Dear Resident:

The City of Los Angeles joined the National Flood Insurance Program (NFIP) in 1980, which made Federally-backed flood insurance available to all City residents. The NFIP/Community Rating System (CRS) was implemented by the Federal Emergency Management Agency (FEMA) in 1990 as a program for recognizing and encouraging community floodplain management activities that exceed the minimum NFIP requirements. Flood insurance premium rates are adjusted to reflect the reduced flood risk.

Since October 2005, the City has received a class 7 rating under CRS, which means the residents within FEMA-designated Special Flood Hazard Area(s) (SFHA) receive a 15% flood insurance premium discount and others in the City outside the SFHA receive a 5% discount.

As a participant in the NFIP, the City of Los Angeles produces a yearly Floodplain Management Plan (FMP) Progress Report. The FMP describes the progress and latest issues affecting the Floodplain Management Plan and floodplains of the City. It is highly encouraged that residents living within the City of Los Angeles participates as a stakeholder in the preparation of the FMP. Interested party can contact: Eng.nfip@lacity.org

Below Yearly Average Rainfall

According to the latest statistics from NOAA's National Climatic Data Center, the contiguous United States experienced a warmer-and wetter-than-average 2012–13 winter. The December 2012–February 2013 total precipitation was 7.10 inches which was 0.63 inches above the long-term average. Below-average precipitation occurred from the West Coast through the Northern Plains and Rockies. Per County of Los Angeles precipitation records for the 2012-13 water year (from October 1, 2012 to September 30, 2013), the Downtown Los Angeles (USC) gauge ended the water year with 6.91 inches of rain. This is about 48% below normal rainfall of 14.28 inches.

Recent Activities

Levee Certification—Compton Creek & Dominguez Channel

The Los Angeles County Flood Control District analyzed the Compton Creek and Dominguez Channel levees to determine if they meet the Federal requirements for flood protection. These levees have been determined to be inadequate for protection against FEMA’s 100 year flood. FEMA will change the current designation of these areas to a flood zone which will require mandatory flood insurance. FEMA is developing new flood maps based on detailed studies which will be available in 2013. Once the maps are ready they will be available of the cities and county for public comments.

To view frequently asked questions on FEMA’s Levee Certification Program, please visit the following website at: www.lawatersheds.org and click the Quick Links for Levee Certification FAQs.

Biggart-Waters Flood Insurance Reform Act of 2012

The authority of the National Flood Insurance Program (NFIP) has been extended for 5 years until September 30, 2017. To help make the program self sufficient, this reform act removes subsidized rates (pre-FIRM rates) for a variety of classes of structures and allows rates to increase by 25% per year over a 5-year period until they reach full risk rates. The effective date is July 1, 2012.

• Any residential property that is not the primary residence
• Any property at has incurred flood related damages that cumulatively exceed the fair market value of the property
• Any business property
• Any property that after the date of the Bill has incurred substantial damage or has experienced "substantial improvement exceeding 30 percent of the fair market value of the property.
• Any new policy or lapsed policy, or any policy for a newly purchased property.
• Any policy for which the owner has refused a FEMA mitigation offer under HMGP, or for a repetitive loss property or severe repetitive loss property.

Additional information can be found at: http://www.floods.org/ace-files/documentlibrary/2012_NFIP_Reform/2012_NFIP_Reform_Act_ASMFP_DSummary_of_Contents.pdf

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The NFIP is a Federal program enabling property owners in participating communities to purchase protection against property losses due to flooding. This insurance is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents.

Flood insurance covers direct losses caused by surface flooding, including a river flowing over its banks, a lake or ocean storm (including tsunamis and seiches), and local flooding.

There is a 30 day waiting period before the policy becomes effective.

There are two types of coverage: Structural and Contents. Structural coverage is for the walls, floors, insulation, furnace, and other items permanently attached to the structure. Contents coverage, purchased separately, requires the contents to be in an insurable structure.

