



OSAGE COUNTY EMERGENCY MANAGEMENT AGENCY

FLOODPLAIN MANAGEMENT FACT SHEET

(NON-STRUCTURAL DEVELOPMENT ACTIVITIES)

What if I want to bring in my camper or recreational vehicle for the summer on my lot along a lake, river, or other area of Osage County that is identified as being within a Special Flood Hazard Area (SFHA)?

This is an allowable activity under the National Flood Insurance Program (NFIP) and criteria have been developed to ensure these temporary living spaces are also reasonably safe from flooding. First of all a Floodplain Development Permit (FPDP) is still required for this activity. Since the NFIP is also a public safety issue it is prudent for Osage County to know where potential persons may be located in the Special Flood Hazard Area (SFHA) should a flash flood occur during the summer thunderstorm season and evacuations are required.

The requirements to receive a FPDP for this activity is the camper or recreational vehicle must not be located on the site for longer than 180 consecutive days, it must be fully licensed and ready for highway use, and it can only be connected by quick release attachments to other utilities or security devices at the site. If it meets these conditions then a FPDP can be issued for that location. See Article 4, Section E – “*Recreational Vehicles*” of the Floodplain Management Ordinance for additional information.

Can I have permanent utilities servicing my recreational vehicle?

If you are planning on having on site utilities (such as electrical, water, or restroom facilities) available for your RV, or possibly for an on-site pavilion, then these will also need to be permitted prior to the beginning of construction. Electrical utilities will still need to be elevated above the BFE or floodproofed within a watertight enclosure capable of resisting flood damage, or meet the floodproofing development standards in FEMA Publication 348, Sections 3.3.4 and 3.3.5 specified on pages 3.3-7 to 3.3-11. To summarize, the electrical box housing the circuit breakers must be above the BFE but the electrical outlets and switches may be below the BFE provided a Ground Fault Interrupting Circuit (GFIC) breaker is used in the electrical box panel. The GFIC cannot be located at the outlet or switch below the BFE because the wire servicing the electrical box would still be “hot” and an electrocution hazard would exist. By having the GFIC at the circuit breaker above the BFE, when tripped by flood waters, the below BFE electrical components would not still have electricity being supplied to the device. It must be noted that when these electrical components below the BFE will need to be replaced upon being submerged by flood waters. Depending upon the wire used to service these components they may also need to be replaced. Any underground wiring should be placed in conduit as required by electrical codes for underground installations. These requirements are discussed in the FEMA Publication referenced above in the listed sections and pages. This requirement does not apply to the electrical meter installed by the power company as that device is considered to be the property of the local power utility company. If an electrical extension cord is used to bring electricity from an above BFE outlet, to a below BFE electrical device, the above BFE outlet should be floodproofed with a GFIC breaker as typically required for outdoor outlets. There are also some commercial marine electrical component products available at marina retail stores to meet the below the BFE floodproofing requirements of the NFIP.

There are a couple of options available for providing water service to your site. Public water delivered through a closed pipe system usually flow under pressure so typically no pump or electricity is required. If your on-site well does not flow under natural water pressure and a pump and electricity are needed at the wellhead to provide water service then they too will either need to be elevated or floodproofed. The company you hire to drill your well will be able to assist you in selecting the appropriate pump and well cover for your particular site location that meets the minimum standards of Osage County's floodplain management ordinance. It is also possible to floodproof the electric pump in accordance with the guidelines described in FEMA Publication 348 discussed above. Remember that a new electric motor/pump will need to be purchased if it is damaged by the flood waters during inundation. A statement of understanding for the need to replace any electrical components located below the BFE and floodproofed in this manner will be signed and attached to the FPDP for any electrical components associated with the proposed development.

To address the issue of restroom facilities in the floodplain another fact sheet titled "*Bathrooms in the Floodplain*" has been created and available at: www.osagecountyma.com/pages/floodprogram.htm

What about opening a campground?

Utilities associated with campground activities (electrical/sanitation/water) would need to meet the elevation or floodproofing requirements of the NFIP. Remember that water and sanitary sewer systems may also need to meet local health or Missouri Department of Natural Resources (DNR) additional requirements.

I have some farm land that I grow an agricultural crop on that is located in the SFHA, do I need to get a Floodplain Development Permit every time I till, drill, or harvest my crop land?

