



# FLOODPLAIN REGULATIONS CONTINUED...

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# Floodplain Mapping

## Today's Meeting

- Start where we left off in December at Slide 7
- Discuss matrix topic and significant issues*
- Possible decision points for consistent policies*

# Floodplain Mapping

Data Utilized

*Effective FIRM*

*Best Available Data*



## Plan Review - Data Requirements

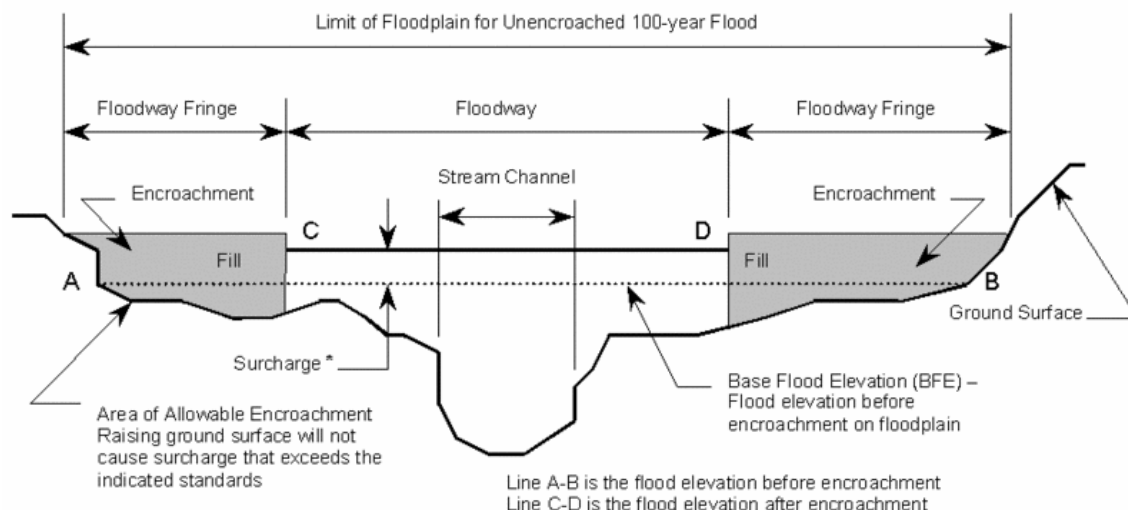
### *Prior Survey*





# Floodway Regulations

## FEMA Floodway *Agricultural Exemptions*



\*Surcharge not to exceed 1.0 ft. (FEMA requirement) or lesser height if specified by community

