

Building a House in the Floodplain

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Helena Regional Engineer
Montana DNRC

Learning Objectives

- Learn some of the terms associated with floodplain permitting and insurance
- Learn some of building requirements associated with constructing a residential structure in the floodplain.
- Identifying common mistakes found in elevation certificates and floodplain applications
- Helping those involved in the process be aware of the increased cost associated with residential structures in the floodplain.

This Presentation Does not Address:

- Other permits associated with residential construction.
- Methods to develop or determine Base Flood Elevations.
- Encroachment and stability analyses that may be required for a floodplain permit.
- Substantial Improvements or modifications to an existing structure.
- Any higher standards or other requirements specific to a community.

Model Ordinance

- Every Community participating in the NFIP program has a set of floodplain ordinances.
- The 2014 Model Regulations are a compilation of requirements in the Code of Federal Regulations (CFRs), the Montana Code Annotated (MCAs), the Montana Administrative Rules (ARMs), and the FEMA National Flood Insurance Manual.
- Requirements in this presentation are based on criteria outlined in the 2014 Model Regulations

Model Regulations Feb 20 2014.doc

2014 MODEL REGULATIONS

September 3, 2013
Revision February 20, 2014

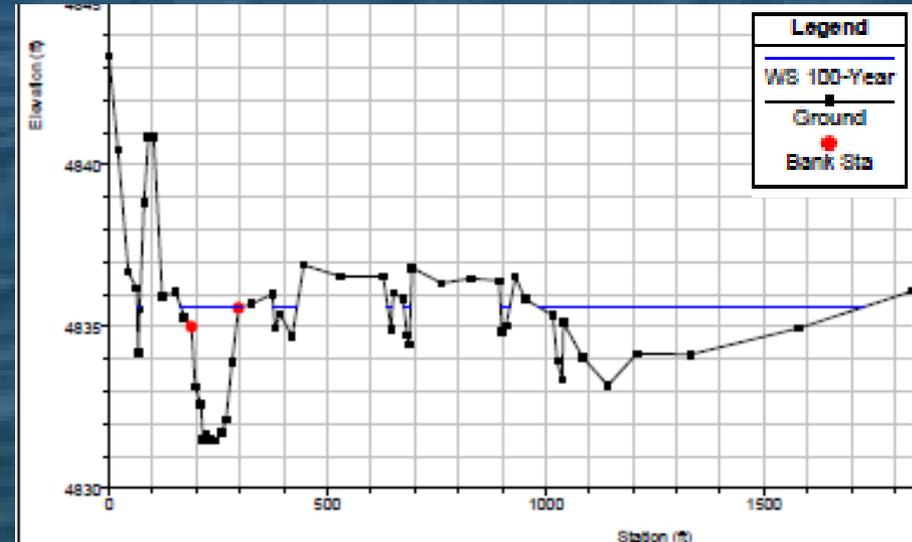
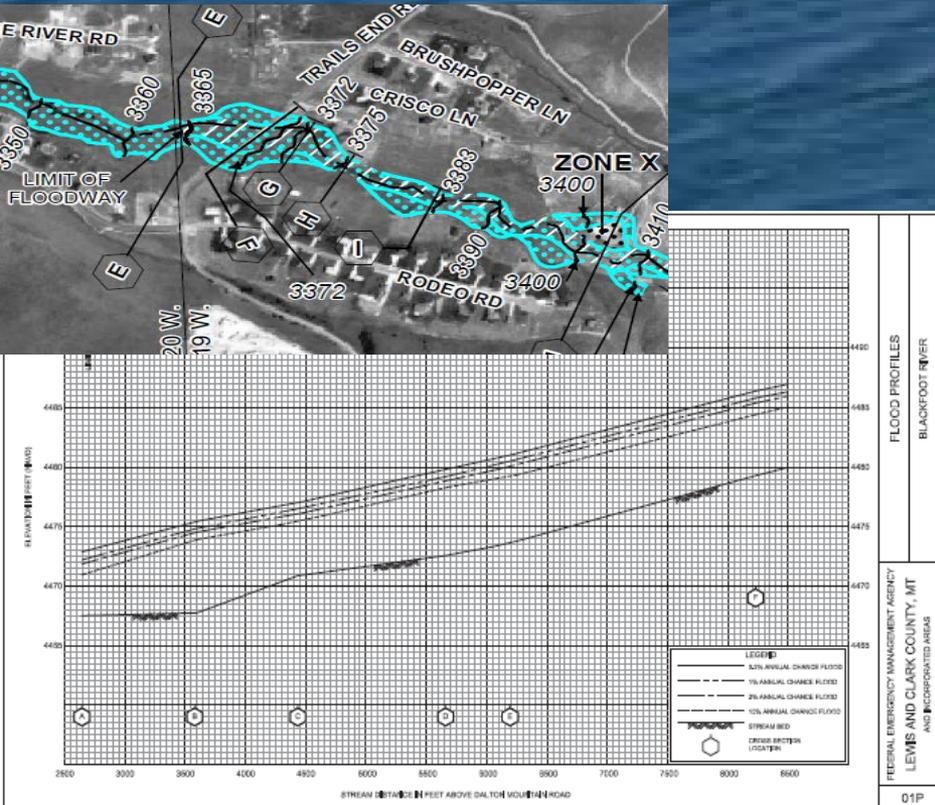
FLOODPLAIN HAZARD MANAGEMENT REGULATIONS

MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
WATER RESOURCES DIVISION
1424 9TH Avenue
P.O. Box 201601
Helena, Montana 59620-1601

<http://www.mtfloodplain.mt.gov>

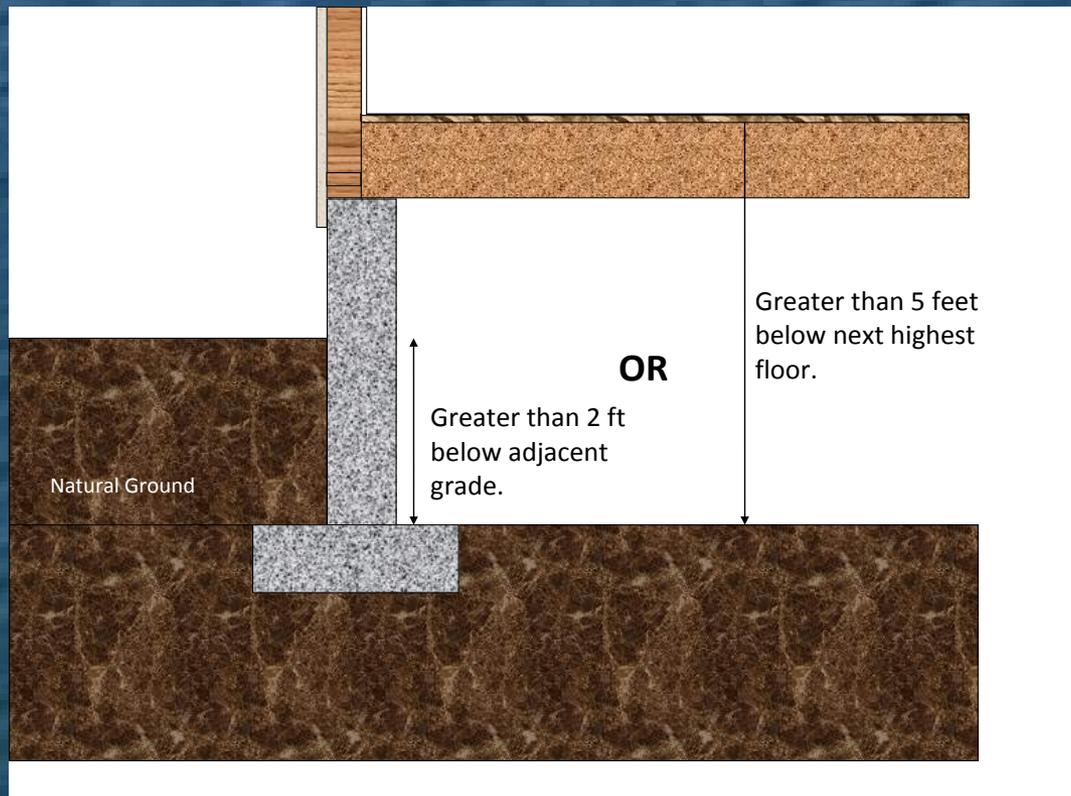
Definitions

Base Flood Elevation (BFE)- The elevation above sea level of the Base Flood in relation to the National Geodetic Vertical Datum of 1929 or the North American Vertical Datum or 1988 or unless otherwise specified. (ARM 36.15.101 (5))



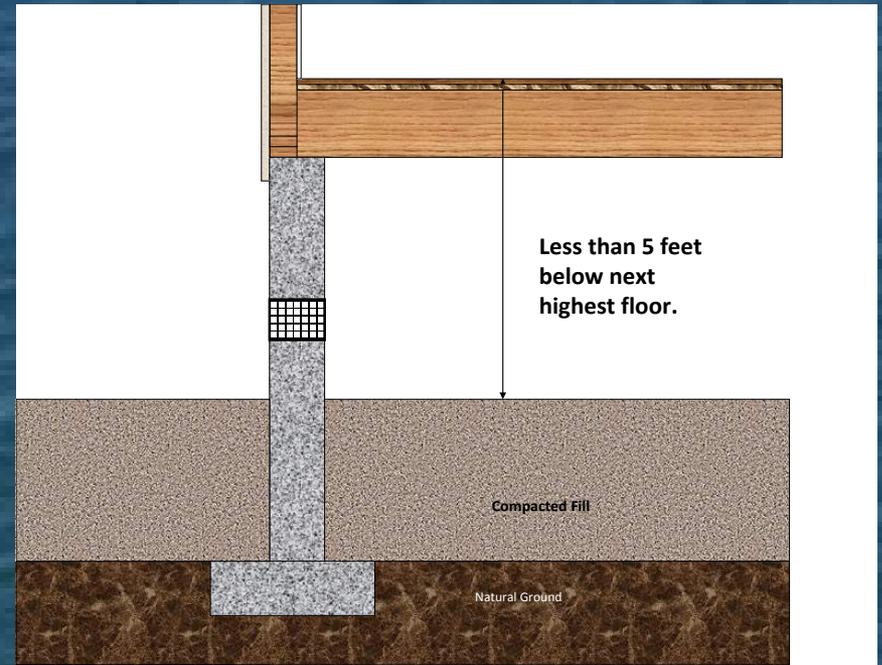
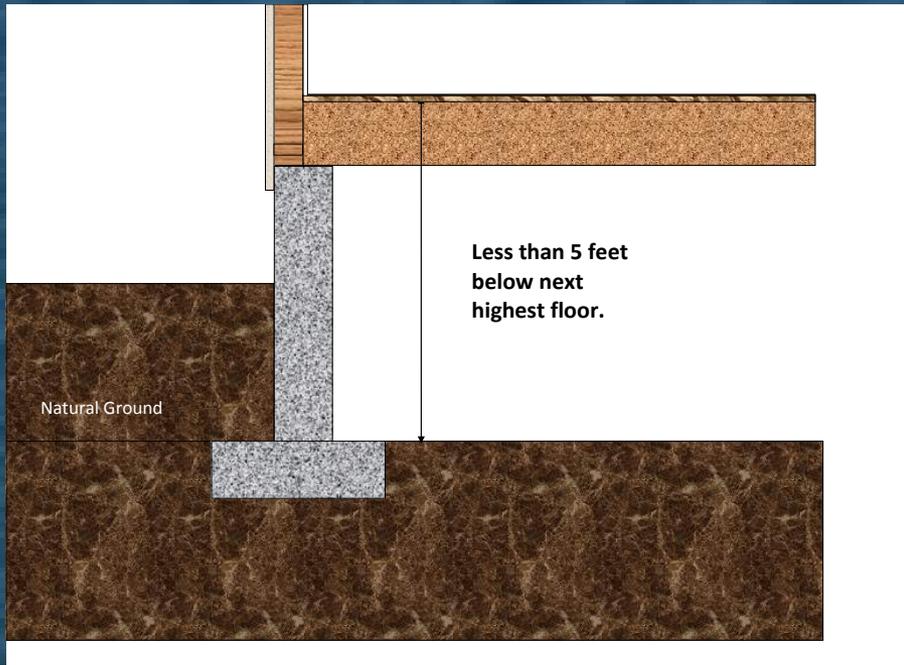
Definitions

Basement- Any area of a building, except a crawl space, as having its Lowest floor below ground level on all sides. (44 CFR 59.1) (NFIP Insurance Manual, Rev. May 2013)



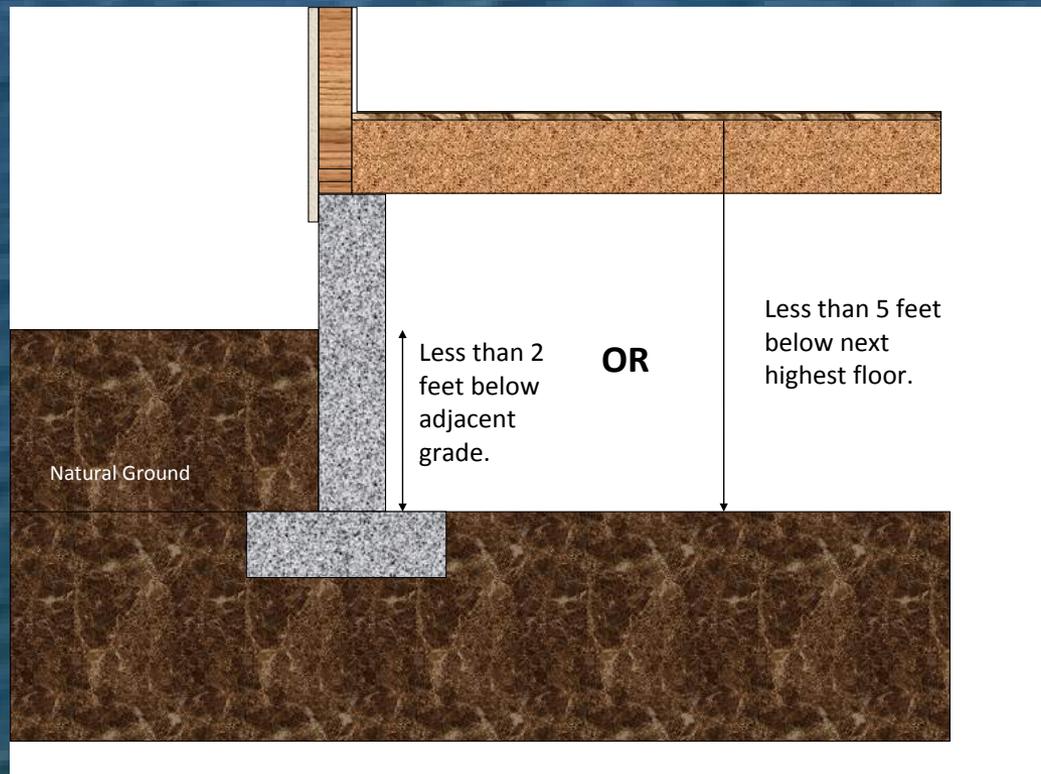
Definitions

Crawl Space- An enclosure that has its interior floor area no more than 5 feet below the top of the next highest floor. (NFIP Insurance Manual, Rev. May 2013)



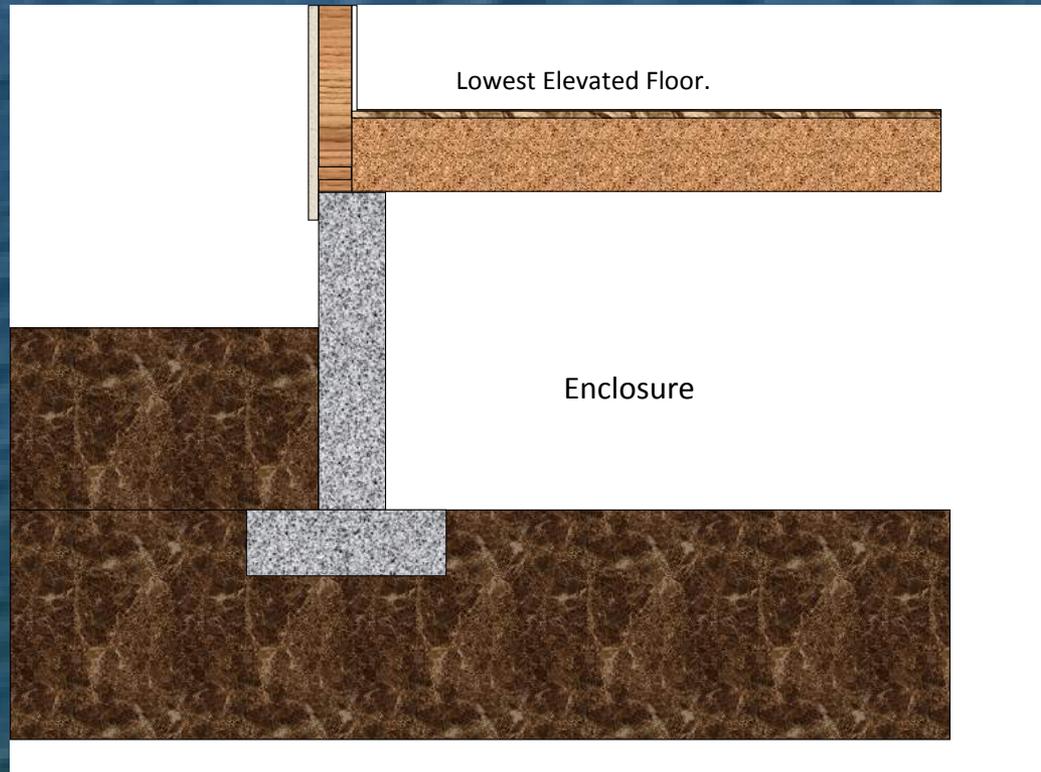
Definitions

Sub grade Crawlspace- A Crawlspace foundation enclosure that has its interior floor no more than 5 feet below the top of the next higher floor and no more than 2 feet below the lowest adjacent grade on all sides. A foundation exceeding either dimension is a Basement. (NFIP Insurance Manual, Rev. May 2013)



Definitions

Enclosure- That portion below the lowest elevated floor of an elevated building that is either partially or fully shut in by rigid walls including a crawlspace, sub grade crawlspace, stairwell, elevator or a garage below or attached.



Definitions

Flood Proofing- Any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, electrical, plumbing, HVAC systems, structures and their contents. The term includes wet flood proofing, dry flood proofing and elevation of structures. ((44 CFR 59.1).

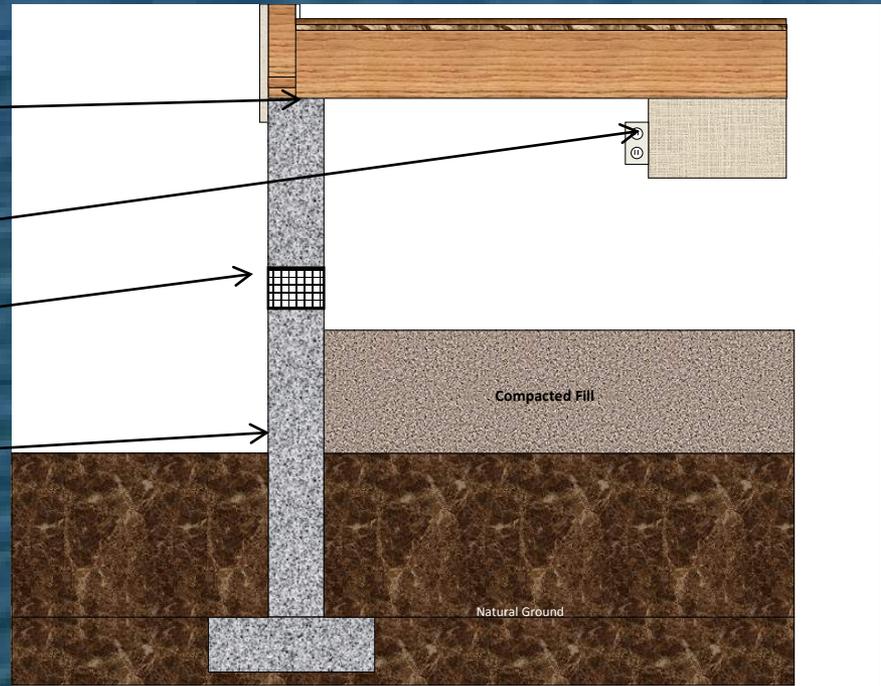
➤ Regulations do not allow the Dry Flood Proofing of residential structures so this presentation focuses on Wet Flood Proofing.

