U.S. Department of Homeland Security
FEMA Region I
99 High Street, 6th Floor
Boston, Massachusetts, 02110-2320

FEMA

February 17, 2017

David Eaton, Chairperson, Board of Selectmen, Town of Allenstown
Town Hall
16 School Street
Allenstown, New Hampshire 03275

Subject: Town of Allenstown, Merrimack County, New Hampshire
Community No.: 330103

Dear Mr. Eaton:

On July 7 and 8, 2015, the United States Geological Survey (USGS), in partnership with the Federal Emergency Management Agency (FEMA), conducted a Discovery meeting for the Merrimack Watershed as part of FEMA's Risk **M**apping, **A**ssessment, and **P**lanning (Risk MAP) program. The Merrimack Watershed is the 8-digit hydrologic unit code (HUC) 01070006. During the meeting, the USGS discussed areas of flooding concern and project goals, milestones, and products with a variety of stakeholders, including FEMA officials, state and community officials, and watershed interest groups. Flooding sources considered during this meeting included major rivers such as Merrimack River, Soucook River, Suncook River, Little Suncook River, Piscataquog River, Souhegan River, Spicket River, Shawsheen River, Little River, and Powwow River, as well as other smaller rivers and tributaries in the watershed.

The Discovery process marked the beginning of a Risk MAP project that started in October 2014, and it assisted in identifying the scope of the Merrimack Watershed study. The Discovery meetings are part of the Discovery process, and the information exchanged between FEMA and communities within the Merrimack Watershed during Discovery improved our understanding of the watershed's flood hazard mapping and mitigation planning. At the Discovery meetings, we reviewed the flood risk data gathered to date. We also discussed your community's flooding history, flood risk concerns and mitigation. During the Discovery process, officials in your community may have provided information, comments, or questions to the USGS. If this is the case, a summary of information exchanged is shown in Table 2, and responses to comments or questions are shown in Table 3.

At the website below, you can download a copy of the Merrimack Watershed Discovery Report, which collates information presented at the Discovery Meetings; information collected from communities prior to, at, and following the Discovery Meetings; and other information collected from other sources. Appendices to the report may be available upon request.

https://newengland.water.usgs.gov/fema_merrimack/

Using this information that we collected during the Discovery process, **the following rivers in the Merrimack Watershed were selected for detailed studies — Beaver River, Black Brook, Hassells Brook, Peppermint Brook, Soucook River, Spicket River, Suncook River, and Vine Brook.** The scope of the engineering and mapping covered for each river reach in this project is summarized in Table 1.

As discussed in the Discovery Meetings, FEMA's goal is to offer useful, credible data, and a fair process to help you make informed decisions to continue building a safer and stronger community. As such, we

want to notify you of the engineering data models that are being used in FEMA's ongoing flood risk project. These engineering data models will form the basis for the proposed Special Flood Hazard Areas (SFHAs) that will be presented on the Flood Insurance Rate Map (FIRM). An SFHA is an area that is subject to inundation by the 1-percent-annual-chance flood (also called the base flood). Over time, water flow and drainage patterns on the selected reaches (Table 1) may have changed dramatically due to surface erosion, land use, and natural forces. Given these factors, the likelihood of flooding along these reaches may have increased or decreased over time, changing the SFHA designations.

Draft flood hazard information will be developed by FEMA's mapping partner, the USGS. USGS will use the engineering models shown in Table 1, which lists the flooding sources to be studied, along with details regarding the selected models and the rationale for their use. The engineering models were selected based on a variety of factors including, but not limited to, the type of study performed (e.g., base or enhanced, shallow flooding, coastal, alluvial fan, etc.), the size of the drainage area affecting the flooding source, and the type of terrain present (e.g., flat, hilly, mountainous, etc.).

Detailed studies involve field surveys to obtain structural geometry and elevation data and new hydrologic and hydraulic analysis resulting in new flood elevations. **The field surveying on the previously listed river reaches will be occurring during spring 2017. Be aware that you and residents in your communities may see USGS survey crews on the bridges, dams, and rivers, during the next several months.** At the following website, you can view or download a copy of the flyer that the surveyors carry to inform the public of the project.

https://newengland.water.usgs.gov/fema_merrimack/

As this project continues, the USGS will be conducting a number of other meetings with the stakeholders in the Merrimack Watershed to communicate the progress of the project and to solicit comments about draft and preliminary products. After the Discovery meeting, the next meeting to be held will be the work map meetings. In the work map meetings, the USGS and FEMA will be meeting with officials from each community affected by the project scope to discuss the draft flood insurance rate map products – the work maps – for that community. Communities in the project scope can expect to receive an invitation to these meetings at least four weeks before their scheduled dates.

