

## Fluvial Erosion Hazard (FEH) Overlay District Zoning Amendment

### Frequently Asked Questions in Raymond

**1. Why should Raymond adopt this ordinance?** Raymond lies in the upper Exeter River region. What we do affects activity in the Exeter River all the way downstream. Until Raymond protects the upstream area from erosion hazards, it makes no sense for down river towns to act. Also, the Exeter River (and its major tributary in Raymond, Fordway Brook) was the first watershed studied and mapped, at no expense to Raymond taxpayers; free technical support from the state has been extensive over a period of two years. It is in the town's best interest to use hazard data as soon as it comes available for the protection of Raymond citizens. Finally, making use of the study and establishing an ordinance can make us eligible for grants for funding items like culvert work and other restoration projects.

**2. Why does Raymond need this ordinance?** Fordway Brook has moved at least 10 feet in its meander bed in recent history at Hillside Drive. We have only to recall the Old Bye Road disaster that left an entire neighborhood isolated to understand Fordway's extreme to very high erosion sensitivity rating. Right now, the Ford way tributary is in a healthy state of equilibrium with plenty of wetland; FEH is a low cost way to protect Fordway from additional costly damage. On the Exeter River meander bed, Raymond faces a risk of avulsion (river cuts a new path across a loop of the meander). Currently the Raymond Planning Board has no authority to stop development in hazard erosion areas, and activity in these areas often results in loss of stabilizing undergrowth and other erosive activities. Limiting development in erosion hazard areas is the only sure way to stop damage.

FEH is a second step in the Planning Board's effort to stop flood events from worsening in Raymond. Last year we stopped loss of floodplain storage with a no-net loss ordinance. This year we hope to stop the hazards of erosion with FEH. The Planning Staff is currently evaluating and strengthening our stormwater management practices to prevent runoff from development. With these three flood control efforts, economic development, emergency workers' safety, and life and property in Raymond can take a giant step forward.

**3. What's the difference between the FEH ordinance and our Floodplain Development ordinance?** The floodplain ordinance protects Raymond from rising floodwater by putting a stop to floodplain loss in Raymond. The FEH ordinance will protect Raymond from eroding floodwater by putting a stop to practices that interfere with the safe movement of high velocity floodwater. Once we've stopped flooding and erosion from getting worse, we can begin to recover floodplain and restore riverbanks.

**4. What's the difference between the FEH ordinance and the Comprehensive Shoreland Protection Act (CSPA) ordinance?** The CSPA has a standard buffer width that is the same for all areas (250 feet). The FEH zone varies in width according to what is actually needed to protect each section (or reach) of the river or the brook. Also, the purpose is different: CSPA protects

the shoreland “to maintain the integrity of public waters;” FEH protects people and property against erosion hazards during high velocity flood events. Finally, CSPA assumes the river is unchanging. FEH recognizes that rivers are always moving and seeking equilibrium.

**5. Why is the mapped FEH zone different than the mapped floodplain zone?** The floodplain zone is based on past experience of how high water might rise in a flood event. The 100 year flood line says that in any given year, there’s a one in 100 chance of being flooded. The FEH zone is based on the width of the valley in which the river or brook can move, and on the potential for erosion due to high velocity flood events.

**6. Why does the FEH zone extend into areas that we can’t remember ever flooding?** The risk of erosion exists wherever the river has the potential and probability to move. This movement may take place suddenly, like when the Suncook River cut a new channel, or over many years as meanders change, or in an intermediate time frame such as the movement of Fordway Brook 10 feet over the last 15 years near Hillside Drive.

**7. Why is the FEH zone so wide on the Exeter River?** The width of the zone is determined by width of the valley walls, what they are made of, and other risk factors. In the Exeter River area the meander belt width is wider than in Fordway Brook where the drop is steeper and the valley wall is narrower.

**8. Who drew the FEH boundaries and how was this done?** The science of fluvial geomorphology gives us data on how water moves earth in or near a river. This science, along with data sets, is fed into a computer model. GIS datasets are used to prepare for field assessments. Next, field experts actually walk the river, mapping its features, including manmade ones, and add this data. Next, after study, the boundaries are drawn according the data available for each reach. Finally, the mapped boundaries are transposed onto aerial parcel maps that show property lines so that landowners can see the boundaries clearly. Raymond’s data maps were produced by the Exeter River Geomorphic Assessment and Watershed-based study, refined by the New Hampshire Geological Survey, and transposed into ordinance-ready maps by the Southern New Hampshire Planning Commission. As the science of fluvial geomorphology continues to expand, data will become more refined. One Planning Board member suggests that core samples would be helpful.

