

## **Our Flood Hazard Area**

- How is flood risk measured, and what is a “100 year flood”?
  - What are local flood hazards?
- What is a flood zone and why does it matter?
  - How do I know if I’m in a flood zone?

### ***How is flood risk measured and what is a ‘100 year flood’?***

Flood risk is a statistical measure of the chances of you having a major flood in a given year. You’ve probably heard this referred to as a ‘100-year flood’ or ‘500-year flood’ – these are actually incorrect terms.

A ‘100 year flood’ is properly called a ‘base flood’. A base flood has a 1% chance of occurring within a given year. This is a 1-in-100 probability – hence, the term “100 year” was born, along with the misconception that these floods only take place once every 100 years.

To clarify this concept: if you have a bag with 100 marbles (99 white, and 1 red), there is a 1% chance that you will pick the red marble. Yet, you could pick the red marble *several* times in the course of 100 tries. By the same token, a base flood (1% chance) can occur *multiple* times within a 100 year period, as we’ve seen in here in Pequannock, as well as, Texas, Louisiana, etc.

A “500 year flood” has a 0.2% chance (1-in-500 probability) of happening in any given year.

### ***Local flood hazards***

Flood hazards can be manmade (like a dam failure) or they can be natural (like a storm). Here in Pequannock, we experience riverine flooding. Three rivers (Pequannock, Ramapo and Wanaque) come together in the northeast corner of our town and flow into the Pompton River – that’s a lot water converging!

Flooding usually happens after heavy rainfall but can also be caused by snow melt, dam failure, and ground saturation (high water table). Pequannock can experience flash flooding, which is especially dangerous because it comes with little warning and can be very fast moving.

The low-lying areas of the Township are subject to periodic flooding caused by the overflow of the Pompton, Pequannock and Ramapo rivers, as well as the East Ditch, West Ditch and the tributaries of the East Ditch. The greatest flood of record occurred in 1903. Other major floods occurred in 1955, 1968, 1984, 1999, 2004, 2007, 2010 (two) and most recently in 2011.

## ***What is a flood zone and why does it matter?***

Flood zones are defined by FEMA and shown on their Flood Insurance Rate Maps (FIRMs). High-risk flood zones are described as a “Special Flood Hazard Area” (SFHA). The SFHA must be regulated through floodplain management in order for Pequannock to participate in the National Flood Insurance Program (NFIP). The different **flood zones** are:

**AE zone:** Areas with a 1% annual chance of a Base Flood, with Base Flood Elevations\*  
- a high risk flood zone, included in the SFHA (flood insurance is required by banks)

**A zone:** Areas with a 1% annual chance of a Base Flood, *don't* have Base Flood Elevations\*  
– a high risk flood zone, included in the SFHA (flood insurance is required by banks)

**X zone:** Areas with a 0.2% annual chance of a Base Flood  
- a low risk area, *not* included in the SFHA. (flood insurance is NOT required by banks)

\*Base Flood Elevations (BFE) is a measurement of how high the flood water gets during a base flood event (1% annual chance) in your neighborhood. BFEs are the regulatory threshold for development and building permits, and are used to determine the required height of buildings in the SFHA. If you have questions about this, please feel free to contact the Township Engineer (973-835-5700 x188).

## ***How do I know if I'm in a flood zone?***

FEMA is updating Pequannock's flood maps, so there are two maps currently available:

1) **Effective FIRM** (current map, dated 1992) - used to determine your flood insurance rates, it can be found [here](#)

2) **Preliminary FIRM** (draft map, dated 2017) - may be used by banks to determine flood risk/flood insurance requirement for new or refinanced mortgages, it can be found [here](#)

The Township wholly disagrees with FEMA's expansion of the Township's floodplains and floodways in the preliminary FIRM, and is actively appealing these draft maps. If you have questions about these maps, your current flood insurance or historic flood information, please contact the Flood Resilience Officer via our [online form](#), call 973-835-5700 x164, or visit their office at 471 Newark-Pompton Turnpike.

For a review of your elevation certificate, and suggestions for flood mitigation measures based on the physical characteristics of your home, please contact the Township Engineer at 973-835-5700 x 188 or [jgolden@peqtwp.org](mailto:jgolden@peqtwp.org).

To learn about your flood zone on your own, or obtain a certified flood zone designation, you can visit [FEMA's Map Service Center](#) or call 1-877-FEMA-MAP.