

KANSAS

FLOODPLAIN MANAGEMENT TIPS



December 2021

Transmission Lines in the Floodplain

Developers and community officials often have questions about transmission lines going into the floodplain. There are many considerations for what is required and how permitting needs to be done. All development in the floodplain will need a local floodplain development permit as well as consideration of endangered species. In addition, any work in the floodway will need a no-rise certificate from an engineer. Other project considerations are dependent upon how the poles will be installed as discussed further below.

If not in the floodway, the transmission line poles can usually be done with a “blanket permit,” meaning that all poles in the floodplain for one community can be done under one permit. Other work being done in conjunction with a transmission line project such as temporary culverts, pathways, or other construction, would need separate permits. Transmission lines in general are simple permits since they inherently meet the requirements of flood damage-resistant materials, proper anchoring, and the utility component being elevated at the top of the pole above the base flood elevation. One thing to keep in mind is that some poles for anchoring are set in large cement bases that could possibly constitute “fill” in the floodplain. Under these circumstances, the community official should ask the State for a determination on whether a State DWR permit would be required.

If transmission lines are going into a floodway, it is advisable to ask for a separate permit along with the no-rise certificate from an engineer. This will be separate from any that are going into the floodplain outside of the floodway. This is an important aspect of compliance with the regulations of the floodway that are to carefully document all development and allow the floodway to convey floodwaters.

As with other projects, the Endangered Species Act (ESA) must be considered. The Manhattan Field Office for the U.S. Fish and Wildlife Services may be contacted for a determination at Kansases@fws.gov. There have been transmission line projects that have been delayed due to the possibility of disturbing an endangered species habitat. Other things to consider are that these projects may stretch out for miles and intersect various jurisdictional lines, and each jurisdiction has a responsibility to ensure that development in its floodplains and floodways are properly permitted. Utility companies usually reach out to jurisdictions to inquire about permitting requirements. Hopefully the information contained within this article will help you to be more familiar with the requirements for these projects.

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Transmission Pole with concrete base



Utilities on platform in the floodplain

Historic Building Flood Adaptation Summary

Earlier this year, The U.S. Department of the Interior (DOI) released the fully illustrated version of *Guidelines on Flood Adaptation for Rehabilitating Historic Buildings*. The goal of the publication is to provide guidance on how historic structures can be more resilient in our environment of increasing flood risks, while preserving historic characteristics as much as possible. The publication works in conjunction with the 2017 Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings and codified in the National Park Service (NPS) Regulations 36 CFR Part 68; they are only for projects receiving Historic Preservation Fund grant assistance and other Federally assisted projects, though the standards can and have been adopted and used by other historical organizations.

The Guidelines are not codified but are a more detailed set of general design and technical recommendations for rehabilitation. The publication is organized by flood adaptation measures and are described by Federal Emergency Management Agency (FEMA) definitions: Planning and Assessment for Flood Risk Reduction, Temporary Protective Measures, Site and Landscape Adaptations, Protect Utilities, Dry Floodproofing, Wet Floodproofing, Fill the Basement, Elevate the Building on a New Foundation, Elevate the Interior Structure, Abandon the Lowest Floor, and Move the Historic Building. The first adaptation should be used for all projects before selecting another adaptation.

To properly preserve the historic characteristics, historical preservation professionals should be consulted on which characteristics define its character and must be retained since that will vary between structures and the Guidelines are general. Rehabilitation is a balance between reducing flood risk, feasibility and affordability, as well as maintaining historic character. The publication offers methods to apply adaptations where possible.

Treatments to reduce flood risk may change a building more significantly and are more acceptable than may be for another historic building with a lower flood risk. First, understand that the flood risks are based on quantifiable scientific information such as direction of flow, velocity, and water turbidity. Floodplain regulations offer relief to historic structures on performance standards if they are properly recognized by an authorized federal or state historical authority and historic features are preserved, maintaining its designation. The adaptations should be documented to evaluate after a flooding event. There may be historical features that are resilient to flooding already, and these should be considered early on as well as potential impacts of treatments and the timeframe for which they are expected to perform.

Temporary protective measures can be a good option because they are typically low impact to a structure. They are active floodproofing measures that can be deployed and removed with adequate flood warning time. Floodwalls, temporary dams, and flood wrapping are popular choices. Sump pumps should be used in conjunction with these measures. There is a risk still of seepage. Larger floods do happen, and the active measures could fail to be deployed.

The site and landscape can be adapted and are a good option for leaving the historic building intact. Consideration should be given for alteration of a historic area or district and any archaeological, cultural, or religious resources therein. Restoration projects can help protect the landscape with thought to how the mitigation will impact and divert flood waters elsewhere given the surrounding areas and properties adjacent and downstream.

Utilities should be protected as feasibly as possible while preserving historic character and features. If they can be elevated or relocated to areas safe from flooding while reducing visibility, that is preferred. Basements are common places for utilities, but vulnerable to flooding. Depending on replacement cost and service life, it may be reasonable to plan to replace certain utility systems in the event of a flood.

Dry floodproofing is an option to make the building watertight. This would involve installing permanent and or temporary measures that can deploy automatically or with human intervention. The potential for any or all of measures to impact the historic character should be considered as well as their performance ratings.

Buildings can be dry floodproofed with measures that are only below grade, which keeps the visibility of the floodproofing low. Many products are available such as tar and synthetic materials. Inspection should be done after application so that floodproofing materials are not trapping moisture inside the building. This method is more appropriate for buildings with an infrequent flood risk depth of less than three feet.

