

# KANSAS

## FLOODPLAIN MANAGEMENT TIPS



August 2023

### Technical Bulletin 10 Update

In March of this year, the Federal Emergency Management Agency (FEMA) released an update to Technical Bulletin 10, *Reasonably Safe from Flooding Requirement for Building on Filled Land* (2023). The update has reorganized and clarified the guidance on this subject, but the requirements have not changed since the bulletin was last updated in 2001. This guidance is crucial for understanding what constitutes reasonably safe from flooding and the requirements associated with the signing of the community acknowledgement form for Letters of Map Revision based on Fill (LOMR-F) applications to ensure that state and local higher standards are being met, and is also helpful in looking at stricter standards, and residual risk.

This bulletin cites relevant federal floodplain regulations that apply to ensuring new development is “reasonably safe from flooding”, meaning the base flood would not inundate the land or damage structures to be removed from the floodplain, and that subsurface waters will not damage existing or proposed buildings. This is important to understanding what is involved in removing structures, sections of property, or full property from the floodplain through a Letter of Map Change (LOMC). This bulletin pertains to the MT-1 application, granting a LOMR-F, or a conditional LOMR-F (CLOMR-F). A CLOMR-F provides a determination from the FEMA on whether a proposed project built on fill would receive an approved LOMR-F if built to those specifications.

When determining if a LOMR-F should be approved, the community must review site plans and specifications to ensure the work is reasonably safe from flooding, will comply with the adopted floodplain ordinance and has acquired any other required state and federal permits. It is important to note that FEMA may inadvertently approve a LOMR-F with a community signed acknowledgement form if new residential construction is only at or above the Base Flood Elevation (BFE), and this would **not** meet the local and state higher standard of the lowest floor being elevated at least 1 foot above BFE. If this occurs, the development will be in violation of your local ordinance and state requirements. This is why it is important that you pay attention to this detail in any projects before signing off on the form and you consult your local floodplain management ordinance for local requirements. To ensure the development is reasonably safe, the local floodplain administrator (FPA) may require a written statement from the design professional stating it is reasonably safe from flooding and in compliance with the National Flood Insurance Program (NFIP) rules, and those adopted by the community and state. Until all supporting documentation is provided, including a completed application, certifications, analyses, and approaches that were used, the FPA should not sign the form.

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### Reasonably Safe from Flooding Requirement for Building on Filled Land

Removed From the Special Flood Hazard Area  
in Accordance with the National Flood Insurance Program  
NFIP Technical Bulletin 10 / March 2023



FEMA Technical Bulletin 10 Cover (2023)

In addition, basements should not be dug into fill even after a LOMR-F is issued unless the community is a part of the basement exemption program through FEMA. If the application has plans of simultaneously adding fill and constructing a basement below the BFE, it will be flagged as a violation. The bulletin is helpful in breaking down risk by foundation type and considerations of seepage requirements and approaches for basements to make determinations that they are reasonably safe from flooding. This is followed by the design and placement of fill, site considerations, and references. They also clarify that until the LOMR-F is issued, the filled area is still in the floodplain and must be regulated as such. Once the LOMR-F has been granted, the floodplain regulations no longer apply, unless adopted by the community for these situations.

FEMA has added a new section on suggested higher standards for placing fill in the floodplain to avoid violations and better protect new development. Suggestions include enforcement of floodplain regulations for approved LOMR-F properties, adopting buffer zones or setbacks, or including building code standards in your ordinance if your community has not adopted building codes. Additionally, the FPA may implement legal agreements as a condition of signing the acknowledgement form, such as no basements on fill, no critical facilities on a LOMR-F site, and more. There is also a section pertaining to building codes and a comparison between NFIP rules and the International Code Council (ICC) family of building codes as they pertain to fill and foundations in the floodplain. The I-Codes are generally more restrictive than the NFIP minimum requirements and FEMA encourages adoption of building codes.

As the bulletin acknowledges, it is important to be aware of residual risk. There are limitations of flood hazard data, which may not reflect the risk accurately, could be surpassed by a larger flood, or may be revised. Residual risk means that even if a structure is removed from the floodplain, it is not guaranteed to be safe from flooding. Removal from the floodplain and elevation on fill does not remove all flood risk. Flood insurance is still encouraged even though a successful LOMR-F application will remove the mandatory purchase requirement. As always, standards that are more restrictive than the NFIP, adopted by the state or community will take precedence. For further details on Bulletin 10, please view a copy of the document online at: [https://www.fema.gov/sites/default/files/documents/fema\\_nfip-technical-bulletin-10.pdf](https://www.fema.gov/sites/default/files/documents/fema_nfip-technical-bulletin-10.pdf).