### Floodplain Encroachment and Floodway

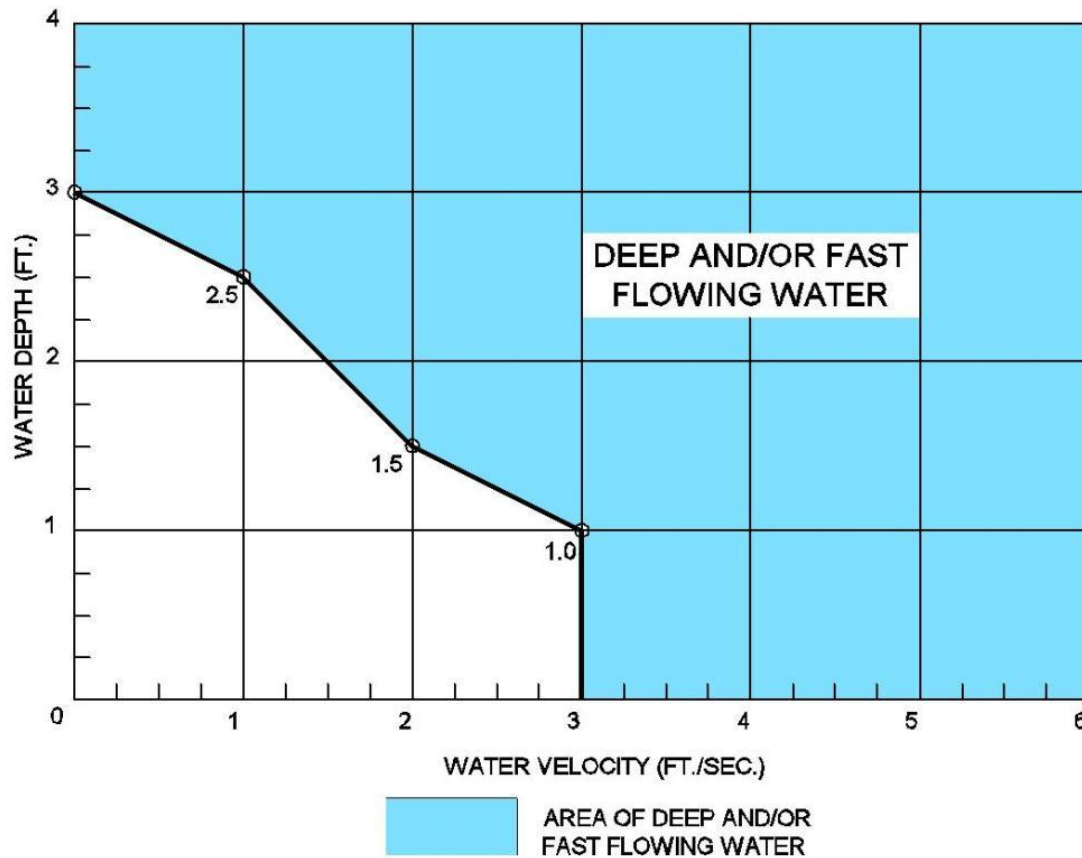
# Floodway Regulations

## Channel Migration Zone Floodway



# Floodway Regulations

## Deep and/or Fast Flowing Water Floodway



# Floodplain Regulations

## Subdivision of Land

- ❑ Retain upland buildable area so each lot holds similar risk & value

- ❑ Minimizes increased community risk and need for emergency rescues and services



# Floodplain Regulations

## Subdivision of Land

- Do we require uplands to be retained in each buildable lot?
- Do we set a minimum buildable area? (e.g. 5,000 s.f.)



# Floodplain Regulations

## Placement of Structures in Flood Fringe

- ❑ Locating on high ground less expensive to build, insure and maintain egress



# Floodplain Regulations

## Placement of Structures in Flood Fringe

- ❑ Must a structure be built on high ground when feasible?



# Floodplain Regulations

## Access

- During floods people need to leave structures in floodplain, even if it is elevated
- Necessary for emergency services
- Businesses need access to remain open



# Floodplain Regulations

## Access

Do we require access/egress for new development?

Does it vary for:

SFR

Commercial

Critical Facilities



# Floodplain Regulations

## Substantial Damage/Improvement Threshold

- ❑ Threshold allows continued non-conforming use in floodplain, to a limit
- ❑ FEMA minimum 50% threshold does not capture frequent repetitive losses
- ❑ Tracking damages and improvements over time speeds the timeline for high risk properties to be brought up to standards

# Floodplain Regulations

## Substantial Damage/Improvement Threshold

- Do we track repairs and improvements in the floodplain?
- For 5 years?
- For 10 years?



# Floodplain Regulations

## Zero Rise Analysis

- ❑ Should activities of one neighbor be allowed to harm another?
- ❑ An Analysis is needed to see what harm a development could cause
- ❑ Lost conveyance width can cause increased velocity, scour, and flood levels



# Floodplain Regulations

## Zero Rise Analysis

Do we prevent an increase in base flood that affects others?

To what standard?

0.01 feet?

0.001 feet?





# Floodplain Regulations

## Compensatory Storage

- ❑ Flood storage attenuates the flood and can reduce maximum flood stage
- ❑ The flood storage needs to freely drain in and out - i.e. be hydraulically connected
- ❑ Flood storage is linked to flood stage. As a flood crest approaches attenuation requires available storage capacity

## Compensatory Storage



- Do we require no loss of Flood Storage?
- At flood stage too?

# Floodplain Regulations

## Variations

- One size doesn't fit all
- Ensure no adverse impacts, exceptional hardship
- Must track approvals



# Floodplain Regulations

## Variances

- Do we have a track record?
- How do we communicate with neighboring jurisdictions?