The City of Los Angeles’ active participation in the NFIP and CRS, new and renewed flood policies in SFHA continue to receive a 15% premium discount. Through the NFIP, flood insurance is available to all City residents who wish to purchase flood insurance regardless of their flood risk or flood history. Properties located outside the SFHA receive a 5% premium discount.

Insurance agents should use the latest Insurance Manual in order to apply the discount automatically. This manual is available on the Web at:
http://www.fema.gov/flood-insurance-manual

Why Flood Insurance is better than Disaster Assistance?

Flood Insurance

- You are in control. Flood insurance claims are paid even if a disaster is not declared by the President.
- Between 20 and 25 percent of all claims paid by the NFIP are outside of an SFHA.
- There is no payback requirement.
- Flood insurance policies are continuous and are not non-renewed or cancelled for repeat losses.
- Flood insurance reimburses you for all covered losses up to $250,000 for homeowners and $500,000 for businesses.
- The average flood insurance policy costs about $600 per year.
- For a $100,000 flood insurance coverage, your premium payment is about $400 a year ($33 a month).

Disaster Assistance

- Most forms of federal disaster assistance require a presidential declaration.
- Federal disaster assistance declarations are awarded in less than 50% of flooding incidents.
- The most typical form of disaster assistance is a loan that must be repaid with interest.
- The duration of a Small Business Administration (SBA) disaster home loan is approximately 30 years.
- The average Individuals and Households Program award is about $4,000.
- Repayment on a $50,000 SBA disaster home loan is $240 a month or $2,880 annually at 4% interest. This comes out to more than $8 dollars per day.

When your community participates in the CRS, you can qualify for an insurance premium discount of up to 45%. Since 1978, the NFIP has paid over $36.9 billion for flood insurance claims and related costs (as of 12/31/10). Over 5.5 million people currently hold flood insurance policies in more than 21,000 communities across the U.S. For more policy and claim statistics, visit the National Flood Insurance Program at:
http://www.floodsmart.gov/floodsmart/pages/flood_facts.jsp

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Free Flood Information

The City of Los Angeles provides free flood zone information. Copies of the Federal Emergency Management Agency Flood Insurance Rate Maps are available for review in all Bureau of Engineering district offices. For flood zone information and availability of elevation certificates, contact us by email at Eng.nfip@lacity.org, or call (213) 485-4820 (call back time is within 2 business days). This information is also available to you directly through the Internet at: http://navigate.lacity.org

Investigation of Drainage Deficiencies

Request a drainage investigation when the water in the streets overtops the curb by calling your local Bureau of Engineering (BOE) District office:
- Harbor District, (310) 732-4690
- West LA, (310) 575-8617
- Valley District, (818) 374-4463
- Central District, (213) 485-1604
- Espanol, (213) 485-4513

If requested, a staff engineer from BOE will visit your property to review your flood problem and explain ways to stop flooding or prevent flood damage. Call the NFIP info line at (213) 485-4620. These services are free.

Illegal Dumping

Used motor oil, discarded food, trash and other debris are just some of the items routinely dumped into storm drain systems throughout the city. Curbside catch basins are the entry points of the storm drain system, which eventually discharges out into the ocean. Additionally, catch basins filled with debris can create unhealthy conditions in residential neighborhoods by becoming a breeding ground for rats, roaches and disease.

An ordinance passed in 1999 (LAMC Sec 64.70) makes it illegal to dump or discharge trash, debris, chemicals, contaminated water, or any other liquid or solid material into the storm drain system. Violators are subject to stiff fines and criminal prosecution.

Residents are encouraged to report illegal dumping by calling the Stormwater Program at (800) 974-9794. Please note: after 5:00PM and before 7:00AM Monday through Saturday and all day Sunday the (800) 974-9794 will roll over to the City’s 311 number. More information are available at: www.LastFloodWater.org

Before you build in the floodplain

All new development and construction in the floodplain is regulated and requires a special review before a building permit is issued.

