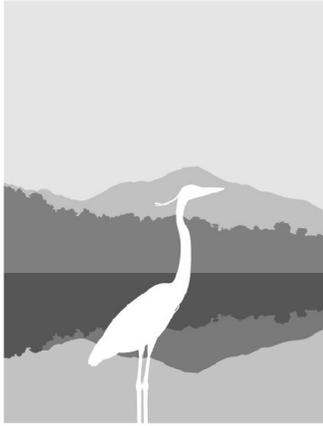


# FLOOD PREVENTION AND PROTECTION



THE TOWN OF  
CORTE MADERA

MARIN COUNTY CALIFORNIA

## Web Resources

**Town of Corte Madera:**  
[www.ci.corte-madera.ca.us](http://www.ci.corte-madera.ca.us)

**FEMA National Flood Insurance Program:**  
[www.floodsmart.gov](http://www.floodsmart.gov)

**MarinMap:**  
[mmgis.marinmap.org/dnn/](http://mmgis.marinmap.org/dnn/)

**Marin County Storm-water Pollution Prevention Program:**  
[www.mcstoppp.org](http://www.mcstoppp.org)

### **Is my property in a floodplain?**

Your property may be located within a FEMA-designated Special Flood Hazard Area (SFHA), more commonly referred to as the "floodplain". This publication will help you determine the status of your property, and provide information on how you can prepare and remain safe during a flood event. You can also contact the Public Works Department for more assistance.

## What Is A Floodplain?

Corte Madera has many low-lying areas that are adjacent to creeks, waterways, or the bay. The portions of these areas that experience flooding during major storm events are considered "floodplains". The floodplains and wetlands around town form a complex and dynamic physical and biological system. They provide fish, wildlife, and plant habitat; facilitate the recharge of groundwater; and provide water quality benefits by acting as natural filters for runoff. The wetlands east of Hwy. 101 help prevent flooding by depressing storm surges and wave run-up, thereby mitigating the impact on our protective levee system.



## What Are The Flooding Risks in Corte Madera?

Flooding within the Town of Corte Madera is caused by three sources: extreme high tides, storm water runoff, and inadequate storm drainage infrastructure. Floodwaters can spread over many blocks, reaching depths of up to two or three feet. This can lead to flooding of parked vehicles, garage areas, basements, and lower floors of structures.

The Town has seen major flood events in the past, most notably in 1982 and 1998. As a consequence, Corte Madera passed a Storm Drainage Special Tax in 1998 which will run until 2025. The funds from this tax has allowed the Public

Works Department to install and improve many storm water pump stations and storm drain pipelines throughout the Town. This has prevented a recurrence of the flooding that we experienced in those early years. While your property may not have flooded recently, the potential for future flooding is very real. If your property is located within the FEMA-designated floodplain, there is an even greater risk that your property may be damaged by a future flood event. The Town has produced this publication to provide you with information about what you can do to protect yourself.

## How Can I Find More Information?

There are many resources available that can provide information on flooding risks and prevention.

As a first step, you should check your level of potential flooding hazard. Flood Insurance Rate Maps (FIRM), which delineate areas subject to "special" flood hazard, are available on-line at <https://msc.fema.gov/portal>. You can also stop by the Public Works Department, and we'll help to determine if your property is within a flood zone. Areas designated as zone "AE" and "VE" are within the Special Flood Hazard Area, and have the po-

tential for flooding during a 100-year storm.

The Public Works Department maintains a selection of informational handouts prepared by FEMA that can answer questions about flood insurance and flood protection.

Residents can also schedule an appointment with a Public Works representative to discuss flood risks and potential ways to prevent flood damage. Please call the Department at (415) 927-5057.

## What Can I Do To Protect Our Floodplains and Wetlands?

---

Because much of the floodplain in Corte Madera has been built out with homes and businesses, it is critical to protect what remains. The Town's efforts to maintain and preserve our floodplains and wetlands depend on your cooperation and assistance. Here is how you can help.

