



Building in the Floodplain

A Floodplain Use Permit is required by the Town for any proposed development in the floodplain. Development may consist of site built homes, manufactured homes, commercial structures, or substantial improvements. Construction in the Floodplain is regulated under Title 21 of the Town of Marana Land Development Code.

Planning for building in the Floodplain

The most important step you can take is to build your structure outside the flood-hazard area, and to elevate it above the 100-year flood elevation. In many areas, you'll be required to do so in order to get a building permit from the Town of Marana.

If your home is located in a local or federally regulated floodplain (near a wash, stream or on the alluvial fan), special permits beyond the usual building permits will be required prior to construction and your plans may be subject to special requirements. Be sure to check with your contractor or architect and the Development Services staff beforehand.

Our Local regulations may prohibit construction in some flood-prone areas. Check with the Town of Marana Development Engineering Division to find out what your options are. Select an area with the highest elevation on which to build. While flood plains are generally level, there may be areas where the elevation on your property is higher.

When possible minimize the impact on natural vegetation and water courses near your building location. Water courses provide valuable flood protection through stormwater conveyance.

Flooding is a natural occurrence within floodplains. Be aware, Town regulations often forbid impacting water courses and redirecting floodwaters. Consult with our Development Engineering Division office for assistance.

The Town of Marana may prohibit construction in floodplains, but manages this construction very carefully to make sure that no building causes any other property owners harm from upstream or downstream flow changes.

What information do you need to develop a Property in the Floodplain?

Prior to purchasing a property, financing a new bank loan, or applying for a permit to build a new structure, it is wise to inquire whether or not you are "in a floodplain". The basis for this determination is provided on the FEMA maps, or FIRM (Flood Insurance Rate Map) The FIRM is designed to show the "100 year floodplains" and was originally used primarily for flood insurance. FIRM maps are the primary tool utilized to provide the best available flood hazard information. A staff member will look up your parcel or address and carefully examine both the location of the parcel as well as any structures in proximity to the floodplain.

Requirements for Building a Custom Home in the Floodplain

1. New construction and substantial improvements of any residential structure shall have the lowest floor, elevated at or above the regulatory flood elevation (RFE) which includes basements.
2. New construction and substantial improvement of any residential structure in Zone AO shall have the lowest floor, including basement, elevated at least one foot higher than the depth number shown on the FIRM, measured from the highest natural adjacent grade.
3. New construction and substantial improvement of any residential structure in Zone A with no

Base Flood elevations shall have the lowest floor, including basement, elevated at least four feet higher than the highest natural adjacent grade unless an engineering analysis is performed by an Arizona Registered Professional Civil Engineer to determine the Regulatory Flood Elevation.



Elevated Home with riprap scours protection

4. New construction and substantial improvement of any residential structure in Zone X-500 east of I-10 shall have the lowest floor, including basement, elevated at least 18 inches higher than the highest natural adjacent grade.

5. If fill is used to elevate any structure, the fill shall extend at such elevation for a distance of at least fifteen feet beyond the outside limit of the structure unless a study/analysis prepared by an Arizona Registered Professional Civil Engineer demonstrates that a lesser distance is acceptable.

6. The Town advises you to Elevate your home with a Built up pad, foundation walls or retaining wall type of foundations to prevent flood damage. This type of construction provides added assurance that your home will not be damaged by a flood.

7. Take the precaution of installing check valves in sewer/septic traps to prevent floodwaters from backing up into your home if a flood occurs. Check valves prevent two-way water flow so that water only flows out of your home and not in.

8. Locate any electrical outlets, hot water heaters, or other electrical appliances in elevated locations. Likewise, outside of the home, place air conditioning units on elevated platforms.

9. Upon the completion of the structure and prior to the issuance of a certificate of occupancy the elevation of the lowest floor including basement shall be certified by an Arizona Registered Professional Civil Engineer or surveyor and provided to the Floodplain Administrator in the form of a FEMA Elevation Certificate.

Scour Protection

All structures designed or utilized for human habitation or commercial enterprise, whether full or part time, located within a floodplain or erosion hazard setback area shall provide protection for scour and lateral erosion based upon a scour/erosion analysis sealed by an Arizona Registered Professional Civil Engineer and accepted by the Town of Marana Floodplain Administrator.