Contact the NFIP Information Line at (213) 485-4820, or by email at: Eng.nfip@lacity.org during the planning stages to inquire about the regulations applicable to your project. Suspected illegal floodplain development can be reported at the same number.

Report Clogged Catch Basins

The City of Los Angeles Bureau of Sanitation routinely cleans out the city’s 35,000 catch basins at least once a year, some with more frequency. However, if your neighborhood catch basin becomes clogged with debris, please call the City Hot Line (800) 974-9794 between 8 a.m. and 4 p.m. Monday through Friday, or (213) 485-7575 after 4 p.m. and on weekends.

And remember, storm drains are for rainwater only!

Sand Bags

Free sand and sandbags are offered through the Fire Stations and the Bureau of Street Services yards during the storm season. A complete list of maintenance yards and local fire stations offering sand bags is available on line at the following web site (or call 311 to request a copy of this list):
http://bsa.lacity.org/resurfacing/storm.htm

Flood Protection Library

Additional information regarding flood protection, floodplain management and the NFIP can be found through the FEMA web site at: www.fema.gov
The original storm drain system was developed in the 1930s by the Army Corps of Engineers. As the City began to grow rapidly in the 1950s and 60s, rainwater that was once absorbed by miles of undeveloped land began to run off the newly paved and developed areas, increasing amount of water flowing into Los Angeles rivers and local creeks. These waterways could not contain the increased amount of water and the region experienced massive flooding. Because of this, the Army Corp of Engineers lined the Los Angeles River and Ballona Creek with concrete and started the development of an underground urban drainage system. As Los Angeles continued to grow, a complex drainage system developed.

Today, the City’s storm drain system total 35,000 catch basins, over 1,500 miles of underground pipes, and 100 miles of open channels. Runoff from approximately 1,060 square miles of developed land reach Santa Monica and San Pedro Bays through approximately 60 storm drain outfalls. Approximately 100 million gallons of water flow through Los Angeles’ storm drain system on an average dry day. When it rains, the amount of water flowing through the channels can increase to 10 billion gallons reaching speeds of 35 mph and depths of 25 feet. Runoff from streets, parking lots, yards, etc. enters the storm drain, receives no treatment and flows directly to the ocean. Paint thinner and paint products, Styrofoam cups, paper, human and animal wastes, antifreeze, golf balls, dirty diapers and dead animals are found everyday in the storm drain system. Every year, roughly 40 tons of trash and debris are deposited onto our local beaches from stormwater runoff. It’s important to our environment and safety that we keep our waterways clean.

A stream is a watercourse that is naturally occurring swale or depression, or engineered channel which carries fresh or estuarine water either seasonally or year round. It is the desire of the City of Los Angeles to protect streams and the native riparian area vegetation along stream systems and riparian areas. Los Angeles Municipal Code Sections 64.07, 64.08, and 64.09 prohibit anything that obstructs or interferes with the flow of water through a watercourse or channel in any manner without proper permits.

If you want to know more about our storm drain system, please log on to: http://www.lastormwater.org

Typical Flood Problems

Fluvial Drainage Problem

This occurs on properties located at the bottoms of steep hills. Floods happen when the drainage system is deficient or inadequately designed. Runoff is not diverted to the street and enters the home or garage. In some situations, neighbors change the normal drainage patterns, creating flood risks to other properties.

Mudslides from slope failures are also common problems. If erosion on your property is a problem or if others have change the drainage patterns, you can call (213) 485-4820 to request an investigation, or information on how to protect your home. Sandbags are provided free during the rainy season (please refer to the City Services Phone List provided).

Flood Prevention Tips

- Keep drainage areas (ditches, swales, small channels) free of debris.
- Consult an engineer to design a permanent water/flood debris control device, if needed.
- Ensure that drainage pipes within your property are cleared and work properly.
- Landscape slope areas with plants suitable for fire retardant and erosion control.
- Report clogged catch basins to request cleaning and floodwaters overtopping the curb for engineering investigations.