### Drainage Maintenance

- Do not dump or throw anything into ditches, canals or streams. If your property borders a waterway, do not place yard waste or anything else that might end up in the waterway after a storm.
- If your property is next to a ditch or stream, please do your part and keep the banks clear of brush and debris. Corte Madera Municipal Code Section 9.33.100 asks property owners to maintain and protect watercourses adjacent to their property
- If you see dumping or debris in ditches or streams, contact the Public Works Department at (415) 927-5057.
- Please be sure to move your car on street sweeping days. This is especially important when leaves are clogging street gutters. If the sweeper needs to go around your car, this results in about three car lengths of gutter not being swept.

### Permits Required

- Always check with the Public Works Department before building or grading on your property. A permit is likely required to ensure that projects do not cause problems on other properties.
- If you see construction or grading without a Town permit posted, contact the Building Department at (415) 927-5062.
- Improvements or repairs to any structure within the floodplain requires a **Floodplain Development Permit**. If the value of the proposed work equals or exceeds 50% of the depreciated value of the existing structure, additional requirements will apply to the project (these requirements also apply to the repair of any damage due to a fire or natural disaster). Homeowners might also consider raising the elevation of the structure (above the FEMA base flood elevation) to protect the home and its contents from future flooding.

## How Can I Stay Safe During a Flood Event?

---

- Be Prepared. Build an emergency supply kit, have a family emergency plan, and store important objects and papers in a safe place.
- Do not walk through flowing water. Drowning is the number one cause of flood deaths, and currents can be deceptive. If you walk in standing water, use a pole or stick to ensure that the ground is still there.
- Do not drive through a flooded area. More people drown in their cars than anywhere else. Don't drive around road barriers; the road or bridge may be washed out.
- Stay away from power lines and electrical wires. Electrical current can travel through water and lead to electrocution. Report downed power lines to PG&E or the Public Works Department.
- Turn off your electricity. Don't use appliances or motors that have gotten wet unless they have been taken apart, cleaned, and dried.
- Look out for animals, especially snakes. Small animals that have been flooded out of their homes may seek shelter in yours. Use a pole or stick to poke and turn things over and scare away small animals.
- Look before you step. After a flood, the ground and floors are covered with debris including broken bottles and nails. Floors and stairs that have been covered with mud can be very slippery.
- Be alert for gas leaks. Use a flashlight to inspect for damage. Don't smoke or use candles unless you know the gas has been turned off and the area has been ventilated.

FOR  
EMERGENCY  
INFORMATION  
AND ALL  
LOCAL  
FLOOD  
WARNINGS  
TUNE YOUR  
RADIO TO:  
**1330 AM**

## How Can I Prevent Flood Damage To My Property?

There are several different ways to protect a building from flood damage.

- Keep the water away from the structure by re-grading your lot, or building a small floodwall or earthen berm. These methods will work if your lot is large enough and flooding is not too deep.
- Waterproof the walls of your structure and place watertight closures at doorways. This method is not recommended for residential structures, or if water will get over two feet deep.
- Raise the structure above flood levels.

These measures are called flood proofing. More information is available through the Public Works Department. *Important Note:* Any alteration to your building or land requires a permit. Even re-grading or placing fill within the floodplain requires a permit.

If you know a flood is coming, you should move valuable contents to higher ground, and consider shutting off the gas and electricity. It is unlikely that you will get much warning, so a detailed checklist prepared in advance would help ensure that you don't forget anything.

## What About Flood Insurance?

Homeowner's insurance policies do not cover damage from floods. But the National Flood Insurance Program (NFIP) allows the purchase of a separate flood insurance policy. If you don't have flood insurance, talk to your insurance agent, and be sure to reference NFIP 065023. This insurance is backed by the Federal government and is available to everyone, even for properties that have been flooded.

Some people purchase flood insurance because their bank has required it when obtaining a mortgage or home improvement loan. Usually these policies just cover the building's structure and not the contents. Due to the type of flooding that occurs in Corte Madera, there is usually more damage to furniture and contents than there is to the structure itself. If you have insurance, review the amounts and make sure that your contents are covered.

