



FLOODPLAIN REGULATIONS CONTINUED...

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Floodplain Mapping

Today's Meeting

- ❑ Start where we left off at Slide 11
- ❑ *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

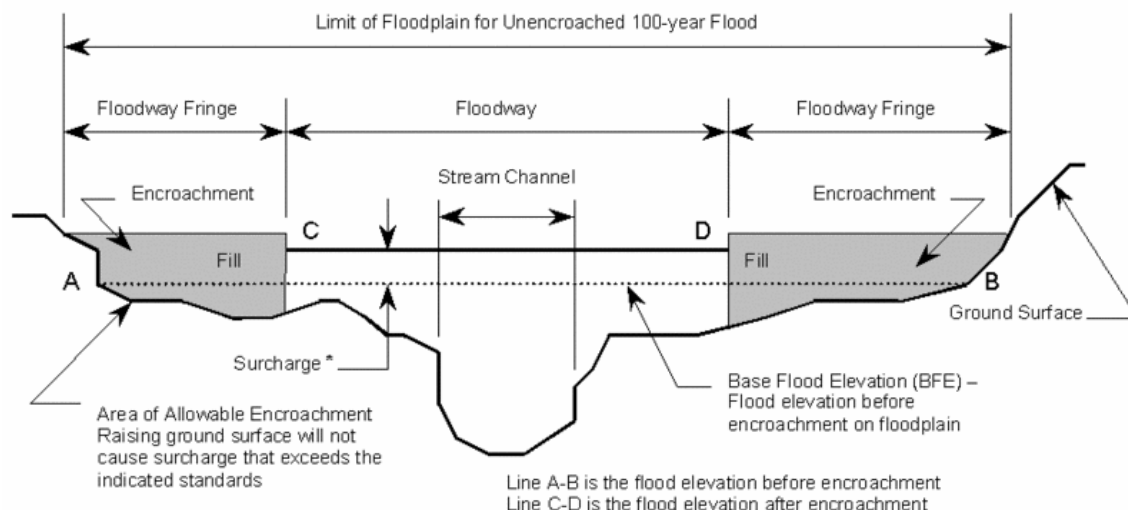
Prior Survey





