

KANSAS

FLOODPLAIN MANAGEMENT

TIPS



February 2023

Manufactured Homes in the Floodplain

A manufactured home means a structure, transportable in one or more sections, that is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does include mobile homes manufactured prior to 1976 but does not include a "recreational vehicle." Although it is best not to locate manufactured home parks in the floodplain, this is where they are often located. This can create issues for meeting the requirements of the floodplain ordinances adopted by communities. Below are some of the most common requirements and considerations associated with properly placing manufactured homes in the floodplain to help ensure the safety of the residents and protect structures from flood damage when alternative locations are not feasible.

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Elevating Manufactured Homes

The National Flood Insurance Program (NFIP) has requirements specific to manufactured homes that must be met for compliance. These mostly outline proper anchoring and the height of the lowest floor. These rules can be found in the Title 44 Code of Federal Regulations (CFR) § 60.3(c)(6). Just like the requirement for new construction of stick-built housing, the Kansas standard for the lowest floor to be at least one foot above the base flood elevation (BFE) also applies to manufactured homes. This standard has been reflected in the state model ordinance that has been adopted by NFIP participating communities. Any enclosures that are below the BFE must be equipped with flood vents that operate without any human intervention and equal in net opening to one square inch per every foot of enclosed space.

Enclosures below the BFE cannot be used for anything other than storage or parking and cannot be modified in use at any time.

Utilities and Mechanical Equipment

As with any other structures in the floodplain, utilities and mechanicals such as HVAC equipment must be protected from flood damage. Flood damaged utilities can be dangerous, as there is a risk of electric shock, gas leak, or other issues that could potentially cause harm. The best way of protecting them is to elevate above the BFE. Some communities have adopted standards for the requirement of elevating utilities and equipment above that elevation, especially for residential structures. There are also options to mitigate them and protect them from damage, which is less preferable as these mitigation measures can fail. This can be achieved by using barriers, flood shields, closure panels, and more. Dry floodproofing which is to make the building or system completely watertight is an option for non-residential structures. Protecting utilities aids in faster recovery after a flood. Flood insurance is another important aspect of faster flood recovery, which includes payment for repair of utilities and equipment. For detailed information on protecting utilities, see FEMA publication [P-348 Protecting Building Utility Systems from Flood Damage](#) (2017).



Manufactured home properly anchored and elevated utilities

Anchoring Manufactured Homes

Anchoring is an important standard for manufactured homes in the floodplain because without it during the event of a flood, flotation, lateral motion, and collapse are common. This is a safety

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concern for the home becoming debris during a flood that can cause additional damage. Anchoring can be accomplished using a system of ties, anchors, and anchoring equipment that will withstand flood and wind forces. There are a variety of anchor assemblies and styles but should meet locally adopted installation requirements. Proper anchoring should be verified with inspections by the floodplain administrator as well as documented within the required floodplain development permit.

Substantial Improvement/Damage Considerations

Manufactured Home parks are often constructed to provide affordable housing, meaning the cost of the unit is significantly less than a traditional stick-built structure. This means the threshold for substantial improvement is much lower and therefore, many types of work can easily hit the threshold for fifty percent of the market value. At that point, it must be brought into compliance with the current regulations, which can mean needing to elevate. The proper elevation must be verified by an elevation certificate that is certified by a professional engineer or licensed land surveyor. This requirement can dramatically increase the costs associated with manufactured homes and can be a challenge for tenants, but it is an important safety factor.

In addition, manufactured homes are often substantially damaged by being inundated by floodwater, with the costs of damages equaling or exceeding fifty percent of the market value. Floodwaters above the first floor is often a total loss of the manufactured home. Safety during a flood is an important goal of the NFIP rules, and the intention of the ordinance is to protect the health, safety, and general welfare. Communication serves an important role in educating the public on flood risk and the purpose of floodplain performance standards for development. It is worth noting that if the financial burden of proper elevation and anchoring is too great, complete loss of a unit to flood damage would also be devastating if uninsured. Therefore, flood insurance should also be recommended for manufactured homeowners where not already required since traditional home insurance policies do not cover flood damages.