Mandatory Purchase Requirement

The mandatory flood insurance purchase requirement applies to all forms of federal or federally related financial assistance for buildings located in an SFHA. A home located within an SFHA has a 26 percent chance of suffering flood damage during the term of a 30-year mortgage.

This requirement affects loans and grants for the purchase, construction, repair, or improvement of any publicly or privately owned building in the SFHA, including machinery, equipment, fixtures, and furnishings contained in such buildings.

The requirement also applies to secured mortgage loans from financial institutions, such as commercial lenders, savings and loan associations, saving banks, and credit unions that are regulated, supervised or insured by Federal agencies such as the Federal Deposit Insurance Corporation and the Office of Thrift Supervision. It also applies to all mortgage loans purchased by Fannie Mae or Freddie Mac in the secondary mortgage market.

Financial Assistance

Financial assistance includes loans and grants from agencies such as the Department of Veterans Affairs, Farmers Home Administration, Federal Housing Administration, Small Business Administration, and FEMA.

FEMA Grant Assistance

Grant assistance is provided to those who have suffered damage and loss from disasters occurring in that state. When there is a presidential declaration, FEMA begins accepting assistance applications for a period of time that varies depending on the magnitude of the disaster, as well as affected areas and amendments to the governor’s declaration request. Those applicants may be eligible for FEMA grant money. This disaster assistance does not have to be repaid and is to be used for vital expenses that cannot be managed via other means.

How It Works

Before a person can receive a loan or other financial assistance from federal agencies or lenders, there must be a check to see if the building is in an SFHA. SFHAs are land areas that are at high risk for flooding. These areas are indicated on the Digital Flood Insurance Rate Map (DFIRM). It is shown as one or more zones that begin with the letter “A” or “V”.

Many lenders and insurance agents also have copies of the DFIRM for the City of Los Angeles. It is the lender’s responsibility to check the DFIRM to determine if the building is in an SFHA. If the building is in an SFHA, your lender is required by law to require you to purchase a flood insurance policy on the building. Federal regulations require purchase of structural insurance coverage equal to the amount of the loan or the maximum amount available from the NFIP, whichever is less. The maximum amount available for a single-family house is $250,000 for structure and $100,000 for its contents.

The mandatory purchase requirement does not affect loans or financial assistance for items that are not covered by a flood insurance policy, such as vehicles, business expenses, landscaping, and vacant lots. It does not affect loans for buildings that are not in the SFHA, even though a portion of the lot may be flood prone. While not mandated by law, a lender may require a flood insurance policy as a condition of a loan for a property in any zone on a DFIRM.

The most important thing you can do to protect yourself from financial loss is to have flood insurance. Floods can also pose life-threatening risks to you and your family, so be smart. Be prepared for anything nature sends your way. Federal disaster assistance is usually a loan that must be paid back with interest. For a $50,000 loan at 4% interest, your monthly payment would be around $240 a month ($2,880 a year) for 30 years. Compare that to a $100,000 flood insurance premium, which is about $400 a year ($33 a month).

If you live in a low-to-moderate-risk area and are eligible for the Preferred Risk Policy (PRP), your flood insurance premium may be as low as $129 a year, including coverage for your property’s contents.

You are eligible to purchase flood insurance because the City of Los Angeles participates in the NFIP. It takes 30 days after purchase for a policy to take effect, so it’s important to buy insurance before floodwaters start to rise. Los Angeles is exposed to the program: funds are provided by insurance premiums, not tax dollars.

Increased Cost of Compliance (ICC) Coverage

If your property is damaged by flood, you may be required by law to bring your home up to community and/or state floodplain management standards. If you have NFIP insurance, and your home has been declared substantially damaged by your community, ICC coverage is provided to cover up to $30,000 of the cost to elevate, floodproof, demolish, or relocate your property. ICC coverage is in addition to the coverage you receive to repair flood damage. However, the total payout on a policy may not exceed $250,000 for residential buildings and $500,000 for non-residential buildings.