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

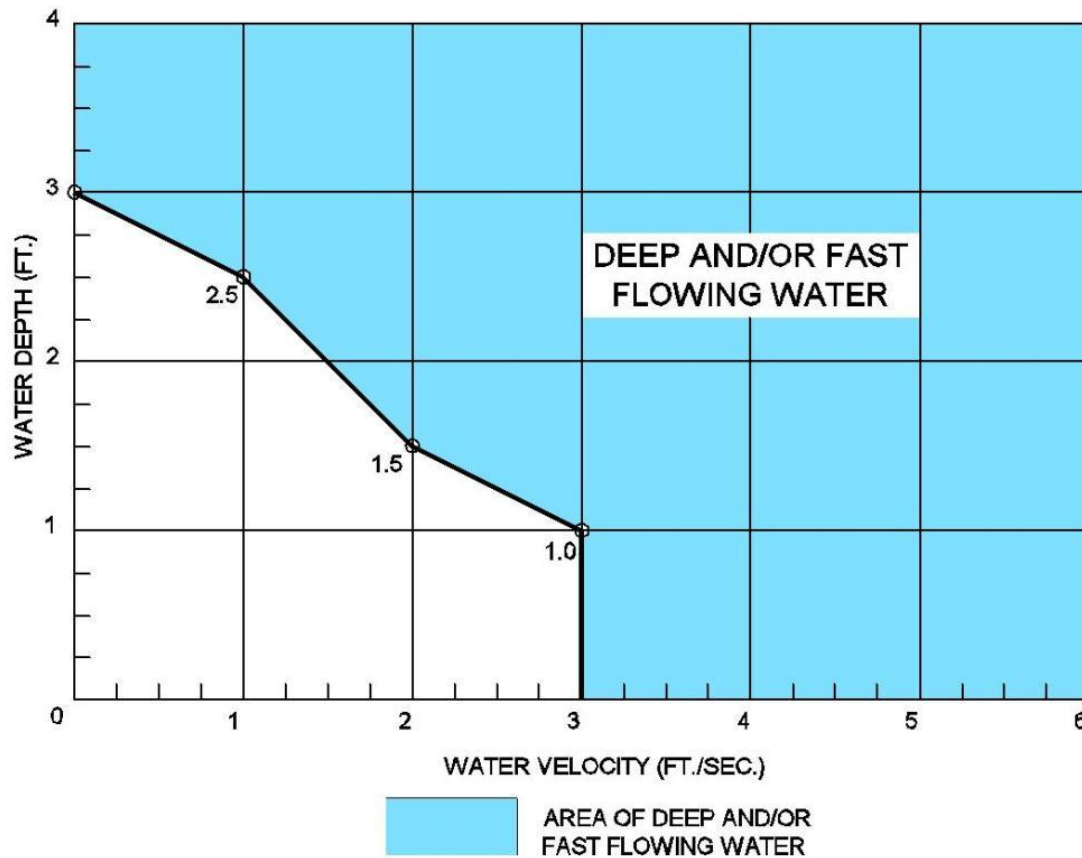
Floodway Regulations

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

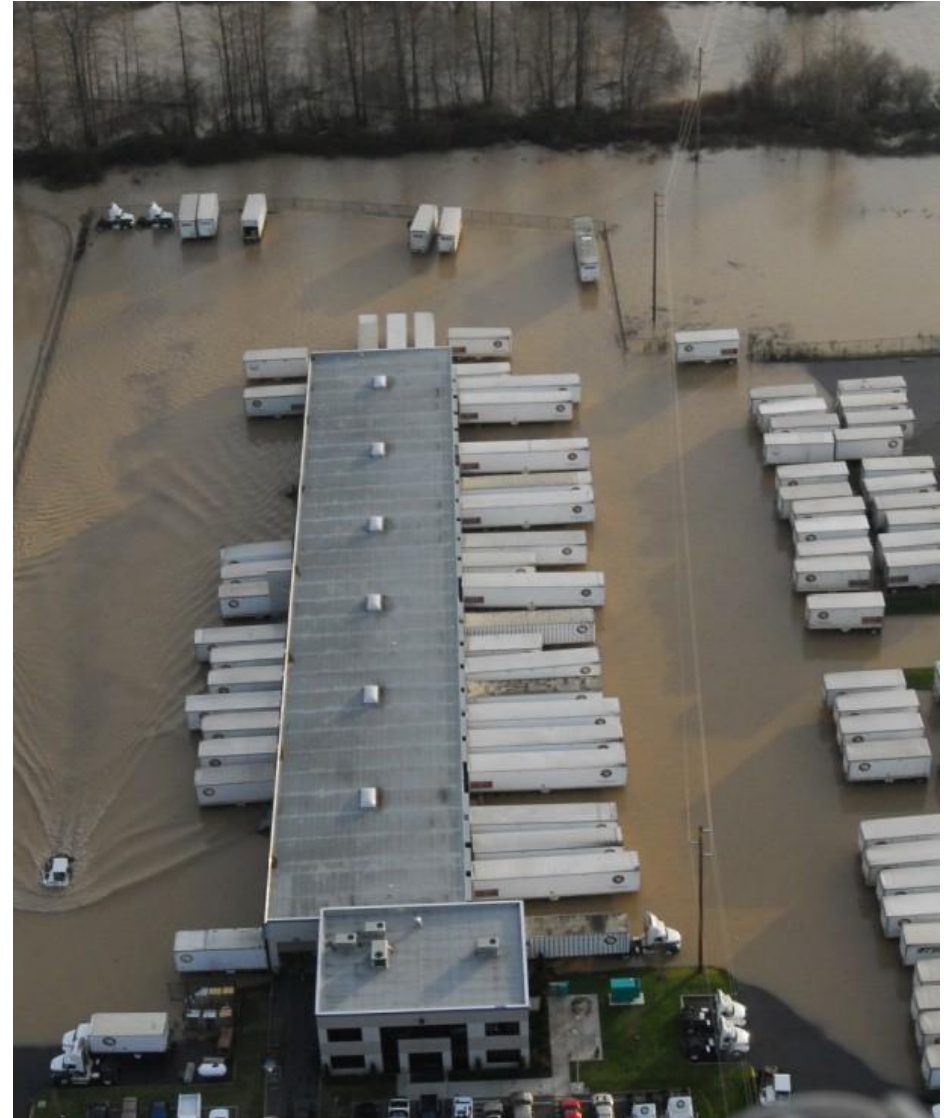
- Elevate above base flood: 1 ft / 2ft / 3ft
- Measured from: Lowest floor / Finished Floor