Floodway Requirements

Manufactured homes in the floodway have the same requirements for meeting the no-rise requirements that any development must meet in these areas. This can often be a deterrent to place manufactured homes in the floodway or floodplain, because of the added expense. Ideally, floodways would be kept clear of any development to convey floodwaters. So manufactured homes in the floodway is by default, not ideal. Many manufactured home parks are organized in such a way to keep units out of the floodway, to at least avoid the no-rise requirement, and are still required to have a floodplain development permit and elevation certificate. Manufactured homes should be located outside of the floodplain when possible.

Considerations

Manufactured homes can be a more affordable alternative to traditional housing, though rules that apply to floodplains should be advertised by the community whenever possible. Education and outreach can help citizens avoid unintentional mistakes or violations. Many times, individuals have invested in a property or structure without knowing it was in the floodplain because Kansas does not require disclosure of this information. They are then forced to conform to the ordinance that includes elevation and anchoring and are sometimes unable to construct their development as planned, or at a greater cost. Doing outreach to property owners about permitting and floodplain regulations is an important function of the floodplain administrator. For detailed information on manufactured homes and the NFIP, see [*FEMA P-85, Protecting Manufactured Homes from Floods and Other Hazards*](#) (2009).

Substantial Improvement and Substantial Damage Overview

Improvements or repair of damage (from any cause) to structures in the floodplain need to be evaluated for the costs versus the market value of the structure. If the cost is fifty percent or more of the market value, then it is a substantial improvement or substantial damage and must be brought into compliance with the community's current adopted floodplain ordinance. This article will help you understand why these rules exist, permitting requirements, how to assess damages including cost inclusions and exclusions, what to avoid, higher standards, and an additional resource for the many nuances of substantial improvements and damages.

Substantial improvement and damage rules are in place to better protect flood-prone structures and for property owners to take accountability for the risk their structure is exposed to from the 1% annual chance flood (referred to in this article as the floodplain). The 1% annual chance flood or base flood is the national standard flood frequency to which the National Flood Insurance Program (NFIP) regulates. Additionally, the substantial improvement and damage rules are in place to ensure that improvements and repairs to existing buildings meet the requirements of the local floodplain management ordinance and are not continually susceptible to increased flood risks by being below standards.

After a disaster occurs, an assessment should immediately be done to determine if any of the structures are within the floodplain. Any improvement work after a disaster requires a local permit and is subject to the substantial damage rule. The amount of damage is determined by doing a thorough inspection of the interior and exterior of the structure. It is important to have a disaster plan for carrying out substantial damage assessments as quickly as possible to aid in recovery and prevent unauthorized rebuilding without permits or a thorough assessment completed. All structures in the floodplain that were damaged will need an assessment and official determination by the community to their level of damage. Acceptable methods for determining repair costs can include contractor estimates or Federal Emergency Management Agency's (FEMA) Substantial Damage Estimator (SDE) tool. This determination will be required for property owners interested in pursuing an increased cost of compliance (ICC) claim on their flood insurance policy, in the event of a flood, which provides up to \$30,000 to help them reach compliance with the current regulations.

Costs that are not directly associated with the building can be **excluded** from the total costs. This would include clean up, trash removal, emergency repairs to stabilize the structure, survey costs, landscaping, sidewalks, driveways, plug-in appliances. Conversely, costs that must be **included** would be materials, and qualified labor, even if labor or materials are donated, as well as demolition, foundation excavation, filling in the basement, interior and exterior walls, beams, trusses, hardware, roofing, windows, doors, floor finishes, insulation, bathroom tiling and fixtures, etc. This includes all the work and materials directly associated with repairs and/or improvements to the structure.

While the requirements to comply with substantial improvement and damage may seem stringent, communities should avoid the use of variances to get around the rules. Variances are not intended to be a strategy to get around NFIP requirements of any kind and should be rare. The community must consider the specifics of floodplain variance criteria to determine if a structure qualifies for one. The variance criteria do not change depending on the circumstances of the applicant. Variances are a grant of relief for hardship that pertains to the use of the land, and usually pertains to unique lot shape, unusual geologic conditions, or other site anomalies. Cost, inconvenience, or aesthetic concerns of the applicant do not apply. Though the community does have the authority to grant variances, few cases truly qualify for one, and justification for it must be documented.

Conversely, communities that participate in the program can and are encouraged to adopt higher regulatory standards than the FEMA NFIP minimums. This can include adopting standards for cumulative improvement, meaning costs of damages and improvements are counted towards the fifty percent threshold over a longer period than the standard calendar year, and is often extended to five calendar years. This helps prevent larger improvements from being split up over time, which can be a strategy used by property owners and communities to avoid substantial improvement requirements.

