## FLOOD DAMAGE PREVENTION





#### Kootenai County Flood Damage Prevention Ordinance

#### CHAPTER 7 FLOOD DAMAGE PREVENTION ARTICLE 7.2

ORDINANCE 493 as amended

## Flood Damage Prevention



- How do I know if I am in a SFHA?
- Can I build in a SFHA?
- Why would I need an Elevation Certificate?
- Are you sure I am in a SFHA? It has never flooded since I've lived here.

## Flood Acronyms



#### NFIP Mapping Terminology

Base Flood	100-year or 1% chance flood
BFE	Base flood elevation
NGVD	National Geodetic Vertical Datum
FIRM	Flood Insurance Rate Map
SFHA	Special Flood Hazard Area: base floodplain
A Zones	SFHA: A, AE, A1 - A30, AH, AO, A99, AR
V Zones	Coastal high hazard SFHA: V, VE, V1-V30
X Zone	Outside SFHA,
B or C Zones	Outside SFHA (older maps)
D Zones	SFHA undetermined
Floodway	Channel and adjacent SFHA with deeper
	and faster flows, higher hazard, more
	sensitive to obstructions to flow
COBRA	Coastal Barriers Resource Act: no federal
	assistance or flood insurance in designated
	undeveloped coastal barriers
Pre-FIRM	Before the effective date of the FIRM
Post-FIRM	After the effective date of the FIRM

North
 American
 Vertical
 Datum of
 1988
 (NAVD88)

Floods are the most common natural disaster in north Idaho.
 Most major floods occur during winter and spring.

Rain or snow events.

# 2017 KXLY Reports on Floods <u>https://www.youtube.com/watch?v=cCh5Lee5WYc</u>

# 2018 KXLY Report on Floods <u>https://www.youtube.com/watch?v=3h-Gxho6m48</u>







## Flood Damage in Kootenai County

		TABLE 12-2. HISTORY OF FLOOD EVENTS	
Date	Declaration #	Description	Estimated Damage
12/31/1964	DR-186	Heavy Rains & Flooding	\$834,972a
1/25/1974	DR-415	Severe Storms, Snowmelt, Flooding	\$8,438,025a
2/1982	_	Flooding	\$1,000,000a
2/11/1996	DR-1102	Storms/Flooding	\$10,888,154a
1/04/1997	DR-1154	Severe Storms/Flooding	\$1,272,641a
6/13/1997	DR-1177	Flood	Public Damage = \$762,600
7/31/2008	DR-1781	Flooding	Public Damage = \$1,501,030

## Flood Damage Prevention

#### Purpose

- Maximize public safety.
- Protect development and personal investments.
- Meet Federal requirements of NFIP.



## The National Flood Insurance Program



## National Flood Insurance Program

Federal program that provides flood insurance to participating communities

- The community will adopt and enforce a floodplain ordinance.
- The Federal Government will make flood insurance available within the community as a source of financial protection.

## Is NFIP Participation Mandatory?

# COMMUNITY PARTICIPATION IS VOLUNTARY

Consequences of non-participation

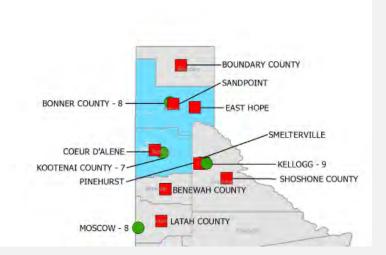
- Federal flood insurance is not available.
- Not eligible for post-disaster financial assistance.





## Idaho Communities Community Rating System

Rank	CID	<b>Community Name</b>	Policies	Class
1	160002	Boise	845	6
2	160004	Garden City	536	8
3	160003	Eagle	356	6
4	160131	Kellogg	347	9
5	165167	Blaine County	343	7
6	160001	Ada County	338	6
7	160023	Kotchum	304	7
8	160076	Kootenai County	218	7
9	160208	Canyon County	205	
10	160038	Nampa	191	
11	160206	Bonner County	177	8
12	160022	Hailey	151	8
13	160180	Meridian	107	8
14	160025	Sandpoint	98	
15	160090	Moscow	98	8
16	160018	Bingham County	85	
47	160007	Poppovillo County	00	



## Mapping

 FEMA prepared a SFHA map and developed hazard data for most communities in the Country.

