KANSAS
FLOODPLAIN MANAGEMENT TIPS

Kansas Department of Agriculture
Division of Water Resources

August 2020

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Basements and Letters of Map Revision on Fill

There is a common misconception out there that a Letter of Map Revision on Fill (LOMR-F) is the magic answer to putting a basement in the floodplain or to removing an existing home with a basement from the floodplain. Why does this confusion exist? The Federal Emergency Management Agency (FEMA) Technical Bulletin 10, Ensuring that Structures Build on Fill in or Near Special Flood Hazard Areas are Reasonably Safe From Flooding shows how to build a basement using fill that will have the lowest floor below the base flood elevation. A house with a basement that sits on naturally occurring ground can apply for and receive a Letter of Map Amendment (LOMA). These things seem to contribute to the overall confusion some people have.

Two common situations come up. A developer plans to bring in fill material and to apply for a LOMR-F with the intention of building a house with a basement in the floodplain. In another common case, the owner of an existing home wants to avoid paying for flood insurance. They pile fill material against the foundation to raise the Lowest Adjacent Grade (LAG) to a level above the Base Flood Elevation (BFE) intending to apply for a LOMR-F and cancel their flood insurance.

In order to receive a LOMR-F the developer must submit the four part MT-1 application form. The third part of the application is a community acknowledgement form. Community officials in Kansas have signed this form in error. This has resulted in noncompliant buildings and buildings at greater risk from flooding.

One of the things that a community official is signing for is a statement that, “Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirement that no fill be placed in the regulatory floodway, and that all necessary Federal, State, and local permits have been, or in the case of a Conditional LOMR-F, will be obtained.” A building with a basement floor that is below the BFE does not meet the community floodplain management requirements. If the intention is to build a house with a basement then that is a proposed project that will not meet your local floodplain management requirements, unless you are in one of the nine Kansas communities with an approved FEMA basement exception.

Floodplain Managers in local communities must not sign the MT-1 community form unless everything that will be built will comply with their regulations. A non-residential building might be able to comply because it can have levels below the BFE and meet flood proofing requirements. A residential home with a basement will almost never be in compliance.

By signing the community form on the MT-1 the community official is also stating that they have verified all State and Federal permits have been obtained. The community could be on the hook if those permits have not been approved. Always a good idea to contact the Water Structures Program for the Division of Water Resources about any fill projects in the floodplain at 785-564-6650.

Swimming in a Flood

Questions sometimes come up about swimming pools in a special flood hazard area.

Communities with building codes should look at their adopted building codes. They should examine section 3109 of the International Building Code. If a community has adopted the International Pool and Spa Code then it also contains some detailed specifications. Look at section 304 in particular which says:
SECTION 304
FLOOD HAZARD AREAS
304.1 General. The provisions of Section 304 shall control the design and construction of pools and spas installed in *flood hazard areas.*
[BS] 304.2 Determination of impacts based on location.
Pools and spas located in *flood hazard areas* indicated within the *International Building Code* or the *International Residential Code* shall comply with Section 304.2.1 or 304.2.2.
Exception: Pools and spas located in riverine *flood hazard areas* that are outside of designated floodways and pools and spas located in *flood hazard areas* where the source of flooding is tides, storm surges or coastal storms.
[BS] 304.2.1 Pools and spas located in designated floodways.
Where pools and spas are located in designated floodways, documentation shall be submitted to the code official that demonstrates that the construction of the pools and spas will not increase the design flood elevation at any point within the jurisdiction.
[BS] 304.2.2 Pools and spas located where floodways have not been designated. Where pools and spas are located where design flood elevations are specified but floodways have not been designated, the applicant shall provide a floodway analysis that demonstrates that the proposed pool or spa and any associated grading and filling, will not increase the design flood elevation more than 1 foot (305 mm) at any point within the jurisdiction.
[BS] 304.3 Pools and spas in coastal high-hazard areas.
Pools and spas installed in coastal high-hazard areas shall be designed and constructed in accordance with ASCE 24.
[BS] 304.4 Protection of equipment. Equipment shall be elevated to or above the design flood elevation or be anchored to prevent flotation and protected to prevent water from entering or accumulating within the components during conditions of flooding.
304.5 GFCI protection. Electrical equipment installed below the design flood elevation shall be supplied by branch circuits that have ground-fault circuit interrupter protection for personnel.

In looking beyond building codes at National Flood Insurance Program requirements for swimming pools in a floodplain we have to look first at what type of a pool it is. Is the pool inside of a building, is it in a floodway, is the pool in the ground or above the ground? Just as buildings in a floodplain are treated differently, based on their foundation types, pools are looked at differently depending on specifics to that individual swimming pool.

A swimming pool inside of the house becomes part of the house. The bottom of the swimming pool is treated exactly the same way as a sunken living room. The bottom of the pool becomes the lowest floor of the house for floodplain Management purposes. In that case, the pool has to follow the residential freeboard requirements for lowest floor in your floodplain regulations. Bottom of a pool, inside of a home ,must be above the base flood elevation by the amount specified in the locally adopted floodplain regulations.

The residential floodplain regulations apply when a pool is inside of a home. The lowest floor, bottom of the pool, must be elevated. An elevation certificate is required. In the case that a new pool is an addition inside of an existing building it could trigger substantial improvement regulations as well. Any improvement with a cost more than or equal to 50% of the value of the existing structure is a substantial improvement.

