November 30, 2018

## ELEVATION CERTIFICATE

<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.	Policy Number:
City State ZIP Code	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

Photo Two

Photo Two Caption

# BUILDING PHOTOGRAPHS

Continuation Page

OMB No. 1660-0008

Expiration Date: November 30, 2018

## ELEVATION CERTIFICATE

<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.			Policy Number:
City	State	ZIP Code	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 One

Photo One Caption

Photo Two

Photo Two Caption

# **Section 8**

# RESIDENTIAL BASEMENT FLOODPROOFING CERTIFICATE

OMB No. 1660-0033  
 Expiration Date: November 30, 2016

For use ONLY in communities that have been granted an exception by FEMA to allow the construction of floodproofed residential basements in Special Flood Hazard Areas.

BUILDING OWNER'S NAME	<b>FOR INSURANCE COMPANY USE</b>	
STREET ADDRESS <i>(Including Apt., Unit Number)</i>		
OTHER DESCRIPTION <i>(Lot and Block Numbers, etc.)</i>		
CITY	STATE	ZIP CODE

## SECTION I – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the FIRM and flood profile (from Flood Insurance Study)

COMMUNITY NUMBER	PANEL NUMBER	SUFFIX	DATE OF FIRM	ZONE	BASE FLOOD ELEVATION <small>(In AO Zones, Use Depth)</small>	NAME OF FLOODING SOURCE(S) AFFECTING BUILDING

Indicate elevation datum used for Base Flood Elevation shown above:  NGVD 1929  NAVD 1988  Other/Source: \_\_\_\_\_

## SECTION II – FLOODPROOFING INFORMATION (By a Registered Professional Engineer or Architect)

Elevations are based on:  Construction Drawings  Building Under Construction  Finished Construction

### Floodproofing Design Elevation Information for Zones A1-30, AE, AH, AO:

Building is floodproofed to an elevation of \_\_\_\_ . \_\_\_\_ feet. (In Puerto Rico only: \_\_\_\_ . \_\_\_\_ meters)  
 (Elevation datum used must be the same as that on the FIRM.)

Elevation of the top of the basement floor is \_\_\_\_ . \_\_\_\_ feet. (In Puerto Rico only: \_\_\_\_ . \_\_\_\_ meters)

Lowest adjacent (finished) grade next to the building (LAG): \_\_\_\_ . \_\_\_\_ feet (In Puerto Rico only: \_\_\_\_ . \_\_\_\_ meters)

Highest adjacent (finished) grade next to the building (HAG): \_\_\_\_ . \_\_\_\_ feet (In Puerto Rico only: \_\_\_\_ . \_\_\_\_ meters)

Indicate elevation datum used for Section II:  NGVD 1929  NAVD 1988  Other/Source: \_\_\_\_\_

(NOTE: For insurance rating purposes, the building's floodproofed design elevation must be at least 1 foot above the Base Flood Elevation to receive rating credit. If the building is floodproofed only to the Base Flood Elevation, then the building's insurance rating will result in a higher premium.)

## SECTION III – CERTIFICATION (By a Registered Professional Engineer or Architect)

### Residential Floodproofed Basement Construction Certification:

*I certify that, based upon development and/or review of structural design specifications, and plans for construction, including consideration of the depth, velocity, and duration of flooding and the type and permeability of soils at the site, the design and methods of construction of the floodproofed basement to be used are in accordance with accepted standards of practice for meeting the following provisions:*

- Basement area, together with attendant utilities and sanitary facilities, is watertight to the floodproofing design elevation with walls that are impermeable to the passage of water without human intervention; and
- Basement walls and floor are capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy resulting from flooding to the floodproofing design elevation; and have been designed so that minimal damage will occur from floods that exceed the floodproofing design elevation; and
- Building design, including the floodproofing design elevation, complies with community requirements.

*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.*

CERTIFIER'S NAME	LICENSE NUMBER <i>(or Affix Seal)</i>		
TITLE	COMPANY NAME		
ADDRESS	CITY	STATE	ZIP
SIGNATURE	PHONE NO.	DATE	

Copies of this certificate must be given to: 1) the community official; 2) the insurance agent; and 3) the building owner.

## RESIDENTIAL BASEMENT FLOODPROOFING CERTIFICATE

FEMA Form 086-0-24

### Paperwork Reduction Act Notice

#### GENERAL

This information is provided pursuant to Public Law 96-511 (the Paperwork Reduction Act of 1980, as amended), dated December 11, 1980, to allow the public to participate more fully and meaningfully in the Federal paperwork review process.

#### AUTHORITY

Public Law 96-511, amended; 44 U.S.C. 3507; and 5 CFR 1320.

#### PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 3.25 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and submitting the form. This collection of information is required to obtain or retain benefits. You are not required to respond to this collection of information unless a valid OMB control number is displayed in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing the burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington VA 20598-3005, Paperwork Reduction Project (1660-0033).

**NOTE: Do not send your completed form to this address.**

### Privacy Act Statement

#### AUTHORITY

Title 44 CFR § 61.7 and 61.8.

#### PRINCIPAL PURPOSE(S)

This information is being collected for the primary purpose of estimate the risk premium rates necessary to provide flood insurance for new or substantially improved structures in designated Special Flood Hazard Areas.

#### ROUTINE USE(S)

The information on this form may be disclosed as generally permitted under 5 U.S.C. § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA-003 – National Flood Insurance Program Files System or Records Notice 73 Fed. Reg. 77747 (December 19, 2008); DHS/FEMA/NFIP/LOMA-1 – National Flood Insurance Program (NFIP) Letter of Map Amendment (LOMA) System of Records Notice 71 Fed. Reg. 7990 (February 15, 2006); and upon written request, written consent, by agreement, or as required by law.

#### DISCLOSURE

The disclosure of information on this form is voluntary; however, failure to provide the information requested may result in the inability to obtain flood insurance through the National Flood Insurance Program or may be subject to higher premium rates for flood insurance. Information will only be released as permitted by law.