Wet floodproofing can be an option with flooding that is less than 24 hours in duration. Flood openings allow water into the building and could damage historic features and materials. This should be limited to inundation of unfinished space and damage-resistant materials. The structure may require reinforcement. Utilities should be elevated or designed to be submerged. A proper drainage system is needed. Interior areas may need to have historic materials removed and replaced with flood-damage resistant materials. After flooding, extensive cleaning and drying is required. Historic furnishings should be removed before flooding. Concern should be taken to preserve historic materials. This adaptation is less appropriate for buildings with a high level of historic materials, features, and finishes that are not flood-damage resistant.

For a historic building with a basement, filling it in could be a reasonable option if it does not contain historically significant features or character. It must be a true basement of masonry construction, below ground on all four sides and not a “walkout” basement. This may cause displacement of water that would have been held in the basement. The local ordinances surrounding basements should also be considered.

Construction of a new elevated foundation may be a solution. This method is not recommended for multiple connected buildings sharing walls, masonry buildings, row houses, and slab on grade foundations. It is more suited to crawlspaces, piers, or posts. The impact to historical significance must be considered, and the floodplain administrator should be consulted for community-specific concerns such as infrastructure and local requirements. The structure’s specific site conditions will also impact whether this method is appropriate, such as size of building, size and shape of the lot, setback requirements, width to height ratio, property type, horizontal and vertical orientation, etc.

Raising the interior of the structure’s first floor by elevating the interior may be an alternative, for example, connected row houses. The ceiling needs to be high enough to accommodate the elevated floor. Systems servicing the first floor may need adjustment. The foundation under the first floor will need to be filled or altered to be even with grade. Historical character and reducing visibility of the change should be done. Interior access may need to be changed with stairs or ramps.

The lowest floor could be abandoned altogether for multi-story buildings. It can then be wet or dry floodproofed, depending on local requirements. This is recommended for masonry, not for light-frames. The first floor may then be used as an enclosure for parking, storage, or building access. This may alter freeze-thaw cycles, and conditioned space within the building envelope. This could cause dew in the walls, so a professional should be consulted.

Relocation may be feasible if the location of the property is expected to have repeated flooding, subsidence, or erosion that would be detrimental to the structure. It must be able to withstand the move or may need to be reinforced to do so. Some portions may need to be moved separately. This option should be considered and planned carefully. The elevations should be recorded and finishes of the building protected during the move. The new site and foundation should be as similar to the previous as possible. Consider the directional orientation of the building for its visual relationship to landscaping. This is a technically and financially large undertaking, so great preparation should be taken. Permitting, distance, and the route to the new location are other concerns. The historic authority for the structure should be consulted before this option is taken. Masonry buildings are harder to relocate.

Alternative methods to consider are hydraulic lifting systems, amphibious architecture, landscaping adaptations, mechanized sea walls, widening river channels, reestablishing canals, or retention areas. Nourishment with shellfish reefs and native plants to reduce erosion may alleviate flooding. Demolition is not an approved treatment but may be necessary; sacrifices for more important historical buildings, or new resilient structures. This is decided after extensive research of the property or district to understand the significance and what would be lost versus risk reduction. Other alternatives should be considered first. The Guidelines are a helpful resource for historic structures exposed to flood risk and their unique concerns.

Training Opportunities

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 December 13th from 10:00 a.m. - 11:00 a.m.

Click [HERE](#) to register for the training.

Basics of the NFIP

This four hour course is for officials responsible for administering their local floodplain management ordinance, as well as those who work closely with floodplain management. This is a beginner class and an introduction to the National Flood Insurance Program (NFIP) and floodplain management. The focus is on the NFIP and concepts of floodplain management, maps and studies, ordinance administration, and the relationship between floodplain management and flood insurance. This class provides 3.5 hours of Continuing Education Credit (CEC) toward the Certified Floodplain Manager (CFM) credential.

Virtual Training on December 22nd from 9:00 a.m. - 1:00 p.m.

Click [HERE](#) to register for the training.

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 December 27th, 2021, from 1:00 p.m.—2:00 p.m.

Click [HERE](#) to register for the training.

Find free floodplain classes at Kansas Train website: www.train.org/ks/. Create an account and find relevant courses through the course catalogue.

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 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 report the change.

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

Kansas Association For Floodplain Management Conference in Lawrence

The 2022 KAFM Conference will be August 31-September 1, at the Double Tree by Hilton in Lawrence, Kansas.

Association of State Floodplain Managers 2022 Conference in Orlando

The 2022 ASFPM Conference will be May 15-19, at the Caribe Royale Orlando Hotel in Orlando, Florida.

**KDA/DWR Water Structures
Floodplain Program Staff**

Steve Samuelson, CFM, NFIP Coordinator	785-296-4622	steve.samuelson@ks.gov
Tara Lanzrath, CFM, Floodplain Mapping Coordinator	785-296-2513	tara.lanzrath@ks.gov
William Pace, CFM, Floodplain Mapping Specialist	785-296-5440	william.pace@ks.gov
Joanna Rohlf, CFM, Floodplain Mapping Specialist	785-296-7769	joanna.rohlf@ks.gov
Cheyenne Sun Eagle, CFM, NFIP Specialist	785-296-0854	cheyenne.suneagle@ks.gov

Mailing Address:
1131 SW Winding Road, Suite 400
Topeka, KS 66615

<http://agriculture.ks.gov/dwr>