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## Frequently Asked Questions About

### Floodplain Management and Flood Insurance in San Francisco

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The City and County of San Francisco is at risk of flooding, and consequently participates in the National Flood Insurance Program (NFIP). Under the program, federally subsidized flood insurance is available in the City, and the City implements a Floodplain Management Ordinance to reduce risks of flood damage. This document provides answers to frequently asked questions about the program and its implementation in San Francisco.

#### **A. The National Flood Insurance Program**

##### **A.1 What is the National Flood Insurance Program?**

The NFIP is a federal program through which affordable flood insurance is made available within participating communities. In exchange, a community participating in the program agrees to adopt and enforce a floodplain management ordinance that is intended to reduce the risk of flood damage in the community. The program is managed by the Federal Emergency Management Agency (FEMA).

##### **A.2 Why does San Francisco participate in the NFIP?**

San Francisco is at risk of flooding from San Francisco Bay, the Pacific Ocean, and heavy rains that can cause flooding on the City's streets. The NFIP provides a means for property owners and residents anywhere in San Francisco to reduce the financial risk of possible flood damage through the purchase of affordable flood insurance. Participation also allows the City to be eligible for certain forms of federal disaster assistance.

##### **A.3 Which City agency is responsible for the City's participation in the NFIP?**

The City Administrator's Office is the designated Floodplain Administrator under the NFIP and coordinates the City's participation in the program. The Office of Resilience and Capital Planning, Department of Building Inspection, Planning Department, San Francisco Public Utilities Commission, Port of San Francisco, and San Francisco International Airport share responsibility for floodplain management in the City.

#### **A.4 Does FEMA regulate floodplains under the NFIP?**

No. FEMA administers the NFIP, produces floodplain mapping to support the program, provides communities with technical assistance, and ensures that communities are implementing their respective floodplain management ordinances in accordance with the minimum requirements of the program. FEMA has no regulatory authority, and it does not have any role in approving development within the City.

### **B. Floodplain Mapping**

#### **B.1 What is the Flood Insurance Rate Map?**

FEMA has prepared a Flood Insurance Rate Map (FIRM) for San Francisco. The FIRM shows areas that have a high risk of flooding from San Francisco Bay and the Pacific Ocean. The FIRM is used for ratings for the sale of flood insurance and for implementation of the City's Floodplain Management Ordinance. The FIRM has an "effective" date of March 23, 2021 – that is the date on which the FIRM must be used for these purposes.

#### **B.2 What information is shown on the FIRM?**

The FIRM shows areas that are at risk of flooding due to a flood that has a 1-percent chance of occurring in any year (also called the "100-year flood" and "base flood"). These areas are referred to as Special Flood Hazard Areas (SFHAs), and they are the primary feature for flood insurance and floodplain management purposes.

The FIRM also shows areas at risk from a less likely but more severe flood (the 0.2-percent-annual-chance or "500-year" flood), as well as areas that are at a lesser risk of flooding.

The different areas of flood risk have "zone" designations. These zone designations are used for flood insurance rating purposes. See the response to question B.4 below for definitions of these zones.

For SFHAs, the FIRM shows Base Flood Elevations (BFEs), which are represented numerically on the map. The BFE is the expected level of the flood during the occurrence of the 1-percent-annual-chance flood (that is, the 100-year flood or base flood). The BFE is used for flood insurance rating and floodplain management purposes.

#### **B.3 The FIRM shows a Base Flood Elevation near my property. What does this mean?**

The BFE is the level of the flood during the occurrence of the 1-percent-annual-chance flood (that is, the "100-year flood" or "base flood"). This elevation is tied to a datum that is roughly equivalent to sea level. For example, if the FIRM shows a BFE of 10 feet at a given location, this means that the surface of the flood at that location reaches a level of 10 feet above the datum (approximately sea level); it does not mean that the flood is 10 feet deep there.

There are some SFHAs, designated Zone AO, that represent more shallow flooding. These zones are accompanied by a number (1, 2, or 3) that represents the average depth of flooding in feet above the ground surface at these locations.

#### **B4. What do the zones on the FIRM mean?**

The different areas of flood risk on the FIRM are represented by zone designations. These zone designations are used for flood insurance rating purposes. The zones are defined as follows:

##### **AREAS WITH HIGH FLOOD RISK (SPECIAL FLOOD HAZARD AREAS)**

- Zone AE – this zone, a SFHA shown in blue on the FIRM, is the area that is subject to flooding during the 1-percent-annual chance flood. For San Francisco, Zone AE areas are associated with the Bay and Pacific Ocean shorelines. These Zone AE areas may be affected by waves up to 3 feet in height.
- Zone VE – this SHFA, also shown in blue, is subject to flooding during the 1-percent-annual chance flood but is also affected by waves that are greater than 3 feet in height. FEMA refers to these zones as “coastal high hazard areas” due to the additional risk posed by such waves.
- Zone AO – this SFHA, also shown in blue, is subject to flooding that is 1 to 3 feet deep.