Flood Resistant
Materials

Location of Electrical,
Plumbing, HVAC

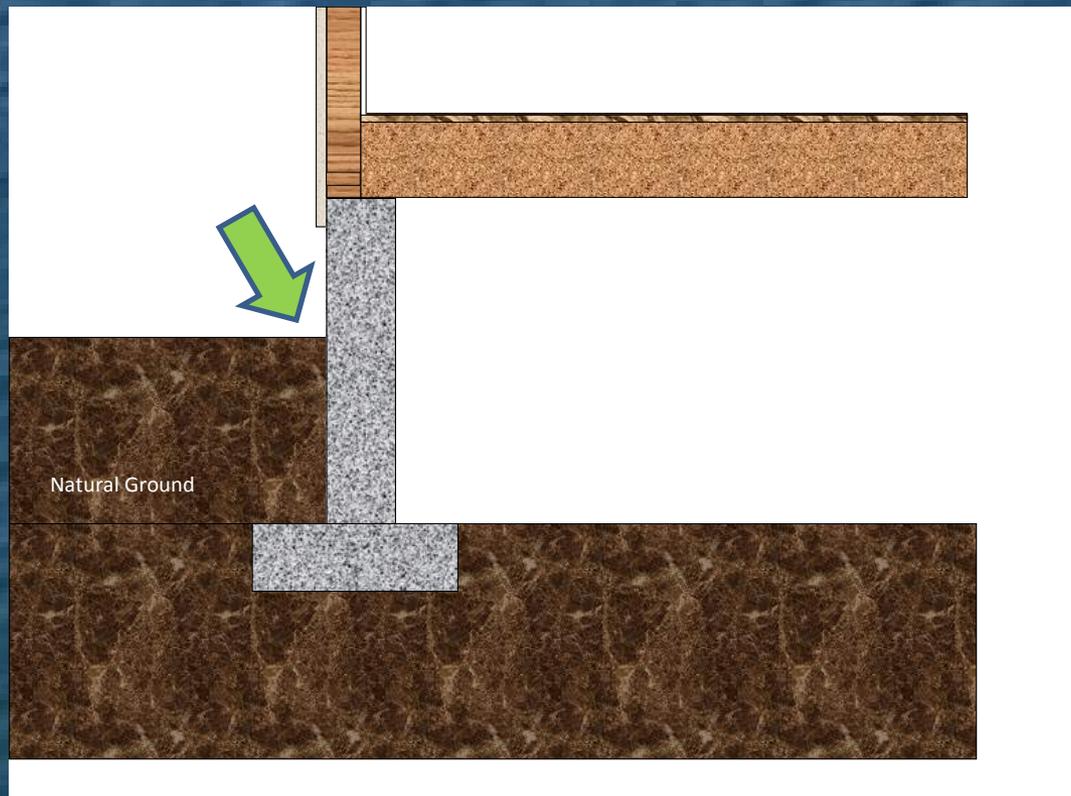
Flood Vents

Elevating Structure



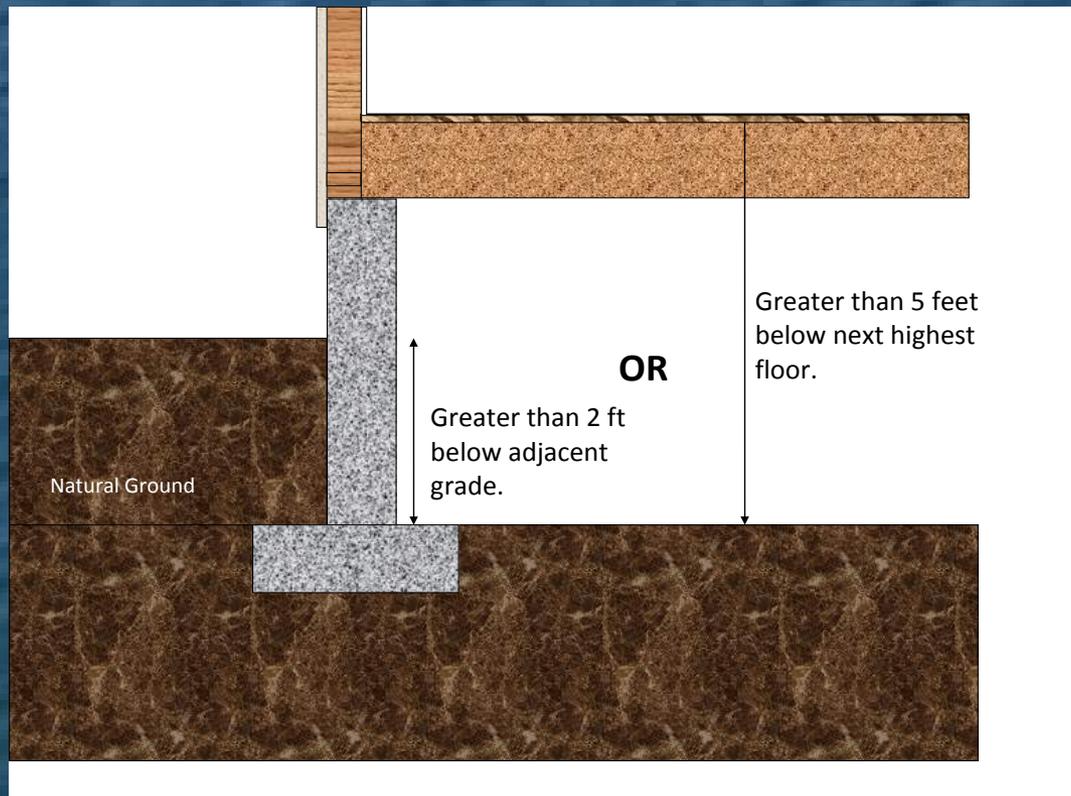
Definitions

Lowest Adjacent Grade (LAG)- The lowest elevation of the ground, sidewalk, or patio slab immediately next to the building.
(FEMA Elevation Certificate Instructions)



Definitions

Lowest Floor- Any floor of a building including a basement used for living purposes, storage, or recreation. This includes any floor that could be converted to such a use. ((ARM 36.15.101 (14), (44 CFR 59.1))



Examples

The floodplain permitting requirements in the following examples are based on requirements in:

➤ **The 2014 Model Regulations**

http://dnrc.mt.gov/wrd/water_op/floodplain/

➤ **Technical Bulletin 7-93,
Wet Floodproofing Requirements**

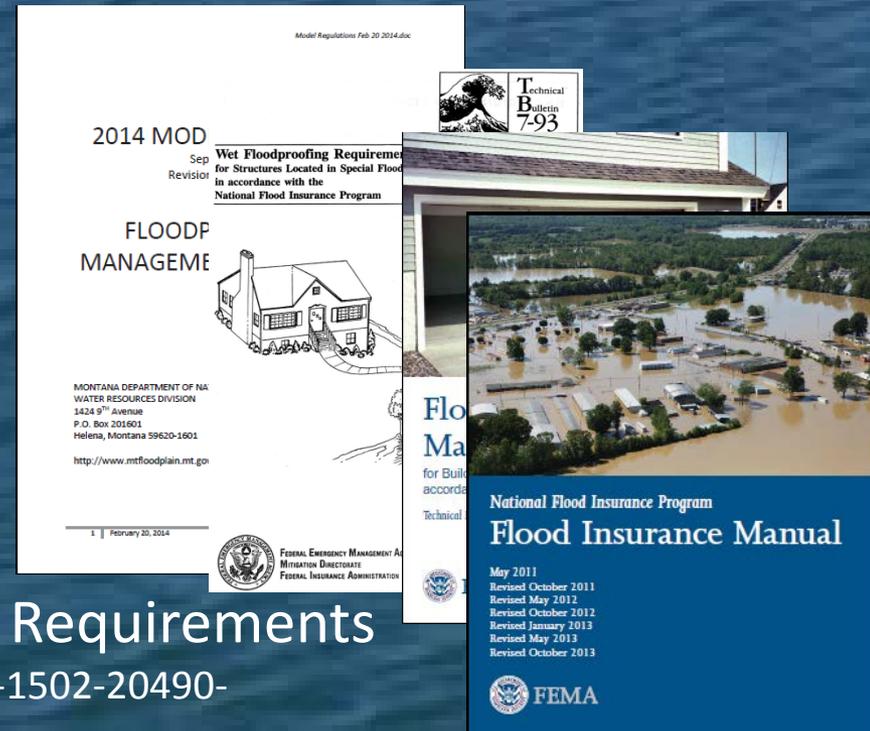
http://www.fema.gov/media-library-data/20130726-1511-20490-8042/tb_7_complete_scan.pdf

➤ **Technical Bulletin 2,
Flood Damage- Resistant Materials Requirements**

http://www.fema.gov/media-library-data/20130726-1502-20490-4764/fema_tb_2_rev1.pdf

➤ **Flood Insurance Manual**

<http://www.fema.gov/media-library/assets/documents/34745>



Elevation Certificate

http://www.fema.gov/media-library-data/20130726-1437-20490-0725/f_053_elevcertif_30nov12_fillable.pdf

- Documents information needed for Floodplain Permit Application.
- Needs to be certified by a registered surveyor, engineer, or architect.
- Elevation information is based on survey data.
- All applicable sections of the elevation certificate need to be completed.

This presentation focuses on only specific sections of the elevation certificate:

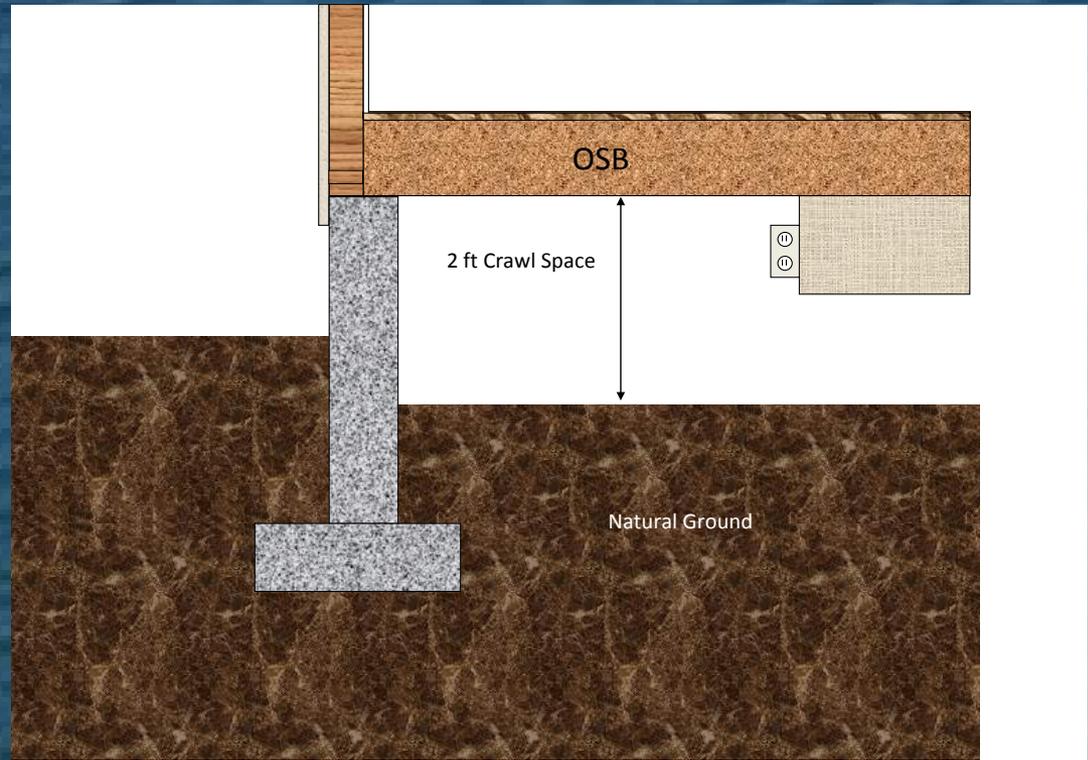
U.S. DEPARTMENT OF HOMELAND SECURITY FEDERAL EMERGENCY MANAGEMENT AGENCY National Flood Insurance Program		ELEVATION CERTIFICATE IMPORTANT: Follow the Instructions on pages 1-9.		OMB No. 1660-0008 Expiration Date: July 31, 2015	
SECTION A – PROPERTY INFORMATION				FOR INSURANCE COMPANY USE	
A1. Building 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					
SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)					
C1. Building elevations are based on: <input type="checkbox"/> Construction Drawings* <input type="checkbox"/> Building Under Construction* <input type="checkbox"/> 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-V2, 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. <input type="checkbox"/> NGVD 1929 <input type="checkbox"/> NAVD 1988 <input type="checkbox"/> Other/Source: _____ Datum used for building elevations must be the same as that used for the BFE.					
a) Top of bottom floor (including basement, crawlspace, or enclosure floor) _____ b) Top of the next higher floor _____ c) Bottom of the lowest horizontal structural member (V Zones only) _____ d) Attached garage (top of slab) _____ e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) _____ f) Lowest adjacent (finished) grade next to building (LAG) _____ g) Highest adjacent (finished) grade next to building (HAG) _____ h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support _____				Check the measurement used. <input type="checkbox"/> feet <input type="checkbox"/> meters <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.					
<input type="checkbox"/> Check here if comments are provided on back of form.			Were latitude and longitude in Section A provided by a licensed land surveyor? <input type="checkbox"/> Yes <input type="checkbox"/> No		
<input type="checkbox"/> Check here if attachments.					
Certifier's Name		License Number			
Title	Company Name				
Address	City	State	ZIP Code		
Signature	Date	Telephone			
PLACE SEAL HERE					

Bob's New House

Bob's House – Two level house with a crawlspace, 1,500 sf foot print.

Realtor informed him the property is located in the flood fringe of a detailed study area.

Bob hires a surveyor and begins putting together the required documents.

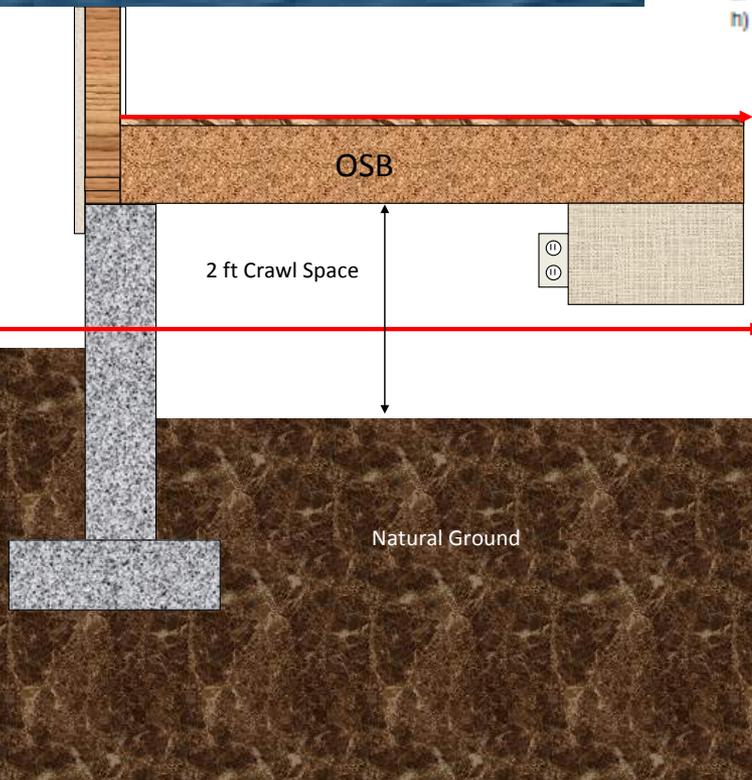


- A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) _____
- A5. Latitude/Longitude: Lat. _____ Long. _____
- A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain _____
- A7. Building Diagram Number **9** _____
- A8. For a building 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 ft
 - d) Engineered flood openings? Yes No

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Community Number		B2. County Name		B3. State	
B4. FIRM Index Date	B7. FIRM Panel Effective/ Revised Date	B8. Flood Zone(s)	B9. Base Flood Elevation(s) (Zone AO, use base flood depth)		

BF E



SECTION C - BUILDING ELEVATION INFORMATION (SURV

- C1. Building elevations are based on: Construction Drawings* Building Under 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/A3
 C2.a-h below according to the building diagram specified in item A7. In Puerto Rico only, enter metric
 Benchmark Utilized: _____ Vertical Datum: _____
- Indicate elevation datum used for the elevations in Items a) through h) below. NGVD 1929 M
 Datum used for building elevations must be the same as that used for the BFE.
- a) Top of bottom floor (including basement, crawlspace, or enclosure floor) **BF E + 2** _____
 - b) Top of the next higher floor _____
 - c) Bottom of the lowest horizontal structural member (V Zones only) _____
 - d) Attached garage (top of slab) _____
 - e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) _____
 - f) Lowest adjacent (finished) grade next to building (LAG) _____
 - g) Highest adjacent (finished) grade next to building (HAG) _____
 - h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support _____

Revised 2/14/17 (10/16/12) Please refer to Amendment 100 www.dnr.mt.gov/conservation/section-100	AGENCY USE ONLY: Application # _____ Date Received _____ Date Accepted _____/_____/____ Initials _____ Date Forwarded to DFWP _____
This space is for all Department of Transportation and SPA 134 permit (government) projects Project Name _____ Contract Number _____ Contract letting date _____ MIPANDA Compliance <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, #14 of this application does not apply	

JOINT APPLICATION FOR PROPOSED WORK IN MONTANA'S STREAMS, WETLANDS, FLOODPLAINS, AND OTHER WATER BODIES

Use this form to apply for one or all local, state, or federal permits listed below. The applicant is the responsible party for the project and the point of contact unless otherwise designated. "Information for Applicant" includes agency contacts and instructions for completing this application. To avoid delays, submit all required information, including a project site map and drawings. Incomplete applications will result in the delay of the application process. Order laws may apply.

The applicant is responsible for obtaining all necessary permits and landowner permission before beginning work.

