

# Proposed Improvements to Local Floodplain Management

## Chehalis Basin Communities

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The National Flood Insurance Program (NFIP) sets the minimum national standards for managing development in mapped flood hazard areas. Eleven of the Chehalis Basin communities (all but Napavine) are in the NFIP and must abide by these criteria. The NFIP criteria are minimum national standards. Higher local standards are explicitly recommended by the NFIP where they provide better protection from local hazards.

State law, the Washington Department of Ecology, and the Washington State Building Code have some higher floodplain management standards that communities must follow. These agencies also recommend that communities adopt additional criteria where they are appropriate.

French & Associates' floodplain management assessment identified 25 provisions that are improvements to the minimum NFIP and State criteria and that would help prevent or reduce flood losses in the Basin. Many of the improvements are already being implemented by one or more Basin community. These provisions were reviewed with local floodplain managers to get their technical input.

French & Associates has prepared the following list of recommended improvements for consideration by the Flood Authority and the local governments in the Chehalis Basin. All of these recommendations can receive credit under the Community Rating System and potentially reduce the rates for flood insurance to Basin residents.

Provision	Why Needed	Communities with similar standards
<b>1. Maps and data</b>		
1.1. Use the flood of record where it was known to be higher than the mapped Base Flood Elevation (BFE, also known as the 100-year or 1% chance flood elevation).	Most of the current maps used by local governments are based on data from the 1970's. The 100 year flood prediction has increased by over 30 percent since the 1970's. People should be protected from known flood hazards, including those not shown on floodplain maps. There are areas where floods have gone higher than shown on NFIP maps three times since 1990.	Thurston County
1.2. Use basin floodplain maps and profiles where the FEMA's Flood Insurance Rate Map (FIRM) shows an approximate A Zone	Much of the Basin's rural areas are mapped as approximate A Zone, areas with no BFEs or other regulatory data. The Authority can prepare maps with historical flood elevations and BFEs. These maps will facilitate local permit work and will reduce the burden on landowners to identify the elevations. They will also provide the data needed for recommendation 1.1.	

Provision	Why Needed	Communities with similar standards
1.3. Building applicants should calculate a BFE and delineate the regulatory floodway in approximate A Zones	This would provide flood protection data in flood hazard areas not covered by the maps in recommendation 1.2.	Centralia, Lewis County, Thurston County
1.4. Protect new building in flood-related special hazards, such as channel migration zones	Standard floodplain management regulations only address overbank flood hazards. Shoreline Management and Critical Areas ordinances' setback requirements provide limited protection from channel migration.	Thurston County (regulates areas of high ground water)
<b>2. Maintain Existing Floodplain Functions</b>		
2.1. Encourage low density and open space uses in the floodplains.	There are numerous instances where local plans and zoning call for high density development in flood hazard areas.	Grays Harbor County, Lewis County, Thurston County
2.2. Discourage hazardous development in the floodway of the floodplain.	The floodway is the most hazardous part of the floodplain and where development can obstruct flows and cause problems to other properties. State law prohibits non-farm residential buildings, but does not address other habitable structures.	All communities enforce the state requirement (WAC 173-158-070)
<b>3. New buildings</b>		
3.1. Protect new and substantially improved buildings to a minimum of 3 feet above the BFE ("freeboard")	Freeboard accounts for unpredicted problems, like downstream log jams, and floods greater than the 100-year. Because it has been shown to have such an impact on flood damage, NFIP premiums are significantly reduced based on the amount of a building's freeboard.	All but Aberdeen, Montesano, and Oakville have some freeboard
3.2. Protect fill used for building foundations	If fill is used to protect a building, it should be properly compacted, extend at least 10 feet beyond the foundation, and protected from erosion.	The State Building Code only requires compaction
3.3. Ensure individual building site plans account for the flow of drainage	Many problems are caused when new construction alters drainage flows onto a neighbor. Site plans can help prevent this and ensure that new buildings are protected from local drainage flooding.	The State Building Code requires positive drainage away from the building
3.4. Protect for enclosures below the elevated floor	Owners often improve the lower area of a building elevated eight feet above grade, forgetting about the flood hazard.	
<b>4. Existing buildings</b>		
4.1. Track improvements cumulatively	The NFIP requirement is that if a building improvement is valued at more than 50% of the building's value, it must meet the	Lewis County, Thurston County
4.2. Track damage cumulatively		Thurston County

Provision	Why Needed	Communities with similar standards
4.3. Use a substantial improvement and/or damage threshold lower than 50%	standards for protecting new buildings. The same rule applies for a building that is substantially damaged. It is not uncommon for owners to do major improvements incrementally, by applying for one small permit at a time, thereby extending the life of a noncompliant structure.	
4.4. Ensure all additions to meet the flood protection requirements		
<b>5. Other development</b>		
5.1. Ensure new fill does not increase flooding	Filling destroys natural floodplain functions, reduces flood storage, and can divert waters to other properties.	Bucoda, Thurston County
5.2. Ensure safe storage of hazardous materials in the floodplain	The minimum NFIP rules do not differentiate for the use of a property. It is OK to put a chemical plant in the floodplain.	Thurston County
5.3. Protect critical facilities to a minimum of the 500-year flood level plus freeboard	The minimum NFIP rules do not differentiate for the use of a property. However, fire stations, water treatment plants, hospitals, etc., should have higher protection standards.	All but Grays Harbor County, Montesano, Oakville, and Pe Ell have some critical facility standards
5.4. Construct new streets to be at or above the BFE	New buildings may be protected from flooding, but may still be occupied, catch fire, or otherwise need to be accessible by emergency vehicles.	Bucoda
<b>6. Administration</b>		
6.1. Encourage one permit official to be a Certified Floodplain Manager (CFM – see <a href="http://www.floods.org">www.floods.org</a> )	Having a CFM on staff helps ensure that the floodplain management provisions will be properly enforced.	Centralia, Lewis County, and Thurston County have CFMs on staff
6.2. Encourage three inspections to verify all floodplain management requirements	Inspecting a site during construction ensures that the project will comply with the approved plans. Problems can be caught before it is too late to correct them.	Most building departments conduct at least three site inspections, but not necessarily for flood provisions.
6.3. Provide FEMA Elevation Certificates for all new buildings and substantial improvements	The Elevation Certificate identifies all the provisions needed to ensure that a building meets the NFIP criteria. It is also needed to obtain a flood insurance policy for a new building.	Most of the Basin NFIP communities use this form, but it is not always required.