While this article covered many of the topics you may encounter, there are also different types of work within an existing structure such as lateral additions, vertical additions, and rehabilitations that will have different requirements depending on the specifics of the work being done and whether the existing structure is pre- or post-FIRM. There are many nuances to



Substantially damaged structures

enforcing rules for substantial improvement and damage. For detailed information and a useful resource for requirements and best practices, see FEMA publication [P-785, Substantial Improvement/Substantial Damage Desk Reference](#) (2010). DWR floodplain team provides free training on substantial damage and post flood responsibilities. To see and register for upcoming training, visit the training webpage: <https://agriculture.ks.gov/divisions-programs/dwr/floodplain/training>.

Training Opportunities

Floodproofing

This course will cover the requirements for wet floodproofing. Topics will include permitting, variances, and performance standards. Dry floodproofing will be compared and contrasted on the same topics. Finally, residentially floodproofed basements and lessons learned will be covered. This class has been approved for 1 hour of Continuing Education Credit (CEC) toward the Certified Floodplain Manager (CFM) credential. Virtual training on March 15, 2023, from 1:30-2:30 P.M. Please [Register Here](#).

GIS for CRS: Completing Community Rating System (CRS) Activities Using ArcGIS Pro

The Kansas Department of Agriculture will host a 4-hour training session on how to use ESRI's ArcGIS Pro to complete various activities for the Community Rating System (CRS). Topics that will be covered include the CRS Program and how GIS can be used to complete various CRS activities, data sources useful for floodplain managers including Digital Flood Insurance Rate Maps (DFIRM)s, LiDAR based ground elevation, and ArcGIS services offered by the State of Kansas; working with geospatial data in ArcGIS Pro including symbolizing and labeling, creating and editing data, and calculating feature geometry. A 21-day free trial of ArcGIS Pro can be obtained here: <https://www.esri.com/en-us/arcgis/products/arcgis-pro/trial>. In-person training in Room 124, 1320 Research Park Drive, Manhattan, Ks 66502 on March 28, 2023 10:00 A.M.-3:00 P.M. Please [Register Here](#). Limited to 15 participants.

LOMA and LOMR-F Parts 1 and 2

This class compares LOMA and LOMR-F and completion of the forms. Part 1 focuses on the LOMA. Part 2 focuses on the LOMR-F. This class has been approved for 2 hours of Continuing Education Credit (CEC) toward the Certified Floodplain Manager (CFM) credential. Virtual training on March 29, 2023, from 9:00-11:00 A.M. Please [Register Here](#).

Post Flood Responsibility

This course will cover community responsibilities after a flood. Topics will include surveying damages, substantial damages, permits for repairs and other considerations. The format will be an online webinar using the Zoom software platform. This class has been approved for 1 hour of Continuing Education Credit (CEC) toward the Certified Floodplain Manager (CFM) credential. Virtual training on April 12, 2023, from 1:30-2:30 P.M. Please [Register Here](#).

Benefit-Cost Analysis Workshop

The goal of the Benefit-Cost Analysis (BCA) Workshop is to educate participants on the software and information needed to perform a BCA on potential mitigation projects using FEMA's current BCA software (version 6.0). This course will assist participants in developing quality BCAs to use when developing grant applications for the FEMA Hazard Mitigation Assistance (HMA) grant programs. Each participant will need to bring a laptop with the newest FEMA Benefit Cost Analysis (BCA) Toolkit installed (Version 6.0). The BCA Toolkit can be downloaded from the following link: <https://www.fema.gov/grants/guidance-tools/benefit-cost-analysis>. In-person training in Room 124, 1320 Research Park Drive, Manhattan, Ks 66502 on April 19-20, 2023, from 8:30 A.M.-5:00 P.M. Please [Register Here](#). Limited to 30 participants.

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.

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.

Please scan and email your registration to: 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 or by phone at 785-296-0854. You may also contact Tara Lanzrath by email at 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 to report the change.

Kansas Department of Agriculture
Division of Water Resources
Topeka Field Office
Floodplain Management
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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 2023 Conference in Raleigh

The 2023 ASFPM Conference will be May 7-11, at the Raleigh Convention Center in Raleigh, North Carolina.

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