If you have any questions regarding the Discovery process and results, the selected reaches or models, or the planned work map meetings, please contact the project manager, Scott Olson, Project Manager, USGS, by e-mail (solson@usgs.gov) or by calling (603) 226-7815. Also available to answer any questions is Kerry Bogdan, Senior Engineer, FEMA Region 1, at (617) 956-7576 or Kerry.Bogdan@fema.dhs.gov.

Sincerely,

MARILYN HILLIARD

Digitally signed by MARILYN HILLIARD
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Date: 2017.02.17 16:21:18 -05'00'

Marilyn Hilliard
Risk Analysis Branch Chief
Mitigation Division
FEMA Region 1

Table 2: Summary of information exchanged during Discovery

Date	Information exchanged
06/10/2015	Discovery Meeting invitation letter mailed to community
06/22/2015	Online questionnaire submitted by Shaun Mulholland
07/07/2015	Discovery Meeting

Table 3: Responses to comments and questions

Number	Submitted by	Comment or question	Response
1	Shaun Mulholland, Emergency Management Director, June 22, 2015, via questionnaire	Suncook River needs to be updated due to avulsion, sedimentation, and an expanded floodplain. A Fluvial Geomorphic Assessment and other studies may be available.	The upper reach of Suncook River, above Allenstown, has been selected for a new detailed study. The lower reach, including Allenstown, has an existing study that may be updated. Both studies will be remapped.

cc: Ron Pelissier, Road Agent, Town of Allenstown
Eric Feustel, Chairperson, Zoning Board of Adjustment, Town of Allenstown
Chris Roy, Chairperson, Planning Board, Town of Allenstown
Shaun Mulholland, Director, Emergency Management, Town of Allenstown
Dana Pendergast, Building Inspector, Town of Allenstown
Jennifer Gilbert, State NFIP Coordinator, New Hampshire Office of Energy and Planning
Kellie Walsh, Assistant State NFIP Coordinator, New Hampshire Office of Energy and Planning
Kerry Bogdan, Senior Engineer, FEMA Region I
Scott Olson, Project Manager, U.S. Geological Survey

Table 1: Detailed study reaches in the Merrimack Watershed, Massachusetts and New Hampshire

River	Communities	Limits of study	Hydrologic model proposed	Hydraulic model proposed	Model rationale
Beaver Brook	Lowell and Dracut, MA, and Pelham, Windham, Hudson, Londonderry, and Derry, NH	From confluence with Merrimack River, Lowell, MA to headwaters at Beaver Lake, Derry, NH	Streamgage data and regression equations	HEC-RAS one-dimensional steady	Regression equations are applicable to the study reaches and peak discharges are sufficient for the hydraulic analysis. Reaches with streamgage data also are close to a USGS gaging station with at least 20 years of data. One-dimensional, steady-flow hydraulic models are used where flow is modeled as steady in time, one-dimensional, and generally gradually varied in space, and where channel slope is generally less than 10%.
Black Brook	Lowell, MA	From confluence with Merrimack River, Lowell, MA to effective upstream limit of flooding, below corporate limit, Lowell, MA	Regression equations		
Hassells Brook	Nashua, NH	From confluence with Salmon Brook, Nashua, NH to effective upstream limit of flooding, below Everett Turnpike, Nashua, NH	Regression equations		
Peppermint Brook	Dracut, MA	From confluence with Beaver Brook, Dracut, MA to effective upstream limit of Zone A flooding, upstream of Bridge Street, Dracut, MA	Regression equations		
Soucook River	Loudon, NH	From corporate boundary, Loudon, NH to headwaters at confluence of Bumfagon Brook and Gues Meadow Brook, Loudon, NH	Streamgage data and regression equations		
Spicket River	Lawrence and Methuen, MA, and Salem, NH	From confluence with Merrimack River, Methuen, MA to headwaters at Arlington Mill Reservoir, Salem, NH	Streamgage data and regression equations		
Suncook River	Chichester, Pittsfield, and Barnstead, NH	From USGS streamgage 01089500, Chichester, NH to headwaters at Lower Suncook Lake, Barnstead, NH	Streamgage data and regression equations		
Vine Brook	Bedford, Burlington, and Lexington, MA	From confluence with Shawsheen River, Bedford, MA to effective upstream limit of flooding, below Hayes Lane, Lexington, MA	Regression equations		