PERMIT	AGENCY	FEE
<input checked="" type="checkbox"/> 110 Permit	Local Conservation District	No fee
<input type="checkbox"/> SPA 124 Permit	Department of Fish, Wildlife and Parks	No fee
<input type="checkbox"/> Floodplain Permit	Local Floodplain Administrator	Varies by city/county (\$25 - \$500)
<input type="checkbox"/> Section 404 Permit Section 10 Permit	U. S. Army Corps of Engineers	Varies (\$5 - \$100)
<input type="checkbox"/> 118 Authorization	Department of Environmental Quality	\$250 (\$18)
<input type="checkbox"/> 401 Certification	Department of Environmental Quality	\$800 - \$20,000 (401)
<input type="checkbox"/> Navigable Rivers Land Use License or Easement	Department of Natural Resources and Conservation, Trust Lands Management Division	License \$25, Easement \$50, plus annual fee

A. APPLICANT INFORMATION

NAME OF APPLICANT (person responsible for project): _____
 Has the landowner consented to this project? Yes No
 Mailing Address: _____
 Physical Address: _____ E-Mail: _____
 Day Phone: _____ Evening Phone: _____

NAME OF LANDOWNER (if different from applicant): _____
 Mailing Address: _____
 Physical Address: _____ E-Mail: _____
 Day Phone: _____ Evening Phone: _____

NAME OF CONTRACTOR/AGENT (if one is used): _____
 Mailing Address: _____
 Physical Address: _____ E-Mail: _____
 Day Phone: _____ Evening Phone: _____

B. PROJECT SITE INFORMATION

NAME OF STREAM or WATER BODY at project location _____ Nearest Town _____
 Address/Location: _____ Geocode (if available): _____
 1/4 _____ 1/4 _____ Section _____ Township _____ Range _____ County _____
 Longitude _____ Latitude _____

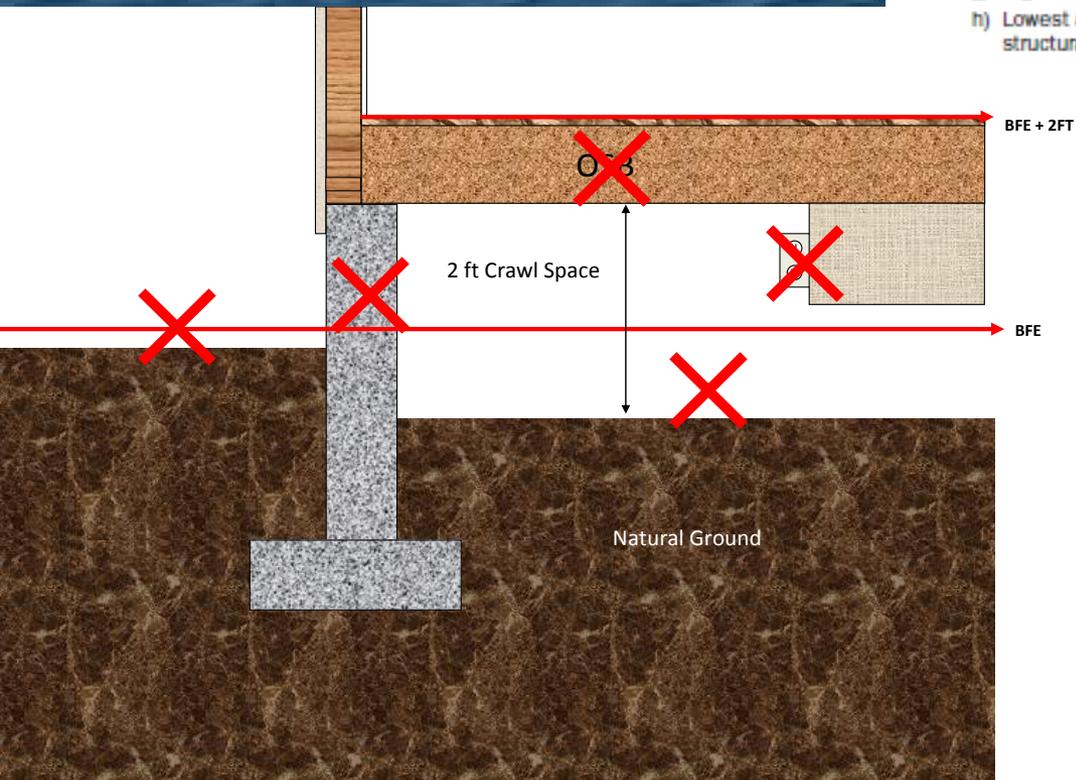
The state owns the beds of certain state navigable waterways. Is this a state navigable waterway? Yes or No.
 If yes, send copy of this application to appropriate DNR land office - see Information for Applicant. Yes No

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) _____
 A5. Latitude/Longitude: Lat. _____ Long. _____
 A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain _____
 A7. Building Diagram Number 9 _____
 A8. For a building with a crawspace or enclosure(s):
 a) Square footage of crawspace or enclosure(s) _____ sq ft
 b) Number of permanent flood openings in the crawspace or enclosure(s) within 1.0 foot above adjacent grade _____
 c) Total net area of flood openings in A8.b _____ sq ft
 d) Engineered flood openings? Yes No

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Community Number		B2. County Name		B3. State	
B5. FIRM Panel Effective/ Revised Date	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)	

BF E



SECTION C - BUILDING ELEVATION INFORMATION (SURV)

C1. Building elevations are based on: Construction Drawings* Building Under 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/A30
 C2.a-h below according to the building diagram specified in item A7. In Puerto Rico only, enter metric
 Benchmark Utilized: _____ Vertical Datum: _____
 Indicate elevation datum used for the elevations in Items a) through h) below. NGVD 1929 M
 Datum used for building elevations must be the same as that used for the BFE.
 a) Top of bottom floor (including basement, crawspace, or enclosure floor) _____ **BF E 2**
 b) Top of the next higher floor _____
 c) Bottom of the lowest horizontal structural member (V Zones only) _____
 d) Attached garage (top of slab) _____
 e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) _____
 f) Lowest adjacent (finished) grade next to building (LAG) _____
 g) Highest adjacent (finished) grade next to building (HAG) _____
 h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support _____

Revised 2/14/17 (310 form 120) Please see the disclaimer page: www.dnr.mt.gov/conservation/section-303	AGENCY USE ONLY: Application # _____ Date Received _____ Date Accepted _____/_____/_____ Initials _____ Date Forwarded to DFWP _____
This space is for all Department of Transportation and SPA 134 permit (government) projects Project Name _____ Contract Number _____ Contract letting date _____ MIPANDA Compliance <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, #14 of this application does not apply	

JOINT APPLICATION FOR PROPOSED WORK IN MONTANA'S STREAMS, WETLANDS, FLOODPLAINS, AND OTHER WATER BODIES

Use this form to apply for one or all local, state, or federal permits listed below. The applicant is the responsible party for the project and the point of contact unless otherwise designated. "Information for Applicant" includes agency contacts and instructions for completing this application. To avoid delays, submit all required information, including a project site map and drawings. Incomplete applications will result in the delay of the application process. Order laws may apply.

The applicant is responsible for obtaining all necessary permits and landowner permission before beginning work.

PERMIT	AGENCY	FEE
<input checked="" type="checkbox"/> 310 Permit	Local Conservation District	No fee
<input type="checkbox"/> SPA 124 Permit	Department of Fish, Wildlife and Parks	No fee
<input type="checkbox"/> Floodplain Permit	Local Floodplain Administrator	Varies by city/county (\$25 - \$500)
<input type="checkbox"/> Section 404 Permit Section 10 Permit	U. S. Army Corps of Engineers	Varies (\$5 - \$100)
<input type="checkbox"/> 318 Authorization	Department of Environmental Quality	\$250 (\$18)
<input type="checkbox"/> 401 Certification	Department of Environmental Quality	\$400 - \$20,000 (401)
<input type="checkbox"/> Navigable Rivers Land Use License or Easement	Department of Natural Resources and Conservation, Trust Lands Management Division	License \$25, Easement \$50, plus annual fee

A. APPLICANT INFORMATION

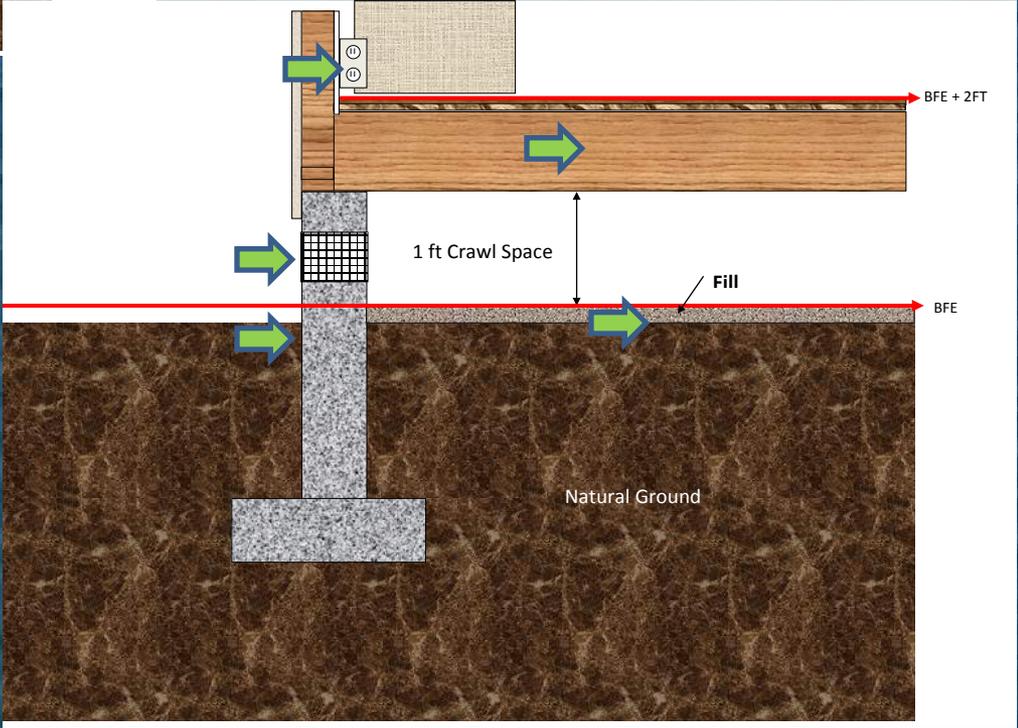
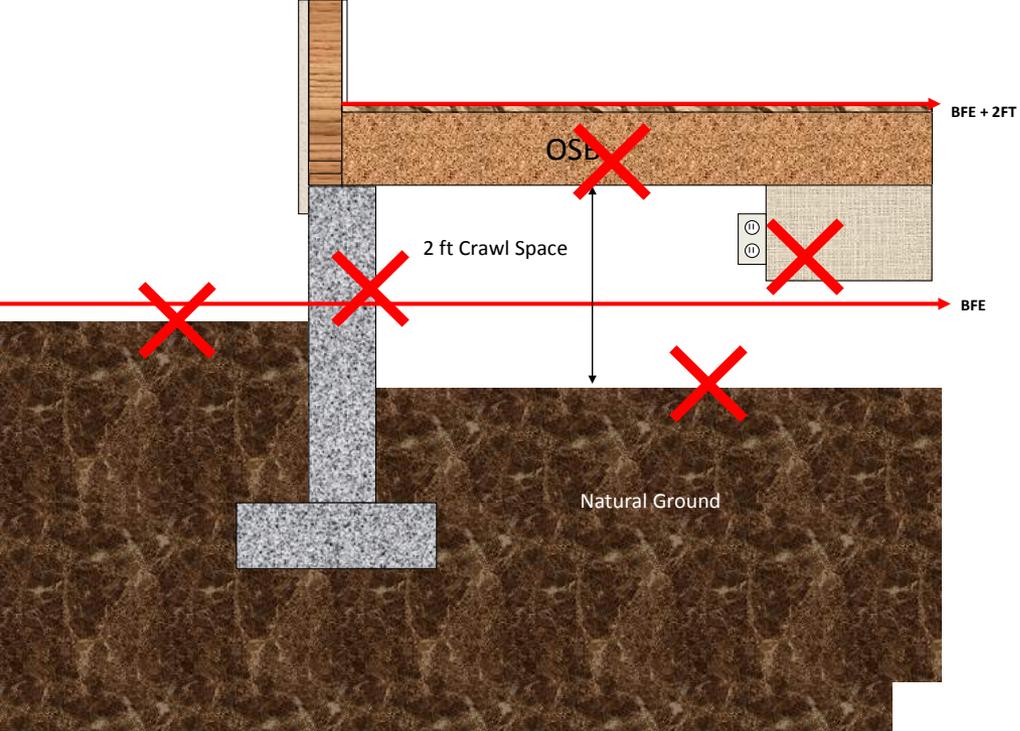
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 Day Phone: _____ Evening Phone: _____ E-Mail: _____
 NAME OF CONTRACTOR/AGENT (if one is used): _____
 Mailing Address: _____
 Physical Address: _____
 Day Phone: _____ Evening Phone: _____ E-Mail: _____

B. PROJECT SITE INFORMATION

NAME OF STREAM or WATER BODY at project location _____ Nearest Town _____
 Address/Location: _____ Geocode (if available): _____
 1/4 _____ 1/4 _____ 1/4, Section _____ Township _____ Range _____ County _____
 Longitude _____ Latitude _____

The state owns the beds of certain state navigable waterways. Is this a state navigable waterway? Yes or No.
 If yes, send copy of this application to appropriate DNR land office - see Information for Applicant. Yes No

Bob's New House



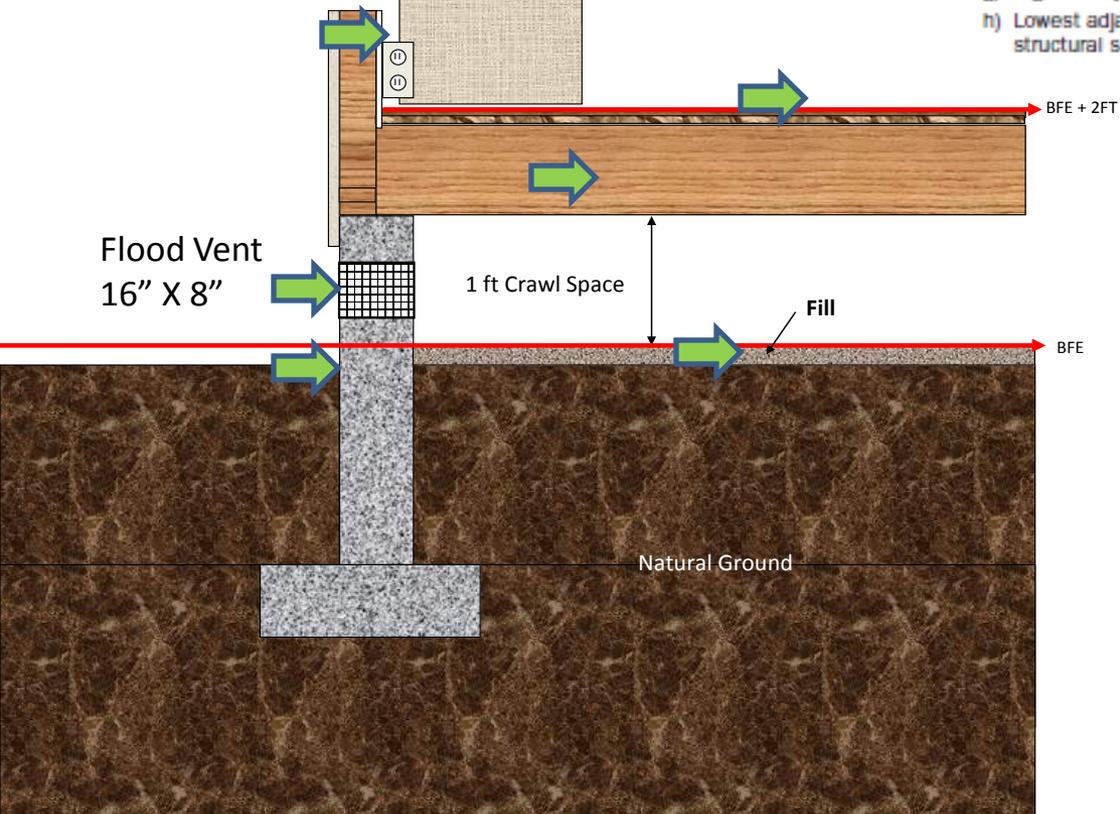
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) _____
 A5. Latitude/Longitude: Lat. _____ Long. _____
 A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain _____
 A7. Building Diagram Number 8
 A8. For a building with a crawspace or enclosure(s):
 a) Square footage of crawspace or enclosure(s) 1500 sq ft
 b) Number of permanent flood openings in the crawspace or enclosure(s) within 1.0 foot above adjacent grade 12
 c) Total net area of flood openings in A8.b 1536 sq in
 d) Engineered flood openings? Yes No

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Community Number _____ B2. County Name _____ B3. State _____

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) _____

BFE



SECTION C - BUILDING ELEVATION INFORMATION (SURV...

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 C2.a-h below according to the building diagram specified in item A7. In Puerto Rico only, enter metal
 Benchmark Utilized: _____ Vertical Datum: _____

Indicate elevation datum used for the elevations in items a) through h) below. NGVD 1929 M
 Datum used for building elevations must be the same as that used for the BFE.

a) Top of bottom floor (including basement, crawspace, or enclosure floor) BFE
 b) Top of the next higher floor BFE + 2
 c) Bottom of the lowest horizontal structural member (V Zones only) _____
 d) Attached garage (top of slab) BFE + 2
 e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) BFE - 0.2
 f) Lowest adjacent (finished) grade next to building (LAG) _____
 g) Highest adjacent (finished) grade next to building (HAG) _____
 h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support _____

Revised 2/14/12 (310 firm 12/0)
 (You may file Antiquities) Form _____
www.dnr.mt.gov/conservation/submit

AGENCY USE ONLY: Application # _____ Date Received _____
 Date Accepted _____ Date Forwarded to DFWP _____
 Initials _____

This space is for all Department of Transportation and SPA 134 permit (government) projects
 Project Name _____
 Contract Number _____ Contract letting date _____
 MIPANDA Compliance Yes No If yes, #14 of this application does not apply

JOINT APPLICATION FOR PROPOSED WORK IN MONTANA'S STREAMS, WETLANDS, FLOODPLAINS, AND OTHER WATER BODIES

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<input type="checkbox"/> Floodplain Permit	Local Floodplain Administrator	Varies by city/county (\$25 - \$500)
<input type="checkbox"/> Section 404 Permit Section 10 Permit	U. S. Army Corps of Engineers	Varies (\$5 - \$100)
<input type="checkbox"/> 316 Authorization	Department of Environmental Quality	\$250 (\$18)
<input type="checkbox"/> 401 Certification	Department of Environmental Quality	\$800 - \$20,000 (401)
<input type="checkbox"/> Navigable Rivers Land Use License or Easement	Department of Natural Resources and Conservation, Trust Lands Management Division	License \$25, Easement \$50, plus annual fee

A. APPLICANT INFORMATION

NAME OF APPLICANT (person responsible for project): _____
 Is the applicant a contractor? Yes No
 Is the applicant a governmental entity? Yes No
 Physical Address: _____
 Day Phone: _____ Evening Phone: _____ E-Mail: _____
 Physical Address: _____
 Day Phone: _____ Evening Phone: _____ E-Mail: _____

B. PROJECT SITE INFORMATION

NAME OF STREAM or WATER BODY at project location: _____ Nearest Town: _____
 Address/Location: _____ Geocode (if available): _____
 1/4 _____ 1/4 _____ 1/4, Section _____ Township _____ Range _____ County _____
 Longitude _____ Latitude _____

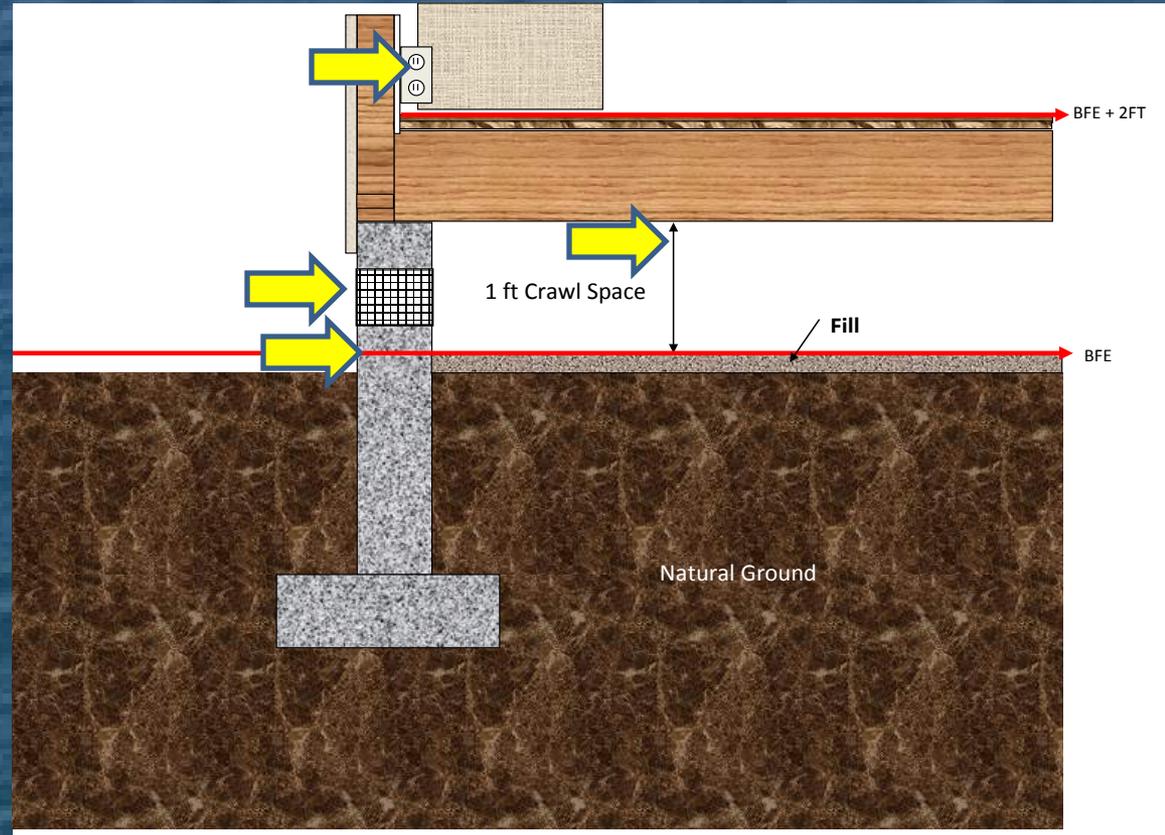
The state owns the beds of certain state navigable waterways. Is this a state navigable waterway? Yes or No
 If yes, send copy of this application to appropriate DNR land office - see Information for Applicant.