A pool in a detached building, inside of a community center, recreation hall or inside of a greenhouse is treated in a similar manner because it is inside of a building. The only difference is that these types of buildings are not a residential structures. When the pool is in a building that is not a residential structure then there is an option to flood proof the pool and the building.

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For a non residential building an option is to have a non-residential flood proofing certificate prepared by an engineer. The exterior walls of the building must be substantially impervious to the passage of water. Things inside of the building remain dry from flood water. Wet flood proofing is allowed for certain types of garages and sheds but not indoor pools.

A pool that is outside on its own is considered a development in the floodplain but it is not considered to be a building because it does not have a roof over it. It must meet the general standards for floodplain development.

Is it an above ground pool or an in the ground pool? Something more substantial than those blue plastic inflatable pools that some people leave up for several weeks during the summer months. Consider something along the lines of an above ground pool that might have a deck attached and be a permanent fixture year round.

Development in the floodplain is defined as any man made change to improved or unimproved real estate. A swimming pool is a man made change. Therefore; any swimming pool in a floodplain must have a floodplain development permit.

An outdoor version of in the ground pool is development and must have a permit but it doesn't need an elevation certificate. It is cement lining the inside of a hole in the ground. It doesn't need any specific floodplain engineering in particular if it is not in a floodway. In the case that grading is done or if fill is used to make the ground level for the in the ground version of a pool then this may need additional permits.

Any pool in a floodway must have a no-rise document filed with the permit. Should be very easy to do for an in the ground pool but it is still required by regulations. May not be so easy in a case that fill has been used to level up the ground.

Above ground pools or pools in new buildings erected for them have obstructions to flow that are above the ground. In those situations, if in a floodway, then a certification of no rise is required. No rise may be more difficult to prove in a narrow floodway. The pool itself is one thing. Decks, fences and any other obstructions above the ground would interfere with the flow of water as well. Don't just assume pool is alright so all of those things are good also.

Everything needs to be included on a permit, anchored, and made of flood proof materials. Administratively, it is probably easier to do separate permits for the pool, pool house, fencing, decks and equipment than to combine them all on one permit form. Read the general requirements section of your floodplain regulations.

Pools have filters and pumps. The equipment runs on electricity. This can be a problem in the floodplain. The electrical motors need to be elevated or somehow flood protected and this must be documented by a licensed professional.

Then you have pool chemicals. Where will those be stored and how will they be stored? Best to do something like keep the chemicals in a garage attached the house that is outside of the floodplain. In that situation there won't be a problem with chemicals. Should a developer choose to store the chemicals in a shed in the floodplain near the pools there will be an entirely new line of problems with stored chemicals and what it says in the local floodplain regulations about storage of materials. The storage shed itself would have its own permit apart from the pool.

This article touches on some key points about swimming pools to start a discussion. Best thing to do is to call State NFIP Coordinator at 785-296-4622 with some specifics of the type of pool and how it will be designed for specific assistance on a case by case basis. Should also call 785-564-6650 to ask for a permit determination. Be prepared to answer questions during that call about where the pool will be placed, how it will be built, any grading to be done and what other obstructions to flood flows will be to the included in development of the pool.

Bruno Rehbein, City of Concordia, provided the building code citations that were used in this article.

Training Opportunities

The Floodplain Management Program will host the following training sessions throughout Kansas. If you are interested in any of the no-cost training opportunities, please contact Cheyenne Sun Eagle at 785-296-0854 or Steve Samuelson at 785-296-4622. A training registration form is in this newsletter.

Websites for Floodplain Management Success

This class is for officials responsible for administering their local floodplain management ordinance. The focus is on the Using State and Federal websites for information on Base Flood Elevations, Map Data and LiDAR. Includes a demo. Approved for 1 hours Continuing Education Credit (CEC) toward the Certified Floodplain Manager (CFM) credential. Limited to 50 participants.

- Virtual Meeting on September 16th, 2020 from 11:00 a.m.—12:00 p.m.

Inspecting Violations and Giving Notices

This free class is designed for floodplain managers and community officials responsible for enforcing floodplain management regulations. The course will focus on investigating alleged violations and sending notices to property owners. Approved 1.0 hour toward CFM. Limited to 50 participants.

- Virtual Meeting on August 11, 2020 from 11:00 a.m.—12:00 p.m.

Meeting with Violators and Resolving Issues

This free class is designed for floodplain managers and community officials responsible for enforcing floodplain management regulations. The course will focus on meeting with violators and resolving matters. Resolution may include going to court. Approved 1.0 hour toward CFM. Limited to 50 participants.

- Virtual Meeting on August 12, 2020 from 11:00 a.m.—12:00 p.m.

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.

Mark your calendar. The Kansas Association for Floodplain Management 2020 conference will be September 2nd in Mulvane. More information will be posted at the website: www.kafm.org. Registration will be done through a link on the website. If you have questions about registration please contact Jon Bristor, Chairman, at 620-326-2207.

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.

Please scan and email your registration to: steve.samuelson@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 or by phone at 785-296-0854. May also contact Steve Samuelson by email at steve.samuelson@ks.gov or by phone at 785-296-4622.

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 to report the change.

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ASFPM 2021 National Conference in Raleigh

The 2021 Association of State Floodplain Managers National Conference will be May 9-13, 2021 in Raleigh, NC. This conference is an excellent opportunity for floodplain managers to receive training on mapping technologies, regulations, permitting, outreach and best practices. It is estimated the conference will be attended by more than 1,000 floodplain management professionals. This conference is great chance to meet people for networking and to learn the latest news in floodplain management. Visit www.floods.org for more information.

KDA/DWR Water Structures
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