Used for the following reasons:

- Basis for regulating new development.
- Determination of flood insurance purchase requirement.
- Determination of flood insurance rating.

## **Special Flood Hazard Areas**

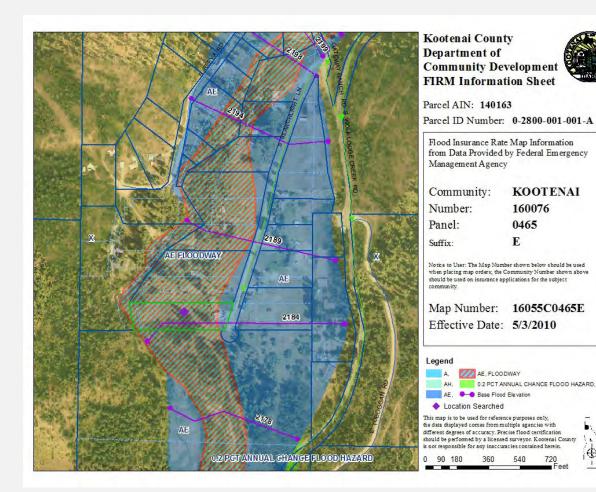
### MAPPED FLOOD ZONES

- AE: Established Base Flood Elevation
- A: Base Flood Elevation not established
- X: Low risk/not required to meet NFIP standards
- D: Areas that are unmapped

## Flood Insurance Rate Map (FIRM)

SFHA based on Flood Insurance Study

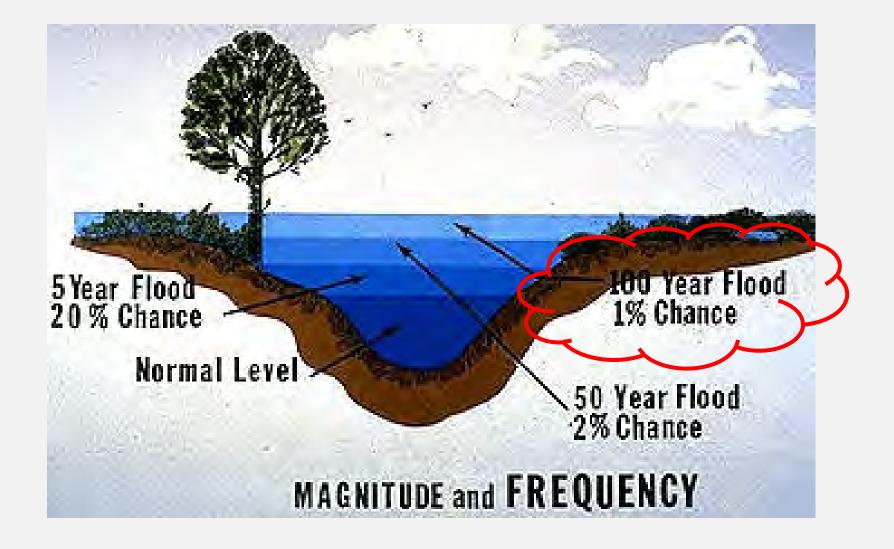
FIRMs <u>usually</u> provide Base Flood Elevations (BFE) for floodplains



## Base Flood Elevation (BFE)

Generally the height of floodwaters during discharge of the base flood as indicated on the FIRM.

The base flood elevation is measured in feet using North American Vertical Datum of 1988 (NAVD88), as of May 2010.



Chance/100 Years = 1% annual chance (every year)
 Chance/50 Years = 2% annual chance
 Chance/20 Years = 5% annual chance



PREMIUMS available for communities participating in the NFIP

Pre-FIRM (Prior to March 1, 1982) These rates are subsidized by the NFIP. Owners of these rates do not pay "actuarial" rates.