Building materials meet flood proofing requirements

Other Things to Consider:

Bob's New House

- Having a survey performed before and after construction.
- Having electrical, plumbing, and HVAC components in your living space.
- Cost of floodproofing components.
- Working in a 1 foot crawlspace.
- Cannot obtain a LOMA.
- The final Elevation Certificate can be used for your insurance rating determination.



Jack's New House

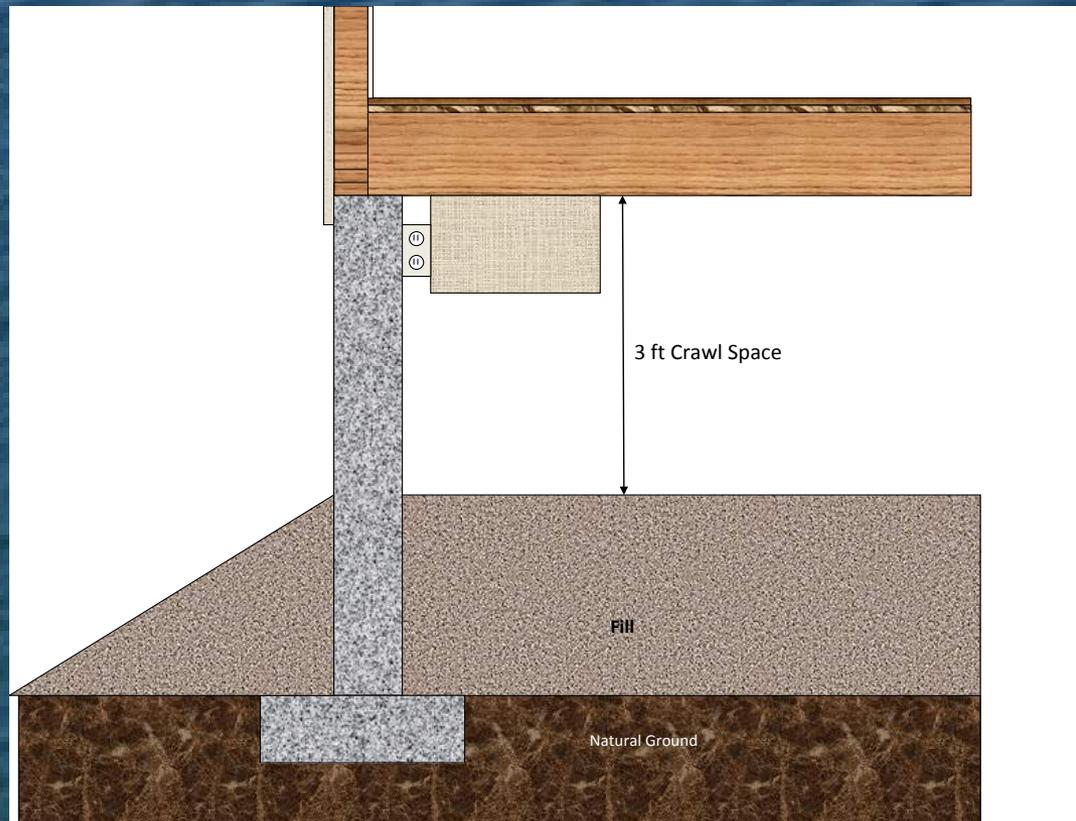
Jack's House – One level house with a 2,000 sf foot print.

Realtor informed Jack the property is located in the flood fringe of a detailed study area.

Criteria-

- Wants a crawlspace he can work in.
- Wants the electrical, plumbing and HVAC in the Crawlspace.
- Wants to be able to not have to buy flood insurance.

Jack hires a surveyor and begins putting together the required documents.

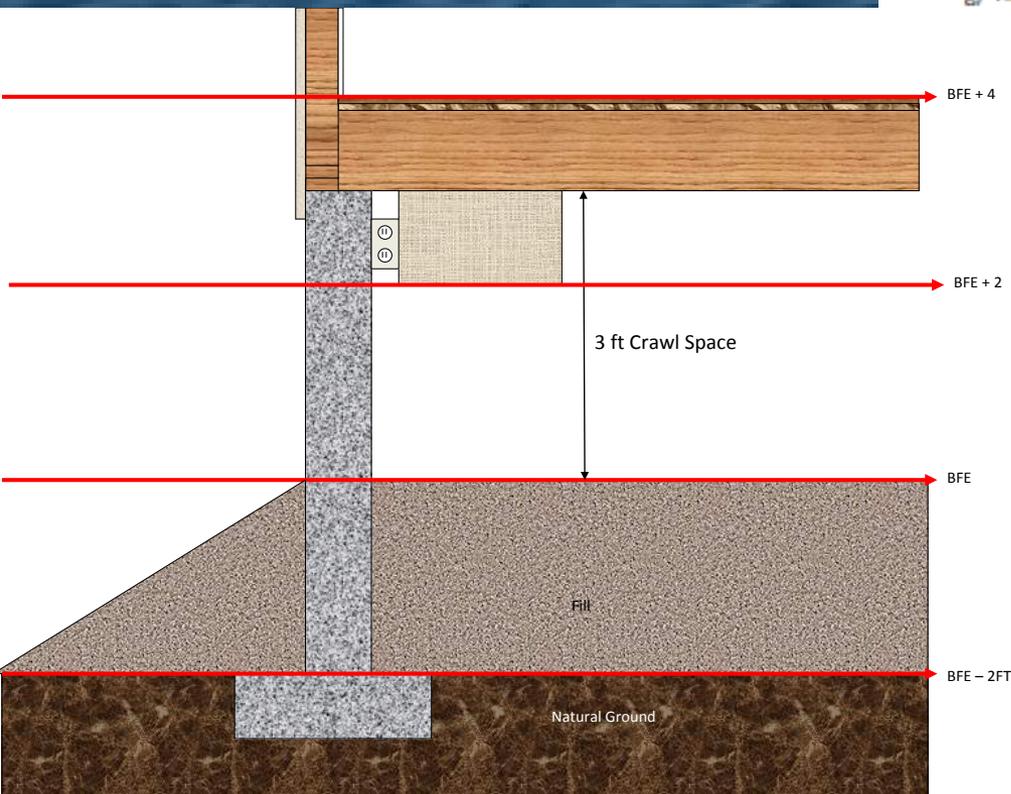


- A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) _____
- A5. Latitude/Longitude: Lat. _____ Long. _____
- A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain _____
- A7. Building Diagram Number 8
- A8. For a building with a crawspace or enclosure(s): _____ A
 - a) Square footage of crawspace or enclosure(s) _____ sq ft
 - b) Number of permanent flood openings in the crawspace or enclosure(s) within 1.0 foot above adjacent grade _____
 - c) Total net area of flood openings in A8.b _____ sq ft
 - d) Engineered flood openings? Yes No

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Community Number		B2. County Name		B3. State	
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)	

BFE



SECTION C - BUILDING ELEVATION INFORMATION (SURVEY)

- C1. Building elevations are based on: Construction Drawings* Building Under 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/A30
 C2.a-h below according to the building diagram specified in item A7. In Puerto Rico only, enter metric
 Benchmark Utilized: _____ Vertical Datum: _____
 Indicate elevation datum used for the elevations in Items a) through h) below. NGVD 1929 M
 Datum used for building elevations must be the same as that used for the BFE.
 - a) Top of bottom floor (including basement, crawspace, or enclosure floor) **BFE** _____
 - b) Top of the next higher floor **BFE + 4** _____
 - c) Bottom of the lowest horizontal structural member (V Zones only) _____
 - d) Attached garage (top of slab) _____
 - e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) **BFE + 2** _____
 - f) Lowest adjacent (finished) grade next to building (LAG) **BFE** _____
 - g) Highest adjacent (finished) grade next to building (HAG) _____
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Revised 2/14/12 (310 form 120) Please refer to Instructions Form www.dnr.mt.gov/conservation/submit	AGENCY USE ONLY: Application # _____ Date Received _____ Date Accepted _____/_____/_____ Initials _____ Date Forwarded to DFWP _____
This space is for all Department of Transportation and SPA 134 permit (government) projects Project Name _____ Contract Number _____ Contract letting date _____ MIPANDA Compliance <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, #14 of this application does not apply	

JOINT APPLICATION FOR PROPOSED WORK IN MONTANA'S STREAMS, WETLANDS, FLOODPLAINS, AND OTHER WATER BODIES

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The applicant is responsible for obtaining all necessary permits and landowner permission before beginning work.

PERMIT	AGENCY	FEE
<input checked="" type="checkbox"/> 310 Permit	Local Conservation District	No fee
<input type="checkbox"/> SPA 124 Permit	Department of Fish, Wildlife and Parks	No fee
<input type="checkbox"/> Floodplain Permit	Local Floodplain Administrator	Varies by city/county (\$25 - \$500)
<input type="checkbox"/> Section 404 Permit Section 10 Permit	U. S. Army Corps of Engineers	Varies (\$5 - \$100)
<input type="checkbox"/> 316 Authorization	Department of Environmental Quality	\$250 (\$18)
<input type="checkbox"/> 401 Certification	Department of Environmental Quality	\$800 - \$20,000 (401)
<input type="checkbox"/> Navigable Rivers Land Use License or Easement	Department of Natural Resources and Conservation, Trust Lands Management Division	License \$25, Easement \$50, plus annual fee

A. APPLICANT INFORMATION

NAME OF APPLICANT (person responsible for project): _____
 Has the landowner consented to this project? Yes No
 Mailing Address: _____
 Physical Address: _____
 Day Phone: _____ Evening Phone: _____ E-Mail: _____

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NAME OF CONTRACTOR/AGENT (if one is used): _____
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B. PROJECT SITE INFORMATION

NAME OF STREAM or WATER BODY at project location _____ Nearest Town _____
 Address/Location: _____ Geocode (if available): _____
 1/4 _____ 1/4 _____ 1/4, Section _____ Township _____ Range _____ County _____
 Longitude _____ Latitude _____

The state owns the beds of certain state navigable waterways. Is this a state navigable waterway? Yes or No.
 If yes, send copy of this application to appropriate DNRC land office - see Information for Applicant.

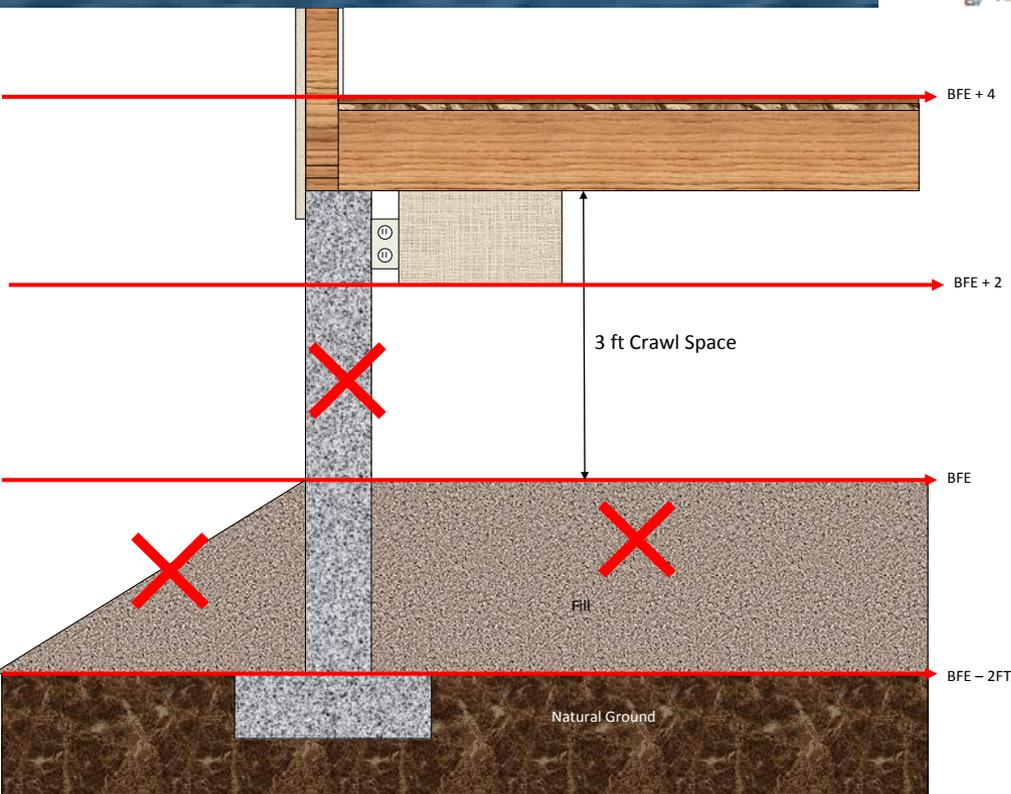
- A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) _____
 A5. Latitude/Longitude: Lat. _____ Long. _____
 A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain _____
 A7. Building Diagram Number 8
 A8. For a building with a crawspace or enclosure(s):
 a) Square footage of crawspace or enclosure(s) _____ sq ft
 b) Number of permanent flood openings in the crawspace or enclosure(s) within 1.0 foot above adjacent grade _____
 c) Total net area of flood openings in A8.b _____ sq ft
 d) Engineered flood openings? Yes No



SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Community Number		B2. County Name		B3. State	
B5. FIRM Panel Effective/ Revised Date	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)	

BFE



SECTION C - BUILDING ELEVATION INFORMATION (SURVEY)

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 Benchmark Utilized: _____ Vertical Datum: _____
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 b) Top of the next higher floor **BFE + 4**
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 d) Attached garage (top of slab) _____
 e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) **BFE + 2**
 f) Lowest adjacent (finished) grade next to building (LAG) **BFE**
 g) Highest adjacent (finished) grade next to building (HAG) _____
 Highest adjacent grade at lowest elevation of deck or stairs, including structural support _____

Revised 2/14/12 (310 form 120)
 (You may file electronically. For more information, visit www.dnr.mt.gov/elevation)
 AGENCY USE ONLY: Application # _____ Date Received _____
 Date Accepted _____/_____/_____/ Initials _____ Date Forwarded to DFWP _____
 This space is for all Department of Transportation and SPA 134 permit (government) projects
 Project Name _____
 Contact Number _____ Contract letting date _____
 MIPANDA Compliance Yes No If yes, #14 of this application does not apply

JOINT APPLICATION FOR PROPOSED WORK IN MONTANA'S STREAMS, WETLANDS, FLOODPLAINS, AND OTHER WATER BODIES

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The applicant is responsible for obtaining all necessary permits and landowner permission before beginning work.