##### **AREA OF UNDETERMINED FLOOD RISK**

- Zone D – this is an area of possible, but undefined, flood hazard. In San Francisco, this zone is used exclusively for the waterfront piers operated by the Port of San Francisco. Zone D areas are shown in yellow on the FIRM.

##### **AREA OF LOW OR MINIMAL FLOOD RISK**

- Zone X (“shaded”) – these areas, shown in brown on the FIRM, are subject to flooding during the 0.2-percent-annual-chance (“500-year”) flood, or are expected to experience flooding less than 1 foot during the 1-percent annual event. This flood is less likely, but more severe, than the 1-percent-annual-chance flood.
- Zone X (“unshaded”) – these areas are shown without color on the FIRM. This zone is used for all other areas, including areas of minimal flood risk as well as areas that FEMA did not study or map. For San Francisco, FEMA did not study or map areas where street flooding occurs during heavy rains; these areas are shown in Zone X.

**B.5 Does the “100-year” flood occur only once in a hundred years?**

No. Such a flood can occur in any year. A 100-year flood or storm event is less likely to happen than a typical storm, but they can and do happen sometimes within just a few years of each other or even within the same year.

**B.6 What areas in San Francisco are shown as floodprone on the FIRM?**

The FIRM shows flood hazards in the following areas: the entire Bay shoreline, including the waterfront piers operated by the Port of San Francisco; parts of Mission Bay, Hunters Point, the former Hunters Point Naval Shipyard, the Candlestick area, and Treasure Island; most of San Francisco International Airport; and Ocean Beach.

**B.7 Does the FIRM show all flood hazards in San Francisco?**

No. The FIRM does not show floodprone areas in the City’s interior. As San Francisco has developed over time, its hilly topography has been largely paved over. During extreme storms, storm runoff flows still follow the naturally-formed historical waterways. When this occurs, we can experience flooding that sometimes results in property damage. These areas are shown on the 100-Year Storm Flood Risk Map (see questions B.10 and B.11, below).

**B.8 Does the FIRM show areas affected by sea-level rise?**

Yes and no. FEMA has prepared the FIRM using data for current conditions. FEMA’s analyses do not consider what may happen in the future due to sea-level rise. The SFHAs shown on the FIRM are generally in the areas that may be flooded under future sea-level rise conditions. However, there are areas outside of the SFHAs that may also be at risk of flooding in the future. The City is addressing these areas through other planning and regulatory mechanisms. For information on flood risk from sea level rise, please see the Sea Level Rise Vulnerability Zone Map, available at <https://www.onesanfrancisco.org/node/148>.

**B.9 Where can the FIRM be obtained?**

The FIRM has been added to the City’s Property Information Map (PIM) at <https://sfplanninggis.org/pim>.

**B.10 My street floods when it rains. Where can I get information about this situation?**

SFPUC has prepared the 100-Year Storm Flood Risk Map to show areas where flooding is highly likely to occur on City streets during a 100-year rain storm. More information about this map, including a searchable web map, is available at <https://www.sfwater.org/floodmaps>.

### **B. 11 What is the relationship between SFPUC's 100-Year Storm Flood Risk Map and FEMA's FIRM?**

The SFPUC 100-Year Storm Flood Risk Map shows flood risk from storm runoff only. It does not consider flood risk in San Francisco from other causes, such as inundation from the San Francisco Bay nor Pacific Ocean, which are shown on the FIRM that FEMA has prepared for San Francisco. The FIRM does not show flooding from storm runoff in San Francisco, because our historical creeks and other inland waterbodies have been built over and are no longer open waterways. In most areas, the flood hazards identified by SFPUC and FEMA are separate. There are a few areas near the shoreline of San Francisco where SFPUC's Flood Risk Zones overlap with the FEMA-designated floodplains.

### **B.12 How can I find out if my property is located in a floodplain?**

To determine whether a property is located in a coastal flood hazard area shown on the FIRM:

Look at the FIRM, available on PIM at <https://sfplanninggis.org/pim>. Search for the address, click the Environmental Information link on the left-hand side, and check the Flooding: FEMA Special Flood Hazard Area box under the Map Layers section on the right-hand side. The FIRM is also available on <https://msc.fema.gov/portal/home>. The index can be used to locate the FIRM panel covering the part of the City in question. The FIRM shows the City's streets and buildings using aerial photography to facilitate use of the FIRM to identify specific properties.

- Use FEMA's National Flood Hazard Layer (NFHL) Viewer. The viewer can be accessed using the following link: <https://msc.fema.gov/nfhl>. The user may enter the street address of the property or place a pin at the location of interest. (For San Francisco, flood hazard data is not available until the effective date of March 23, 2021.)
- Contact Brian Strong at [brian.strong@sfgov.org](mailto:brian.strong@sfgov.org) to request assistance.