ICC coverage does not apply to substantial improvements unless a structure is substantially damaged due to flooding. More information on ICC can be found at: http://www.fema.gov/library/viewRecord.do?id=1477
Flooding Zone Map

The flood zone map of the City of Los Angeles is included as an insert in this newsletter. If you want to verify whether or not your property is located within a flood zone, you can log on at: http://navigatela.lacity.org or email us at Eng.nfip@lacity.org or call (213) 485-4820.

The Bureau of Engineering keeps copies of the DFIRM for the City of Los Angeles. If you have recently purchased or re-financed your home, your lender may require you to obtain a flood insurance policy. Whether you own or rent the property you are in, you need to plan? The flood risks associated with the flood designation in order to take precautions that protect your interests. The City of Los Angeles prepares annual notifications to provide you with information that may help you understand and reduce the flood risk surrounding your home. If you have questions regarding this publication, you can email the City of Los Angeles at Eng.nfip@lacity.org or call (213) 485-4820. If you received this newsletter in error, please disregard.

What Can Homeowners Do if They Believe Their Properties are ERRONEOUSLY Included in the Flood Zone?

If a homeowner can show that the home is located above the Base Flood Elevation (BFE) and was built before 1980 (with no significant improvements, such as major additions over 50% of the structure since then) he/she can apply for a map amendment by completing an application for a Letter of Map Amendment (LOMA). Submitting this request to FEMA, a LOMA application (known as Map Amendment-LETTER MAPPING or MAPPING BASED-LETTER) can be obtained on line at: http://www.fema.gov/forms

FEMA’s review is free to individual property owners who apply for a single loft LOMA review. However, a Registered Professional Engineer or Licensed Land Surveyor will need to be hired by the homeowner to certify the elevation information in the application. More information is available by accessing FEMA's website at: http://www.fema.gov/letter-map-amendment-letter-map-revision-based-fill-process

If you would like assistance in completing a LOMA application from a Map Specialist, you may call the FEMA Map Assistance Center toll-free at (877)-FEMA-MAP or (877)-336-2627. Please note that the City does not approve or deny any map amendment requests since the FIRM are published by a federal agency.

Building or Remodeling in the Flood Zone

All developments in the floodplain, not just construction of buildings, need local permits. The Lowest Finished Floor (LFF) of all new buildings and existing buildings undergoing major improvements (including remodeling) located in SFHA must be one foot above the Base Flood Elevation (BFE) per City Ordinance No. 17209.

Certain flood hazard areas are considered floodways or passages to the 100-year flow, therefore, no new development will be allowed. Other areas that experience high velocity flow and heavy debris loads may require special design considerations.

No basements for residential structures located in the flood plain, will be allowed. Other areas that experience high velocity flow and substantial damage residential projects (including multiple residential units) will be required to seal any existing basements.

Mandeville Canyon is considered a Flood Risk Area and development is likely to require to obtain a watercourse permit Special Order S0003-1005. A copy of the Special Order can be obtained by emailing a request to Eng.nfip@lacity.org.

If your property is in the flood zone, please contact the City’s NFIP information line at (213) 485-4820 or email us at Eng.nfip@lacity.org before designing your project.

What is Substantial Improvements?

Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage,” regardless of the actual repair work performed. The term does not, however, include either:

1. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions or
2. Any alterations of a “historic structure,” provided that the alteration will not preclude the structure’s continued designation as a “historic structure.”

Flooding management requirements apply to new construction and substantial improvements.

What is a Floodplain and Special Flood Hazard Areas (SFHA)?

Floodplain is defined as any land area susceptible to being inundated by flood waters from any source. SFHAs are areas subject to inundation by a 100-year flood, a flood that has a 1-percent or greater chance of being equalled or exceeded during any given year. They are shown on the DFIRM as zones labeled with the letters A, AO, A1, AR, A30, AR/A1, AR/A30, AR/A1/A30, AE, and V1-V30. In an SFHA, there is at least a 1 in 4 chance of flooding during a 30-year mortgage. All home and business owners in these areas are required to obtain flood insurance.