PERMIT	AGENCY	FEE
<input checked="" type="checkbox"/> 110 Permit	Local Conservation District	No fee
<input type="checkbox"/> SPA 124 Permit	Department of Fish, Wildlife and Parks	No fee
<input type="checkbox"/> Floodplain Permit	Local Floodplain Administrator	Varies by city/county (\$25 - \$500)
<input type="checkbox"/> Section 404 Permit Section 10 Permit	U. S. Army Corps of Engineers	Varies (\$5 - \$100)
<input type="checkbox"/> 118 Authorization	Department of Environmental Quality	\$250 (\$18)
<input type="checkbox"/> 401 Certification	Department of Environmental Quality	\$800 - \$20,000 (401)
<input type="checkbox"/> Navigable Rivers Land Use License or Easement	Department of Natural Resources and Conservation Forest Land Management Division	License \$25, Easement \$50, plus annual fee

A. APPLICANT INFORMATION

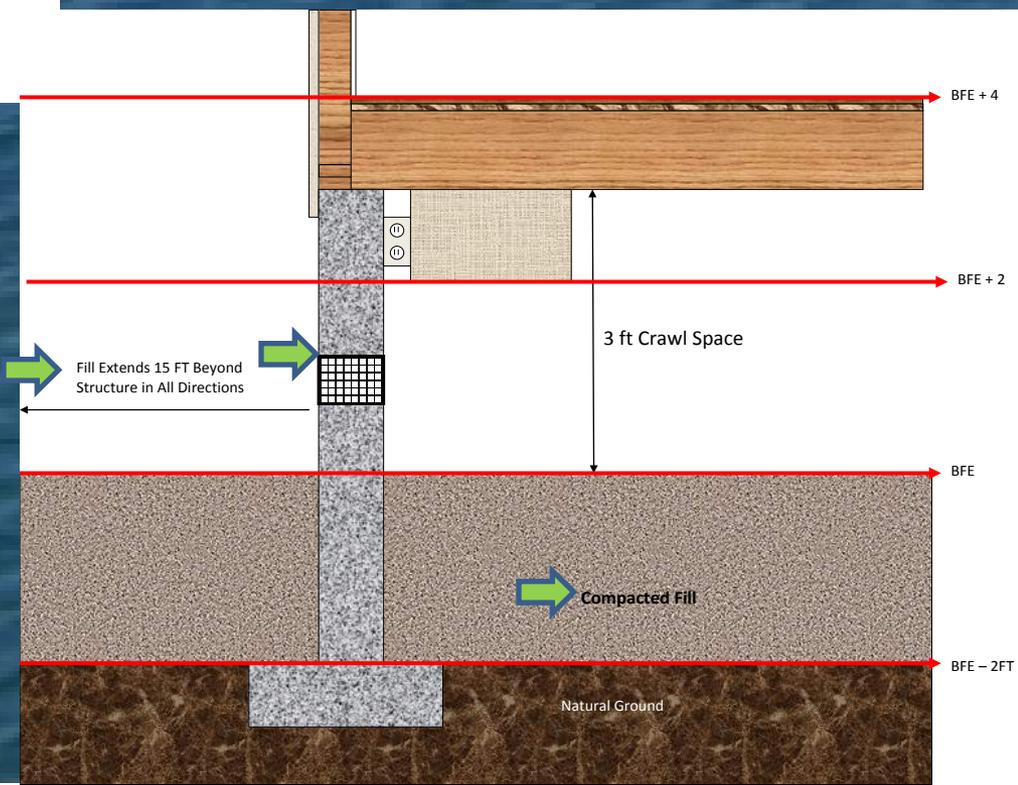
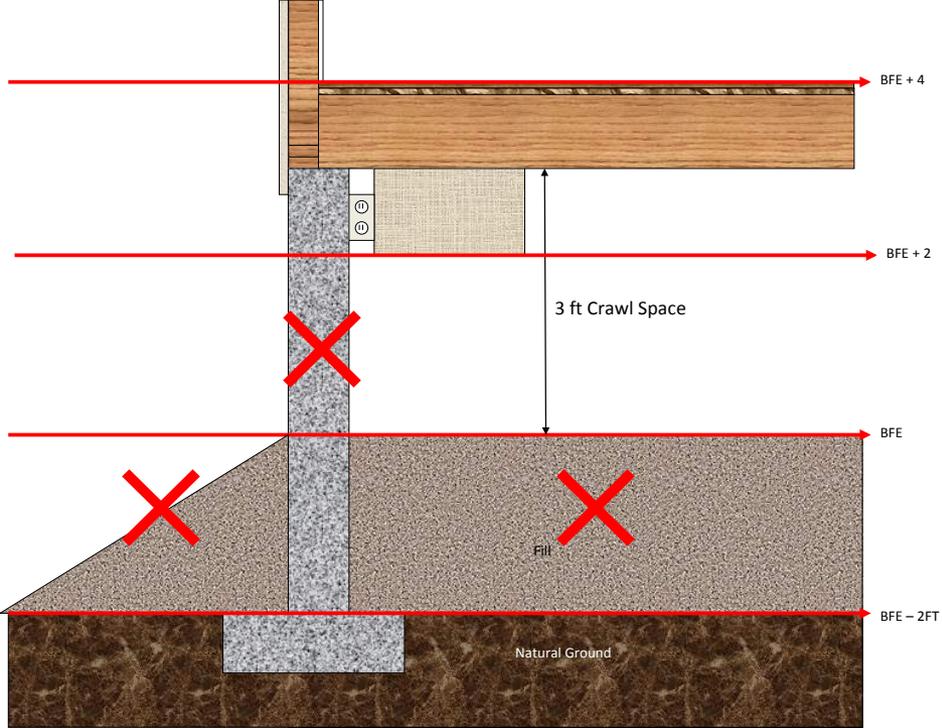
NAME OF APPLICANT (person responsible for project): _____
 Has the landowner consented to this project? Yes No
 Mailing Address: _____
 Physical Address: _____
 Day Phone: _____ Evening Phone: _____ E-Mail: _____
 NAME OF LANDOWNER (if different from applicant): _____
 Mailing Address: _____
 Physical Address: _____
 Day Phone: _____ Evening Phone: _____ E-Mail: _____
 NAME OF CONTRACTOR/AGENT (if one is used): _____
 Mailing Address: _____
 Physical Address: _____
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B. PROJECT SITE INFORMATION

NAME OF STREAM or WATER BODY at project location _____ Nearest Town _____
 Address/Location: _____ Geocode (if available): _____
 1/4 _____ 1/4 _____ 1/4, Section _____ Township _____ Range _____ County _____
 Longitude _____ Latitude _____

The state owns the beds of certain state navigable waterways. Is this a state navigable waterway? Yes or No.
 If yes, send copy of this application to appropriate DNRC land office - see Information for Applicant. Yes No

Jack's New House



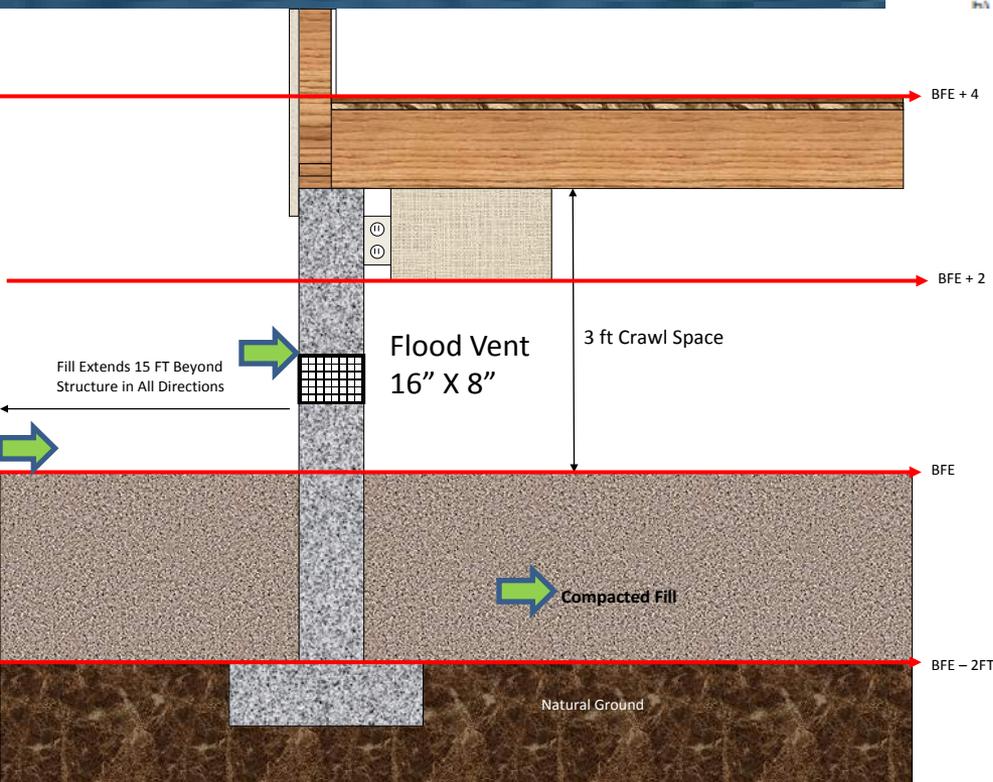
- A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) _____
 A5. Latitude/Longitude: Lat. _____ Long. _____
 A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain _____
 A7. Building Diagram Number 8
 A8. For a building with a crawspace or enclosure(s):
 a) Square footage of crawspace or enclosure(s) 2000 sq ft
 b) Number of permanent flood openings in the crawspace or enclosure(s) within 1.0 foot above adjacent grade 16
 c) Total net area of flood openings in A8.b 2048 sq ft
 d) Engineered flood openings? Yes No

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Community Number		B2. County Name		B3. State	
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)	
BFE					

SECTION C - BUILDING ELEVATION INFORMATION (SURV)

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 Datum used for building elevations must be the same as that used for the BFE.
 a) Top of bottom floor (including basement, crawspace, or enclosure floor) BFE
 b) Top of the next higher floor BFE + 4
 c) Bottom of the lowest horizontal structural member (V Zones only) _____
 d) Attached garage (top of slab) _____
 e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) BFE + 2
 f) Lowest adjacent (finished) grade next to building (LAG) BFE
 g) Highest adjacent (finished) grade next to building (HAG) _____
 h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support _____



Revised 2/14/17 (310 form 120)
 (You may file amendments.)
www.dnr.mt.gov/conservation/submit

AGENCY USE ONLY: Application # _____ Date Received _____
 Date Accepted _____ / Initials _____ Date Forwarded to DFWP _____

This space is for all Department of Transportation and SPA 134 permit (government) projects
 Project Name _____
 Contact Number _____ Contact holding date _____
 MIPANEDA Compliance Yes No If yes, #14 of this application does not apply

JOINT APPLICATION FOR PROPOSED WORK IN MONTANA'S STREAMS, WETLANDS, FLOODPLAINS, AND OTHER WATER BODIES

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PERMIT	AGENCY	FEE
<input checked="" type="checkbox"/> 310 Permit	Local Conservation District	No fee
<input type="checkbox"/> SPA 124 Permit	Department of Fish, Wildlife and Parks	No fee
<input type="checkbox"/> Floodplain Permit	Local Floodplain Administrator	Varies by city/county (\$25 - \$500)
<input type="checkbox"/> Section 404 Permit Section 10 Permit	U. S. Army Corps of Engineers	Varies (\$0 - \$100)
<input type="checkbox"/> 316 Authorization	Department of Environmental Quality	\$250 (\$100 - \$500)
<input type="checkbox"/> 401 Certification	Department of Environmental Quality	\$400 - \$20,000 (401)
<input type="checkbox"/> Navigable Rivers Land Use License or Easement	Department of Natural Resources and Conservation, Trust Lands Management Division	License \$25, Easement \$50, plus annual fee

A. APPLICANT INFORMATION

NAME OF APPLICANT (person responsible for project): _____
 Has the landowner consented to this project? Yes No
 Mailing Address: _____
 Physical Address: _____
 Day Phone: _____ Evening Phone: _____ E-Mail: _____

NAME OF LANDOWNER (if different from applicant): _____
 Mailing Address: _____
 Physical Address: _____
 Day Phone: _____ Evening Phone: _____ E-Mail: _____

B. PROJECT SITE INFORMATION

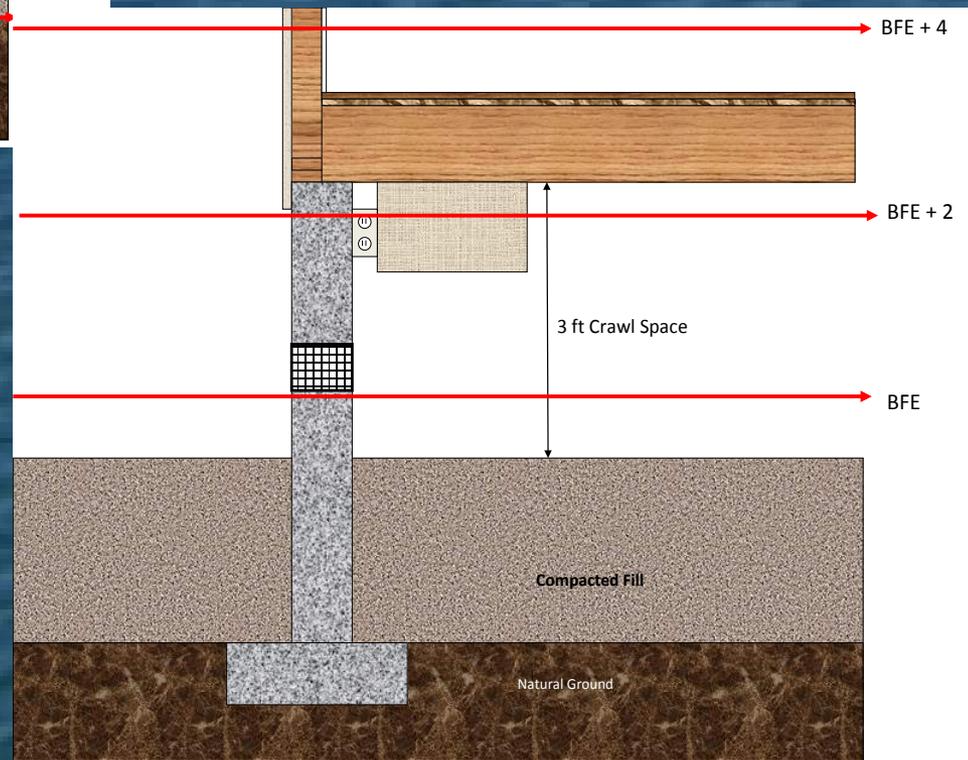
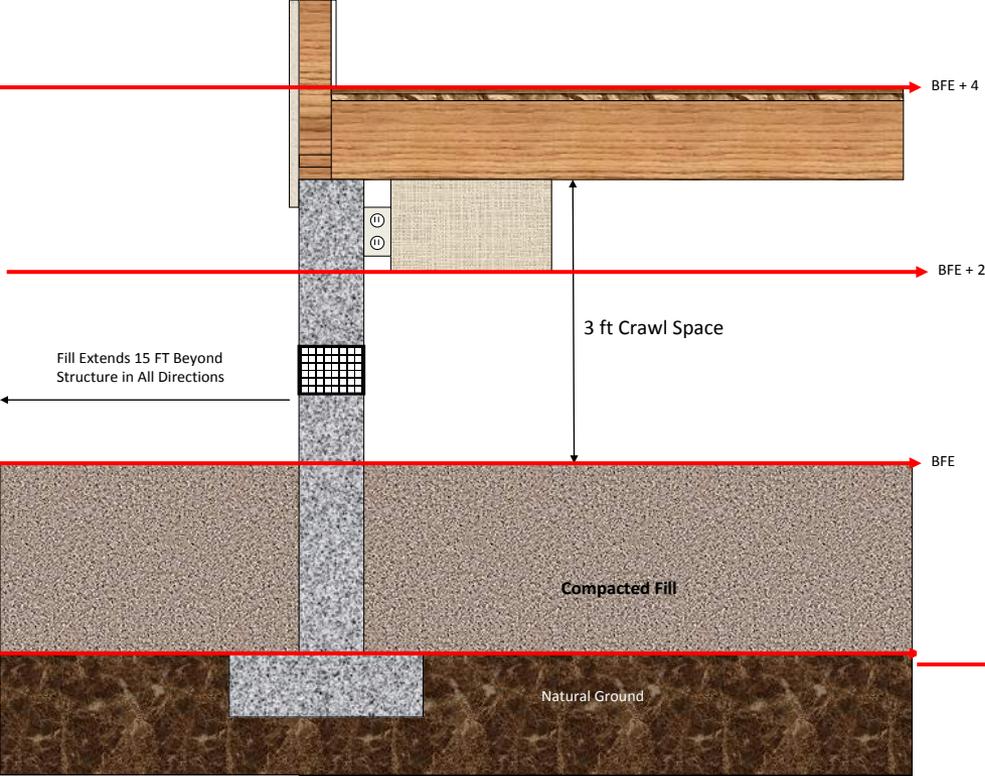
NAME OF STREAM or WATER BODY at project location: _____ Nearest Town: _____
 Address/Location: _____ Geocode (if available): _____
 1/4 _____ 1/4 _____ 1/4, Section _____ Township _____ Range _____ County _____
 Longitude _____ Latitude _____

The state owns the beds of certain state navigable waterways. Is this a state navigable waterway? Yes or No. Yes No
 If yes, send copy of this application to appropriate DNRC land office - see Information for Applicant.

95% Compaction

Jack's New House

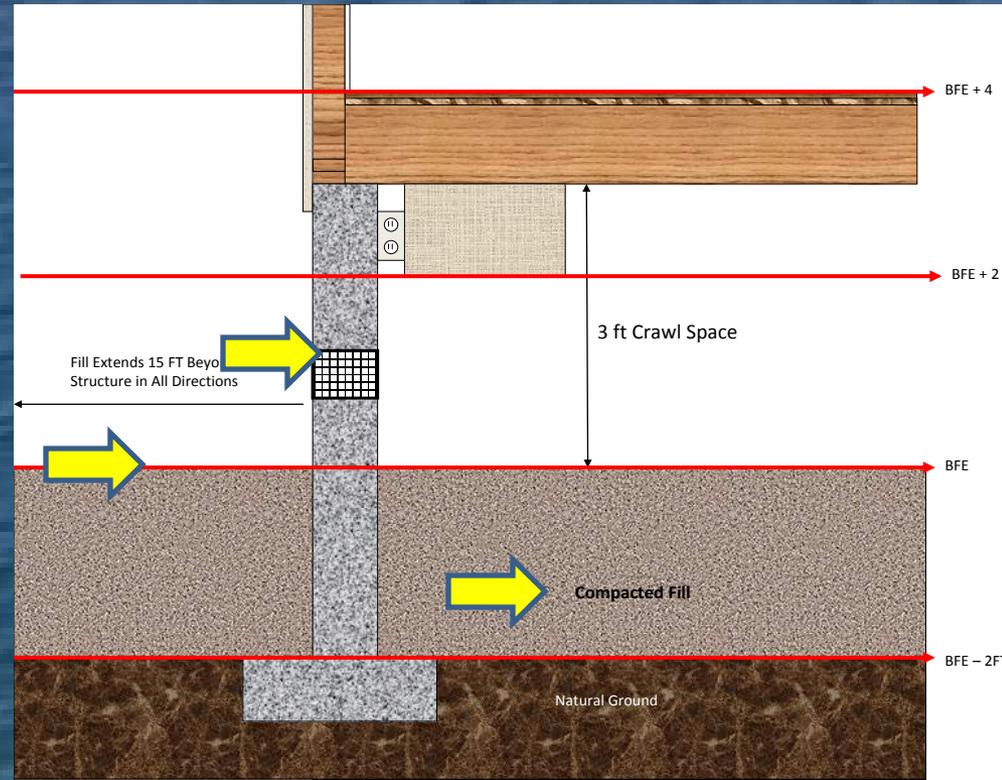
Years later a new floodplain study is performed on the area around Jacks house. Due to several unpermitted modifications to the floodplain the study shows the BFE is 0.5 ft higher than in the previous study.



Other Things to Consider:

Jack's New House

- Having a survey performed before and after construction.
- Cost of bringing fill to a site.
- Cost having compaction of fill certified by an engineer.
- Cost of floodproofing components.
- Cost of submitting a LOMR-F.
- If BFE elevation are revised in the future the LOMR-F may not be revalidated.
- The final Elevation Certificate can be used for your insurance rating determination.



