WHAT PROPERTY OWNERS NEED TO KNOW

Building and Remodeling on an Alluvial Fan for Neff's Creek

SPRING 2019

FLOOD MAPS FOR NEFF'S CREEK ARE BEING REVISED

The Utah Division of Emergency Management (DEM), the Federal Emergency Management Agency (FEMA), Salt Lake County, and Millcreek City are updating flood maps for the county, including Neff's Creek. The flood maps are being updated so residents near Neff's Creek can better understand their flood risk and make informed decisions. Today's flood mapping technology is better than when the previous maps were created, and flood risk changes over time (due to land development, erosion, increasing storm intensity, wildfires, and other causes). Preliminary flood maps for Salt Lake County, including Neff's Creek, are planned for release in Summer of 2019.

These draft maps will show that the Neff's Creek area is an **active alluvial fan**. Active alluvial fans are prone to sudden and unpredictable flood events. The draft work map for Neff's Creek was shared with community members during a preview at an Open House in May 2016.

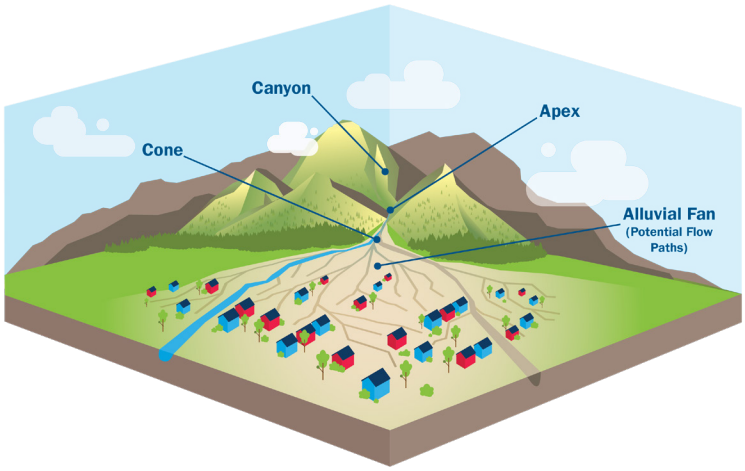


Illustration of an active alluvial fan. Alluvial fans are prone to sudden and unperdictable flood events.

NEW FLOOD MAPS WILL AFFECT BUILDING AND REMODELING REGULATIONS

Millcreek City is currently referencing the new draft work maps to enforce building regulations for Neff's Creek.[1] Property owners are required to adhere to various flood damage-resistant building standards, based on their property's specific flood risk, for any remodel, repair, improvement, or new construction. Your property's flood risk is determined by two main factors: your **flood zone designation** and your individual property's **Base Flood Depth (BFD)**.[2] For Neff's Creek, Zones A and AO are high-risk zones, or **Special Flood Hazard Areas (SFHAs)**, while Zone X (Shaded) is a moderate-risk area. Base Flood Depth is the anticipated water level in a major flood event, known as a **Base Flood Event**.[3] All new construction in an SFHA, as well as some renovation projects, must adhere to minimum building standards that incorporate flood-damage-resistant methods such as elevating the lowest floor to or above the Base Flood Elevation (BFE) or BFD,[4] modifying the foundation, and building with flood damage-resistant materials. These standards were designed to protect lives and property from future floods. Before planning a home remodel, consult **Millcreek City Community Development or the City Engineer**.

1. The City of Millcreek is currently enforcing building requirements based on the draft work maps. This practice is known as enforcement based on "Best Available Data."
2. The term Base Flood Depth is used for a Zone AO. Outside of the context of a Zone AO, the term is Base Flood Elevation (BFE).
3. A Base Flood Event, is a flood that has a 1-percent chance of occurring in any given year. Stated another way, there is a 26-percent chance a Base Flood Event will occur over the life of a 30-year mortgage.
4. Please check with your permitting office. You may need to elevate your lowest floor to a specified height above the BFE or BFD. This is known as a freeboard requirement.

BUILDING AND REMODELING ON AN ALLUVIAL FAN

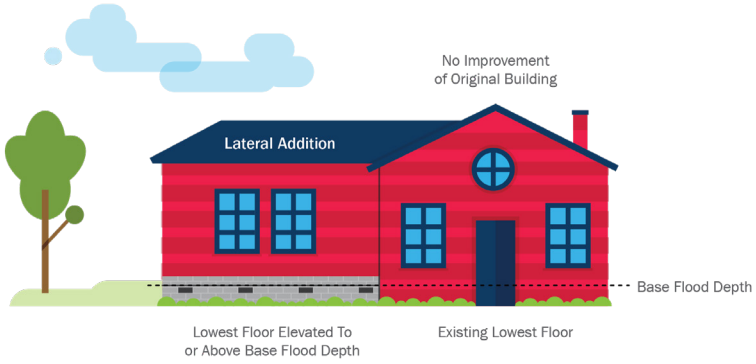
While every home is different, **flood mitigation measures on an alluvial fan** might include elevation, flood vents or other engineering openings, building reinforcement, site grading, landscaping, and relocation.[5] Flood characteristics on an alluvial fan are especially dynamic due to the nature of water and debris flows. Please consult Millcreek City Community Development.

If your home is shown in an SFHA on the new maps, and you are planning an improvement project, you may be required to modify your entire structure so it complies with your new flood zone designation. Modifications might include elevating the foundation, adding flood vents, and other requirements.

Whether or not you will be required to modify your entire structure to comply with flood damage-resistant standards will depend on **substantial improvement** rules. A substantial improvement project is any reconstruction, rehabilitation, addition, or improvement of a building where the cost[6] of the improvement equals or exceeds 50 percent of the building's pre-improvement market value.[7] If the improvement project qualifies as substantial improvement, the entire structure must be modified to comply with the new flood standards.

The same rules would apply if your home is ever damaged—by any source, including flood, fire, or earthquake—and the cost of restoring it to its pre-damage condition equals or exceeds 50 percent of the structure's fair market value before the damage occurred. This would be considered a **substantial damage** repair, and you would be required to rebuild the entire structure so it complies with your property's flood zone regulations in effect at the time of repair.

If you are planning a **lateral addition** to your home, but the cost of the improvement does not qualify as substantial improvement, and no major alterations are made to the existing building, only the addition must be elevated to the new BFE or BFD (see image).



An example of a home addition that does not qualify as a substantial improvement. Only the addition must be elevated to the new Base Flood Depth.

Flood damage-resistant modifications for properties on an alluvial fan might include:

Elevating the Foundation
Adding Flood Vents
Adding Engineered Openings
Elevating Appliances
Landscaping
Grading

LEARN MORE

- **Millcreek City Community Development** (https://millcreek.us/151/Community-Development).
- **Millcreek City Public Works** (https://millcreek.us/173/Public-Works).

Before beginning any construction or improvements, please consult **Millcreek City Community Development** to learn the specific rules and regulations that apply to your property.

5. While floodproofing, using waterproof materials to prevent water from entering a building is an additional method to reduce flood risk, it is not recommended for residential retrofitting on an alluvial fan.
6. Improvement costs include such items as building materials, interior finish elements, plumbing, built-in appliances, and labor.
7. Local officials calculate market value using such tools as adjusted assessment values and professional appraisals. Communities select one method and use it uniformly. Also, for the purpose of determining substantial improvement, market value pertains only to the structure in question. It does not pertain to the land, landscaping, or detached accessory structures on the property.

FEMA SALT LAKE COUNTY