To determine whether a property is located in an area affected by street flooding due to heavy rains:

- Look at the SFPUC 100-Year Storm Flood Risk Map, which is available at <https://www.sfwater.org/floodmaps>. This map is searchable using the street address of the property. This information has also been added into PIM.
- Contact [RainReadySF@sfwater.org](mailto:RainReadySF@sfwater.org) or (415) 695-7326.

To determine whether a property is vulnerable to inundation due to future sea-level rise, look at <https://www.onesanfrancisco.org/node/148>.

## C. Flood Insurance

### C.1 What is NFIP (or federal) flood insurance?

When a community such as San Francisco participates in the NFIP, the federal government makes flood insurance available to property owners and renters in the community. The insurance is offered at affordable rates and may be purchased through private insurance companies. The insurance provides coverage for residences, non-residential buildings, and contents, and may be purchased by homeowners, renters, and businesses.

### C.2 Am I required to purchase flood insurance?

The federal government does not require the purchase of flood insurance, except for the following circumstance: if a structure is located in an identified SFHA (see question B.2 above) and used to secure a mortgage from a federally backed or regulated lender, federal law requires the lender to ensure that the borrower purchases flood insurance.

The City does not require any property owner or renter to purchase flood insurance, although The City recommends flood insurance.

There may be other circumstances where a lender, under its own prerogative, requires a borrower to purchase flood insurance. Additionally, there are programs (such as certain forms of federal disaster assistance) for which purchase of flood insurance is a condition for receiving assistance.

### C.3 What does flood insurance cover?

Flood insurance can be purchased for residences, non-residential buildings, and businesses, and by renters. Flood insurance covers:

- Damage to the building, such as electrical and plumbing systems; furnaces and water heaters; refrigerators, ranges, and built-in appliances like dishwashers; foundation walls, anchorage systems, and staircases; and garages.
- Damage to contents, including personal belongings such as clothing, furniture, and electronic equipment; washers and dryers; carpets; and valuable items such as original artwork (up to a defined limit).

Coverage purchased for a building does not cover the building's contents. A separate policy must be purchased for contents, and the deductibles for buildings and contents policies are separate.

### C.4 What is not covered by flood insurance?

Flood insurance does not cover water damage that is not caused by flooding, such as damage caused by rain or damage due to a sewer backup that itself is not caused by flooding. Additionally, flood insurance does not cover:

- Temporary housing or other living expenses incurred while the flood-damaged building cannot be occupied or is being repaired

- Property outside the insured building, such as landscaping, decks and patios, fences, seawalls, hot tubs, and swimming pools
- Financial losses caused by business interruption
- Currency, precious metals, stock certificates and other valuable papers
- Cars and most self-propelled vehicles
- Personal property kept in basements

As noted in the answer to question C.3, coverage purchased for a building does not cover the building's contents. A separate policy must be purchased for contents.

**C.5. I am a renter. Can I purchase flood insurance?**

Yes. A renter may purchase contents coverage.

**C.6 What are the limits of coverage?**

For residential properties, coverage may be purchased up to \$250,000 for the building and \$100,000 for the building contents. For commercial properties, coverage may be purchased up to \$500,000 for the building and \$500,000 for the building contents.

**C.7 What is the cost of flood insurance?**

The cost of insurance varies from property to property, depending on:

- Flood risk, including the flood zone and the elevation of the structure relative to the BFE
- Type of coverage (building or contents, or both) being purchased
- Deductible and amount of building and contents coverage
- Location of the structure
- Design and age of the structure
- Location of the structure's contents (for example, first floor vs. upper floors).

**C.8 Where can I purchase flood insurance?**

Flood insurance can be purchased through one of approximately 60 private insurance companies. While the insurance policies are sold through and serviced by these companies, the rating procedures, premiums, and coverages are standardized and conform to federal requirements.

**C.9 I don't live in a flood zone. Can I purchase flood insurance?**

Yes. Flood insurance premiums are less expensive outside of identified SFHAs. It may be advisable to purchase flood insurance even in areas not identified as SFHAs if there is some chance of flooding. As noted in the answer to question B.7 above, areas of San Francisco that are subject to flooding from storm runoff are not shown on the FIRM. Property owners and renters in these areas should consider purchasing flood insurance.

**C.10 I have homeowner's (or renter's) insurance. Why do I need flood insurance?**

Most homeowner's and renter's insurance policies do not cover flood damage.

**C.11 Why do I need flood insurance, if the federal government provides disaster assistance?**

Most floods are not Presidentially declared disasters, and therefore federal disaster assistance is not available. When the President declares a disaster for a flood, federal disaster assistance that is available does not cover restoration of flood-damaged homes and businesses. At most, a person whose home is flooded may receive limited funding to make the home habitable, or assistance with temporary living arrangements while the home is being repaired.