Elevation above BFE

Commercial/Industrial

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

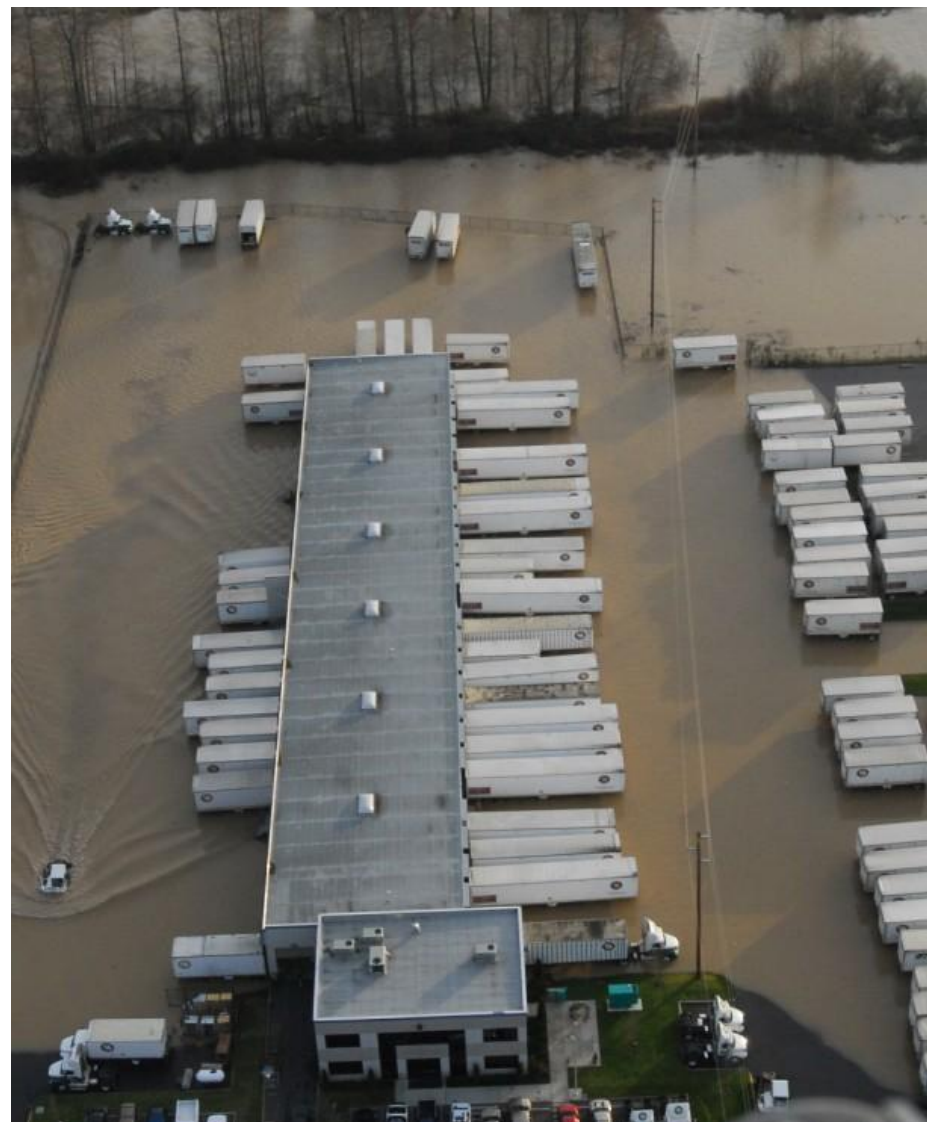




Elevation above BFE

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 $\frac{1}{2}$ foot in base flood