# Elevation above BFE

## Single Family Residence

- ❑ Too many variables to accurately predict future floods at any specific location
- ❑ \$20,930 damage from one inch of flooding on main floor (2,000 s.f. home - Floodsmart.gov)
- ❑ Insurance cost decrease with every foot of freeboard  
1' – 40%    2' -55%    3' -60%



# Elevation above BFE

## Single Family Residence

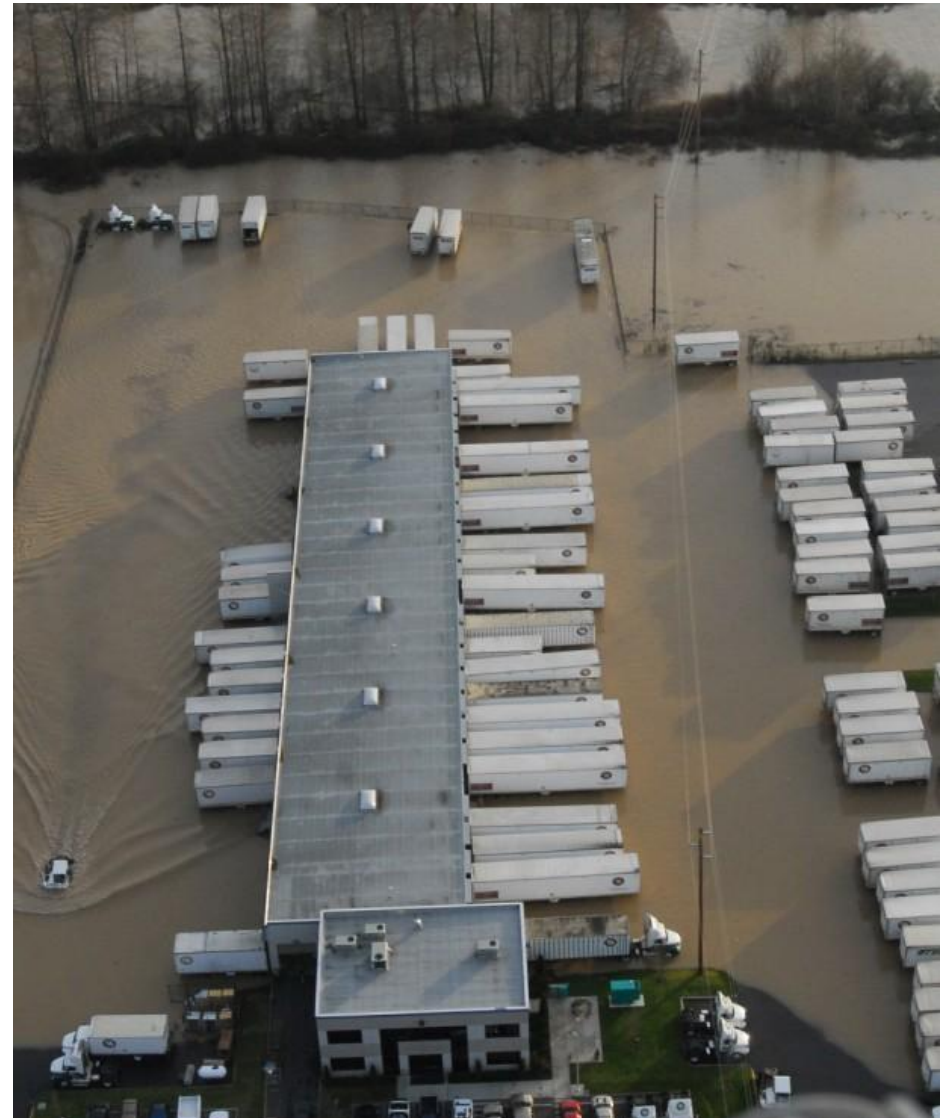
- Elevate above base flood: 1 ft / 2ft / 3ft
- Measured from: Lowest floor / Finished Floor



# Elevation above BFE

## Commercial/Industrial

- Business closures and inventory often greater losses than building
- Flood Insurance does not credit the top foot of floodproofing