Fill
2 Ft Deep x 75 Ft Lon

Flood Vents

1 vent = 16" x 8" = 128 in²

Ratio = 1 in² vent = 1 Ft² of house Footprint

2,000 Ft² / 128 in² = 16 vents

16 vents x \$100⁰⁰/vent = \$1,600⁰⁰

Kate's New House

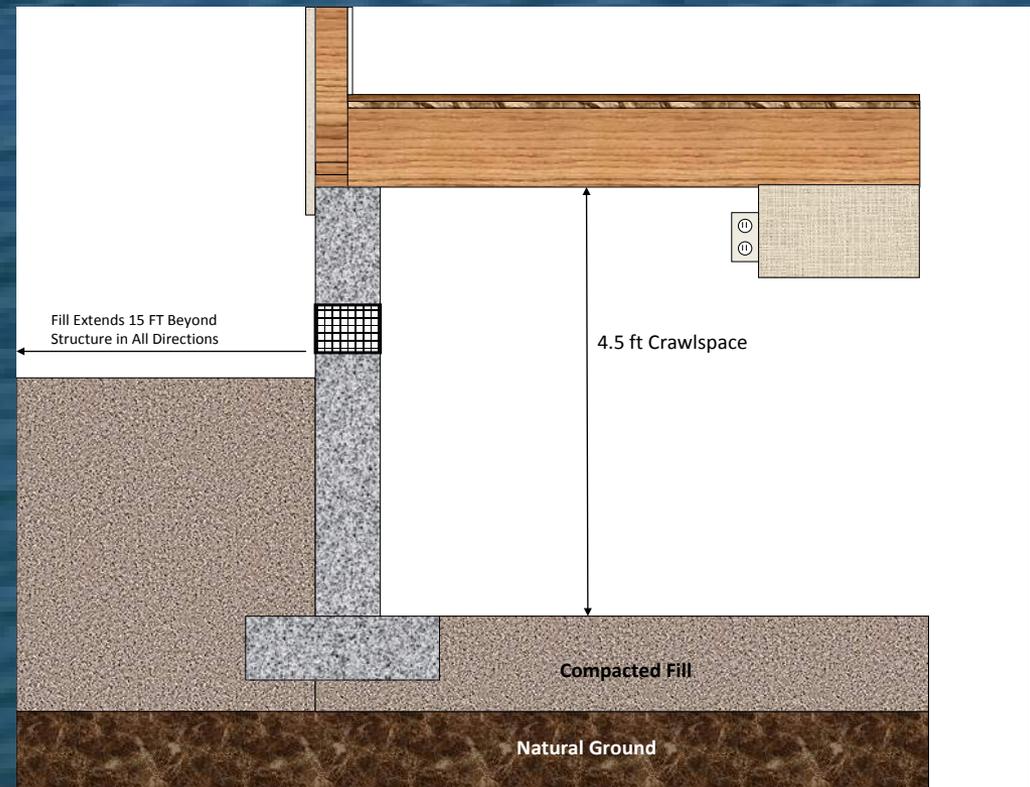
Kate's House- Two level with a 1,500 sf foot print.

Realtor informed Kate the property is located in the flood fringe of a detailed study area.

Criteria-

- Wants a big crawlspace for storage.
- Wants the electrical, plumbing and HVAC in the Crawlspace.
- Wants to be able to not have to buy flood insurance.
- Doesn't want future FIRM map changes to affect her.

Kate hires a surveyor and begins putting together the required documents.

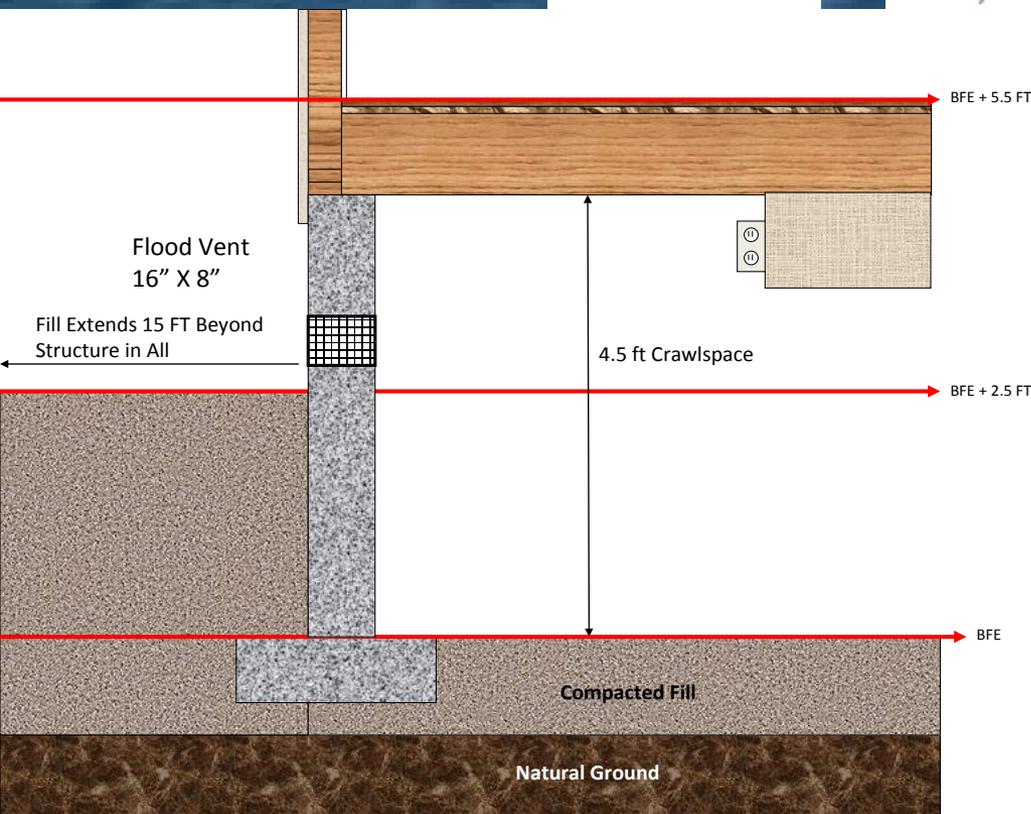


- A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) _____
 A5. Latitude/Longitude: Lat. _____ Long. _____
 A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain _____
 A7. Building Diagram Number 2
 A8. For a building with a crawspace or enclosure(s):
 a) Square footage of crawspace or enclosure(s) 1500 sq ft
 b) Number of permanent flood openings in the crawspace or enclosure(s) within 1.0 foot above adjacent grade 12
 c) Total net area of flood openings in A8.b 1536 sq ft
 d) Engineered flood openings? Yes No

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Community Number		B2. County Name		B3. State	
B4. FIRM Panel Effective/ Revised Date	B5. FIRM Index Date	B6. Flood Zone(s)	B7. FIRM Panel Effective/ Revised Date	B8. Flood Zone(s)	B9. Base Flood Elevation(s) (Zone AO, use base flood depth)

BFE



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 c) Bottom of the lowest horizontal structural member (V Zones only) _____
 d) Attached garage (top of slab) _____
 e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) **BFE + 3.5**
 f) Lowest adjacent (finished) grade next to building (LAG) **BFE+2.5**
 g) Lowest adjacent (finished) grade next to building (HAG) _____
 h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support _____

Revised 2/14/12 (310 form 120) Permit only for Administrative Use www.dnr.mt.gov/conservation/submit	AGENCY USE ONLY: Application # _____ Date Received _____ Date Accepted _____/Initials _____ Date Forwarded to DFWP _____
This space is for all Department of Transportation and SPA 134 permit (government projects) Project Name _____ Contract Number _____ Contract letting date _____ MIPANDA Compliance <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, #14 of this application does not apply	

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B. PROJECT SITE INFORMATION

NAME OF STREAM or WATER BODY at project location _____ Nearest Town _____
 Address/Location: _____ Geocode (if available): _____
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The state owns the beds of certain state navigable waterways. Is this a state navigable waterway? Yes or No.
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95% Compaction

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

SECTION C - BUILDING ELEVATION INFORMATION (SURV)

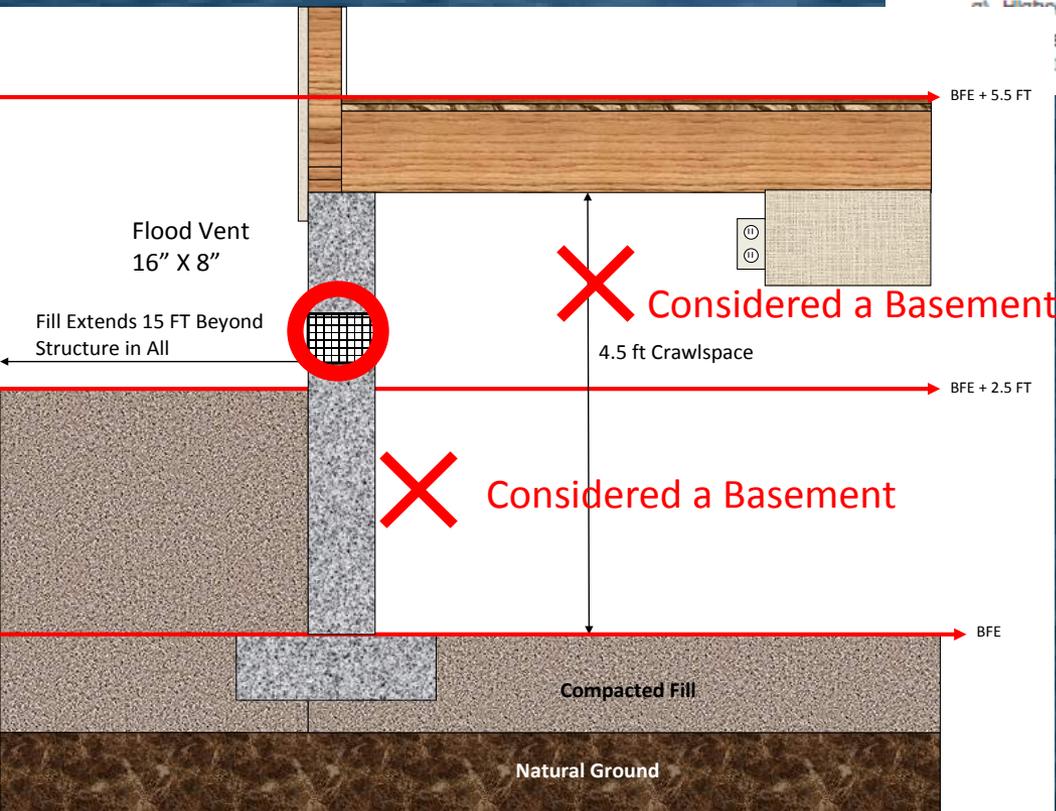
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 b) Top of the next higher floor **BFE + 5.5** _____
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 g) Lowest adjacent (finished) grade next to building (HAG) _____
 h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support _____



Revised 2/14/17 (10/16/12)
 Permit may be downloaded from: www.dnr.mt.gov/permits

AGENCY USE ONLY: Application # _____ Date Received _____
 Date Accepted _____/_____/_____/ Initials _____ Date Forwarded to DFWP _____

This space is for all Department of Transportation and SPA 134 permit (government) projects
 Project Name _____
 Contact Number _____ Contract letting date _____
 MIPANDA Compliance Yes No If yes, #14 of this application does not apply

JOINT APPLICATION FOR PROPOSED WORK IN MONTANA'S STREAMS, WETLANDS, FLOODPLAINS, AND OTHER WATER BODIES

Use this form to apply for one or all local, state, or federal permits listed below. The applicant is the responsible party for the project and the point of contact unless otherwise designated. "Information for Applicant" includes agency contacts and instructions for completing this application. To avoid delays, submit all required information, including a project site map and drawings. Incomplete applications will result in the delay of the application process. Other laws may apply.

The applicant is responsible for obtaining all necessary permits and landowner permission before beginning work.

PERMIT	AGENCY	FEE
<input checked="" type="checkbox"/> SPA 124 Permit	Local Conservation District	No fee
<input type="checkbox"/> SPA 124 Permit	Department of Fish, Wildlife and Parks	No fee
<input type="checkbox"/> Floodplain Permit	Local Floodplain Administrator	Varies by city/county (\$25 - \$500)
<input type="checkbox"/> Section 404 Permit/ Section 10 Permit	U. S. Army Corps of Engineers	Varies (\$5 - \$100)
<input type="checkbox"/> 316 Authorization	Department of Environmental Quality	\$250 (\$10)
<input type="checkbox"/> 401 Certification	Department of Environmental Quality	\$800 - \$20,000 (401)
<input type="checkbox"/> Navigable Rivers Land Use License or Easement	Department of Natural Resources and Conservation, Trust Lands Management Division	License \$25, Easement \$50, plus annual fee

A. APPLICANT INFORMATION

NAME OF APPLICANT (person responsible for project): _____
 Has the landowner consented to this project? Yes No
 Mailing Address: _____
 Physical Address: _____
 Day Phone: _____ Evening Phone: _____ E-Mail: _____

NAME OF LANDOWNER (if different from applicant): _____
 Mailing Address: _____
 Physical Address: _____
 Day Phone: _____ Evening Phone: _____ E-Mail: _____

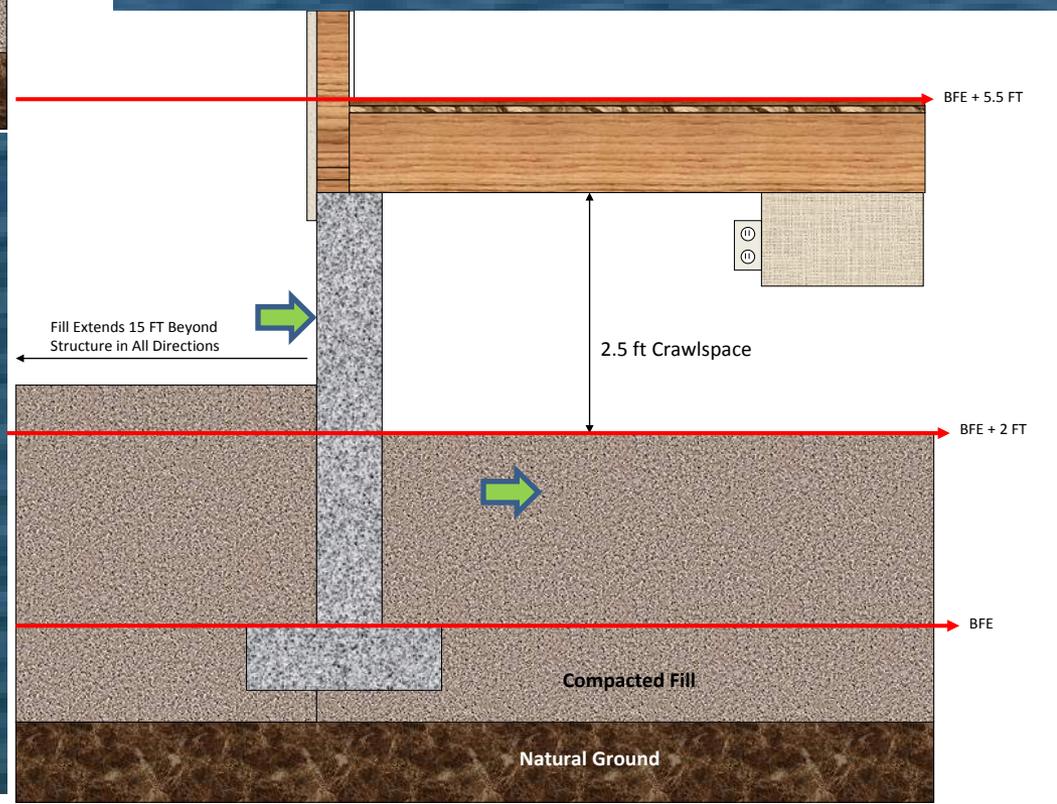
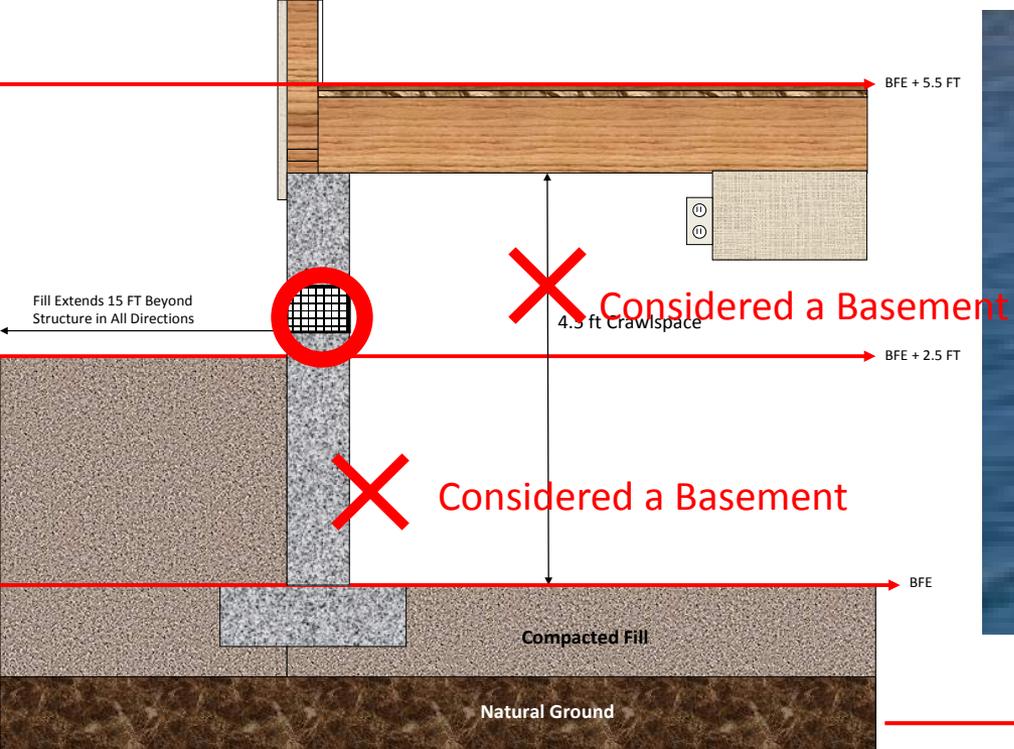
NAME OF CONTRACTOR/AGENT (if one is used): _____
 Mailing Address: _____
 Physical Address: _____
 Day Phone: _____ Evening Phone: _____ E-Mail: _____

B. PROJECT SITE INFORMATION

NAME OF STREAM or WATER BODY at project location: _____ Nearest Town: _____
 Address/Location: _____ Geocode (if available): _____
 1/4 _____ 1/4 _____ 1/4, Section _____ Township _____ Range _____ County _____
 Longitude _____ Latitude _____

The state owns the beds of certain state navigable waterways. Is this a state navigable waterway? Yes or No.
 If yes, send copy of this application to appropriate DNRC land office - see Information for Applicant. Yes No

Kate's New House



ELEVATION CERTIFICATE

IMPORTANT: Follow the instructions on pages 1-9.