The NFIP is a federal program, and Congress made some changes to the system in 2012 that were later repealed in 2014. This has led to some confusion among lenders, insurance agents, and policy holders. FEMA is your best source for the latest information on changes to the flood insurance system. More information can be found at the NFIP website [www.floodsmart.gov](http://www.floodsmart.gov)

In an effort to reduce flood insurance rates for our residents, the Town of Corte Madera participates in the FEMA Community Rating System (CRS). The Town has reached a CRS Class 7, which translates to a 15% savings on all flood insurance rates for residents. Be sure to ask your insurance agent to use our NFIP No. 065023 when renewing or purchasing a flood policy.

**Don't wait** for the next flood to buy insurance protection. There is a 30-day waiting period before National Flood Insurance Program coverage takes effect. Contact your insurance agent for more information on rates and coverage.

### **NOTICE TO: LENDING INSTITUTIONS AND REAL ESTATE AND INSURANCE AGENTS SUBJECT: FLOOD INSURANCE RATE MAP ZONE INFORMATION**

The Town of Corte Madera will provide you with the following information upon request:

- The location of a property in relation to the Special Flood Hazard Area (SFHA) as shown on the current Flood Insurance Rate Map (FIRM) of the Town.
- Additional flood insurance data for a site, such as the FIRM zone and the base flood elevation, if shown on the FIRM.
- Handouts on the flood insurance purchase requirement that can help people who need a mortgage or loan for a property in the SFHA.

When making an inquiry, please provide the street address and, if available, the subdivision, lot and block number. Call us at 415-927-5057 or visit the Public Works Department located at 300 Tamalpais Drive. There is no charge for this service. The Public Works Department also maintains records of FEMA Elevation Certificates and LOMCs issued since 1999.

## What Is FEMA Working On In Our Area?

---

The Federal Emergency Management Agency (FEMA) has completed a coastal engineering analyses of the shoreline along San Francisco Bay. Work on this “San Francisco Bay Area Coastal Study” incorporated new technologies and coastal data, including detailed topographic information collected as part of the California Coastal Mapping Project.

The study is being used to revise and update the flood and wave data for the coastal Flood Insurance Study (FIS) reports and Flood Insurance Rate Maps (FIRMs) currently in effect. Specifically, the study forms the basis for revisions to the Base Flood Elevations (BFE) and designations of Special Flood Hazard Areas (SFHA) for communities adjacent to the bay.

## How Does San Francisco Bay Influence Coastal Flooding?

---

There are several types of flooding in our community that can be directly influenced by conditions within the San Francisco Bay

- **King Tides:** King tides are abnormally high predictable astronomical tides that occur approximately twice per year within San Francisco Bay. King Tides are the highest tides that occur each year and typically exceed 7ft Mean Lower Low Water (MLLW).
- **Extreme High Tides:** When Pacific Ocean storms coincide with high tides, storm surge due to meteorological effects can further elevate San Francisco Bay water levels to produce extreme high tides.
- **El Niño:** During El Niño winters, atmospheric and oceanographic conditions in the Pacific Ocean produce severe winter storms that impact the San Francisco Bay

region. Pacific Ocean storms follow a more southerly route and bring intense rainfall and storm conditions to the Bay area. Tides are elevated by approximately 0.5 to 1.0 feet above normal along the coast and wind can elevate water levels even further locally

- **Wind Wave Events:** Strong winds due to Pacific Ocean storms or strong thermal gradients produce strong winds that blow across the Bay. When the wind blows over long reaches of open water large waves can be generated that impact the shoreline and cause damage.

These influences are of primary concern to the San Francisco Bay Area Coastal Study. The new data, and the maps generated by this data, will account for all of these potential impacts on our community.

### Did You Know?

All FEMA flood elevations are now based on a datum called NAVD 88. This datum matches well with heights shown in typical tide tables. So if the FEMA base flood elevation is 10, that would be the same as a tide elevation of 10.