### **Swimming Pools in the Floodplain**

Swimming pools in the floodplain are considered development by the National Flood Insurance Program (NFIP), which includes any manmade development. The standards that apply will depend on the type of pool constructed as it varies widely. Each project must be assessed individually, as with all development in the floodplain and will require a local floodplain development and possibly a state permit. This article will help you navigate how to apply the NFIP rules to varying situations like indoor pools, non-residential pools, and outdoor above and in-ground pools.

If a swimming pool is constructed inside a residential structure, it becomes a part of that structure. If the pool is below grade, the bottom of the pool would be factored into what is considered the lowest floor. The bottom of the pool floor must meet the same standards as the adopted ordinance has for minimum elevation of the lowest residential floor. In Kansas, the minimum is one foot above the Base Flood Elevation (BFE) and so if the pool is located inside a residential structure, it must be elevated. Any floodplain fill that is 1 foot or greater on average will require a state DWR permit in addition to the local floodplain permit. For new construction, it would be included on the elevation certificate for the structure or, if it is an addition, would contribute towards the substantial improvement requirement that prohibits improvements beyond 50% of the market value for a structure in the floodplain. An addition is also not allowed to make the structure noncompliant by being below the BFE, if the structure is post-FIRM.

If the pool is in a non-residential structure, the lowest floor is still a concern, and the pool would have to meet the minimum standards adopted by the community for lowest floor elevation. However, these structures have the option to be dry floodproofed, meaning watertight, substantially impermeable to floodwaters, and be certified with a floodproofing certificate from an engineer or architect. Wet floodproofing would not be an option, as that is reserved for agricultural or

or small, low-cost accessory structures. The use of a swimming pool negates this option.

Outdoor pools, unassociated with any structure, are considered non-structural development. This means it must meet the general standards for floodplain development. Typically, there are above and below-ground pools. An above ground pool with a deck, for example, would need to have a floodplain development permit to verify that it is made of flood damage-resistant materials, and properly anchored. It would not require an elevation certificate or elevation. The same is true for a below-ground pool. It should be noted there has been flooding in Kansas that led the saturated soil to force the pool out of the ground due to buoyancy. This is more common if the pool is empty at the time of flooding.

If in the floodway, all development is required to have a no-rise certificate from an engineer to prove there will be no rise in the base flood elevation due to the development. This would include any new swimming pools and any other associated structures or development. An above ground pool, decks, fences, or new structures could impede floodwater and cause an obstruction.

Administratively, it is easier to do separate permits for the pool, structures, fencing, decks and equipment than to combine them all on one permit form. Read the general requirements section of your floodplain ordinance. Most pools will have filters and pumps, which constitutes mechanical equipment or utilities, which must either be elevated above the BFE, or flood protected and watertight. This must be documented by a licensed professional. Additionally, there are pool chemicals to consider; some communities prohibit storage of hazardous materials in the floodplain, so chemicals would have to be stored outside the floodplain. Citizens should work with their community floodplain administrator to determine the specific requirements for their pool projects, as well as DWR for a permit determination if fill of 1 foot or greater on average will be used.

### **Buried Lines**

Buried transmission, gas, and pipelines are common developments as companies work through communities across the state, including areas of floodplain. Excavation and burial are considered development and will require a floodplain development permit. The permit should be used to hold companies responsible for meeting your community requirements and correcting any mistakes or accidents.



Pipeline work in the floodplain

Make the permit contingent that certain conditions are met, such as spreading spoil materials evenly after the work is completed, so as not to create an obstruction. This has been a problem in Kansas before, where the ground was left in a berm shape and diverted water onto nearby properties. Disturbed streams must be restored to their original condition, as well. Work in stream channels may also require a DWR or U.S. Army Corps of Engineers (USACE) permit for regulated streams. Unpermitted work would be considered a violation and needs to be corrected and retroactively permitted. Without a permit, it could be difficult to hold developers accountable. The permit should include conditions for any stream crossings as well.

When pipelines or underground lines cross a stream with more than 50 square miles of drainage then a permit is required from DWR. Directional boring crossings and streams less than 50 square miles do not require permits from DWR if the pipeline or cable is buried at a minimum depth of 5 feet beneath the stream bed, the channel banks are restored to natural elevations, and surplus material is disposed of and does not cause an obstruction. It should be noted that some pipelines require temporary stream crossings and those would require permitting from DWR. The community has the right to revoke the permit if the stipulated conditions are not met. Be sure to monitor progress as work is done and enforce your permit and regulations. Not doing so could lead to worse flooding problems, violations, and damage in the future.

## **Training Opportunities**

### **Letter of Map Revision (LOMR) Workshop**

This training is focused on the process of submitting a LOMR application, including the options, fees, methods, and timelines. The MT-2 application will be discussed, including the prepping of models and filling out the application.