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

- A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) _____
- A5. Latitude/Longitude: Lat. _____ Long. _____
- A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain _____
- A7. Building Diagram Number 9
- A8. For a building with a crawspace or enclosure(s):
 - a) Square footage of crawspace or enclosure(s) sq ft
 - b) Number of permanent flood openings in the crawspace or enclosure(s) within 1.0 foot above adjacent grade _____
 - c) Total net area of flood openings in A8.b _____ sq ft
 - d) Engineered flood openings? Yes No



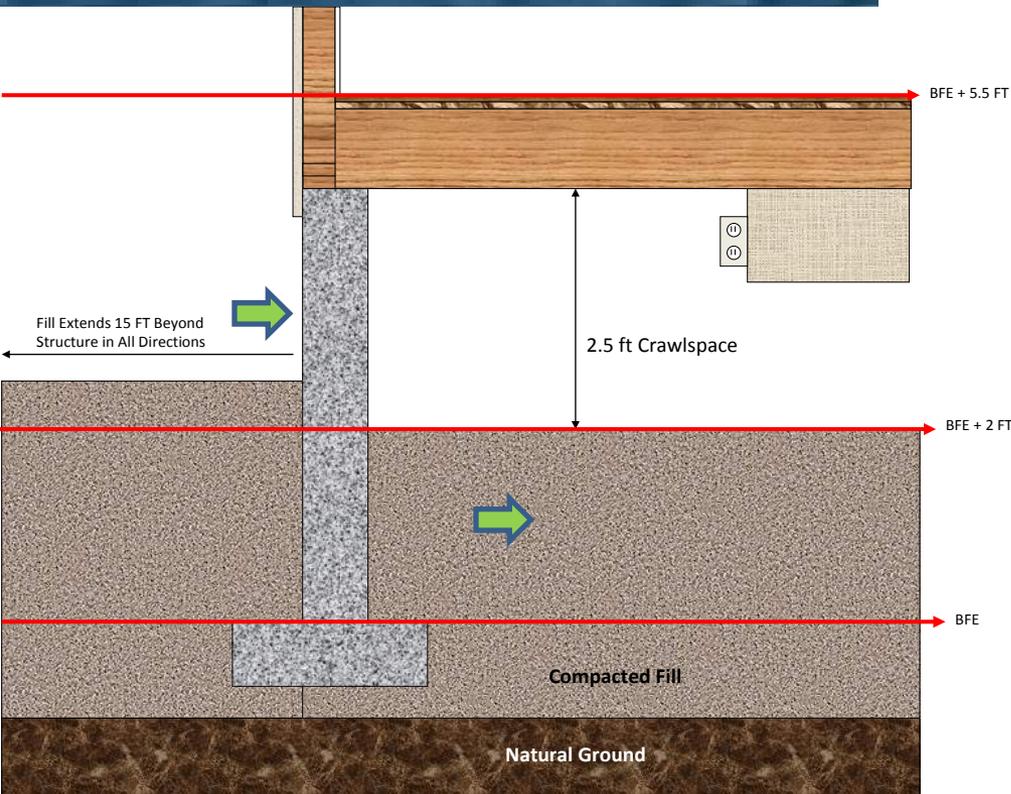
SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. Community Number		B2. County Name		B3. State	
B4. Flood Insurance District	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)	

BFE

SECTION C - BUILDING ELEVATION INFORMATION (SURVEY)

- C1. Building elevations are based on: Construction Drawings* Building Under 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/A30
 C2.a-h below according to the building diagram specified in item A7. In Puerto Rico only, enter metric
 Benchmark Utilized: _____ Vertical Datum: _____
- Indicate elevation datum used for the elevations in Items a) through h) below. NGVD 1929 Mean Sea Level
 Datum used for building elevations must be the same as that used for the BFE.
- a) Top of bottom floor (including basement, crawspace, or enclosure floor) BFE+2
 - b) Top of the next higher floor BFE + 5.5
 - c) Bottom of the lowest horizontal structural member (V Zones only) _____
 - d) Attached garage (top of slab) _____
 - e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) BFE + 3.5
 - f) Lowest adjacent (finished) grade next to building (LAG) BFE+2.5
 - g) Highest adjacent (finished) grade next to building (HAG) _____
- _____ adjacent grade at lowest elevation of deck or stairs, including structural support



Revised 2/14/17 (10/16/12)
 (For use in accordance with 44 CFR 60.201)

AGENCY USE ONLY: Application # _____ Date Received _____
 Date Accepted _____/_____/_____
 Date Forwarded to DFWP _____

This space is for all Department of Transportation and SPA 134 permit (government) projects
 Project Name _____
 Contact Number _____ Contract letting date _____
 MIPANDA Compliance Yes No If yes, #14 of this application does not apply

JOINT APPLICATION FOR PROPOSED WORK IN MONTANA'S STREAMS, WETLANDS, FLOODPLAINS, AND OTHER WATER BODIES

Use this form to apply for one or all local, state, or federal permits listed below. The applicant is the responsible party for the project and the point of contact unless otherwise designated. "Information for Applicant" includes agency contacts and instructions for completing this application. To avoid delays, submit all required information, including a project site map and drawings. Incomplete applications will result in the delay of the application process. Other laws may apply.

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<input type="checkbox"/> SPA 124 Permit	Department of Fish, Wildlife and Parks	No fee
<input type="checkbox"/> Floodplain Permit	Local Floodplain Administrator	Varies by city/county (\$25 - \$500)
<input type="checkbox"/> Section 404 Permit Section 10 Permit	U. S. Army Corps of Engineers	Varies (\$0 - \$100)
<input type="checkbox"/> 118 Authorization	Department of Environmental Quality	\$250 (\$100 - \$500)
<input type="checkbox"/> 401 Certification	Department of Environmental Quality	\$800 - \$20,000 (401)
<input type="checkbox"/> Navigable Rivers Land Use License or Easement	Department of Natural Resources and Conservation, Trust Lands Management Division	License \$25, Easement \$50, plus annual fee

A. APPLICANT INFORMATION

NAME OF APPLICANT (person responsible for project): _____
 Has the landowner consented to this project? Yes No
 Mailing Address: _____
 Physical Address: _____
 Day Phone: _____ Evening Phone: _____ E-Mail: _____

NAME OF CONTRACTOR/AGENT (if one is used): _____
 Mailing Address: _____
 Physical Address: _____
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B. PROJECT SITE INFORMATION

NAME OF STREAM or WATER BODY at project location _____ Nearest Town _____
 Address/Location: _____ Geocode (if available): _____
 1/4 _____ 1/4 _____ 1/4, Section _____ Township _____ Range _____ County _____
 Longitude _____ Latitude _____

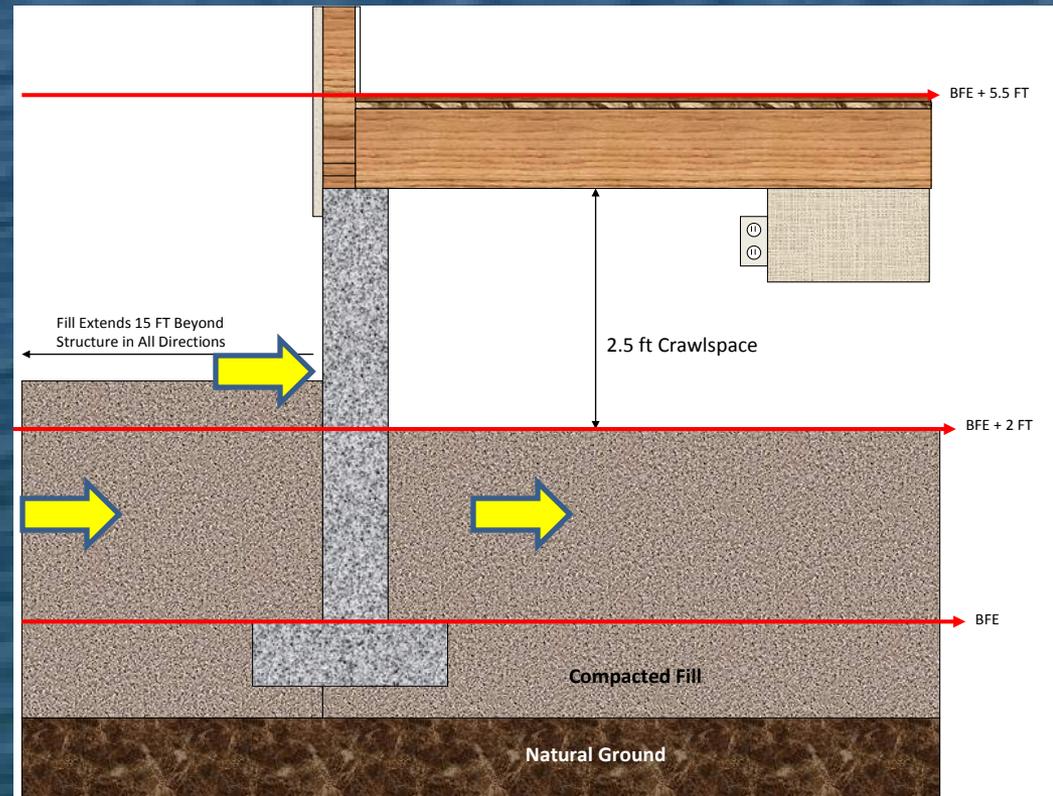
The state owns the beds of certain state navigable waterways. Is this a state navigable waterway? Yes or No.
 If yes, send copy of this application to appropriate DNRC land office - see Information for Applicant. Yes No

95% Compaction

Other Things to Consider:

Kate's New House

- Having a survey performed before and after construction.
- Cost of bringing fill to a site.
- Cost having compaction of fill certified by an engineer.
- Cost of submitting a LOMR-F.
- The final Elevation Certificate can be used for your insurance rating determination.

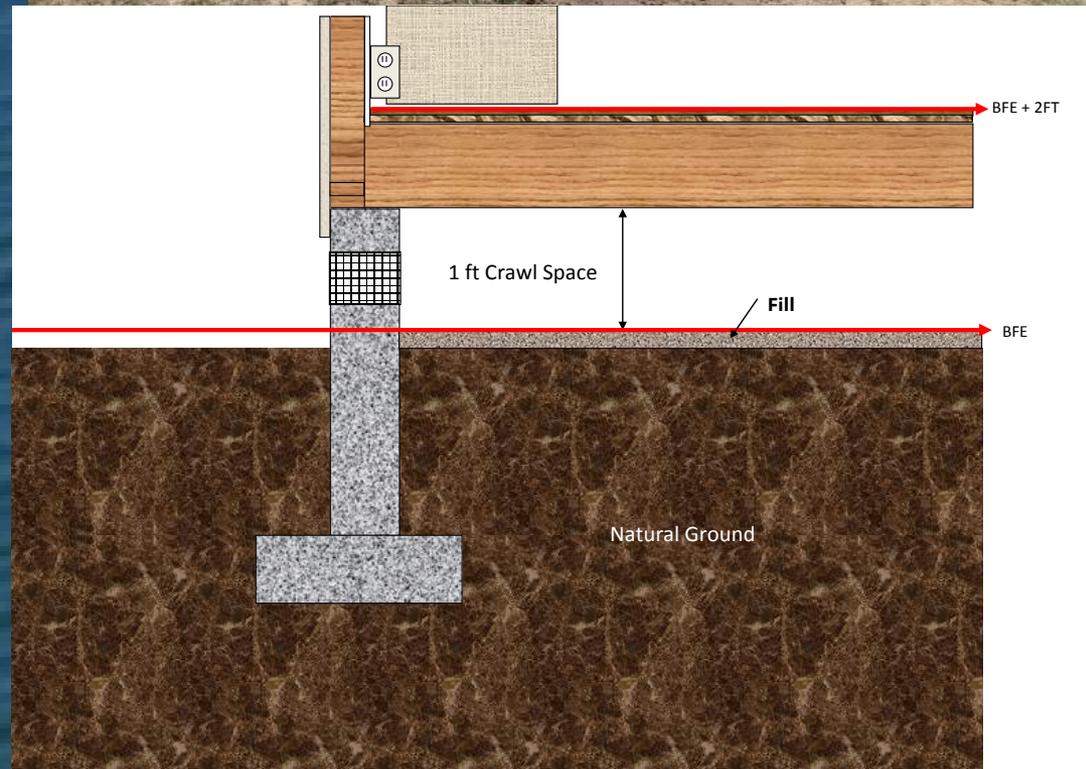


Jill's New House

Jill's House – Two level house with a crawlspace 1,500 sf foot print.

Realtor informed her that most of the property is located in the flood fringe of a detailed study area. There is a portion of the property located in the floodway.

Jill hires a surveyor and begins putting together the required documents.



ELEVATION CERTIFICATE

IMPORTANT: Follow the instructions on pages 1-9.

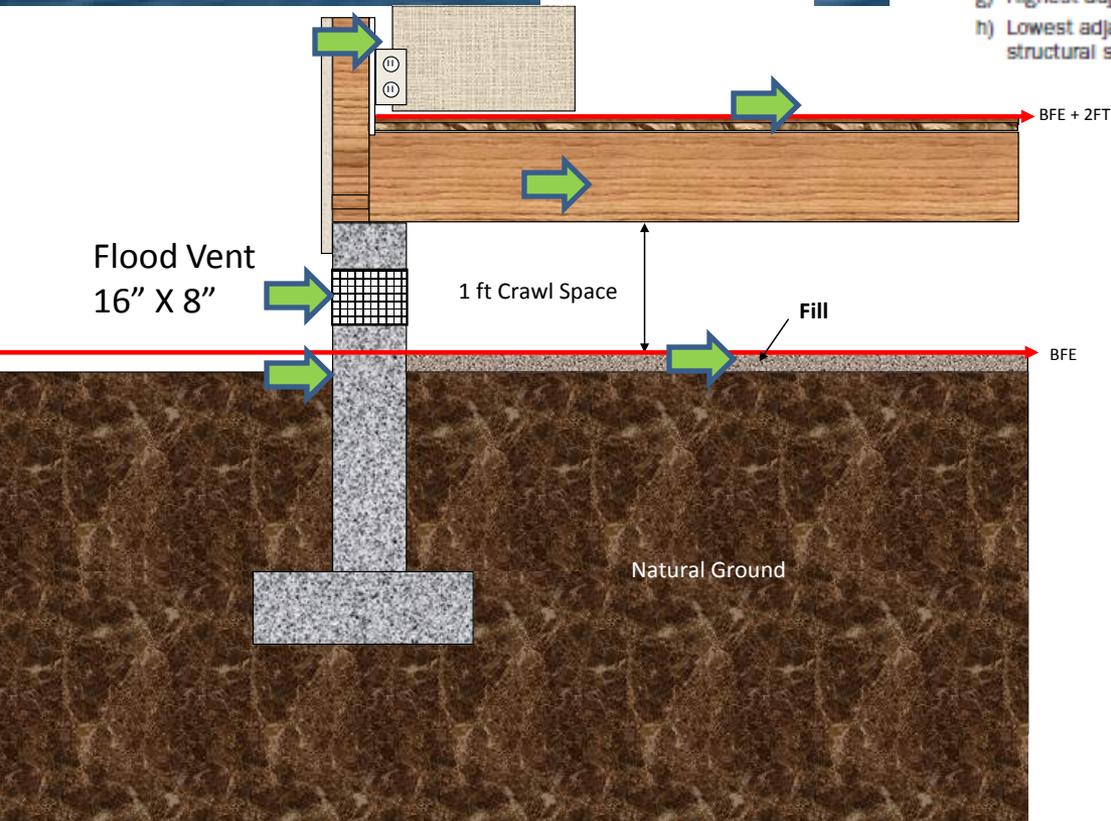
OMB No. 1660-0008
 Expiration Date: July 31, 2015

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) _____
 A5. Latitude/Longitude: Lat. _____ Long. _____
 A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain _____
 A7. Building Diagram Number 8
 A8. For a building with a crawspace or enclosure(s):
 a) Square footage of crawspace or enclosure(s) 1500 sq ft
 b) Number of permanent flood openings in the crawspace or enclosure(s) within 1.0 foot above adjacent grade 12
 c) Total net area of flood openings in A8.b 1536 sq in
 d) Engineered flood openings? Yes No

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. Community Number		B2. County Name		B3. State	
B4. FIRM Panel Effective/ Revised Date	B5. FIRM Index Date	B6. FIRM Panel Effective/ Revised Date	B7. Flood Zone(s)	B9. Base Flood Elevation(s) (Zone AO, use base flood depth)	

BFE



SECTION C - BUILDING ELEVATION INFORMATION (SURVEY)

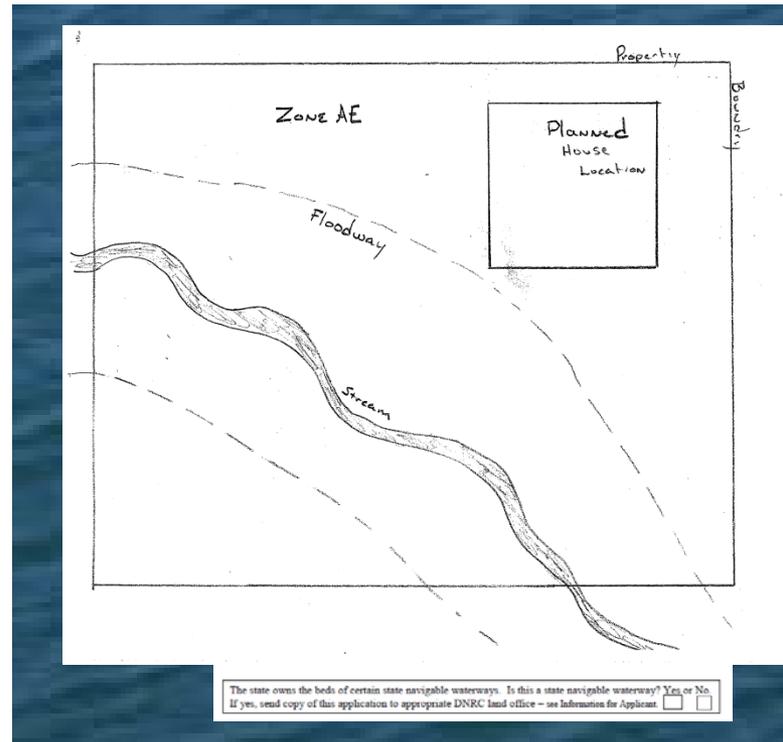
C1. Building elevations are based on: Construction Drawings* Building Under Construction
 *A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations - Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/AE, AR/A1
 C2.a-h below according to the building diagram specified in item A7. In Puerto Rico only, enter metric.