The Teacher Center of the Public Broadcasting System’s website “News Hour Online” has a package of resources for teachers. “What is a Tsunami?” Information on Safety and Critical Analysis.” It provides information about the flood plain, flood damages, cost of insurance and preparedness, etc.


The most visible features of the City of Los Angeles are the 270 miles of open flood control channels, which include the Los Angeles River, Dominguez Channel, and Ballona Creek. They serve to collect rainwater from most of the City’s storm drains and smaller open channels, and move the water out to the ocean. The Bell Salt Creek Basin during a flood it rains, it fills up with fast flowing water that can kill anyone who gets caught up or swept away in it. It is illegal to enter the flood control channels at anytime.

What if I see someone fall into the channel?

Immediately call 911. Do not go into the channel to try to save them. Don’t try to save them using a rope as the force of the water will pull you in. Find some sort of flotation device, such as ice chests, foam cushions, any unattached object they can use to hang on to.

What if I fall in?

Remain calm, float on your back with your head up from the water. Use your feet and legs to steer yourself clear of obstructions. If a large obstacle is blocking the channel, try to flip over your stomach and approach the object head on, and crawl over the top of it. People die in salt water when they get pinned or trapped against debris. Never find yourself in this situation is the best way of surviving salt waters.

Do not walk through flowing water.

Do not drive through a flooded area.

Stay away from power lines and electrical wires.

If flooded, have your electricity turned off by the Department of Water and Power.

Look out for animals, especially snakes.

Emergency Alert System

On January 7, 2010, Los Angeles County officials launched an emergency Alert System to alert 911, that will notify residents and businesses by phone, text or e-mail about dangerous conditions in their area. Residents and businesses will be contacted if there are emergences like wildfires or floods near their home or offices, and to tell them whether evacuation is necessary.

The Sheriff Department’s Emergency Communications Division is responsible for the emergency alerts. Members of the public who will receive the emergency notification via their cell phone or e-mail account will be required to register that information through the www.alert.lacounty.gov web site.

You will also have the option of registering your fax numbers and voice-over IP lines. But only one phone number or e-mail address may be entered per street address. The numbers of local business or small systems will be registered and immediately relayed twice. If it reaches an answering machine, the system leaves a message. The system will also have the ability to dial and communicate with telecommunication devices for the deaf.

TSUNAMI - WHAT TO DO

Tsunamis (pronounced soo-na-rays), also known as seismic sea waves (mistakenly called “tidal waves”), are a series of enormous waves created by an underwater disturbance such as an earthquake, landslide, tsunami eruption, or meteorite. A tsunami can move hundreds of miles per hour in the open ocean and smash into land with waves as high as 100 feet or more. From the area where the tsunami originates, waves travel outward in all directions. When a tsunami approaches the shore, it builds in height. The topography of the coastline and the ocean floor will influence the size of the wave. There may be more than one wave and the succeeding one may be larger than the previous. A major earthquake or a landslide close to shore can generate a giant wave. A tsunami can strike anywhere along most of the U.S. coastline. The most destructive tsunamis have occurred along the coasts of California, Oregon, Washington, Alaska, and Hawaii.

Earthquake-induced movement of the ocean floor most often generates tsunamis. If a major earthquake, landslide occurs close to shore, the first wave in a series could reach the beach in a few minutes, even before a warning. When a tsunami is at greater risk if they are less than 25 feet above sea level and within a mile of the shoreline. Drowning is the most common cause of death associated with a tsunami. Tsunami waves and the receding water may wash v不是 intrusive to structures in the run-up zone. Other hazards include flooding, contamination of drinking water, and fires from gas lines or ruptured tanks.

What to Do Before and During a Tsunami

The following are guidelines for what you should do if a tsunami is likely in your area:

1. Turn on your radio to learn if there is a tsunami warning, the number is busy or does not answer, the system will be re

2. If an earthquake occurs and you are in a coastal area move inland to higher ground immediately and stay there.

3. Stay away from the beach. Never go down to the beach to watch a tsunami come in. If you can see the wave you are too close to escape it.