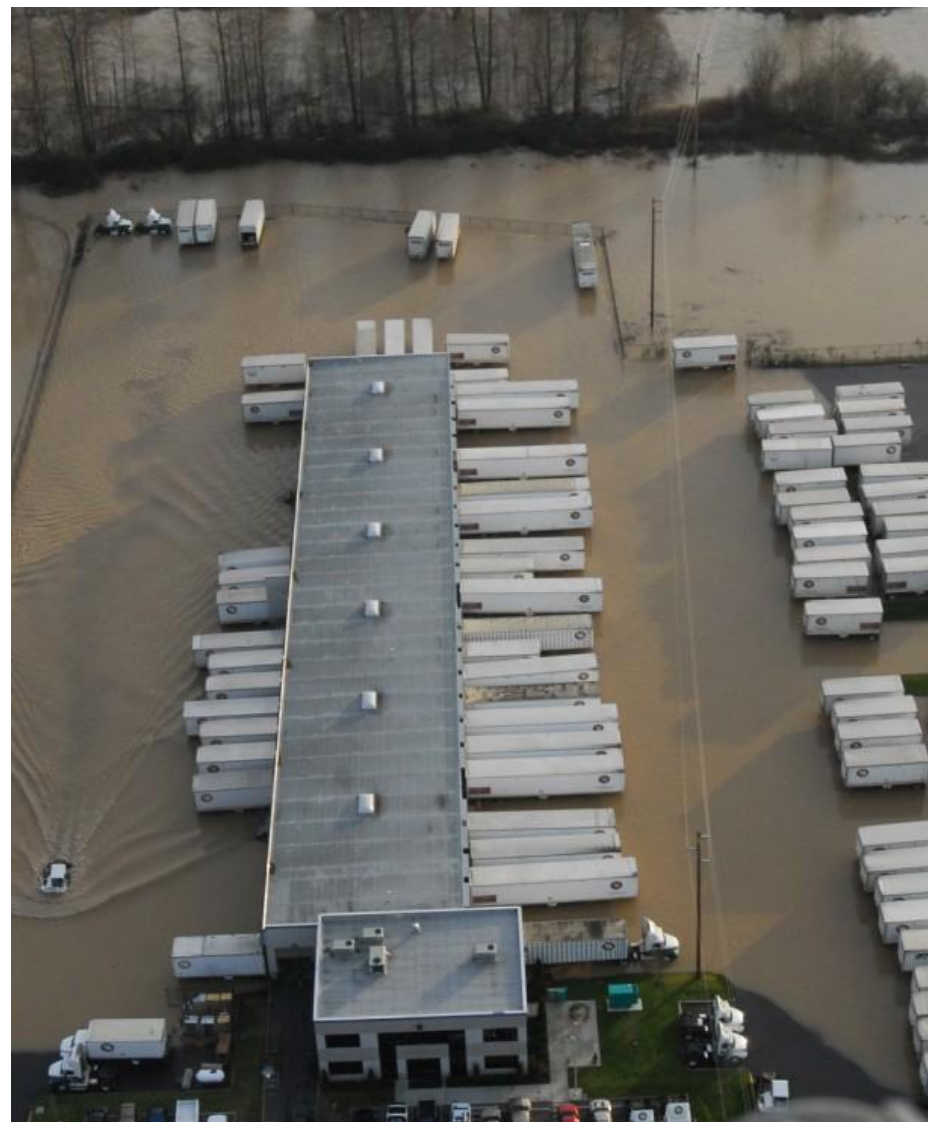




# Elevation above BFE

## Commercial/Industrial

- Elevate above base flood: 1 ft / 2ft / 3ft
- Flood-proofing above base flood: 1 ft / 2ft / 3ft
- Measured from:  
Lowest floor /  
Finished Floor



# Elevation above BFE

## Critical Facilities

- ❑ Every community has their own definition of Critical Facilities
- ❑ Need to operate during disasters



# Elevation above BFE

## Critical Facilities

- Do we make a common definition
- Elevate above base flood: 2 ft / 3 ft
- Require Access above base flood
- Keep out of 100 / 500 year floodplain



# Floodplain Regulations

## Other Best Practices

- ❑ FEMA Model Ordinance shows ways to be in compliance with ESA and receive credit under the Community Rating System
- ❑ Communities have innovative ideas for reducing flood losses and improving hazard awareness

# Floodplain Regulations

## Other Best Practices

- Require All Hazard Radios in all new and substantially improved buildings
- Require Elevation Certificate if floodplain encroached 5 feet onto parcel
- Parking lots no deeper than ½ foot in base flood