100-Year Floodplains in the Lamprey River Watershed:
Flood Insurance Rate Maps (FIRMs), Updated (2005) Conditions, and 2100 Conventional Buildout
Durham Panel

Map Description:
This map illustrates the 100-year floodplain for the town of Durham for three conditions: (1) the FEMA Flood Insurance Rate Maps (FIRMs) process with base flood matching, (2) the current floodplain based on 2005 land use conditions and updated 100-year 24-hour rainfall of 8.75" shown in pink; and (3) the projected 2100 floodplain based on conventional buildout scenarios derived from 2005-2005 data and modeled future 100-year 24-hour rainfall of 11.4" shown in orange. The map and table below show the increase in the extent of the floodplain based on current and future conditions compared to FIRM conditions.

Map Key:
- Updated (2005) 100-Year Floodplains
- 2100 100-Year Floodplains
- Conventional Buildout
- Effective Zone A 100-Year Floodplains
- Special Flood Hazard Areas with Base Flood Elevations (BFEs) determined
- Effective Cross Sections

Accrege Summary:

Technical Notes:
The updated 100-year floodplains were determined using FEMA general hydrologic modeling technology and USGS derived digital elevation models (DEMs). The modeling includes a two-step process. The first step uses the HEC-HMS modeling system (Hydrologic Engineering Center Hydrologic Modeling System) to simulate the hydrology of the storm event, including rainfall, runoff, and overland flow. The second step simulates the hydraulic effects of overland flow and computed depth at the cross sections to generate the floodplain. This method uses a combination of HEC-RAS (Hydrologic Engineering Center River Analysis System) and HEC-2 (Hydrologic Engineering Center Flood Flow Analysis System) to assess flood elevations and inundation extent.

Map Data Sources:
- Updated 2005 Floodplains: Data from NOAA/CICEET funded proposal (based on 8.5")
- 2100 Floodplains: Data from NOAA/CICEET funded proposal (8.5")
- Conventional Buildout: Data from NOAA/CICEET funded proposal (8.5")
- Effective Zone A 100-Year Floodplains: Data from NOAA/CICEET funded proposal (8.5")
- Special Flood Hazard Areas with Base Flood Elevations (BFEs) determined
- Effective Cross Sections: Data from NOAA/CICEET funded proposal (8.5")

For further information about this project, please visit http://100yearfloods.org