Benchmark Utilized: _____ Vertical Datum: _____

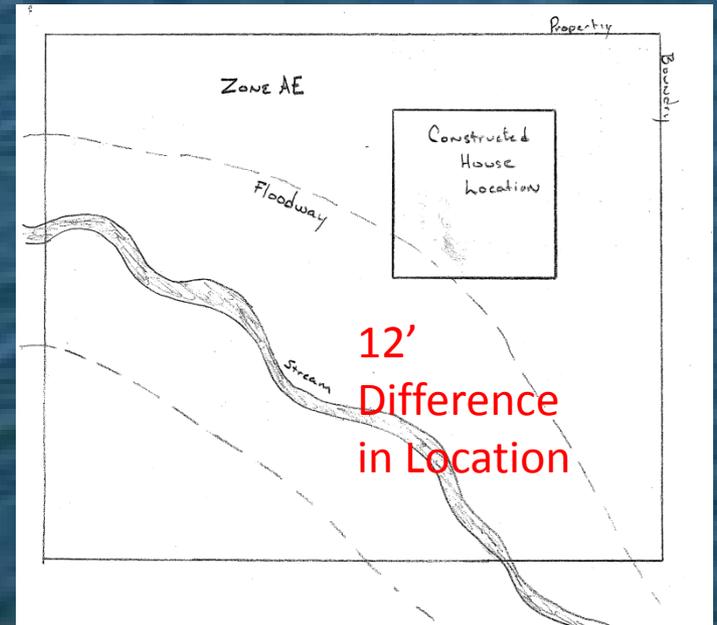
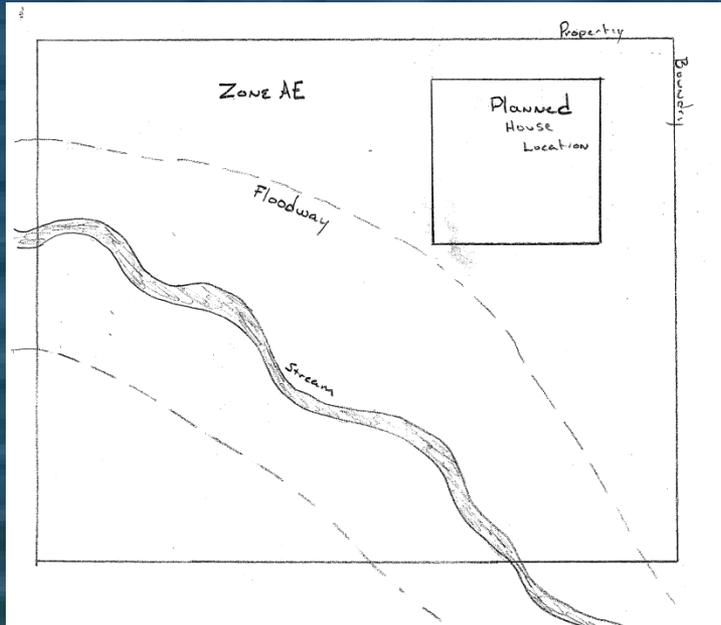
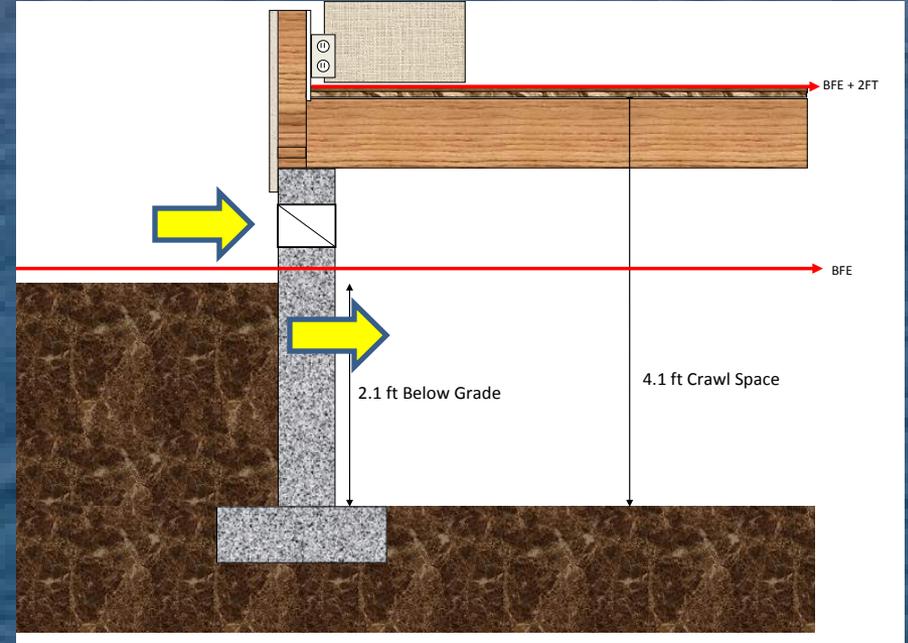
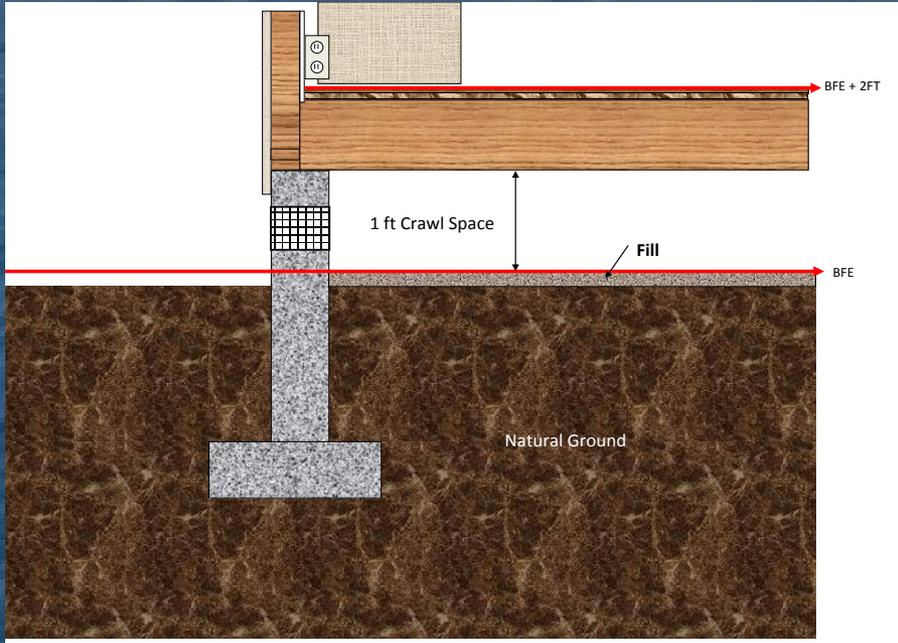
Indicate elevation datum used for the elevations in items a) through h) below. NGVD 1929 M
 Datum used for building elevations must be the same as that used for the BFE.

a) Top of bottom floor (including basement, crawspace, or enclosure floor) BFE
 b) Top of the next higher floor BFE + 2
 c) Bottom of the lowest horizontal structural member (V Zones only) _____
 d) Attached garage (top of slab) BFE + 2
 e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) BFE - 0.2
 f) Lowest adjacent (finished) grade next to building (LAG) _____
 g) Highest adjacent (finished) grade next to building (HAG) _____
 h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support _____



The state owns the beds of certain state navigable waterways. Is this a state navigable waterway? Yes or No.
 If yes, send copy of this application to appropriate DNEC land office - see Information for Applicant. Yes No

Jill's New House

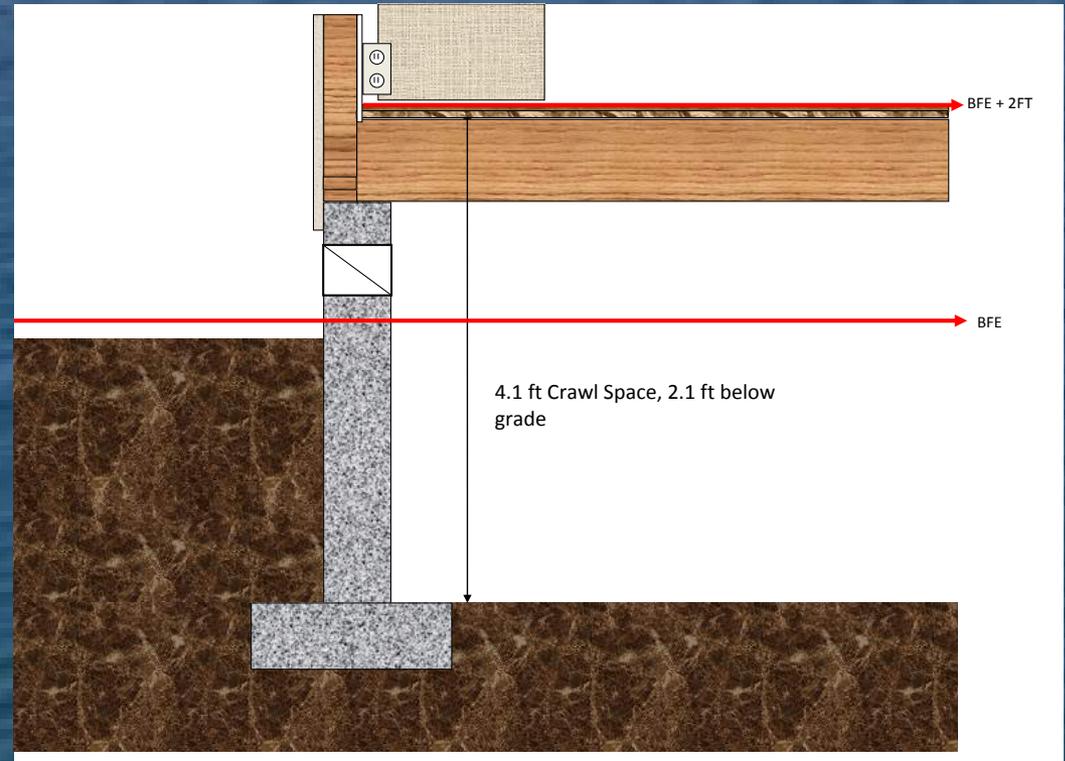


12'
Difference
in Location

The Story Unfolds:

Jill's New House

- No one verifies that the post construction EC was submitted.
- Jill refinances the house.
- The insurance provider requires another EC be provided because the first is marked Construction Drawing.
- The new flood insurance rate is:
- Jill calls the FPA to talk about the insurance rate.
- The FPA is now aware of an active violation.



- The contractor has since gone out of business.

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 A7. Building Diagram Number 2 _____
 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 ft
 d) Engineered flood openings? Yes No

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Community Number		B2. County Name		B3. State	
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)		

BFE

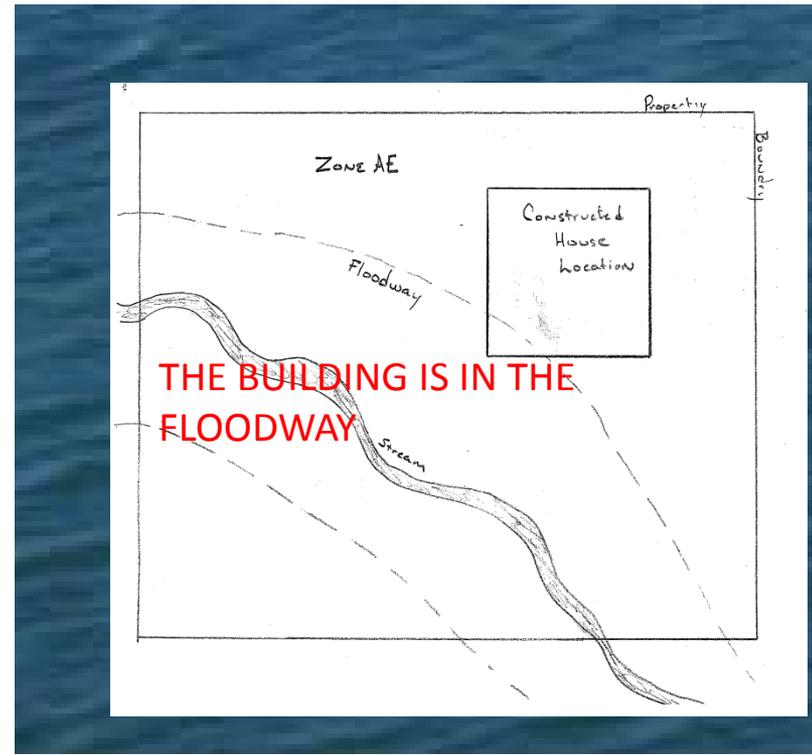
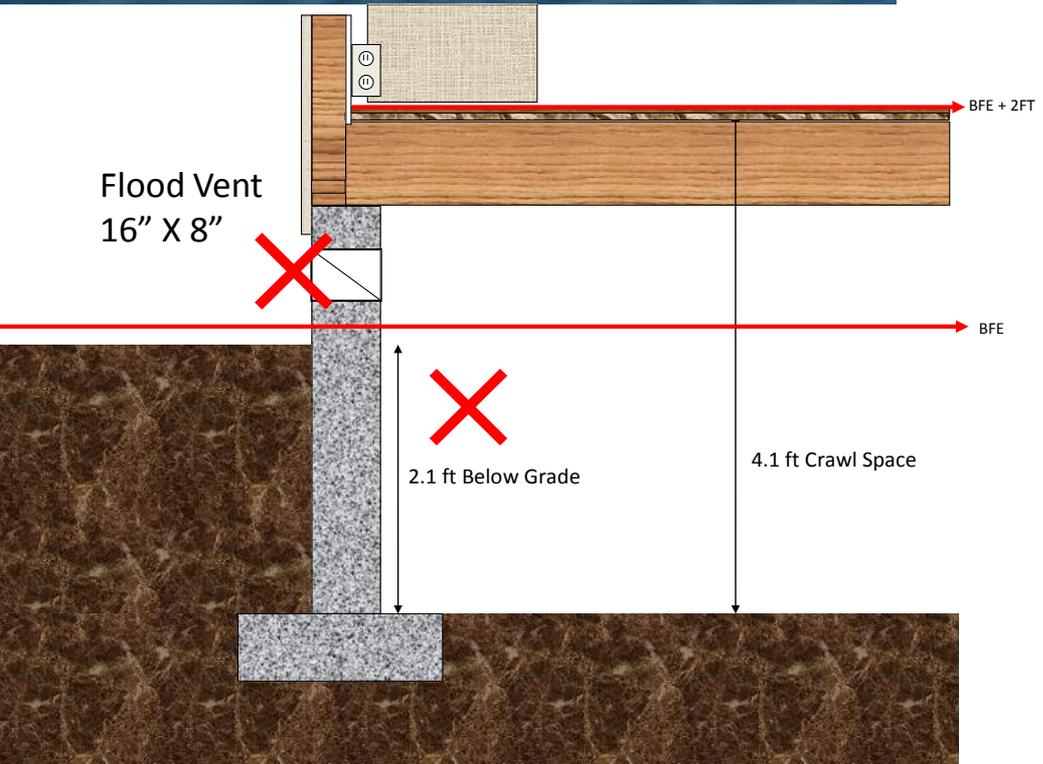
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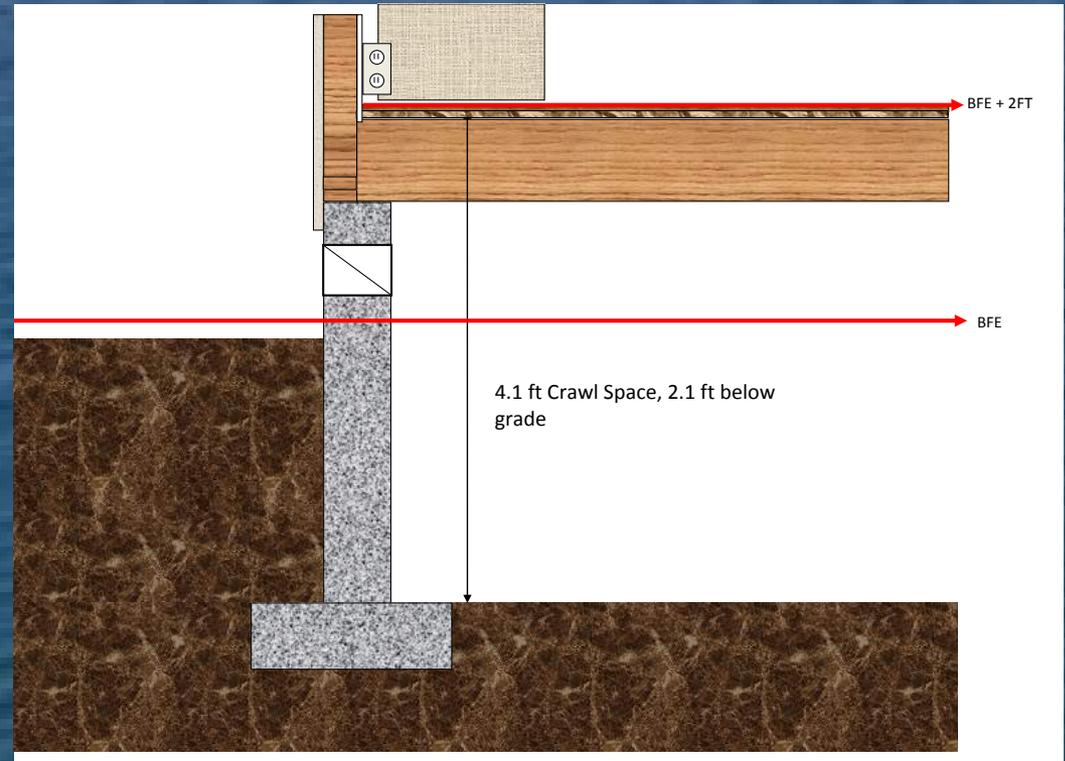
a) Top of bottom floor (including basement, crawlspace, or enclosure floor) BFE -2.1
 b) Top of the next higher floor BFE + 2
 c) Bottom of the lowest horizontal structural member (V Zones only) _____
 d) Attached garage (top of slab) BFE + 2
 e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) BFE - 0.2
 f) Lowest adjacent (finished) grade next to building (LAG) _____
 g) Highest adjacent (finished) grade next to building (HAG) _____
 h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support _____



What Should We Do:

Jill's New House

- From the Insurance Perspective
- From the FPA's Perspective
- From the State's Perspective
- From the Contractor's perspective.
- From the Homeowner's Perspective



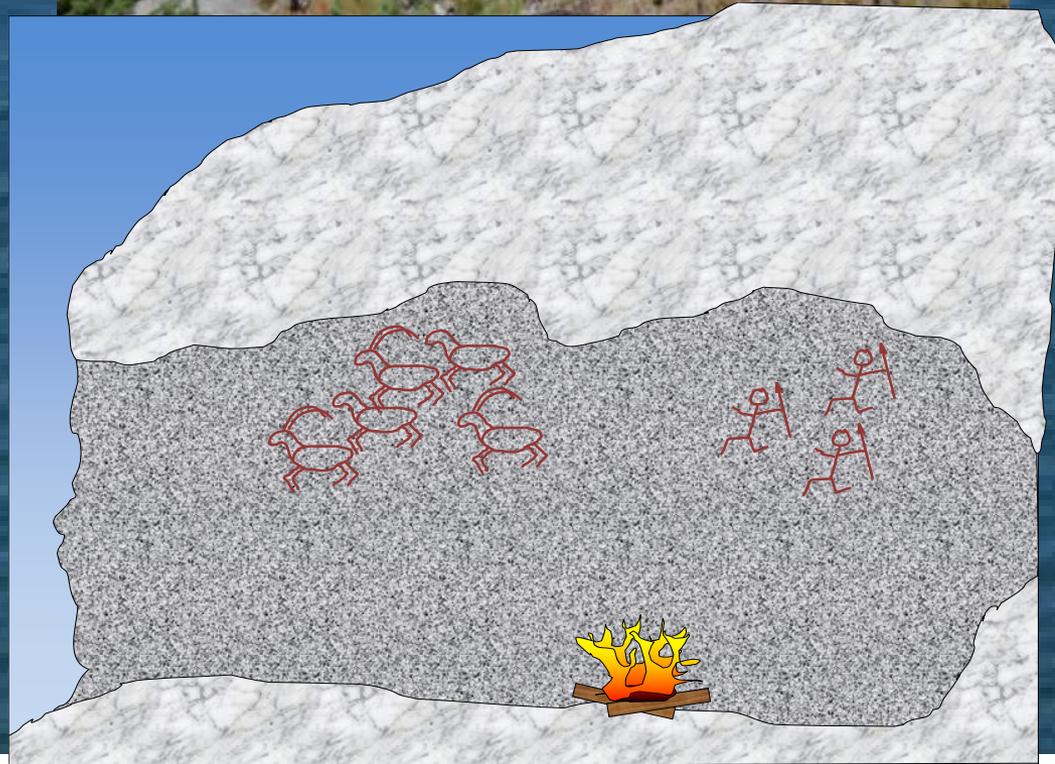
John's New House

John's House- One level cave,
unknown sf.

No realtor needed when living in a
cave, but there were some heated
negotiations with a bear.

Criteria-

- As far from the floodplain as possible.



Remember

This presentation does not address:

- BFE determinations
- Encroachment reviews
- Floodway considerations
- Other portions of the Elevation Certificate
- Other permits
- Other foundation types
- Components of sewer, water, electrical and HVAC systems
- Residential buildings with attached garages.
- Residential buildings with attached decks or other features
- Commercial or Industrial buildings
- Mixed use buildings
- Substantial improvements or additions to current buildings
- Others thing I couldn't think of the day I wrote this

Summary

From the point of view of the:

- Future Home Owner or Designer- Talk early and often with the Floodplain Administrator. Know floodplain construction criteria before designing your structure.
- Floodplain Administrator- This stuff is complicated. Know your ordinance and if you have questions talk with the DNRC and FEMA. Your decision now may affect a structure into perpetuity.
- DNRC- This stuff is complicated. Talk internally and with FEMA if you/we have questions. Lets help the community make the best possible decision.

Questions