Post-FIRM (On or after March 1, 1982) Premiums are based on the degree of flood protection provided to a subject property (rates are based upon true risk the building is exposed to)

## **Rating Examples**

Туре	Coverage		Premium	
		-1'	at BFE	+1'
Pre-FIRM	\$100,000	\$595*	\$595*	\$595*
Post-FIRM	\$100,000	\$1161	\$401	\$286
Mfg. Home	\$60,000	\$896	\$579	\$289
Un # A Zone	\$100,000	submit	submit	\$791**
Commercial	\$150,000	\$3137	\$1088	\$573
B,C X Zone	\$100,000	\$326	\$326	\$326

\* Pre-FIRM can be elevation rated

- \*\* In UA, \$425 if 2'>ground; \$276 if 5'>(less if BFE used)
- \*\*\* Can be less with as PRP (e.g. \$221 for \$100,000 ins)
- All policies include an \$80 Expense Constant

## Process Overview

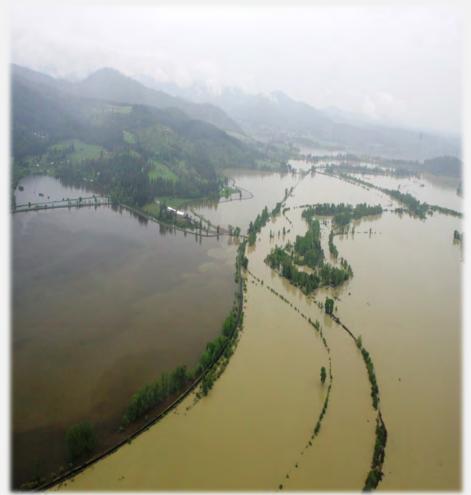
Building Permit StageFlood Review

#### Can I build in SFHA?

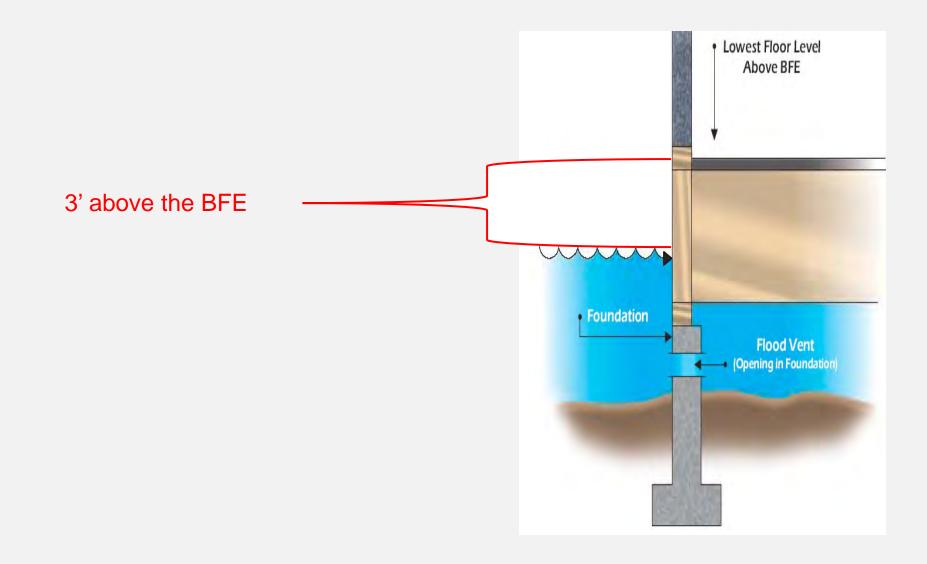
- Unplatted: Yes must meet flood regulations.
- New Subdivision: Must build completely outside SFHA

Subdivision

- Min building site: 4000 sf outside SFHA
- Access outside SFHA



# **Floodplain Regulations**



### What is the Purpose of an Elevation Certificate?

The Elevation Certificate (EC) is a critical administrative tool:

- Rate post-FIRM and some pre-FIRM buildings.
- Determine compliance with floodplain ordinances.
- Support LOMA/LOMR-F.