**C.12 Where can I get more information about flood insurance?**

Contact an insurance agent or visit the NFIP web site at <https://www.floodsmart.gov/>. The SFPUC also provides information regarding purchase and coverage of flood insurance at <https://sfwater.org/modules/showdocument.aspx?documentid=11496>.

**D. Floodplain Management and Construction Requirements**

**D.1 What does "floodplain management" mean?**

San Francisco regulates development in the City's floodplains in order to reduce threats to public health and safety, reduce the risk of flood damage to buildings and infrastructure, and minimize flood-related disruptions to economic activity. These objectives are accomplished by defining areas of flood risk, implementing a permitting process for proposed development and construction in floodprone areas, and requiring incorporation of measures that minimize the risk of flood damage into construction of buildings and infrastructure.

San Francisco has adopted a Floodplain Management Ordinance (Article XX, Sections 2A.280 through 2A.285 to the San Francisco Administrative Code) that governs this process. This ordinance, which meets the minimum requirements of the NFIP, works in concert with the San Francisco Building Code and Planning Code to ensure that development in and near floodplains meets the objectives of the program.

**D.2 Who is responsible for floodplain management?**

The City Administrator's Office is the designated Floodplain Administrator, as defined in the Floodplain Management Ordinance. The City Administrator's Office coordinates floodplain



management activities among City agencies and departments. These agencies and departments include:

- The Planning Department and Department of Building Inspection, which collaborate on planning and permitting for construction and renovation of residential and commercial buildings in most areas of the City
- The Port of San Francisco, which oversees the management and development of the waterfront piers and other Port properties
- San Francisco International Airport, which manages construction on the airport property.

### **D.3 What types of development are subject to floodplain management requirements?**

The floodplain management requirements apply to residential and non-residential buildings located in SFHAs, including both private and public buildings. The requirements do not apply to other types of infrastructure, such as streets, utilities, public transportation infrastructure, waterfront infrastructure, landscaping, and natural features.

For buildings in SFHAs, the requirements apply to:

- New construction
- Substantial improvement or repair of existing buildings. A “substantial improvement” or repair is defined as one in which the cost of the improvement or repair exceeds 50 percent of the market value of the structure.

### **D.4 What are the construction requirements that must be applied?**

The Floodplain Management Ordinance references the San Francisco Building Code, which in turn incorporates the flood-resistant construction standards of the California Building Code (CBC). These standards apply to construction of new buildings and substantial improvement/repair of existing buildings in SFHAs.

These standards include the following (this a partial list only; refer to the CBC for comprehensive details on the requirements):

- The lowest floor, including basement, of the structure must be elevated at least one foot above the applicable BFE (referred to as the design elevation)
- Non-residential structures may be floodproofed (that is, made watertight) instead of elevated. The building must be floodproofed to at least the design elevation
- In an elevated structure, areas below the design elevation must be constructed of flood-resistant materials
- Attendant utilities must be designed to prevent infiltration of floodwaters or elevated to at least the design elevation.

### **D.5 Are there exceptions to these requirements?**

Yes. The City may issue a variance to the requirements in the following circumstances:

- The structure is historic. The ordinance identifies the types of structures that may meet this definition.
- The structure constitutes a “functionally dependent use.” As described in the ordinance, this type of facility cannot perform its intended purpose unless it is located or carried out in close proximity to water. For example, docking facilities and facilities used for loading and unloading watercraft may be functionally dependent.
- The variance is necessary to alleviate an exceptional hardship.

As applicable, the Planning Department, Port of San Francisco, or Airport will evaluate the need for variances on a case-by-case basis.

#### **D.6 How do I obtain approval for construction or renovation of a building in an SFHA?**

For buildings other than those ones located on Port property or at the Airport will need to follow the process that is outline by the Department of Building Inspection.

#### **E. On-Line Information**

For additional information, visit the following.

##### **San Francisco’s Floodplain Management Program**

<https://onesanfrancisco.org/San-Francisco-Floodplain-Management-Program>

##### **San Francisco 100-Year Storm Flood Risk Map (Stormwater)**

<https://www.sfwater.org/floodmaps>

##### **San Francisco Information Future Inundation Due to Sea-Level Rise**

<https://www.onesanfrancisco.org/node/148>

##### **FEMA Information About:**

Flood Maps

<https://www.fema.gov/flood-maps>

##### **Flood Insurance Rate Map Panels for San Francisco**

<https://msc.fema.gov/portal/home>

Flood Map Viewer

<https://msc.fema.gov/nfhl>

Floodplain Management

<https://www.fema.gov/floodplain-management>

Flood Insurance

<https://www.floodsmart.gov/>