**9. Can the boundary on my property be wrong?** Not likely; during the initial map production for Raymond’s ordinance, the New Hampshire Geological Survey adjusted the map for the finer resolution that abutters requested, using Global Positioning Satellite readings to check the valley walls; this technology is among the best possible technology available at the present time to map any item of interest. If, in the future, a landowner wants to build and thinks his/her boundary may be wrong, the NH Geological Survey has agreed to field verify the map and advise the Planning Board so that a map amendment can be made if needed.

**10. On Fordway Brook, there are not very many FEH zone areas, so why bother with an ordinance?** Much of Fordway brook is in a healthy state of equilibrium right now, with ample wetland, for example, so this is the optimum time to protect the brook against erosion damage to property owners both in Raymond and downstream.

**11. Why don't we just give property owners the hazard information and let them decide what to do with risks on their land?** We have many responsible property owners in Raymond who do try to avoid erosion hazards by, for example, leaving plenty of growth near the water's edge; we have other property owners who do not understand or know about erosion hazard risks. An ordinance helps showcase the risk so everyone can get on board with prevention. Most important, however, is that without an FEH ordinance, the Planning Board cannot require developers to adjust their site plans to avoid erosion hazard areas in order to protect downstream properties. The legislature granted towns the authority to enact FEH ordinance in 2009. Our own representative Mike Kapplar sponsored this bill in the house, and Senator Jack Barnes presented it in the Senate.

**12. If my land lies in an FEH zone, will that mean a rise in my flood insurance rates?** According to Jennifer Gilbert, Floodplain Management Coordinator at the NH office of Energy and Planning, FEH has no effect on flood insurance because "flood insurance is directly related to the National Flood Insurance Rate maps and the regulations in the floodplain ordinance." In fact, once Raymond has completed its application for the FEMA Community Rating System, Raymond will be eligible for reductions in flood insurance rates because FEH is considered a "higher standard," not required by FEMA but recognized and rewarded by the National Flood Insurance Program. Twenty-eight communities in NH, including Raymond, currently have higher standards; Raymond will be the first to add the FEH higher standard.

**13. If my land lies in an FEH zone, will the value of my property be reduced?** Riverfront property, though perhaps less valuable than lakefront property, is still highly sought after even though it often lies in the floodplain. Flood risks are usually already factored into those values. The FEH ordinance offers added protection to help assure future buyers that their properties are protected from upstream erosive events. Further, the ordinance allows the highest and best use of the property and is flexible with regard to adding to existing structures.

**14. Where did the money come from for the New Hampshire FEH Program and how likely is it to continue?** The NH FEH Program is an established partnership between FEMA, the Division of Homeland Security at the Department of Safety, NH Department of Environmental Services, the NH Geologic Survey, the NH Department of Transportation, NH Fish and Game, the River Advisory Committees and the NH Rivers Management Program, the NH Department of Safety, and local participating municipalities. Funding is already in place for the studies planned for next year. In 2009, the Ammonoosuc and the Isinglass were studied and mapped. In 2010-11, the Cocheco and the Lamprey will be mapped including the Little River, North Branch, North and Piscasic. The FEH program came out of recommendations from the FEMA Independent Evaluation of Recent Flooding in New Hampshire (8/2008) and the Comprehensive Flood Management Study Commission, (final report 9/2008). The state of New Hampshire has

partnered with the State of Vermont over a period of several years to adapt FEH studies and ordinances to New Hampshire.

**15. What is the legal risk to Raymond as the first town to adopt an FEH ordinance?** “Courts have broadly and repeatedly upheld the general validity of floodplain regulations. . . and continue to strongly uphold [them].” See particularly *Hansel v. City of Keene*, 634 A2d 1351 NH 1993. “Courts have afforded regulatory agencies considerable discretion in deciding which scientific or engineering approach to accept in fact-finding as long as the final decision is supported by ‘substantial’ evidence.” “Courts are likely to find a taking only where regulations deny all ‘reasonable’ economic uses of entire properties and where proposed activities will not have offsite ‘nuisance’ impacts.” (May 2004 update to the Association of State Floodplain Managers’ F.B. Kusler Report. See No Adverse Impact Toolkit). Finally, enabling legislation specifically for FEH ordinances was passed in 2009 by the NH Legislature (HB 290).