CAUTION - If there is noticeable recession in water away from the shoreline this is nature’s tsunami warning and it should be heeded. You should move away immediately.

What to Do After a Tsunami

The following are guidelines for the period following a tsunami:

1. Stay away from flooded and damaged areas until officers say it is safe to return.

2. Stay away from debris in the water; it may pose a safety hazard to boats and people. Save yourself - not your possessions

See http://www.ready.gov/tsunamis for more information.
### Documents You Should Have Before Making Your Appointment for Flood Zone Clearance

Appointment is required. Please call (213) 485-4820 or e-mail ENG.NFIP@lacity.org to make your appointment. (For all cases, please have your permit application PCIS number ready before you make your appointment.)

#### Substantial Improvement

1. Two (2) sets of plans, including floor plans, site plans, cross-section/elevation views. Plans must be signed and stamped by a licensed civil engineer or architect.

2. Topographic survey with footprint of proposed structure on existing site (undisturbed project site) stamped, dated and signed by licensed surveyor if Base Flood Elevation (BFE) is not known. Survey must reference 1988 Datum Reference and City Benchmark Map with ID number.

3. Site plan or survey should show proposed structure with elevation information of lowest finish floor and adjacent grounds. If Base Flood Elevation (BFE) is unknown, it will be determined from the highest grade adjacent to the improvement, plus the flood depth expected. The minimum finish floor elevation will be the BFE plus one foot for freeboard.

4. Plans must show waterproofing for materials susceptible to water damage below the minimum required finish floor elevation (FFE). Metal, concrete, cement and masonry are considered to be waterproof. Flood certificate will be required after construction for commercial projects.

5. Plans must also show flood venting at ground level based on the ratio of one square inch of venting per one square foot of additional improved space of building. Venting must sit at ground level.

6. If existing walls are to be removed as part of the improvement, the existing floor must be raised where the addition joins the existing structure.

7. Any additional information such as documentation or calculations confirming that new or improved structure will withstand potential flooding such as (but not limited to):
   - hydraulic and hydrologic calculations
   - FEMA-established calculations for hydrostatic, hydrodynamic and buoyancy forces
   - Written correspondence from any government agency confirming approval of improvement within an agency easement.
   - Structural plans and calculations wet-stamped and signed with original signature of a licensed civil or structural engineer.

#### Non-Substantial Improvement

If you contend that your improvements are less than 50% of the appraised value of the existing structure, you will need to bring the following documents to your appointment for verification.

1. Recent appraisal of existing structure by certified appraiser dating from no more than twelve months ago. County Assessors tax records may be used in lieu of an appraisal report.

2. Cost estimate from contractor, with breakdowns for labor, material, profit and overhead. (Material costs must be further broken down by unit cost and quantity of each type of material).

#### Commercial Projects with Subgrade Structures

In addition to the documents listed on the left, you must submit an emergency plan for flooding and a covenant agreement attached to the property.

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### Letter of Map Amendment (LOMA)

If you believe that your project does not sit within a floodplain, you must file a Letter of Map Amendment (LOMA) with FEMA, which approves your petition. Issuance of a LOMA eliminates the Federal flood insurance purchase requirement for Federal or federally backed financing, but not necessarily for private mortgage lenders.


### Letter of Map Revision (LOMR)

If you believe that the floodplain boundary is incorrect and wish to request a re-drawing of the boundary, you must file a LOMR with FEMA (or a Letter of Map Revision – Fill [LOMR-F] for a revision based on increased elevation of property due to certified fill). The LOMR application should include, but is not limited to, calculations specified on the application. The Stormwater Engineer can guide you in preparing the LOMR, if necessary. However, please review [http://www.fema.gov/national-flood-insurance-program-2/letter-map-revision](http://www.fema.gov/national-flood-insurance-program-2/letter-map-revision) before making an appointment.