August 29, 2023 from 8:00 A.M.-12:00 P.M. in-person, KAFM pre-Conference. Register [Here](#)

### **ArcGIS Pro for Floodplain Management**

Part 1 focuses on accessing floodplain data and how to manipulate and symbolize floodplain data using ArcGIS Pro. The data sources explored include the Federal Emergency Management's Map Service Center (MSC) and the GIS services offered by KDA-DWR and the Kansas Data Access and Support Center (DASC). The data explored include floodplain boundaries and LiDAR based ground elevations. Part 2 builds on part 1 by exploring how ArcGIS Pro can be used in floodplain management activities. Activities explored include calculating a base flood elevation (BFE), identifying properties residing in the floodplain, and creating maps to communicate floodplain information including how to make community rating system (CRS) maps for credits in this program.

August 29, 2023 from 1:00 P.M.-5:00 P.M. in-person, KAFM pre-Conference. Register [Here](#)

### **Floodplain Managers Review Session**

This 2-hour review session will cover the ASFPM study guide materials, expected body of knowledge including floodplain mapping, NFIP regulatory standards, regulatory administrative procedures, flood insurance, flood hazard mitigation, natural and beneficial functions, and the overall context of floodplain management. There will be an open discussion style question and answer period.

August 31, 2023 from 2:30 P.M.-4:30 P.M. in-person, KAFM Conference. Register [Here](#)

### **Inspecting Violations and Giving Notices/Meeting with Violators and Resolving Issues**

This free class is designed for floodplain managers and community officials responsible for enforcing flood-plain management regulations. The first hour of the course will focus on investigating alleged violations and sending notices to property owners. The second hour will focus on meeting with violators and resolving matters. Resolution may include going to court. This training has been approved for 2 hours of Continuing Education Credit toward the Certified Floodplain Manager (CFM) credential. Virtual training to be held on September 12, 2023 from 1:30-3:30 P.M. Register [Here](#)

Find more information about floodplain management from Kansas Department of Agriculture  
Division of Water Resources online at:

<http://agriculture.ks.gov/divisions-programs/dwr/floodplain>

Email saves money on postage. The electronic newsletter also has links and the photos are in color. In the case that you are getting this newsletter by postal mail and would prefer email please contact Cheyenne Sun Eagle at: [cheyenne.suneagle@ks.gov](mailto:cheyenne.suneagle@ks.gov).

To find and register for upcoming training, as well as recordings of previous trainings, please see our new  
Floodplain Management Training webpage at:

<https://agriculture.ks.gov/divisions-programs/dwr/floodplain/training>

**Kansas Department of Agriculture**  
**Division of Water Resources**  
**Floodplain Program**  
**Training Registration Form**

Name \_\_\_\_\_

Title \_\_\_\_\_

Organization \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_

E-mail \_\_\_\_\_

Name, date and location of training you will attend \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

\*Please share this invitation with anyone else who could benefit from the training.

\*\*Classroom locations will be sent to registered participants one week before the training.

\*\*To find and register for upcoming training, as well as recordings of previous trainings, please see our new Floodplain Management Training webpage at: <https://agriculture.ks.gov/divisions-programs/dwr/floodplain/training>

\*\* Any individual with a disability may request accommodation in order to participate in training. Persons who require special accommodations must make their needs known at least five working days prior to training. For more information, including special accommodations, please contact Cheyenne Sun Eagle at 785-296-0854 or by email [Cheyenne.Suneagle@ks.gov](mailto:Cheyenne.Suneagle@ks.gov).

Please scan and email your registration to: [cheyenne.suneagle@ks.gov](mailto:cheyenne.suneagle@ks.gov)

Or mail to:

KANSAS DEPARTMENT OF AGRICULTURE  
FLOODPLAIN MANAGEMENT PROGRAM  
1131 SW Winding Road, Suite 400  
TOPEKA, KS 66615

For questions about training, please contact Cheyenne Sun Eagle by email at [cheyenne.suneagle@ks.gov](mailto:cheyenne.suneagle@ks.gov) or by phone at 785-296-0854. You may also contact Tara Lanzrath by email at [tara.lanzrath@ks.gov](mailto:tara.lanzrath@ks.gov) or by phone at 785-296-2513

Please help us keep our records current. If the name that appears on this newsletter is for an individual no longer with your organization, please call 785-296-0854 or email [cheyenne.suneagle@ks.gov](mailto:cheyenne.suneagle@ks.gov) to report the change.

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Division of Water Resources  
Topeka Field Office  
Floodplain Management  
1131 SW Winding Road, Suite 400  
Topeka, KS 66615

**Kansas Association For Floodplain Management 2023 Conference in Mulvane**

The 2023 KAFM Conference will be August 30-31 at the Kansas Star Hotel and Event Center in Mulvane, Kansas.

**Association of State Floodplain Managers 2024 Conference in Salt Lake City**

The 2024 ASFPM Conference will be June 23-27, at the Salt Palace Convention Center in Salt Lake City, Utah.

**KDA/DWR Water Structures  
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