No, it is not necessary to obtain a FPDP for activities associated with the production and care of crop fields. This includes crop activities located within the Regulatory Floodway. Normal crop activities do not require the submittal of a "No-Rise" certificate to be compliant with the Floodplain Management Ordinance.

This does not mean these activities are exempt from the requirements of the NFIP it is just that these activities have already been taken into account when the limits of the floodplain boundaries and flood heights were calculated.

In the case of the crop land located within the Regulatory Floodway, the worst case scenario for the land was used in the model that determined the flooding conditions, which would be a full grown row crop situation. So when the land is tilled, drilled, or harvested, it creates a condition that has less of an impact (decrease) on the flood heights than it did right before it was harvested. So these activities in a way actually reduce the flood heights from the ones calculated in the original analysis.

The same concept applies to the FPDP for these activities. It is not necessary to obtain a FPDP since these activities were taken into consideration when determining the floodplain boundary and heights. Only if an Agricultural Structure or Farm House were to be placed on the land would they need to comply with the Floodplain Management Ordinance because those situations were not included in the original analysis of the floodplain conditions.

What about if I want to put up a fence or privacy barrier?

Yes. If the placement of the fence is located in the SFHA it would require a FPDP from the County. Even though the development is not eligible for flood insurance, because a fence could have a negative impact on the existing flood heights, it would need to be permitted to verify the fence would

not exceed allowable NFIP standards. Depending upon how the new fence is constructed, it could act as a “levee” or “dam” during a flood event which might increase the Base Flood Elevations (BFE) upstream of the fence and potentially causing flood damage to an existing structure. Now typically speaking a normal barbed wire field fence to keep livestock from wandering probably won’t have any impact on the BFE’s, but a metal or wooden privacy fence around an in ground swimming pool possibly could. If the fence is going to be located in a Regulatory Floodway, then it will also need to comply with the “No-Rise” certification requirements. *See the fact sheet titled “Development in the Regulatory Floodway” for more information on this process and certification.*

Let’s say I just want to add some soil to level out my yard, do I need to have a permit?

Yes. For the same reasons listed for the fence, any changes to the ground elevation could have a negative impact on the existing BFE and need to verify they will not exceed the allowable NFIP development standards. And if the placement of the fill is also going to be located in a Regulatory Floodway then this activity will also need to comply with “No-Rise” certification requirements. Once again see the fact sheet that was referenced above.

It may seem silly that permits and possibly “No-Rise” certification needs to be obtained for these types of developments, but every small change to the existing floodplain conditions do eventually add up, and could negatively affect existing structures that were built to older flooding conditions. The NFIP does allow increases to the existing BFE for new development in some situations. In the State of Missouri, on streams without a Regulatory Floodway, BFE can increase up to one foot. That is why Osage County requires all new development to be one foot higher than the effective BFE. The reason for this is to try and protect new development from this legally allowable increase on streams without a Regulatory Floodway. For streams with a designated Regulatory Floodway then the program tries to prevent any increase to the effective BFE’s from new development at all.

Do I need to elevate these non-structural developments?

No. Developments not defined as Structures by the NFIP do not need to be elevated.

So even if I am not going to need a loan, or have to purchase flood insurance for an improvement to my property, I will need to obtain a Floodplain Development Permit for the proposed activity?

Yes. Development is defined in the floodplain management ordinance as “means any man-made change to improved or unimproved real estate, including but not limited to.....” and goes on to list several examples. But really it could end at “any man-made change” since any development basically falls under this definition when in the SFHA. Typically development seen in the county but not specifically listed here could be new carports, concrete pads, septic tanks, wells, or outhouses. They would all require a FPDP prior to the beginning of construction. But please don’t fool yourself into thinking that this partial list or any other partial list of man-made activities you might find is all that is being permitted, technically ALL man-made change needs to be permitted. Remember even development that will be located completely underground is not exempt from the county permitting requirements in the SFHA.

Additional Sources of Information

To assist with the protection of the building utilities so that they also comply with the floodplain ordinance, FEMA Publication 348 titled “*Protecting Building Utilities from Flood Damage – Principals and Practices for the Design and Construction of Flood Resistant Building Utility Systems*” dated November 1999 was created.