Elevated Home with concrete scour protection
In all cases scour protection shall be designed to be a minimum of three feet below the lowest point of the adjacent channel thalweg.

Mobile Home in the Floodplain

All manufactured homes and substantially improved manufactured homes located within the floodplain shall be required to comply with the following:

1. To be elevated so that the bottom of the structural frame and lowest point of any attached appliances at or above the regulatory flood elevation (RFE); and be securely anchored to resist flotation, collapse or lateral movement by one of the following methods:



Anchor and support system for Mobile home

a. Provide an anchoring system designed to withstand horizontal forces of 25 pounds per square foot and uplift forces of 15 pounds per square foot.; or over the top ties shall be provided at each of the four corners of the manufactured home, with two additional ties per side at intermediate locations, except that manufactured homes less than 50 feet long require only one additional tie per side; and frame ties shall be provided at each corner of the home with five additional ties per side at intermediate points, except that manufactured homes less than 50 feet long require only four additional ties per side; and all components of the anchoring system shall be capable of carrying a force of 4,800 pounds.

b. Manufactured homes shall be placed on pads or lots elevated on compacted fill so that the bottom

of the structural frame and any attached electrical appliances is at or above the regulatory flood elevation (RFE).

c. Manufactured homes shall be placed on stem walls or pilings so that the bottom of the structural

frame and any attached electrical appliances is at or above the regulatory flood elevation. Pilings or stem wall shall be placed in stable soil. Pilings shall be no more than ten feet apart.

2. Lots shall be large enough to permit steps. 5. Venting the stem wall under an elevated structure is a requirement. Calculate the venting using the basic principle of one square inch of venting for every one square foot of enclosed area. The bottom of the venting should not be higher than one foot above grade. The venting is required on at least two sides, preferably on upstream and downstream sides.



Elevated Mobile home with elevated utilities

3. A FEMA finished construction Elevation Certificate shall be provided by the person installing the manufactured home, the owner, or an agency regulating manufactured home placement, whichever is deemed appropriate by the Floodplain Administrator. Certification of Finished Floor Elevation shall be in accordance with section 21.05.01.C.9. Land Development Code. (Performed by a Licensed Land Surveyor)

Substantial Improvement

Any reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds 50% of the market value of the structure before the "start of construction" is

a substantial improvement. This includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not include 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 shall apply. Title 21 of Town Land Development Code requires any substantial improvement to conform to new construction requirements.

Elevation Certificate

If your property is located in a floodplain and you are planning to build, you will be required to provide an **Elevation Certificate** upon completion of the home construction. If you are installing a conventional home, the elevation certificate which is completed by a registered land surveyor or engineer will prove that the lowest floor of the home has been elevated to the height required.

If you are installing a manufactured home, the bottom of the frame of the home will be measured and is considered the determining factor in floodplain compliancy. In either case an Elevation Certificate must be completed and delivered to the Floodplain Administrator. If the home is compliant, and has met the floodplain and building requirements, the owner is provided a certificate of occupancy if applicable.

Where do I get flood insurance?

The Town of Marana participates in the national Flood Insurance Program (NFIP) and is required to have building standards for new construction and substantial improvement in the identified SFHA in order to reduce flood damages. Property owners with structures located within a Special Flood Hazard Area (SFHA) and who have a

mortgage from a federally regulated lending institution are required to have flood insurance. Insurance can be purchased from your local insurance agent. If you do not have an agent you may call 1-800-427-4661 or visit www.floodsmart.gov to obtain the names and telephone numbers of insurance agents in your area.

If you are applying for financial assistance, it is likely that your lender will review your property and its location within a floodplain. Depending upon your risk, you may be required to purchase NFIP flood insurance. Study the terms of your flood insurance if you are required to purchase it. Take the time to understand what coverage is available to ensure that you are fully covered in the event of a flood.

The National Flood Insurance Program
1-800-427-4661 <http://www.fema.gov/nfip/>
Flood Hazard Mapping
1-877 FEMA MAP

Where can I go to view floodplain information on my property and Local Code requirements?

The Town of Marana offices are a repository of all information regarding floodplain status of your property. Current maps, Historical maps, and Letters of Map Revision can be viewed at the Town Municipal Complex.

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