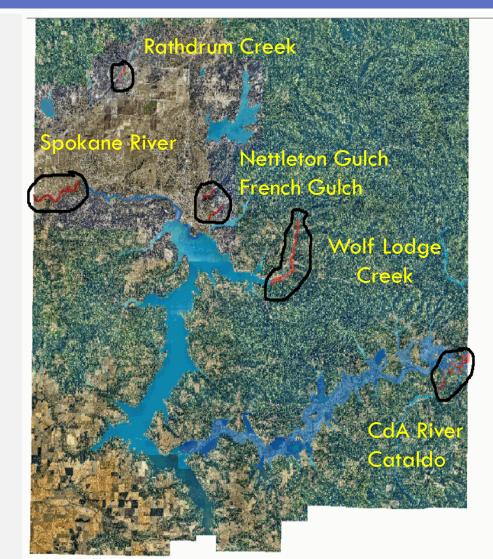
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ederal Emergency Manageme ational Flood Insurance Progr		Important:	Read the i	instructions on	pages 1-9.		Express march 51, 20
				OPERTY INFOR	MATION		For Insurance Company Use:
A1. Building Owner's Name	Elizabeth Coler	nan, Life Est; R.A. &	& C. A. Morris				Policy Number
A2. Building Street Address ( 746 Campbells Creek Rd.			lidg. No.) or P	O. Route and Box	(No.		Company NAIC Number
City Charleston Stat	and appendix of the	and and and a second					
A3. Property Description (Lot Lot 8A Mose Crowder Subdivi				Description, etc.)			
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B1. NFIP Community Name & Kanawha County No. 540070	Community Nu		B2. County N Kanawha	amo			B3. State WV
B4, Map/Panel Number 54039C04358	85. Suffx	B5. FIRM Index Date 2/05/2008	Effecti	FIRM Panel ve/Revised Date 2/06/2008	B8. FI Zone AE	(8)	B9. Base Flood Elevation(s) (Zo AO, use base flood depth) 637.8
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## Kootenai County Floodways

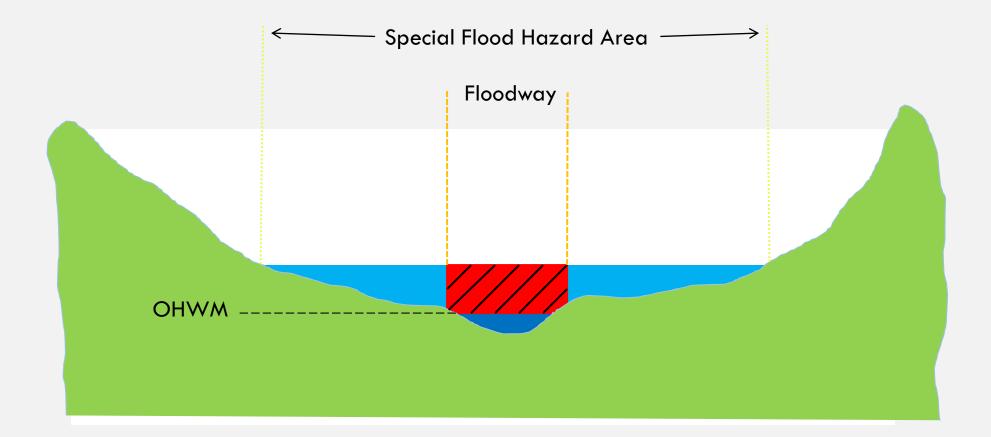
A "Regulatory Floodway" means the channel of a river or other watercourse and the adjacent land areas that <u>must be reserved in order to discharge the base flood</u> <u>without cumulatively increasing the water surface</u> <u>elevation more than a designated height.</u>

## Kootenai County Floodways

FLOODWAYS are extremely *hazardous* due to high velocity floodwaters within floodplains



## **SFHA and FLOODWAY Schematic**



### **SFHA = 1% Annual Chance Flood Height**

## **QUESTIONS?**



# Thank you!

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- https://www.uidaho.edu/extension/idah2o

