September 2016

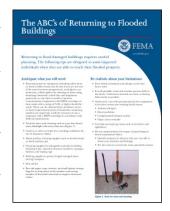
BUILDING SCIENCE BRANCH

Resources for Reconstruction after 2016 Louisiana Flooding

FEMA has numerous publications describing best practices that can be used when rebuilding after a flood event. This flyer summarizes some of the readily available publications and resources that can be used by homeowners, communities, and all involved in reconstruction activities following the flooding in Louisiana.

First Steps

When returning to a flooded building and before beginning repair work, it is important to consult with your community's building department. You may need an inspection to be sure your home is safe to enter and you may need a permit to make repairs. Your building department can also advise you on regulatory and building code requirements. The following resources provide guidance on the first steps to take when returning home:



- The ABC's of Returning to Flooded Buildings (http://www.fema.gov/media-library/assets/documents/29834)
- Cleaning Flooded Buildings (https://www.fema.gov/media-library/assets/documents/31368)
- Initial Restoration for Flooded Buildings (http://www.fema.gov/media-library/assets/documents/9968)

Recovery Advisories

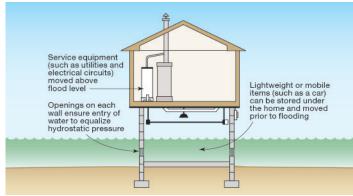
Based on lessons learned from past disasters, FEMA's Mitigation Assessment Teams (MATs) have produced Recovery Advisories and reports that provide guidance on the design, construction, and restoration of buildings in areas subject to the effects of flooding. The reports and Recovery Advisories are available at http://www.fema.gov/fema-mitigation-assessment-team-reports. Some of the Recovery Advisories are:

- Considerations for Rebuilding Your Flood-Damaged House
- Minimizing Flood Damage to Electrical Service Components
- Designing for Flood Levels Above the BFE
- Restoring Mechanical, Electrical, and Plumbing Systems
- Reducing Flood Risk and Flood Insurance Premiums for Existing Residential Buildings in Zone A

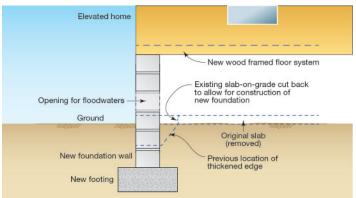
Guidance Manuals

Homeowner's Guide to Retrofitting: Six Ways to Protect Your Home from Flooding (FEMA P-312)

This guide provides homeowners with information on how to protect their homes from flooding. FEMA P-312 provides clear information and straightforward guidance about flood mitigation options. Floodproofing methods are explained, including how they meet particular needs. The guide is written for people with little or no experience in flood protection or construction. FEMA P-312 is available at http://www.fema.gov/media-library/assets/documents/480.



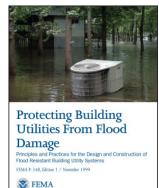
SOURCE: FEMA P-312 FIGURE 3-6



SOURCE: FEMA P-312 FIGURE 5-6

Protecting Building Utilities from Flood Damage (FEMA P-348)

FEMA P-348 contains the design and construction requirements that must be met for utility systems in residential and non-residential structures in flood-prone areas to comply with NFIP flood-plain management requirements. The publication provides guidance on designing and constructing building utility systems so that the buildings are fully operational and can be re-occupied as soon as electricity, sewer, and water have been restored. FEMA P-348 is available at https://www.



fema.gov/media-library/assets/documents/3729.

Home Builder's Guide to Coastal Construction Fact Sheets (FEMA P-499)

FEMA P-499 provides technical guidance on constructing residential buildings in coastal environments, but many of the fact sheets are equally relevant to inland flooding. The 37 fact sheets are aimed at providing information needed to improve building performance during flood events. They contain information on planning, foundations, structural connections, building materials, and utilities. FEMA P-499 is available at http://www.fema.gov/media-library/assets/documents/6131.

Technical Bulletins

FEMA's Technical Bulletins provide guidance on complying with the minimum building performance requirements of the National Flood Insurance Program (NFIP). FEMA has published 11 Technical Bulletins, all available at http://www.fema.gov/floodplain-management/nfip-technical-bulletins. Titles include:

- Openings in Foundation Walls and Walls of Enclosures
- Flood Damage-Resistant Materials Requirements
- Wet Floodproofing Requirements

Other Resources

A list of FEMA's many publications on the impacts of flooding is available in FEMA P-787, *Catalog of FEMA Building Science Branch Publications and Training Courses* (https://www.fema.gov/media-library/assets/documents/12909).

FEMA's Building Science Branch Publications web page (http://www.fema.gov/building-science-publications) has links to additional resources for homeowners, local and government officials, engineers, and designers. Notable resources include:

Protecting Your Property or Business from Flooding (http://www.fema.gov/protect-your-property-or-business-disaster)

- Reducing Flood Risk to Residential Buildings that Cannot Be Elevated (FEMA P-1037) (https://www.fema.gov/media-library/assets/documents/109669)
- Quick Reference Guide: Comparison of Select NFIP and Building Code Requirements for Special Flood Hazard Areas (https://www.fema.gov/media-library/assets/documents/25986).

Building code resources are available at http://www.fema.gov/building-code-resources. They include:

- Flood Resistant Provisions of the 2012 International Codes
- Highlights of ASCE 24-05 Flood Resistant Design and Construction

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Comparison of Select NFP and Building Code
Requirements for Special Flood Hazard Areas

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This guide highlights the similarities and the differences between NFIP minimum requirements and the requirements of the International Codes and American Society of Civil Engineers.

Reducing Flood Losses Through the International Codes

For more information, see the FEMA Building Science Frequently Asked Questions website at http://www.fema.gov/frequently-asked-questions-building-science.

If you have any additional questions on FEMA Building Science Publications, contact the helpline at FEMA-Buildingsciencehelp@fema.dhs.gov or 866 927-2104.

You may also subscribe to the FEMA Building Science e mail list serve, which is updated with publication re leases and FEMA Building Science activities. Subscribe at https://public.govdelivery.com/accounts/USDHSFEMA/subscriber/new?topic_id=USDHSFEMA_193.

Visit the Building Science Branch of FEMA's Federal Insurance and Mitigation Administration at http://www.fema.gov/building-science.

To order free publications, contact the FEMA Distribution Center:

Call: 1-800-480-2520 (Monday-Friday,

8 a.m.-5 p.m., ET)

Fax: 240-699-0525

E-mail: FEMA-Publications-Warehouse@dhs.gov.

Additional FEMA documents can be found in the FEMA Library at http://www.fema.gov/library.

Please scan this QR code to visit the FEMA Building Science web page.