Some maps in town use an older elevation datum called NGVD 29. To convert elevations from this old datum to the new one, add 2.69 feet.

## What Is This New “Preliminary” Flood Insurance Rate Map?

---

FEMA is in the process of using the findings from their recent San Francisco Bay Area Coastal Study to update and revise the Flood Insurance Rate Maps (FIRM) for communities in Marin County. The current FIRM for Corte Madera was issued in May 2009, and presented only minor modifications to the “original” FIRM, which was issued back in 1977.

FEMA has produced a new “Preliminary” FIRM for our community, and released it for comment in March of 2014. We are now entering the Post-Preliminary Process, which involves the community reviewing the preliminary products and working with FEMA to resolve outstanding questions, comments, and/or

appeals. Once all comments and appeals have been addressed, FEMA will revise the FIRM and issue a Letter of Final Determination. After a six month waiting period, the newly revised FIRM will become “Effective”, and replace the current map.

This new FIRM will change the boundaries of the Special Flood Hazard Area, (SFHA) and has the potential to require flood insurance for additional properties within the SFHA. The map included within this publication shows the outline of the SFHA for both the current and preliminary FIRMs. Contact the Public Works Department if you have questions.

## What Are My Options To Appeal A SFHA Determination?

---

Any property with a federally-backed loan or mortgage is required to carry flood insurance if that property is located within a Special Flood Hazard Area (SFHA). Determining if your property is within the SFHA is usually left to the lender providing the loan or mortgage. If you would like to dispute the finding of this determination, there are several avenues open to you:

- Letter of Determination Review (LODR): Request FEMA to review and verify that your structure's location on the FIRM, as determined by your lender, was correctly identified.
- Letter of Map Amendment (LOMA): Submit to FEMA an Elevation Certificate and application showing that your structure is at or above the base flood elevation.
- Out-As-Shown LOMA: Submit a figure and application to FEMA that shows the

location of your structure relative to the flood zone boundary.

- Letter of Map Change - fill (LOMR-F): Submit an application and Elevation Certificate to FEMA that shows the use of fill to raise the ground level of a property.

The Public Works Department can offer advice about which of these procedures might be of most help. Please note that Elevation Certificates require the services of a licensed land surveyor.

Based on the "preliminary" FIRM that was issued in March 2014, the Town has submitted Out-As-Shown LOMA exhibits for properties lying along the fringe of the SFHA. FEMA will respond with a determination about these LOMAs prior to adopting the new FIRM.

## How Has The Town Prepared For Flood Events?

---

The Town uses funds from the "Storm Drainage Special Tax" to provide improvements to the flood control infrastructure. This special tax has been in effect since 1998, and is set to expire in 2025. The Flood Control Board, consisting in appointed members from the public, make recommendations on key projects to pursue and coordinate with staff on the management of our flood control systems. Some recent projects completed using storm drain tax funds are:

- Golden Hind Storm Drainage and Pump Station Improvements: installation of slotted curb drains and a storm drain pump station serving portions of Golden Hind Passage, Tradewind Passage, Foremast Cove, and Lanyard Cove.
- San Clemente Pump Station Repair: replacement of the discharge manifold for this storm drain pump station.
- Marina Village Pump Station Repair: replacement of the intake manifold for this storm drain pump station.

Several projects are in the design stage, and will be implemented in the near future using storm drain tax funds. These projects include:

- Marina Village Storm Drain Pump Station and Improvements: install grated curb drains and a storm drain pump station to improve drainage within the Marina Village subdivision (Harbor Drive and Echo Avenue).
- Marina Village Levee Enhancement: repair and enhance the existing earthen levee separating Marina Village from the Corte Madera Marsh.

In addition, the Town has a flood control maintenance budget that funds all repairs, maintenance, and cleaning activities for the existing storm drain infrastructure. Typical work includes:

- Operating and maintaining pump stations
- Cleaning catch basin and outfalls
- Repairing storm drain pipes and culverts
- Maintaining lagoons and canals